

#### DINKLE ENTERPRISE CO., LTD.

No.19,Wuquan 2nd Road., Wugu District, New Taipei City 24890, Taiwan TEL:+886-2-8069-9000 7705-6900 FAX:+886-2-2290-1702 E-mail:service@dinkle.com Web:www.dinkle.com

#### DINKLE INTERNATIONAL CO., LTD.

No.19,Wuquan 2nd Road., Wugu District, New Taipei City 24890, Taiwan TEL:+886-2-8069-9000 7705-6900 FAX:+886-2-2290-1702 E-mail:service@dinkle.com Web:www.dinkle.com

#### OPTIKLE INTERNATIONAL CO., LTD.

Room 29, 1/F, Block B, Proficient Industrial Center, No.6 Wang Kwun Road, Kowloon Bay, Kowloon, Hong Kong
TEL:+852-2795-3840 2758-8005
FAX:+852-2753-6919
E-mail: Service.LY.Sales@dinkle.com.cn
Web:www.dinkle.com

#### DINKLE ELECTRIC MACHINERY (CHINA) CO., LTD.

No.388,Xingpu Mid RD,Shipu Business Adminstration Estate, Qiandeng Town, Kunshan City, Jiangsu Province, China TEL:+86-512-5708-8588 FAX:+86-512-5708-8600 E-mail: Service.SH.Sales@dinkle.com.cn Web: www.dinkle.com/kscn/

#### LIYAN ELECTRIC MACHINERY (DONGGUAN) CO., LTD.

No.16 2st street Jinqian Ridge, Jiming gang village, Huangjiang town, Dongguan City, Guangdong Province TEL:+86-769-8336-4350 8336-4370 FAX:+86-769-8336-4314 E-mail:Service.LY.Sales@dinkle.com.cn Web:www.dinkle.com/cn/

#### **DINKLE CORPORATION, USA**

13748 Pike Road. Missouri City, Texas, USA 77489 TEL:+1-832-539-4703 Toll-Free:+1-844-273-1850 FAX:+1-832-532-7226 E-mail:Service.US.Sales@dinkle.com Web:www.dinkle.com/en/home

#### **DINKLE S.R.L., ITALY**

Via Stabilini n°14, 23864 Malgrate (LC), Italia TEL:+39/0341176154 E-mail: Service.It.Sales@dinkle.com Web:www.dinkle.com/it/

#### DINKLE ELECTRIC TRADING (SHANGHAI) CO., LTD.

Unit 3706, 2 Grand Gateway, No. 3 Hongqiao Road, Xuhui District, Shanghai City.
TEL:+86-21-6487-0636 6487-5423
FAX:+86-21-3356-2500
E-mail: Service.SH.Sales@dinkle.com.cn
Web: www.dinkle.com/cn/

#### **Beijing Sales Office**

TEL:+86-10-5873-4338
FAX:+86-10-5873-4337
E-mail: Service.SH.Sales@dinkle.com.cn
Web: www.dinkle.com/cn/



E-mail : service@dinkle.com

Web: www.dinkle.com

Dinkle remains the right of product modification and engineering change of design. The catalogue is for reference only. The final product is made according to actual engineering drawing.

弊社標準品に関しては、修正や設計変更等が行われるため、カタログは参考であり、 詳細仕様は図面を基準とする。

本公司對產品保有修改、設變權,目錄僅供參考,實際產品仍需依照工程圖面 為淮。

#### APR./2025\_V.02

# Circular Connector

M5 / M8 / M12 / M23 / 7/8" Series







# **Delight Through Connections**

Dinkle Group was established in 1983, and since that time has insisted on constant innovation and preserving an excellent craftsman's spirit. Starting with a core business of terminal block manufacturing, Dinkle has expanded to provide many outstanding products, deliver highly efficient global service, and promote close connections with end users.

Dinkle has accumulated extensive experience through close cooperation with global customers and application of advanced technologies in the market. Attentively listening to customers, correctly understanding their needs and accurately providing solutions are the key to Dinkle's success and creates end users' satisfaction. Customer support and trust increases our continuous passion and motivation to continue innovating.

Dinkle appreciates our role as an ideal win-win partner for your diverse needs; let us **Delight Through Connections!!** 

# M5 / M8 / M12 / M23 / 7/8" Circular Connector



# **Product Feature**

- Fully gold-plated contacts
- Pre-assembled cables, fast connection
- IP68 protection waterproof and dustproof
- Vibration and shock resistance
- · Shielded option available, 360° protection
- International Specification
- RoHS and CE compliant

#### **Effortless and Simple On-site Wiring Solution**

With the growing industrial automation system, need a reliable power, signal and data transmission; a standardized connector but personalized cable and wiring solutions. Whether you need signal cables for sensor, or Ethernet cables for data communication, Dinkle is able to provide the best solution for every application.

Dinkle standard M5-7/8" circular connector features high stability and tightness. Meeting IP67 rating and higher, our connectors allow reliable connection solution in extreme environments with humidity, large temperature changes, and vibrations. Dinkle provides single and double-ended straight and angled molded connector with PVC and PUR cables for quick field wiring and improves the overall productivity.

#### **Product Advantage**



# Easy to Assemble; Universal Interface

- Fully gold-plated contacts, effectively transmit signal without interruption
- IP68 Rating



**High Shock Resistance Design** 

- Meets UL2237/UL2238 safety test requirement
- Designed in accordance with IEC 61076-2-101/104/111, 360° fully shielded



**Customized Service** 

- Multiple color options
- Cable lengths and prints can be customized, PUR and PVC cables available.



# Index

**Universal Signal & Power** 

|     |         | Universa           | i Signal & Power              |                    |             |
|-----|---------|--------------------|-------------------------------|--------------------|-------------|
|     |         | Molded Connector   | No Shield                     |                    | P.4         |
| M5  | A-Code  | Device Connector   | No Shield - Wire : PVC        |                    | P.7         |
|     |         | PCB Connector      | One-piece                     | No Shield          | P.9         |
|     |         | Molded Connector   | Shield                        |                    | P.13        |
|     |         |                    | No Shield                     |                    | P.14 - P.15 |
|     | A-Code  | Device Connector   | No Shield - Wire : PVC        |                    | – P.19      |
|     | A-Code  | Device Connector   | No Shield - Solder cup        |                    | - F.19      |
|     |         | PCB Connector      | One-piece                     | No Shield          | P.22        |
| M8  |         | FCB Connector      | Two-piece                     | No Shield          | P.25        |
|     |         | Molded Connector   | Shield                        |                    | P.28        |
|     |         | Molded Collifector | No Shield                     |                    | P.29 - P.30 |
|     | B-Code  | Device Connector   | No Shield - Wire : PVC        |                    | _ п ээ      |
|     |         | Device Connector   | No Shield - Solder cup        |                    | – P.33      |
|     |         | PCB Connector      | One-piece                     | No Shield          | P.35        |
|     |         |                    | Shield                        |                    | P.39        |
|     |         | Molded Connector   | No Shield                     |                    | P.40        |
|     |         |                    | No Shield - Drag chain        |                    | P.41        |
|     |         |                    | No Shield - Molded Y-Splitter |                    | P.42        |
|     | A Codo  | Device Connector   | Shield - PUR Cable            |                    | P.45        |
|     | A-Code  |                    | No Shield - Wire : PVC        |                    | D 46        |
|     |         |                    | No Shield - Solder cup        |                    | - P.46      |
|     |         | PCB Connector      | One-piece                     | Shield / No Shield | P.50        |
|     |         |                    | Two-piece                     | Shield / No Shield | P.53        |
|     |         | Assembly Connector | Solder                        | Shield / No Shield | P.55        |
|     |         | Molded Connector   | Shield                        |                    | P.58        |
|     |         |                    | No Shield                     |                    | P.59        |
| M12 |         |                    | No Shield - Drag chain        |                    | P.60        |
|     |         |                    | Shield - PUR Cable            |                    | P.63        |
|     | B-Code  | Device Connector   | No Shield - Wire : PVC        |                    | D.64        |
|     |         |                    | No Shield - Solder cup        |                    | – P.64      |
|     |         | PCB Connector      | One-piece                     | Shield / No Shield | P.68        |
|     |         | PCB Connector      | Two-piece                     | Shield / No Shield | P.71        |
|     |         | Assembly Connector | Solder                        | Shield / No Shield | P.73        |
|     |         |                    | Shield                        |                    | P.76        |
|     |         | Molded Connector   | No Shield                     |                    | P.77        |
|     | D. Codo |                    | No Shield - Drag chain        |                    | P.78        |
|     | D-Code  |                    | Shield - PUR Cable            |                    | P.81        |
|     |         | Device Connector   | No Shield - Wire : PVC        |                    | D 03        |
|     |         |                    | No Shield - Solder cup        |                    | – P.82      |

A B

# Index

**Universal Signal & Power** 

|               |                     | Universa           | i Signai & Power       |                    |         |  |
|---------------|---------------------|--------------------|------------------------|--------------------|---------|--|
|               |                     | PCB Connector      | One-piece              | Shield / No Shield | P.86    |  |
|               | D-Code              |                    | Two-piece              | Shield / No Shield | P.89    |  |
|               |                     | Assembly Connector | Solder                 | Shield / No Shield | P.91    |  |
|               | S-Code              | Molded Connector   | No Shield              |                    | P.94    |  |
|               | 3-Code              | Device Connector   | No Shield - Wire : PVC |                    | P.97    |  |
|               |                     | Molded Connector   | No Shield              |                    | P.100   |  |
|               | T-Code              | Device Connector   | No Shield - Wire : PVC |                    | P.103   |  |
|               |                     | PCB Connector      | One-piece              | Shield / No Shield | P.106   |  |
| M12           | X-Code              | PCB Connector      | Two-piece              | Shield             | P.108   |  |
|               |                     | Molded Connector   | No Shield              |                    | P.111   |  |
|               | I Codo              | Device Connector   | No Shield - Wire : PVC |                    | P.114   |  |
|               | L-Code              | PCB Connector      | One-piece              | Shield / No Shield | P.117   |  |
|               |                     | PCB Connector      | Two-piece              | Shield / No Shield | P.120   |  |
|               | I/ Codo             | Molded Connector   | Shield / No Shield     |                    | P.123   |  |
|               | K-Code              | Device Connector   | No Shield - Wire : PVC |                    | P.126   |  |
|               | M. Cada             | Molded Connector   | Shield / No Shield     |                    | P.129   |  |
|               | M-Code              | Device Connector   | No Shield - Wire : PVC |                    | P.132   |  |
| Maa           | N. Cada             | Power              | Power                  |                    | P.136   |  |
| M23           | N-Code              | Signal             | Signal                 |                    | P.137   |  |
|               | A-Code              | Molded Connector   | No Shield              |                    | P.140   |  |
| 7/8"          |                     | Device Connector   | No Shield - Wire : PVC |                    | P.142   |  |
|               |                     | PCB Connector      | One-piece              | No Shield          | P.144   |  |
| Bistolik disa | Features 8          | & Products         |                        |                    | P.145   |  |
| Distribution  | Dimensio            | n & Application    |                        |                    | P.146   |  |
| Box           | Product Information |                    |                        |                    |         |  |
|               |                     | Indus              | trial Ethernet         |                    |         |  |
|               |                     |                    | Ethernet(PUR)          |                    | P.151   |  |
|               |                     | Molded Connector   | CC-Link(PVC)           |                    | D.450   |  |
|               |                     |                    | CANopen(PUR)           |                    | - P.152 |  |
|               |                     |                    | Ethernet(PUR)          |                    | P.155   |  |
|               | A-Code              | Device Connector   | CC-Link(PVC)           |                    |         |  |
|               |                     |                    | CANopen(PUR)           |                    | - P.156 |  |
|               |                     |                    | Ethernet(PUR)          |                    |         |  |
|               |                     | PCB Connector      | CC-Link(PVC)           |                    | P.159   |  |
| M12           |                     |                    | CANopen(PUR)           |                    | _       |  |
|               |                     | Molded Connector   | PROFIBUS(PUR)          |                    | P.162   |  |
|               | B-Code              | Device Connector   | PROFIBUS(PUR)          |                    | P.165   |  |
|               |                     | PCB Connector      | PROFIBUS(PUR)          |                    | P.168   |  |
|               | 1                   |                    | PROFINET(PVC)          |                    |         |  |
|               |                     | Molded Connector   | Ethernet(PUR)          |                    | - P.171 |  |
|               | D-Code              | Device Connector   | PROFINET(PVC)          |                    |         |  |
|               |                     |                    | Ethernet(PUR)          |                    | - P.174 |  |
|               |                     | -                  |                        |                    |         |  |

# Index

#### **Industrial Ethernet**

| D-Code  | PCB Connector | PROFINET(PVC)    | P.176           |       |
|---------|---------------|------------------|-----------------|-------|
| M12     | D-Code        | PCB Connector    | Ethernet(PUR)   | F.170 |
| IVI I Z | X-Code        | Molded Connector | Ethernet(PUR)   | P.179 |
|         | X-Code        | PCB Connector    | Ethernet(PUR)   | P.181 |
|         |               |                  | Functional      |       |
| M8      | A-Code        | Molded Connector | r Ethernet(PUR) | P.185 |
|         | A-Code        | Molded Connector | r Ethernet(PUR) | P.188 |
|         |               | Device Connector | Ethernet(PUR)   | P.191 |
|         |               | Molded Connector | PROFINET(PVC)   | P.194 |
| M12     | D-Code        | Molded Connector | Ethernet(PUR)   | P.194 |
|         | D-Code        | Davisa Cannastar | PROFINET(PVC)   | D 107 |
|         |               | Device Connector | Ethernet(PUR)   | P.197 |
|         | X-Code        | Molded Connector | r Ethernet(PUR) | P.200 |
|         |               |                  | Accessories     | P.201 |

# **M5 Circular Connector**

Dinkle's M5 circular connectors are designed with high reliability and airtightness. With a compact form factor, they are ideal for more compact devices, offering additional communication points within limited spaces.

To meet the needs of various industrial applications, Dinkle provides high-quality PVC and PUR cables. PVC cables are an excellent choice for chemical washdown applications common in the food and beverage industry. Meanwhile, PUR cables are resistant to cutting fluids, oil, and other harsh chemicals. They also feature high tensile strength, abrasion resistance, and flexibility, making them ideal for high-frequency movement applications like robotic arms.

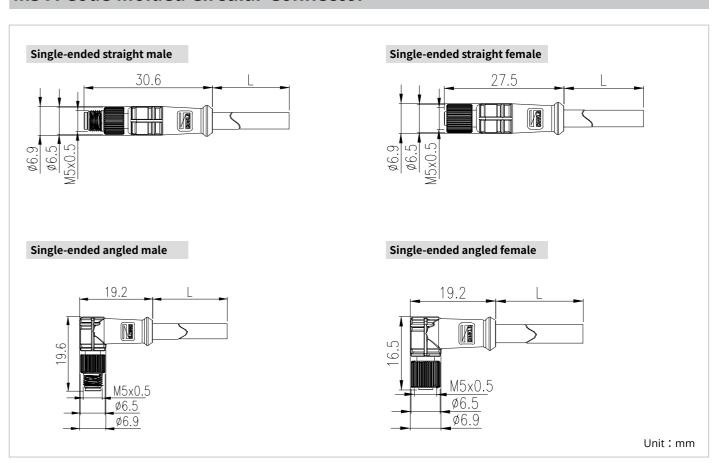
Dinkle's M5 panel-mounted circular connectors are equipped with sealing rings during installation, enabling high airtightness and waterproof performance. They are well-suited for harsh industrial automation environments. Structurally, Dinkle offers panel-mounted products with two installation options: front-mount and rear-mount designs.

Additionally, Dinkle provides M5 one-piece PCB circular connectors, where the housing and internal structure are integrated. This simplifies the installation process while enhancing connection stability and structural integrity. They are particularly suitable for industrial automation and miniature electronic equipment applications.

The M5 circular connectors include A-Code encoding, making them ideal for data and signal transmission in automation control systems. They are available in 3-pin and 4-pin options, offering flexible solutions for your equipment requirements.



#### **M5 A-Code Molded Circular Connector**



#### **M5 A-Code Molded Connector**

| Mechanical I   | Properties  | Materia                       | Prope                               | erties                                    |  |
|--|---|-------------------------------|-------------------------------------|---|--|
| Min. Insertion/withdrawal cycles                                 | 100   | Contact / contact surface     | Copper alloy / Gold plat            |   |  |
| Degree of protection   | IP67  | Contact carrier / overmolding |                                     | PUR                                       |  |
| Operating Temperature  | $-40^{\circ}\text{C} \sim 80^{\circ}\text{C}$ ( Fixed installation )  | O-ring                        |                                     | NBR                                       |  |
| operating remperature  | -25°C ~ 80°C<br>( Fixed installation )  | Cable gland material          | Copp                                | er alloy, nickel-plated                   |  |
| Fasten torque  | 0.3 Nm  | UL94 Flammability rating      |                                     | НВ  |  |
| Electrical Properties Cable Information                          |   |                               |                                     |   |  |
| Rated voltage / current  | 60VDC / 1A (3 Pin)  | Cable Jacket F                |                                     | PUR / PVC, BLACK                          |  |
| (contacts)   | 60VDC / 1A (4 Pin)  | LIL ANALA et de               | Shield                              | PUR : UL AWM 20549 /<br>PVC : UL AWM 2464 |  |
| Rated Impulse Voltage  | 1.5kV (3 Pin)   | UL AWM style                  | No<br>Shield                        | PUR : UL AWM 20549 /<br>PVC : UL AWM 2464 |  |
| Rated Impulse Voltage  | 1.5kV (4 Pin)   | Conductor cross section       | 0.14mm <sup>2</sup> / 26AWG (3 Pin) |   |  |
| Insulation resistance  | Min. 100MΩ  | Conductor cross section       | 0.14                                | mm² / 26AWG (4 Pin)                       |  |
| Overvoltage Category   | II  | Material conductor insulation |                                     | PP  |  |
| Pollution Degree   | 3   | Flame resistance              | FT-2 / VW-1                         |   |  |
|  |   | Dielectric strength           | 2.0KV/1min                          |   |  |
|  | Standards and   | Regulations                   |                                     |   |  |
|  | IEC 61076-2-105: Detail specification for M5 connectors with screw-locking                                      |                               |                                     |   |  |
| Design reference   | IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods |                               |                                     |   |  |
| IEC 60529: Degree of protection provided by enclosures (IP Code) |   |                               |                                     |   |  |
| Certification reference UL 2238                                  |   |                               |                                     |   |  |
| Notice   |   |                               |                                     |   |  |

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

# M5 A-Code Molded Connector ( No Shield )

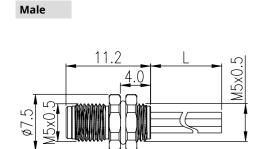
| Coding and contacts     |                             | Code             | J                | 4                | Α                  |        |  |
|-------------------------|-----------------------------|------------------|------------------|------------------|--------------------|--------|--|
| Coung and Co            | Coding and contacts Contact |                  | 3                |                  | 4                  |        |  |
| Rated volt              | age / cu                    | irrent           | 60V / 1A         |                  | 60V                | / 1A   |  |
|                         |                             |                  | Male             | Female           | Male               | Female |  |
| Contact arrangement     |                             | (3) (4)          |                  | 2134             | (1) (2)<br>(4) (3) |        |  |
| Connector style         | Cable                       | Length(m)        |                  | Part n           | umber              |        |  |
| Single-ended 2 PVC 5 10 |                             | 101-A3010-20S020 |                  | 101-A4010-20S020 |                    |        |  |
|                         |                             | 5                | 101-A301         | 0-20S050         | 101-A4010-20S050   |        |  |
|                         |                             | 10               | 101-A3010-20S100 |                  | 101-A4010-20S100   |        |  |

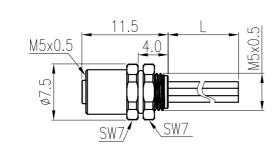
| Connector style | Cable | Length(m) | Part n           | umber            |                  |
|-----------------|-------|-----------|------------------|------------------|------------------|
| Single-ended    |       | 2         | 101-A3010-20S020 | 101-A4010-20S020 |                  |
| straight male   | PVC   | 5         | 101-A3010-20S050 | 101-A4010-20S050 |                  |
|                 |       | 10        | 101-A3010-20S100 | 101-A4010-20S100 |                  |
|                 |       | 2         | 101-A3010-00S020 | 101-A4010-00S020 |                  |
|                 | PUR   | 5         | 101-A3010-00S050 | 101-A4010-00S050 |                  |
| •               |       | 10        | 101-A3010-00S100 | 101-A4010-00S100 |                  |
| Single-ended    |       | 2         | 102-A3010-20S020 | 102-A4010-20S020 |                  |
| straight female | PVC   | 5         | 102-A3010-20S050 | 102-A4010-20S050 |                  |
|                 |       | 10        | 102-A3010-20S100 | 102-A4010-20S100 |                  |
| 1               | PUR   | 2         | 102-A3010-00S020 | 102-A4010-00S020 |                  |
|                 |       | 5         | 102-A3010-00S050 | 102-A4010-00S050 |                  |
| •               |       | 10        | 102-A3010-00S100 | 102-A4010-00S100 |                  |
| Single-ended    | PVC   | 2         | 103-A3010-20S020 | 103-A4010-20S020 |                  |
| angled male     |       | PVC       | 5                | 103-A3010-20S050 | 103-A4010-20S050 |
|                 |       | 10        | 103-A3010-20S100 | 103-A4010-20S100 |                  |
|                 |       | 2         | 103-A3010-00S020 | 103-A4010-00S020 |                  |
|                 | PUR   | 5         | 103-A3010-00S050 | 103-A4010-00S050 |                  |
| -               |       | 10        | 103-A3010-00S100 | 103-A4010-00S100 |                  |
| Single-ended    |       | 2         | 104-A3010-20S020 | 104-A4010-20S020 |                  |
| angled female   | PVC   | 5         | 104-A3010-20S050 | 104-A4010-20S050 |                  |
|                 |       | 10        | 104-A3010-20S100 | 104-A4010-20S100 |                  |
|                 |       | 2         | 104-A3010-00S020 | 104-A4010-00S020 |                  |
|                 | PUR   | 5         | 104-A3010-00S050 | 104-A4010-00S050 |                  |
| -               |       | 10        | 104-A3010-00S100 | 104-A4010-00S100 |                  |
|                 |       |           |                  |                  |                  |

 $\mathbf{3}$ 

# **M5 A-Code Device Circular Connector**

#### Front mounting with 0.5m wire

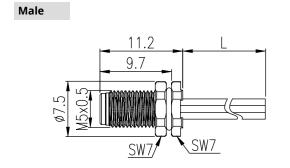


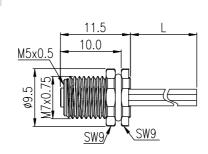


Female

Female

#### Rear mounting with 0.5m wire





#### Pin assignments and wire colors

| arrangement |    | (34)    |    | (200)<br>(3 4) |  |
|-------------|----|---------|----|----------------|--|
|             | 3P |         | 4P |                |  |
| Pin         |    |         |    | de             |  |
|             | 1  | Brown   | 1  | Brown          |  |
| out         | 2  | -       | 2  | White          |  |
|             | 3  | 3 Blue  |    | Blue           |  |
| Pi          | 4  | 4 Black |    | Black          |  |

#### **M5 A-Code Device Connector**

| Mechanical Pro                             | perties   | Material Properties           |                                     |  |
|--|---|-------------------------------|-------------------------------------|--|
| Min. Insertion/withdrawal cycles           | 100   | Contact / contact surface     | Copper alloy / Gold plated          |  |
| Degree of protection                       | IP67  | Contact carrier               | PA                                  |  |
| Operating Temperature                      | -40°C ~ 80°C  | Hexigonal nut / Outer Shield  | Copper alloy, nickel-plated         |  |
| Fasten torque                              | 0.3 N·m   | O-ring                        | NBR                                 |  |
| Mounting torque                            | 0.6 N·m   | UL94 Flammability rating      | V0                                  |  |
| Electrical Prop                            | perties   | Cable In                      | formation                           |  |
| Date I alkana (a. a. a. (a. a. a. a. a. a. | 60VDC / 1A (3 Pin)  | Cable Jacket                  | PVC                                 |  |
| Rated voltage / current (contacts)         | 60VDC / 1A (4 Pin)  | UL AWM style                  | PVC : UL 1061                       |  |
| Detect large des Velteres                  | 1.5kV (3 Pin)   | Conductor                     | 0.14mm <sup>2</sup> / 26AWG (3 Pin) |  |
| Rated Impulse Voltage                      | 1.5kV (4 Pin)   | Conductor cross section       | 0.14mm <sup>2</sup> / 26AWG (4 Pin) |  |
| Insulation resistance                      | Min. 100MΩ  | Material conductor insulation | PVC                                 |  |
| Overvoltage Category                       | II  | Flame resistance              | FT-2 / VW-1                         |  |
| Pollution Degree                           | 3   | Dielectric strength           | NA                                  |  |
|  | Standards a   | and Regulations               |                                     |  |
|  | IEC 61076-2-105: Detail specification for M5 connectors with screw-locking                                      |                               |                                     |  |
| Design reference                           | IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods |                               |                                     |  |
|  | IEC 60529: Degree of protection provided by enclosures (IP Code)  |                               |                                     |  |
| Certification reference                    | UL 2238   |                               |                                     |  |

#### Notice

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

 $\sim$  5  $\sim$  6

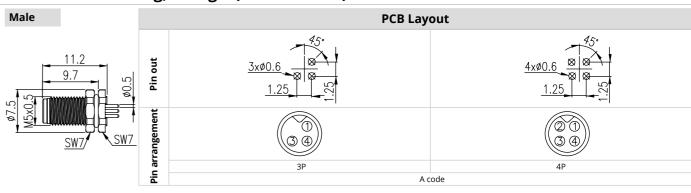
# M5 A-Code Device Connector ( No Shield )

| Coding and          | Code          | A                            | <b>\</b>           | Α                |                         |  |
|---------------------|---------------|------------------------------|--------------------|------------------|-------------------------|--|
| contacts            |               |                              | }                  | 4                | 4                       |  |
| Rated volta         | ige / current | 60V / 1A                     |                    | 60V / 1A         |                         |  |
| Contact arrangement |               | Male Female  (1) (3) (4) (3) |                    | Male (2 1) (3 4) | Female  (1) (2) (4) (3) |  |
|                     |               | Front mounting               | with 0.5m conducto | or               |                         |  |
| Connector style     | Mount thread  |                              | Part n             | umber            |                         |  |
| Male                | M5 X 0.5      | 118-A3010-0VSL50             |                    | 118-A4010-0VSL50 |                         |  |
| Female              | M5 X 0.5      | 119-A3010-0VSL50             |                    | 119-A4010-0VSL50 |                         |  |
|                     |               | Rear mounting                | with 0.5m conducto | r                |                         |  |
| Connector style     | Mount thread  |                              | Part n             | umber            |                         |  |
| Male                | M5 X 0.5      | 120-A3010-0VSL50             |                    | 120-A401         | 0-0VSL50                |  |
| Female              | M7 X 0.75     | 121-A3011-0VSL50             |                    | 121-A401         | 1-0VSL50                |  |

The wire length can be customized. For more details, please contact Dinkle

# **M5 A-Code One-piece PCB Circular Connector**

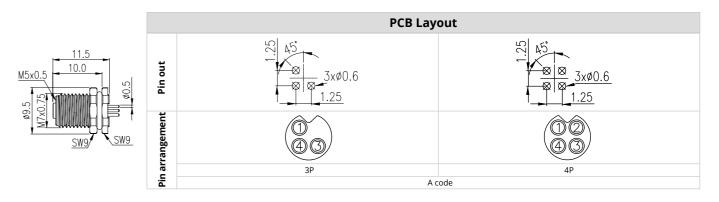
#### 180° Rear mounting, straight(NonShielded)



#### Female

Design reference

Certification reference



#### **M5 A-Code One-piece PCB Connector**

| Mechanical Pr  | operties           | Material Properties                          |                             |  |
|--|--------------------|--|-----------------------------|--|
| Min. Insertion/withdrawal cycles   | 100                | Contact / contact surface Copper alloy / Gol |                             |  |
| Degree of protection   | IP67               | Contact carrier                              | PA                          |  |
| Operating Temperature  | -40°C ~ 80°C       | Hexigonal nut / Outer Shield                 | Copper alloy, nickel-plated |  |
| Fasten torque  | 0.3 Nm             | O-ring                                       | NBR                         |  |
| Soldering method   | Wave Soldering     | UL94 Flammability rating                     | V0                          |  |
| Electrical Properties  |                    | Cable Information                            |                             |  |
| Pated voltage / current (contacts)   | 60VDC / 1A (3 Pin) |  |                             |  |
| Rated voltage / current (contacts)   | 60VDC / 1A (4 Pin) |  |                             |  |
| Pated Impulse Voltage  | 1.5kV (3 Pin)      |  |                             |  |
| Rated Impulse Voltage  | 1.5kV (4 Pin)      |  |                             |  |
| Insulation resistance  | Min. $100M\Omega$  |  |                             |  |
| Overvoltage Category   | II                 |  |                             |  |
| Pollution Degree   | 3                  |  |                             |  |
| Standards and Regulations  |                    |  |                             |  |
| IEC 61076-2-105: Detail specification for M5 connectors with screw-locking |                    |  |                             |  |

#### Notice

IEC 60529: Degree of protection provided by enclosures (IP Code)

IEC 60512: Electromechanical components for electronic equipment; basic testing

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

procedure and measuring methods

UL 2238

#### M5 A-Code One-piece PCB Connector (No Shield)

| Coding and          | Code         | A                  | Α                |                         | 4    |  |
|---------------------|--------------|--------------------|------------------|-------------------------|------|--|
| contacts            | Contact      | 3                  |                  | 4                       |      |  |
| Rated volta         | ge / current | 60V                | / 1A             | 60V                     | / 1A |  |
| Contact arrangement |              | Male Female  1 3 4 |                  | Male Female  2 1 3 4    |      |  |
|                     |              | Rear mou           | ınting, straight |                         |      |  |
| Connector style     | Mount thread |                    | Part n           | umber                   |      |  |
| Male                | M5 X 0.5     | 126-A3010-1        |                  | 126-A4010-1             |      |  |
| Female              | M7 X 0.75    | 127-A3011-1        |                  | 127-A3011-1 127-A4011-1 |      |  |

# **M8 Circular Connector**

Dinkle's M8 circular connectors with cables combine miniaturization, high protection, durability, and ease of installation, making them ideal for industrial automation, sensor, and control system applications. Their corrosion-resistant materials and various coding options allow for stable operation and high-quality signal transmission in harsh industrial environments. To meet the needs of different industrial applications, Dinkle offers highquality PVC and PUR cables. Additionally, shielded cables with tinned copper wire braiding are available, enhancing electromagnetic shielding and noise resistance, effectively preventing interference in high-noise environments, and ensuring the communication reliability of sensors and actuators.

If you require a more compact solution with higher power density within a limited enclosure space, Dinkle's M8 panel-mounted circular connectors perform excellently under demanding conditions and provide a minimum IP65 dustproof and waterproof rating. Structurally, the panel-mounted product line offers front-locking and rear-locking housings to accommodate different installation requirements. These connectors also include terminals with solder cups, allowing customers to customize wiring based on the internal space of their equipment.

Dinkle's M8 one-piece PCB circular connectors feature industry-standard metric thread structures and IP68 high protection ratings, enabling simple and secure direct transmission of signals, data, and power to PCBs. Whether it's M5, M8, or M12 PCB circular connectors, all use corrosion-resistant nickel-plated metal housings combined with sealing rings, offering the most reliable protection for your equipment.

The M8 two-piece PCB circular connectors employ SMT (Surface-Mount Technology), distinguishing them from earlier through-hole parts that used wave soldering. SMT significantly reduces the size of electronic products, achieving lighter, thinner, shorter, and more compact designs. SMT technology also boasts high reliability, strong vibration resistance, low solder joint defect rates, good high-frequency characteristics, high assembly density, small electronic product sizes, and ease of automation.

Dinkle's M8 circular connector series also includes A and B coding options, providing greater flexibility for your equipment solutions.

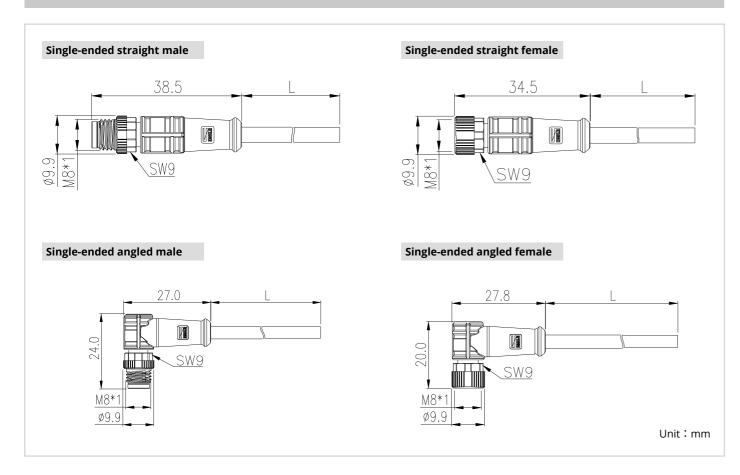


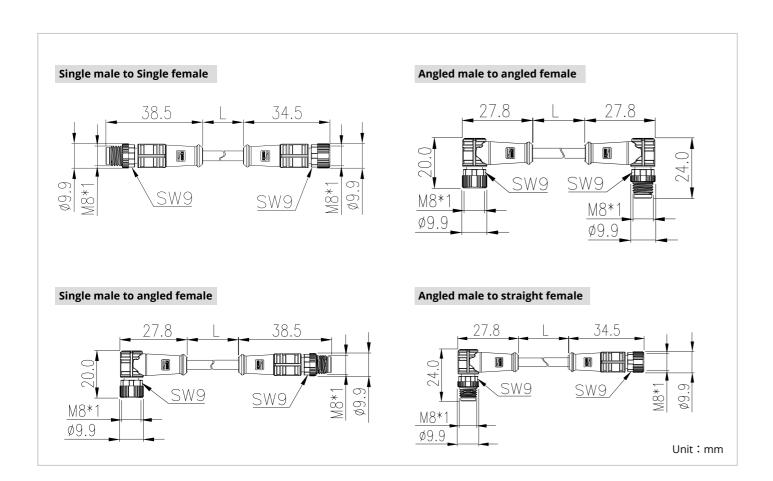






#### **M8 A-Code Molded Circular Connector**





#### **M8 A-Code Molded Connector**

| Mechanical Pro  | perties  | Material                      | Properties  |  |
|---|--|-------------------------------|---|--|
| Min. Insertion/withdrawal cycles  | 100  | Contact / contact surface     | Copper alloy / Gold plated                        |  |
| Degree of protection  | IP67   | Contact carrier / overmolding | PUR / PUR   |  |
| O   | -40°C ~ 80°C<br>( Fixed installation )                                   | O-ring                        | NBR   |  |
| Operating Temperature   | -25°C ~ 80°C<br>( Fixed installation )                                   | Cable gland material          | Zinc die-cast, nickel-plated                      |  |
| Fasten torque   | 0.3 Nm   | UL94 Flammability rating      | НВ  |  |
| Electrical Prop   | erties   | Cable In                      | formation   |  |
|   | 60VAC / 4A (≤4 Pin)  | Cable Jacket                  | PUR / PVC, BLACK                                  |  |
| Rated voltage / current (contacts)  | 30VAC / 1.5A (6 Pin)   | UL AWM style                  | Shield PUR: UL AWM 20549 /<br>PVC: UL AWM 2464    |  |
|   | 30VAC / 1.5A (8 Pin)   | OL AVVIVI Style               | No PUR: UL AWM 20549 /<br>Shield PVC: UL AWM 2464 |  |
|   | 1.5kV (≤4 Pin)   |                               | 0.20mm² / 24AWG (≤4 Pin)                          |  |
| Rated Impulse Voltage   | 0.8kV (6 Pin)  | Conductor cross section       | 0.14mm <sup>2</sup> / 26AWG (6 Pin)               |  |
|   | 0.8kV (8 Pin)  |                               | 0.14mm <sup>2</sup> / 26AWG (8 Pin)               |  |
| Insulation resistance   | Min. 100MΩ   | Material conductor insulation | PP  |  |
| Overvoltage Category  | II   | Flame resistance              | FT-2 / VW-1                                       |  |
| Pollution Degree  | 3  | Dielectric strength           | 2.0KV/1min  |  |
|   | Standards  | and Regulations               |   |  |
| Design reference IEC 61076-2-104: Detail specification for M8 connectors with screw-locking IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods |  |                               |   |  |
|   | IEC 60529: Degree of protection provided by enclosures (IP Code) UL 2238 |                               |   |  |
|   |  | Notice                        |   |  |

# The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

# M8 A-Code Molded Connector ( Shield )

| Coding and contacts                |          | Code      | Α  |           | Α                |                  | Α   |                  | Α                |           |
|------------------------------------|----------|-----------|--|-----------|------------------|------------------|---|------------------|------------------|-----------|
| Coding and con                     | itacts   | Contact   |  | 3         |                  | 4                |   | 6                |                  | 8         |
| Rated volta                        | age / cu | ırrent    | 60V  | ′ / 4A    | 60\              | // 4A            | 30V                                       | / 1.5A           | 30V              | / 1.5A    |
|                                    |          |           | Male   | Female    | Male             | Female           | Male                                      | Female           | Male             | Female    |
| Contact ar                         | rangei   | ment      | 4 <b>•</b> • • • • • • • • • • • • • • • • • • |           |                  |                  | 5 0 3 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 |                  |                  |           |
| Connector style                    | Cable    | Length(m) |  |           |                  | Part n           | umber                                     |                  |                  |           |
| Single-ended straight male         |          | 2         | 351-A300                                       | 00-15S020 | 351-A400         | 351-A4000-15S020 |   | 351-A6000-15S020 |                  | 00-15S020 |
| straight male                      | PVC      | 5         | 351-A300                                       | 00-15S050 | 351-A400         | 00-15S050        | 351-A600                                  | 00-15S050        | 351-A800         | 00-15S050 |
|                                    |          | 10        | 351-A300                                       | 00-15S100 | 351-A400         | 351-A4000-15S100 |   | 00-15S100        | 351-A800         | 00-15S100 |
| 111                                |          | 2         | 351-A3000-05S020                               |           | 351-A400         | 00-055020        | 351-A600                                  | 00-055020        | 351-A800         | 00-055020 |
|                                    | PUR      | 5         | 351-A300                                       | 00-05S050 | 351-A400         | 00-05S050        | 351-A600                                  | 00-05S050        | 351-A800         | 00-05S050 |
|                                    |          | 10        | 351-A300                                       | 00-05S100 | 351-A400         | 00-05S100        | 351-A600                                  | 00-05S100        | 351-A800         | 00-05S100 |
| Single-ended<br>straight female    |          | 2         | 352-A300                                       | 00-15S020 | 352-A400         | 352-A4000-15S020 |   | 00-15S020        | 352-A800         | 00-15S020 |
| straight remaie                    | PVC      | 5         | 352-A300                                       | 00-15S050 | 352-A400         | 00-15S050        | 352-A600                                  | 00-15S050        | 352-A800         | 00-15S050 |
|                                    |          | 10        | 352-A300                                       | 00-15S100 | 352-A400         | 00-15S100        | 352-A600                                  | 00-15S100        | 352-A800         | 00-15S100 |
| 1                                  |          | 2         | 352-A300                                       | 00-05S020 | 352-A400         | 352-A4000-05S020 |   | 00-05S020        | 352-A800         | 00-055020 |
| PUR                                |          | 5         | 352-A3000-05S050 352-A4000-05S050              |           | 352-A6000-05S050 |                  | 352-A800                                  | 00-05S050        |                  |           |
|                                    |          | 10        | 352-A300                                       | 00-05S100 | 352-A4000-05S100 |                  | 352-A6000-05S100                          |                  | 352-A8000-05S100 |           |
| Single-ended<br>angled male        |          | 2         | 353-A300                                       | 00-15S020 | 353-A4000-15S020 |                  | 353-A6000-15S020                          |                  | 353-A800         | 00-15S020 |
| s)                                 | PVC      | 5         | 353-A300                                       | 00-15S050 | 353-A400         | 00-15S050        | 353-A600                                  | 00-15S050        | 353-A800         | 00-15S050 |
| 2                                  |          | 10        | 353-A300                                       | 00-15S100 | 353-A400         | 00-15S100        | 353-A600                                  | 00-15S100        | 353-A800         | 00-15S100 |
|                                    |          | 2         | 353-A3000-05S020                               |           | 353-A400         | 00-05S020        | 353-A600                                  | 00-05S020        | 353-A800         | 00-055020 |
| •                                  | PUR      | 5         | 353-A300                                       | 00-05S050 | 353-A400         | 00-05S050        | 353-A600                                  | 00-05S050        | 353-A800         | 00-05S050 |
|                                    |          | 10        | 353-A3000-05S100                               |           | 353-A4000-05S100 |                  | 353-A6000-05S100                          |                  | 353-A800         | 00-05S100 |
| Single-ended angled female         |          | 2         | 354-A300                                       | 00-15S020 | 354-A400         | 00-15S020        | 354-A600                                  | 00-15S020        | 354-A800         | 00-15S020 |
| s)                                 | PVC      | 5         | 354-A300                                       | 00-15S050 | 354-A400         | 00-15S050        | 354-A600                                  | 00-15S050        | 354-A800         | 00-15S050 |
|                                    |          | 10        | 354-A300                                       | 00-15S100 | 354-A4000-15S100 |                  | 354-A6000-15S100                          |                  | 354-A8000-15S100 |           |
|                                    |          | 2         | 354-A300                                       | 00-05S020 | 354-A4000-05S020 |                  | 354-A6000-05S020                          |                  | 354-A8000-05S020 |           |
| 69                                 | PUR      | 5         | 354-A300                                       | 00-05S050 | 354-A400         | 354-A4000-05S050 |   | 00-05S050        | 354-A800         | 00-05S050 |
|                                    |          | 10        | 354-A300                                       | 00-05S100 | 354-A400         | 00-05S100        | 354-A600                                  | 00-05S100        | 354-A800         | 00-05S100 |
| Straight male mate straight female |          | 0.6       | 356-A300                                       | 00-15SL60 | 356-A400         | 00-15SL60        | 356-A600                                  | 00-15SL60        | 356-A800         | 00-15SL60 |
| straight remaie                    | PVC      | 1.5       | 356-A300                                       | 00-15S015 | 356-A400         | 00-15S015        | 356-A600                                  | 00-15S015        | 356-A800         | 00-15S015 |
| 1.00                               |          | 3         | 356-A300                                       | 00-15S030 | 356-A400         | 00-15S030        | 356-A600                                  | 00-155030        | 356-A800         | 00-15S030 |
| 8                                  |          | 0.6       | 356-A300                                       | 00-05SL60 | 356-A400         | 00-05SL60        | 356-A600                                  | 00-05SL60        | 356-A800         | 00-05SL60 |
|                                    | PUR      | 1.5       | 356-A300                                       | 00-05S015 | 356-A400         | 00-05S015        | 356-A600                                  | 00-05S015        | 356-A800         | 00-05S015 |
|                                    |          | 3         | 356-A300                                       | 00-055030 | 356-A400         | 00-05S030        | 356-A600                                  | 00-055030        | 356-A800         | 00-055030 |
| Angled male mate angled female     |          | 0.6       | 359-A300                                       | 00-15SL60 | 359-A400         | 00-15SL60        | 359-A600                                  | 00-15SL60        | 359-A800         | 00-15SL60 |
|                                    | PVC      | 1.5       | 359-A300                                       | 00-15S015 | 359-A400         | 00-15S015        | 359-A600                                  | 00-15S015        | 359-A800         | 00-15S015 |
| 000                                |          | 3         | 359-A300                                       | 00-15S030 | 359-A400         | 00-15S030        | 359-A600                                  | 00-15S030        | 359-A800         | 00-15S030 |
| 1                                  |          | 0.6       | 359-A300                                       | 00-05SL60 | 359-A400         | 00-05SL60        | 359-A600                                  | 00-05SL60        | 359-A800         | 00-05SL60 |
|                                    | PUR      | 1.5       | 359-A300                                       | 00-05S015 | 359-A400         | 00-05S015        | 359-A600                                  | 00-05S015        | 359-A800         | 00-05S015 |
|                                    |          | 3         | 359-A300                                       | 00-05S030 | 359-A400         | 00-05S030        | 359-A600                                  | 00-05S030        | 359-A800         | 00-055030 |

The configuration of connectors and the cable length can be customized. For more details, please contact Dinkle

# M8 A-Code Molded Connector ( No Shield )

| Coding and contacts  |         | Code      |          | A                 |          | A  | A        |            | Α        |        |
|--|---------|-----------|----------|-------------------|----------|--|----------|------------|----------|--------|
| couning and con  | tucts   | Contact   |          | 3                 | 4        |  | 6        |            | 8        |        |
| Rated volta  | ge / cu | irrent    | 60V      | / 4A              |          | // 4A                                    | 30V /    | / 1.5A     | 30V /    | 1.5A   |
| Contact ar   | ranger  | nent      | Male     | Female            | Male     | Female                                   | Male     | Female     | Male     | Femal  |
| Connector style  | Cable   | Length(m) |          |                   |          | Part n                                   | umber    |            |          |        |
| Single-ended   |         | 2         | 301-A300 | 00-105020         | 301-A400 | <b>301-A4000-10S020</b> 301-A6000-10S020 |          | 301-A800   | 0-1050   |        |
| straight male  | PVC     | 5         | 301-A300 | 00-105050         | 301-A400 | 00-105050                                | 301-A600 | 00-10S050  | 301-A800 | 0-1050 |
| UTED OTEN  |         | 10        | 301-A300 | 00-10S100         | 301-A400 | 00-10S100                                | 301-A600 | 00-10S100  | 301-A800 | 0-1051 |
| 100  |         | 2         | 301-A300 | 01-A3000-00S020 3 |          | 00-005020                                | 301-A600 | 00-005020  | 301-A800 | 0-0050 |
| B  | PUR     | 5         | 301-A300 | 00-005050         | 301-A400 | 00-005050                                | 301-A600 | 00-005050  | 301-A800 | 0-0050 |
|  |         | 10        | 301-A300 | 00-00\$100        | 301-A400 | 00-00\$100                               | 301-A600 | 00-00\$100 | 301-A800 | 0-0051 |
| Single-ended   |         | 2         | 302-A300 | 00-105020         | 302-A400 | 00-105020                                | 302-A600 | 00-105020  | 302-A800 | 0-1050 |
| straight female  | PVC     | 5         | 302-A300 | 00-105050         | 302-A400 | 00-105050                                | 302-A600 | 00-10S050  | 302-A800 | 0-1050 |
| UL US US I   |         | 10        | 302-A300 | 00-105100         | 302-A400 | 00-105100                                | 302-A600 | 00-10S100  | 302-A800 | 0-1051 |
| The state of the s |         | 2         | 302-A300 | 00-005020         | 302-A400 | 00-005020                                | 302-A600 | 00-005020  | 302-A800 | 0-0050 |
| Pl   | PUR     | 5         | 302-A300 | 00-005050         | 302-A400 | 00-005050                                | 302-A600 | 00-005050  | 302-A800 | 0-0050 |
|  |         | 10        | 302-A300 | 00-00\$100        | 302-A400 | 00-00\$100                               | 302-A600 | 00-005100  | 302-A800 | 0-0051 |
| Single-ended   |         | 2         | 303-A300 | 00-105020         | 303-A400 | 00-105020                                | 303-A600 | 00-105020  | 303-A800 | 0-1050 |
| C(U))as<br>URITO   | PVC     | 5         | 303-A300 | 00-105050         | 303-A400 | 00-105050                                | 303-A600 | 00-10S050  | 303-A800 | 0-1050 |
|  |         | 10        | 303-A300 | 00-10S100         | 303-A400 | 00-10S100                                | 303-A600 | 00-10S100  | 303-A800 | 0-10S1 |
|  |         | 2         | 303-A300 | 00-005020         | 303-A400 | 00-005020                                | 303-A600 | 00-005020  | 303-A800 | 0-0050 |
|  | PUR     | 5         | 303-A300 | 00-005050         | 303-A400 | 00-005050                                | 303-A600 | 00-005050  | 303-A800 | 0-0050 |
|  |         | 10        | 303-A300 | 00-005100         | 303-A400 | 00-00\$100                               | 303-A600 | 00-00\$100 | 303-A800 | 0-00S1 |
| Single-ended   |         | 2         | 304-A300 | 00-105020         | 304-A400 | 00-105020                                | 304-A600 | 00-105020  | 304-A800 | 0-1050 |
| angled female  | PVC     | 5         | 304-A300 | 00-105050         | 304-A400 | 00-105050                                | 304-A600 | 00-10S050  | 304-A800 | 0-1050 |
| STED   |         | 10        | 304-A300 | 00-10S100         | 304-A400 | 00-10S100                                | 304-A600 | 00-10S100  | 304-A800 | 0-1051 |
|  |         | 2         | 304-A300 | 00-005020         | 304-A400 | 00-005020                                | 304-A600 | 00-005020  | 304-A800 | 0-0050 |
| 6  | PUR     | 5         | 304-A300 | 00-005050         | 304-A400 | 00-005050                                | 304-A600 | 00-005050  | 304-A800 | 0-0050 |
|  |         | 10        | 304-A300 | 00-00\$100        | 304-A400 | 00-00\$100                               | 304-A600 | 00-005100  | 304-A800 | 0-00S1 |
| traight male mate  |         | 0.6       |          | 00-10SL60         |          | 00-10SL60                                |          | 00-10SL60  | 306-A800 |        |
| straight female  | PVC     | 1.5       |          | 00-10S015         | 306-A400 | 00-10S015                                |          | 0-105015   | 306-A800 |        |
| STED   |         | 3         | 306-A300 | 00-105030         | 306-A400 | 00-105030                                | 306-A600 | 00-105030  | 306-A800 | 0-1050 |
| 8  |         | 0.6       | 306-A300 | 00-00SL60         | 306-A400 | 00-00SL60                                | 306-A600 | 00-00SL60  | 306-A800 | 0-00SL |
|  | PUR     | 1.5       | 306-A300 | 00-005015         | 306-A400 | 00-005015                                | 306-A600 | 00-005015  | 306-A800 | 0-0050 |
| 1  |         | 3         |          | 00-005030         |          | 00-005030                                |          | 00-005030  | 306-A800 |        |
| Angled male mate   |         | 0.6       |          | 00-10SL60         |          | 00-10SL60                                |          | 00-10SL60  | 309-A800 |        |
| angled female  | PVC     | 1.5       |          | 00-10S015         |          | 00-10S015                                |          | 0-105015   | 309-A800 |        |
| D) US<br>STED  |         | 3         |          | 00-105030         |          | 00-105030                                |          | 00-105030  | 309-A800 |        |
| W. 4   |         | 0.6       |          | 00-00SL60         |          | 00-00SL60                                |          | 00-00SL60  | 309-A800 |        |
|  | PUR     | 1.5       |          | 00-005015         |          | 00-00S015                                |          | 00-005015  | 309-A800 |        |
|  |         |           |          | 00-005030         |          | 00-005030                                |          | 00-005030  | 309-A800 |        |

# M8 A-Code Molded Connector ( No Shield, Drag, chain )

| Cadina                             | 44:                 | Code      |                  | A                |                  | A                              |                  | A         |                  | Α         |
|------------------------------------|---------------------|-----------|------------------|------------------|------------------|--------------------------------|------------------|-----------|------------------|-----------|
| Coding and cor                     | itacts              | Contact   |                  | 3                |                  | 4                              |                  | 6         |                  | 8         |
| Rated volta                        | age / c             | urrent    | 60V              | / 4A             | 60V/ 4A          |                                | 30V / 1.5A       |           | 30V / 1.5A       |           |
| Contact a                          | Contact arrangement |           | Male 4 • • •     | Female           | Male             | Female                         | Male             | Female    | Male             | Female    |
| Connector style                    | Cable               | Length(m) |                  |                  |                  | Part n                         | umber            |           |                  |           |
| Single-ended straight male         |                     | 2         | 301-A300         | 00-025020        | 301-A400         | 00-025020                      | 301-A600         | 00-025020 | 301-A800         | 00-025020 |
|                                    | PUR                 | 5         | 301-A300         | 00-025050        | 301-A400         | 00-025050                      | 301-A600         | 00-02S050 | 301-A800         | 00-025050 |
|                                    |                     | 10        | 301-A300         | 00-025100        | 301-A400         | 00-025100                      | 301-A600         | 00-02S100 | 301-A800         | 00-02S100 |
| Single-ended straight female       |                     | 2         | 302-A300         | 00-025020        | 302-A400         | 00-025020                      | 302-A600         | 00-025020 | 302-A800         | 00-025020 |
|                                    | PUR                 | 5         | 302-A300         | 302-A3000-02S050 |                  | 00-02S050                      | 302-A6000-02S050 |           | 302-A8000-02S050 |           |
|                                    |                     | 10        | 302-A300         | 00-025100        | 302-A4000-02S100 |                                | 302-A6000-02S100 |           | 302-A8000-02S100 |           |
| Single-ended s angled male         |                     | 2         | 303-A3000-02S020 |                  | 303-A400         | 00-025020                      | 303-A600         | 00-025020 | 303-A800         | 00-025020 |
|                                    | PUR                 | 5         | 303-A300         | 00-025050        | 303-A400         | 00-025050                      | 303-A600         | 00-025050 | 303-A800         | 00-025050 |
| •                                  |                     | 10        | 303-A300         | 00-025100        | 303-A400         | 303-A4000-02S100 303-A6000-02S |                  | 00-025100 | 303-A8000-02S100 |           |
| Single-ended angled female         |                     | 2         | 304-A300         | 00-025020        | 304-A400         | 00-025020                      | 304-A600         | 00-025020 | 304-A800         | 00-025020 |
|                                    | PUR                 | 5         | 304-A300         | 00-025050        | 304-A400         | 00-025050                      | 304-A600         | 00-025050 | 304-A800         | 00-025050 |
| 6                                  |                     | 10        | 304-A300         | 00-025100        | 304-A400         | 00-025100                      | 304-A600         | 00-025100 | 304-A800         | 00-02S100 |
| Straight male mate straight female |                     | 0.6       | 306-A300         | 00-02SL60        | 306-A400         | 00-02SL60                      | 306-A600         | 00-02SL60 | 306-A800         | 00-02SL60 |
|                                    | PUR                 | 1.5       | 306-A300         | 0-025015         | 306-A400         | 00-025015                      | 306-A600         | 00-025015 | 306-A800         | 00-025015 |
| No.                                |                     | 3         | 306-A300         | 00-025030        | 306-A400         | 00-025030                      | 306-A600         | 00-025030 | 306-A800         | 00-025030 |
| Angled male mate angled female     |                     | 0.6       | 309-A300         | 00-02SL60        | 309-A400         | 00-02SL60                      | 309-A600         | 00-02SL60 | 309-A800         | 00-02SL60 |
|                                    | PUR                 | 1.5       | 309-A300         | 00-02S015        | 309-A400         | 00-02S015                      | 309-A600         | 00-025015 | 309-A800         | 00-025015 |
| 1                                  |                     | 3         | 309-A300         | 00-025030        | 309-A400         | 00-025030                      | 309-A600         | 00-025030 | 309-A800         | 00-025030 |

Cables with drag chain function are guaranteed to withstand 5 million bending times(R=28mm, L=1m, V=1m/s) The configuration of connectors and the cable length can be ustomized. For more details, please contact Dinkle

# M8 mate M12 A-Code Molded Connector ( Shielded )

| Cading and canta                      | -4-     | Code      | A                | 1                     |                  |                          |  |
|---------------------------------------|---------|-----------|------------------|-----------------------|------------------|--------------------------|--|
| Coding and contac                     | cts     | Contact   | 3                |                       | 4                |                          |  |
| Rated voltage                         | / curre | nt        | 60V              | / 4A                  | 60V              | ′ 4A                     |  |
| Contact arrangement                   |         |           | Male             | Female<br>10<br>40 03 | Male             | Female<br>10 O2<br>40 O3 |  |
| Connector style                       | Cable   | Length(m) | Part nu          |                       | umber            |                          |  |
| M8 straight male mate M12             |         | 0.6       | 350-1300         | 350-13000-10SL60      |                  | 350-14000-10SL60         |  |
| straight female                       | PVC     | 1.5       | 350-13000-105015 |                       | 350-14000-10S015 |                          |  |
|                                       |         | 3         | 350-13000-105030 |                       | 350-1400         | 0-10S030                 |  |
|                                       |         | 0.6       | 350-13000-00SL60 |                       | 350-14000-00SL60 |                          |  |
| B                                     | PUR     | 1.5       | 350-1300         | 350-13000-005015      |                  | 350-14000-005015         |  |
| A Marie                               |         | 3         | 350-1300         | 0-00S030              | 350-1400         | 0-00S030                 |  |
| M8 angled male mate M12 angled female |         | 0.6       | 350-7300         | 0-10SL60              | 350-7400         | 0-10SL60                 |  |
| angled female                         | PVC     | 1.5       | 350-7300         | D-10S015              | 350-7400         | 0-10S015                 |  |
|                                       |         | 3         | 350-73000        | 0-10S030              | 350-7400         | 0-10S030                 |  |
|                                       |         | 0.6       | 350-7300         | 350-73000-00SL60      |                  | 350-74000-00SL60         |  |
|                                       | PUR     | 1.5       | 350-73000-005015 |                       | 350-74000-00S015 |                          |  |
| 0                                     |         | 3         | 350-73000        | O-00S030              | 350-7400         | 0-005030                 |  |

The connector on both sides can be customized, such as straight/angled, male/female

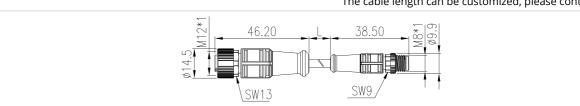
The cable length can be customized, please contacts with Dinkle

# M8 mate M12 A-Code Molded Connector ( No Shielded )

| Cading and santa                          | -4-    | Code      | P                                    | ١                | A                | ١                |  |
|---|--------|-----------|--------------------------------------|------------------|------------------|------------------|--|
| Coding and contac                         | cts    | Contact   | 3                                    |                  | 4                |                  |  |
| Rated voltage / current                   |        |           | 60V / 4A                             |                  | 60V/ 4A          |                  |  |
|   |        |           | Male                                 | Female           | Male             | Female           |  |
| Contact arran                             | igemen | nt        |                                      | 10<br>40 03      |                  | 10 O2<br>40 O3   |  |
| Connector style                           | Cable  | Length(m) |                                      | Part nu          | umber            |                  |  |
| M8 straight male mate M12 straight female |        | 0.6       | 350-13000-02SL60<br>350-13000-02S015 |                  | 350-14000-02SL60 |                  |  |
|   | PUR    | 1.5       |                                      |                  | 350-14000-025015 |                  |  |
| 6   |        | 3         | 350-13000-025030                     |                  | 350-14000-025030 |                  |  |
| M8 angled male mate M12 angled female     |        | 0.6       | 350-7300                             | 0-02SL60         | 350-7400         | 0-02SL60         |  |
|   | PUR    | 1.5       | 350-7300                             | 350-73000-02S015 |                  | 350-74000-025015 |  |
| 000                                       |        | 3         | 350-73000-025030                     |                  | 350-74000-025030 |                  |  |

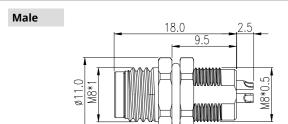
The connector on both sides can be customized, such as straight/angled, male/female

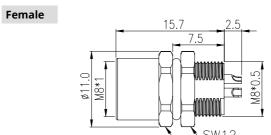
The cable length can be customized, please contacts with Dinkle



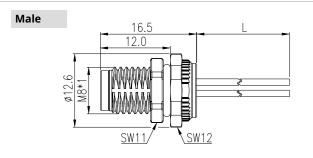
# **M8 A-Code Device Circular Connector**

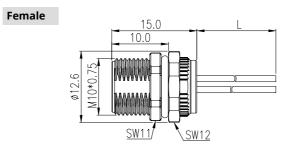
#### Front mounting with 0.5m wire



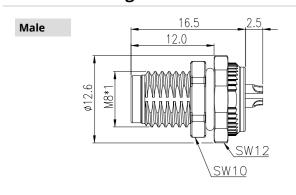


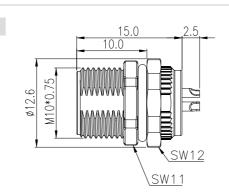
#### Front mounting with solder cup





#### Rear mounting with 0.5m wire





#### Pin assignments and wire colors

| arrangement |   |       |   |       |      | 3 04<br>0 05<br>20 10 |    |        |
|-------------|---|-------|---|-------|------|-----------------------|----|--------|
|             |   | 3P    |   | 4P    |      | 6P                    | 8P |        |
| Pi          |   |       |   | Α     | code |                       |    |        |
|             | 1 | Brown | 1 | Brown | 1    | Brown                 | 1  | White  |
|             | 2 | -     | 2 | White | 2    | White                 | 2  | Brown  |
|             | 3 | Blue  | 3 | Blue  | 3    | Blue                  | 3  | Green  |
| out         | 4 | Black | 4 | Black | 4    | Black                 | 4  | Yellow |
|             |   |       |   |       | 5    | Gray                  | 5  | Gray   |
| Pi          |   |       |   |       | 6    | Pink                  | 6  | Pink   |
|             |   |       |   |       |      |                       | 7  | Blue   |
|             |   |       |   |       |      |                       | 8  | Red    |

Female

# **M8 A-Code Device Connector**

| Mechanical Pro                     | operties                                      | Material Properties   |                                     |  |  |
|------------------------------------|---|---|-------------------------------------|--|--|
| Min. Insertion/withdrawal cycles   | 100   | Contact / contact surface   | Copper alloy / Gold plated          |  |  |
| Degree of protection               | IP67  | Contact carrier   | PA                                  |  |  |
| Operating Temperature              | -40°C ~ 80°C                                  | Hexigonal nut / Outer Shield  | Zinc die-cast, nickel-plated        |  |  |
| Fasten torque                      | 0.3 Nm  | O-ring  | NBR                                 |  |  |
| Mounting torque                    | 0.8 Nm  | UL94 Flammability rating  | V0                                  |  |  |
| Electrical Pro                     | perties                                       | Cable Info  | ormation                            |  |  |
|                                    | 60VAC / 4A (≤4 Pin)                           | Cable Jacket  | PVC                                 |  |  |
| Rated voltage / current (contacts) | 30VAC / 1.5A (6 Pin)                          | UL AWM style  | PVC : UL 1061                       |  |  |
|                                    | 30VAC / 1.5A (8 Pin)                          |   | 0.25mm² / 24AWG (≤4 Pin)            |  |  |
|                                    | 1.5kV (≤4 Pin)                                | Conductor cross section   | 0.14mm <sup>2</sup> / 26AWG (6 Pin) |  |  |
| Rated Impulse Voltage              | 0.8kV (6 Pin)                                 |   | 0.14mm <sup>2</sup> / 26AWG (8 Pin) |  |  |
|                                    | 0.8kV (8 Pin)                                 | Material conductor insulation   | SR-PVC                              |  |  |
| Insulation resistance              | Min. 100MΩ                                    | Flame resistance  | VW-1/FT-1                           |  |  |
| Overvoltage Category               | II  | Dielectric strength   | NA                                  |  |  |
| Pollution Degree                   | 3   |   |                                     |  |  |
|                                    | Standards a                                   | nd Regulations  |                                     |  |  |
| Design reference                   | IEC 60512: Electromechanica measuring methods | fication for M8 connectors with screw-<br>l components for electronic equipmen<br>on provided by enclosures (IP Code) |                                     |  |  |
| Certification reference            | UL 2238                                       | on provided by enclosures (if code)   |                                     |  |  |

#### Notice

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

# M8 A-Code Device Connector ( No Shield )

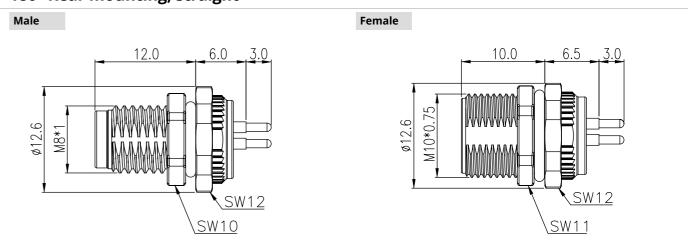
| Coding and   | Code         | Α   | Α                              | Α                | Α                |  |
|--|--------------|---|--------------------------------|------------------|------------------|--|
| contacts   | Contact      | 3   | 4                              | 6                | 8                |  |
| Rated voltage  | e / current  | 60V / 4A  | 60V/ 4A                        | 30V / 1.5A       | 30V / 1.5A       |  |
| Contact arra   | angement     | Male Female   | Male Female                    | Male Female      | Male Female      |  |
|  |              | Front mount   | ing with 0.5m wire             |                  |                  |  |
| Connector style  | Mount thread |   | Part n                         |                  |                  |  |
| Male (W) US (USTED STATE OF THE | M8 X 0.5     | <b>318-A3000-0VSL50 318-A4000-0VSL50</b> 318-A6000-0VSL50 |                                | 318-A8000-0VSL50 |                  |  |
| Female   | M8 X 0.5     | 319-A3000-0VSL50  | 319-A4000-0VSL50               | 319-A6000-0VSL50 | 319-A8000-0VSL50 |  |
|  |              | Rear mounti   | ng with 0.5m wire              |                  |                  |  |
| Connector style  | Mount thread |   | Part n                         | umber            |                  |  |
| Male c(ll) us  | M8 x 1       | 320-A3001-0VSL50  | 320-A4001-0VSL50               | 320-A6001-0VSL50 | 320-A8001-0VSL50 |  |
| Female companies to the | M10 x 0.75   | 321-A3002-0VSL50  | 321-A4002-0VSL50               | 321-A6002-0VSL50 | 321-A8002-0VSL50 |  |
|  |              | Front mounti  | ng with solder cup             |                  |                  |  |
| Connector style  | Mount thread |   | Part n                         | umber            |                  |  |
| con Male   | M8 X 0.5     | 332-A3000-S   | 332-A4000-S                    | 332-A6000-S      | 332-A8000-S      |  |
| remale (Marie)   | M8 X 0.5     | <b>333-A3000-S 333-A4000-S</b> 333-A6000-S                |                                | 333-A8000-S      |                  |  |
|  |              | Rear mounti   | ng with solder cup             |                  |                  |  |
| Connector style  | Mount thread |   | Part n                         | umber            |                  |  |
| Male USTFO   | M8 x 1       | 330-A3001-S   | <b>330-A4001-S</b> 330-A6001-S |                  | 330-A8001-S      |  |
| Female ustro   | M10 x 0.75   | 331-A3002-S   | 331-A4002-S                    | 331-A6002-S      | 331-A8002-S      |  |

Bolded part number is cULus certified.

The wire length can be customized. For more details, please contact Dinkle

# M8 A-Code One-piece PCB Circular Connector

#### 180° Rear mounting, straight



|                 |                  | PCB Lay  | out                                     |   |  |  |  |  |  |  |
|-----------------|------------------|--|---|---|--|--|--|--|--|--|
| Pin out         | 3.5<br>3*ø1.3    | 2.15<br>   | 6*ø1<br>3.5<br>2.72                     | 2.9 7.18<br>9 1.8 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 |  |  |  |  |  |  |
| Pin arrangement | 40<br>0 0<br>1 3 | $ \begin{pmatrix} 2 & \bigcirc_4 \\ \bigcirc_1 & 3 \end{pmatrix} $ | 5 0 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 6 5 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0               |  |  |  |  |  |  |
| <u>a</u>        | 3P               | 4P   | 6P                                      | 8P  |  |  |  |  |  |  |
|                 |                  | A c  | ode                                     | A code  |  |  |  |  |  |  |

# **M8 A-Code One-piece PCB Connector**

| Mechanical Pi                    | roperties      | Material Properties          |  |  |
|----------------------------------|----------------|------------------------------|--|--|
| Min. Insertion/withdrawal cycles | 100            | Contact / contact surface    | Copper alloy / Gold plated                             |  |
| Degree of protection             | IP67           | Contact carrier              | PA   |  |
| Operating Temperature            | -40°C ~ 80°C   | Hexigonal nut / Outer Shield | Zinc die-cast, nickel-plated /<br>Brass, nickel-plated |  |
| Fasten torque                    | 0.4 Nm         | O-ring                       | NBR  |  |
| Soldering method                 | Wave Soldering | UL94 Flammability rating     | VO   |  |

| Soldering method                   | wave soldering       | OLD4 Hammability rating | •        |
|------------------------------------|----------------------|-------------------------|----------|
| Electrical Pro                     | perties              | Cable Inf               | ormation |
|                                    | 60VAC / 4A (≤4 Pin)  |                         |          |
| Rated voltage / current (contacts) | 30VAC / 1.5A (6 Pin) |                         |          |
|                                    | 30VAC / 1.5A (8 Pin) |                         |          |
|                                    | 1.5kV (≤4 Pin)       |                         |          |
| Rated Impulse Voltage              | 0.8kV (6 Pin)        |                         |          |
|                                    | 0.8kV (8 Pin)        |                         |          |
| Insulation resistance              | Min. 100MΩ           |                         |          |
| Overvoltage Category               | II                   |                         |          |
| Pollution Degree                   | 3                    |                         |          |

| Standards and Regulations |   |  |  |  |  |
|---------------------------|---|--|--|--|--|
|                           | IEC 61076-2-104: Detail specification for M8 connectors with screw-locking                                      |  |  |  |  |
| Design reference          | IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods |  |  |  |  |
|                           | IEC 60529: Degree of protection provided by enclosures (IP Code)  |  |  |  |  |
| Certification reference   | UL 2238 / UL2237  |  |  |  |  |

#### Notice

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

# M8 A-Code One-piece PCB Connector (Shield / No Shield)

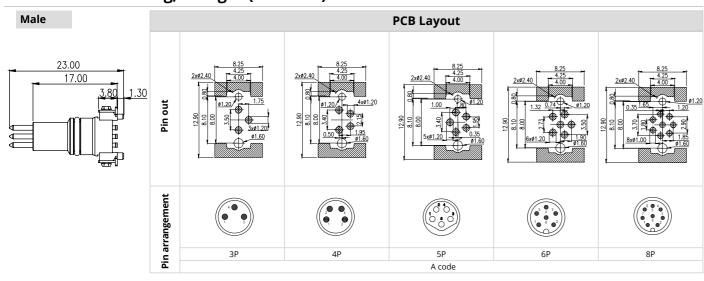
| Coding and    | Code        | A<br>3 |        | A<br>4 |                    | A<br>6 |        | Α          |        |
|---------------|-------------|--------|--------|--------|--------------------|--------|--------|------------|--------|
| contacts      | Contact     |        |        |        |                    |        |        |            | 8      |
| Rated voltage | e / current | 60V    | / 4A   | 60V    | 60V/ 4A 30V / 1.5A |        | ′ 1.5A | 30V / 1.5A |        |
| Contact arra  | ingement    | Male   | Female | Male   | Female             | Male   | Female | Male       | Female |
|               |             |        |        | -4     |                    |        |        |            |        |

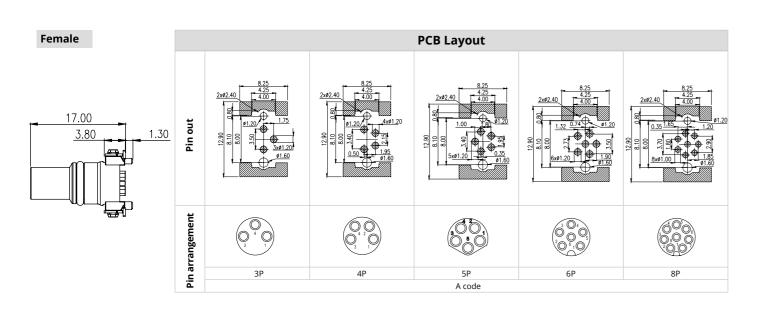
|                      | Rear mounting, straight, No shield |              |                   |             |             |  |  |  |  |
|----------------------|------------------------------------|--------------|-------------------|-------------|-------------|--|--|--|--|
| Connector style      | Mount thread                       |              | Part number       |             |             |  |  |  |  |
| Male (lb) ss usits   | M8 X 1                             | 326-A3001-4  | 326-A4001-4       | 326-A6001-4 | 326-A8001-4 |  |  |  |  |
| Female (W) us labits | M10 x 0.75                         | 327-A3002-4  | 327-A4002-4       | 327-A6002-4 | 327-A8002-4 |  |  |  |  |
|                      |                                    | Rear mountin | g, angled, shield |             |             |  |  |  |  |
| Connector style      | Mount thread                       |              | Part n            | umber       |             |  |  |  |  |
| Male                 | M8 X 1                             | 328-A3001-4  | 328-A4001-4       | 328-A6001-4 | 328-A8001-4 |  |  |  |  |
| Female               | M10 x 0.75                         | 329-A3002-4  | 329-A4002-4       | 329-A6002-4 | 329-A8002-4 |  |  |  |  |

Bolded part number is cULus certified.

# M8 A-Code Two-piece PCB Circular Connector

#### 180° Rear mounting, straight (Shielded)





# M8 A-Code Two-piece PCB Connector

| Mechanical P                     | roperties    | Material Properties         |                            |  |
|----------------------------------|--------------|-----------------------------|----------------------------|--|
| Min. Insertion/withdrawal cycles | 100          | Contact / contact surface   | Copper alloy / Gold plated |  |
| Degree of protection             | IP67         | Contact carrier             | LCP                        |  |
| Operating Temperature            | -25°C ~ 80°C | O-ring                      | SILICONE                   |  |
| Soldering method                 | THR          | Moisture Sensitivity Levels | 1                          |  |
|                                  |              | UL94 Flammability rating    | VO                         |  |

| 電氣特                     | 性                    |
|-------------------------|----------------------|
|                         | 60VAC / 4A (≤4 Pin)  |
| Rated voltage / current | 30VAC / 3A (5 Pin)   |
| (contacts)              | 30VAC / 1.5A (6 Pin) |
|                         | 30VAC / 1.5A (8 Pin) |
|                         | 1.5kV (≤4 Pin)       |
| Dated Impulse Valtage   | 0.8kV (5 Pin)        |
| Rated Impulse Voltage   | 0.8kV (6 Pin)        |
|                         | 0.8kV (8 Pin)        |
| Insulation resistance   | Min. 100MΩ           |
| Overvoltage Category    | II                   |
| Pollution Degree        | 3                    |
|                         |                      |

| Pollution Degree | 3   |               |  |  |  |  |
|------------------|---|---------------|--|--|--|--|
|                  | Standards and   | l Regulations |  |  |  |  |
|                  | IEC 61076-2-104: Detail specification for M8 connectors with screw-locking                                      |               |  |  |  |  |
| Design reference | IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods |               |  |  |  |  |
|                  | IEC 60529: Degree of protection provided by enclosures (IP Code)  |               |  |  |  |  |
|                  | NIA   | !             |  |  |  |  |

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

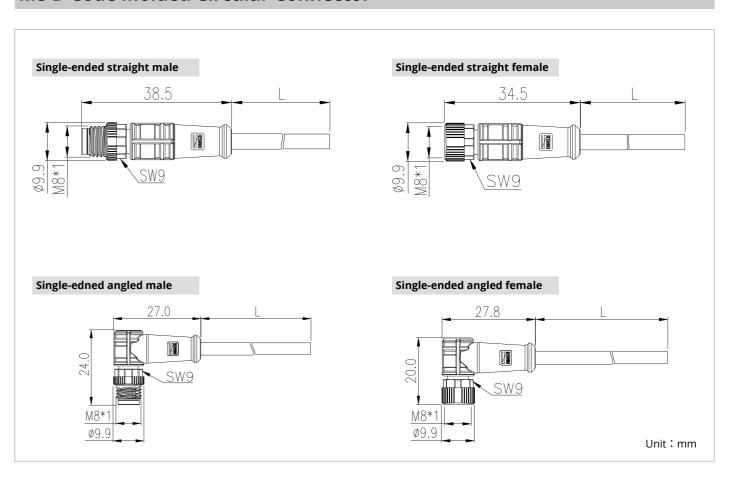
# M8 A-Code Two-piece PCB Connector ( No Shield )

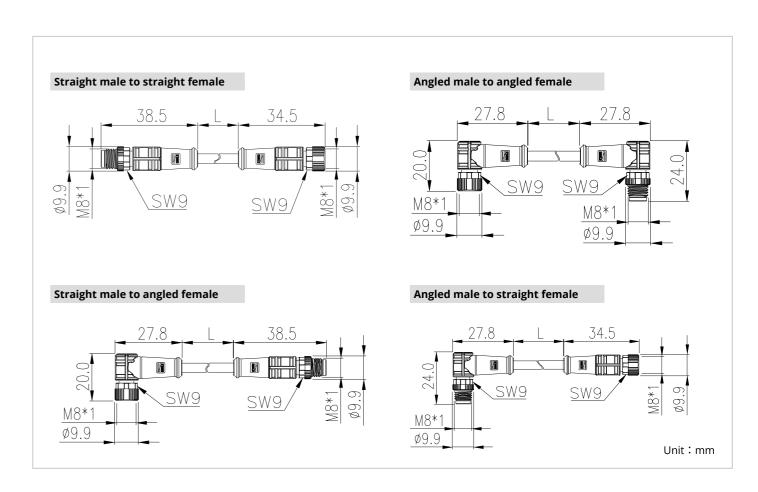
| Coding and Code |           |      | A      |      | 4      |      | A            |              | A      |       | 4      |
|-----------------|-----------|------|--------|------|--------|------|--------------|--------------|--------|-------|--------|
| contacts        | Contact   | 3    |        | 4    |        | 5    |              | 6            |        | 8     |        |
| Rated voltage   | / current | 60V  | / 4A   | 60V  | // 4A  | 60V  | // 4A        | A 30V / 1.5A |        | 30V / | ′ 1.5A |
|                 |           | Male | Female | Male | Female | Male | Female       | Male         | Female | Male  | Female |
| Contact arra    | ngement   |      |        |      |        |      | (00)<br>(00) |              |        |       |        |

| Contact arran   | gement        |              |                  |              |              |              |  |  |
|-----------------|---------------|--------------|------------------|--------------|--------------|--------------|--|--|
|                 |               | SMT Solderi  | ng, straight, No | shield       |              |              |  |  |
| Connector style | package       |              | Part number      |              |              |              |  |  |
| Male            | Tray          | 381-A3S00U-1 | 381-A4S00U-1     | -            | -            | -            |  |  |
|                 | Tape-and reel | 381-A3S00U-2 | 381-A4S00U-2     | -            | -            | -            |  |  |
| Female          | Tray          | 382-A3S00U-1 | 382-A4S00U-1     | 382-A5S00U-1 | 382-A6S00U-1 | 382-A8S00U-1 |  |  |
| 13 Page         | Tape-and reel | 382-A3S00U-2 | 382-A4S00U-2     | 382-A5S00U-2 | 382-A6S00U-2 | 382-A8S00U-2 |  |  |
| Style           | Mount thread  |              |                  | Part number  |              |              |  |  |
| Male use        |               |              |                  |              |              |              |  |  |
|                 | M12 X 1       |              |                  | 383-S1200    |              |              |  |  |
| Female use      | M12 X 1       |              |                  | 384-S1200    |              |              |  |  |

Package unit, Tray: 60 pcs; Tape-and-Reel: 100 pcs

#### **M8 B-Code Molded Circular Connector**





#### **M8 B-Code Molded Connector**

| Mechanical Prop                    | perties  | Material Properties                   |                  |   |  |  |
|------------------------------------|--|---------------------------------------|------------------|---|--|--|
| Min. Insertion/withdrawal cycles   | 100  | Contact / contact surface             | Co               | opper alloy / Gold plated                 |  |  |
| Degree of protection               | IP67   | Contact carrier / overmolding         | PUR / PUR        |   |  |  |
| Operating Temperature              | -40°C ~ 80°C<br>( Fixed installation )                               | O-ring                                |                  | NBR                                       |  |  |
| Operating Temperature              | $-25^{\circ}\text{C} \sim 80^{\circ}\text{C}$ ( Fixed installation ) | Cable gland material                  | Zi               | nc die-cast, nickel-plated                |  |  |
| Fasten torque                      | 0.3 Nm   | UL94 Flammability rating              | НВ               |   |  |  |
| Electrical Prope                   | Cable Ir   | Cable Information                     |                  |   |  |  |
| Rated voltage / current (contacts) | 30VAC / 3A (5 Pin)   | Cable Jacket                          | PUR / PVC, BLACK |   |  |  |
| Rated Impulse Voltage              | 0.8kV (5 Pin)  | LIL ANAMA et de                       | Shield           | PUR : UL AWM 20549 /<br>PVC : UL AWM 2464 |  |  |
| Insulation resistance              | Min. $100M\Omega$  | UL AWM style                          | No<br>Shield     | PUR : UL AWM 20549 /<br>PVC : UL AWM 2464 |  |  |
| Overvoltage Category               | II   | Conductor cross section               | 0                | .20mm <sup>2</sup> / 24AWG (5 Pin)        |  |  |
| Pollution Degree                   | 3  | Material conductor insulation         |                  | PP  |  |  |
|                                    |  | Flame resistance                      | FT-2 / VW-1      |   |  |  |
|                                    |  | Dielectric strength                   | 2.0KV/1min       |   |  |  |
|                                    | Standard   | s and Regulations                     |                  |   |  |  |
|                                    | IEC 61076-2-104: Detail s  | pecification for M8 connectors with s | crew-lock        | ing                                       |  |  |
| Design reference                   | IEC 60512: Electromechar measuring methods                           | nical components for electronic equip | oment; ba        | asic testing procedure and                |  |  |
|                                    | IEC 60529: Degree of protection provided by enclosures (IP Code)     |                                       |                  |   |  |  |
| Certification reference            | UL 2238  |                                       |                  |   |  |  |

#### Notice

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

# M8 B-Code Molded Connector ( Shield )

|          |  |                       | Code      | В                | 1        |  |
|----------|--|-----------------------|-----------|------------------|----------|--|
|          | Coding and   | contacts              | Contact   | 5                |          |  |
|          | Ra   | ted voltage / current |           | 30V              | / 3A     |  |
|          |  |                       | Male      | Female           |          |  |
|          | Contact arrangement  |                       |           |                  |          |  |
|          | Connector style  | Cable                 | Length(m) | Part no          | umber    |  |
|          | Single-ended straight male   |                       | 2         | 351-B500         | 0-15S020 |  |
| S        | straight male  | PVC                   | 5         | 351-B500         | 0-15S050 |  |
|          | 48   |                       | 10        | 351-B500         | 0-15S100 |  |
|          |  |                       | 2         | 351-B500         | 0-05S020 |  |
|          | 810  | PUR                   | 5         | 351-B500         | 0-05S050 |  |
|          |  |                       | 10        | 351-B500         | 0-05S100 |  |
|          | Single-ended<br>straight female  |                       | 2         | 352-B500         | 0-15S020 |  |
| (\$)     | Judght lemale  | PVC                   | 5         | 352-B500         | 0-15S050 |  |
|          |  |                       | 10        | 352-B500         | 0-15S100 |  |
|          | The same of the sa |                       | 2         | 352-B500         | 0-05S020 |  |
|          | 1  | PUR                   | 5         | 352-B5000-05S050 |          |  |
|          |  |                       | 10        | 352-B500         | 0-05S100 |  |
|          | Single-ended angled male   |                       | 2         | 353-B500         | 0-15S020 |  |
| S        | ungreu maie  | PVC                   | 5         | 353-B500         | 0-15S050 |  |
|          |  |                       | 10        | 353-B500         | 0-15S100 |  |
|          |  |                       | 2         | 353-B500         | 0-05S020 |  |
|          | 0  | PUR                   | 5         | 353-B500         | 0-05S050 |  |
|          |  |                       | 10        | 353-B500         | 0-05S100 |  |
|          | Single-ended angled female   |                       | 2         | 354-B500         | 0-15S020 |  |
| <b>S</b> | angled female  | PVC                   | 5         | 354-B500         | 0-15S050 |  |
| V        |  |                       | 10        | 354-B500         | 0-15S100 |  |
|          |  |                       | 2         | 354-B500         | 0-05S020 |  |
|          |  | PUR                   | 5         | 354-B500         | 0-05S050 |  |
|          |  |                       | 10        | 354-B500         | 0-05S100 |  |
|          | Straight male mate straight female   |                       | 0.6       | 356-B500         | 0-15SL60 |  |
| \$       | straight lemale  | PVC                   | 1.5       | 356-B500         | 0-15S015 |  |
| ~        |  |                       | 3         | 356-B500         | 0-15S030 |  |
|          | 8  |                       | 0.6       | 356-B500         | 0-05SL60 |  |
|          | The state of the s | PUR                   | 1.5       | 356-B500         | 0-05S015 |  |
|          |  |                       | 3         | 356-B500         | 0-05S030 |  |
|          | Angled male mate   |                       | 0.6       | 359-B500         | 0-15SL60 |  |
| \$       | angled female  | PVC                   | 1.5       | 359-B500         | 0-15S015 |  |
| ~        | -  |                       | 3         | 359-B500         | 0-15S030 |  |
|          |  |                       | 0.6       | 359-B500         | 0-05SL60 |  |
|          |  | PUR                   | 1.5       | 359-B500         | 0-05S015 |  |
|          |  |                       |           | 359-B500         | 0-05S030 |  |

The configuration of connectors and the cable length can be customized. For more details, please contact Dinkle

# M8 B-Code Molded Connector ( No Shield )

| Coding and contacts                |                     | Code      | E                | 3         |  |
|------------------------------------|---------------------|-----------|------------------|-----------|--|
| County and C                       | ontacts             | Contact   | 5                |           |  |
| Rate                               | ed voltage / curren | t         | 30V / 3A         |           |  |
| Cor                                | ntact arrangement   |           | Male             | Female    |  |
| Connector style                    | Cable               | Length(m) | Part n           | umber     |  |
| Single-ended<br>straight male      |                     | 2         | 301-B5000-10S020 |           |  |
| straight maic                      | PVC                 | 5         | 301-B500         | 0-10S050  |  |
|                                    |                     | 10        | 301-B500         | 0-105100  |  |
| 6 Indian                           |                     | 2         | 301-B500         | 0-005020  |  |
| <b>S</b>                           | PUR                 | 5         | 301-B500         | 0-005050  |  |
|                                    |                     | 10        | 301-B500         | 0-005100  |  |
| Single-ended<br>straight female    |                     | 2         | 302-B500         | 0-10S020  |  |
|                                    | PVC                 | 5         | 302-B500         | 0-10S050  |  |
|                                    |                     | 10        | 302-B500         | 0-10S100  |  |
|                                    |                     | 2         | 302-B500         | 0-005020  |  |
| 1.                                 | PUR                 | 5         | 302-B5000-00S050 |           |  |
|                                    |                     | 10        | 302-B5000-00S100 |           |  |
| Single-ended<br>angled male        | PVC                 | 2         | 303-B5000-10S020 |           |  |
| ungled male                        |                     | 5         | 303-B500         | 0-10S050  |  |
|                                    |                     | 10        | 303-B500         | 0-105100  |  |
|                                    |                     | 2         | 303-B5000-00S020 |           |  |
| 16                                 |                     | 5         | 303-B5000-00S050 |           |  |
|                                    |                     | 10        | 303-B5000-00S100 |           |  |
| Single-ended<br>angled female      |                     | 2         | 304-B5000-10S020 |           |  |
| ungred remaie                      | PVC                 | 5         | 304-B5000-10S050 |           |  |
|                                    |                     | 10        | 304-B500         | 0-105100  |  |
|                                    |                     | 2         | 304-B500         | 0-005020  |  |
| 0                                  | PUR                 | 5         | 304-B500         | 0-005050  |  |
|                                    |                     | 10        | 304-B5000-00S100 |           |  |
| Straight male mate straight female |                     | 0.6       | 306-B500         | 00-10SL60 |  |
|                                    | PVC                 | 1.5       | 306-B500         | 0-10S015  |  |
|                                    |                     | 3         | 306-B500         | 0-105030  |  |
|                                    |                     | 0.6       | 306-B500         | 0-00SL60  |  |
|                                    | PUR                 | 1.5       | 306-B500         | 0-005015  |  |
| 1                                  |                     | 3         | 306-B500         | 0-005030  |  |
| Angled male mate angled female     |                     | 0.6       | 309-B500         | 00-10SL60 |  |
| s.i.o.ca ferriale                  | PVC                 | 1.5       | 309-B500         | 0-10S015  |  |
|                                    |                     | 3         | 309-B500         | 0-10S030  |  |
|                                    |                     | 0.6       | 309-B500         | 0-00SL60  |  |
|                                    | PUR                 | 1.5       | 309-B500         | 0-00S015  |  |
| 6                                  |                     |           | 309-B500         | 0-005030  |  |

#### The configuration of connectors and the cable length can be customized. For more details, please contact Dinkle

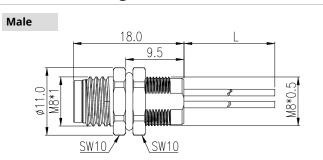
# M8 B-Code Molded Connector ( No Shield, Drag, chain )

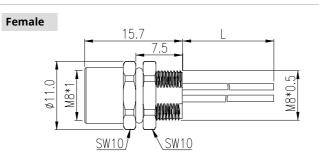
|                                    |                             | Code      |          | 3         |  |  |
|------------------------------------|-----------------------------|-----------|----------|-----------|--|--|
| Coding and conf                    | Coding and contacts Contact |           |          | 5         |  |  |
| Rated voltag                       | ge / curren                 | t         | 30V      | / 3A      |  |  |
| Contact arr                        | Contact arrangement         |           | Male     | Female    |  |  |
| Connector style                    | Cable                       | Length(m) | Part n   | umber     |  |  |
| Single-ended straight male         |                             | 2         | 301-B500 | 0-025020  |  |  |
| B. Tomas                           | PUR                         | 5         | 301-B500 | 00-02S050 |  |  |
|                                    |                             | 10        | 301-B500 | 00-025100 |  |  |
| Single-ended straight female       |                             | 2         | 302-B500 | 00-025020 |  |  |
|                                    | PUR                         | 5         | 302-B500 | 00-025050 |  |  |
|                                    |                             | 10        | 302-B500 | 00-025100 |  |  |
| Single-ended angled male           | PUR                         | 2         | 303-B500 | 00-025020 |  |  |
|                                    |                             | 5         | 303-B500 | 00-025050 |  |  |
| •                                  |                             | 10        | 303-B500 | 00-02S100 |  |  |
| Single-ended angled female         |                             | 2         | 304-B500 | 00-025020 |  |  |
|                                    | PUR                         | 5         | 304-B500 | 00-02S050 |  |  |
|                                    |                             | 10        | 304-B500 | 00-02S100 |  |  |
| Straight male mate straight female |                             | 0.6       | 306-B500 | 00-02SL60 |  |  |
| 0                                  | PUR                         | 1.5       | 306-B500 | 0-02S015  |  |  |
|                                    |                             | 3         | 306-B500 | 00-02S030 |  |  |
| Angled male mate angled female     |                             | 0.6       | 309-B500 | 00-02SL60 |  |  |
|                                    | PUR                         | 1.5       | 309-B500 | 00-02S015 |  |  |
|                                    |                             |           | 309-B500 | 00-025030 |  |  |

Cables with drag chain function are guaranteed to withstand 5 million bending times(R=28mm, L=1m, V=1m/s) The configuration of connectors and the cable length can be ustomized. For more details, please contact Dinkle

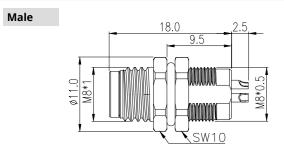
#### **M8 B-Code Device Circular Connector**

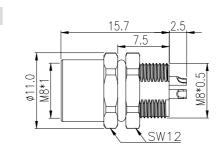
# Front mounting with 0.5m wire





#### Front mounting with solder cup

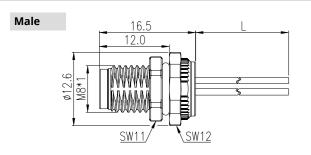


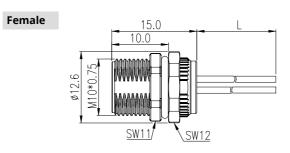


Female

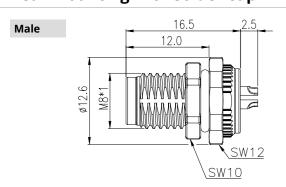
Female

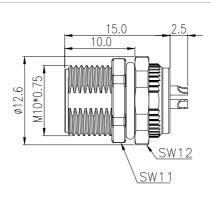
#### Rear mounting with 0.5m wire





#### Rear mounting with solder cup





#### Pin assignments and wire colors



#### **M8 B-Code Device Connector**

| Mechanical Pro                     | perties   | Mechanical                              | Properties                          |  |  |
|------------------------------------|---|---|-------------------------------------|--|--|
| Min. Insertion/withdrawal cycles   | 100   | Contact / contact surface               | Copper alloy / Gold plated          |  |  |
| Degree of protection               | IP67  | Contact carrier                         | PA                                  |  |  |
| Operating Temperature              | -40°C ~ 80°C  | Hexigonal nut / Outer Shield            | Zinc die-cast, nickel-plated        |  |  |
| Fasten torque                      | 0.3 Nm  | O-ring                                  | NBR                                 |  |  |
| Mounting torque                    | 0.8 Nm  | UL94 Flammability rating                | V0                                  |  |  |
| Electrical Prop                    | erties  | Cable Inf                               | ormation                            |  |  |
| Rated voltage / current (contacts) | 30VAC / 3A (5 Pin)  | Cable Jacket                            | PVC                                 |  |  |
| Rated Impulse Voltage              | 0.8kV (5 Pin)   | UL AWM style                            | PVC : UL 1061                       |  |  |
| Insulation resistance              | Min. 100MΩ  | Conductor cross section                 | 0.25mm <sup>2</sup> / 24AWG (5 Pin) |  |  |
| Overvoltage Category               | II  | Material conductor insulation           | SR-PVC                              |  |  |
| Pollution Degree                   | 3   | Flame resistance                        | VW-1 / FT-1                         |  |  |
|                                    |   | Dielectric strength                     | NA                                  |  |  |
|                                    | Standards   | and Regulations                         |                                     |  |  |
|                                    | IEC 61076-2-104: Detail spe   | ecification for M8 connectors with scre | w-locking                           |  |  |
| Design reference                   | IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods |   |                                     |  |  |
|                                    | IEC 60529: Degree of prote  | ction provided by enclosures (IP Code)  |                                     |  |  |
| Certification reference            | UL 2238   |   |                                     |  |  |
|                                    | r   | Notice                                  |                                     |  |  |

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

# M8 B-Code Device Connector (No Shield)

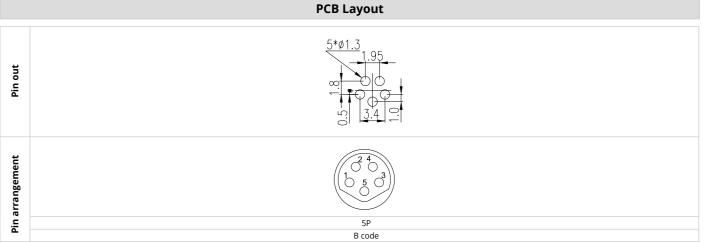
| <b>a</b>            | Code         | В                              |  |  |  |  |  |  |
|---------------------|--------------|--------------------------------|--|--|--|--|--|--|
| Coding and contacts | Contact      | 5                              |  |  |  |  |  |  |
| Rated voltage /     | current      | 30V / 3A                       |  |  |  |  |  |  |
| Contact arrang      | gement       | Male Female                    |  |  |  |  |  |  |
|                     |              | Front mounting with 0.5m wire  |  |  |  |  |  |  |
| Connector style     | Mount thread | Part number                    |  |  |  |  |  |  |
| Male                | M8 X 0.5     | 318-B5000-0VSL50               |  |  |  |  |  |  |
| Female              | M8 X 0.5     | 319-B5000-0VSL50               |  |  |  |  |  |  |
|                     |              | Rear mounting with 0.5m wire   |  |  |  |  |  |  |
| Connector style     | Mount thread | Part number                    |  |  |  |  |  |  |
| Male                | M8 x 1       | 320-B5001-0VSL50               |  |  |  |  |  |  |
| Female              | M10 x 0.75   | 321-B5002-0VSL50               |  |  |  |  |  |  |
|                     |              | Front mounting with solder cup |  |  |  |  |  |  |
| Connector style     | Mount thread | Part number                    |  |  |  |  |  |  |
| Male                | M8 X 0.5     | 332-B5000-S                    |  |  |  |  |  |  |
| Female              | M8 X 0.5     | 333-B5000-S                    |  |  |  |  |  |  |
|                     |              | Rear mounting with solder cup  |  |  |  |  |  |  |
| Connector style     | Mount thread | Part number                    |  |  |  |  |  |  |
| Male                | M8 x 1       | 330-B5001-S                    |  |  |  |  |  |  |
| Female              | M10 x 0.75   | 331-B5002-S                    |  |  |  |  |  |  |

The wire length can be customized. For more details, please contact Dinkle

# **M8 B-Code One-piece PCB Circular Connector**

#### 180° Rear mounting, straight





# **M8 B-Code One-piece PCB Connector**

| Mechanical Pro                     | perties            | Material                     | l Properties   |  |  |  |
|------------------------------------|--------------------|------------------------------|--|--|--|--|
| Min. Insertion/withdrawal cycles   | 100                | Contact / contact surface    | Copper alloy / Gold plated                             |  |  |  |
| Degree of protection               | IP67               | Contact carrier              | PA   |  |  |  |
| Operating Temperature              | -40°C ~ 80°C       | Hexigonal nut / Outer Shield | Zinc die-cast, nickel-plated /<br>Brass, nickel-plated |  |  |  |
| Fasten torque                      | 0.4 Nm             | O-ring                       | NBR  |  |  |  |
| Soldering method                   | Wave Soldering     | UL94 Flammability rating     | VO   |  |  |  |
| Electrical Prop                    | erties             | Cable Information            |  |  |  |  |
| Rated voltage / current (contacts) | 30VAC / 3A (5 Pin) |                              |  |  |  |  |
| Rated Impulse Voltage              | 0.8kV (5 Pin)      |                              |  |  |  |  |
| Insulation resistance              | Min. 100MΩ         |                              |  |  |  |  |
| Overvoltage Category               | II                 |                              |  |  |  |  |
| 5 11 5                             |                    |                              |  |  |  |  |

# Pollution Degree 3 Standards and Regulations IEC 61076-2-104: Detail specification for M8 connectors with screw-locking IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods IEC 60529: Degree of protection provided by enclosures (IP Code) Certification reference UL 2238 / UL2237

#### Notice

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

#### M8 A-Code One / Two-piece PCB Connector (Shield / No Shield)

| Cading and contacts  | Code          | В   |     |  |  |  |  |  |  |
|--|---------------|---|-----|--|--|--|--|--|--|
| Coding and contacts  | Contact       | 5   |     |  |  |  |  |  |  |
| Rated voltage  | / current     | 30V / 3A  |     |  |  |  |  |  |  |
| Contact arran  | gement        | Male Female   |     |  |  |  |  |  |  |
|  |               | Rear mounting, straight, No shield                                      |     |  |  |  |  |  |  |
| Connector style  | Mount thread  | Part number   |     |  |  |  |  |  |  |
| Male computer that the compute | M8 X 1        | 326-B5001-4   |     |  |  |  |  |  |  |
| Female   | M10 x 0.75    | 327-B5002-4   |     |  |  |  |  |  |  |
|  |               | Rear mounting, angled, shield   |     |  |  |  |  |  |  |
| Connector style  | Mount thread  | Part number   |     |  |  |  |  |  |  |
| Male<br>(W) as<br>(S)  | M8 X 1        | 328-B5001-4   |     |  |  |  |  |  |  |
| Female<br>(W) us<br>(S)  | M10 x 0.75    | 329-B5002-4   |     |  |  |  |  |  |  |
|  |               | SMT Soldering, straight, No shield                                      |     |  |  |  |  |  |  |
| Connector style  | package       | Part number   |     |  |  |  |  |  |  |
| Male<br>§  | Tray          | 381-B5S00U-1  |     |  |  |  |  |  |  |
| 3  | .,            | 381-B5S00U-2  |     |  |  |  |  |  |  |
| Female<br>§  | Tape-and reel | 382-B5S00U-1  |     |  |  |  |  |  |  |
|  | ·             | 382-B5S00U-2  |     |  |  |  |  |  |  |
| Connector style  | Mount thread  | Part number   |     |  |  |  |  |  |  |
| Male   | M12 X 1       | 383-S1200   |     |  |  |  |  |  |  |
| Female   | M12 X 1       | 384-S1200   |     |  |  |  |  |  |  |
|  | Daldadaaa     | hber is cULus certified. Package unit, Tray: 60 pcs; Tape-and-Reel: 100 | 200 |  |  |  |  |  |  |

#### Bolded part number is cULus certified.

Package unit, Tray: 60 pcs; Tape-and-Reel: 100 pcs

# **M12 Circular Connector**

Dinkle's M12 circular connectors with overmolded cable assemblies offer high stability and sealing performance. They provide waterproof and dustproof protection (IP67/IP68) when mated, making them a reliable solution for environments with moisture, large temperature variations, and vibrations. Dinkle offers high-quality PVC and PUR cables to meet your needs and shielded cables for additional options. The cable options also include drag chain cables with bending resistance guaranteed for 5 million cycles (R=28mm, L=1m, V=1m/s).

Dinkle's M12 panel-mounted connectors support shielded cables and use PUR cables with higher tensile strength, tear resistance, and wear resistance. These connectors are available in front-locking and rear-locking versions to suit varying installation requirements. Unshielded panel-mounted connectors, when paired with a sealing ring, provide excellent airtightness and waterproofing for equipment. Designed to be installed on equipment enclosures or panels, these connectors come in both front-locking and rear-locking configurations. Additionally, versions with solder cup contacts are available for customization alongside standard PVC wires.

The M12 one-piece PCB circular connectors cater to enclosure and PCB placement needs, offering 180-degree (Straight) and 90-degree (Angled) solder pin options for flexible installation orientations. For additional functionality, shielded one-piece PCB connectors are also available, equipped with pins connected to the metal housing for functional grounding (FE).

Dinkle's M12 two-piece PCB circular connectors consist of separate parts: a conductor carrier and a metal shell. The conductor carrier is made of high-temperature-resistant plastic, allowing for reflow soldering (THR) processes directly onto PCBs. With automated pick-andplace compatibility, the connectors are packaged in either tape-on-reel or tray options, reducing production costs in automated assembly.

Dinkle also offers field-assembly circular connectors that do not require factory pre-wiring. These connectors allow users to cut cable lengths and install connectors based on actual needs. In addition to convenience, Dinkle provides shielded options for addressing signal interference concerns.

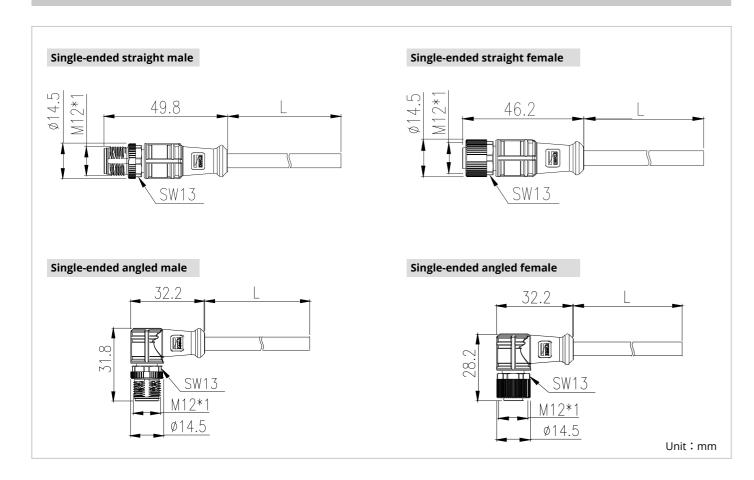
For the M12 circular connector series, Dinkle offers a wide variety of codings (A, B, D, X, S, T, L, K, M, etc.) to accommodate diverse application requirements, including high-voltage and high-current environments.

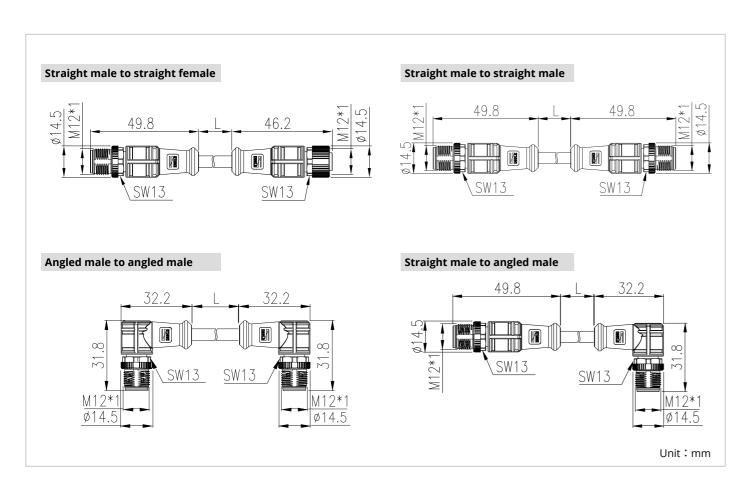
RoHS CUL US (IP 68) 96hr Salt





#### **M12 A-Code Molded Circular Connector**





#### **M12 A-Code Molded Connector**

| Mechanical Pro                     | operties   | Material P  | roper                               | ties                                      |  |  |  |
|------------------------------------|--|---|-------------------------------------|---|--|--|--|
| Min. Insertion/withdrawal cycles   | 100  | Contact / contact surface   | •                                   | er alloy / Gold plated                    |  |  |  |
| Degree of protection               | IP67/IP68  | Contact carrier / overmolding   |                                     | PUR                                       |  |  |  |
|                                    | -40°C ~ 80°C   | O-ring  |                                     | NBR                                       |  |  |  |
| Operating Temperature              | ( Fixed installation )<br>-25°C ~ 80°C<br>( Fixed installation ) | Cable gland material  | Zinc o                              | die-cast, nickel-plated                   |  |  |  |
| Fasten torque                      | 0.4 Nm   | UL94 Flammability rating  |                                     | НВ  |  |  |  |
| Electrical Pro                     | perties  | Cable Info  | rmati                               | ion                                       |  |  |  |
|                                    | 250VAC / 4A (≤4 Pin)   | Cable Jacket  |                                     | PUR/PVC, BLACK                            |  |  |  |
|                                    | 250VAC / 4A (5 Pin)  |   | Shield                              | PUR : UL AWM 20549 A<br>PVC : UL AWM 2464 |  |  |  |
| Rated voltage / current (contacts) | 250VAC / 2A (8 Pin)  | UL AWM style  | No<br>Shield                        | PUR : UL AWM 20549 A<br>PVC : UL AWM 2464 |  |  |  |
|                                    | 250VAC / 2.5A (12 Pin)   |   | Drag<br>chain                       | PUR : UL AWM 20549                        |  |  |  |
|                                    | 2.5kV (≤4 Pin)   |   | 0.34mm²/22AWG (≤4 Pin)              |   |  |  |  |
| Detect learning Valley             | 1.5kV (5 Pin)  |   | 0.34mm <sup>2</sup> /22AWG (5 Pin)  |   |  |  |  |
| Rated Impulse Voltage              | 0.8kV (8 Pin)  | Conductor cross section   | 0.25mm <sup>2</sup> /24AWG (8 Pin)  |   |  |  |  |
|                                    | 0.8kV (12 Pin)   |   | 0.14mm <sup>2</sup> /26AWG (12 Pin) |   |  |  |  |
| Insulation resistance              | Min. 100MΩ   | Material conductor insulation   |                                     | PE/PVC                                    |  |  |  |
| Overvoltage Category               | II   | Flame resistance  |                                     | FT-2 / VW-1                               |  |  |  |
| Pollution Degree                   | 3  | Dielectric strength   |                                     | 2.0KV/1min                                |  |  |  |
|                                    | Standards an   | d Regulations   |                                     |   |  |  |  |
| Design reference                   | IEC 60512: Electromechanic procedure and measuring               | cification for M12 connectors wit<br>cal components for electronic equ<br>methods<br>ction provided by enclosures (IP 0 | uipment                             |   |  |  |  |
| Certification reference UL 2238    |  |   |                                     |   |  |  |  |

# The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

# M12 A-Code Molded Connector ( Shield )

| Cadina and contacts                |                         | Code          | Α        |             |                      | Α              |          | Α                |          | Α                                     |   | Α   |  |
|------------------------------------|-------------------------|---------------|----------|-------------|----------------------|----------------|----------|------------------|----------|---------------------------------------|---|---|--|
| Coding and co                      | ntacts                  | Contact       | :        | 3           | 4                    | 4              | 5        | 5                | 8        | 3                                     | 1   | 2   |  |
| Rated volta                        | Rated voltage / current |               | 250V     | //4A        | 250\                 | //4A           | 60V      | / 4A             | 30V      | / 2A                                  | 30V / 1.5A  |   |  |
|                                    |                         |               | Male     | Female      | Male                 | Female         | Male     | Female           | Male     | Female                                | Male  | Female  |  |
| Contact ar                         | Contact arrangement     |               | 3 94     | 10<br>40 03 | 2 <b>0 0 1 3 0 4</b> | 10 O2<br>40 O3 |          | 10 5 O2<br>40 O3 |          | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | (20 10 0 9)<br>(30 11 0 0 9)<br>(40 0 0 0 0)<br>(50 12 0 7) | 9 0 10 02<br>0 12 0 11 0 3<br>0 0 0 0<br>70 0 0 |  |
| Connector style                    | Cable                   | Length<br>(m) |          |             |                      |                | Part n   | umber            |          |                                       |   |   |  |
| Single-ended straight male         |                         | 2             | 251-A300 | 0-25S020    | 251-A400             | 0-255020       | 251-A500 | 0-255020         | 251-A800 | 0-255020                              | 251-AC00  | 0-255020  |  |
| Sti dignernale                     | PVC                     | 5             | 251-A300 | 0-25S050    | 251-A400             | 0-255050       | 251-A500 | 0-25S050         | 251-A800 | 0-25S050                              | 251-AC00  | 0-255050  |  |
| (\$)                               |                         | 10            | 251-A300 | 0-25S100    | 251-A400             | 0-255100       | 251-A500 | 0-25S100         | 251-A800 | 0-25S100                              | 251-AC00  | 0-255100  |  |
|                                    |                         | 2             | 251-A300 | 0-05S020    | 251-A400             | 0-055020       | 251-A500 | 0-05S020         | 251-A800 | 0-05S020                              | 251-AC00  | 0-055020  |  |
|                                    | PUR                     | 5             | 251-A300 | 0-05S050    | 251-A400             | 0-058050       | 251-A500 | 0-05S050         | 251-A800 | 0-05S050                              | 251-AC00  | 0-055050  |  |
|                                    |                         | 10            | 251-A300 | 0-05S100    | 251-A400             | 0-05S100       | 251-A500 | 0-05S100         | 251-A800 | 0-05S100                              | 251-AC00  | 0-05S100  |  |
| Single-ended straight female       |                         | 2             | 252-A300 | 0-25S020    | 252-A400             | 0-255020       | 252-A500 | 0-255020         | 252-A800 | 0-255020                              | 252-AC00  | 0-255020  |  |
| Straight female                    | PVC                     | 5             | 252-A300 | 0-25S050    | 252-A400             | 0-25S050       | 252-A500 | 0-25S050         | 252-A800 | 0-25S050                              | 252-AC00  | 0-255050  |  |
| (§)                                |                         | 10            | 252-A300 | 0-25S100    | 252-A400             | 0-25S100       | 252-A500 | 0-25S100         | 252-A800 | 0-25S100                              | 252-AC00  | 0-25S100  |  |
| A Part                             |                         | 2             | 252-A300 | 0-05S020    | 252-A400             | 0-055020       | 252-A500 | 0-05S020         | 252-A800 | 0-05S020                              | 252-AC00  | 0-055020  |  |
| •                                  | PUR                     | 5             | 252-A300 | 0-05S050    | 252-A400             | 0-058050       | 252-A500 | 0-05S050         | 252-A800 | 0-05S050                              | 252-AC00  | 0-055050  |  |
|                                    |                         | 10            | 252-A300 | 0-05S100    | 252-A400             | 0-05S100       | 252-A500 | 0-05S100         | 252-A800 | 0-05S100                              | 252-AC00  | 0-05S100  |  |
| Single-ended                       |                         | 2             | 253-A300 | 0-25S020    | 253-A400             | 0-255020       | 253-A500 | 0-255020         | 253-A800 | 0-255020                              | 253-AC00  | 0-255020  |  |
| angled male                        | PVC                     | 5             | 253-A300 | 0-25S050    | 253-A400             | 0-255050       | 253-A500 | 0-25S050         | 253-A800 | 0-25S050                              | 253-AC00  | 0-255050  |  |
| \$                                 |                         | 10            | 253-A300 | 0-25S100    | 253-A400             | 0-25\$100      | 253-A500 | 0-25S100         | 253-A800 | 0-25S100                              | 253-AC00  | 0-255100  |  |
| 46                                 |                         | 2             | 253-A300 | 0-05S020    | 253-A400             | 0-055020       | 253-A500 | 0-05S020         | 253-A800 | 0-055020                              | 253-AC00  | 0-055020  |  |
|                                    | PUR                     | 5             | 253-A300 | 0-05S050    | 253-A400             | 0-055050       | 253-A500 | 0-05S050         | 253-A800 | 0-05S050                              | 253-AC00  | 0-055050  |  |
|                                    |                         | 10            | 253-A300 | 0-05S100    | 253-A400             | 0-05S100       | 253-A500 | 0-05S100         | 253-A800 | 0-05S100                              | 253-AC00  | 0-05S100  |  |
| Single-ended angled female         |                         | 2             | 254-A300 | 0-25S020    | 254-A400             | 0-255020       | 254-A500 | 0-25S020         | 254-A800 | 0-255020                              | 254-AC00  | 0-255020  |  |
| angled ferriale                    | PVC                     | 5             | 254-A300 | 0-25S050    | 254-A400             | 0-25S050       | 254-A500 | 0-25S050         | 254-A800 | 0-25S050                              | 254-AC00  | 0-255050  |  |
| (\$)                               |                         | 10            | 254-A300 | 0-25S100    | 254-A400             | 0-25S100       | 254-A500 | 0-25S100         | 254-A800 | 0-25S100                              | 254-AC00  | 0-255100  |  |
|                                    |                         | 2             | 254-A300 | 0-05S020    | 254-A400             | 0-055020       | 254-A500 | 0-05S020         | 254-A800 | 0-05S020                              | 254-AC00  | 0-055020  |  |
| ` 6                                | PUR                     | 5             | 254-A300 | 0-05S050    | 254-A400             | 0-058050       | 254-A500 | 0-05S050         | 254-A800 | 0-05S050                              | 254-AC00  | 0-055050  |  |
|                                    |                         | 10            | 254-A300 | 0-05S100    | 254-A400             | 0-05\$100      | 254-A500 | 0-05S100         | 254-A800 | 0-05S100                              | 254-AC00  | 0-05S100  |  |
| Straight male mate straight female |                         | 0.6           | 256-A300 | 0-25SL60    | 256-A400             | 0-25SL60       | 256-A500 | 0-25SL60         | 256-A800 | 0-25SL60                              | 256-AC00  | 0-25SL60  |  |
| Straight lemale                    | PVC                     | 1.5           | 256-A300 | 0-25S015    | 256-A400             | 0-255015       | 256-A500 | 0-25S015         | 256-A800 | 0-25S015                              | 256-AC00  | 0-255015  |  |
| (S)                                |                         | 3             | 256-A300 | 0-25S030    | 256-A400             | 0-255030       | 256-A500 | 0-25S030         | 256-A800 | 0-255030                              | 256-AC00  | 0-255030  |  |
| 0 11                               |                         | 0.6           | 256-A300 | 0-05SL60    | 256-A400             | 0-05SL60       | 256-A500 | 0-05SL60         | 256-A800 | 0-05SL60                              | 256-AC00  | 0-05SL60  |  |
| A Walley                           | PUR                     | 1.5           | 256-A300 | 0-05S015    | 256-A400             | 0-05S015       | 256-A500 | 0-05S015         | 256-A800 | 0-05S015                              | 256-AC00  | 0-05S015  |  |
| 0                                  |                         | 3             | 256-A300 | 0-05S030    | 256-A400             | 0-055030       | 256-A500 | 0-05S030         | 256-A800 | 0-055030                              | 256-AC00  | 0-055030  |  |
| Angled male mate angled female     |                         | 0.6           | 259-A300 | 0-25SL60    | 259-A400             | 0-25SL60       | 259-A500 | 0-25SL60         | 259-A800 | 0-25SL60                              | 259-AC00  | 0-25SL60  |  |
| angled female                      | PVC                     | 1.5           | 259-A300 | 0-25S015    | 259-A400             | 0-255015       | 259-A500 | 0-25S015         | 259-A800 | 0-25S015                              | 259-AC00  | 0-255015  |  |
| LISTED S                           |                         | 3             | 259-A300 | 0-25S030    | 259-A400             | 0-255030       | 259-A500 | 0-255030         | 259-A800 | 0-255030                              | 259-AC00  | 0-255030  |  |
|                                    |                         | 0.6           | 259-A300 | 0-05SL60    | 259-A400             | 0-05SL60       | 259-A500 | 0-05SL60         | 259-A800 | 0-05SL60                              | 259-AC00  | 0-05SL60  |  |
|                                    | PUR                     | 1.5           | 259-A300 | 0-05S015    | 259-A400             | 0-05S015       | 259-A500 | 0-05S015         | 259-A800 | 0-05S015                              | 259-AC00  | 0-05S015  |  |
| 6                                  |                         |               | 259-A300 | 0-05S030    | 259-A400             | 0-055030       | 259-A500 | 0-05S030         | 259-A800 | 0-055030                              | 259-AC00  | 0-055030  |  |
|                                    |                         |               |          |             |                      |                |          |                  |          |                                       |   |   |  |

#### $The configuration of connectors and the cable length can be customized. For more details, please contact \ Dinkle$

# M12 A-Code Molded Connector ( No Shield )

| C 11 1   |          | Code          | Α                | Α                | Α                            | Α                | Α  |  |
|--|----------|---------------|------------------|------------------|------------------------------|------------------|--|--|
| Coding and cor   | ntacts   | Contact       | 3                | 4                | 5                            | 8                | 12                                       |  |
| Rated voltag   | ge / cur | rent          | 250V / 4A        | 250V / 4A        | 60V/4A                       | 30V/2A           | 30V / 1.5A                               |  |
|  |          |               | Male Female      | Male Female      | Male Female                  | Male Female      | Male Female                              |  |
| Contact arr  | rangem   | ent           | 10 40 03         |                  | (20 5 0)<br>(0 5 02<br>40 03 |                  | (20 10 0 0 0 0 12 0 11 0 0 0 0 0 0 0 0 0 |  |
| Connector<br>style   | Cable    | Length<br>(m) |                  |                  | Part number                  |                  |  |  |
| Single-ended straight male   |          | 2             | 201-A3000-20S020 | 201-A4000-20S020 | 201-A5000-20S020             | 201-A8000-20S020 | 201-AC000-20S02                          |  |
| c (V) us   | PVC      | 5             | 201-A3000-20S050 | 201-A4000-20S050 | 201-A5000-20S050             | 201-A8000-20S050 | 201-AC000-20S05                          |  |
|  |          | 10            | 201-A3000-20S100 | 201-A4000-20S100 | 201-A5000-20S100             | 201-A8000-20S100 | 201-AC000-20S10                          |  |
|  |          | 2             | 201-A3000-00S020 | 201-A4000-00S020 | 201-A5000-00S020             | 201-A8000-00S020 | 201-AC000-00S02                          |  |
|  | PUR      | 5             | 201-A3000-00S050 | 201-A4000-00S050 | 201-A5000-00S050             | 201-A8000-00S050 | 201-AC000-00S05                          |  |
|  |          | 10            | 201-A3000-00S100 | 201-A4000-00S100 | 201-A5000-00S100             | 201-A8000-00S100 | 201-AC000-00S10                          |  |
| Single-ended<br>straight female  |          | 2             | 202-A3000-20S020 | 202-A4000-20S020 | 202-A5000-20S020             | 202-A8000-20S020 | 202-AC000-20S02                          |  |
| CUL US   | PVC      | 5             | 202-A3000-20S050 | 202-A4000-20S050 | 202-A5000-20S050             | 202-A8000-20S050 | 202-AC000-20S05                          |  |
|  |          | 10            | 202-A3000-20S100 | 202-A4000-20S100 | 202-A5000-20S100             | 202-A8000-20S100 | 202-AC000-20S10                          |  |
| A Port   |          | 2             | 202-A3000-00S020 | 202-A4000-00S020 | 202-A5000-00S020             | 202-A8000-00S020 | 202-AC000-00S02                          |  |
| •  | PUR      | 5             | 202-A3000-00S050 | 202-A4000-00S050 | 202-A5000-00S050             | 202-A8000-00S050 | 202-AC000-00S05                          |  |
|  |          | 10            | 202-A3000-00S100 | 202-A4000-00S100 | 202-A5000-00S100             | 202-A8000-00S100 | 202-AC000-00S10                          |  |
| Single-ended<br>angled male  |          | 2             | 203-A3000-20S020 | 203-A4000-20S020 | 203-A5000-20S020             | 203-A8000-20S020 | 203-AC000-20S02                          |  |
| (U) us   | PVC      | 5             | 203-A3000-20S050 | 203-A4000-20S050 | 203-A5000-20S050             | 203-A8000-20S050 | 203-AC000-20S05                          |  |
|  |          | 10            | 203-A3000-20S100 | 203-A4000-20S100 | 203-A5000-20S100             | 203-A8000-20S100 | 203-AC000-20S10                          |  |
|  |          | 2             | 203-A3000-00S020 | 203-A4000-00S020 | 203-A5000-00S020             | 203-A8000-00S020 | 203-AC000-00S02                          |  |
| 0  | PUR      | 5             | 203-A3000-00S050 | 203-A4000-00S050 | 203-A5000-00S050             | 203-A8000-00S050 | 203-AC000-00S05                          |  |
|  |          | 10            | 203-A3000-00S100 | 203-A4000-00S100 | 203-A5000-00S100             | 203-A8000-00S100 | 203-AC000-00S10                          |  |
| Single-ended<br>angled female  |          | 2             | 204-A3000-20S020 | 204-A4000-20S020 | 204-A5000-20S020             | 204-A8000-20S020 | 204-AC000-20S02                          |  |
|  | PVC      | 5             | 204-A3000-20S050 | 204-A4000-20S050 | 204-A5000-20S050             | 204-A8000-20S050 | 204-AC000-20S05                          |  |
| C(V), US   |          | 10            | 204-A3000-20S100 | 204-A4000-20S100 | 204-A5000-20S100             | 204-A8000-20S100 | 204-AC000-20S10                          |  |
|  |          | 2             | 204-A3000-00S020 | 204-A4000-00S020 | 204-A5000-00S020             | 204-A8000-00S020 | 204-AC000-00S02                          |  |
| 6  | PUR      | 5             | 204-A3000-00S050 | 204-A4000-00S050 | 204-A5000-00S050             | 204-A8000-00S050 | 204-AC000-00S05                          |  |
|  |          | 10            | 204-A3000-00S100 | 204-A4000-00S100 | 204-A5000-00S100             | 204-A8000-00S100 | 204-AC000-00S10                          |  |
| Straight male mate straight female   |          | 0.6           | 206-A3000-20SL60 | 206-A4000-20SL60 | 206-A5000-20SL60             | 206-A8000-20SL60 | 206-AC000-20SL6                          |  |
| custes   | PVC      | 1.5           | 206-A3000-20S015 | 206-A4000-20S015 | 206-A5000-20S015             | 206-A8000-20S015 | 206-AC000-20S01                          |  |
| A Department   |          | 3             | 206-A3000-20S030 | 206-A4000-20S030 | 206-A5000-20S030             | 206-A8000-20S030 | 206-AC000-20S03                          |  |
|  |          | 0.6           | 206-A3000-00SL60 | 206-A4000-00SL60 | 206-A5000-00SL60             | 206-A8000-00SL60 | 206-AC000-00SL6                          |  |
| a Jest   | PUR      | 1.5           | 206-A3000-00S015 | 206-A4000-00S015 | 206-A5000-00S015             | 206-A8000-00S015 | 206-AC000-00S01                          |  |
|  |          | 3             | 206-A3000-00S030 | 206-A4000-00S030 | 206-A5000-00S030             | 206-A8000-00S030 | 206-AC000-00S03                          |  |
| Angled male mate angled female   |          | 0.6           | 209-A3000-20SL60 | 209-A4000-20SL60 | 209-A5000-20SL60             | 209-A8000-20SL60 | 209-AC000-20SL6                          |  |
| angled lemale  | PVC      | 1.5           | 209-A3000-20S015 | 209-A4000-20S015 | 209-A5000-20S015             | 209-A8000-20S015 | 209-AC000-20S01                          |  |
| and the same of th |          | 3             | 209-A3000-20S030 | 209-A4000-20S030 | 209-A5000-20S030             | 209-A8000-20S030 | 209-AC000-20S03                          |  |
|  |          | 0.6           | 209-A3000-00SL60 | 209-A4000-00SL60 | 209-A5000-00SL60             | 209-A8000-00SL60 | 209-AC000-00SL6                          |  |
|  | PUR      | 1.5           | 209-A3000-00S015 | 209-A4000-00S015 | 209-A5000-00S015             | 209-A8000-00S015 | 209-AC000-00S01                          |  |
| 6  |          | 3             | 209-A3000-00S030 | 209-A4000-00S030 | 209-A5000-00S030             | 209-A8000-00S030 | 209-AC000-00S03                          |  |

# M12 A-Code Molded Connector ( No Shield, Drag, chain )

| Coding and contacts     | Code    | A<br>3    |             | A<br>4    |                | A<br>5   |                  | A<br>8                      |                                       | A<br>12  |                                       |
|-------------------------|---------|-----------|-------------|-----------|----------------|----------|------------------|-----------------------------|---------------------------------------|--|---------------------------------------|
| Coding and contacts     | Contact |           |             |           |                |          |                  |                             |                                       |  |                                       |
| Rated voltage / current |         | 250V / 4A |             | 250V / 4A |                | 60V / 4A |                  | 30V / 2A                    |                                       | 30V / 1.5A                                       |                                       |
| Contact arrangement     |         | Male      | Female      | Male      | Female         | Male     | Female           | Male                        | Female                                | Male   | Female                                |
|                         |         |           | 10<br>40 03 |           | 1O O2<br>4O O3 |          | 10 5 O2<br>40 O3 | 20 0 1<br>30 8 07<br>4 05 6 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 20 10 0 03<br>30 11 0 03<br>40 0 0 03<br>50 0 07 | \$01002<br>01201103<br>00000<br>70004 |

| J  |       |           | 3.00      | 40 03     | 3 • •4   | 40 O3    | 3 0 04   | 40°O3    | (3° ° °7) | 0 0 0    | (3° 11° 0° 8)<br>5° 6° 7 | 1201103<br>10000<br>1000 |           |
|--|-------|-----------|-----------|-----------|----------|----------|----------|----------|-----------|----------|--------------------------|--------------------------|-----------|
| Connector style  | Cable | Length(m) |           |           |          |          | Part n   | umber    |           |          |                          |                          |           |
| Single-ended straight male   |       | 2         | 201-A3000 | -025020   | 201-A400 | 0-025020 | 201-A500 | 0-025020 | 201-A800  | 0-025020 | 201-AC00                 | 00-025020                |           |
|  | PUR   | 5         | 201-A3000 | -02S050   | 201-A400 | 0-025050 | 201-A500 | 0-02S050 | 201-A800  | 0-025050 | 201-AC00                 | 201-AC000-02S050         |           |
|  |       | 10        | 201-A3000 | -02S100   | 201-A400 | 0-025100 | 201-A500 | 0-02S100 | 201-A800  | 0-02S100 | 201-AC00                 | 00-02510                 |           |
| Single-ended straight female   |       | 2         | 202-A3000 | -02S020   | 202-A400 | 0-025020 | 202-A500 | 0-025020 | 202-A800  | 0-025020 | 202-AC00                 | 00-025020                |           |
|  | PUR   | 5         | 202-A3000 | -02S050   | 202-A400 | 0-02S050 | 202-A500 | 0-02S050 | 202-A800  | 0-025050 | 202-AC00                 | 00-025050                |           |
|  |       | 10        | 202-A3000 | -02S100   | 202-A400 | 0-025100 | 202-A500 | 0-025100 | 202-A800  | 0-025100 | 202-AC00                 | 00-025100                |           |
| Single-ended angled male   |       | 2         | 203-A3000 | -02S020   | 203-A400 | 0-025020 | 203-A500 | 0-025020 | 203-A800  | 0-025020 | 203-AC00                 | 00-025020                |           |
|  | PUR   | 5         | 203-A3000 | -02S050   | 203-A400 | 0-02S050 | 203-A500 | 0-02S050 | 203-A800  | 0-025050 | 203-AC00                 | 00-025050                |           |
|  | 160   |           | 10        | 203-A3000 | -02S100  | 203-A400 | 0-02S100 | 203-A500 | 0-02S100  | 203-A800 | 0-025100                 | 203-AC00                 | 00-025100 |
| Single-ended angled female   |       | 2         | 204-A3000 | -02S020   | 204-A400 | 0-025020 | 204-A500 | 0-025020 | 204-A800  | 0-025020 | 204-AC00                 | 00-025020                |           |
|  | PUR   | 5         | 204-A3000 | -02S050   | 204-A400 | 0-02S050 | 204-A500 | 0-02S050 | 204-A800  | 0-02S050 | 204-AC00                 | 00-02S050                |           |
| 6  |       | 10        | 204-A3000 | -02S100   | 204-A400 | 0-02S100 | 204-A500 | 0-02S100 | 204-A800  | 0-02S100 | 204-AC00                 | 00-02S100                |           |
| Straight male mate straight female   |       | 0.6       | 206-A3000 | -02SL60   | 206-A400 | 0-02SL60 | 206-A500 | 0-02SL60 | 206-A800  | 0-02SL60 | 206-AC00                 | 00-02SL60                |           |
|  | PUR   | 1.5       | 206-A3000 | -02S015   | 206-A400 | 0-025015 | 206-A500 | 0-025015 | 206-A800  | 0-02S015 | 206-AC00                 | 00-02S015                |           |
| 9 Jan  |       | 3         | 206-A3000 | -025030   | 206-A400 | 0-025030 | 206-A500 | 0-025030 | 206-A800  | 0-025030 | 206-AC00                 | 00-025030                |           |
| Angled male mate angled female   |       | 0.6       | 209-A3000 | 1-02SL60  | 209-A400 | 0-02SL60 | 209-A500 | 0-02SL60 | 209-A800  | 0-02SL60 | 209-AC00                 | 00-02SL60                |           |
|  | PUR   | 1.5       | 209-A3000 | -02S015   | 209-A400 | 0-025015 | 209-A500 | 0-025015 | 209-A800  | 0-025015 | 209-AC00                 | 00-025015                |           |
| The state of the s |       |           | 209-A3000 | -02S030   | 209-A400 | 0-02S030 | 209-A500 | 0-02S030 | 209-A800  | 0-02S030 | 209-AC00                 | 00-02S030                |           |

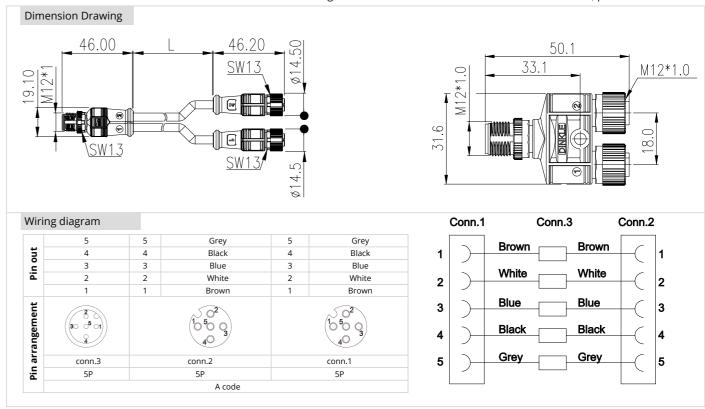
Cables with drag chain function are guaranteed to withstand 5 million bending times(R=28mm, L=1m, V=1m/s). The configuration of connectors and the cable length can be ustomized. For more details, please contact Dinkle

#### M12 A-Code Molded Y-splitter (No Shield)

DINKLE Y-Splitter connectors are ideal for space-constrained industrial environments, offering great flexibility. The connector adopts an unshielded A-Code design, which can power two sensor/actuators simultaneously, which greatly simplifies the wiring time and reduces the installation costs while avoiding potential errors. The plastic-coated cable assemblies provide high structural stability and tightness, making connectors waterproof and dustproof with IP67 protection. This provides a rugged and reliable connection solution in harsh environments.

| Coding and contacts   | Code    | ode A            |           |  |  |  |  |
|---|---------|------------------|-----------|--|--|--|--|
| Coding and contacts   | Contact |                  | 5         |  |  |  |  |
| Rated voltage / current                                       |         | 60V / 4A         |           |  |  |  |  |
| Contact arrangement   |         |                  | Female  3 |  |  |  |  |
| Connector style<br>( 1 x Straight male to 2 x straight female | ) Cable | Part number      |           |  |  |  |  |
| With cable (length : 15cm)                                    | PUR     | 222-A5530-00SL15 |           |  |  |  |  |
|   | PVC     | 222-A5530-20SL15 |           |  |  |  |  |
| Without cable   | -       | 224-2A5100       |           |  |  |  |  |

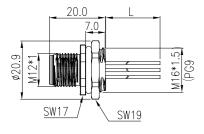
The cable length of 222 series can be customized. For more details, please contact Dinkle



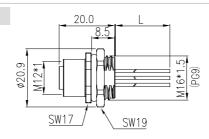
#### **M12 A-Code Device Circular Connector**

#### Front mounting with 0.5m wire



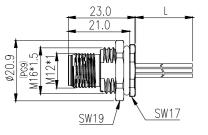


#### Female

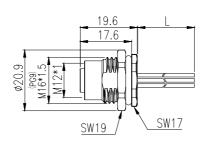


#### Front mounting with solder pin



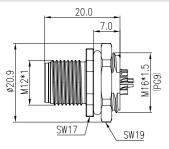


#### Female

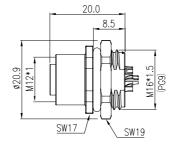


#### Rear mounting with 0.5m wire

Male

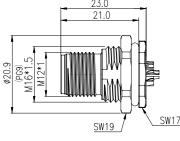


#### Female

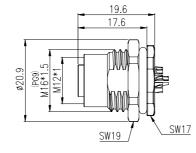


#### Rear mounting with cup pin

#### Male



#### Female



#### Pin assignments and wire colors

| arrangement |   | 30 01 |   | (30 O1) |   | (30 0 <sup>5</sup> 01) |   | \$5,75 C)<br>\$0,08 01<br>\$2,08 01 |    | (5 6 6 10 d o d) (5 12 0 8 9 ) |
|-------------|---|-------|---|---------|---|------------------------|---|-------------------------------------|----|--------------------------------|
| ē           |   | 3P    |   | 4P      |   | 5P                     |   | 8P                                  |    | 12P                            |
| Pin         |   |       |   |         |   | A code                 |   |                                     |    |                                |
|             | 1 | Brown | 1 | Brown   | 1 | Brown                  | 1 | Brown                               | 1  | Brown                          |
|             | 2 | -     | 2 | White   | 2 | White                  | 2 | White                               | 2  | Blue                           |
|             | 3 | Blue  | 3 | Blue    | 3 | Blue                   | 3 | Blue                                | 3  | White                          |
|             | 4 | Black | 4 | Black   | 4 | Black                  | 4 | Black                               | 4  | Green                          |
|             | 5 | -     | 5 | -       | 5 | Gray                   | 5 | Gray                                | 5  | Pink                           |
| out         |   |       |   |         |   |                        | 6 | Pink                                | 6  | Yellow                         |
| Pi          |   |       |   |         |   |                        | 7 | Blue                                | 7  | Black                          |
| Δ.          |   |       |   |         |   |                        | 8 | Red                                 | 8  | Gray                           |
|             |   |       |   |         |   |                        |   |                                     | 9  | Red                            |
|             |   |       |   |         |   |                        |   |                                     | 10 | Violet                         |
|             |   |       |   |         |   |                        |   |                                     | 11 | Gray / Pink                    |
|             |   |       |   |         |   |                        |   |                                     | 12 | Red / Blue                     |

# **M12 A-Code Device Connector**

| Mechanical Pr                    | operties     | Material Properties             |                              |  |  |  |
|----------------------------------|--------------|---------------------------------|------------------------------|--|--|--|
| Min. Insertion/withdrawal cycles | 100          | Contact / contact surface       | Copper alloy / Gold plated   |  |  |  |
| Degree of protection             | IP67         | Contact carrier                 | PA                           |  |  |  |
| Operating Temperature            | -40°C ~ 80°C | Hexigonal nut / Outer<br>Shield | Zinc die-cast, nickel-plated |  |  |  |
| Fasten torque                    | 0.4 Nm       | O-ring                          | NBR                          |  |  |  |
| Mounting torque                  | 0.8 Nm       | UL94 Flammability rating        | V0                           |  |  |  |

| Electrical Pro          | perties               | Cable Information             |                                      |   |  |  |
|-------------------------|-----------------------|-------------------------------|--------------------------------------|---|--|--|
|                         | 250VAC / 4A (≤4 Pin)  |                               | Shield                               | PUR / PVC, BLACK                          |  |  |
| Rated voltage / current | 60VAC / 4A (5 Pin)    | Cable Jacket                  | No<br>Shield                         | PVC                                       |  |  |
| (contacts)              | 30VAC / 2A (8 Pin)    | UL AWM style                  | Shield                               | PUR : UL AWM 20549 /<br>PVC : UL AWM 2464 |  |  |
|                         | 30VAC / 1.5A (12 Pin) | OL AVVIVI Style               | No<br>Shield                         | PVC : UL AWM 1061                         |  |  |
|                         | 2.5kV (≤4 Pin)        |                               | 0.34mm <sup>2</sup> / 22AWG (≤4 Pin) |   |  |  |
| Dated Impulse Valtage   | 1.5kV (5 Pin)         | Conductor gross sortion       | 0.34mm <sup>2</sup> / 22AWG (5 Pin)  |   |  |  |
| Rated Impulse Voltage   | 0.8kV (8 Pin)         | Conductor cross section       | 0.                                   | 0.25mm <sup>2</sup> / 24AWG (8 Pin)       |  |  |
|                         | 0.8kV (12 Pin)        |                               | 0.14mm <sup>2</sup> / 26AWG (12 Pin) |   |  |  |
| Insulation resistance   | Min. 100MΩ            | Material conductor insulation | Shield                               | PE / PVC                                  |  |  |
| Overvoltage Category    | II                    | Flame resistance              | FT-2 / VW-1                          |   |  |  |
| Pollution Degree        | 3                     | Dielectric strength           | 2.0KV/1min                           |   |  |  |

#### Standards and Regulations

|                         | Standards and Regulations   |  |  |  |  |  |  |
|-------------------------|---|--|--|--|--|--|--|
| Design reference        | IEC 61076-2-101: Detail specification for M12 connectors with screw-locking                                     |  |  |  |  |  |  |
|                         | IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods |  |  |  |  |  |  |
|                         | IEC 60529: Degree of protection provided by enclosures (IP Code)  |  |  |  |  |  |  |
| Certification reference | UL 2238   |  |  |  |  |  |  |

#### Notice

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

# M12 A-Code Device Connector ( Shield )

| Coding and          | Code            | -        | 4                                 | -        | 4                  | -                | 4        |                  | 4        |                  | 4         |
|---------------------|-----------------|----------|-----------------------------------|----------|--------------------|------------------|----------|------------------|----------|------------------|-----------|
| contacts            | Contact         | 3        | 3                                 | 4        | 4                  |                  | 5        |                  | 3        | 12               |           |
| Rated voltage /     | current         | 250V     | / / 4A                            | 250V     | / / 4A             | 60V              | / 4A     | 30V / 2A         |          | 30V / 1.5A       |           |
| Contact arrangement |                 | Male     | Female<br>10<br>40 O <sup>3</sup> | Male     | Female 10 02 40 03 | Male Female      |          | Male             | Female   | Female           | Female    |
|                     |                 |          |                                   | 2m       | PUR cab            | le               |          |                  |          |                  |           |
| Connector style     | Mount<br>thread |          |                                   |          |                    | Part n           | umber    |                  |          |                  |           |
| § Male              | Male M16 X 1.5  |          | 0-15S020                          | 268-A400 | 0-15S020           | 268-A500         | 0-15S020 | 268-A800         | 0-15S020 | 268-AC00         | 0-155020  |
| 6.4)                | Pg9             | 268-A300 | 268-A3002-15S020 26               |          | 2-15S020           | 268-A5002-15S020 |          | 268-A8002-15S020 |          | 268-AC002-15S020 |           |
| § Female            | M16 X 1.5       | 269-A300 | 0-15S020                          | 269-A400 | 0-15S020           | 269-A500         | 0-15S020 | 269-A800         | 0-15S020 | 269-AC00         | 00-15S020 |
| 63),                | Pg9             | 269-A300 | 2-15S020                          | 269-A400 | 2-15S020           | 269-A500         | 2-15S020 | 269-A800         | 2-15S020 | 269-AC00         | 2-15S020  |
| Male                | M16 X 1.5       | 270-A300 | 0-15S020                          | 270-A400 | 0-15S020           | 270-A500         | 0-15S020 | 270-A800         | 0-15S020 | 270-AC00         | 0-155020  |
|                     | Pg9             | 270-A300 | 2-15S020                          | 270-A400 | 2-15S020           | 270-A500         | 2-15S020 | 270-A800         | 2-15S020 | 270-AC00         | 2-15S020  |
| Female              | M16 X 1.5       | 271-A300 | 0-15S020                          | 271-A400 | 0-15S020           | 271-A500         | 0-15S020 | 271-A800         | 0-15S020 | 271-AC00         | 00-15S020 |
|                     | Pg9             | 271-A300 | 2-15S020                          | 271-A400 | 2-15S020           | 271-A500         | 2-15S020 | 271-A800         | 2-15S020 | 271-AC00         | 2-15S020  |

The wire length can be customized. For more details, please contact Dinkle

# M12 A-Code Device Connector ( No Shield )

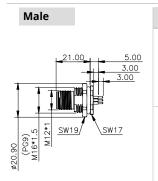
| Coding and             | Code                          | Α                   | Α               |         | Α                          |       |                       | 4                                 |   | 4        |           |  |
|------------------------|-------------------------------|---------------------|-----------------|---------|----------------------------|-------|-----------------------|-----------------------------------|---|----------|-----------|--|
| contacts               | Contact                       | 3                   | 4 5             |         | 5                          |       | 8                     |                                   | 8 12  |          |           |  |
| Rated voltag           | e / current                   | 250V / 4A 250V / 4A |                 |         | 60V / 4A                   |       | 60V / 4A              |                                   | 30V / 2A  |          | 30V / 1.5 |  |
| - Interest Contraction |                               | Male Female         | Male Fem        | nale    | Male Fer                   | nale  | Male                  | Female                            | Male  | Female   |           |  |
| Contact arra           | 10 40 03                      | )   (( ))   (       | O2<br>O3        |         | 5<br>O<br>O<br>O<br>O<br>O |       | 0 0 0<br>0 0 0<br>0 0 | 30-110-09<br>40-00-08<br>50-60-77 | 9 0 10 02<br>0 12 0 11 03<br>0 0 0 0<br>7 0 0 0 |          |           |  |
|                        | Front mounting with 0.5m wire |                     |                 |         |                            |       |                       |                                   |   |          |           |  |
| Connector style        | Mount thread                  |                     |                 |         | Part numb                  | er    |                       |                                   |   |          |           |  |
| Male custing           | M16 X 1.5                     | 218-A3000-0VSL5     | 0 218-A4000-0VS | SL50 21 | :18-A5000-0V               | 'SL50 | 218-A800              | 0-0VSL50                          | 218-AC00  | 0-0VSL50 |           |  |
| 621                    | Pg9                           | 218-A3002-0VSL5     | 0 218-A4002-0VS | SL50 21 | 18-A5002-0V                | SL50  | 218-A800              | 2-0VSL50                          | 218-AC00  | 2-0VSL50 |           |  |
| Female                 | M16 X 1.5                     | 219-A3000-0VSL5     | 0 219-A4000-0VS | SL50 21 | 19-A5000-0V                | SL50  | 219-A800              | 0-0VSL50                          | 219-AC00  | 0-0VSL50 |           |  |
| 97                     | Pg9                           | 219-A3002-0VSL5     |                 |         |                            | SL50  | 219-A800              | 2-0VSL50                          | 219-AC00  | 2-0VSL50 |           |  |
|                        |                               |                     | r mounting wi   |         |                            |       |                       |                                   |   |          |           |  |
| Connector style        | Mount thread                  |                     |                 |         | Part numb                  | er    |                       |                                   |   |          |           |  |
| Male culus             | M16 X 1.5                     | 220-A3000-0VSL5     | 0 220-A4000-0VS | SL50 22 | 20-A5000-0V                | SL50  | 220-A800              | 0-0VSL50                          | 220-AC00  | 0-0VSL50 |           |  |
| 0 1121                 | Pg9                           | 220-A3002-0VSL5     | 0 220-A4002-0VS | SL50 22 | 20-A5002-0V                | SL50  | 220-A800              | 2-0VSL50                          | 220-AC00  | 2-0VSL50 |           |  |
| Female                 | M16 X 1.5                     | 221-A3000-0VSL5     | 0 221-A4000-0VS | SL50 22 | 21-A5000-0V                | SL50  | 221-A800              | 0-0VSL50                          | 221-AC00  | 0-0VSL50 |           |  |
| 9),                    | Pg9                           |                     |                 |         |                            | SL50  | 221-A8002-0VSL50      |                                   | 221-AC002-0VSL50                                |          |           |  |
|                        |                               |                     | nt mounting wi  |         | -                          |       |                       |                                   |   |          |           |  |
| Connector style        | Mount thread                  |                     |                 |         | Part numb                  | er    |                       |                                   |   |          |           |  |
| Male Male              | M16 X 1.5                     | 232-A3000-S         | 232-A4000-      | -S      | 232-A5000                  | )-S   | 232-A                 | 8000-S                            | 232-A   | C000-S   |           |  |
| 62)                    | Pg9                           | 232-A3002-S         | 232-A4002-      | -S      | 232-A5002                  | 2-S   | 232-A8002-S           |                                   | 232-A   | C002-S   |           |  |
| Female                 | M16 X 1.5                     | 233-A3000-S         | 233-A4000-      | -S      | 233-A5000                  | )-S   | 233-A                 | 8000-S                            | 233-A   | C000-S   |           |  |
| 971                    | Pg9                           | 233-A3002-S         | 233-A4002-      |         | 233-A5002                  | 2-S   | 233-A                 | 8002-S                            | 233-A   | C002-S   |           |  |
|                        |                               |                     | r mounting wit  |         | •                          |       |                       |                                   |   |          |           |  |
| Connector style  Male  | Mount thread                  |                     |                 |         | Part numb                  | er    |                       |                                   |   |          |           |  |
| tviale                 | M16 X 1.5                     | 230-A3000-S         | 230-A4000-      | -S      | 230-A5000                  | )-S   | 230-A                 | 8000-S                            | 230-A   | C000-S   |           |  |
| Famala                 | Pg9                           | 230-A3002-S         | 230-A4002-      | -S      | 230-A5002                  | 2-S   | 230-A                 | 8002-S                            | 230-A   | C002-S   |           |  |
| Female                 | M16 X 1.5                     | 231-A3000-S         | 231-A4000-      | -S      | 231-A5000                  | )-S   | 231-A                 | 8000-S                            | 231-A   | C000-S   |           |  |
| ( ) ))                 | Pg9                           | 231-A3002-S         | 231-A4002-      | -S      | 231-A5002                  | 2-S   | 231-A                 | 8002-S                            | 231-A   | C002-S   |           |  |

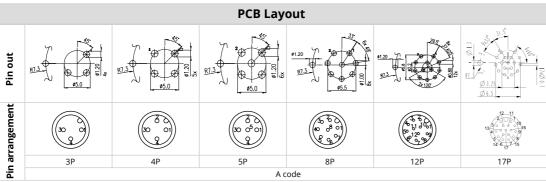
Bolded part number is cULus certified

The wire length can be customized. For more details, please contact Dinkle

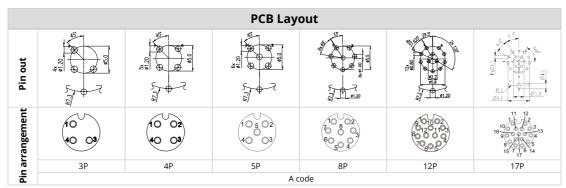
# M12 A-Code One-piece PCB Circular Connector

#### 180° Rear mounting, straight (Shielded)

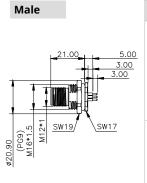


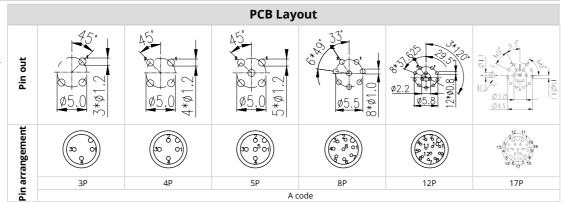


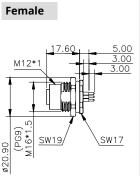
# Female 17.60 5.00 3.00 3.00 3.00 SW17

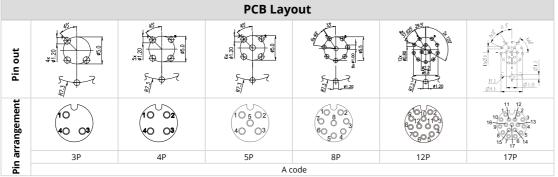


#### 180° Rear mounting, straight (NonShielded)



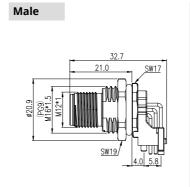


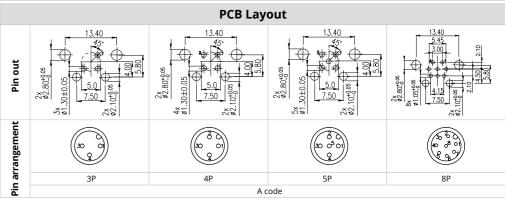


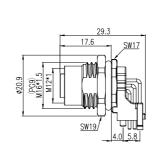


# M12 A-Code One-piece PCB Circular Connector

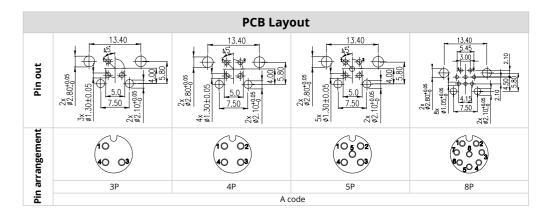
#### 90° Rear mounting, straight (Shielded)



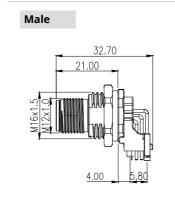


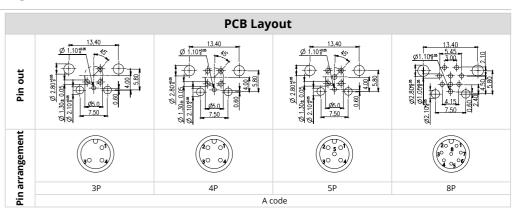


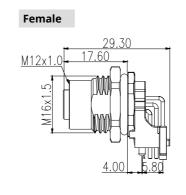
Female



#### 90° Rear mounting, straight (NonShielded)







|             | PCB Layout   |  |   |   |  |  |  |  |  |
|-------------|--|--|---|---|--|--|--|--|--|
| Pin out     | 13.40<br>15<br>0 1.10 % to 1.1 | 13.40<br>Ø 1.10 g as a second of the second of | 3.40<br>Ø 1.10 9 <sup>38</sup><br>9.00 9.00 9.00 9.00 9.00 9.00 9.00 9.00 | 13.40<br>\$1.1088 5.500<br>\$1.0088 5.500 |  |  |  |  |  |
| arrangement | (°0 03)  | 10 03  |   |   |  |  |  |  |  |
| Pin a       | 3P   | 4P   | 5P  | 8P  |  |  |  |  |  |
| <u>=</u>    |  | Ac   | ode   |   |  |  |  |  |  |

# M12 A-Code One-piece PCB Connector

| Mechanical P                     | roperties      | Material F                   | Properties   |
|----------------------------------|----------------|------------------------------|--|
| Min. Insertion/withdrawal cycles | 100            | Contact / contact surface    | Copper alloy / Gold plated                             |
| Degree of protection             | IP67           | Contact carrier              | PA   |
| Operating Temperature            | -40°C ~ 80°C   | Hexigonal nut / Outer Shield | Zinc die-cast, nickel-plated /<br>Brass, nickel-plated |
| Fasten torque                    | 0.4 Nm         | O-ring                       | NBR  |
| Soldering method                 | Wave Soldering | UL94 Flammability rating     | V0   |

| Electrical Pr             | operties               | Cable Information |
|---------------------------|------------------------|-------------------|
|                           | 250VAC / 4A (≤4 Pin)   |                   |
| Contact / contact surface | 60VAC / 4A (5 Pin)     |                   |
| Contact / Contact Surface | 30VAC / 2A (8 Pin)     |                   |
|                           | 30VAC / 1.5A (≥12 Pin) |                   |
|                           | 2.5kV (≤4 Pin)         |                   |
| Dated Impulse Voltage     | 1.5kV (5 Pin)          |                   |
| Rated Impulse Voltage     | 0.8kV (8 Pin)          |                   |
|                           | 0.8kV (≥12 Pin)        |                   |
| Insulation resistance     | Min. 100MΩ             |                   |
| Overvoltage Category      | II                     |                   |
| Pollution Degree          | 3                      |                   |

| 3 3 3 3 3               |   |  |
|-------------------------|---|--|
|                         | Standards and   | l Regulations  |
| Decise sufaces          |   | fication for M12 connectors with screw-locking nnectors - Detail specification for power connectors with M12 |
| Design reference        | IEC 60512: Electromechanical procedure and measuring me | l components for electronic equipment; basic testing ethods  |
|                         | IEC 60529: Degree of protecti                           | ion provided by enclosures (IP Code)   |
| Certification reference | UL 2238 / UL2237  |  |
|                         |   |  |

#### Notice

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

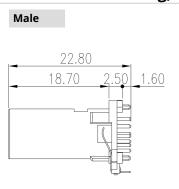
# M12 A-Code One-piece PCB Connector (Shield / No Shield)

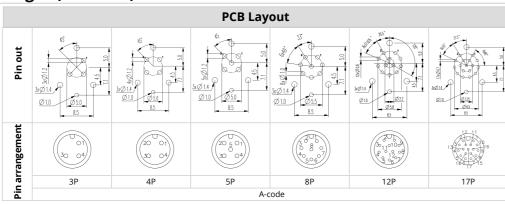
| Coding and            | Code                            | Α           | Α              | Α            | Α           | Α           | Α           |  |  |
|-----------------------|---------------------------------|-------------|----------------|--------------|-------------|-------------|-------------|--|--|
| contacts              | Contact                         | 3           | 4              | 5            | 8           | 12          | 17          |  |  |
| Rated voltage         |                                 | 250V / 4A   | 250V / 4A      | 60V / 4A     | 30V / 2A    | 30V / 1.5A  | 30V /1.5A   |  |  |
| Contact arra          |                                 | Male Female | Male Female    | Male Female  | Male Female | Male Female | Male Female |  |  |
|                       | Rear mounting, straight, Shield |             |                |              |             |             |             |  |  |
| Connector style       | Mount thread                    |             |                | Part n       | umber       |             |             |  |  |
| Male S                | M16 X 1.5                       | 276-A3000-6 | 276-A4000-6    | 276-A5000-6  | 276-A8000-6 | 276-AC000-6 | 276-AH000-6 |  |  |
| Female                | Pg9                             | 276-A3002-6 | 276-A4002-6    | 276-A5002-6  | 276-A8002-6 | 276-AC002-6 | 276-AH002-6 |  |  |
| cutus s               | M16 X 1.5                       | 277-A3000-6 | 277-A4000-6    | 277-A5000-6  | 277-A8000-6 | 277-AC000-6 | 277-AH000-6 |  |  |
| THE                   | Pg9                             | 277-A3002-6 | 277-A4002-6    | 277-A5002-6  |             | 277-AC002-6 | 277-AH002-6 |  |  |
|                       | No                              | Rear m      | ounting, strai |              |             |             |             |  |  |
| Connector style  Male | Mount thread                    |             |                | Part n       | umber       |             |             |  |  |
| c U us LISTED         | M16 X 1.5                       | 226-A3000-6 | 226-A4000-6    | 226-A5000-6  | 226-A8000-6 | 226-AC000-6 | 226-AH000-6 |  |  |
| 0 2                   | Pg9                             | 226-A3002-6 | 226-A4002-6    | 226-A5002-6  | 226-A8002-6 | 226-AC002-6 | 226-AH002-6 |  |  |
| Female                | M16 X 1.5                       | 227-A3000-6 | 227-A4000-6    | 227-A5000-6  | 227-A8000-6 | 227-AC000-6 | 227-AH000-6 |  |  |
|                       | Pg9                             | 227-A3002-6 | 227-A4002-6    | 227-A5002-6  | 227-A8002-6 | 227-AC002-6 | 227-AH002-6 |  |  |
|                       |                                 | Rear        | mounting, ar   | gled, Shield |             |             |             |  |  |
| Connector style       | Mount thread                    |             |                | Part n       | umber       |             |             |  |  |
| § Male                | M16 X 1.5                       | 278-A3000-3 | 278-A4000-3    | 278-A5000-3  | 278-A8000-3 | -           | -           |  |  |
|                       | Pg9                             | 278-A3002-3 | 278-A4002-3    | 278-A5002-3  | 278-A8002-3 | -           | -           |  |  |
| Female<br>§           | M16 X 1.5                       | 279-A3000-3 | 279-A4000-3    | 279-A5000-3  | 279-A8000-3 | -           | -           |  |  |
|                       | Pg9                             | 279-A3002-3 | 279-A4002-3    | 279-A5002-3  | 279-A8002-3 | -           | -           |  |  |
|                       |                                 |             | nounting, ang  |              |             |             |             |  |  |
| Connector style  Male | Mount thread                    |             |                | Part n       | umber       |             |             |  |  |
|                       | M16 X 1.5                       | 228-A3000-3 | 228-A4000-3    | 228-A5000-3  | 228-A8000-3 | -           | -           |  |  |
| Female                | Pg9                             | 228-A3002-3 | 228-A4002-3    | 228-A5002-3  | 228-A8002-3 | -           | -           |  |  |
| Activate              | M16 X 1.5                       | 229-A3000-3 | 229-A4000-3    | 229-A5000-3  | 229-A8000-3 | -           | -           |  |  |
|                       | Pg9                             | 229-A3002-3 | 229-A4002-3    | 229-A5002-3  | 229-A8002-3 | -           | -           |  |  |

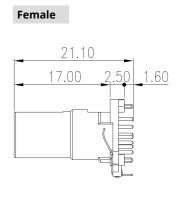
Bolded part number is cULus certified.

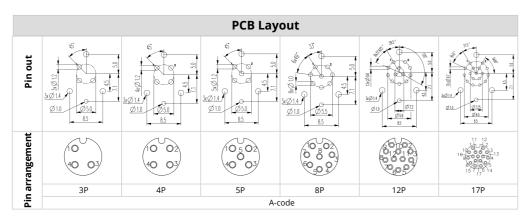
# M12 A-Code Two-piece PCB Circular Connector

#### 180° Rear mounting, straight (Shielded)

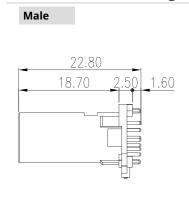


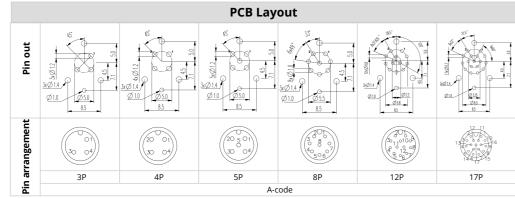


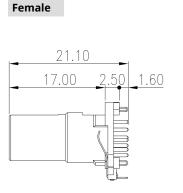




#### 180° Rear mounting, straight (NonShielded)







|                 |   |  | PCB Lay   | out                                      |  |   |
|-----------------|---|--|---|--|--|---|
| Pin out         | \$ 31 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | \$ 0.00 1 | \$\frac{1}{2}\text{\frac{1}{2}} | 15 15 15 15 15 15 15 15 15 15 15 15 15 1 | 190 de la companya de | 201 201 201 201 201 201 201 201 201 201   |
| Pin arrangement | 10 40 03                                  | 10 O2<br>40 O3   | 10 5 02<br>40 03  | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0    | 60102<br>610103<br>6600  | 11 12<br>10 0 0 3<br>16 0 0 0 3<br>16 0 0 0 0 5<br>15 0 0 0 0 5<br>15 7 1 7 6 1 4 |
| a               | 3P  | 4P   | 5P  | 8P                                       | 12P  | 17P   |
| Ξ               |   |  | A-c   | code                                     |  |   |

#### M12 A-Code Two-piece PCB Connector

| Mechanical Pr                    | roperties     | Material Properties         |                            |  |  |
|----------------------------------|---------------|-----------------------------|----------------------------|--|--|
| Min. Insertion/withdrawal cycles | 100           | Contact / contact surface   | Copper alloy / Gold plated |  |  |
| Degree of protection             | IP67          | Contact carrier             | LCP                        |  |  |
|                                  | -40°C ~ 125°C | O-ring                      | SILICONE                   |  |  |
| Operating Temperature            | -40 C ~ 125 C | Moisture Sensitivity Levels | 1                          |  |  |
| Soldering method                 | THR / SMT     | UL94 Flammability rating    | VO                         |  |  |
|                                  |               |                             |                            |  |  |

| Electrical Properties              |                        | Cable Information |
|------------------------------------|------------------------|-------------------|
|                                    | 250VAC / 4A (≤4 Pin)   |                   |
| Pated voltage / current (contacts) | 60VAC / 4A (5 Pin)     |                   |
| Rated voltage / current (contacts) | 30VAC / 2A (8 Pin)     |                   |
|                                    | 30VAC / 1.5A (≥12 Pin) |                   |
|                                    | 2.5kV (≤4 Pin)         |                   |
| Rated Impulse Voltage              | 1.5kV (5 Pin)          |                   |
| Nateu Impuise voitage              | 0.8kV (8 Pin)          |                   |
|                                    | 0.8kV (≥12 Pin)        |                   |
| Insulation resistance              | Min. $100M\Omega$      |                   |
| Overvoltage Category               | II                     |                   |
| Pollution Degree                   | 3                      |                   |

#### **Standards and Regulations**

IEC 61076-2-101: Detail specification for M12 connectors with screw-locking

Design reference IEC 60512: Electromechanical components for electronic equipment; basic testing

procedure and measuring methods

IEC 60529: Degree of protection provided by enclosures (IP Code)

#### Notice

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

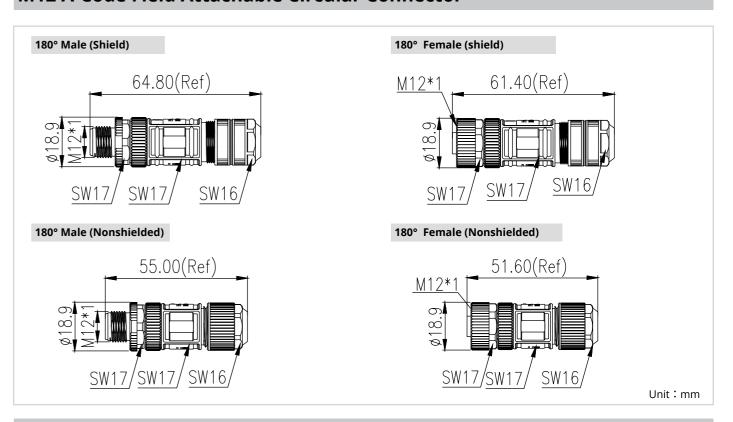
# M12 A-Code Two-piece PCB Connector (Shield / No Shield)

| Code          | Α   | Α  | Α  | Α                 | Α  | Α            |
|---------------|---|--|--|-------------------|--|--------------|
| Contact       | 3   | 4  | 5  | 8                 | 12   | 17           |
| e / current   | 250V / 4A   | 250V / 4A  | 60V / 4A   | 30V / 2A          | 30V / 1.5A   | 30V / 0.5A   |
| angement      | Male Female   | Male Female  | Male Female  | Male Female       | Male Female  | Male Female  |
|               | T   | HR Soldering, s  | traight, shield  |                   |  |              |
| package       |   |  | Part n   | umber             |  |              |
| Tray          | 281-A3T00S-1  | 281-A4T00S-1   | 281-A5T00S-1   | 281-A8T00S-1      | 281-AC100S-1   | 281-AH100S-1 |
| Tape-and reel | 281-A3T00S-2  | 281-A4T00S-2   | 281-A5T00S-2   | 281-A8T00S-2      | 281-AC100S-2   | 281-AH100S-2 |
| Tray          | 282-A3T00S-1  | 282-A4T00S-1   | 282-A5T00S-1   | 282-A8T00S-1      | 282-AC100S-1   | 282-AH100S-1 |
| Tape-and reel |   |  |  |                   | 282-AC100S-2   | 282-AH100S-2 |
|               | THI   | R Soldering, str   |  |                   |  |              |
| раскаде       |   |  | Part n   | umber             |  |              |
| Tray          | 281-A3T00U-1  | 281-A4T00U-1   | 281-A5T00U-1   | 281-A8T00U-1      | 281-AC100U-1   | 281-AH100U-1 |
| Tape-and reel | 281-A3T00U-2  | 281-A4T00U-2   | 281-A5T00U-2   | 281-A8T00U-2      | 281-AC100U-2   | 281-AH100U-2 |
| Tray          | 282-A3T00U-1  | 282-A4T00U-1   | 282-A5T00U-1   | 282-A8T00U-1      | 282-AC100U-1   | 282-AH100U-1 |
| Tape-and reel | 282-A3T00U-2  | 282-A4T00U-2   | 282-A5T00U-2   | 282-A8T00U-2      | 282-AC100U-2   | 282-AH100U-2 |
|               | SM <sup>*</sup>   | T Soldering, str   |  |                   |  |              |
| package       |   |  | Part n   | umber             |  |              |
| Tray          | -   | -  | 282-A5S00U-1   | -                 | -  | -            |
| Tape-and reel | -   | -  | 282-A5S00U-2   | -                 | -  | -            |
|               |   | Metal h  |  |                   |  |              |
| Mount thread  |   |  | Part n   | umber             |  |              |
| M16 X 1.5     |   |  | 283-1  | T1100             |  |              |
| M16 X 1.5     |   |  | 284-1  | <sup>-</sup> 1100 |  |              |
|               | Contact e / current angement  package Tray Tape-and reel  package Tray  Tape-and reel  Tray  Tape-and reel  Tray  Tape-and reel  Tray  Tape-and reel  Mount thread  M16 X 1.5 | Contact e / current 250V / 4A  Male Female angement  Tray  Male Female Female Angement  Tray  281-A3T00S-1  Tape-and reel  Tray  282-A3T00S-2  Tray  281-A3T00U-1  Tape-and reel 281-A3T00U-1  Tape-and reel 281-A3T00U-2  Tray  282-A3T00U-1  Tape-and reel 282-A3T00U-1  Tape-and reel 282-A3T00U-1  Tape-and reel 282-A3T00U-2  Tray  Ange-and reel 282-A3T00U-1  Tape-and reel 282-A3T00U-2  SM' package  Tray  Tape-and reel  Ange-and reel  Tray  Tape-and reel  Mount thread  M16 X 1.5 | Contact 250V / 4A 250V / 4 | Contact   3       | Contact   250V/4A   250V/4A   250V/4A   60V/4A   30V/2A   30V/2A   60V/4A   30V/2A   60V/4A   30V/2A   60V/4A   60V/4A   30V/2A   60V/4A   60V/4A | Contact   3  |

Bolded part number is cULus certified.

Package unit, Tray: 60 pcs; Tape-and-Reel: 100 pcs

#### **M12 A-Code Field Attachable Circular Connector**



#### **M12 A-Code Field Attachable Connector**

UL 2238

Certification reference

| Mechanical Prop                  | erties                                    | Material Properties  |                            |  |  |  |
|----------------------------------|---|--|----------------------------|--|--|--|
| Min. Insertion/withdrawal cycles | 100                                       | Contact / contact surface  | Copper alloy / Gold plated |  |  |  |
| Degree of protection             | IP67                                      | Contact carrier / push switch  | PA / NA                    |  |  |  |
| Operating Temperature            | -40°C ~ 125°C                             | O-ring   | NBR                        |  |  |  |
| Soldering method                 | Manual soldering                          | Outer Shield   | PA66 / Zinc die-cast       |  |  |  |
|                                  |   | UL94 Flammability rating   | V0                         |  |  |  |
| Electrical Prope                 | rties                                     | Cable I  | nformation                 |  |  |  |
| Rated voltage / current          | 250VAC / 4A (≤4 Pin)                      | Wiring diameter  | 18AWG~26AWG                |  |  |  |
| (contacts)                       | 60VAC / 4A (5 Pin)                        | Applicable cable diameter  | φ4~φ8                      |  |  |  |
| Dated Impulse Voltage            | 2.5kV (≤4 Pin)                            |  |                            |  |  |  |
| Rated Impulse Voltage            | 1.5kV (5 Pin)                             |  |                            |  |  |  |
| Insulation resistance            | Min. 100MΩ                                |  |                            |  |  |  |
| Overvoltage Category             | II  |  |                            |  |  |  |
| Pollution Degree                 | 3   |  |                            |  |  |  |
|                                  | Standard                                  | ds and Regulations   |                            |  |  |  |
| Design reference                 | IEC 60512: Electromed procedure and measu | ail specification for M12 connector<br>chanical components for electro<br>uring methods<br>protection provided by enclosur |                            |  |  |  |

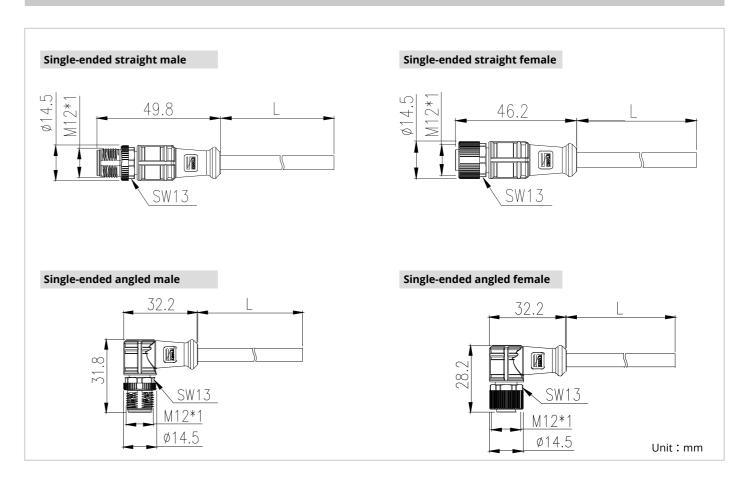
Notice

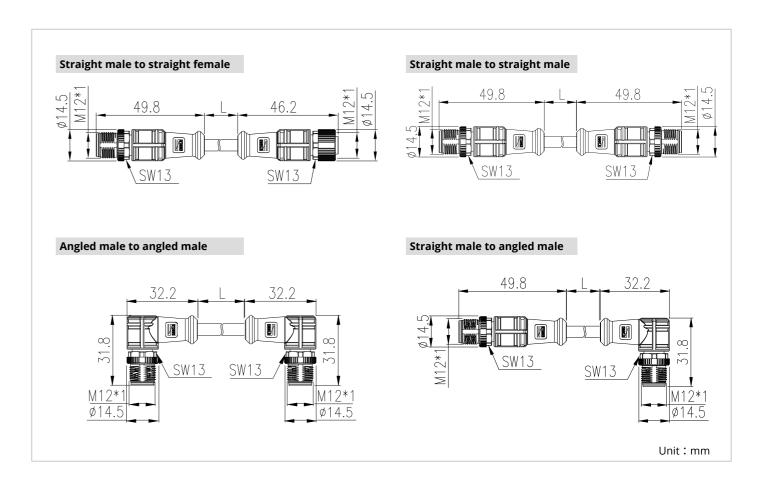
The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

# M12 A-Code Field Attachable Connector (Shield / No Shield)

| Coding and            | Code                |                      | 4         |          | 4                    |          | 4                      |
|-----------------------|---------------------|----------------------|-----------|----------|----------------------|----------|------------------------|
| contacts              | Contact             | 3                    | 3         | 4        | 4                    |          | 5                      |
| Rated voltag          | ge / current        | 250V                 | / / 4A    | 250V     | / / 4A               | 60V / 4A |                        |
| Contact arr           | Contact arrangement |                      | Female    | Male     | Female (10 O2 40 O3) | Male     | Female (10 5 02 40 03) |
|                       |                     |                      | Shield    |          |                      |          |                        |
| Connector style       | Wiring method       |                      |           | Part n   | umber                |          |                        |
| Male<br>§             |                     | 293-A3A1             |           | 293-     | A4A1                 | 293-A5A1 |                        |
| Female Soldering Type |                     | 294-A3A1             |           | 294-A4A1 |                      | 294-A5A1 |                        |
|                       |                     |                      | No Shield |          |                      |          |                        |
| Connector style       | Wiring method       |                      |           | Part n   | umber                |          |                        |
| Male                  | Coldoring Type      | 243-A3A0<br>244-A3A0 |           | 243-A4A0 |                      | 243-A5A0 |                        |
| Female                | Soldering Type      |                      |           | 244-A4A0 |                      | 244-A5A0 |                        |

# **M12 B-Code Molded Circular Connector**





#### **M12 B-Code Molded Connector**

| Mechanical Pr  | operties  | Material Properties             |                                    |   |  |
|--|---|---------------------------------|------------------------------------|---|--|
| Min. Insertion/withdrawal cycles   | 100   | Contact / contact surface       | Coppe                              | er alloy / Gold plated                  |  |
| Degree of protection   | IP67/IP68   | Contact carrier / overmolding   |                                    | PUR / PUR                               |  |
| Operating Temperature  | -40°C ~ 80°C<br>( Fixed installation )                                  | O-ring                          |                                    | NBR                                     |  |
| Operating Temperature  | $-25^{\circ}\text{C} \sim 80^{\circ}\text{C}$ ( Flexible installation ) | Cable gland material            | Zinc d                             | lie-cast, nickel-plated                 |  |
| Fasten torque  | 0.4 Nm  | UL94 Flammability rating        |                                    | НВ                                      |  |
| Electrical Pro   | perties   | Cable Inf                       | ormati                             | ion                                     |  |
| Rated voltage / current  | 250VAC / 4A (≤4 Pin)  | Cable Jacket                    | F                                  | PUR/PVC, BLACK                          |  |
| (contacts)   | 250VAC / 4A (5 Pin)   |                                 | Shield                             | PUR : UL AWM 20549<br>PVC : UL AWM 2464 |  |
| Dated Impulse Voltage  | 2.5kV (≤4 Pin)  | UL AWM style                    | No<br>Shield                       | PUR : UL AWM 20549<br>PVC : UL AWM 2464 |  |
| Rated Impulse Voltage  | 1.5kV (5 Pin)   |                                 | Drag<br>chain                      | PUR : UL AWM 20549                      |  |
| Insulation resistance  | Min. $100M\Omega$   | Conductor gross sostion         | 0.34mm²/22AWG (≤4 Pin)             |   |  |
| Overvoltage Category   | II  | Conductor cross section         | 0.34mm <sup>2</sup> /22AWG (5 Pin) |   |  |
| Pollution Degree   | 3   | Material conductor insulation   |                                    | PE/PVC                                  |  |
|  |   | Flame resistance                |                                    | FT-2 / VW-1                             |  |
|  |   | Dielectric strength             |                                    | 2.0KV/1min                              |  |
|  | Standards an  | d Regulations                   |                                    |   |  |
| Design reference  IEC 61076-2-101: Detail specification for M12 connectors with screw-locking IEC 60512: Electromechanical components for electronic equipment; basic testing and measuring methods IEC 60529: Degree of protection provided by enclosures (IP Code) |   |                                 |                                    |   |  |
|  | UL 2238   | as p. straca by criciosarcs (ii |                                    |   |  |

Notice

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

# M12 B-Code Molded Connector ( Shield )

| Coding and co        | ntacts   | Code      |                  | В                    |                  | В                    | E                    | 3                             |
|----------------------|----------|-----------|------------------|----------------------|------------------|----------------------|----------------------|-------------------------------|
| Contact              |          | Contact   | 3                | 3                    | 4                | 4                    | 5                    |                               |
| Rated volt           | age / cu | ırrent    | 250V / 4A        |                      | 250V / 4A        |                      | 60V / 4A             |                               |
|                      |          |           | Male             | Female               | Male             | Female               | Male                 | Female                        |
| Contact a            | rrangei  | ment      | (3. • 4)         | 100<br>4003          |                  | 1002<br>4003         |                      | 10 3 0 <sub>2</sub><br>40 0 0 |
| Connector style      | Cable    | Length(m) |                  |                      | Part nu          | umber                |                      |                               |
| Single-ended         |          | 2         | 251-B3000-25S020 |                      | 251-B400         | 0-255020             | 251-B500             | 0-25S020                      |
| straight male        | PVC      | 5         | 251-B300         | 0-255050             | 251-B400         | 0-255050             | 251-B500             | 0-25S050                      |
| (S)                  |          | 10        | 251-B300         | 0-255100             | 251-B400         | 0-255100             | 251-B500             | 0-25S100                      |
|                      |          | 2         | 251-B300         | 0-055020             | 251-B400         | 0-055020             | 251-B500             | 0-05S020                      |
| <b>4</b>             | PUR      | 5         | 251-B300         | 0-058050             | 251-B400         | 0-058050             | 251-B500             | 0-05S050                      |
|                      |          | 10        | 251-B300         | 0-05S100             | 251-B400         | 0-05S100             | 251-B500             | 0-05S100                      |
| Single-ended         |          | 2         | 252-B300         | 0-255020             | 252-B400         | 0-255020             | 252-B500             | 0-25S020                      |
| straight female      | PVC      | 5         | 252-B300         | 0-255050             | 252-B400         | 0-255050             | 252-B500             | 0-25S050                      |
| LISTED S             |          | 10        | 252-B300         | 0-255100             | 252-B400         | 0-255100             | 252-B500             | 0-25S100                      |
|                      | PUR      | 2         | 252-B300         | 0-055020             | 252-B400         | 0-055020             | 252-B500             | 0-05S020                      |
|                      |          | 5         | 252-B300         | 0-058050             | 252-B400         | 0-058050             | 252-B500             | 0-05S050                      |
|                      |          | 10        | 252-B3000-05S100 |                      | 252-B4000-05S100 |                      | 252-B5000-05S100     |                               |
| Single-ended         | PVC      | 2         | 253-B300         | 0-255020             | 253-B400         | 0-255020             | 253-B500             | 0-25S020                      |
| angled male          |          | 5         | 253-B300         | 0-255050             | 253-B400         | 0-255050             | 253-B500             | 0-25S050                      |
| LISTED S             |          | 10        | 253-B300         | 0-25\$100            | 253-B400         | 0-25\$100            | 253-B500             | 0-25S100                      |
|                      |          | 2         | 253-B300         | 0-055020             | 253-B400         | 0-055020             | 253-B500             | 0-05S020                      |
| 469                  | PUR      | 5         | 253-B300         | 0-058050             | 253-B400         | 0-058050             | 253-B500             | 0-05S050                      |
|                      |          | 10        | 253-B300         | 0-05\$100            | 253-B4000-05S100 |                      | 253-B5000-05S100     |                               |
| Single-ended         |          | 2         | 254-B300         | 0-255020             | 254-B400         | 0-255020             | 254-B500             | 0-25S020                      |
| angled female        | PVC      | 5         | 254-B300         | 0-255050             | 254-B400         | 0-258050             | 254-B500             | 0-25S050                      |
| culus<br>Listed<br>S |          | 10        | 254-B300         | 0-25\$100            | 254-B400         | 0-255100             | 254-B500             | 0-25S100                      |
| 9                    |          | 2         |                  | 0-055020             | 254-B400         | 0-055020             | 254-B500             | 0-05S020                      |
|                      | PUR      | 5         | 254-B300         | 0-058050             | 254-B400         | 0-058050             | 254-B500             | 0-05S050                      |
|                      |          | 10        | 254-B300         | 0-05\$100            | 254-B400         | 0-05\$100            | 254-B500             | 0-05S100                      |
| Straight male mate   |          | 0.6       | 256-B300         | 0-25SL60             | 256-B400         | 0-25SL60             | 256-B500             | 0-25SL60                      |
| straight female      | PVC      | 1.5       | 256-B300         | 0-255015             | 256-B400         | 0-255015             | 256-B500             | 0-25S015                      |
| C UL US              |          | 3         | 256-B300         | 0-255030             | 256-B400         | 0-255030             | 256-B500             | 0-255030                      |
| 5                    |          | 0.6       |                  | 0-05SL60             |                  | 0-05SL60             |                      | 0-05SL60                      |
| A Fallen             | PUR      | 1.5       |                  | 0-055015             |                  | 0-055015             |                      | 0-05S015                      |
| •                    | 2        | 3         |                  | 0-055030             |                  | 0-055030             | 256-B500             |                               |
| Angled male mate     |          | 0.6       |                  | 0-20SL60             |                  | 0-20SL60             |                      | 0-20SL60                      |
| angled female        | PVC      | 1.5       |                  | 0-205015             |                  | 0-205015             |                      | 0-205015                      |
| CUL US LISTED        |          | 3         |                  | 0-205030             |                  | 0-205030             |                      | 0-205030                      |
|                      |          | 0.6       |                  | 0-00SL60             |                  | 0-00SL60             | 259-B500             |                               |
| 1000                 | PUR      | 1.5       |                  | 0-00S015             |                  | 0-005015             |                      | 0-00S015                      |
|                      | PUR      | 3         |                  | 0-00S030<br>0-00S030 |                  | 0-00S030<br>0-00S030 | 259-B500<br>259-B500 |                               |

The configuration of connectors and the cable length can be customized. For more details, please contact Dinkle **Bolded part number is cULus ce<u>rtified.</u>** 

# M12 B-Code Molded Connector ( No Shield )

| Coding and contacts  |         | Code      |                  | В                    | E  | 3              |                  | 3                             |
|----------------------|---------|-----------|------------------|----------------------|--|----------------|------------------|-------------------------------|
| County and Co        | IILACTS | Contact   |                  | 3                    | 4  | 1              | 5                |                               |
| Rated voltage / curr |         | urrent    | 250V             | / / 4A               | 250V / 4A  |                | 60V / 4A         |                               |
|                      |         |           | Male             | Female               | Male   | Female         | Male             | Female                        |
| Contact arrangement  |         | ment      |                  |                      | 2 <b>●</b> • • • • • • • • • • • • • • • • • • • | 10 02<br>40 03 |                  | 10 8 O <sub>2</sub><br>40 0 3 |
| Connector style      | Cable   | Length(m) |                  |                      | Part n   | umber          |                  |                               |
| Single-ended         |         | 2         | 201-B300         | 0-205020             | 201-B400   | 0-205020       | 201-B500         | 0-205020                      |
| straight male        | PVC     | 5         | 201-B300         | 0-205050             | 201-B400   | 0-20S050       | 201-B500         | 0-205050                      |
| LISTED               |         | 10        | 201-B300         | 0-205100             | 201-B400   | 0-20S100       | 201-B500         | 0-205100                      |
|                      |         | 2         | 201-B300         | 0-00S020             | 201-B400   | 0-005020       | 201-B500         | 0-005020                      |
| 0 3                  | PUR     | 5         | 201-B300         | 0-005050             | 201-B400   | 0-00S050       | 201-B500         | 0-005050                      |
|                      |         | 10        | 201-B300         | 0-00\$100            | 201-B400   | 0-00\$100      | 201-B500         | 0-00\$100                     |
| Single-ended         |         | 2         | 202-B300         | 0-205020             | 202-B400   | 0-205020       | 202-B500         | 0-205020                      |
| straight female      | PVC     | 5         | 202-B300         | 0-205050             | 202-B400   | 0-20S050       | 202-B500         | 0-205050                      |
| C UL US LUSTED       |         | 10        | 202-B300         | 0-205100             | 202-B400   | 0-20S100       | 202-B500         | 0-20S100                      |
| A Par                | PUR     | 2         | 202-B300         | 0-005020             | 202-B400   | 0-005020       | 202-B500         | 0-005020                      |
|                      |         | 5         | 202-B300         | 0-005050             | 202-B400   | 0-00S050       | 202-B500         | 0-005050                      |
|                      |         | 10        | 202-B3000-00S100 |                      | 202-B4000-00S100                                 |                | 202-B5000-00S100 |                               |
| Single-ended         |         | 2         | 203-B300         | 0-205020             | 203-B400   | 0-205020       | 203-B500         | 0-205020                      |
| angled male          | PVC     | 5         | 203-B300         | 0-205050             | 203-B400   | 0-20S050       | 203-B500         | 0-205050                      |
| LISTED               |         | 10        | 203-B300         | 0-205100             | 203-B400   | 0-20S100       | 203-B500         | 0-205100                      |
|                      |         | 2         | 203-B300         | 0-00S020             | 203-B400   | 0-005020       | 203-B500         | 0-005020                      |
| 460                  | PUR     | 5         | 203-B300         | 0-00\$050            | 203-B400   | 0-00S050       | 203-B500         | 0-005050                      |
|                      |         | 10        | 203-B300         | 0-00\$100            | 203-B4000-00S100                                 |                | 203-B5000-00S100 |                               |
| Single-ended         |         | 2         | 204-B300         | 0-205020             | 204-B400   | 0-205020       | 204-B500         | 0-205020                      |
| angled female        | PVC     | 5         | 204-B300         | 0-205050             | 204-B400   | 0-20S050       | 204-B500         | 0-205050                      |
| C. UL US LISTED      |         | 10        | 204-B300         | 0-205100             | 204-B400   | 0-20S100       | 204-B500         | 0-20S100                      |
|                      |         | 2         | 204-B300         | 0-00S020             | 204-B400   | 0-005020       | 204-B500         | 0-00S020                      |
| 4 6                  | PUR     | 5         | 204-B300         | 0-005050             | 204-B400   | 0-00\$050      | 204-B500         | 0-005050                      |
|                      |         | 10        |                  | 0-005100             | 204-B400   |                |                  | 0-00S100                      |
| Straight male mate   |         | 0.6       |                  | 0-20SL60             | 206-B400   |                |                  | 0-20SL60                      |
| straight female      | PVC     | 1.5       |                  | 0-20S015             |  | 0-205015       |                  | 0-205015                      |
| Usted us             |         | 3         |                  | 0-20S030             | 206-B400   |                |                  | 0-205030                      |
| 0                    |         | 0.6       |                  | 0-00SL60             | 206-B400   |                |                  | 0-00SL60                      |
|                      | PUR     | 1.5       |                  | 0-00S015             | 206-B400   |                |                  | 0-005015                      |
| 9                    | . 010   | 3         |                  | 0-00S030             | 206-B400   |                |                  | 0-005030                      |
| Angled male mate     |         | 0.6       |                  | 0-20SL60             | 209-B400   |                |                  | 0-20SL60                      |
| angled female        | PVC     | 1.5       |                  | 0-20S015             | 209-B400   |                |                  | 0-205015                      |
| USTED                | . • •   | 3         |                  | 0-20S030             | 209-B400   |                |                  | 0-205015                      |
|                      |         | 0.6       |                  | 0-203030<br>0-00SL60 | 209-B400   |                |                  | 0-203030<br>0-00SL60          |
|                      | PUR     | 1.5       |                  | 0-003L00<br>0-00S015 | 209-B400<br>209-B400                             |                |                  | 0-003L00<br>0-00S015          |
| 6                    | TUK     |           |                  |                      |  |                |                  |                               |
| ( Sale ( )           |         | 3         | 209-B300         | 0-005030             | 209-B400   | U-UUSUSU       | 209-8500         | 0-005030                      |

The configuration of connectors and the cable length can be customized. For more details, please contact Dinkle

Bolded part number is cULus certified.

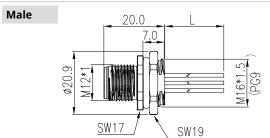
# M12 B-Code Molded Connector ( No Shield, Drag, chain )

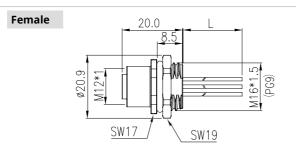
| Coding and contacts                |          | Code      |                   | 3                |             | В                          | E                | В             |  |
|------------------------------------|----------|-----------|-------------------|------------------|-------------|----------------------------|------------------|---------------|--|
| Coding and co                      | ntacts   | Contact   | 3                 | 3                | 4           | 4                          |                  | 5             |  |
| Rated volt                         | age / cu | rrent     | 250V              | / / 4A           | 250V        | / / 4A                     | 60V              | / 4A          |  |
|                                    |          |           | Male              | Female           | Male        | Female                     | Male             | Female        |  |
| Contact a                          | rranger  | ment      | (1003)<br>(40003) |                  |             |                            |                  | 10502<br>4003 |  |
| Connector style                    | Cable    | Length(m) |                   |                  | Part number |                            |                  |               |  |
| Single-ended straight male         |          | 2         | 201-B300          | 0-025020         | 201-B400    | 00-02S020                  | 201-B500         | 0-02S020      |  |
|                                    | PUR      | 5         | 201-B300          | 0-025050         | 201-B400    | 00-02S050                  | 201-B500         | 0-025050      |  |
| 607                                |          | 10        | 201-B300          | 0-02S100         | 201-B400    | 201-B4000-02S100           |                  | 0-02S100      |  |
| Single-ended straight female       |          | 2         | 202-B300          | 0-025020         | 202-B400    | 00-02S020                  | 202-B500         | 0-02S020      |  |
|                                    | PUR      | 5         | 202-B300          | 0-025050         | 202-B400    | 00-02S050                  | 202-B5000-02S050 |               |  |
| 9                                  |          | 10        | 202-B300          | 0-025100         | 202-B400    | 00-02S100 202-B5000-02S100 |                  | 0-025100      |  |
| Single-ended angled male           |          | 2         | 203-B3000-02S020  |                  | 203-B400    | 00-025020                  | 203-B500         | 0-025020      |  |
|                                    | PUR      | 5         | 203-B300          | 0-025050         | 203-B400    | 00-02S050                  | 203-B500         | 0-02S050      |  |
|                                    |          | 10        | 203-B300          | 0-025100         | 203-B400    | 00-02S100                  | 203-B500         | 0-02S100      |  |
| Single-ended angled female         |          | 2         | 204-B300          | 0-025020         | 204-B400    | 00-025020                  | 204-B500         | 0-025020      |  |
|                                    | PUR      | 5         | 204-B300          | 0-025050         | 204-B400    | 00-02S050                  | 204-B500         | 0-02S050      |  |
| 6                                  |          | 10        | 204-B300          | 0-025100         | 204-B400    | 00-025100                  | 204-B500         | 0-02S100      |  |
| Straight male mate straight female |          | 0.6       | 206-B300          | 00-02SL60        | 206-B400    | 00-02SL60                  | 206-B500         | 0-02SL60      |  |
|                                    | PUR      | 1.5       | 206-B300          | 0-02S015         | 206-B400    | 00-02S015                  | 206-B500         | 0-02S015      |  |
| O Tares                            |          | 3         | 206-B300          | 206-B3000-02S030 |             | 00-025030                  | 206-B500         | 0-02S030      |  |
| Angled male mate angled female     |          | 0.6       | 209-B300          | 00-02SL60        | 209-B400    | 00-02SL60                  | 209-B500         | 0-02SL60      |  |
|                                    | PUR      | 1.5       | 209-B300          | 0-025015         | 209-B400    | 00-025015                  | 209-B500         | 0-02S015      |  |
| 95                                 |          | 3         | 209-B300          | 0-025030         | 209-B400    | 00-025030                  | 209-B500         | 0-025030      |  |

Cables with drag chain function are guaranteed to withstand 5 million bending times(R=28mm, L=1m, V=1m/s) The configuration of connectors and the cable length can be ustomized. For more details, please contact Dinkle

# **M12 B-Code Device Circular Connector**

#### Front mounting with 0.5m wire



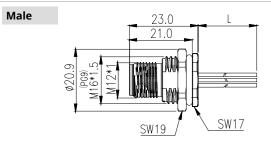


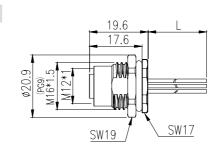
Female

Female

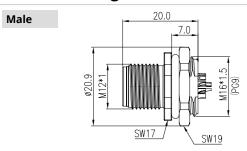
Female

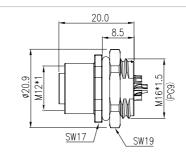
#### Front mounting with solder cup pin



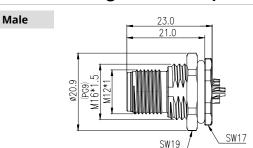


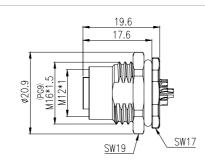
#### Rear mounting with 0.5m wire





#### Rear mounting with solder pin





#### Pin assignments and wire colors

| arrangement | arrangement |       |        | $\begin{pmatrix} 20 & O_1 \\ 30 & O^4 \end{pmatrix}$ |   | (20 O1<br>3 00 04) |  |  |
|-------------|-------------|-------|--------|--|---|--------------------|--|--|
| Pin 8       |             | 3P    | 4P     |  |   | 5P                 |  |  |
|             |             |       | B code |  |   |                    |  |  |
|             | 1           | Brown | 1      | Brown  | 1 | Brown              |  |  |
| ٠,          | 2           | -     | 2      | White  | 2 | White              |  |  |
| out         | 3           | Blue  | 3      | Blue   | 3 | Blue               |  |  |
| Pi          | 4           | Black | 4      | Black  | 4 | Black              |  |  |
|             | 5           | -     | 5      | -  | 5 | Gray               |  |  |

# **M12 B-Code Device Connector**

| Mechanical Prop                  | erties       | Material Properties          |                              |  |  |
|----------------------------------|--------------|------------------------------|------------------------------|--|--|
| Min. Insertion/withdrawal cycles | 100          | Contact / contact surface    | Copper alloy / Gold plated   |  |  |
| Degree of protection             | IP67         | Contact carrier              | PA                           |  |  |
| Operating Temperature            | -40°C ~ 80°C | Hexigonal nut / Outer Shield | Zinc die-cast, nickel-plated |  |  |
| Fasten torque                    | 0.4 Nm       | O-ring                       | NBR                          |  |  |
| Mounting torque                  | 0.8 Nm       | UL94 Flammability rating     | V0                           |  |  |
| Electrical Prope                 | rties        | Cable Information            |                              |  |  |

| Electrical Prop                    | erties               | Cable                         | Informat                            | tion                                      |  |
|------------------------------------|----------------------|-------------------------------|-------------------------------------|---|--|
| Rated voltage / current (contacts) | 250VAC / 4A (≤4 Pin) | Cable lacket                  | Shield                              | PUR / PVC, BLACK                          |  |
| Rated Voltage / Current (Contacts) | 60VAC / 4A (5 Pin)   | Cable Jacket                  |                                     | PVC                                       |  |
| Rated Impulse Voltage              | 2.5kV (≤4 Pin)       | UL AWM style                  | Shield                              | PUR : UL AWM 20549 /<br>PVC : UL AWM 2464 |  |
| nateu impuise voitage              | 1.5kV (5 Pin)        | OL AVVIVI Style               | No Shield                           | PVC : UL AWM 1061                         |  |
| Insulation resistance              | Min. $100M\Omega$    | Conductor cross section       | 0.34mm² / 22AWG (≤4 Pin)            |   |  |
| Overvoltage Category               | II                   | Conductor cross section       | 0.34mm <sup>2</sup> / 22AWG (5 Pin) |   |  |
| Pollution Degree                   | 3                    | Material conductor insulation | Shield                              | PE / PVC                                  |  |
|                                    |                      | Flame resistance              | Shield                              | FT-2 / VW-1                               |  |
|                                    |                      | Dielectric strength           | Shield                              | 2.0KV/1min                                |  |
|                                    | Charada ad           | a and Damilations             |                                     |   |  |

|                         | Standards and Regulations   |
|-------------------------|---|
|                         | IEC 61076-2-101: Detail specification for M12 connectors with screw-locking                                     |
| Design reference        | IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods |
|                         | IEC 60529: Degree of protection provided by enclosures (IP Code)  |
| Certification reference | UL 2238   |

#### Notice

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

# M12 B-Code Device Connector ( Shield )

| Cod | ling and contacts    | Code         |                                      | В                |                                      | В                |                  | 3                |  |
|-----|----------------------|--------------|--------------------------------------|------------------|--------------------------------------|------------------|------------------|------------------|--|
| Cou | ling and contacts    | Contact      | 3                                    | 3                | •                                    | 4                | 5                |                  |  |
|     | Rated voltage /      | 250V / 4A    |                                      | 250V / 4A        |                                      | 60V / 4A         |                  |                  |  |
|     | Contact arrang       | Male         | Female                               | Male Female      |                                      | Male             | Female           |                  |  |
|     |                      |              |                                      | 2m PUR cable     |                                      |                  |                  |                  |  |
| (   | Connector style      | Mount thread |                                      |                  | Part n                               | umber            |                  |                  |  |
| ŝ   | Male                 | M16 X 1.5    | 268-B3000-15S020<br>268-B3002-15S020 |                  | 268-B4000-15S020<br>268-B4002-15S020 |                  | 268-B5000-15S020 |                  |  |
|     |                      | Pg9          |                                      |                  |                                      |                  | 268-B5002-15S020 |                  |  |
| ŝ   | Female               | M16 X 1.5    | 269-B300                             | 269-B3000-15S020 |                                      | 269-B4000-15S020 |                  | 269-B5000-15S020 |  |
|     |                      | Pg9          | 269-B300                             | 02-15S020        | 269-B4002-15S020                     |                  | 269-B5002-15S020 |                  |  |
|     | Male                 | M16 X 1.5    | 270-B300                             | 00-15S020        | 270-B400                             | 00-15S020        | 270-B5000-15S020 |                  |  |
| \$  |                      | Pg9          | 270-B300                             | 270-B3002-15S020 |                                      | )2-15S020        | 270-B5002-15S020 |                  |  |
|     | Female               | M16 X 1.5    | 271-B300                             | 00-15S020        | 271-B4000-15S020                     |                  | 271-B5000-15S020 |                  |  |
| \$  | Pg9 271-B3002-15S020 |              | 271-B4002-15S020                     |                  | 271-B5002-15S020                     |                  |                  |                  |  |

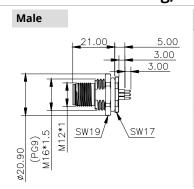
The wire length can be customized. For more details, please contact Dinkle

# M12 A-Code Device Connector ( No Shield )

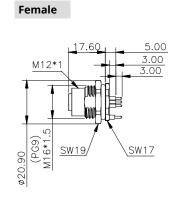
|            | d:                | Code         | В                       | В                                 | В                |
|------------|-------------------|--------------|-------------------------|-----------------------------------|------------------|
| Co         | ding and contacts | Contact      | 3                       | 4                                 | 5                |
|            | Rated voltage / c | urrent       | 250V / 4A               | 250V / 4A                         | 60V / 4A         |
|            |                   |              | Male Female             | Male Female                       | Male Female      |
|            | Contact arrange   | ement        |                         |                                   |                  |
|            |                   |              | Front mounting with     | 0.5m wire                         |                  |
|            | Connector style   | Mount thread |                         | Part number                       |                  |
| c UL US US | Male              | M16 X 1.5    | 218-B3000-0VSL50        | 218-B3000-0VSL50 218-B4000-0VSL50 |                  |
|            |                   | Pg9          | 218-B3002-0VSL50        | 218-B4002-0VSL50                  | 218-B5002-0VSL50 |
| c UL us    | Female            | M16 X 1.5    | 219-B3000-0VSL50        | 219-B4000-0VSL50                  | 219-B5000-0VSL50 |
|            |                   | Pg9          | 219-B3002-0VSL50        | 219-B4002-0VSL50                  | 219-B5002-0VSL50 |
|            |                   |              | Rear mounting with      | 0.5m wire                         |                  |
|            | Connector style   | Mount thread |                         | Part number                       |                  |
| cUL) us    | Male              | M16 X 1.5    | 220-B3000-0VSL50        | 220-B4000-0VSL50                  | 220-B5000-0VSL50 |
|            | 6 10 12           | Pg9          | 220-B3002-0VSL50        | 220-B4002-0VSL50                  | 220-B5002-0VSL50 |
| c.UL us    | Female            | M16 X 1.5    | 221-B3000-0VSL50        | 221-B4000-0VSL50                  | 221-B5000-0VSL50 |
|            | ( ))              | Pg9          | 221-B3002-0VSL50        | 221-B4002-0VSL50                  | 221-B5002-0VSL50 |
|            |                   |              | Front mounting with     | solder cup                        |                  |
|            | Connector style   | Mount thread |                         | Part number                       |                  |
| c UL us    | Male              | M16 X 1.5    | 232-B3000-S             | 232-B4000-S                       | 232-B5000-S      |
|            | 621               | Pg9          | 232-B3002-S             | 232-B4002-S                       | 232-B5002-S      |
| cUL) us    | Female            | M16 X 1.5    | 233-B3000-S             | 233-B4000-S                       | 233-B5000-S      |
|            |                   | Pg9          | 233-B3002-S 233-B4002-S |                                   | 233-B5002-S      |
|            |                   |              | Rear mounting with s    | <u>-</u>                          |                  |
|            | Connector style   | Mount thread |                         | Part number                       |                  |
| c UL us    | Male              | M16 X 1.5    | 230-B3000-S             | 230-B4000-S                       | 230-B5000-S      |
|            | 6                 | Pg9          | 230-B3002-S             | 230-B4002-S                       | 230-B5002-S      |
| c (UL) us  | Female            | M16 X 1.5    | 231-B3000-S             | 231-B4000-S                       | 231-B5000-S      |
|            |                   | Pg9          | 231-B3002-S             | 231-B4002-S                       | 231-B5002-S      |

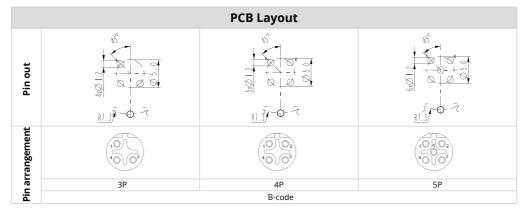
# M12 B-Code One-piece PCB Circular Connector

#### 180° Rear mounting, straight (Shieleded)

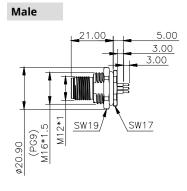


|             | PCB Layout                                   |  |                       |  |  |  |
|-------------|--|--|-----------------------|--|--|--|
| Pin out     | 45°<br>2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | 10 10 10 10 10 10 10 10 10 10 10 10 10 1 | 25                    |  |  |  |
| arrangement |  | (10 04)<br>(20 03)                       | (f10 04)<br>20 05 03) |  |  |  |
| ē           | 3P   | 4P                                       | 5P                    |  |  |  |
| ۳           |  | B-code                                   |                       |  |  |  |

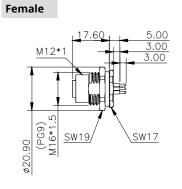




#### 180° Rear mounting, straight (NonShieleded)



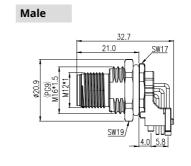
|               | PCB Layout |   |   |  |  |
|---------------|------------|---|---|--|--|
| Pin out       | 45°        | Ø 1 0 4 0 5 1 0 5 1 0 5 1 0 5 1 0 1 0 1 0 1 0 1 | 15<br>2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - |  |  |
| n arrangement | 3p 3P      | (2° 01)<br>30 04)<br>4P                         | (2° O1<br>3° O8 O4)                           |  |  |
| Fi            |            | B-code  |   |  |  |



|             | PCB Layout |                      |   |  |  |
|-------------|------------|----------------------|---|--|--|
| Pin out     | NS         | 15<br>0 + 0<br>0 5.0 | \$\frac{1}{2} \\ \frac{1}{2} \\ \frac |  |  |
| arrangement | 3P         | 10 02<br>40 03       | 10 6 02<br>40 03<br>5P  |  |  |
| Pin         | Sr Sr      | B-code               | Jr.   |  |  |

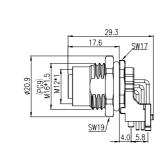
# M12 B-Code One-piece PCB Circular Connector

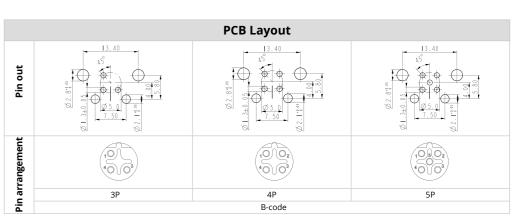
# 90° Rear mounting, straight (NonShielded)



|             | PCB Layout   |   |  |  |  |
|-------------|--|---|--|--|--|
| Pin out     | 13.40<br>45°<br>18.80<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.50<br>19.5 | 13.40<br>45°<br>0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 13.40<br>450<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.00<br>10.0 |  |  |
| arrangement | (%) O4)  | (2° °)<br>3° °)<br>4P                                 | 20 01<br>20 05<br>80 04  |  |  |
| Pi          |  | B-code  |  |  |  |

#### Female





65 | 66

# M12 B-Code One-piece PCB Connector

| Mechanical Pro                   | perties        | Material Properties          |  |  |
|----------------------------------|----------------|------------------------------|--|--|
| Min. Insertion/withdrawal cycles | 100            | Contact / contact surface    | Copper alloy / Gold plated                             |  |
| Degree of protection             | IP67           | Contact carrier              | PA   |  |
| Operating Temperature            | -40°C ~ 80°C   | Hexigonal nut / Outer Shield | Zinc die-cast, nickel-plated /<br>Brass, nickel-plated |  |
| Fasten torque                    | 0.4 Nm         | O-ring                       | NBR  |  |
| Soldering method                 | Wave Soldering | UL94 Flammability rating     | VO   |  |
| Flectrical Pror                  | nerties        | Cable Ir                     | nformation   |  |

| Electrical Properties    |                      | Cable Information |
|--------------------------|----------------------|-------------------|
| Rated voltage / current  | 250VAC / 4A (≤4 Pin) |                   |
| (contacts)               | 60VAC / 4A (5 Pin)   |                   |
| Onta d Importan Volta an | 2.5kV (≤4 Pin)       |                   |
| Rated Impulse Voltage    | 1.5kV (5 Pin)        |                   |
| nsulation resistance     | Min. 100MΩ           |                   |
| vervoltage Category      | II                   |                   |
| Pollution Degree         | 3                    |                   |

| Standards and Regulations |  |  |  |  |
|---------------------------|--|--|--|--|
|                           | IEC 61076-2-101: Detail specification for M12 connectors with screw-lockin IEC 61076-2-111: Circular connectors - Detail specification for power connectors with M12 screw-locking |  |  |  |
| Design reference          | IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods  |  |  |  |
|                           | IEC 60529: Degree of protection provided by enclosures (IP Code)   |  |  |  |
| Certification reference   | UL 2238 / UL2237   |  |  |  |
|                           |  |  |  |  |

#### Notice

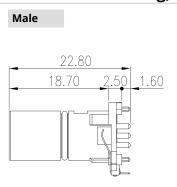
The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

# M12 B-Code One-piece PCB Connector (Shield / No Shield)

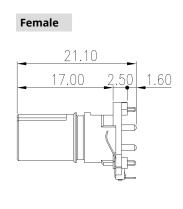
| Coding and contacts             | Code         | В                         | В           | В           |  |
|---------------------------------|--------------|---------------------------|-------------|-------------|--|
| Coding and contacts             | Contact      | 3                         | 4           | 5           |  |
| Rated voltage /                 | current      | 250V / 4A                 | 250V / 4A   | 60V / 4A    |  |
| Contact arrangement             |              | Male Female               | Male Female | Male Female |  |
| Rear mounting, straight, Shield |              |                           |             |             |  |
| Connector style                 | Mount thread |                           | Part number |             |  |
| Male                            | M16 X 1.5    | 276-B3000-6               | 276-B4000-6 | 276-B5000-6 |  |
|                                 | Pg9          | 276-B3002-6               | 276-B4002-6 | 276-B5002-6 |  |
| Female                          | M16 X 1.5    | 277-B3000-6               | 277-B4000-6 | 277-B5000-6 |  |
|                                 | Pg9          | 277-B3002-6               | 277-B4002-6 | 277-B5002-6 |  |
|                                 |              | ear mounting, straight, N |             |             |  |
| Connector style                 | Mount thread |                           | Part number |             |  |
| Male (t) yes                    | M16 X 1.5    | 226-B3000-6               | 226-B4000-6 | 226-B5000-6 |  |
| 0                               | Pg9          | 226-B3002-6               | 226-B4002-6 | 226-B5002-6 |  |
| Female current                  | M16 X 1.5    | 227-B3000-6               | 227-B4000-6 | 227-B5000-6 |  |
|                                 | Pg9          | 227-B3002-6               | 227-B4002-6 | 227-B5002-6 |  |
|                                 | R            | ear mounting, angled, N   | o Shield    |             |  |
| Connector style                 | Mount thread |                           | Part number |             |  |
| Male                            | M16 X 1.5    | 228-B3000-3               | 228-B4000-3 | 228-B5000-3 |  |
|                                 | Pg9          | 228-B3002-3               | 228-B4002-3 | 228-B5002-3 |  |
| Female                          | M16 X 1.5    | 229-B3000-3               | 229-B4000-3 | 229-B5000-3 |  |
|                                 | Pg9          | 229-B3002-3               | 229-B4002-3 | 229-B5002-3 |  |

# M12 B-Code Two-piece PCB Circular Connector

#### 180° Rear mounting, straight (Shielded)

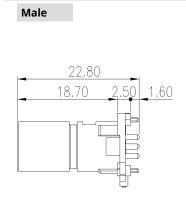


|                 |                   | DCD I accept      |  |
|-----------------|-------------------|-------------------|--|
|                 |                   | PCB Layout        |  |
| Pin out         | \$\frac{10}{20}\$ | \$\frac{10}{20}\$ | \$ 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 |
| Pin arrangement | 30 04             | (20 01)<br>30 04  | (20 g 01)<br>30 04)                      |
| Ľ.              | 3P                | 4P                | 5P                                       |
| ᠴ               |                   | B-code            |  |

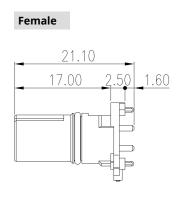


|             | PCB Layout |   |  |  |  |
|-------------|------------|---|--|--|--|
| Pin out     |            | 100 110 000 000 000 000 000 000 000 000 | 30 1.0 0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 |  |  |
| arrangement | 3P         | 10\02\40\03\                            | 10 J O2<br>40 O3                             |  |  |
| Pi          |            | B-code                                  |  |  |  |

#### 180° Rear mounting, straight (NonShielded)



|             | PCB Layout   |                          |  |  |  |
|-------------|--|--------------------------|--|--|--|
| Pin out     | \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ | 3014 050<br>3014 050     | 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 |  |  |
| arrangement | 30 04)   | (20 01)<br>(x0 04)<br>4P | (20 § 01)<br>8 04)                     |  |  |
| Pi          | JF JF  | B-code                   | Jr.                                    |  |  |
| - 4         |  | D-Couc                   |  |  |  |



|             | PCB Layout   |  |   |  |  |
|-------------|--|--|---|--|--|
| Pin out     | 15<br>16<br>17<br>18<br>18<br>18<br>18<br>18<br>18<br>18<br>18<br>18<br>18 | 15 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | 10 10 050 0 |  |  |
| arrangement | 100<br>4003<br>3P  | 10 02<br>40 03                           | 10 J 02<br>40 03  |  |  |
| Pi.         | Jr.  | B-code                                   | Jr.   |  |  |

# M12 B-Code Two-piece PCB Connector

| Mechanical Pr                    | operties      | Material Properties         |                            |  |
|----------------------------------|---------------|-----------------------------|----------------------------|--|
| Min. Insertion/withdrawal cycles | 100           | Contact / contact surface   | Copper alloy / Gold plated |  |
| Degree of protection             | IP67          | Contact carrier             | LCP                        |  |
| Operating Temperature            | -40°C ~ 125°C | O-ring                      | SILICONE                   |  |
| Soldering method                 | THR           | Moisture Sensitivity Levels | 1                          |  |
|                                  |               | UL94 Flammability rating    | V0                         |  |

| Electrical Pr            | Electrical Properties |  |  |
|--------------------------|-----------------------|--|--|
| Rated voltage / current  | 250VAC / 4A (≤4 Pin)  |  |  |
| (contacts)               | 60VAC / 4A (5 Pin)    |  |  |
| Detect Inspector Valters | 2.5kV (≤4 Pin)        |  |  |
| Rated Impulse Voltage    | 1.5kV (5 Pin)         |  |  |
| Insulation resistance    | Min. 100MΩ            |  |  |
| Overvoltage Category     | II                    |  |  |
| Pollution Degree         | 3                     |  |  |

| Standards and Regulations |   |  |  |  |  |
|---------------------------|---|--|--|--|--|
| Design reference          | IEC 61076-2-101: Detail specification for M12 connectors with screw-locking                                     |  |  |  |  |
|                           | IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods |  |  |  |  |
|                           | IEC 60529: Degree of protection provided by enclosures (IP Code)  |  |  |  |  |

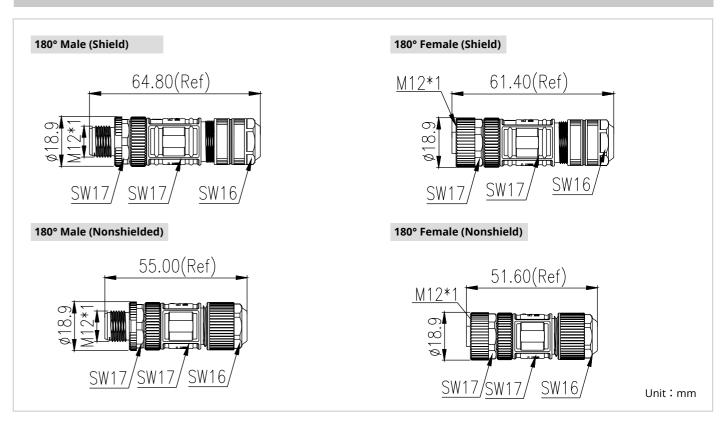
#### Notice

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

# M12 B-Code Two-piece PCB Connector (Shield / No Shield)

| Coding and contacts | Code            | В               |                |                       | В                |                 | В              |
|---------------------|-----------------|-----------------|----------------|-----------------------|------------------|-----------------|----------------|
|                     | Contact         | 3               |                | <b>4</b><br>250V / 4A |                  |                 | 5              |
| Rated voltage /     | current         | 250V<br>Male    | / 4A<br>Female | 250\<br>Male          | / / 4A<br>Female | 60V<br>Male     | / 4A<br>Female |
| Contact arrang      | ement           | (3 <sub>0</sub> | 10003          | 20 0 <sub>1</sub>     | 10002<br>4003    | 2 0 5 1 3 0 0 4 | 10000<br>40003 |
|                     |                 | THR Solde       | ering, straigh | t, shield             |                  |                 |                |
| Connector style     | package         | Part number     |                |                       |                  |                 |                |
| Male<br>s           | Tray            | 281-B3T00S-1    |                | 281-B4                | IT00S-1          | 281-B5          | 5T00S-1        |
| 3                   | Tape-and reel   | 281-B3          | T00S-2         | 281-B4                | 1T00S-2          | 281-B5          | 5T00S-2        |
| Female<br>(§)       | Tray            | 282-B3          | T00S-1         | 282-B4                | IT00S-1          | 282-B5          | 5T00S-1        |
|                     | Tape-and reel   | 282-B3T00S-2    |                | 282-B4T00S-2          |                  | 282-B5T00S-2    |                |
|                     |                 | THR Solderi     | ing, straight, | No shield             |                  |                 |                |
| Connector style     | package         | Part number     |                |                       |                  |                 |                |
| Male                | Tray            | 281-B3T00U-1    |                | 281-B4T00U-1          |                  | 281-B5T00U-1    |                |
|                     | Tape-and reel   | 281-B3          | T00U-2         | 281-B4T00U-2          |                  | 281-B5T00U-2    |                |
| Female              | Tray            | 282-B3T00U-1    |                | 282-B4T00U-1          |                  | 282-B5T00U-1    |                |
|                     | Tape-and reel   | 282-B3T00U-2    |                | 282-B4T00U-2          |                  | 282-B5T00U-2    |                |
|                     |                 | M               | letal housing  |                       |                  |                 |                |
| Connector style     | Mount<br>thread |                 |                | Part n                | umber            |                 |                |
| Male use            | M15 x 1         | 283-T1100       |                |                       |                  |                 |                |
| Female use          | M15 x 1         | 284-T1100       |                |                       |                  |                 |                |

#### **M12 B-Code Field Attachable Circular Connector**



#### **M12 B-Code Field Attachable Connector**

| Mechanical Pro                     | operties                    | Material Properties                 |                            |  |  |
|------------------------------------|-----------------------------|-------------------------------------|----------------------------|--|--|
| Min. Insertion/withdrawal cycles   | 100                         | Contact / contact surface           | Copper alloy / Gold plated |  |  |
| Degree of protection               | IP67                        | Contact carrier / push switch       | PA / NA                    |  |  |
| Operating Temperature              | -40°C ~ 85°C                | O-ring                              | NBR                        |  |  |
| Soldering method                   | Manual soldering            | Outer Shield                        | PA66 / Zinc die-cast       |  |  |
|                                    |                             | UL94 Flammability rating            | V0                         |  |  |
| Electrical Pro                     | perties                     | Cable Information                   |                            |  |  |
| Data di valta de la comunitation   | 250VAC / 4A (≤4 Pin)        | Wiring diameter                     | 18AWG~26AWG                |  |  |
| Rated voltage / current (contacts) | 60VAC / 4A (5 Pin)          | Applicable cable diameter           | φ4~φ8                      |  |  |
| Data di Jasa da Malkana            | 2.5kV (≤4 Pin)              |                                     |                            |  |  |
| Rated Impulse Voltage              | 1.5kV (5 Pin)               |                                     |                            |  |  |
| Insulation resistance              | Min. 100MΩ                  |                                     |                            |  |  |
| Overvoltage Category               | II                          |                                     |                            |  |  |
| Pollution Degree                   | 3                           |                                     |                            |  |  |
|                                    | Standards ar                | nd Regulations                      |                            |  |  |
|                                    | IEC 61076-2-101: Detail spe | ecification for M12 connectors with | n screw-locking            |  |  |

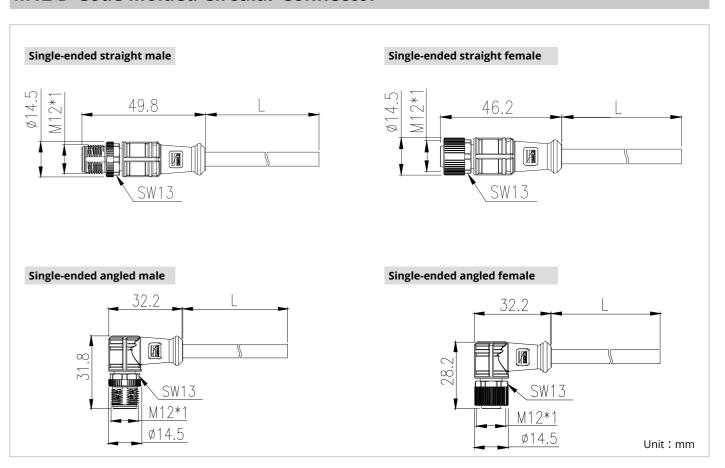
# Design reference | IEC 61076-2-101: Detail specification for M12 connectors with screw-locking | | IEC 60512: Electromechanical components for electronic equipment; basic testing | | procedure and measuring methods | | IEC 60529: Degree of protection provided by enclosures (IP Code) | | Certification reference | UL 2238 | | Notice |

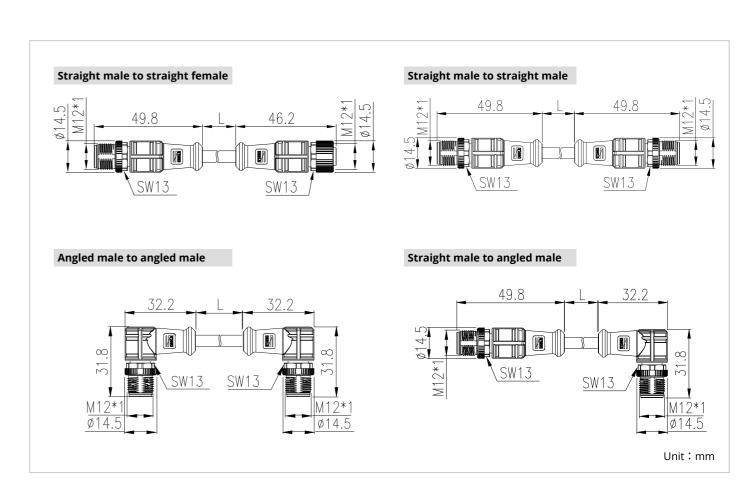
The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

# M12 B-Code Field Attachable Connector (Shield / No Shield)

| Coding and      | Code                | E                    | 3           | E        | 3                  | E        | 3                      |
|-----------------|---------------------|----------------------|-------------|----------|--------------------|----------|------------------------|
| contacts        | Contact             | 3                    | 3           | 4        | 4                  |          | 5                      |
| Rated voltag    | e / current         | 250V / 4A            |             | 250V     | / 4A               | 60V / 4A |                        |
| Contact arra    | Contact arrangement |                      | Male Female |          | Female 10 02 40 03 | Male     | Female (10 5 O2 40 O3) |
| Shield          |                     |                      |             |          |                    |          |                        |
| Connector style | Wiring method       |                      |             | Part n   | umber              |          |                        |
| Male<br>(§)     | Soldering Type      | 293-B3A1<br>294-B3A1 |             | 293-B4A1 |                    | 293-B5A1 |                        |
| Female<br>§     | Soldering Type      |                      |             | 294-B4A1 |                    | 294-B5A1 |                        |
|                 |                     |                      | No Shield   |          |                    |          |                        |
| Connector style | Wiring method       |                      |             | Part n   | umber              |          |                        |
| Male            | Soldering Type      | 243-I                | 33A0        | 243-I    | 34A0               | 243-l    | B5A0                   |
| Female          | Soldering Type      |                      | 33A0        | 244-B4A0 |                    | 244-B5A0 |                        |

# **M12 D-Code Molded Circular Connector**





# **M12 D-Code Molded Connector**

| Mechanical Pro                     | perties   | Material Properties                |  |  |  |  |
|------------------------------------|---|------------------------------------|--|--|--|--|
| Min. Insertion/withdrawal cycles   | 100   | Contact / contact surface          | Copper alloy / Gold plated                       |  |  |  |
| Degree of protection               | IP67/IP68   | Contact carrier / overmolding      | PUR / PUR  |  |  |  |
| Operating Temperature              | -40°C ~ 80°C<br>( Fixed installation )  | O-ring                             | NBR  |  |  |  |
| operating remperature              | -25°C ~ 80°C<br>( Flexible installation )   | Cable gland material               | Zinc die-cast, nickel-plated                     |  |  |  |
| Fasten torque                      | 0.4 Nm  | UL94 Flammability rating           | НВ   |  |  |  |
| Electrical Prop                    | erties  | Cable Inf                          | ormation   |  |  |  |
|                                    |   | Cable Jacket                       | PUR/PVC, BLACK                                   |  |  |  |
| Rated voltage / current (contacts) | 250VAC / 4A (≤4 Pin)  |                                    | Shield PUR: UL AWM 20549 /<br>PVC: UL AWM 2464   |  |  |  |
| Rated Impulse Voltage              | 2.5kV (≤4 Pin)  | UL AWM style                       | No PUR : UL AWM 20549 / Shield PVC : UL AWM 2464 |  |  |  |
| rated impulse voltage              | 2.3KV (S4 FIII)   |                                    | Drag chain PUR : UL AWM 20549                    |  |  |  |
| Insulation resistance              | Min. $100M\Omega$   | Conductor cross section            | 0.34mm²/22AWG (≤4 Pin)                           |  |  |  |
| Overvoltage Category               | II  | Material conductor insulation      | PE/PVC   |  |  |  |
| Pollution Degree                   | 3   | Flame resistance                   | FT-2 / VW-1                                      |  |  |  |
|                                    |   | Dielectric strength                | 2.0KV/1min                                       |  |  |  |
|                                    | Standards a   | and Regulations                    |  |  |  |  |
|                                    | IEC 61076-2-101: Detail s   | pecification for M12 connectors w  | vith screw-locking                               |  |  |  |
| Design reference                   | IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods |                                    |  |  |  |  |
|                                    | IEC 60529: Degree of pro  | tection provided by enclosures (II | P Code)  |  |  |  |
| Certification reference            | UL 2238   |                                    |  |  |  |  |
| Notice                             |   |                                    |  |  |  |  |

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

# M12 D-Code Molded Connector ( Shield )

| Coding and contacts        |           | Code      |                        | )                |  |
|----------------------------|-----------|-----------|------------------------|------------------|--|
| couning and co             | iitacts   | Contact   |                        | 1                |  |
| Rated vol                  | tage / cı | urrent    | 250V                   | / / 4A           |  |
|                            |           |           | Male Female            |                  |  |
| Contact arrangement        |           | ment      | (2 • • 1)<br>(2 • • 4) | 10 0 2<br>20 0 9 |  |
| Connector style            | Cable     | Length(m) | Part number            |                  |  |
| Single-ended straight male |           | 2         | 251-D400               | 0-255020         |  |
| (LISTED US                 | PVC       | 5         | 251-D400               | 00-25S050        |  |
| (S)                        |           | 10        | 251-D400               | 0-25S100         |  |
|                            |           | 2         | 251-D400               | 0-055020         |  |
|                            | PUR       | 5         | 251-D400               | 0-055050         |  |
|                            |           | 10        | 251-D400               | 0-05S100         |  |
| Single-ended               |           | 2         | 252-D400               | 0-258020         |  |
| straight female            | PVC       | 5         | 252-D400               | 0-258050         |  |
| Usted Us (S)               |           | 10        | 252-D400               | 00-25S100        |  |
| O Jest                     |           | 2         | 252-D400               | 00-05S020        |  |
|                            | PUR       | 5         | 252-D400               | 00-05S050        |  |
|                            |           | 10        | 252-D400               | 00-05S100        |  |
| Single-ended angled male   | PVC       | 2         | 253-D400               | 00-25S020        |  |
|                            |           | 5         | 253-D400               | 00-25\$050       |  |
| (LISTED)                   |           | 10        | 253-D400               | 0-25\$100        |  |
| (5)                        |           | 2         | 253-D400               |                  |  |
| 46                         | PUR       | 5         | 253-D400               |                  |  |
|                            |           | 10        | 253-D400               | 0-05\$100        |  |
| Single-ended               |           | 2         | 254-D400               |                  |  |
| angled female              | PVC       | 5         | 254-D400               |                  |  |
| (LISTED) (S)               |           | 10        | 254-D400               |                  |  |
| (3)                        |           | 2         |                        | 0-055020         |  |
| 0                          | PUR       | 5         | 254-D400               |                  |  |
|                            | Ξ.,       | 10        |                        | 0-05\$100        |  |
| Straight male mate         |           | 0.6       |                        | 0-25SL60         |  |
| straight female            | PVC       | 1.5       | 256-D400               |                  |  |
| Us us                      |           | 3         |                        | 0-25\$030        |  |
| § ()                       |           | 0.6       | 256-D400               |                  |  |
| A Telland                  | PUR       | 1.5       | 256-D400               |                  |  |
| 9                          |           | 3         |                        | 0-055030         |  |
| Angled male mate           |           | 0.6       | 259-D400               |                  |  |
| angled female              | PVC       | 1.5       | 259-D400               |                  |  |
| (LISTED) (S)               | . • •     | 3         | 259-D400               |                  |  |
|                            |           | 0.6       | 259-D400               |                  |  |
| 1                          | PUR       | 1.5       | 259-D400<br>259-D400   |                  |  |
|                            | PUK       | 3         |                        | 0-05S030         |  |

The configuration of connectors and the cable length can be customized. For more details, please contact Dinkle **Bolded part number is cULus certified.** 

# M12 D-Code Molded Connector ( No Shield )

| Coding and co            | ntacto   | Code      | С                     |           |  |
|--------------------------|----------|-----------|-----------------------|-----------|--|
| Coding and co            | iitacts  | Contact   | <b>4</b><br>250V / 4A |           |  |
| Rated volt               | age / cu | ırrent    |                       |           |  |
| Contact arrangement      |          | ment      | Male                  | Female    |  |
| Connector style          | Cable    | Length(m) | Part ni               | umber     |  |
| Single-ended             |          | 2         | 201-D400              | 0-20\$020 |  |
| straight male            | PVC      | 5         | 201-D400              | 0-20S050  |  |
| USTED                    |          | 10        | 201-D400              | 0-20\$100 |  |
|                          |          | 2         | 201-D400              | 0-00\$020 |  |
| 0.1                      | PUR      | 5         | 201-D400              | 0-00\$050 |  |
|                          |          | 10        | 201-D400              | 0-00\$100 |  |
| Single-ended             |          | 2         | 202-D400              | 0-20S020  |  |
| straight female          | PVC      | 5         | 202-D400              | 0-20S050  |  |
| C USTED US               |          | 10        | 202-D400              | 0-20\$100 |  |
| A                        | PUR      | 2         | 202-D400              | 0-00\$020 |  |
| •                        |          | 5         | 202-D400              | 0-00\$050 |  |
|                          |          | 10        | 202-D400              | 0-00\$100 |  |
| Single-ended angled male | PVC      | 2         | 203-D400              | 0-20\$020 |  |
|                          |          | 5         | 203-D400              | 0-20\$050 |  |
|                          |          | 10        | 203-D400              | 0-20\$100 |  |
|                          |          | 2         | 203-D400              | 0-00\$020 |  |
| 469                      | PUR      | 5         | 203-D400              | 0-00\$050 |  |
|                          |          | 10        | 203-D400              | 0-00\$100 |  |
| Single-ended             |          | 2         | 204-D400              | 0-20\$020 |  |
| angled female            | PVC      | 5         | 204-D400              | 0-20S050  |  |
| C(U) US LUSTED           |          | 10        | 204-D400              | 0-20\$100 |  |
|                          |          | 2         | 204-D400              | 0-00\$020 |  |
| 6                        | PUR      | 5         | 204-D400              | 0-00\$050 |  |
|                          |          | 10        | 204-D400              | 0-00\$100 |  |
| Straight male mate       |          | 0.6       | 206-D400              | 0-20SL60  |  |
| straight female          | PVC      | 1.5       | 206-D400              | 0-20S015  |  |
| c(1) us<br>LISTED        |          | 3         | 206-D400              | 0-20S030  |  |
|                          |          | 0.6       | 206-D400              | 0-00SL60  |  |
| A 100                    | PUR      | 1.5       | 206-D400              | 0-00S015  |  |
|                          |          | 3         | 206-D400              | 0-00S030  |  |
| Angled male mate         |          | 0.6       | 209-D400              | 0-20SL60  |  |
| angled female            | PVC      | 1.5       | 209-D400              | 0-20S015  |  |
| C(U) US<br>LUSTED        |          | 3         | 209-D400              | 0-20S030  |  |
| (A)                      |          | 0.6       | 209-D400              | 0-00SL60  |  |
|                          | PUR      | 1.5       | 209-D400              |           |  |
| 6                        |          | 3         | 209-D400              | 0-00\$030 |  |

The configuration of connectors and the cable length can be customized. For more details, please contact Dinkle

Bolded part number is cULus certified.

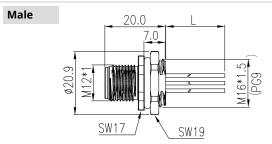
# M12 D-Code Molded Connector ( No Shield, Drag, chain )

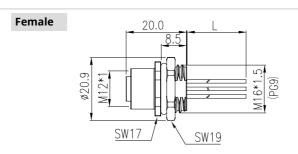
| Code Coding and contacts           |                     | Code      | Γ                | )         |           |
|------------------------------------|---------------------|-----------|------------------|-----------|-----------|
| County and Co                      | iitacts             | Contact   | 4                | 1         |           |
| Rated vol                          | d voltage / current |           | 250V / 4A        |           |           |
| Contact a                          | Contact arrangement |           | Male             | Female    |           |
| Connector style                    | Cable               | Length(m) | Part number      |           |           |
| Single-ended<br>straight male      |                     | 2         | 201-D400         | 00-025020 |           |
|                                    | PUR                 | 5         | 201-D400         | 00-025050 |           |
| 0                                  |                     | 10        | 201-D400         | 00-02S100 |           |
| Single-ended straight female       |                     | 2         | 202-D400         | 00-025020 |           |
|                                    | PUR                 | PUR       | 5                | 202-D400  | 00-025050 |
| 0                                  |                     | 10        | 202-D4000-02S100 |           |           |
| Single-ended angled male           |                     | 2         | 203-D400         | 00-025020 |           |
|                                    | PUR                 | 5         | 203-D400         | 00-02S050 |           |
| (6)                                |                     | 10        | 203-D400         | 00-025100 |           |
| Single-ended angled female         |                     | 2         | 204-D400         | 00-025020 |           |
|                                    | PUR                 | 5         | 204-D400         | 00-025050 |           |
| 0                                  |                     | 10        | 204-D400         | 00-025100 |           |
| Straight male mate straight female |                     | 0.6       | 206-D400         | 00-02SL60 |           |
|                                    | PUR                 | 1.5       | 206-D400         | 00-025015 |           |
| O James                            |                     | 3         | 206-D400         | 00-025030 |           |
| Angled male mate angled female     |                     | 0.6       | 209-D400         | 00-02SL60 |           |
|                                    | PUR                 | 1.5       | 209-D400         | 00-02S015 |           |
|                                    |                     | 3         | 209-D400         | 00-025030 |           |

Cables with drag chain function are guaranteed to withstand 5 million bending times(R=28mm, L=1m, V=1m/s) The configuration of connectors and the cable length can be ustomized. For more details, please contact Dinkle

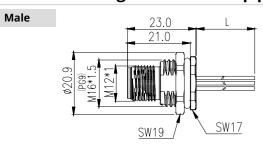
#### **M12 D-Code Device Circular Connector**

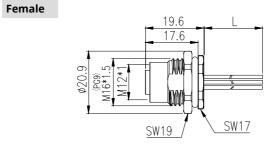
#### Front mounting with 0.5m wire



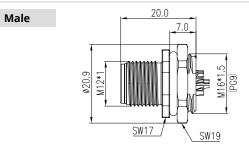


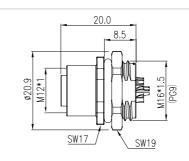
#### Front mounting with solder cup pin



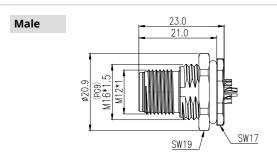


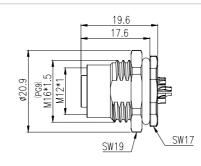
#### Rear mounting with 0.5m wire



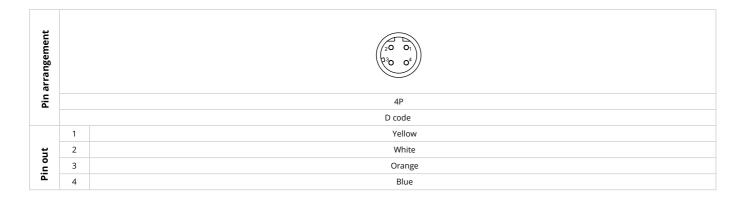


#### Rear mounting with solder cup pin





#### Pin assignments and wire colors



Female

Female

# **M12 D-Code Device Connector**

| Mechanical Prop  | Material Properties   |                                  |              |                          |  |  |
|--|---|----------------------------------|--------------|--------------------------|--|--|
| Min. Insertion/withdrawal cycles                                 | 100   | Contact / contact surface        | Cop          | pper alloy / Gold plated |  |  |
| Degree of protection   | IP67  | Contact carrier                  |              | PA                       |  |  |
| Operating Temperature  | -40°C ~ 80°C  | Hexigonal nut / Outer Shield     | Zino         | die-cast, nickel-plated  |  |  |
| Fasten torque  | 0.4 Nm  | O-ring                           |              | NBR                      |  |  |
| Mounting torque  | 0.8 Nm  | UL94 Flammability rating         |              | VO                       |  |  |
| Electrical Prope   | rties   | Cable                            | Informa      | ation                    |  |  |
|  |   |                                  | Shield       | PUR, BLUE                |  |  |
| Rated voltage / current (contacts)                               | 30VAC / 4A (≤4 Pin)   | Cable Jacket                     | No<br>Shield | PVC                      |  |  |
| Rated Impulse Voltage  | 2.5kV (≤4 Pin)  | UL AWM style                     | Shield       | PUR: UL20963             |  |  |
|  |   |                                  | No<br>Shield | PVC : UL 1061            |  |  |
| Insulation resistance  | Min. $100M\Omega$   |                                  | Shield       | 0.14mm² / 26AWG (≤4 Pin  |  |  |
| Overvoltage Category   | II  | Conductor cross section          | No<br>Shield | 0.34mm²/ 22AWG (≤4 Pin)  |  |  |
| Pollution Degree   | 3   | Material conductor insulation    | Shield       | HD-PE                    |  |  |
|  |   | Flame resistance                 | Shield       | FT2                      |  |  |
|  |   | Dielectric strength              | Shield       | 1.0KV/1min DC            |  |  |
|  | Standard  | ls and Regulations               |              |                          |  |  |
|  | IEC 61076-2-101: Deta   | ail specification for M12 connec | tors with    | screw-locking            |  |  |
| Design reference   | IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods |                                  |              |                          |  |  |
| IEC 60529: Degree of protection provided by enclosures (IP Code) |   |                                  |              |                          |  |  |
| Certification reference UL 2238                                  |   |                                  |              |                          |  |  |

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

79  $\sim$  80

# M12 D-Code Device Connector ( Shield )

| Cadi | ing and contacts        | Code            |              | )                |  |  |  |
|------|-------------------------|-----------------|--------------|------------------|--|--|--|
| Coul | ing and contacts        | Contact         | 4            |                  |  |  |  |
| R    | Rated voltage / current |                 |              | 250V / 4A        |  |  |  |
|      | Contact arrangement     |                 | Male         | Female           |  |  |  |
|      |                         |                 | 2m PUR cable |                  |  |  |  |
| С    | onnector style          | Mount<br>thread | Part n       | umber            |  |  |  |
| S    | Male                    | M16 X 1.5       | 268-D400     | 0-15S020         |  |  |  |
| 3    |                         | Pg9             | 268-D400     | 2-15S020         |  |  |  |
| \$   | Female                  | M16 X 1.5       | 269-D400     | 0-15S020         |  |  |  |
|      |                         | Pg9             | 269-D400     | 2-15S020         |  |  |  |
| S    | Male M16 X 1.5          |                 | 270-D400     | 270-D4000-15S020 |  |  |  |
|      |                         | Pg9             | 270-D400     | 2-15S020         |  |  |  |
| \$   | Female                  | M16 X 1.5       | 271-D400     | 0-15S020         |  |  |  |
|      | ())                     | Pg9             | 271-D400     | 2-15S020         |  |  |  |

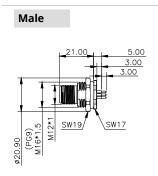
The wire length can be customized. For more details, please contact Dinkle

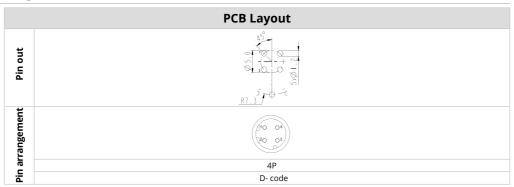
# M12 D-Code Device Connector ( No Shield )

| Ca      | ding and contacts     | Code         | I                              | D         |  |
|---------|-----------------------|--------------|--------------------------------|-----------|--|
| Co      | ding and contacts     | Contact      | 4                              | 4         |  |
|         | Rated voltage /       | current      | 250\                           | / / 4A    |  |
|         | Contact arrang        | ement        | Male Female                    |           |  |
|         |                       |              | Front mounting with 0.5m wire  |           |  |
|         | Connector style       | Mount thread | Part n                         | umber     |  |
| CUL) US | Male                  | M16 X 1.5    | 218-D400                       | 00-0VSL50 |  |
|         |                       | Pg9          | 218-D4002-0VSL50               |           |  |
| c UL us | Female                | M16 X 1.5    | 219-D400                       | 00-0VSL50 |  |
|         |                       | Pg9          |                                | 02-0VSL50 |  |
|         |                       |              | Rear mounting with 0.5m wire   |           |  |
|         | Connector style  Male | Mount thread | Part n                         | umber     |  |
| c UL us |                       | M16 X 1.5    | 220-D400                       | 00-0VSL50 |  |
|         |                       | Pg9          | 220-D400                       | 02-0VSL50 |  |
| CUL) US | Female                | M16 X 1.5    | 221-D400                       | 00-0VSL50 |  |
|         | 9 7                   | Pg9          |                                | 02-0VSL50 |  |
|         |                       |              | Front mounting with solder cup |           |  |
|         | Connector style       | Mount thread | Part n                         | umber     |  |
| c UL us | Male                  | M16 X 1.5    | 232-D                          | 4000-S    |  |
|         | 621                   | Pg9          | 232-D                          | 4002-S    |  |
| c UL us | Female                | M16 X 1.5    | 233-D                          | 4000-S    |  |
|         |                       | Pg9          |                                | 4002-S    |  |
|         |                       |              | Rear mounting with solder cup  |           |  |
|         | Connector style       | Mount thread | Part n                         | umber     |  |
| c UL us | Male                  | M16 X 1.5    | 230-D                          | 4000-S    |  |
|         | 6                     | Pg9          | 230-D                          | 4002-S    |  |
| c UL us | Female                | M16 X 1.5    | 231-D                          | 4000-S    |  |
|         |                       | Pg9          | 231-D                          | 4002-S    |  |

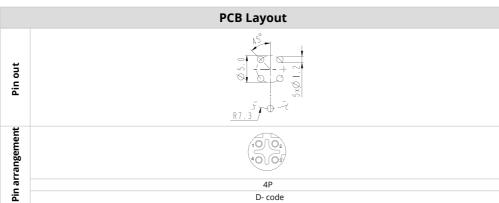
# M12 D-Code One-piece PCB Circular Connector

#### 180° Rear mounting, straight (Shielded)

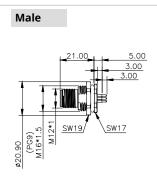


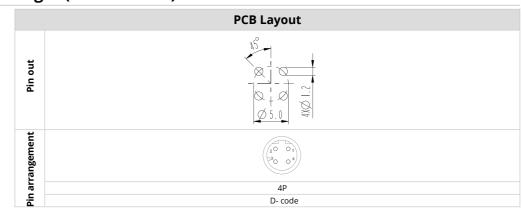


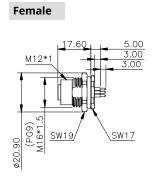
# 



#### 180° Rear mounting, straight (NonShielded)



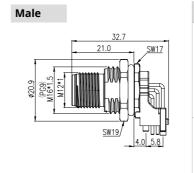


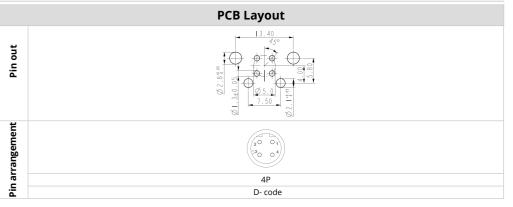


|                 | PCB Layout  |
|-----------------|---|
| Pin out         | \(\sigma^2\) \(\s |
| Pin arrangement | 4P<br>D- code   |
| _               | D- code   |

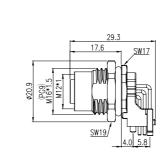
# M12 D-Code One-piece PCB Circular Connector

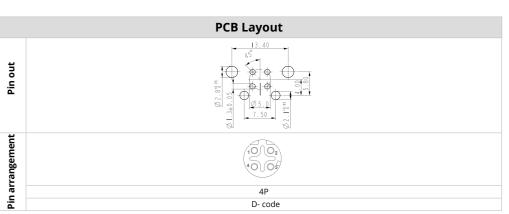
#### 90° Rear mounting, straight (NonShielded)





#### Female





# M12 D-Code One-piece PCB Connector

| Mechanical Pr                      | operties  | Material F   | roperties  |  |  |  |
|------------------------------------|---|--|--|--|--|--|
| Min. Insertion/withdrawal cycles   | 100   | Contact / contact surface  | Copper alloy / Gold plated                             |  |  |  |
| Degree of protection               | IP67  | Contact carrier  | PA   |  |  |  |
| Operating Temperature              | -40°C ~ 80°C  | Hexigonal nut / Outer Shield   | Zinc die-cast, nickel-plated /<br>Brass, nickel-plated |  |  |  |
| Fasten torque                      | 0.4 Nm  | O-ring   | NBR  |  |  |  |
| Soldering method                   | Wave Soldering  | UL94 Flammability rating   | VO   |  |  |  |
| Electrical Pro                     | perties   | Cable Info   | ormation   |  |  |  |
| Rated voltage / current (contacts) | 250VAC / 4A (≤4 Pin)  |  |  |  |  |  |
| Rated Impulse Voltage              | 2.5kV (≤4 Pin)  |  |  |  |  |  |
| Insulation resistance              | Min. 100MΩ  |  |  |  |  |  |
| Overvoltage Category               | II  |  |  |  |  |  |
| Pollution Degree                   | 3   |  |  |  |  |  |
|                                    | Standards an  | d Regulations  |  |  |  |  |
|                                    |   | cification for M12 connectors wit<br>onnectors - Detail specification fo |  |  |  |  |
| Design reference                   | IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods |  |  |  |  |  |
|                                    | IEC 60529: Degree of protection provided by enclosures (IP Code)  |  |  |  |  |  |
| Certification reference            | UL 2238 / UL2237  |  |  |  |  |  |

#### Notice

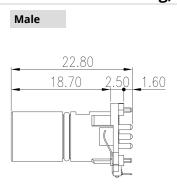
The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

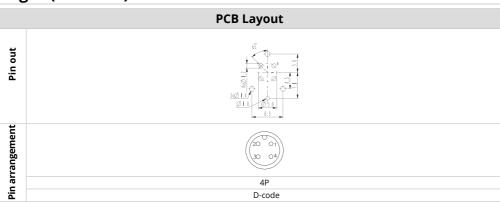
# M12 D-Code One-piece PCB Connector (Shield / No Shield)

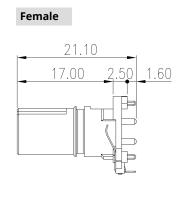
|                                 | Code                   | D                                  |      |  |  |  |
|---------------------------------|------------------------|------------------------------------|------|--|--|--|
| Coding and contacts             | Contact                | 4                                  |      |  |  |  |
| Rated voltage /                 | current                | 250V / 4A                          |      |  |  |  |
| Contact arrang                  |                        | Male Female                        |      |  |  |  |
| Rear mounting, straight, Shield |                        |                                    |      |  |  |  |
| Connector style                 | Mount thread           | Part nur                           | nber |  |  |  |
| Male control ss                 | M16 X 1.5              | 276-D40                            | 00-6 |  |  |  |
|                                 | Pg9                    | 276-D40                            | 02-6 |  |  |  |
| Female                          | M16 X 1.5              | 277-D40                            | 00-6 |  |  |  |
| Thu                             | Pg9 <b>277-D4002-6</b> |                                    | 02-6 |  |  |  |
|                                 |                        | Rear mounting, straight, No Shield |      |  |  |  |
| Connector style                 | Mount thread           | Part nur                           | nber |  |  |  |
| Male                            | M16 X 1.5              | 226-D40                            | 00-6 |  |  |  |
|                                 | Pg9                    | 226-D40                            | 02-6 |  |  |  |
| Female                          | M16 X 1.5              | 227-D40                            | 00-6 |  |  |  |
|                                 | Pg9                    | 227-D40                            | 02-6 |  |  |  |
|                                 |                        | Rear mounting, angled, No Shield   |      |  |  |  |
| Connector style                 | Mount thread           | Part nun                           | nber |  |  |  |
| Male                            | M16 X 1.5              | 228-D40                            | 00-3 |  |  |  |
|                                 | Pg9 228-D4002-3        |                                    | 02-3 |  |  |  |
| Female                          | M16 X 1.5              | 229-D40                            | 00-3 |  |  |  |
|                                 | Pg9                    | 229-D40                            | 02-3 |  |  |  |

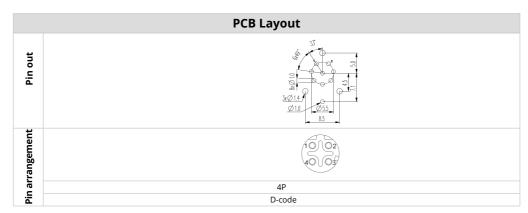
# **M12 D-Code Two-piece PCB Circular Connector**

#### 180° Rear mounting, straight (Shielded)

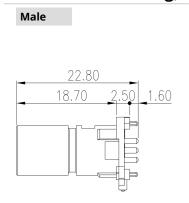


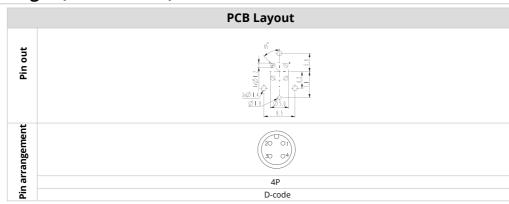


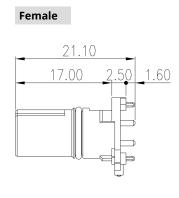


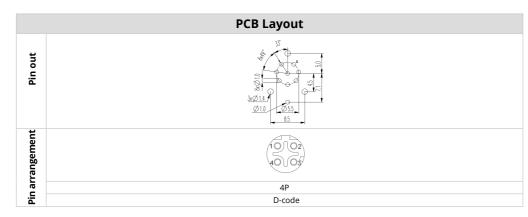


#### 180° Rear mounting, straight (NonShielded)









# M12 D-Code Two-piece PCB Connector

| Mechanical Pro                       | perties       | Material Properties         |                            |  |
|--------------------------------------|---------------|-----------------------------|----------------------------|--|
| Min. Insertion/withdrawal cycles 100 |               | Contact / contact surface   | Copper alloy / Gold plated |  |
| Degree of protection                 | IP67          | Contact carrier             | LCP                        |  |
| Operating Temperature                | -40°C ~ 125°C | O-ring                      | SILICONE                   |  |
| Soldering method THR / SMT           |               | Moisture Sensitivity Levels | 1                          |  |
|                                      |               | UL94 Flammability rating    | V0                         |  |
| Flantuinal Buss                      |               | Calala III                  | £                          |  |

| Electrical Prop                    | perties             |
|------------------------------------|---------------------|
| Rated voltage / current (contacts) | 250VAC / 4A (4 Pin) |
| Rated Impulse Voltage              | 2.5kV (4 Pin)       |
| Insulation resistance              | Min. 100MΩ          |
| Overvoltage Category               | II                  |
| Pollution Degree                   | 3                   |

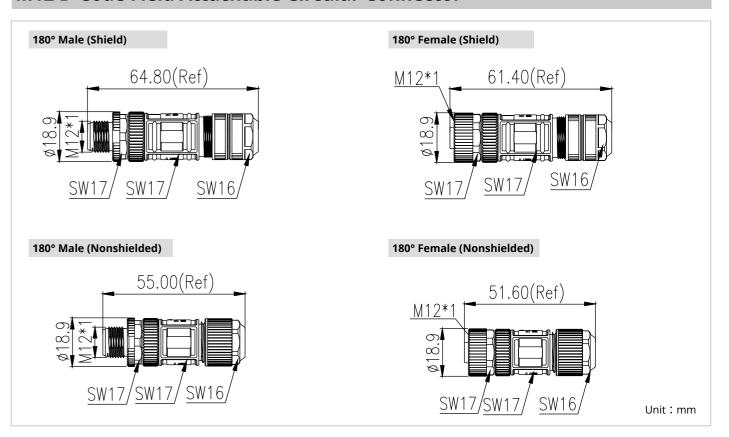
|                  | Standards and Regulations   |  |  |  |  |
|------------------|---|--|--|--|--|
|                  | IEC 61076-2-101: Detail specification for M12 connectors with screw-locking                                     |  |  |  |  |
| Design reference | IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods |  |  |  |  |
|                  | IEC 60529: Degree of protection provided by enclosures (IP Code)  |  |  |  |  |
| Notice           |   |  |  |  |  |

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

# M12 D-Code Two-piece PCB Connector (Shield / No Shield)

| C. P I I I             | Code            | 0  | )        |
|------------------------|-----------------|--|----------|
| Coding and contacts    | Contact         | 4  | <b>.</b> |
| Rated voltage / c      | urrent          | 30V / 2A                                   |          |
| Contact arrange        | ment            | Male Female                                |          |
|                        |                 | THR Soldering, straight, shield            |          |
| Connector style        | package         | Part no                                    | umber    |
| Male<br>§              | Tray            | 281-D4                                     | T00S-1   |
| Female                 | Tape-and reel   | 281-D4                                     | T00S-2   |
| §                      | Tray            | 282-D4                                     | T00S-1   |
|                        | Tape-and reel   | 282-D4                                     | T00S-2   |
| Compostor stude        |                 | THR Soldering, straight, No shield Part no | ah au    |
| Connector style  Male  | package         | Part ni                                    | ımber    |
|                        | Tray            | 281-D4                                     | T00U-1   |
| Female                 | Tape-and reel   | 281-D4                                     | T00U-2   |
| - Cinde                | Tray            | 282-D4                                     | T00U-1   |
|                        | Tape-and reel   | 282-D4                                     | T00U-2   |
|                        |                 | SMT Soldering, straight, No shield         |          |
| Connector style Female | package         | Part no                                    | ımber    |
|                        | Tray            | 282-D4                                     | S00U-1   |
|                        | Tape-and reel   | 282-D4                                     | S00U-2   |
|                        | Maust           | Metal housing                              |          |
| Connector style        | Mount<br>thread | Part no                                    | umber    |
| Male use               | M15 x 1         | 283-T                                      | 1100     |
| Female use             | M15 x 1         | 284-T                                      | 1100     |

# **M12 D-Code Field Attachable Circular Connector**



#### **M12 D-Code Field Attachable Connector**

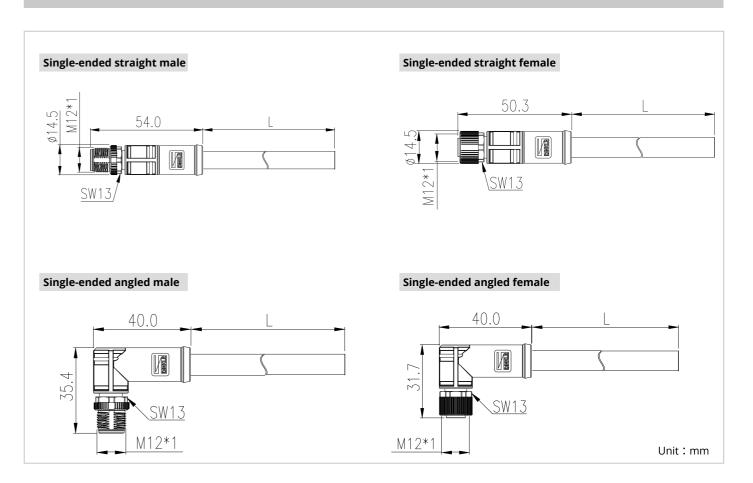
| Mechanical Pro                     | perties   | Material                         | Properties                 |  |
|------------------------------------|---|----------------------------------|----------------------------|--|
| Min. Insertion/withdrawal cycles   | 100   | Contact / contact surface        | Copper alloy / Gold plated |  |
| Degree of protection               | IP67  | Contact carrier / push switch    | PA / NA                    |  |
| Operating Temperature              | -40°C ~ 125°C   | O-ring                           | NBR                        |  |
| Soldering method                   | Manual soldering  | Outer Shield                     | PA66 / Zinc die-cast       |  |
|                                    |   | UL94 Flammability rating         | V0                         |  |
| Electrical Prop                    | erties  | Cable Inf                        | ormation                   |  |
| Rated voltage / current (contacts) | 250VAC / 4A (4 Pin)   | Wiring diameter                  | 18AWG~26AWG                |  |
| Rated Impulse Voltage              | 2.5kV (4 Pin)   | Applicable cable diameter        | φ4~φ8                      |  |
| nsulation resistance               | Min. 100MΩ  |                                  |                            |  |
| Overvoltage Category               | II  |                                  |                            |  |
| Pollution Degree                   | 3   |                                  |                            |  |
|                                    | Standards   | and Regulations                  |                            |  |
|                                    | IEC 61076-2-101: Detail   | specification for M12 connectors | with screw-locking         |  |
| Design reference                   | IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods |                                  |                            |  |
|                                    | IEC 60529: Degree of protection provided by enclosures (IP Code)  |                                  |                            |  |
| Certification reference            | UL 2238   |                                  |                            |  |

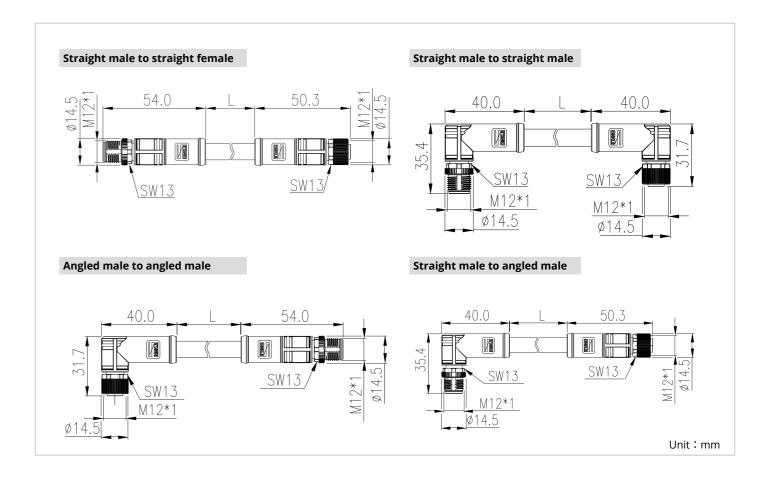
The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

# M12 D-Code Field Attachable Connector (Shield / No Shield)

| Coding and      | Code           | D               |        |
|-----------------|----------------|-----------------|--------|
| contacts        | Contact        | 4               |        |
| Rated voltag    | e / current    | 250V / 4        | 1A     |
|                 |                | Male            | Female |
| Contact arra    | angement       |                 |        |
|                 |                | Shield          |        |
| Connector style | Wiring method  | Part num        | ber    |
| Male (§)        | Soldering Type | 293-D4/         | A1     |
| Female<br>§     | 6 71           | 294-D4/         | A1     |
|                 |                | No Shield       |        |
| Connector style | Wiring method  | Part num        | ber    |
| Male            | Soldering Type | 243-D4 <i>i</i> | 40     |
| Female          | Soldering Type |                 |        |
|                 |                | 244-D4/         | 40     |

# **M12 S-Code Molded Circular Connector**





# **M12 S-Code Molded Connector**

| Mechanical Pro   | perties   | Material                                  | Propert   | ties                   |  |
|--|---|---|---|------------------------|--|
| Min. Insertion/withdrawal cycles   | 100   | Contact / contact surface                 | Coppe   | er alloy / Gold plated |  |
| Degree of protection   | IP67  | Contact carrier / overmolding             |   | PUR / PP               |  |
| Operating Temperature  | -40°C ~ 80°C<br>( Fixed installation )                                  | O-ring                                    |   | NBR                    |  |
| Operating remperature  | $-25^{\circ}\text{C} \sim 80^{\circ}\text{C}$ ( Flexible installation ) | Cable gland material Zinc die-cast, nicke |   | ie-cast, nickel-plated |  |
| Fasten torque  | 0.4 Nm  | UL94 Flammability rating                  |   | VO                     |  |
| 6kV (3 Pin)  Rated Impulse Voltage  6kV (3 Pin)  Conductor cross section |   |   |   |                        |  |
| Rated voltage / current (contacts)                                       | 630VAC / 16A (3 Pin)  | Cable Jacket                              | PUR, BL   | ACK                    |  |
| Rated voltage / current (contacts)                                       | 630VAC / 12A (4 Pin)  | UL AWM style                              |   | PUR : UL AWM 20234     |  |
| Detect Incoming Voltage  | 6kV (3 Pin)   |   | 1.5mm <sup>2</sup>  | n²/16AWG (3 Pin)       |  |
| Rated impulse voltage  | 6kV (4 Pin)   | Conductor cross section                   | 1.5mm <sup>2</sup> /16AWG (4 Pin)   |                        |  |
| Insulation resistance  | Min. 100MΩ  | Material conductor insulation             | PP  |                        |  |
| Overvoltage Category   | III   | Flame resistance                          | VW-1/F  | Γ1                     |  |
| Pollution Degree   | 3   | Dielectric strength                       | 4.0KV/1   | min                    |  |
|  | Standards a   | nd Regulations                            |   |                        |  |
|  | screw-locking   | ·   | ·   |                        |  |
| Design reference   | procedure and measuring   | g methods                                 |   | t; basic testing       |  |
|  |   | tection provided by enclosures (I         | e gland material  Flammability rating  Cable Information  PUR, BLACK  WM style  No Shield  1.5mm²/16AWG (3 Pin)  1.5mm²/16AWG (4 Pin)  Prial conductor insulation  PP  e resistance  VW-1/FT1  ctric strength  A.0KV/1min  Pgulations  ctors - Detail specification for power connectors with M12  components for electronic equipment; basic testing |                        |  |
| Certification reference  | UL 2237   |   |   |                        |  |
|  | N   | otice                                     |   |                        |  |

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

# M12 S-Code Molded Connector ( No Shield )

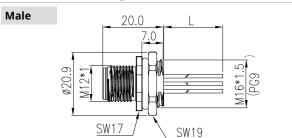
|  | Coding and contacts  |       | Code      |          | S         | 9         | 5        |
|--|--|-------|-----------|----------|-----------|-----------|----------|
|  | Coding and contacts  |       | Contact   | 3(2      | +PE)      | 4(3+      | PE)      |
| Rated voltage / current  Contact arrangement |  |       |           | 630\     | //16A     | 630V      | / 12A    |
|  |  |       |           | Male     | Female    | Male      | Female   |
| (  | Connector style  | Cable | Length(m) |          | Part nu   | umber     |          |
| U) us  | Single-ended straight male   |       | 2         | 201-S33  | 03-025020 | 201-S430  | 3-025020 |
|  | The state of the s | PUR   | 5         | 201-S33  | 03-02S050 | 201-S430  | 3-02S050 |
|  | 9  |       | 10        | 201-S33  | 03-02S100 | 201-S430  | 3-02S100 |
| UL) <sub>US</sub>                            | Single-ended straight female   |       | 2         | 202-S33  | 03-02S020 | 202-S430  | 3-02S020 |
|  | o James  | PUR   | 5         | 202-5330 | 03-02S050 | 202-\$430 | 3-02S050 |
|  |  |       | 10        | 202-S33  | 03-02S100 | 202-\$430 | 3-02S100 |
| U) us  | Single-ended angled male   |       | 2         | 203-S33  | 03-025020 | 203-S430  | 3-025020 |
|  |  | PUR   | 5         | 203-S33  | 03-025050 | 203-S430  | 3-02S050 |
|  |  |       | 10        | 203-S33  | 03-02S100 | 203-S430  | 3-02S100 |
| J) us  |  |       | 2         | 204-S33  | 03-02S020 | 204-S430  | 3-025020 |
|  |  | PUR   | 5         | 204-S33  | 03-02S050 | 204-S430  | 3-02S050 |
|  |  |       | 10        | 204-S33  | 03-02S100 | 204-S430  | 3-02S100 |
| D <sub>us</sub>                              | Straight male mate<br>straight female  |       | 0.6       | 206-S33  | 03-02SL60 | 206-S430  | 3-02SL60 |
|  | PUR  | PUR   | 1.5       | 206-S33  | 03-025015 | 206-S430  | 3-025015 |
|  |  |       | 3         | 206-S33  | 03-025030 | 206-S430  | 3-02S030 |
| L) us  | Angled male mate angled female   |       | 0.6       | 209-S33  | 03-02SL60 | 209-S430  | 3-02SL60 |
|  |  | PUR   | 1.5       | 209-S33  | 03-02S015 | 209-S430  | 3-02S015 |
|  |  |       |           | 209-S33  | 03-02S030 | 209-S430  | 3-025030 |

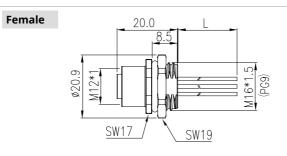
The configuration of connectors and the cable length can be customized. For more details, please contact Dinkle

Bolded part number is cULus certified.

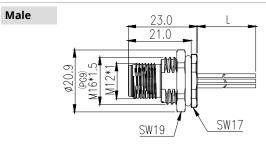
#### **M12 S-Code Device Circular Connector**

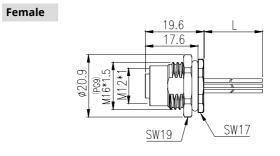
#### Front mounting with 0.5 wire



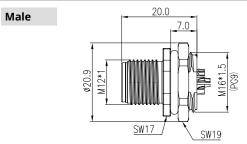


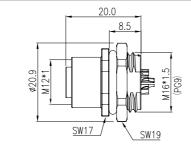
#### Front mounting with solder cup pin



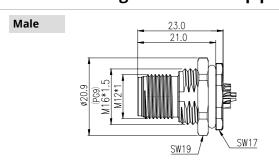


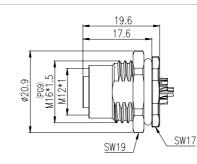
#### Rear mounting with 0.5m wire



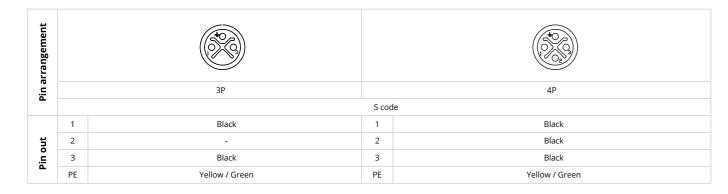


#### Rear mounting with solder cup pin





#### Pin assignments and wire color



Female

Female

#### **M12 S-Code Device Connector**

Rated Impulse Voltage

Insulation resistance

Overvoltage Category

| Mechanical Pro                        | Material             | Propertion                   | es                    |                      |
|---------------------------------------|----------------------|------------------------------|-----------------------|----------------------|
| Min. Insertion/withdrawal cycles      | 100                  | Contact / contact surface    | Copper                | alloy / Gold plated  |
| Degree of protection                  | IP67                 | Contact carrier              |                       | PA                   |
| Operating Temperature                 | -40°C ~ 80°C         | Hexigonal nut / Outer Shield | Zinc die              | -cast, nickel-plated |
| Fasten torque                         | 0.4 Nm               | O-ring                       |                       | NBR                  |
| Mounting torque                       | 0.8 Nm               | UL94 Flammability rating     |                       | VO                   |
| Electrical Prop                       | Cable Inf            | ormatio                      | n                     |                      |
| Date divisite as / surrent (contacts) | 630VAC / 16A (3 Pin) | Cable Jacket                 | MPPE                  |                      |
| Rated voltage / current (contacts)    | 630VAC / 12A (4 Pin) | UL AWM style                 | No<br>Shield          | MPPE : AWM 11029     |
|                                       | 6kV (3 Pin)          |                              | 1.5mm <sup>2</sup> /1 | 6AWG (3 Pin)         |

Conductor cross section

Flame resistance

Material conductor insulation MPPE

1.5mm<sup>2</sup>/16AWG (4 Pin)

VW-1 / FT1

| Pollution Degree   | 3   | Dielectric strength | NA |  |  |
|--|---|---------------------|----|--|--|
| Standards and Regulations  |   |                     |    |  |  |
|  | IEC 61076-2-101: Detail specification for M12 connectors with screw-locking                                     |                     |    |  |  |
| Design reference   | IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods |                     |    |  |  |
| IEC 60529: Degree of protection provided by enclosures (IP Code) |   | <sup>o</sup> Code)  |    |  |  |
| Certification reference  | UL 2238   |                     |    |  |  |

6kV (4 Pin)

Min.  $100M\Omega$ 

Ш

#### Notice

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

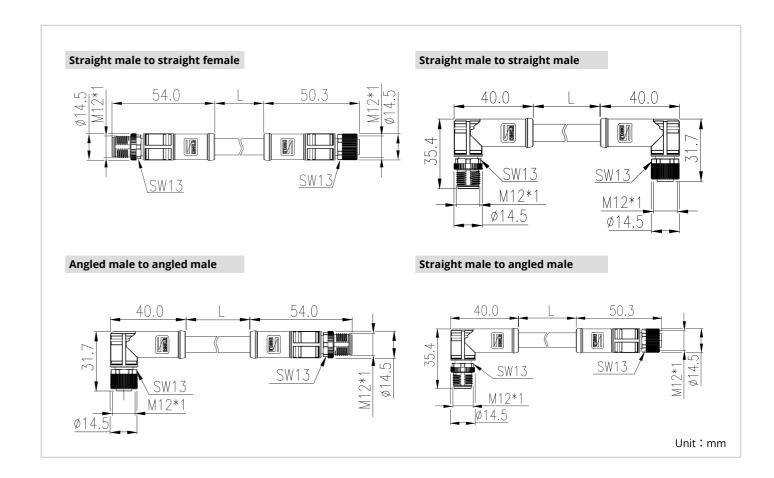
# M12 S-Code Device Connector ( No Shield )

| Coding and      | Code                |                  | 5                 |                  | S         |
|-----------------|---------------------|------------------|-------------------|------------------|-----------|
| contacts        | Contact             | 3 (2+PE)         |                   | 3 (2             | 2+PE)     |
| Rated voltage   | / current           | 630V / 16A       |                   |                  |           |
| Contact arra    | Contact arrangement |                  | Female            | Male             | Female    |
|                 |                     | Front mountin    | ng with 0.5m wire |                  |           |
| Connector style | Mount thread        |                  | Part n            | umber            |           |
| Male            | M16 X 1.5           | 218-\$330        | 0-0MSL50          | 218-543          | 00-0MSL50 |
|                 | Pg9                 | 218-S330         | 2-0MSL50          | 218-S4302-0MSL50 |           |
| Female          | M16 X 1.5           | 219-S3300-0MSL50 |                   | 219-543          | 00-0MSL50 |
|                 | Pg9                 | 219-S3302-0MSL50 |                   | 219-\$43         | 02-0MSL50 |
|                 |                     | Rear mountin     | g with 0.5m wire  |                  |           |
| Connector style | Mount thread        |                  | Part n            | umber            |           |
| Male            | M16 X 1.5           | 220-S330         | 0-0MSL50          | 220-\$43         | 00-0MSL50 |
|                 | Pg9                 | 220-S3302-0MSL50 |                   | 220-S43          | 02-0MSL50 |
| Female          | M16 X 1.5           | 221-\$330        | 0-0MSL50          | 221-543          | 00-0MSL50 |
|                 | Pg9                 | 221-S330         | 2-0MSL50          | 221-S43          | 02-0MSL50 |

The wire length can be customized. For more details, please contact Dinkle **Bolded part number is cULus certified.** 

# **M12 T-Code Molded Circular Connector**





# **M12 T-Code Molded Connector**

| Mechanical Pro                     | Material  | Propertie                            | es                                |                      |  |
|------------------------------------|---|--------------------------------------|-----------------------------------|----------------------|--|
| Min. Insertion/withdrawal cycles   | 100   | Contact / contact surface            | Copper                            | alloy / Gold plated  |  |
| Degree of protection               | IP67  | Contact carrier / overmolding        |                                   | PUR / PP             |  |
| Operating Temperature              | -40°C ~ 80°C<br>( Fixed installation )  | O-ring                               |                                   | NBR                  |  |
| Operating Temperature              | -25°C ~ 80°C<br>( Flexible installation )   | Cable gland material                 | Zinc die                          | -cast, nickel-plated |  |
| 鎖緊扭矩                               | 0.4 Nm  | UL94 Flammability rating             |                                   | V0                   |  |
| Electrical Prop                    | Electrical Properties   |                                      | formatio                          | n                    |  |
| Rated voltage / current (contacts) | 63VAC / 12A (4 Pin)   | Cable Jacket                         | PUR, BLAC                         | K                    |  |
| Rated Impulse Voltage              | 1.5kV (4 Pin)   | UL AWM style                         | No Shield                         | PUR : UL AWM 20936   |  |
| Insulation resistance              | Min. 100MΩ  | Conductor cross section              | 1.5mm <sup>2</sup> /16AWG (4 Pin) |                      |  |
| Overvoltage Category               | III   | Material conductor insulation        | PP                                |                      |  |
| Pollution Degree                   | 3   | Flame resistance                     | VW-1/FT1                          |                      |  |
|                                    |   | Dielectric strength                  | 2.0KV/1mir                        | 1                    |  |
|                                    | Standards and Regulations   |                                      |                                   |                      |  |
|                                    | IEC 61076-2-111: Circul screw-locking   | ar connectors - Detail specification | on for power                      | connectors with M12  |  |
| Design reference                   | IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods |                                      |                                   |                      |  |
|                                    | IEC 60529: Degree of protection provided by enclosures (IP Code)  |                                      |                                   |                      |  |
| Certification reference            | Certification reference UL 2237   |                                      |                                   |                      |  |
| Notice                             |   |                                      |                                   |                      |  |

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

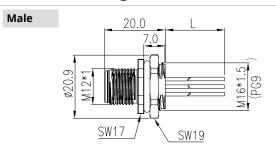
# M12 T-Code Molded Connector ( No Shield )

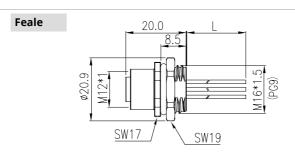
|               | Coding and contac  | ts    | Code      |          | Г         |
|---------------|--|-------|-----------|----------|-----------|
|               | Contact  |       | Contact   | 4        |           |
|               | Rated voltage / current  |       |           | / 12A    |           |
|               | Contact arrangement  |       | Male      | Female   |           |
|               | Connector style  | Cable | Length(m) | Part n   | umber     |
| c UL us us    | Single-ended straight male   |       | 2         | 201-T430 | 3-025020  |
| USTED         |  | PUR   | 5         | 201-T430 | 3-02S050  |
|               |  |       | 10        | 201-T430 | 3-025100  |
| c (UL) us     | Single-ended<br>straight female  |       | 2         | 202-T430 | 3-025020  |
| Bits          |  | PUR   | 5         | 202-T430 | 3-02S050  |
|               | 9  |       | 10        | 202-T430 | 3-025100  |
| CUL US US TED | Single-ended<br>angled male  | PUR   | 2         | 203-T430 | 3-025020  |
| 2.0           |  |       | 5         | 203-T430 | 3-025050  |
|               |  |       | 10        | 203-T430 | 3-025100  |
| c UL US       | Single-ended angled female   |       | 2         | 204-T430 | 3-025020  |
|               |  | PUR   | 5         | 204-T430 | 3-025050  |
|               |  |       | 10        | 204-T430 | 3-02\$100 |
| c (UL) us     | Straight male mate straight female   |       | 0.6       | 206-T430 | 3-02SL60  |
| USTED         | PUR  | PUR   | 1.5       | 206-T430 | 3-02S015  |
|               | 9  |       | 3         | 206-T430 | 3-025030  |
| c. UL US      | Angled male mate angled female   |       | 0.6       | 209-T430 | 3-02SL60  |
| USTED         | The state of the s | PUR   | 1.5       | 209-T430 | 3-025015  |
|               |  |       |           | 209-T430 | 3-02S030  |

The configuration of connectors and the cable length can be customized. For more details, please contact Dinkle **Bolded part number is cULus certified.** 

#### **M12 T-Code Device Circular Connector**

#### Front mounting with 0.5m wire



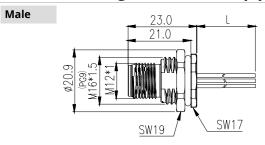


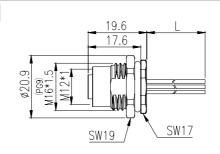
Female

Female

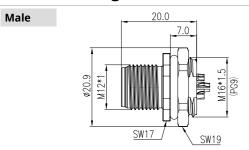
Female

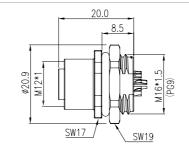
#### Front mounting with solder cup pin



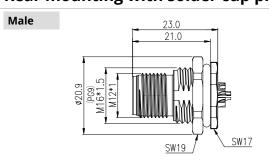


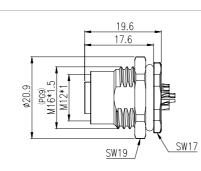
#### Rear mounting with 0.5m wire



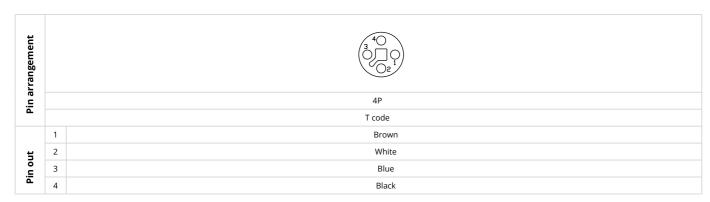


#### Rear mounting with solder cup pin





#### Pin assignments and wire colors



# **M12 T-Code Device Connector**

| Mechanical Pr                      | operties  | Material I                        | Properties                         |
|------------------------------------|---|-----------------------------------|------------------------------------|
| Min. Insertion/withdrawal cycles   | 100   | Contact / contact surface         | Copper alloy / Gold plated         |
| Degree of protection               | IP67  | Contact carrier                   | PA                                 |
| Operating Temperature              | -40°C ~ 80°C  | Hexigonal nut / Outer Shield      | Zinc die-cast, nickel-plated       |
| Fasten torque                      | 0.4 Nm  | O-ring                            | NBR                                |
| Mounting torque                    | 0.8 Nm  | UL94 Flammability rating          | V0                                 |
| Electrical Pro                     | perties   | Cable Inf                         | ormation                           |
| Rated voltage / current (contacts) | 63VAC / 12A (4 Pin)   | Cable Jacket                      | MPPE                               |
| Rated Impulse Voltage              | 1.5kV (4 Pin)   | UL AWM style                      | MPPE: AWM 11027                    |
| Insulation resistance              | Min. 100MΩ  | Conductor cross section           | 1.5mm <sup>2</sup> / 16AWG (4 Pin) |
| Overvoltage Category               | III   | Material conductor insulation     | MPPE                               |
| Pollution Degree                   | 3   | Flame resistance                  | VW-1 / FT1                         |
|                                    |   | Dielectric strength               | NA                                 |
|                                    | Standards a   | nd Regulations                    |                                    |
|                                    | IEC 61076-2-101: Detail spe   | ecification for M12 connectors wi | th screw-locking                   |
| Design reference                   | IEC 60512: Electromechanical components for electronic equipment; basic testing product and measuring methods |                                   |                                    |
|                                    | IEC 60529: Degree of prote  | ection provided by enclosures (IP | Code)                              |
| Certification reference            | UL 2238   |                                   |                                    |

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

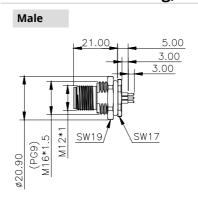
# M12 T-Code Device Connector ( No Shield )

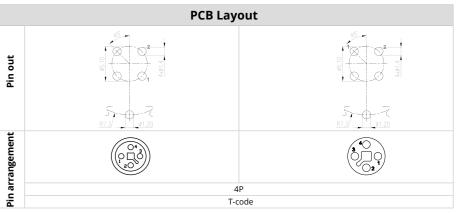
| Coding and contacts | Code                              | Т  |
|---------------------|-----------------------------------|--|
| Coding and contacts | Contact                           | 4  |
| Rated voltage /     | Rated voltage / current 63V / 12A |  |
| Contact arrang      | ement                             | Male Female  |
|                     |                                   | Front mounting with 0.5m wire  |
| Connector style     | Mount thread                      | Part number  |
| Male (Male          | M16 X 1.5                         | 218-T4300-0MSL50   |
|                     | Pg9                               | 218-T4302-0MSL50   |
| Female              | M16 X 1.5                         | 219-T4300-0MSL50   |
|                     | Pg9                               | 219-T4302-0MSL50   |
|                     |                                   | Rear mounting with 0.5m wire   |
| Connector style     | Mount thread                      | Part number  |
| Male Male           | M16 X 1.5                         | 220-T4300-0MSL50   |
|                     | Pg9                               | 220-T4302-0MSL50   |
| Female              | M16 X 1.5                         | 221-T4300-0MSL50   |
|                     | Pg9                               | 221-T4302-0MSL50   |
|                     |                                   | The wire length can be customized. For more details, please contact Dinkle |

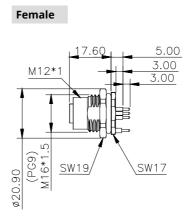
The wire length can be customized. For more details, please contact Dinkle **Bolded part number is cULus certified.** 

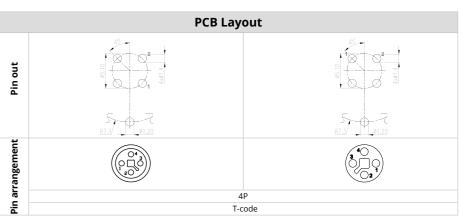
# M12 T-Code One-piece PCB Circular Connector

#### 180° Rear mounting, straight (Shielded)

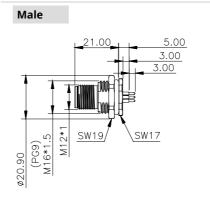


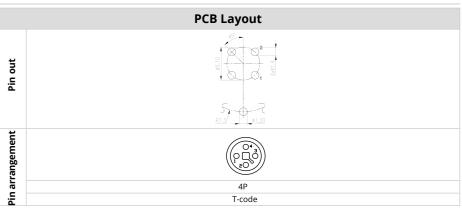


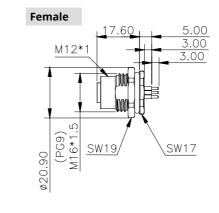


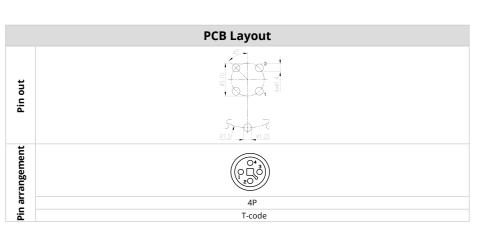


#### 180° Rear mounting, straight (NonShielded)









# M12 T-Code One-piece PCB Connector

| Mechanical Pr                      | operties   | Material P  | roperties  |
|------------------------------------|--|---|--|
| Min. Insertion/withdrawal cycles   | 100  | Contact / contact surface   | Copper alloy / Gold plated                             |
| Degree of protection               | IP67   | Contact carrier   | PA   |
| Operating Temperature              | -40°C ~ 80°C   | Hexigonal nut / Outer Shield  | Zinc die-cast, nickel-plated /<br>Brass, nickel-plated |
| Fasten torque                      | 0.4 Nm   | O-ring  | NBR  |
| Soldering method                   | Wave Soldering   | UL94 Flammability rating  | VO   |
| Electrical Pro                     | perties  | Cable Info  | ormation   |
| Rated voltage / current (contacts) | 63VAC / 12A (4 Pin)  |   |  |
| Rated Impulse Voltage              | 1.5kV (4 Pin)  |   |  |
| Insulation resistance              | Min. 100MΩ   |   |  |
| Overvoltage Category               | III  |   |  |
| Pollution Degree                   | 3  |   |  |
|                                    | Standards and  | Regulations   |  |
|                                    |  | cification for M12 connectors wi<br>onnectors - Detail specification fo |  |
| Design reference                   | IEC 60512: Electromechanic procedure and measuring in            | cal components for electronic eq<br>methods                             | uipment; basic testing                                 |
|                                    | IEC 60529: Degree of protection provided by enclosures (IP Code) |   |  |
| Certification reference            | UL 2238 / UL2237   |   |  |
|                                    | Noti   | ice   |  |

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

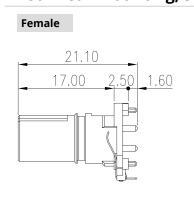
# M12 T-Code One-piece PCB Connector (Shield / No Shield)

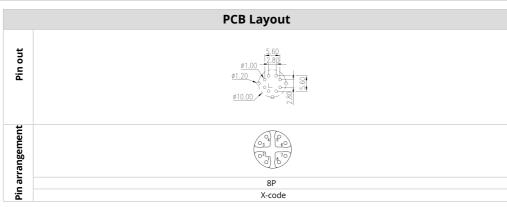
|               |                             | Code         | •                                 | Г      |  |
|---------------|-----------------------------|--------------|-----------------------------------|--------|--|
| Cod           | Coding and contacts Contact |              | 4                                 |        |  |
|               | Rated voltage / o           | current      | 63V                               | / 12A  |  |
|               | Contact arrangement         |              | Male Female                       |        |  |
|               |                             |              | Rear mounting, straight, Shield   |        |  |
| (             | Connector style             | Mount thread | Part n                            | umber  |  |
| CULUSTED US   | Male                        | M16 X 1.5    | 276-T                             | 4300-6 |  |
|               | TIA                         | Pg9          | 276-14                            | 4302-6 |  |
| CUL US LESTED | Female                      | M16 X 1.5    | 277-17                            | 4300-6 |  |
|               |                             | Pg9          | 277-17                            | 4302-6 |  |
|               |                             | R            | ear mounting, straight, No Shield |        |  |
| (             | Connector style             | Mount thread | Part n                            | umber  |  |
| c UL US       | Male                        | M16 X 1.5    | 226-T                             | 4300-6 |  |
|               | 0                           | Pg9          | 226-T                             | 4302-6 |  |
| CUL USTED     | Female                      | M16 X 1.5    | 227-T4                            | 4300-6 |  |
|               |                             | Pg9          | 227-T4                            | 4302-6 |  |

Bolded part number is cULus certified.

# M12 X-Code Two-piece PCB Circular Connector

#### 180° Rear mounting, straight (Shielded)





**Cable Information** 

# M12 X-Code Two-piece PCB Connector

| Mechanical Properties            |               | Material Properties         |                            |
|----------------------------------|---------------|-----------------------------|----------------------------|
| Min. Insertion/withdrawal cycles | 100           | Contact / contact surface   | Copper alloy / Gold plated |
| Degree of protection             | IP67          | Contact carrier             | LCP                        |
| Operating Temperature            | -40°C ~ 125°C | O-ring                      | NBR                        |
| Soldering method                 | THR           | Moisture Sensitivity Levels | 1                          |
|                                  |               | UL94 Flammability rating    | VO                         |

| Electrical Properties              |                      |  |  |  |  |
|------------------------------------|----------------------|--|--|--|--|
| Rated voltage / current (contacts) | 50VAC / 0.5A (8 Pin) |  |  |  |  |
| Rated Impulse Voltage              | 0.8kV (8 Pin)        |  |  |  |  |
| Insulation resistance              | Min. 100MΩ           |  |  |  |  |
| Overvoltage Category               | II                   |  |  |  |  |
| Pollution Degree                   | 3                    |  |  |  |  |

| Standards and Regulations |   |  |  |  |
|---------------------------|---|--|--|--|
|                           | IEC 61076-2-101: Detail specification for M12 connectors with screw-locking                                     |  |  |  |
| Design reference          | IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods |  |  |  |
|                           | IEC 60529: Degree of protection provided by enclosures (IP Code)  |  |  |  |
| Notice                    |   |  |  |  |

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

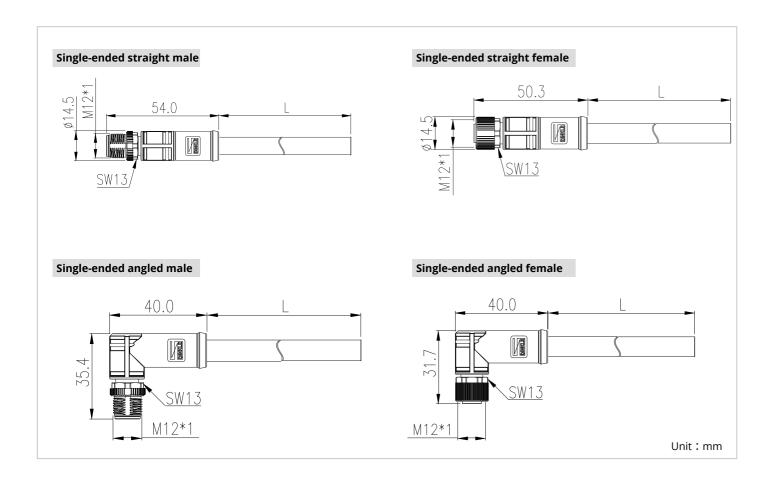
# M12 X-Code Two-piece PCB Connector (Shield / No Shield)

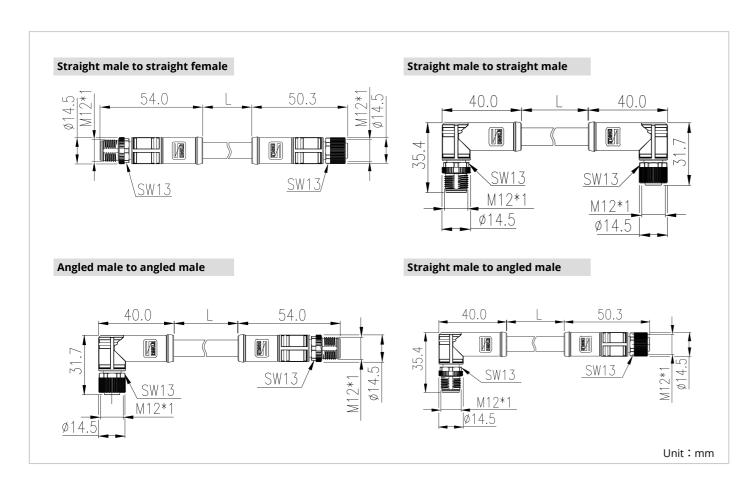
|                          | Code          | X                                  |
|--------------------------|---------------|------------------------------------|
| Coding and contacts      | Contact       | 8                                  |
| Rated voltage / current  |               | 60V/0.5A                           |
| Nation voltage / current |               | Female                             |
| Contact arrange          | ement         |                                    |
|                          |               | THR Soldering, straight, shield    |
| Connector style          | package       | Part number                        |
| Male                     | Tray          | -                                  |
|                          | Tape-and reel | -                                  |
| Female  substitute  s    | Tray          | 282-X8100S-1                       |
|                          | Tape-and reel | 282-X8100S-2                       |
|                          |               | THR Soldering, straight, No shield |
| Connector style          | package       | Part number                        |
| Male                     | Tray          | -                                  |
|                          | Tape-and reel | -                                  |
| Female                   | Tray          | -                                  |
|                          | Tape-and reel | -                                  |
|                          |               | Metal housing                      |
| Connector style          | Mount thread  | Part number                        |
| Male use                 | M15 x 1       | -                                  |
| Female use               | M15 x 1       | 284-T2220                          |

Bolded part number is cULus certified.

Package unit, Tray: 60 pcs; Tape-and-Reel: 100 pcs

# **M12 L-Code Molded Circular Connector**





# **M12 L-Code Molded Connector**

| Mechanical Pro   | perties                                 | Material Properties           |                                    |  |
|--|---|-------------------------------|------------------------------------|--|
| Min. Insertion/withdrawal cycles   | 100                                     | Contact / contact surface     | Copper alloy / Gold plated         |  |
| Degree of protection   | IP67                                    | Contact carrier / overmolding | PA / PP                            |  |
| Operating Temperature  | -40°C ~ 80°C<br>( Fixed installation )  | O-ring                        | NBR                                |  |
| Operating remperature  | -25°C ~ 80°C<br>(Flexible installation) | Cable gland material          | Zinc die-cast, nickel-plated       |  |
| Fasten torque  | 0.4 Nm                                  | UL94 Flammability rating      | V0                                 |  |
| Electrical Prop  | erties                                  | Cable In                      | formation                          |  |
| Date developed (see also de)   | 63VAC / 16A (4 Pin)                     | Cable Jacket                  | PUR, GREY                          |  |
| Rated voltage / current (contacts)   | 63VAC / 16A (5 Pin)                     | LIL AMMA et de                | UL AWM 20233 (4 Pin)               |  |
| Data d Januaria a Valta na   | 1.5kV (4 Pin)                           | UL AWM style                  | UL AWM 20233 (5 Pin)               |  |
| Rated Impulse Voltage  | 1.5kV (5 Pin)                           | Conductor cross section       | 2.5mm <sup>2</sup> / 14AWG (4 Pin) |  |
| Insulation resistance  | Min. 100MΩ                              | Conductor cross section       | 2.5mm <sup>2</sup> / 14AWG (5 Pin) |  |
| Overvoltage Category   | III                                     | Material conductor insulation | PE                                 |  |
| Pollution Degree   | 3                                       | Flame resistance              | FT2                                |  |
|  |   | Dielectric strength           | 2.0KV/1min                         |  |
| Standards and Regulations  |   |                               |                                    |  |
| IEC 61076-2-111: Circular connectors - Detail specification for power connectors screw-locking  Design reference  IEC 60512: Electromechanical components for electronic equipment; basic testin procedure and measuring methods |   |                               | equipment; basic testing           |  |
| IEC 60529: Degree of protection provided by enclosures (IP Code)   |   |                               |                                    |  |
| Certification reference UL 2237  Notice  |   |                               |                                    |  |

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

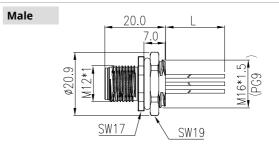
# M12 L-Code Molded Connector ( No Shield )

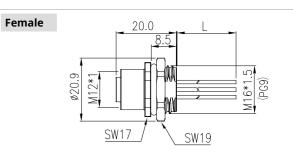
| Coding and contacts                   |                         | Code      | I         | L                |           | L                |  |
|---------------------------------------|-------------------------|-----------|-----------|------------------|-----------|------------------|--|
| Coding and contacts                   | •                       | Contact   |           | 4                |           | +FE)             |  |
| Rated voltage / c                     | Rated voltage / current |           | 63V / 16A |                  | 63V / 16A |                  |  |
| Contact arrange                       | Contact arrangement     |           | Male      | Female           | Male      | Female           |  |
| Connector style                       | Cable                   | Length(m) |           | Part n           | umber     |                  |  |
| Single-ended<br>straight male         |                         | 2         | 201-L410  | 03-02S020        | 201-L510  | 03-025020        |  |
| 0                                     | PUR                     | 5         | 201-L410  | 3-02S050         | 201-L510  | 03-02S050        |  |
| 69                                    |                         | 10        | 201-L410  | 3-02S100         | 201-L510  | 03-02S100        |  |
| Single-ended<br>straight female       |                         | 2         | 202-L410  | 03-025020        | 202-L510  | 03-02S020        |  |
| 0                                     | PUR                     | 5         | 202-L410  | 03-02S050        | 202-L510  | 03-02S050        |  |
|                                       |                         | 10        | 202-L410  | 03-025100        | 202-L510  | 03-02S100        |  |
| Single-ended<br>angled male           |                         | 2         | 203-L410  | 203-L4103-02S020 |           | 203-L5103-02S020 |  |
|                                       | PUR                     | 5         | 203-L410  | 03-02S050        | 203-L510  | 03-02S050        |  |
|                                       |                         | 10        | 203-L410  | 03-025100        | 203-L510  | 03-02S100        |  |
| Single-ended<br>angled female         |                         | 2         | 204-L410  | 03-025020        | 204-L510  | 03-02S020        |  |
|                                       | PUR                     | 5         | 204-L410  | 03-025050        | 204-L510  | 03-02S050        |  |
|                                       |                         | 10        | 204-L410  | 03-025100        | 204-L510  | 03-02S100        |  |
| Straight male mate<br>straight female |                         | 0.6       | 206-L410  | 03-02SL60        | 206-L510  | 03-02SL60        |  |
|                                       | PUR                     | 1.5       | 206-L410  | 03-02S015        | 206-L510  | 03-02S015        |  |
|                                       |                         | 3         | 206-L410  | 03-025030        | 206-L510  | 03-025030        |  |
| Angled male mate<br>angled femal"     |                         | 0.6       | 209-L410  | 03-02SL60        | 209-L510  | 03-02SL60        |  |
| T. Marie Control                      | PUR                     | 1.5       | 209-L410  | 03-025015        | 209-L510  | 03-02S015        |  |
| . 66                                  |                         | 3         | 209-L410  | 03-025030        | 209-L510  | 03-02S030        |  |

The configuration of connectors and the cable length can be customized. For more details, please contact Dinkle

# **M12 L-Code Device Circular Connector**

#### Front mounting with 0.5m wire

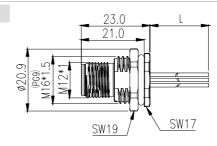


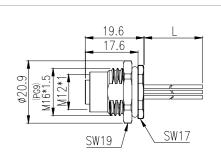


#### Front mounting with solder cup pin

Male

Male



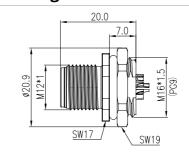


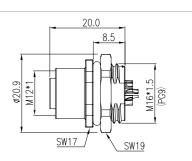
Female

Female

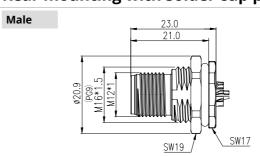
Female

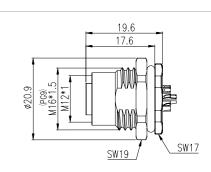
#### Rear mounting with 0.5m wire





# Rear mounting with solder cup pin





#### Pin assignments and wire colors

| arrangement |   |       |        |       |  |  |
|-------------|---|-------|--------|-------|--|--|
| Pin a       |   | 4P    |        | 5P    |  |  |
|             |   |       | L code |       |  |  |
|             | 1 | Brown | 1      | Brown |  |  |
| ٠           | 2 | White | 2      | White |  |  |
| out out     | 3 | Blue  | 3      | Blue  |  |  |
| Pin         | 4 | Black | 4      | Black |  |  |
|             |   |       | FE     | Pink  |  |  |

# **M12 L-Code Device Connector**

| Mechanical F                       | Properties  | Materia                         | l Properties                       |  |
|------------------------------------|---|---------------------------------|------------------------------------|--|
| Min. Insertion/withdrawal cycles   | 100   | Contact / contact surface       | Copper alloy / Gold plated         |  |
| Degree of protection               | IP67  | Contact carrier                 | PA                                 |  |
| Operating Temperature              | -40°C ~ 80°C  | Hexigonal nut / Outer<br>Shield | Zinc die-cast, nickel-plated       |  |
| Fasten torque                      | 0.4 Nm  | O-ring                          | NBR                                |  |
| Mounting torque                    | 0.8 Nm  | UL94 Flammability rating        | V0                                 |  |
| Electrical Pr                      | operties  | Cable Ir                        | formation                          |  |
| Data dividita and Carrier to       | 63VAC / 16A (4 Pin)   | Cable Jacket                    | MPPE                               |  |
| Rated voltage / current (contacts) | 63VAC / 16A (5 Pin)   | Cable Jacket                    | MPPE: AWM 11027                    |  |
| Data d Imagulas Voltage            | 1.5kV (4 Pin)   |                                 | 2.5mm <sup>2</sup> / 14AWG (4 Pin) |  |
| Rated Impulse Voltage              | 1.5kV (5 Pin)   | Conductor cross section         | 2.5mm <sup>2</sup> / 14AWG (5 Pin) |  |
| Insulation resistance              | Min. 100MΩ  | Material conductor insulation   | MPPE                               |  |
| Overvoltage Category               | III   | Flame resistance                | VW-1                               |  |
| Pollution Degree                   | 3   | Dielectric strength             | 2.0kV/1min                         |  |
|                                    | Standards and F   | Regulations                     |                                    |  |
|                                    | IEC 61076-2-111: Circular connectors - Detail specification for power connectors with M12 screw-locking         |                                 |                                    |  |
| Design reference                   | IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods |                                 |                                    |  |
|                                    | IEC 60529: Degree of protection provided by enclosures (IP Code)  |                                 |                                    |  |
| Certification reference            | UL 2238   |                                 |                                    |  |

Notice

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

# M12 L-Code Device Connector ( No Shield )

| Coding and contacts     | Code         | L                 |             | L           |  |
|-------------------------|--------------|-------------------|-------------|-------------|--|
|                         | Contact      | 4                 |             | 5(4+FE)     |  |
| Rated voltage / current |              | 63V / 16A         |             | 63V / 16A   |  |
| Contact arrangement     |              | Male              | Female      | Male Female |  |
|                         | F            | ront mounting wit | h 0.5m wire |             |  |
| Connector style         | Mount thread | Part number       |             |             |  |
| Male                    |              |                   |             |             |  |
|                         |              |                   |             |             |  |

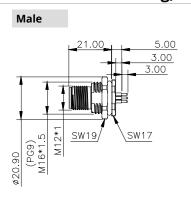
| Trone mounting with 0.5m wife |              |                  |                  |  |  |  |
|-------------------------------|--------------|------------------|------------------|--|--|--|
| Connector style               | Mount thread | Part n           | umber            |  |  |  |
| Male                          | M16 X 1.5    | 218-L4100-0MSL50 | 218-L5100-0MSL50 |  |  |  |
|                               | Pg9          | 218-L4102-0MSL50 | 218-L5102-0MSL50 |  |  |  |
| Female                        | M16 X 1.5    | 219-L4100-0MSL50 | 219-L5100-0MSL50 |  |  |  |
|                               | Pg9          | 219-L4102-0MSL50 | 219-L5102-0MSL50 |  |  |  |
| Rear mounting with 0.5m wire  |              |                  |                  |  |  |  |
| Connector style               | Mount thread | Part number      |                  |  |  |  |
| Male                          | M16 X 1.5    | 220-L4100-0MSL50 | 220-L5100-0MSL50 |  |  |  |

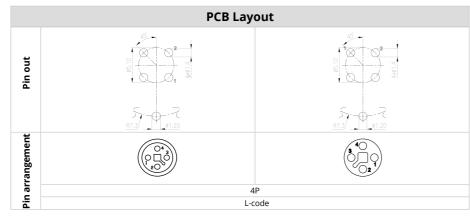
| Connector style | Mount thread | Part n           | umber            |
|-----------------|--------------|------------------|------------------|
| Male            | M16 X 1.5    | 220-L4100-0MSL50 | 220-L5100-0MSL50 |
|                 | Pg9          | 220-L4102-0MSL50 | 220-L5102-0MSL50 |
| Female          | M16 X 1.5    | 221-L4100-0MSL50 | 221-L5100-0MSL50 |
|                 | Pg9          | 221-L4102-0MSL50 | 221-L5102-0MSL50 |

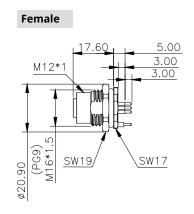
The wire length can be customized. For more details, please contact Dinkle

# M12 L-Code One-piece PCB Circular Connector

#### 180° Rear mounting, straight (Shielded)

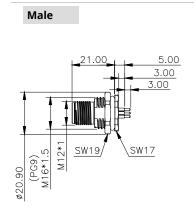


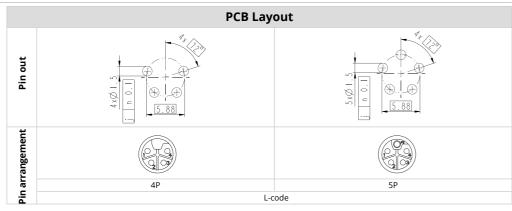


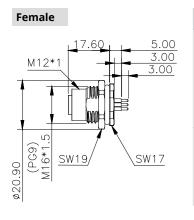


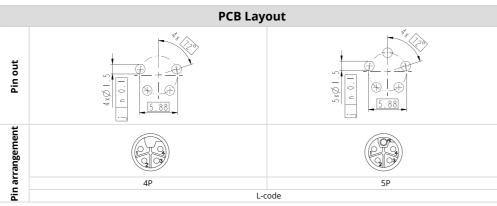
|                 | PCB Layout   |                             |  |  |  |  |
|-----------------|--------------|-----------------------------|--|--|--|--|
| Pin out         | P            | 01 50 01 200<br>87.5 01 200 |  |  |  |  |
| Pin arrangement |              |                             |  |  |  |  |
| Pin             | 4P<br>L-code |                             |  |  |  |  |

#### 180° Rear mounting, straight (NonShielded)









# M12 L-Code One-piece PCB Connector

| Mechanical Pro                   | perties        | Material Properties          |  |  |
|----------------------------------|----------------|------------------------------|--|--|
| Min. Insertion/withdrawal cycles | 100            | Contact / contact surface    | Copper alloy / Gold plated                             |  |
| Degree of protection             | IP67           | Contact carrier              | PA   |  |
| Operating Temperature            | -40°C ~ 80°C   | Hexigonal nut / Outer Shield | Zinc die-cast, nickel-plated /<br>Brass, nickel-plated |  |
| Fasten torque                    | 0.4 Nm         | O-ring                       | NBR  |  |
| Soldering method                 | Wave Soldering | UL94 Flammability rating     | VO   |  |
| Electrical Prop                  | ortios         | Cable In                     | formation  |  |

| Electrical Prop                    | erties              | Cable Information |
|------------------------------------|---------------------|-------------------|
| Rated voltage / current (contacts) | 63VAC / 12A (4 Pin) |                   |
| ted voitage / current (contacts)   | 63VAC / 12A (5 Pin) |                   |
| Rated Impulse Voltage              | 1.5kV (4 Pin)       |                   |
|                                    | 1.5kV (5 Pin)       |                   |
| ulation resistance                 | Min. $100M\Omega$   |                   |
| ervoltage Category                 | III                 |                   |
| llution Degree                     | 3                   |                   |

|                           | _  |  |  |  |  |  |
|---------------------------|--|--|--|--|--|--|
| Standards and Regulations |  |  |  |  |  |  |
|                           | IEC 61076-2-111: Circular screw-locking        | connectors - Detail specification for power connectors with M12    |  |  |  |  |
| Design reference          | IEC 60512: Electromecha procedure and measurin | nical components for electronic equipment; basic testing g methods |  |  |  |  |
|                           | IEC 60529: Degree of pro                       | tection provided by enclosures (IP Code)                           |  |  |  |  |
| Certification reference   | UL 2238 / UL2237                               |  |  |  |  |  |
|                           |  |  |  |  |  |  |

#### Notice

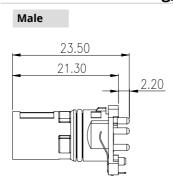
The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

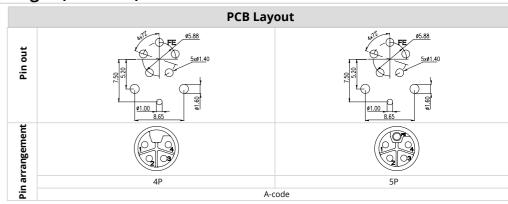
# M12 L-Code One-piece PCB Connector ( Shield / No Shield )

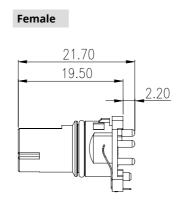
| Coding and contacts     |                  | Code         | L                  |                  | l           | -      |
|-------------------------|------------------|--------------|--------------------|------------------|-------------|--------|
| Cou                     | ing and contacts | Contact      | 4                  |                  | 5           |        |
| Rated voltage / current |                  |              | 63V / 16A          |                  | 63V / 16A   |        |
| Contact arrangement     |                  |              | Male Female        |                  | Male        | Female |
|                         |                  |              | Rear mounting, s   | traight, Shield  |             |        |
| С                       | onnector style   | Mount thread |                    | Part n           | umber       |        |
| S                       | Male M16 X 1.5   |              | 276-L4100-6        |                  | 276-L5100-6 |        |
| ¥ Tin                   |                  | Pg9          | 276-L4102-6        |                  | 276-L5102-6 |        |
| Female M16 X 1.5        |                  | M16 X 1.5    | 277-L4100-6        |                  | 277-L5100-6 |        |
|                         |                  | Pg9          | 277-L4102-6        |                  | 277-L5102-6 |        |
|                         |                  |              | Rear mounting, str | aight, No Shield |             |        |
| С                       | onnector style   | Mount thread |                    | Part n           | umber       |        |
| Male                    |                  | M16 X 1.5    | 226-L4             | 100-6            | 226-L5      | 5100-6 |
|                         |                  | Pg9          | 226-L4             | 102-6            | 226-L5      | 5102-6 |
|                         | Female           | M16 X 1.5    | 227-L4             | 100-6            | 227-L5      | 5100-6 |
|                         |                  | Pg9          | 227-L4             | 102-6            | 227-L5      | 5102-6 |

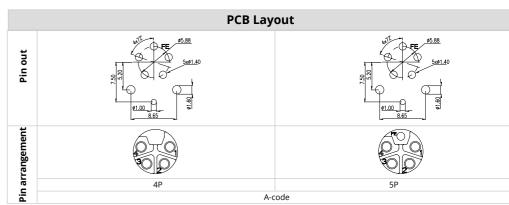
# M12 L-Code Two-piece PCB Circular Connector

# 180° Rear mounting, straight (Shielded)

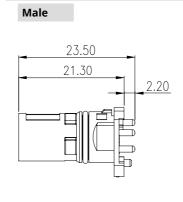


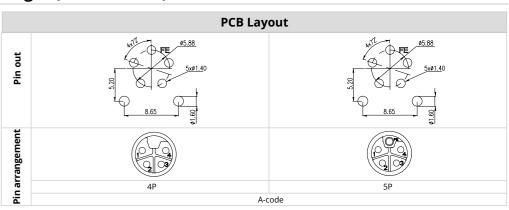


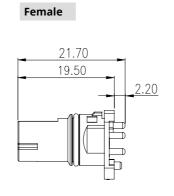


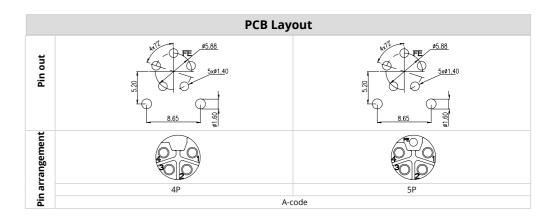


# 180° Rear mounting, straight (NonShielded)









# M12 L-Code Two-piece PCB Connector

| Mechanical Prop                  | perties       | Material Properties         |                            |  |
|----------------------------------|---------------|-----------------------------|----------------------------|--|
| Min. Insertion/withdrawal cycles | 100           | Contact / contact surface   | Copper alloy / Gold plated |  |
| Degree of protection             | IP67          | Contact carrier             | LCP                        |  |
| Operating Temperature            | -40°C ~ 125°C | O-ring                      | SILICONE                   |  |
| Soldering method                 | THR           | Moisture Sensitivity Levels | 1                          |  |
|                                  |               | UL94 Flammability rating    | V0                         |  |

| Electrical Prope                   | Electrical Properties |  |  |  |
|------------------------------------|-----------------------|--|--|--|
| Rated voltage / current (contacts) | 63VAC / 16A (4 Pin)   |  |  |  |
| Rated Voltage / Current (contacts) | 63VAC / 16A (5 Pin)   |  |  |  |
| Rated Impulse Voltage              | 1.5kV (4 Pin)         |  |  |  |
| Rateu Impuise voitage              | 1.5kV (5 Pin)         |  |  |  |
| Insulation resistance              | Min. $100M\Omega$     |  |  |  |
| Overvoltage Category               | III                   |  |  |  |
| Pollution Degree                   | 3                     |  |  |  |
| - C                                |                       |  |  |  |

# Design reference Standards and Regulations IEC 61076-2-101: Detail specification for M12 connectors with screw-locking IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods IEC 60529: Degree of protection provided by enclosures (IP Code)

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

Notice

# M12 L-Code Two-piece PCB Connector (Shield / No Shield)

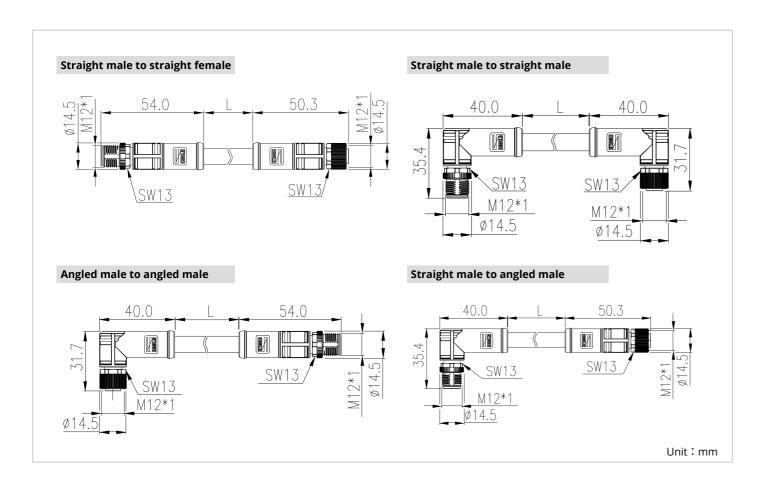
| Coding and    | Code                    | L       |           | L    |        |
|---------------|-------------------------|---------|-----------|------|--------|
| contacts      | Contact                 | ntact 4 |           | 5    |        |
| Rated voltage | Rated voltage / current |         | 250V / 4A |      | / / 4A |
|               |                         | Male    | Female    | Male | Female |
| Contact arra  | Contact arrangement     |         |           |      |        |

| Contact arrangement             |              |                |                     |              |        |  |  |  |
|---------------------------------|--------------|----------------|---------------------|--------------|--------|--|--|--|
| THR Soldering, straight, shield |              |                |                     |              |        |  |  |  |
| Connector style                 | package      |                | Part n              | umber        |        |  |  |  |
| Male<br>(\$)                    | Tray         | 281-L4         | T01S-1              | 281-L5T01S-1 |        |  |  |  |
| 3                               | Tape-and ree | 281-L4         | T01S-2              | 281-L5       | T01S-2 |  |  |  |
| Female<br>(§)                   | Tray         | 282-L4         | T01S-1              | 282-L5       | T01S-1 |  |  |  |
|                                 | Tape-and ree | 282-L4         | T01S-2              | 282-L5       | T01S-2 |  |  |  |
|                                 |              | THR Soldering, | straight, No shield |              |        |  |  |  |
| Connector style                 | package      |                | Part n              | umber        |        |  |  |  |
| Male                            | Tray         | 281-L4         | T01U-1              | 281-L5T01U-1 |        |  |  |  |
| 9                               | Tape-and ree | 281-L4         | T01U-2              | 281-L5T01U-2 |        |  |  |  |
| Female                          | Tray         | 282-L4         | T01U-1              | 282-L5       | T01U-1 |  |  |  |
|                                 | Tape-and ree | 282-L4         | T01U-2              | 282-L5       | T01U-2 |  |  |  |
|                                 |              | Meta           | l housing           |              |        |  |  |  |
| Connector style                 | Mount thread |                | Part n              | umber        |        |  |  |  |
| Male use                        | M15 x 1      | 283-P1100      |                     |              |        |  |  |  |
| Female use                      | M15 x 1      |                | 284-F               | 21100        |        |  |  |  |

Package unit, Tray: 60 pcs; Tape-and-Reel: 100 pcs

# **M12 K-Code Molded Circular Connector**





# **M12 K-Code Molded Connector**

| Mechanical Pro                     | perties   | Material                                 | Propertie                          | es                   |  |
|------------------------------------|---|--|------------------------------------|----------------------|--|
| Min. Insertion/withdrawal cycles   | 100   | Contact / contact surface Copper alloy / |                                    | alloy / Gold plated  |  |
| Degree of protection               | IP67  | Contact carrier / overmolding            |                                    | PA / PP              |  |
| Operating Temperature              | -40°C ~ 80°C<br>( Fixed installation )  | O-ring                                   | NBR                                |                      |  |
| Operating Temperature              | -25°C ~ 80°C<br>( Flexible installation )   | Cable gland material                     | Zinc die                           | -cast, nickel-plated |  |
| Fasten torque                      | UL94 Flammability rating  |  | V0                                 |                      |  |
| Electrical Prop                    | erties  | Cable In                                 | formatio                           | n                    |  |
| Rated voltage / current (contacts) | 630VAC / 16A (5 Pin)  | Cabla Ia diat                            | No Shield                          | PUR, BLACK           |  |
| Rated Impulse Voltage              | 4kV (5 Pin)   | Cable Jacket                             | Shield                             | PUR, ORANGE          |  |
| Insulation resistance              | Min. 100MΩ  | III AVADA I                              | No Shield                          | UL AWM 21223         |  |
| Overvoltage Category               | II  | UL AWM style                             | Shield                             | UL AWM 21223         |  |
| Pollution Degree                   | 3   | PUR, ORANGE                              | 1.5mm <sup>2</sup> / 14AWG (5 Pin) |                      |  |
|                                    |   | Material conductor insulation            | PP                                 |                      |  |
|                                    |   | Flame resistance                         | VW-1 / FT1                         |                      |  |
|                                    |   | Dielectric strength                      | 3kV/1min                           |                      |  |
|                                    | Standards   | and Regulations                          |                                    |                      |  |
|                                    | IEC 61076-2-111: Circula screw-locking  | ar connectors - Detail specificatio      | ·                                  |                      |  |
| Design reference                   | IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods |  |                                    |                      |  |
|                                    | IEC 60529: Degree of protection provided by enclosures (IP Code)  |  |                                    |                      |  |
| Certification reference            | UL 2237/UL 2238   |  |                                    |                      |  |

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

# M12 K-Code Molded Connector (Shield / No Shield)

| Coding and contact           | te               | Code      | K                |                  |  |
|------------------------------|------------------|-----------|------------------|------------------|--|
| Coding and contact           | ıs               | Contact   | 5(4+1            | PE)              |  |
| Rated voltage / current      |                  |           | 690V             |                  |  |
| Rated voltage /              | current          |           | Male             | Female           |  |
|                              |                  |           | Shield           |                  |  |
| Connector style              | Cable            | Length(m) | Part nu          | mber             |  |
| Single-ended straight male   |                  | 2         | 251-K5103-02S020 |                  |  |
|                              | PUR              | 5         | 251-K5103        | -02S050          |  |
|                              |                  | 10        | 251-K5103        | -025100          |  |
| Single-ended straight female |                  | 2         | 252-K5103        | -025020          |  |
|                              | PUR              | 5         | 252-K5103-02S050 |                  |  |
|                              |                  | 10        | 252-K5103        | -02S100          |  |
|                              |                  |           | No Shield        |                  |  |
| Connector style              | <b>Cable</b> PUR | Length(m) | Part nu          | mber             |  |
| Single-ended straight male   |                  | 2         | 201-K5103-02S020 |                  |  |
|                              |                  | 5         | 201-K5103        | -02S050          |  |
|                              |                  | 10        | 201-K5103        | -02S100          |  |
| Single-ended straight female |                  | 2         | 202-K5103        | -025020          |  |
|                              | PUR              | 5         | 202-K5103        | -02S050          |  |
|                              |                  | 10        | 202-K5103        | -02S100          |  |
| Single-ended angled male     |                  | 2         | 203-K5103        | -02S020          |  |
|                              | PUR              | 5         | 203-K5103        | -02S050          |  |
|                              |                  | 10        | 203-K5103        | -02S100          |  |
| Single-ended angled female   |                  | 2         | 204-K5103        | -02S020          |  |
|                              | PUR              | 5         | 204-K5103        | -02S050          |  |
|                              |                  | 10        | 204-K5103        | 204-K5103-02S100 |  |

# **M12 K-Code Device Circular Connector**

# Front mounting with 0.5m wire



# Rear mounting with 0.5m wire



# Pin assignments and wire colors

| Pin arrangement |    |              |
|-----------------|----|--------------|
| Pi              |    | 5P           |
|                 |    | K code       |
|                 | 1  | Black        |
| l               | 2  | Black        |
| out             | 3  | Black        |
| Ë               | 4  | Black        |
|                 | FE | Yellow Green |

# **M12 K-Code Device Connector**

| Mechanical Pro                     | perties   | Material Properties               |                                    |  |  |
|------------------------------------|---|-----------------------------------|------------------------------------|--|--|
| Min. Insertion/withdrawal cycles   | nsertion/withdrawal cycles 100  |                                   | Copper alloy / Gold plated         |  |  |
| Degree of protection               | f protection IP67   |                                   | PA                                 |  |  |
| Operating Temperature              | -40°C ~80°C   | Hexigonal nut / Outer Shield      | Zinc die-cast, nickel-plated       |  |  |
| Fasten torque                      | 0.4 Nm  | O-ring                            | NBR                                |  |  |
| Mounting torque                    | 0.8 Nm  | UL94 Flammability rating          | VO                                 |  |  |
| Electrical Prop                    | erties  | Electrical Properties             |                                    |  |  |
| Rated voltage / current (contacts) | 630VAC / 16A (5 Pin)  | Cable Jacket                      | XLPE                               |  |  |
| Rated Impulse Voltage              | 4kV (5 Pin)   | UL AWM style                      | UL AWM 3994                        |  |  |
| Insulation resistance              | Insulation resistance Min. 100MΩ  |                                   | 1.5mm <sup>2</sup> / 14AWG (5 Pin) |  |  |
| Overvoltage Category               | III   | Material conductor insulation     | XLPE                               |  |  |
| Pollution Degree                   | 3   | Flame resistance                  | FT2                                |  |  |
|                                    |   | Dielectric strength               | 6kV/1min                           |  |  |
|                                    | Standards ar  | nd Regulations                    |                                    |  |  |
|                                    | IEC 61076-2-101: Detail sp  | pecification for M12 connectors w | vith screw-locking                 |  |  |
| Design reference                   | IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods |                                   |                                    |  |  |
|                                    | IEC 60529: Degree of protection provided by enclosures (IP Code)  |                                   |                                    |  |  |
| Certification reference            | UL 2237/UL 2238   |                                   |                                    |  |  |
| Notice                             |   |                                   |                                    |  |  |

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

# M12 K-Code Device Connector ( No Shield )

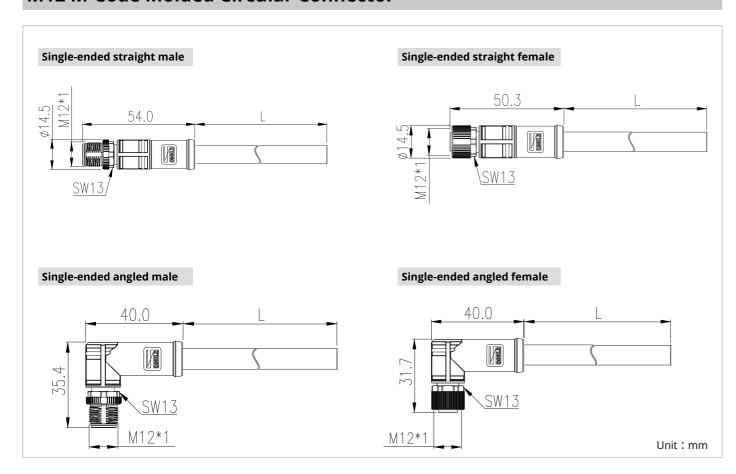
| Coding and contacts     | Code    |           | K    |  |
|-------------------------|---------|-----------|------|--|
| Coding and contacts     | Contact | 5(4+PE)   |      |  |
| Rated voltage / current |         | 690V / 8A |      |  |
|                         |         |           | Male |  |
| Contact arrangement     |         |           |      |  |

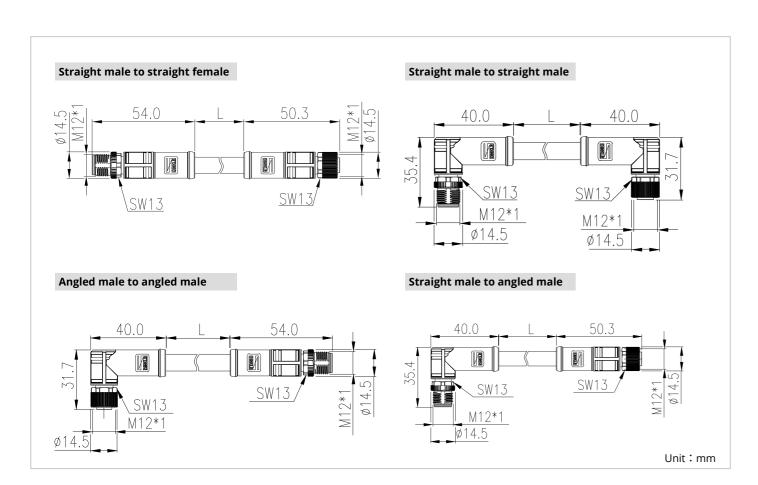
|                 | Front mounting with 0.5m wire |                  |  |  |  |  |  |  |
|-----------------|-------------------------------|------------------|--|--|--|--|--|--|
| Connector style | Mount thread                  | Part number      |  |  |  |  |  |  |
| Male            | M16x1.5                       | 218-K5100-0MSL50 |  |  |  |  |  |  |
| Female          | M16x1.5                       | 219-K5100-0MSL50 |  |  |  |  |  |  |

|                 | Rear mounting with 0.5m wire |                  |  |  |  |  |  |
|-----------------|------------------------------|------------------|--|--|--|--|--|
| Connector style | Mount thread                 | Part number      |  |  |  |  |  |
| Male            | M16x1.5                      | 220-K5100-0MSL50 |  |  |  |  |  |
| Female          | M16x1.5                      | 221-K5100-0MSL50 |  |  |  |  |  |

The wire length can be customized. For more details, please contact Dinkle

# M12 M-Code Molded Circular Connector





#### **M12 M-Code Molded Connector**

| Mechanical Pro                     | perties  | Material P                                   | roperties               |                    |
|------------------------------------|--|--|-------------------------|--------------------|
| Min. Insertion/withdrawal cycles   | 100  | Contact / contact surface                    | Copper alloy / Gold pla |                    |
| Degree of protection               | IP67   | Contact carrier / overmolding                | F                       | PA / PP            |
| On a visiting Target aveture       | -40°C ~ 80°C<br>( Fixed installation )           | O-ring                                       |                         | NBR                |
| Operating Temperature              | -25°C ~ 80°C<br>( Flexible installation )        | Cable gland material                         | Zinc die-ca             | ast, nickel-plated |
| Fasten torque                      | 0.4 Nm   | UL94 Flammability rating                     |                         | V0                 |
| Electrical Pro                     | perties  | Cable Info                                   | rmation                 |                    |
| Rated voltage / current (contacts) | 630VAC / 8A (6 Pin)                              | Calala la dist                               | No Shield               | PUR, BLACK         |
| Rated Impulse Voltage              | 6kV(6 Pin)                                       | Cable Jacket                                 | Shield                  | PUR,ORANGE         |
| Insulation resistance              | Min. 100MΩ                                       | LIL ANADA L.                                 | No Shield               | UL AWM 21223       |
| Overvoltage Category               | III  | UL AWM style                                 | Shield                  | UL AWM 21223       |
| Pollution Degree                   | 3  | Conductor cross section                      | 1.5mm <sup>2</sup> / 1  | 6AWG(6 Pin)        |
|                                    |  | Material conductor insulation                | PP                      |                    |
|                                    |  | Flame resistance                             | VW-1/FT1                |                    |
|                                    |  | Dielectric strength                          | 3kV/min                 |                    |
|                                    | Standards an                                     | d Regulations                                |                         |                    |
|                                    | IEC 61076-2-111: Circular of screw-locking       | connectors - Detail specification fo         | or power con            | nectors with M12   |
| Design reference                   | IEC 60512: Electromechan procedure and measuring | ical components for electronic eq<br>methods | uipment; bas            | sic testing        |
|                                    | IEC 60529: Degree of prote                       | ection provided by enclosures (IP            | Code)                   |                    |
| Certification reference            | UL 2237  |  |                         |                    |

#### Notice

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

# M12 M-Code Molded Connector (Shield / No Shield)

| Coding and contacts     | Code    | N                | Л       |  |  |
|-------------------------|---------|------------------|---------|--|--|
|                         | Contact | 6(5 <del>-</del> | 6(5+PE) |  |  |
| Rated voltage / current | •       | 690V / 8A        |         |  |  |
| Contact arrangement     |         | Male             | Female  |  |  |

| Shield                                 |       |                  |                  |
|--|-------|------------------|------------------|
| Connector style                        | Cable | Length(m)        | Part number      |
| Single-ended straight male             |       | 2                | 251-M6103-02S020 |
|  | PUR   | 5                | 251-M6103-02S050 |
|  |       | 10               | 251-M6103-02S100 |
| Single-ended straight female  (S)  PUR |       | 2                | 252-M6103-02S020 |
|  | PUR   | 5                | 252-M6103-02S050 |
|  | 10    | 252-M6103-02S100 |                  |

| No Shield                    |       |           |                  |
|------------------------------|-------|-----------|------------------|
| Connector style              | Cable | Length(m) | Part number      |
| Single-ended straight male   |       | 2         | 201-M6103-02S020 |
|                              | PUR   | 5         | 201-M6103-02S050 |
|                              |       | 10        | 201-M6103-02S100 |
| Single-ended straight female |       | 2         | 202-M6103-02S020 |
|                              | PUR   | 5         | 202-M6103-02S050 |
|                              |       | 10        | 202-M6103-02S100 |
| Single-ended angled male     |       | 2         | 203-M6103-02S020 |
|                              | PUR   | 5         | 203-M6103-02S050 |
|                              |       | 10        | 203-M6103-02S100 |
| Single-ended angled female   |       | 2         | 204-M6103-025020 |
|                              | PUR   | 5         | 204-M6103-02S050 |
|                              |       | 10        | 204-M6103-02S100 |

# M12 M-Code Device Circular Connector

#### Front mounting with 0.5m wire



# Rear mounting with 0.5m wire



#### Pin assignments and wire colors



# **M12 M-Code Device Connector**

| Mechanical Pro                     | perties   | Material                        | Properties                        |
|------------------------------------|---|---------------------------------|-----------------------------------|
| Min. Insertion/withdrawal cycles   | 100   | Contact / contact surface       | Copper alloy / Gold plated        |
| Degree of protection               | IP67  | Contact carrier                 | PA                                |
| Operating Temperature              | -40°C ~80°C   | Hexigonal nut / Outer Shield    | Zinc die-cast, nickel-plated      |
| Fasten torque                      | 0.4Nm   | O-ring                          | NBR                               |
| Mounting torque                    | 0.8Nm   | UL94 Flammability rating        | V0                                |
| Electrical Prop                    | erties  | Cable In                        | formation                         |
| Rated voltage / current (contacts) | 630VAC / 8A(6 Pin)  | Cable Jacket                    | MPPE                              |
| Rated Impulse Voltage              | 6kV(6 Pin)  | UL AWM style                    | UL 11029                          |
| Insulation resistance              | Min. 100MΩ  | Conductor cross section         | 1.5mm <sup>2</sup> / 16AWG(6 Pin) |
| Overvoltage Category               | III   | Material conductor insulation   | MPPE                              |
| Pollution Degree                   | 3   | Flame resistance                | VW-1 / FT1                        |
|                                    |   | Dielectric strength             | 3kV/1min                          |
|                                    | Standards a   | and Regulations                 |                                   |
|                                    | IEC 61076-2-101: Detail s   | pecification for M12 connectors | with screw-locking                |
| Design reference                   | IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods |                                 |                                   |
|                                    | IEC 60529: Degree of pro  | tection provided by enclosures  | (IP Code)                         |
| Certification reference            | UL 2238   |                                 |                                   |
|                                    | N   | lotice                          |                                   |

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

# M12 M-Code Device Connector ( No Shield )

| Coding and contacts | Code    | M       |                  |  |
|---------------------|---------|---------|------------------|--|
| Coding and contacts | Contact | 6(5+PE) |                  |  |
| Rated voltage / co  | urrent  | 690     | V / 8A           |  |
| g                   |         | Male    | Female           |  |
| Rated voltage / co  | urrent  |         | 50 W 01<br>40 02 |  |

| Front mounting with 0.5m wire |              |                  |  |  |
|-------------------------------|--------------|------------------|--|--|
| Connector style               | Mount thread | Part number      |  |  |
| Male                          | M16x1.5      | 218-M6100-0MSL50 |  |  |
| Female                        | M16x1.5      | 219-M6100-0MSL50 |  |  |

| Rear mounting with 0.5m wire |              |                  |  |  |
|------------------------------|--------------|------------------|--|--|
| Connector style              | Mount thread | Part number      |  |  |
| Male                         | M16x1.5      | 220-M6100-0MSL50 |  |  |
| Female                       | M16x1.5      | 221-M6100-0MSL50 |  |  |

The wire length can be customized. For more details, please contact Dinkle

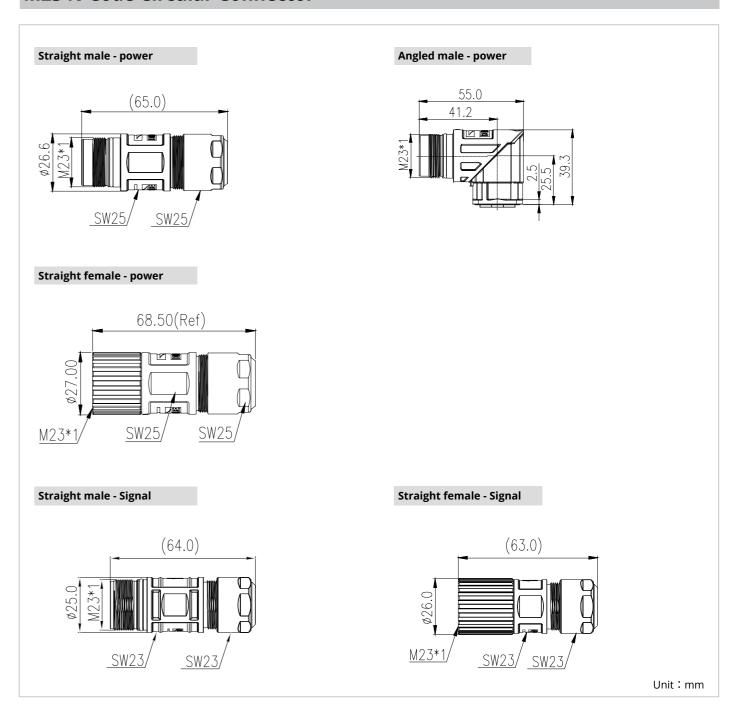
# **M23 Circular Connector**

The M23 circular connectors offer a versatile industrial connection solution, primarily used for integrating electrical drives and servo motors into industrial automation equipment. These connectors are equally suitable for applications involving signal or power transmission, thanks to their high current and voltage carrying capabilities. They are designed to withstand harsh environments and complex application scenarios.

Additionally, Dinkle provides a variety of pin configurations, including 6, 12, 17, and 19 pins, to meet your application needs, whether for power or signal adaptation.



#### **M23 N-Code Circular Connector**



# **M23 N-Code Circular Connector**

| Mechanical F                     | Properties    | Material                  | Properties                 |
|----------------------------------|---------------|---------------------------|----------------------------|
| Min. Insertion/withdrawal cycles | 100           | Contact / contact surface | Copper alloy / Gold plated |
| Degree of protection             | IP67          | Contact carrier           | PA                         |
| Operating Temperature            | -40°C ~ 125°C | Outer Shield              | Zinc Alloy                 |
| Fasten torque                    | Crimping      | O-ring                    | NBR                        |
|                                  |               | UL94 Flammability rating  | VO                         |

| Electrical P          | roperties                                      | Cable Information          |        |   |
|-----------------------|--|----------------------------|--------|---|
|                       | 630VAC / 30A(6 Pin)                            |                            | Power  | 0.25mm <sup>2</sup> ~4.0mm <sup>2</sup> |
|                       | 200VAC / 8A (12 Pin)                           | Wiring diameter            | Signal | 0.08mm <sup>2</sup> ~1.0mm <sup>2</sup> |
| Electrical Properties | 200VAC / 8A (17 Pin)                           | Applicable cable dispector | Power  | 5.5mm <sup>2</sup> ~17.0mm <sup>2</sup> |
|                       | 48VAC (19 Pin) /<br>8A(φ1.0mm²) & 10A(φ1.5mm²) | Applicable cable diameter  | Signal | 3.0mm <sup>2</sup> ~14.0mm <sup>2</sup> |
|                       | 78VDC (19 Pin) /<br>8A(φ1.0mm²) & 10A(φ1.5mm²) |                            |        |   |
| Electrical Properties | 6kV(6 Pin)                                     |                            |        |   |
| Electrical Properties | 1.5kV(12, 17, 19 Pin)                          |                            |        |   |
| Insulation resistance | Min. 100MΩ                                     |                            |        |   |
| Overvoltage Category  | III  |                            |        |   |
| Pollution Degree      | 3  |                            |        |   |

|                         | Standards and Regulations                   |
|-------------------------|---|
| Certification reference | UL1977 / UL2238 (Circular Connector Signal) |

# Notice

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

# **M23 N-Code Circular Connector Power**

| Coding and contacts | Code    | N      |        |
|---------------------|---------|--------|--------|
|                     | Contact | 6(5+P  | PE)    |
| Rated voltage / cu  | rrent   | 630V/3 | 80A    |
| Contact arrangement |         | Male   | Female |

| Cable end              |                                      |             |       |  |  |
|------------------------|--------------------------------------|-------------|-------|--|--|
| Connector style        | terminal                             | Part number |       |  |  |
| Straight male thread   | turning soldering<br>male terminal   | 401-P0061   |       |  |  |
| Straight female thread | turning soldering<br>female terminal | 402-P0062   |       |  |  |
| Device side            |                                      |             |       |  |  |
| Connector style        | terminal                             | Part n      | umber |  |  |
| Angled male thread     | turning soldering<br>male terminal   | 426-F       | P0061 |  |  |

# **Crimp terminal**

| Terminal diameter Ø 2 mm | Crimp wiring diameter mm <sup>2</sup> | Part number           |                         |
|--------------------------|---------------------------------------|-----------------------|-------------------------|
|                          | Crimp wiring diameter min             | Turning male terminal | Turning female terminal |
|                          | 0.25 - 1.0                            | 0304-0304             | 0304-1304               |
|                          | 1.5 - 2.5                             | 0304-0305             | 0304-1305               |
|                          | 2.5 - 4                               | 0304-0306             | 0304-1306               |

#### **M23 N-Code Circular Connector Signal**

| Coding and   | Code        | ı    | N               | ı    | N       | 1    | V       |  |
|--------------|-------------|------|-----------------|------|---------|------|---------|--|
| contacts     | Contact     | 1    | 2               | 17   |         | 19   |         |  |
| Rated voltag | e / current | 200\ | 200V/8A 200V/8A |      | 200V/8A |      | 78V/10A |  |
| Rated voltag | e / current | Male | Female          | Male | Female  | Male | Female  |  |

|                        | Cable end                            |           |             |           |  |  |  |  |  |
|------------------------|--------------------------------------|-----------|-------------|-----------|--|--|--|--|--|
| Connector style        | terminal                             |           | Part number |           |  |  |  |  |  |
| Straight male thread   | turning soldering<br>male terminal   | 401-S0123 | 401-S0173   | 401-S0193 |  |  |  |  |  |
|                        | turning soldering<br>female terminal | 401-S0124 | 401-S0174   | 401-S0194 |  |  |  |  |  |
| Straight female thread | turning soldering<br>male terminal   | 402-S0123 | 402-S0173   | 402-S0193 |  |  |  |  |  |
|                        | turning soldering<br>female terminal | 402-S0124 | 402-S0174   | 402-S0194 |  |  |  |  |  |

Crimp terminals are available in different sizes depending on the crimpable wire size and can be sold separately

# 7/8" Circular Connector

Dinkle's 7/8" circular connector series is specifically designed for power supply in industrial automation fieldbus networks. The series offers 2 to 6 terminals, with a maximum capacity of 600V/13A, making it a reliable power source for industrial communication equipment. For example, 5-pin connectors are commonly used for PROFIBUS/PROFINET, while 4-pin ones are suited for DeviceNet applications. These connectors maximize power delivery within limited space and provide stable transmission and power sources for components and equipment used in factory and warehouse automation applications.

Dinkle's overmolded circular connectors simplify fieldbus installation, reduce wiring errors during field connections, and ensure proper component connectivity and reliable communication. Panel-mounted circular connectors, fixed to equipment or enclosures using nuts, achieve IP68 protection for excellent environmental resistance. The one-piece PCB circular connectors, with their integrated design and high protection rating, have become a preferred choice in industrial connection solutions.





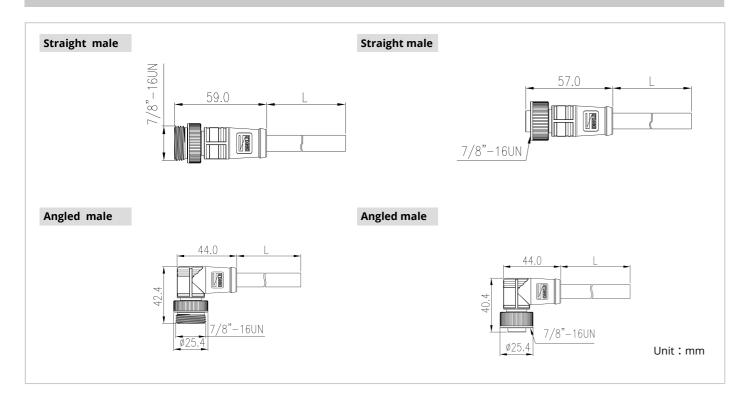








### 7/8" A-Code Molded Circular Connector



#### 7/8" A-Code Molded Connector

| Mechanical Pr                    | operties                                   | Rated Impulse Voltage         |                |                    |  |  |
|----------------------------------|--|-------------------------------|----------------|--------------------|--|--|
| Min. Insertion/withdrawal cycles | 100  | Contact / contact surface     | Copper a       | lloy / Gold plated |  |  |
| Degree of protection             | IP68                                       | Contact carrier / overmolding | Р              | VC / PVC           |  |  |
| On agating Taman agatum          | -30°C ~ 105°C<br>( Fixed installation )    | O-ring                        |                | NBR                |  |  |
| Operating Temperature            | -40°C ~ 105°C<br>( Flexible installation ) | Cable gland material          | Zinc die-c     | ast, nickel-plated |  |  |
| Fasten torque                    | 1.12 Nm                                    | UL94 Flammability rating      | VO             |                    |  |  |
| Electrical Pro                   | perties                                    | Cable Information             |                |                    |  |  |
|                                  | 600VAC / 13A (≤3 Pin)                      | Cable Jacket                  | PVC, Yellow    |                    |  |  |
| Flactuical Duamentia             | 600VAC / 10A (4 Pin)                       | UL AWM style                  | No Shield      | PVC : STOOW        |  |  |
| Electrical Properties            | 600VAC / 8A (5 Pin)                        | Conductor cross section       | 16AWG (≤6 Pin) |                    |  |  |
|                                  | 600VAC / 8A (6 Pin)                        | Material conductor insulation | PVC            |                    |  |  |
| Rated Impulse Voltage            | 2.5kV                                      | Flame resistance              | VW-1           |                    |  |  |
| Insulation resistance            | Min. 100MΩ                                 | Dielectric strength           | NA             |                    |  |  |
| Overvoltage Category             | II   |                               |                |                    |  |  |
| Pollution Degree                 | 3  |                               |                |                    |  |  |
|                                  | Standards and                              | d Regulations                 |                |                    |  |  |
| Certification reference          | UL2238                                     |                               |                |                    |  |  |

**Notice**The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

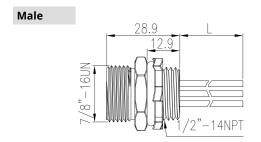
### 7/8" A-Code Molded Connector ( No Shield )

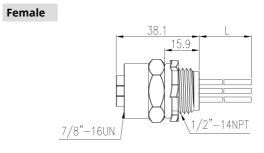
| Coding and san                     | ****     | Code      | Α                     | Α             | Α             | Α             | Α             |  |
|------------------------------------|----------|-----------|-----------------------|---------------|---------------|---------------|---------------|--|
| Coding and cor                     | itacts   | Contact   | 2                     | 3             | 4             | 5             | 6             |  |
| Rated volt                         | age / cu | ırrent    | 600V / 13A 600V / 13A |               | 600V / 10A    | 600V / 8A     | 600V / 8A     |  |
| Rated volt                         | age / cı | ırrent    | Male Female           | Male Female   | Male Female   | Male Female   | Male Female   |  |
| Connector style                    | Cable    | Length(m) |                       |               |               |               |               |  |
| Single-ended<br>straight male      |          | 2m        | 451-2000-0020         | 451-3000-0020 | 451-4000-0020 | 451-5000-0020 | 451-6000-0020 |  |
| CUL) US USTED                      | PVC      | 5m        | 451-2000-0050         | 451-3000-0050 | 451-4000-0050 | 451-5000-0050 | 451-6000-0050 |  |
|                                    |          | 10m       | 451-2000-0100         | 451-3000-0100 | 451-4000-0100 | 451-5000-0100 | 451-6000-0100 |  |
| Single-ended straight female       |          | 2m        | 452-2000-0020         | 452-3000-0020 | 452-4000-0020 | 452-5000-0020 | 452-6000-0020 |  |
| CU) US USTED                       | PVC      | 5m        | 452-2000-0050         | 452-3000-0050 | 452-4000-0050 | 452-5000-0050 | 452-6000-0050 |  |
|                                    |          | 10m       | 452-2000-0100         | 452-3000-0100 | 452-4000-0100 | 452-5000-0100 | 452-6000-0100 |  |
| Single-ended<br>angled male        |          | 2m        | 453-2000-0020         | 453-3000-0020 | 453-4000-0020 | 453-5000-0020 | 453-6000-0020 |  |
| usteo                              | PVC      | 5m        | 453-2000-0050         | 453-3000-0050 | 453-4000-0050 | 453-5000-0050 | 453-6000-0050 |  |
|                                    |          | 10m       | 453-2000-0100         | 453-3000-0100 | 453-4000-0100 | 453-5000-0100 | 453-6000-0100 |  |
| Single-ended angled female         |          | 2m        | 454-2000-0020         | 454-3000-0020 | 454-4000-0020 | 454-5000-0020 | 454-6000-0020 |  |
| C U US US US TEO                   | PVC      | 5m        | 454-2000-0050         | 454-3000-0050 | 454-4000-0050 | 454-5000-0050 | 454-6000-0050 |  |
|                                    |          | 10m       | 454-2000-0100         | 454-3000-0100 | 454-4000-0100 | 454-5000-0100 | 454-6000-0100 |  |
| Straight male mate straight female |          | 0.6m      | 456-2000-0L60         | 456-3000-0L60 | 456-4000-0L60 | 456-5000-0L60 | 456-6000-0L60 |  |
| C (P) US                           | PVC      | 1.5m      | 456-2000-0015         | 456-3000-0015 | 456-4000-0015 | 456-5000-0015 | 456-6000-0015 |  |
| 0                                  |          | 3m        | 456-2000-0030         | 456-3000-0030 | 456-4000-0030 | 456-5000-0030 | 456-6000-0030 |  |
| Angled male mate angled female     |          | 0.6m      | 459-2000-0L60         | 459-3000-0L60 | 459-4000-0L60 | 459-5000-0L60 | 459-6000-0L60 |  |
| CU) us                             | PVC      | 1.5m      | 459-2000-0015         | 459-3000-0015 | 459-4000-0015 | 459-5000-0015 | 459-6000-0015 |  |
| A 60                               |          | 3m        | 459-2000-0030         | 459-3000-0030 | 459-4000-0030 | 459-5000-0030 | 459-6000-0030 |  |

The configuration of connectors and the cable length can be customized. For more details, please contact Dinkle **Bolded part number is cULus certified.** 

#### 7/8" A-Code Device Circular Connector

#### Front mounting with 0.5m wire





#### Pin assignments and wire colors

| Pin arrangement | 20 | - //  | 3P |       | 4P 5P |       |   |        |
|-----------------|----|-------|----|-------|-------|-------|---|--------|
|                 |    |       |    | A     | ode   |       |   |        |
|                 | 1  | White | 1  | Green | 1     | Black | 1 | White  |
| 벌               | 2  | Black | 2  | Black | 2     | White | 2 | Red    |
| out             |    |       | 3  | White | 3     | Red   | 3 | Green  |
| Ë               |    |       |    |       | 4     | Green | 4 | Orange |
|                 |    |       |    |       |       |       | 5 | Black  |

#### 7/8" A-Code Device Connector

| Mechanical Pro                         | perties               | Material I                    | Properties                   |  |  |
|--|-----------------------|-------------------------------|------------------------------|--|--|
| Min. Insertion/withdrawal cycles       | 100                   | Contact / contact surface     | Copper alloy / Gold plated   |  |  |
| Degree of protection                   | IP67                  | Contact carrier               | PA                           |  |  |
| Operating Temperature                  | -40°C ~ 80°C          | Hexigonal nut / Outer Shield  | Zinc die-cast, nickel-plated |  |  |
| Fasten torque                          | 1.1Nm                 | O-ring                        | NBR                          |  |  |
| Mounting torque                        | 1.5 Nm                | UL94 Flammability rating      | V0                           |  |  |
| Electrical Prop                        | erties                | Cable Information             |                              |  |  |
|  | 600VAC / 13A (≤3 Pin) | Cable Jacket                  | MPPE                         |  |  |
| Date dividita de la sussent (contacte) | 600VAC / 10A (4 Pin)  | Cable Jacket                  | MPPE: UL11029                |  |  |
| Rated voltage / current (contacts)     | 600VAC / 8A (5 Pin)   | Cable Jacket                  | 16AWG (≤6 Pin)               |  |  |
|  | 600VAC / 8A (6 Pin)   | Material conductor insulation | MPPE                         |  |  |
| Rated Impulse Voltage                  | 2.5kV                 | Flame resistance              | VW-1                         |  |  |
| Insulation resistance                  | Min. 100MΩ            | Dielectric strength           | NA                           |  |  |
| Overvoltage Category                   | II                    |                               |                              |  |  |
| Pollution Degree                       | 3                     |                               |                              |  |  |
|  | Standards a           | and Regulations               |                              |  |  |
| Certification reference                | UL2238                |                               |                              |  |  |

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

Notice

### 7/8" A-Code Device Connector ( No Shield )

| Coding and          | Code      |       | A      |      | A           |                | 4                   |      | 4      |        | 4      |
|---------------------|-----------|-------|--------|------|-------------|----------------|---------------------|------|--------|--------|--------|
| contacts Conta      |           | 2     |        | 3    |             | 4              | 5                   |      | 6      |        |        |
| Rated voltage       | / current | 600V  | / 13A  | 600V | / 13A       | 600V           | 00V / 10A 600V / 8A |      | 600V   | / / 8A |        |
|                     |           | Male  | Female | Male | Female      | Male           | Female              | Male | Female | Male   | Female |
| Contact arrangement |           | 10 20 |        | 10   | ① 1<br>②3 2 | 10 04<br>20 03 | 40 01               |      | 50 01  |        | 5000   |

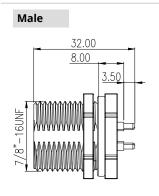
|                      | Front mounting with 0.5m wire |               |               |               |               |               |  |  |  |
|----------------------|-------------------------------|---------------|---------------|---------------|---------------|---------------|--|--|--|
| Connector style      | Mount thread                  |               | Part number   |               |               |               |  |  |  |
| Male characteristics | 1/2"-14NPT                    | 468-2006-0L50 | 468-3006-0L50 | 468-4006-0L50 | 468-5006-0L50 | 468-6006-0L50 |  |  |  |
| Male                 | 1/2"-14NPT                    | 469-2006-0L50 | 469-3006-0L50 | 469-4006-0L50 | 469-5006-0L50 | 469-6006-0L50 |  |  |  |

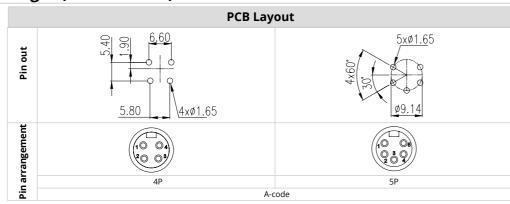
The wire length can be customized. For more details, please contact Dinkle

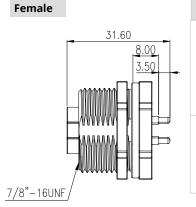
Bolded part number is cULus certified.

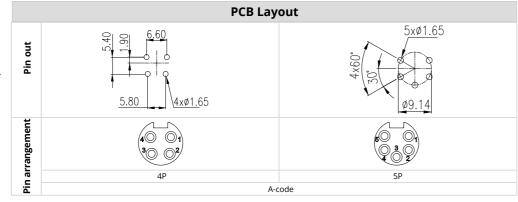
### 7/8" A-Code One-piece PCB Circular Connector

#### 180° Rear mounting, straight (NonShielded)









### 7/8" A-Code One-piece PCB Circular Connector

| Mechanical Pr                    | operties             | Material Properties             |  |  |  |  |
|----------------------------------|----------------------|---------------------------------|--|--|--|--|
| Min. Insertion/withdrawal cycles | 100                  | Contact / contact surface       | Copper alloy / Gold plated                                   |  |  |  |
| Degree of protection             | IP68                 | Contact carrier                 | PVC  |  |  |  |
| Operating Temperature            | -40°C ~ 105°C        | Hexigonal nut / Outer<br>Shield | Brass alloy, nickel-plated /<br>Zinc die-cast, nickel-plated |  |  |  |
| Fasten torque                    | 1.12Nm               | O-ring                          | Zinc die-cast, nickel-plated                                 |  |  |  |
| Soldering method                 | Wave Soldering       | UL94 Flammability rating        | V0   |  |  |  |
| Electrical Pro                   | perties              | Cable Information               |  |  |  |  |
| Rated voltage / current          | 600VAC / 10A (4 Pin) |                                 |  |  |  |  |
| (contacts)                       | 600VAC / 8A (5 Pin)  |                                 |  |  |  |  |
| Rated Impulse Voltage            | 2.5kV (≤6 Pin)       |                                 |  |  |  |  |
| Insulation resistance            | Min. 100MΩ           |                                 |  |  |  |  |
| Overvoltage Category             | II                   |                                 |  |  |  |  |
| Pollution Degree                 | 3                    |                                 |  |  |  |  |
|                                  | Standards ar         | nd Regulations                  |  |  |  |  |
| Certification reference          | UL2238               |                                 |  |  |  |  |

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

Notice

### 7/8" A-Code One-piece PCB Connector ( No Shield )

| Coding and contacts | Code    |            | A              |           | A             |           |  |
|---------------------|---------|------------|----------------|-----------|---------------|-----------|--|
|                     | Contact |            | 4              | 5         |               |           |  |
| Rated voltage / c   | urrent  | 600V / 10A |                | 600V / 8A |               | 600V / 8A |  |
|                     |         | Male       | Female         | Male      | Female        |           |  |
| Contact arrange     | ement   | 10 04      | 4 0 1<br>3 0 2 |           | 80 01<br>03 9 |           |  |

|                 | Rear mounting, straight, No Shield |            |            |  |  |  |  |
|-----------------|------------------------------------|------------|------------|--|--|--|--|
| Connector style | Mount thread                       | Part n     | umber      |  |  |  |  |
| Male            | 1/2"-14NPT                         | 476-4000-8 | 476-5000-8 |  |  |  |  |
| Female          | 1/2"-14NPT                         | 477-4000-8 | 477-5000-8 |  |  |  |  |

#### **Distribution Box**

#### Effective and flexible cabling





#### Status indicator

Single / Double slots and 4 / 6 / 8 sockets are available.

### M12 connector

Standardized M12 A-Code connector according to IEC 61076-2-101.

#### Clear marking

Quick and convenient marking with DINKLE TM-R series.

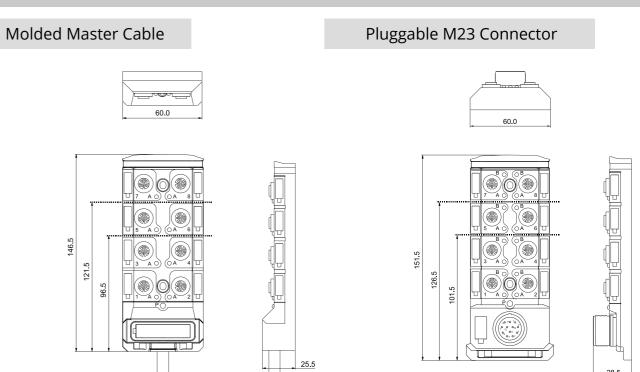
#### High quality cable

PUR/PVC sheathed cables for various industrial environment.

#### Related products

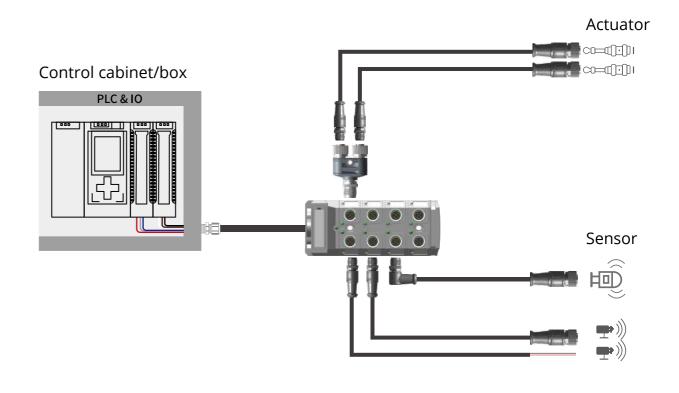
| Style  | Sheath   | Length (m)       | Part number      | Style                             | Sheath | Length (m) | Part number      |
|--|----------|------------------|------------------|-----------------------------------|--------|------------|------------------|
| M12 – Single-ended   |          | 2                | 201-A5000-00S020 | M12 – Single-ended                |        | 2          | 203-A5000-00S020 |
| straight male  | PUR      | 5                | 201-A5000-00S050 | angled male                       | PUR    | 5          | 203-A5000-00S050 |
|  |          | 10               | 201-A5000-00S100 |                                   |        | 10         | 203-A5000-00S100 |
|  |          | 2                | 201-A5000-20S020 |                                   |        | 2          | 203-A5000-20S020 |
| 0 1  | PVC      | 5                | 201-A5000-20S050 |                                   | PVC    | 5          | 203-A5000-20S050 |
|  |          | 10               | 201-A5000-20S100 |                                   |        | 10         | 203-A5000-20S100 |
| M12 – Straight male  |          | 0.6              | 206-A5000-00SL60 | M12 – Angled male to              |        | 0.6        | 209-A5000-00SL60 |
| to straight female   | PUR      | 1.5              | 206-A5000-00S015 | angled female                     | PUR    | 1.5        | 209-A5000-00S015 |
|  |          | 3                | 206-A5000-00S030 |                                   |        | 3          | 209-A5000-00S030 |
|  |          | 0.6              | 206-A5000-20SL60 |                                   |        | 0.6        | 209-A5000-20SL60 |
|  | PVC      | 1.5              | 206-A5000-20S015 |                                   | PVC    | 1.5        | 209-A5000-20S015 |
| 9  |          | 3                | 206-A5000-20S030 | 0                                 |        | 3          | 209-A5000-20S030 |
| The same of the sa |          | 0.6              | 212-A5000-00SL60 | M12 – Angled male to              |        | 0.6        | 214-A5000-00SL60 |
|  | PUR      | 1.5              | 212-A5000-00S015 | straight female                   | PUR    | 1.5        | 214-A5000-00S015 |
|  |          | 3                | 212-A5000-00S030 | and a second                      |        | 3          | 214-A5000-00S030 |
|  |          | 0.6              | 212-A5000-20SL60 |                                   |        | 0.6        | 214-A5000-20SL60 |
|  | PVC      | 1.5              | 212-A5000-20S015 |                                   | PVC    | 1.5        | 214-A5000-20S015 |
|  |          | 3                | 212-A5000-20S030 | 0,                                |        | 3          | 214-A5000-20S030 |
| M12 - Y-splitter with cable  | PUR      | 0.15             | 222-A5530-00SL15 | M12 - Y-splitter<br>without cable |        | Part num   | ber              |
|  | PVC      | 0.15             | 222-A5530-20SL15 |                                   |        | 224-2A51   | 00               |
| M23 – Cable side<br>connector  | Contacts | Suitable<br>Slot | Part number      | M12 – Plastic sealing cap         |        | Part num   | ber              |
|  | 12       | Single           | 402-S0124        |                                   |        |            |                  |
| 0  | 19       | Double           | 402-S0194        |                                   |        | 200-A00    | 02               |
| Thermal printer  |          | Part nun         | nber             | Continuous flat                   | Widt   | h(mm)      | Part number      |
|  |          | TMD              | 0.4              | marking label                     |        | 7.4        | TM-R100          |
|  |          | TMP-0            | U <del>4</del>   | 633                               |        | 9.8        | TM-R200          |

#### **Distribution Box**



#### Application

Optimize the wiring of I/O module and PLC in the control cabinet/box. Distribution boxes bundle 4/6/8 sensors or actuators into one master connection. Minimizing the risk of error to wire in the field.



#### **Distribution Box**

#### **Molded Master Cable**

Ease of the installation process in the field. The cable length can be customized.



|            | Slot style               |  | Single   |  |  | Double  |   |
|------------|--------------------------|--|--|--|--|---|---|
| Sheath     | Sockets                  |  | 6  | 8  | 4  | 6   | 8   |
|            | Length(m)                |  |  | Part n   | umber  |   |   |
| PUR        | 5                        | 953-04P-0050                                       | 953-06P-0050                                       | 953-08P-0050                                       | 954-04P-0050                                   | 954-06P-0050                                    | 954-08P-0050                                    |
| PUR        | 10                       | 953-04P-0100                                       | 953-06P-0100                                       | 953-08P-0100                                       | 954-04P-0100                                   | 954-06P-0100                                    | 954-08P-0100                                    |
| PVC        | 5                        | 953-04P-3050                                       | 953-06P-3050                                       | 953-08P-3050                                       | 954-04P-3050                                   | 954-06P-3050                                    | 954-08P-3050                                    |
| PVC        | 10                       | 953-04P-3100                                       | 953-06P-3100                                       | 953-08P-3100                                       | 954-04P-3100                                   | 954-06P-3100                                    | 954-08P-3100                                    |
|            | General parameter        |  |  |  |  |   |   |
| :          | Socket style             | M12 A-Code sockets                                 |  | Shielded   | No   |   |   |
| Stat       | us indicator             | Power: Green LED, I/O: Yellow LED                  |  | Signal type  | PNP  |   |   |
| Oper       | ation temp.              | -25 ~ 80°C   |  | IP rating  | IP68   |   |   |
|            |                          |  | Electric para                                      | meter  |  |   |   |
| Ra         | ated voltage             | 24 VDC   |  | Total rated c                                      | urrent   | 12A   |   |
| Max. curre | Max. current per path 2A |  | 2A   |  | Max. current per slot                          |   | 4A  |
|            | Cable parameter          |  |  |  |  |   |   |
|            | Cable cores 7            |  | 10   | 12   | 11   | 15  | 19  |
| Cor        | nductor size             | 4 x 0.34mm <sup>2</sup><br>3 x 0.75mm <sup>2</sup> | 4 x 0.34mm <sup>2</sup><br>6 x 0.75mm <sup>2</sup> | 4 x 0.34mm <sup>2</sup><br>8 x 0.75mm <sup>2</sup> | 8 x 0.5mm <sup>2</sup><br>3 x 1mm <sup>2</sup> | 12 x 0.5mm <sup>2</sup><br>3 x 1mm <sup>2</sup> | 16 x 0.5mm <sup>2</sup><br>3 x 1mm <sup>2</sup> |

### Pluggable M23 Connector

Suitable for frequent connection or module replacement



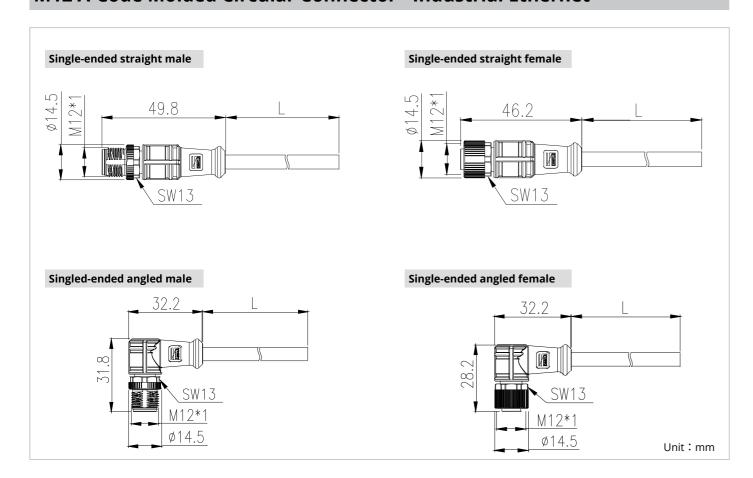
| Slot style                | Single            |                    | Single        |               |         |         |
|---------------------------|-------------------|--------------------|---------------|---------------|---------|---------|
| Sockets                   | 4                 | 6                  | 8             | 4             | 6       | 8       |
|                           |                   |                    | Part n        | umber         |         |         |
|                           | 951-04P           | 951-06P            | 951-08P       | 952-04P       | 952-06P | 952-08P |
|                           | General parameter |                    |               |               |         |         |
| Socket style              | M12 A-Code        | M12 A-Code sockets |               |               | No      |         |
| Status indicator          | Power: Green      | n LED, I/O: Yello  | w LED         | Signal type   | PNP     |         |
| Operation temp.           | -25 ~ 80°C        |                    |               | IP rating     | IP6     | 8       |
|                           |                   | Electric para      | ameter        |               |         |         |
| Rated voltage             | 24 VDC            | 24 VDC             |               | Total rated c | urrent  | 12A     |
| Max. current per path     | 2A                |                    | Max. current  | per slot      | 4A      |         |
| Contacts of M23 connector | 12                |                    | Contacts of N | M23 connector | 19      |         |

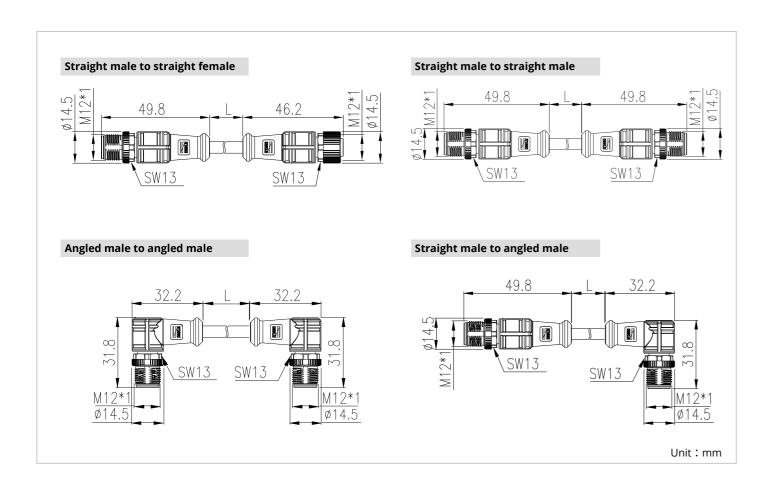
# M12 Circular Connector - Industrial Ethernet

Dinkle offers M12 connectors designed for industrial communication protocols (such as CC-Link, DeviceNet/CANopen, Profibus DP, Profinet, Ethernet, EtherCAT5), meeting the demands of sensors and actuators in industrial automation systems and ensuring stable network communication. Its high-quality industrial network cables feature excellent shielding and transmission performance, offering IP67 protection to effectively prevent environmental interference. Additionally, Dinkle provides panel-mounted circular connectors with IP68 protection and one-piece PCB circular connectors that offer easy installation, reliable performance, and durability, making them suitable for various industrial environments.

| Pro        | otocol                       | Code | Contact | Application  | Data transfer rate  | Cable profile | Connector Pinout  |
|------------|------------------------------|------|---------|--|---|---------------|---|
|            | Ethernet CAT5e               |      | 8       | All industrial environment                                   | Up to 1 Gbps  |               | Pin Conductor color Signal  1 WHBU D3- 2 WHBN D4+ 3 BN D4- 4 OG D1- 5 WHGN D2+ 6 WHGO D1+ 7 BU D3+ 8 GN D2-   |
| Networks   | PROFINET<br>CAT5             | D    | 4       | Production in the automotive industry, process automation    | 100 Mbps  |               | Pin         Conductor color         Signal           1         YE         TD+           2         WH         RD+           3         OG         TD-           4         BU         RD-  |
| Networks   | Ethernet CAT5<br>EtherNet/IP | D    | 4       | Industrial automation<br>and process control<br>environments | Up to 100 Mbps  |               | Pin         Conductor color         Signal           1         WH/OG         TD+           2         WH/GN         RD+           3         OG         TD-           4         GN         RD-           Shield on housing         RD-  |
|            | "Ethernet<br>CAT6A"          | x    | 8       | Camera, CCTV and high speed data acquisition                 | Up to 10 Gbps   |               | Pin         Conductor color         Signal           1         MHOG         D1+           2         OG         D1-           3         WHGN         D2+           4         N         D2-           5         WHBN         D4+           6         BN         D4-           7         WHBU         D3-           8         BU         D3+ |
|            | CC-Link                      | Α    | 4       | Field of process   | Up to 10 Mbps   |               | Pin         Conductor color         Signal           1         Shield         SLD           2         WH         DS           3         YE         DG           4         BU         DA   |
| Fieldbuses | DeviceNet<br>CANopen         | Α    | 5       | Automation and device control                                | DeviceNet:<br>Up to 500kbaud<br>Canopen:<br>10 kbaud to 1 Mbaud |               | Pin   Conductor color   Signal  |
|            | PROFIBUS DP                  | В    | 5       | Distributed I/O device                                       | Up to 12 Mbp  |               | Pin   Conductor color   Signal   1   -  |

### M12 A-Code Molded Circular Connector - Industrial Ethernet





### M12 A-Code Molded Connector - Industrial Ethernet

|                                    | Ethernet  | DeviceNet / CANopen                          | CC-Link                                   |
|------------------------------------|---|--|---|
| Protocols                          | Ethernet  | Device\\et\\can\open                         | CC-Link                                   |
| Cross-section                      |   |  |   |
| Communication                      | Ethernet CAT5e (1 Gbps)   | CANopen <sup>®</sup> DeviceNet™              | CC-Link (10 Mbps)                         |
| Coding                             | Α   | А  | А   |
| Number of cores                    | 8   | 5  | 4   |
| Outer sheath, material             | PUR   | PUR  | PVC                                       |
| Outer sheath, color                | Blue (RAL 5021)   | Violet                                       | Red                                       |
| Outer sheath, diameter             | 6.0 ± 0.3 mm  | 6.6 ± 0.3 mm                                 | 7.0 ± 0.3 mm                              |
| Ambient temperature (operation)    | -40 °C ~ +80 °C   | -40 °C ~ +80 °C                              | -40 °C ~ +80 °C                           |
| Shielding                          | AL-mylar, tinned copper braided shield  | AL-mylar, tinned copper braided shield       | AL-Foil, tin-plated copper braided shield |
| Conductor material                 | Stranded bare copper  | Stranded tinned copper                       | Stranded bare copper                      |
| AWG signal line                    | 26AWG   | 2 x 22AWG + 2 x 24AWG                        | 1 x 22AWG + 3 x 20AWG                     |
| Wire colors                        | White/Blue, Blue, White/Orange,<br>Orange, White/Green,<br>Green,White/Brown, Brown | 24AWG: White, Blue<br>22AWG: Red, Black      | White, Blue, Yellow                       |
| Core diameter including insulation | 0.92 ± 0.05 mm  | 24AWG: 1.9 ± 0.05 mm<br>22AWG: 1.4 ± 0.05 mm | 2.2 ± 0.1 mm                              |
| Conductor resistance               | < 148 Ω/km  | 22AWG: < 57.4 Ω/km<br>24AWG: < 91.8 Ω/km     | 37.8 Ω/km(@20 °C)                         |
|                                    | ISO/IEC 11801   | UL 1581                                      | IEC 61158-2                               |
| Standards /<br>Regulations         | UL 1581   | UL 758                                       | -   |
|                                    | UL 758  | -  | -   |
| UL AWM style                       | 20963   | 21329  | -   |
| Flammability test                  | IEC 60332-1, FT2  | IEC 60332-1, FT2                             | IEC 60332-1                               |

### M12 A-Code Molded Connector ( Shield ) - Networks

| Coding and                         | Code      |                     | A           |  |
|------------------------------------|-----------|---------------------|-------------|--|
| contacts                           | Contact   |                     | 8           |  |
| Rated voltage                      | / current | 30V                 | / 2A        |  |
| Contact arran                      | ngement   | Male                | Female      |  |
| Cable                              |           | Pl                  | JR          |  |
| Protoco                            |           |                     | T5e (1Gbps) |  |
| Connector style                    | Length(m) | Part n              | umber       |  |
| Single-ended straight male         | 2         |                     | 00-0ES020   |  |
|                                    | 5         |                     | 00-0ES050   |  |
| 0 3                                | 10        | 251-A800            | 00-0ES100   |  |
| Single-ended straight female       | 2         | 252-A800            | 00-0ES020   |  |
| \$                                 | 5         | 252-A800            | 00-0ES050   |  |
| 9 7                                | 10        | 252-A800            | 00-0ES100   |  |
| Single-ended angled male           | 2         | 253-A800            | 00-0ES020   |  |
|                                    | 5         | 253-A8000-0ES050    |             |  |
| 40                                 | 10        | 253-A8000-0ES100    |             |  |
| Single-ended angled female         | 2         | 254-A800            | 00-0ES020   |  |
| (§)                                | 5         | 254-A800            | 00-0ES050   |  |
| 6                                  | 10        | 254-A800            | 00-0ES100   |  |
| Straight male mate straight female | 0.6       | 256-A800            | 00-0ESL60   |  |
|                                    | 1.5       | 256-A800            | 00-0ES015   |  |
| 0 1                                | 3         | 256-A800            | 00-0ES030   |  |
| Straight male mate straight male   | 0.6       | 257-A800            | 00-0ESL60   |  |
|                                    | 1.5       | 257-A800            | 00-0ES015   |  |
| () E                               | 3         |                     | 00-0ES030   |  |
|                                    |           | Power over Ethernet |             |  |
| Straight male mate straight female | 25        | 256-A800            | 00-0EP250   |  |
| Straight male mate straight male   | 25        | 257-A800            | 00-0EP250   |  |

The configuration of connectors and the cable length can be customized. For more details, please contact Dinkle

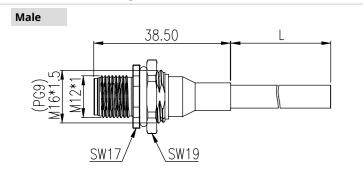
### M12 A-Code Molded Connector ( Shield ) - Fieldbuses

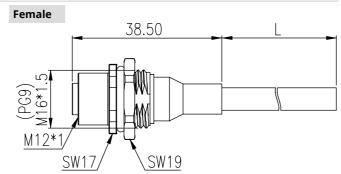
| Cadina and santasta              | Code    | P                | 4                    | , and the second | 1                |
|----------------------------------|---------|------------------|----------------------|--|------------------|
| Coding and contacts              | Contact | t 4              |                      | 5  |                  |
| Rated voltage / curr             | ent     | 250V / 4A        |                      | 60V / 4A   |                  |
| Contact arrangement              |         | Male (2000)      | Female (10 O2 40 O3) | Male   | Female (10 5 02) |
| Cable                            |         | PVC              |                      | PU   | JR               |
| Protocols                        |         | CC-l             | Link                 | Devic<br>CANo  |                  |
| Connector style Length(m)        |         |                  | Part n               | umber  |                  |
| ingle-ended straight male        | 2       | 251-A400         | 0-2CS020             | 251-A500   | 0-0DS020         |
|                                  | 5       | 251-A400         | 0-2CS050             | 251-A500   | 0-0DS050         |
| 0                                | 10      | 251-A400         | 0-2CS100             | 251-A500   | 0-0DS100         |
| ingle-ended straight female      | 2       | 252-A400         | 0-2CS020             | 252-A500   | 0-0DS020         |
|                                  | 5       | 252-A4000-2CS050 |                      | 252-A5000-0DS050   |                  |
| 9,                               | 10      | 252-A4000-2CS100 |                      | 252-A500   | 0-0DS100         |
| ngle-ended angled male           | 2       | 253-A400         | 0-2CS020             | 253-A500   | 0-0DS020         |
| Charles Charles                  | 5       | 253-A4000-2CS050 |                      | 253-A5000-0DS050   |                  |
|                                  | 10      | 253-A4000-2CS100 |                      | 253-A5000-0DS100   |                  |
| ngle-ended angled female         | 2       | 254-A400         | 0-2CS020             | 254-A500   | 0-0DS020         |
|                                  | 5       | 254-A400         | 0-2CS050             | 254-A5000-0DS050   |                  |
|                                  | 10      | 254-A400         | 0-2CS100             | 254-A5000-0DS100   |                  |
| raight male mate straight female | 0.6     | 256-A400         | 0-2CSL60             | 256-A500   | 0-0DSL60         |
|                                  | 1.5     | 256-A400         | 0-2CS015             | 256-A500   | 0-0DS015         |
| 0 100                            | 3       | 256-A400         | 0-2CS030             | 256-A500   | 0-0DS030         |
| gled male mate angled female     | 0.6     | 259-A400         | 0-2CSL60             | 259-A500   | 0-0DSL60         |
| C C C                            | 1.5     | 259-A400         | 0-2CS015             | 259-A500   | 0-0DS015         |
|                                  | 3       | 259-A400         | 0-2CS030             | 259-A500   | 0-0DS030         |

The configuration of connectors and the cable length can be customized. For more details, please contact Dinkle

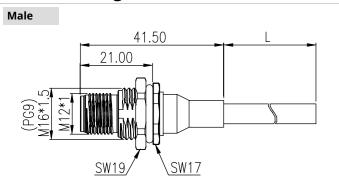
### M12 A-Code Device Circular Connector - Industrial Ethernet

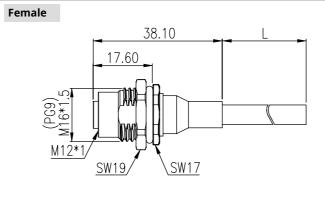
#### Front mounting with 2m PUR cable





### Rear mounting with 2m PUR cable





### M12 A-Code Device Connector - Industrial Ethernet

|                                    | Ethernet  | DeviceNet / CANopen                          | CC-Link                                   |
|------------------------------------|---|--|---|
| Protocols                          | Ethernet  | Device Net Can open                          | CC-Link                                   |
| Cross-section                      |   |  |   |
| Communication                      | Ethernet CAT5e (1 Gbps)   | CANopen® DeviceNet™                          | CC-Link (10 Mbps)                         |
| Coding                             | Α   | А  | Α   |
| Number of cores                    | 8   | 5  | 4   |
| Outer sheath, material             | PUR   | PUR  | PVC                                       |
| Outer sheath, color                | Blue (RAL 5021)   | Violet                                       | Red                                       |
| Outer sheath, diameter             | 6.0 ± 0.3 mm  | 6.6 ± 0.3 mm                                 | 7.0 ± 0.3 mm                              |
| Ambient temperature (operation)    | -40 °C ~ +80 °C   | -40 °C ~ +80 °C                              | -40 °C ~ +80 °C                           |
| Shielding                          | AL-mylar, tinned copper braided shield  | AL-mylar, tinned copper braided shield       | AL-Foil, tin-plated copper braided shield |
| Conductor material                 | Stranded bare copper  | Stranded tinned copper                       | Stranded bare copper                      |
| AWG signal line                    | 26AWG   | 2 x 22AWG + 2 x 24AWG                        | 1 x 22AWG + 3 x 20AWG                     |
| Wire colors                        | White/Blue, Blue, White/Orange,<br>Orange, White/Green,<br>Green,White/Brown, Brown | 24AWG: White, Blue<br>22AWG: Red, Black      | White, Blue, Yellow                       |
| Core diameter including insulation | 0.92 ± 0.05 mm  | 24AWG: 1.9 ± 0.05 mm<br>22AWG: 1.4 ± 0.05 mm | 2.2 ± 0.1 mm                              |
| Conductor resistance               | < 148 Ω/km  | 22AWG: < 57.4 Ω/km<br>24AWG: < 91.8 Ω/km     | 37.8 Ω/km(@20 °C)                         |
|                                    | IEC 61076-2-101   | IEC 61076-2-101                              | IEC 61076-2-101                           |
| Standards / Regulations            | IEC 60512   | IEC 60512                                    | IEC 60512                                 |
|                                    | IEC 60529   | IEC 60529                                    | IEC 60529                                 |
| UL AWM style                       | UL 2238   | UL 2238                                      | UL 2238                                   |
| Flammability test                  | VO  | VO   | VO  |

### M12 A-Code Device Connector ( Shield ) - Networks

|     | P. 1                | Code         | A                            |            |        |
|-----|---------------------|--------------|------------------------------|------------|--------|
| Coc | ding and contacts   | Contact      | 8                            |            |        |
|     | Rated voltage / c   | urrent       | 30V / 2A                     |            |        |
|     | Contact arrangement |              | Male  (20 0 0 0)  (0 0 0 0)  | Female     |        |
|     | Cable               |              | PUR                          |            |        |
|     | Protocols           |              | Ethernet CATS                | e (1Gbps)  |        |
|     |                     |              | Front mounting with 2m cable |            |        |
|     | Connector style     | Mount thread | Part nur                     | nber       |        |
| \$  | § Male              | Male         | M16 x 1.5                    | 268-A8000- | 1ES020 |
|     |                     | Pg9          | 268-A8002-                   | 1ES020     |        |
| \$  | Female              | M16 x 1.5    | 269-A8000-                   | 1ES020     |        |
|     |                     | Pg9          | 269-A8002-                   | 1ES020     |        |
|     |                     |              | Rear mounting with 2m cable  |            |        |
|     | Connector style     | Mount thread | Part nur                     | nber       |        |
| (S) | Male                | M16 x 1.5    | 270-A8000-                   | 1ES020     |        |
|     |                     | Pg9          | 270-A8002-                   | 1ES020     |        |
| \$  | Female              | M16 x 1.5    | 271-A8000-                   | 1ES020     |        |
|     | O Miles             | Pg9          | 271-A8002-                   | 1ES020     |        |

The wire length can be customized. For more details, please contact Dinkle

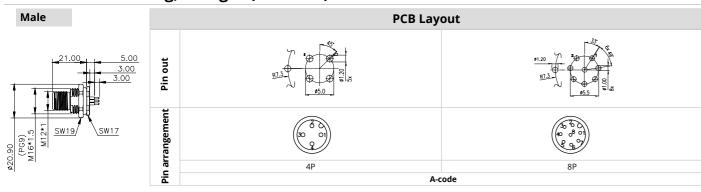
### M12 A-Code Device Connector ( Shield ) - Fieldbuses

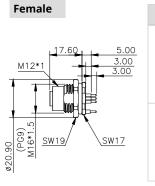
| Coding and contacts     | Code            |                  | 4                | Α                |                  |  |
|-------------------------|-----------------|------------------|------------------|------------------|------------------|--|
| county and contacts     | Contact         | 4                |                  | 5                |                  |  |
| Rated voltage / current |                 | 250\             | / / 4A           | 60V / 4A         |                  |  |
|                         |                 | Male             | Female           | Male             | Female           |  |
| Contact arrangement     |                 | 1O O2<br>4O O3   | 20 5 01<br>30 04 | 10 5 02          |                  |  |
| Cable                   |                 | P                | VC               | Pl               | JR               |  |
| Protocols               |                 | CC-              | Link             |                  | ceNet<br>open    |  |
| From                    | nt mounting wi  | th 2m cable      |                  |                  |                  |  |
| Connector style         | Mount<br>thread |                  | Part n           | umber            |                  |  |
| Male §                  | M16 x 1.5       | 268-A400         | 00-3CS020        | 268-A500         | 0-1DS020         |  |
|                         | Pg9             | 268-A400         | 268-A4002-3CS020 |                  | 268-A5002-1DS020 |  |
| Female  (§)             | M16 x 1.5       | 269-A4000-3CS020 |                  | 269-A5000-1DS020 |                  |  |
|                         | Pg9             | 269-A4002-3CS020 |                  | 269-A5002-1DS020 |                  |  |
| Rea                     | r mounting wit  | th 2m cable      |                  |                  |                  |  |
| Connector style         | Mount<br>thread |                  | Part n           | umber            |                  |  |
| Male (§)                | M16 x 1.5       | 270-A400         | 0-3CS020         | 270-A500         | 0-1DS020         |  |
|                         | Pg9             | 270-A400         | 00-3CS020        | 270-A500         | 2-1DS020         |  |
| Female §                | M16 x 1.5       | 271-A400         | 00-3CS020        | 271-A500         | 0-1DS020         |  |
|                         | Pg9             | 271-A400         | 2-3CS020         | 271-A500         | 2-1DS020         |  |

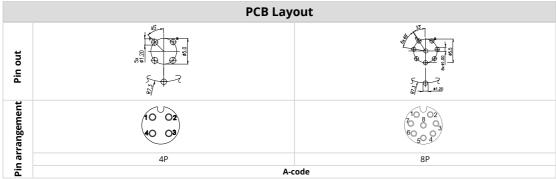
The wire length can be customized. For more details, please contact Dinkle

### M12 A-Code One-piece PCB Circular Connector - Industrial Ethernet

#### 180° Rear mounting, straight (Shielded)







### M12 A-Code One-piece PCB Connector - Industrial Ethernet

| Mechanical Pr                    | operties       | Material P                   | roperties  |
|----------------------------------|----------------|------------------------------|--|
| Min. Insertion/withdrawal cycles | 100            | Contact / contact surface    | Copper alloy / Gold plated                             |
| Degree of protection             | IP67           | Contact carrier              | PA   |
| Operating Temperature            | -40°C ~ 80°C   | Hexigonal nut / Outer Shield | Zinc die-cast, nickel-plated /<br>Brass, nickel-plated |
| Fasten torque                    | 0.4 Nm         | O-ring                       | NBR  |
| Soldering method                 | Wave Soldering | UL94 Flammability rating     | VO   |

| Electrical Pro                     | perties              | Cable Info  | ormation |
|------------------------------------|----------------------|---|----------|
| Rated voltage / current (contacts) | 250VAC / 4A (≤4 Pin) |   |          |
|                                    | 30VAC / 2A (8 Pin)   |   |          |
| Rated Impulse Voltage              | 2.5kV (≤4 Pin)       |   |          |
|                                    | 0.8kV (8 Pin)        |   |          |
| Insulation resistance              | Min. 100MΩ           |   |          |
| Overvoltage Category               | II                   |   |          |
| Pollution Degree                   | 3                    |   |          |
|                                    | Standards and        | Regulations   |          |
|                                    |                      | ification for M12 connectors witl<br>nnectors - Detail specification fo | <u> </u> |

|                         | Standards and Regulations   |
|-------------------------|---|
|                         | IEC 61076-2-101: Detail specification for M12 connectors with screw-locking IEC 61076-2-111: Circular connectors - Detail specification for power connectors with M12 screw-locking |
|                         | IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods   |
|                         | IEC 60529: Degree of protection provided by enclosures (IP Code)  |
| Certification reference | UL 2238 / UL2237  |
|                         | Notice  |

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

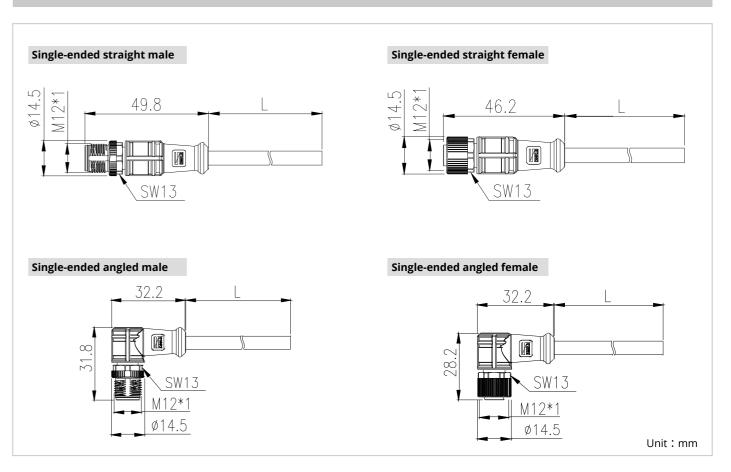
### M12 A-Code One-piece PCB Connector (Shield) - Networks

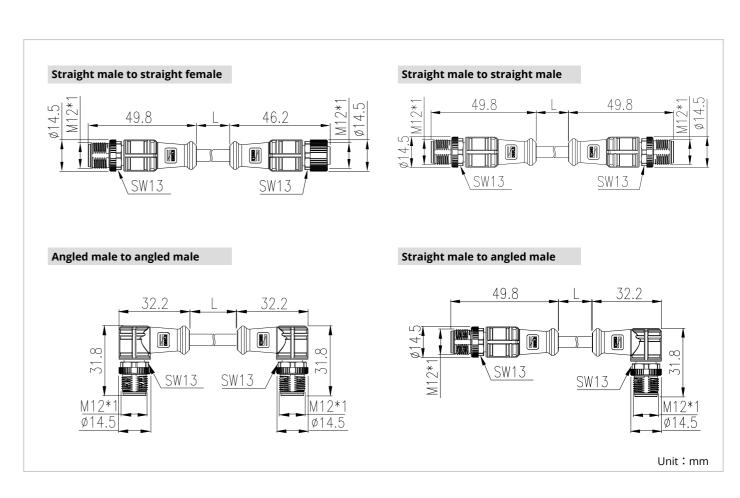
| Coding and contacts | Code         | Α                               |  |  |
|---------------------|--------------|---------------------------------|--|--|
| Coding and contacts | Contact      | 8                               |  |  |
| Rated voltage /     | current      | 30V / 2A                        |  |  |
| Contact arrangement |              | Male Female                     |  |  |
| Protocol            | S            | Ethernet CAT5e                  |  |  |
|                     |              | Rear mounting, straight, Shield |  |  |
| Connector style     | Mount thread | Part number                     |  |  |
| Male                | M16 X 1.5    | 276-A8000-E                     |  |  |
|                     | Pg9          | 276-A8002-E                     |  |  |
| Female<br>③         | M16 X 1.5    | 277-A8000-E                     |  |  |
|                     | Pg9          | 277-A8002-E                     |  |  |

### M12 A-Code One-piece PCB Connector ( Shield ) - Fieldbuses

| Coding and contacts     | Code         | Α                 |                      |                   | A                      |
|-------------------------|--------------|-------------------|----------------------|-------------------|------------------------|
| Coding and contacts     | Contact      | 4                 |                      |                   | 5                      |
| Rated voltage /         | current      | 60V / 4A          |                      | 60V / 4A          |                        |
| Rated voltage / current |              | Male              | Female (10 O2 40 O3) | Male              | Female (10 5 O2) 40 O3 |
| Protocol                | s            | CC-Link           |                      | DeviceNet/CANopen |                        |
|                         |              | Rear mounting, st | raight, Shield       |                   |                        |
| Connector style         | Mount thread | Part number       |                      |                   |                        |
| Male Male               | M16 X 1.5    | 276-A4000-C       |                      | 276-A5000-D       |                        |
|                         | Pg9          | 276-A4            | 002-C                | 276-A             | 5002-D                 |
| Female<br>③             | M16 X 1.5    | 277-A4000-C       |                      | 277-A5000-D       |                        |
|                         | Pg9          | 277-A4002-C       |                      | 277-A5002-D       |                        |

### M12 B-Code Molded Circular Connector - Industrial Ethernet





### M12 B-Code Molded Connector - Industrial Ethernet

|                                    | PROFIBUS   |  |  |  |  |
|------------------------------------|--|--|--|--|--|
| Protocols                          | PROFICE DE DESTINATION DE LA CONTRACTION DEL CONTRACTION DE LA CON |  |  |  |  |
| Cross-section                      |  |  |  |  |  |
| Communication                      | Profibus DP (12 Mbps)  |  |  |  |  |
| Coding                             | В  |  |  |  |  |
| Number of cores                    | 5  |  |  |  |  |
| Outer sheath, material             | PUR  |  |  |  |  |
| Outer sheath, color                | Violet   |  |  |  |  |
| Outer sheath, diameter             | 7.8 ± 0.2 mm   |  |  |  |  |
| "Ambient temperature (operation)"  | -40 °C ~ +80 °C  |  |  |  |  |
| Shielding                          | AL-mylar, tinned copper braided shield   |  |  |  |  |
| Conductor material                 | Stranded tinned copper   |  |  |  |  |
| AWG signal line                    | 22AWG  |  |  |  |  |
| Wire colors                        | Green, Red   |  |  |  |  |
| Core diameter including insulation | 2.7 ± 0.1 mm   |  |  |  |  |
| Conductor resistance               | 59.4 Ω/km(@20 °C)  |  |  |  |  |
|                                    | IEC 61158-2  |  |  |  |  |
| Standards / Regulations            | UL 758   |  |  |  |  |
|                                    | -  |  |  |  |  |
| UL AWM style                       | 20233  |  |  |  |  |
| Flammability test                  | VW-1   |  |  |  |  |

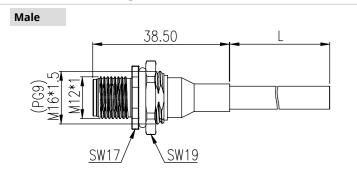
### M12 B-Code Molded Connector ( Shield ) - Fieldbuses

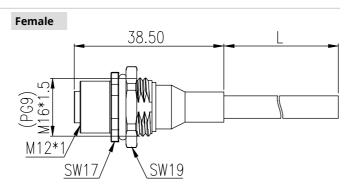
|                                    | Code      | <b>_</b>         | 3        |  |  |
|------------------------------------|-----------|------------------|----------|--|--|
| Coding and contacts                | Contact   | 5                |          |  |  |
| Rated voltage / curr               | ent       | 250V / 4A        |          |  |  |
| Contact arrangement                |           | Male             | Female   |  |  |
| Cable                              | Cable     |                  | JR       |  |  |
| Protocols                          |           | Prof             | ibus     |  |  |
| Connector style                    | Length(m) | Part n           | umber    |  |  |
| § Single-ended straight male       | 2         | 251-B500         | 0-0BS020 |  |  |
| A Marie                            | 5         | 251-B500         | 0-0BS050 |  |  |
|                                    | 10        | 251-B500         | 0-0BS100 |  |  |
| Single-ended straight female       | 2         | 252-B5000-0BS020 |          |  |  |
|                                    | 5         | 252-B5000-0BS050 |          |  |  |
| 97                                 | 10        | 252-B5000-0BS100 |          |  |  |
| Single-ended angled male           | 2         | 253-B5000-0BS020 |          |  |  |
|                                    | 5         | 253-B5000-0BS050 |          |  |  |
| *6                                 | 10        | 253-B5000-0BS100 |          |  |  |
| Single-ended angled female         | 2         | 254-B500         | 0-0BS020 |  |  |
| Charles .                          | 5         | 254-B500         | 0-0BS050 |  |  |
| 0                                  | 10        | 254-B500         | 0-0BS100 |  |  |
| Straight male mate straight female | 0.6       | 256-B500         | 0-0BSL60 |  |  |
| (\$)                               | 1.5       | 256-B500         | 0-0BS015 |  |  |
| 9                                  | 3         | 256-B500         | 0-0BS030 |  |  |
| Angled male mate angled female s   | 0.6       | 259-B500         | 0-0BSL60 |  |  |
| 8                                  | 1.5       | 259-B500         | 0-0BS015 |  |  |
| . 6                                | 3         | 259-B5000-0BS030 |          |  |  |

The configuration of connectors and the cable length can be customized. For more details, please contact Dinkle

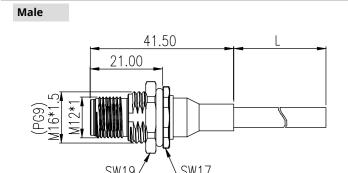
### M12 B-Code Device Circular Connector - Industrial Ethernet

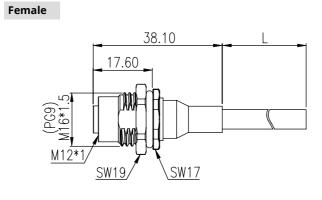
#### Front mounting with 2m PUR cable





#### Rear mounting with 2m PUR cable





### M12 B-Code Device Connector - Industrial Ethernet

|                                    | PROFIBUS                               |  |  |  |  |  |
|------------------------------------|--|--|--|--|--|--|
| Protocols                          | PPOFU®<br>BUST                         |  |  |  |  |  |
| Cross-section                      |  |  |  |  |  |  |
| Communication                      | Profibus DP (12 Mbps)                  |  |  |  |  |  |
| Coding                             | В                                      |  |  |  |  |  |
| Number of cores                    | 5                                      |  |  |  |  |  |
| Outer sheath, material             | PUR                                    |  |  |  |  |  |
| Outer sheath, color                | Violet                                 |  |  |  |  |  |
| Outer sheath, diameter             | 7.8 ± 0.2 mm                           |  |  |  |  |  |
| Ambient temperature (operation)    | -40 °C ~ +80 °C                        |  |  |  |  |  |
| Shielding                          | AL-mylar, tinned copper braided shield |  |  |  |  |  |
| Conductor material                 | Stranded tinned copper                 |  |  |  |  |  |
| AWG signal line                    | 22AWG                                  |  |  |  |  |  |
| Wire colors                        | Green, Red                             |  |  |  |  |  |
| Core diameter including insulation | 2.7 ± 0.1 mm                           |  |  |  |  |  |
| Conductor resistance               | 59.4 Ω/km(@20 °C)                      |  |  |  |  |  |
|                                    | IEC 61158-2                            |  |  |  |  |  |
| Standards / Regulations            | UL 758                                 |  |  |  |  |  |
|                                    | -                                      |  |  |  |  |  |
| UL AWM style                       | 20233                                  |  |  |  |  |  |
| Flammability test                  | VW-1                                   |  |  |  |  |  |

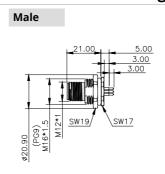
### M12 B-Code Device Connector ( Shield ) - Fieldbuses

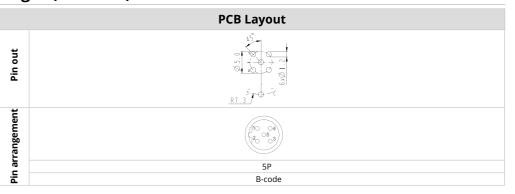
|                     | Code                | В                     |          |  |
|---------------------|---------------------|-----------------------|----------|--|
| Coding and contacts | Contact             | 5                     |          |  |
| Rated voltage / cur | rent                | 250V / 4A             |          |  |
| Contact arrangem    | Contact arrangement |                       | Female   |  |
| Cable               |                     | PUR                   |          |  |
| Protocols           |                     | Profi                 | bus      |  |
|                     | Front mo            | ounting with 2m cable |          |  |
| Connector style     | Mount thread        | Part nu               | ımber    |  |
| Male<br>③           | M16 x 1.5           | 268-B5000             | 0-1BS020 |  |
|                     | Pg9                 | 268-B5002             | 2-1BS020 |  |
| Female<br>§         | M16 x 1.5           | 269-B5000             | 0-1BS020 |  |
|                     | Pg9                 | 269-B5002             | 2-1BS020 |  |
|                     | Rear mo             | unting with 2m cable  |          |  |
| Connector style     | Mount thread        | Part nu               | ımber    |  |
| Male<br>③           | M16 x 1.5           | 270-B5000             | 0-1BS020 |  |
|                     | Pg9                 | 270-B5002             | 2-1BS020 |  |
| Female              | M16 x 1.5           | 271-B5000             | 0-1BS020 |  |
|                     | Pg9                 | 271-B5002             | 2-1BS020 |  |

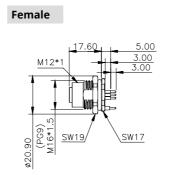
The wire length can be customized. For more details, please contact Dinkle

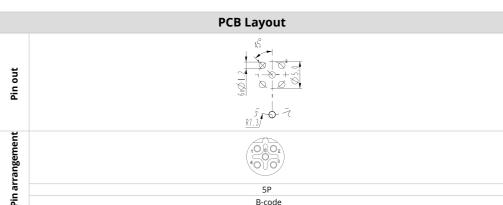
### M12 B-Code One-piece PCB Circular Connector - Industrial Ethernet

#### 180° Rear mounting, straight (Shielded)









### M12 B-Code One-piece PCB Connector - Industrial Ethernet

| 100<br>IP67  | Contact / contact surface   | Copper alloy / Gold plated  |  |  |  |
|--|---|---|--|--|--|
| IP67   |   |   |  |  |  |
|  | Contact carrier   | PA  |  |  |  |
| -40°C ~ 80°C   | Hexigonal nut / Outer Shield  | Zinc die-cast, nickel-plated /<br>Brass, nickel-plated  |  |  |  |
| 0.4 Nm   | O-ring  | NBR   |  |  |  |
| Wave Soldering   | UL94 Flammability rating  | V0  |  |  |  |
| erties   | Cable Inf   | ormation  |  |  |  |
| 60VAC / 4A (5 Pin)   |   |   |  |  |  |
| 1.5kV (5 Pin)  |   |   |  |  |  |
| Min. 100MΩ   |   |   |  |  |  |
| II   |   |   |  |  |  |
| 3  |   |   |  |  |  |
| Standards a  | nd Regulations  |   |  |  |  |
| IEC 61076-2-101: Detail specification for M12 connectors with screw-locking IEC 61076-2-111: Circular connectors - Detail specification for power connectors with M12 screw-locking Design reference |   |   |  |  |  |
| E E  | 0.4 Nm  Wave Soldering  Perties  60VAC / 4A (5 Pin)  1.5kV (5 Pin)  Min. 100MΩ  II  3  Standards a  EC 61076-2-101: Detail sp EC 61076-2-111: Circular crew-locking | 0.4 Nm  O-ring  Wave Soldering  UL94 Flammability rating  Cable Inf  60VAC / 4A (5 Pin)  1.5kV (5 Pin)  Min. 100MΩ  II  3  Standards and Regulations  EC 61076-2-101: Detail specification for M12 connectors we are connectors - Detail specification. |  |  |  |

#### Notice

IEC 60529: Degree of protection provided by enclosures (IP Code)

procedure and measuring methods

UL 2238 / UL2237

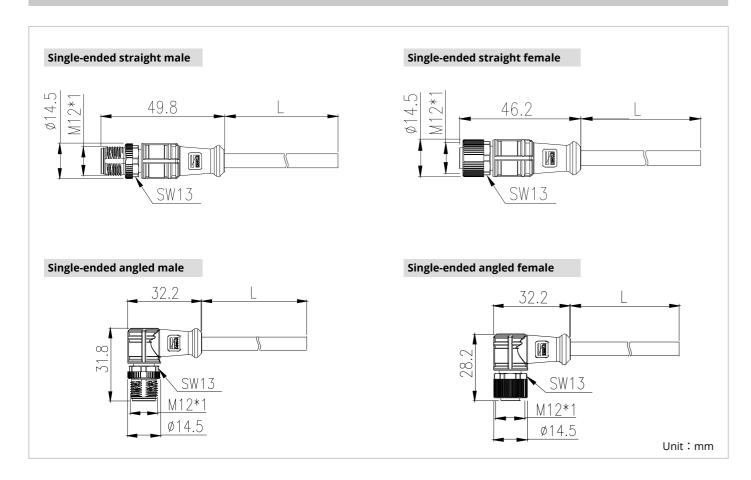
Certification reference

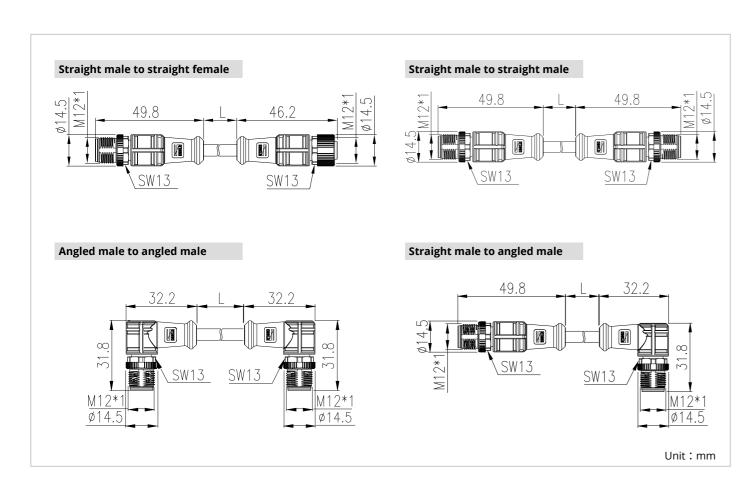
The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

### M12 B-Code One-piece PCB Connector ( Shield ) - Fieldbuses

| Coding and contacts |                                 | Code                    | Е           | 3        |  |
|---------------------|---------------------------------|-------------------------|-------------|----------|--|
| Cou                 | illig allu contacts             | Contact                 | 5           | <b>i</b> |  |
|                     | Rated voltage / current         |                         | 30V / 2A    |          |  |
| Contact arrangement |                                 | Male  (20 0 1) (30 0 4) | Female      |          |  |
|                     | Protocols                       | Protocols Profibus      |             | ibus     |  |
|                     | Rear mounting, straight, Shield |                         |             |          |  |
| (                   | Connector style                 | Mount thread            | Part number |          |  |
| \$                  | Male                            | M16 X 1.5               | 276-B5      | 5000-B   |  |
|                     |                                 | Pg9                     | 276-B5      | 5002-B   |  |
| Ŝ                   | Female<br>(\$)                  | M16 X 1.5               | 277-B5      | 5000-B   |  |
|                     |                                 | Pg9                     | 277-B5      | 5002-B   |  |

### M12 D-Code Molded Circular Connector - Industrial Ethernet





### **M12 D-Code Molded Connector - Industrial Ethernet**

|                                    | Profinet                                  | Ethernet                                  |  |  |
|------------------------------------|---|---|--|--|
| Protocols                          | PROFIT®                                   | Ethernet                                  |  |  |
| Cross-section                      |   |   |  |  |
| Communication                      | PROFINET (100 Mbps)                       | Ethernet CAT5 (100 Mbps)                  |  |  |
| Coding                             | D   | D   |  |  |
| Number of cores                    | 4   | 4   |  |  |
| Outer sheath, material             | PVC                                       | PUR                                       |  |  |
| Outer sheath, color                | Green (RAL 6008)                          | Blue (RAL 5021)                           |  |  |
| Outer sheath, diameter             | 6.5 ± 0.2 mm                              | 6.0 ± 0.25 mm                             |  |  |
| Ambient temperature (operation)    | -40 °C ~ +80 °C                           | -40 °C ~ +80 °C                           |  |  |
| Shielding                          | AL-Foil, tin-plated copper braided shield | AL-mylar, tinned copper<br>braided shield |  |  |
| Conductor material                 | Stranded tinned copper                    | Stranded bare copper                      |  |  |
| AWG signal line                    | 22 AWG                                    | 26 AWG                                    |  |  |
| Wire colors                        | White, Yellow, Blue, Orange               | White/Orange, Orange, White/Green, Green  |  |  |
| Core diameter including insulation | 1.5 ± 0.1 mm                              | 0.9 ± 0.05 mm                             |  |  |
| Conductor resistance               | 59.4 Ω / km (@20 °C)                      | < 148 Ω / km                              |  |  |
|                                    | IEC 61156-6                               | ISO / IEC 11801                           |  |  |
| Standards / Regulations            | ISO / IEC 11801                           | UL 1581                                   |  |  |
|                                    | UL 758                                    | UL 758                                    |  |  |
| UL AWM style                       | 21694                                     | 20963                                     |  |  |
| Flammability test                  | IEC 60332-1, FT2                          | IEC 60332-1, FT2                          |  |  |

### M12 D-Code Molded Connector (Shield) - Networks

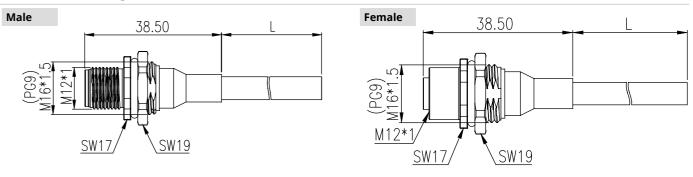
| Cading and contacts                        | Code                                   | ·                | D         | D                | •        |
|--|--|------------------|-----------|------------------|----------|
| Coding and contacts                        | Contact                                | 4                | 4         | 4                |          |
| Rated voltage / curre                      | ent                                    | 250\             | / / 4A    | 30V / 2A         |          |
| Contact arrangeme                          | Contact arrangement                    |                  | Female    | Male             | Female   |
| Cable                                      |  | PVC              |           | PUR              |          |
| Protocols                                  | Profinet (100Mbps) Ethernet CAT5 (100I |                  |           | 5 (100Mbps)      |          |
| Connector style Single-ended straight male | Length(m)                              |                  | Part n    | umber            |          |
| §  | 2                                      | 251-D400         | 00-2PS020 | 251-D400         | 0-0ES020 |
|  | 5                                      | 251-D400         | 00-2PS050 | 251-D400         | 0-0ES050 |
|  | 10                                     | 251-D400         | 00-2PS100 | 251-D400         | 0-0ES100 |
| Single-ended straight female               | 2                                      | 252-D400         | 00-2PS020 | 252-D400         | 0-0ES020 |
| A FIRM                                     | 5                                      | 252-D400         | 00-2PS050 | 252-D400         | 0-0ES050 |
| 4. 4.                                      | 10                                     | 252-D400         | 00-2PS100 | 252-D400         | 0-0ES100 |
| Single-ended angled male                   | 2                                      | 253-D400         | 00-2PS020 | 253-D4000-0ES020 |          |
|  | 5                                      | 253-D4000-2PS050 |           | 253-D4000-0ES050 |          |
|  | 10                                     | 253-D4000-2PS100 |           | 253-D4000-0ES100 |          |
| Single-ended angled female s               | 2                                      | 254-D4000-2PS020 |           | 254-D400         | 0-0ES020 |
|  | 5                                      | 254-D4000-2PS050 |           | 254-D400         | 0-0ES050 |
| 6 6  | 10                                     | 254-D4000-2PS100 |           | 254-D4000-0ES100 |          |
| Straight male mate straight female         | 0.6                                    | 256-D4000-2PSL60 |           | 256-D4000-0ESL60 |          |
|  | 1.5                                    | 256-D4000-2PS015 |           | 256-D4000-0ES015 |          |
| O Part                                     | 3                                      | 256-D4000-2PS030 |           | 256-D4000-0ES030 |          |
| Straight male mate straight male           | 0.6                                    | 257-D400         | 00-2PSL60 | 257-D400         | 0-0ESL60 |
| 0  | 1.5                                    | 257-D4000-2PS015 |           | 257-D4000-0ES015 |          |
| OF OF                                      | 3                                      | 257-D400         | 00-2PS030 | 257-D400         | 0-0ES030 |
|  | Po                                     | ower over Ether  | net       |                  |          |
| Straight male mate straight female         | 25                                     | 256-D400         | 00-2PP250 | 256-D400         | 0-0EP250 |
| Straight male mate straight male s         | 25                                     | 257-D400         | 00-2PP250 | 257-D400         | 0-0EP250 |

The configuration of connectors and the cable length can be customized. For more details, please contact Dinkle

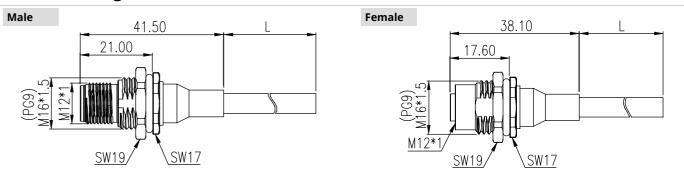
171

### M12 D-Code Device Circular Connector - Industrial Ethernet

#### Front mounting with 2m PUR cable



#### Rear mounting with 2m PUR cable



### **M12 D-Code Device Connector - Industrial Ethernet**

|                                    | Profinet                                  | Ethernet                                 |  |  |
|------------------------------------|---|--|--|--|
| Protocols                          | PROFI ®                                   |  |  |  |
| Cross-section                      |   |  |  |  |
| Communication                      | Profinet (100 Mbps)                       | Ethernet CAT5 (100 Mbps)                 |  |  |
| Coding                             | D   | D  |  |  |
| Number of cores                    | 4   | 4  |  |  |
| Outer sheath, material             | PVC                                       | PUR                                      |  |  |
| Outer sheath, color                | Green (RAL 6008)                          | Blue (RAL 5021)                          |  |  |
| Outer sheath, diameter             | 6.5 ± 0.2 mm                              | 6.0 ± 0.3 mm                             |  |  |
| Ambient temperature (operation)    | -40 °C ~ +80 °C                           | -40 °C ~ +80 °C                          |  |  |
| Shielding                          | AL-Foil, tin-plated copper braided shield | AL-mylar, tinned copper braided shield   |  |  |
| Conductor material                 | Stranded tinned copper                    | Stranded bare copper                     |  |  |
| AWG signal line                    | 22AWG                                     | 26AWG                                    |  |  |
| Wire colors                        | White, Yellow, Blue, Orange               | White/Orange, Orange, White/Green, Green |  |  |
| Core diameter including insulation | 1.5 ± 0.1 mm                              | 0.9 ± 0.05 mm                            |  |  |
| Conductor resistance               | 59.4 Ω/km(@20 °C)                         | < 148 Ω/km                               |  |  |
|                                    | IEC 61156-6                               | ISO/IEC 11801                            |  |  |
| Standards / Regulations            | ISO/IEC 11801                             | UL 1581                                  |  |  |
|                                    | UL 758                                    | UL 758                                   |  |  |
| UL AWM style                       | 21694                                     | 20963                                    |  |  |
| Flammability test                  | IEC 60332-1, FT2                          | IEC 60332-1, FT2                         |  |  |

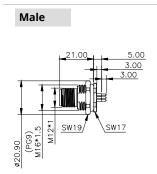
### M12 D-Code Device Connector ( Shield ) - Networks

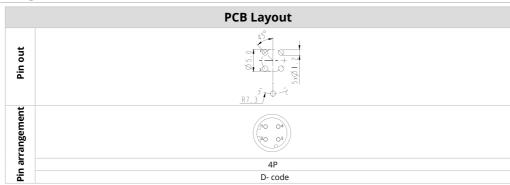
|               |                         | Code           |                       | <u> </u> |                  | )                        |  |
|---------------|-------------------------|----------------|-----------------------|----------|------------------|--------------------------|--|
| (             | Coding and contacts     | Contact        |                       |          |                  |                          |  |
|               |                         |                | <b>4</b><br>250V / 4A |          | 4                |                          |  |
|               | Rated voltage / current |                |                       |          | 30V / 4A         |                          |  |
|               | Contact arrangement     |                | Male                  | Female   | Male             | Female                   |  |
|               | Cable                   |                |                       | PVC      |                  | PUR                      |  |
|               | Protocols               |                |                       | 100Mbps) | Ethernet CA      | <sup>-</sup> 5 (100Mbps) |  |
|               |                         | Front mounting | g with 2m cable       |          |                  |                          |  |
| Male          | Connector style         | Mount thread   |                       | Part n   | umber            |                          |  |
| §             | VI AV                   | M16 x 1.5      | 268-D400              | 0-3PS020 | 268-D400         | 0-1ES020                 |  |
| 6             |                         | Pg9            | 268-D4002-3PS020      |          | 268-D4002-1ES020 |                          |  |
| Female<br>(§) | No Air                  | M16 x 1.5      | 269-D4000-3PS020      |          | 269-D4000-1ES020 |                          |  |
| •             |                         | Pg9            | 269-D4002-3PS020      |          | 269-D4002-1ES020 |                          |  |
|               |                         | Rear mounting  | with 2m cable         |          |                  |                          |  |
| Male          | Connector style         | Mount thread   | Part number           |          |                  |                          |  |
| © S           |                         | M16 x 1.5      | 270-D400              | 0-3PS020 | 270-D400         | 0-1ES020                 |  |
|               |                         | Pg9            | 270-D4002-3PS020      |          | 270-D4002-1ES020 |                          |  |
| Female<br>§   |                         | M16 x 1.5      | 271-D400              | 0-3PS020 | 271-D400         | 0-1ES020                 |  |
| 6             |                         | Pg9            | 271-D400              | 2-3PS020 | 271-D400         | 2-1ES020                 |  |

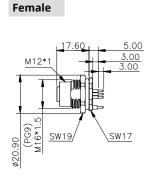
The wire length can be customized. For more details, please contact Dinkle

### M12 D-Code One-piece PCB Circular Connector - Industrial Ethernet

#### 180° Rear mounting, straight (Shielded)







|                 | PCB Layout                                 |
|-----------------|--|
| Pin out         | 15° 22' 22' 22' 22' 22' 22' 22' 22' 22' 22 |
| Pin arrangement | 4P   |
| Pi              | D- code                                    |

### M12 D-Code One-piece PCB Connector - Industrial Ethernet

| Mechanical Pr                      | operties   | Materia   | al Properties  |
|------------------------------------|--|---|--|
| Min. Insertion/withdrawal cycles   | 100  | Contact / contact surface   | Copper alloy / Gold plated                             |
| Degree of protection               | IP67   | Contact carrier   | PA   |
| Operating Temperature              | -40°C ~ 80°C   | Hexigonal nut / Outer<br>Shield                                   | Zinc die-cast, nickel-plated /<br>Brass, nickel-plated |
| Fasten torque                      | 0.4 Nm   | O-ring  | NBR  |
| Soldering method                   | Wave Soldering                                       | UL94 Flammability rating  | V0   |
| Electrical Pro                     | perties  | Cable I   | nformation   |
| Rated voltage / current (contacts) | 250VAC / 4A (≤4 Pin)                                 |   |  |
| Rated Impulse Voltage              | 2.5kV (≤4 Pin)                                       |   |  |
| Insulation resistance              | Min. 100MΩ   |   |  |
| Overvoltage Category               | II   |   |  |
| Pollution Degree                   | 3  |   |  |
|                                    | Standards an   | d Regulations   |  |
|                                    |  | cification for M12 connectors<br>onnectors - Detail specification | with screw-locking<br>n for power connectors with M12  |
| Design reference                   | IEC 60512: Electromechanic procedure and measuring r | al components for electronic<br>nethods                           | equipment; basic testing                               |
|                                    | IEC 60529: Degree of protect                         | ction provided by enclosures                                      | (IP Code)  |
| Certification reference            | UL 2238 / UL2237                                     |   |  |

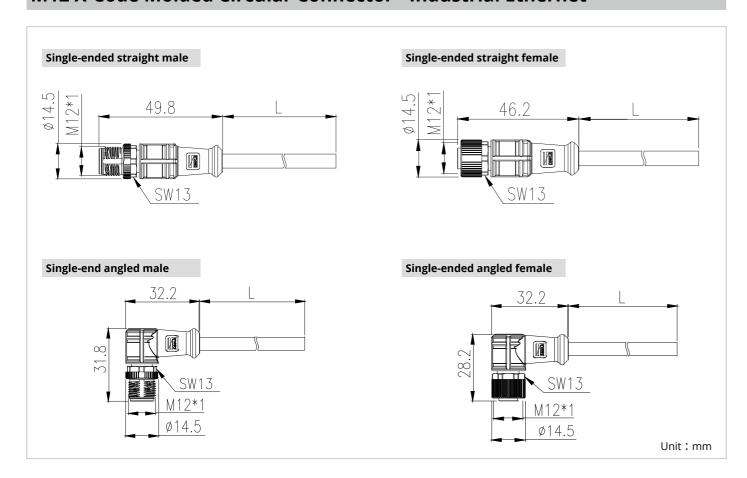
Notice

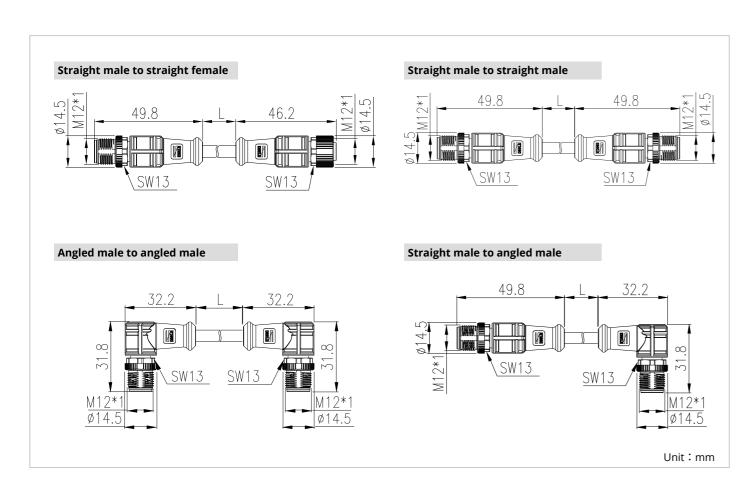
The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

### M12 D-Code One-piece PCB Connector (Shield) - Networks

| Coding and contacts             |                | Code         | D           | D      |                | D      |
|---------------------------------|----------------|--------------|-------------|--------|----------------|--------|
|                                 |                | Contact      | 4           |        | 4              |        |
| Rate                            | ed voltage / c | current      | 60V         | / 4A   | 60V            | ′ / 4A |
| Contact arrangement             |                | Male         | Female      | Male   | Female         |        |
|                                 | Protocols      |              | PROFINET    |        | Ethernet CAT5e |        |
| Rear mounting, straight, Shield |                |              |             |        |                |        |
| Conne                           | ctor style     | Mount thread | Part number |        |                |        |
| (§)                             | Male           | M16 X 1.5    | 276-D4      | Ю00-Р  | 276-D          | 4000-E |
|                                 |                | Pg9          | 276-D4      | 1002-P | 276-D          | 4002-E |
| Fe s                            | emale          | M16 X 1.5    | 277-D4      | 1000-P | 277-D          | 4000-E |
|                                 |                | Pg9          | 277-D4      | 1002-P | 277-D          | 4002-E |

### M12 X-Code Molded Circular Connector - Industrial Ethernet





### M12 X-Code Molded Connector - Industrial Ethernet

|                                    | Ethernet   |  |  |  |
|------------------------------------|--|--|--|--|
| Protocols                          | Ethernet   |  |  |  |
| Cross-section                      |  |  |  |  |
| Communication                      | Ethernet CAT6A (10 Gbps)   |  |  |  |
| Coding                             | X  |  |  |  |
| Number of cores                    | 8  |  |  |  |
| Outer sheath, material             | PUR  |  |  |  |
| Outer sheath, color                | Blue (RAL 5021)  |  |  |  |
| Outer sheath, diameter             | 6.45± 0.2 mm   |  |  |  |
| Ambient temperature (operation)    | -40 °C ~ +80 °C  |  |  |  |
| Shielding                          | AL-mylar, tinned copper braided shield   |  |  |  |
| Conductor material                 | Stranded bare copper   |  |  |  |
| AWG signal line                    | 26AWG  |  |  |  |
| Wire colors                        | White/Orange, Orange, White/Green, Green, White/Brown, Brown, White/Blue, Blue |  |  |  |
| Core diameter including insulation | 1.08 ± 0.2 mm  |  |  |  |
| Conductor resistance               | 148 Ω/km   |  |  |  |
|                                    | ISO/IEC 11801  |  |  |  |
| Standards / Regulations            | EIA/TIA 568  |  |  |  |
|                                    | IEC 60754-1  |  |  |  |
| UL AWM style                       | 20549  |  |  |  |
| Flammability test                  | IEC 60332-1, FT2   |  |  |  |

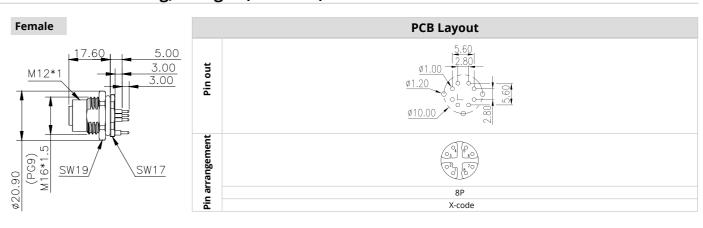
### M12 X-Code Molded Connector (Shield) - Networks

| Coding and contacts        | Code      | X                                  |  |
|----------------------------|-----------|------------------------------------|--|
| Coding and contacts        | Contact   | 8                                  |  |
| Rated voltage / curr       | ent       | 50V / 0.5A                         |  |
| Contact arrangeme          | nt        | Male  PUR  Ethernet CAT6A (10Gbps) |  |
| Cable                      |           |                                    |  |
| Protocols                  |           |                                    |  |
| Connector style            | Length(m) | Part number                        |  |
| Single-ended straight male | 2         | 251-X8300-0AS020                   |  |
|                            | 5         | 251-X8300-0AS050                   |  |
|                            | 10        | 251-X8300-0AS100                   |  |

The configuration of connectors and the cable length can be customized. For more details, please contact Dinkle

### M12 X-Code One-piece PCB Circular Connector - Industrial Ethernet

#### 180° Rear mounting, straight (Shielded)



### M12 X-Code One-piece PCB Circular Connector - Industrial Ethernet

| Mechanical Pro                   | operties       | Material Properties          |  |  |
|----------------------------------|----------------|------------------------------|--|--|
| Min. Insertion/withdrawal cycles | 100            | Contact / contact surface    | Copper alloy / Gold plated                             |  |
| Degree of protection             | IP67           | Contact carrier              | PA   |  |
| Operating Temperature            | -40°C ~ 80°C   | Hexigonal nut / Outer Shield | Zinc die-cast, nickel-plated /<br>Brass, nickel-plated |  |
| Fasten torque                    | 0.4 Nm         | O-ring                       | NBR  |  |
| Soldering method                 | Wave Soldering | UL94 Flammability rating     | VO   |  |

| Electrical Properties              |                    |  |
|------------------------------------|--------------------|--|
| Rated voltage / current (contacts) | 30VAC / 2A (8 Pin) |  |
| Rated Impulse Voltage              | 0.8kV (8 Pin)      |  |
| Insulation resistance              | Min. 100MΩ         |  |
| Overvoltage Category               | II                 |  |
| Pollution Degree                   | 3                  |  |

| I ollation Degree                        | J   |   |  |  |
|--|---|---|--|--|
| Standards and Regulations                |   |   |  |  |
| Decign reference                         |   | ecification for M12 connectors with screw-locking connectors - Detail specification for power connectors with M12 |  |  |
| Design reference                         | IEC 60512: Electromechani and measuring methods | cal components for electronic equipment; basic testing procedure  |  |  |
|  | IEC 60529: Degree of prote                      | ection provided by enclosures (IP Code)   |  |  |
| Certification reference UL 2238 / UL2237 |   |   |  |  |
| Notice                                   |   |   |  |  |

The mechanical and electrical data performance can be ensured when the connector pair is correctly locked and fasten by specified torque. If the connector is not locked and or exposured in th contaminated environment, the connector must be sealed by the protective cover. Also, the influences from conductor, cable or PCB assembly must be taken into consideration.

### M12 X-Code One-piece PCB Connector (Shield) - Networks

| Coding and contacts | Code         | X                               |
|---------------------|--------------|---------------------------------|
| Coding and contacts | Contact      | 8                               |
| Rated voltage /     | current      | 30V / 1.5A                      |
|                     |              | Female                          |
| Contact arran       | gement       |                                 |
| Protocol            | s            | Ethernet CAT6A                  |
|                     | ı            | Rear mounting, straight, Shield |
| Connector style     | Mount thread | Part number                     |
| Male                |              |                                 |
| (§                  | M16 X 1.5    | -                               |
|                     | Pg9          | -                               |
| Female              |              |                                 |
| § (a)               | M16 X 1.5    | 277-X8300-3                     |
|                     | Pg9          | 277-X8302-3                     |

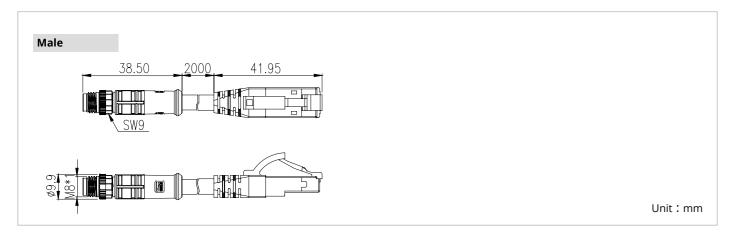
# **Functional class**

Dinkle provides high-quality M8 and M12 circular connector mate RJ45 adapter solutions designed specifically for the demanding network communication needs of industrial automation and harsh environments. These circular connectors securely encapsulate the RJ45 network interface in an IP67-rated metal housing, offering waterproof and dustproof protection while maintaining stable data transmission even in conditions with moisture, oil, and dust.

With excellent vibration resistance and durability, these connectors are particularly suited for applications such as factory automation equipment, robotic arms, and intelligent warehousing systems, ensuring stable and reliable Ethernet connections. Dinkle's circular connector mate RJ45 series is easy to install and maintain, effectively reducing wiring errors during network installation, enhancing overall production efficiency, and providing dependable network connection protection for your equipment.



### M8 A-Code Molded Circular Connector Mate RJ45 Connector



### M8 A-Code Molded Connector Mate RJ45 Connector

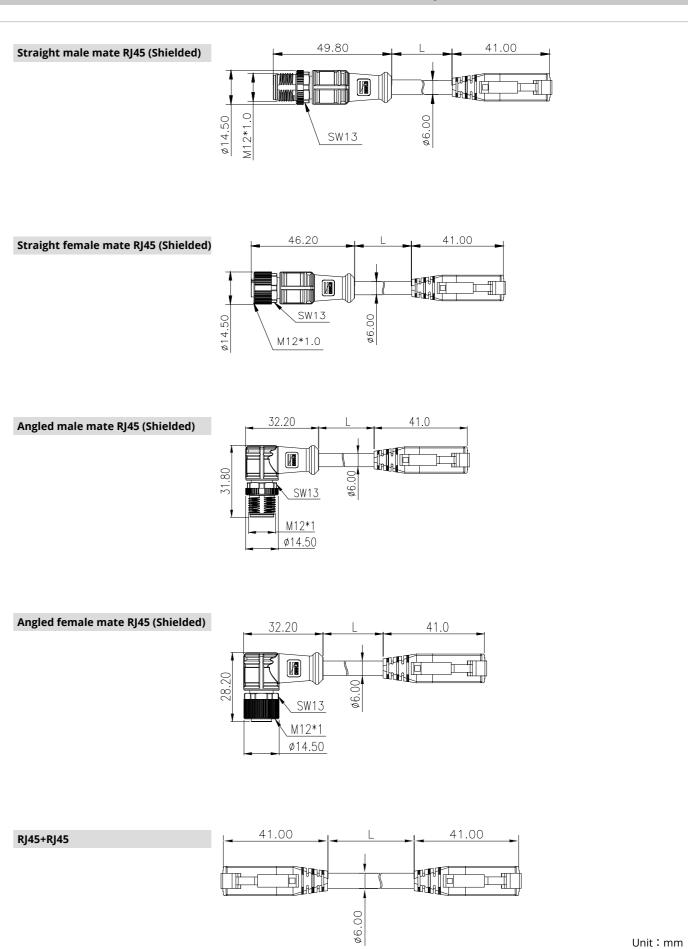
|                                    | Profinet                                  |
|------------------------------------|---|
| Protocols                          | Ethernet                                  |
| Cross-section                      |   |
| Communication                      | Ethernet CAT5e                            |
| Coding                             | A   |
| Number of cores                    | 4   |
| Outer sheath, material             | PUR                                       |
| Outer sheath, color                | Blue (RAL 5021)                           |
| Outer sheath, diameter             | 6.0 ± 0.2 mm                              |
| Ambient temperature (operation)    | -40 °C ~ +80 °C                           |
| Shielding                          | AL-Foil, tin-plated copper braided shield |
| Conductor material                 | Stranded tinned copper                    |
| AWG signal line                    | 26AWG                                     |
| Wire colors                        | White/Orange, Orange, White/Green, Green  |
| Core diameter including insulation | 0.9 ± 0.05 mm                             |
| Conductor resistance               | < 148 Ω/km                                |
|                                    | ISO / IEC 11801                           |
| Standards / Regulations            | UL 1581                                   |
|                                    | UL 758                                    |
| UL AWM style                       | 20963                                     |
| Flammability test                  | IEC 60332-1, FT2                          |

### M8 A-Code Molded Connector Mate RJ45 Connector

| Cadina and santasta                          | Code      | Α                  |        |
|--|-----------|--------------------|--------|
| Coding and contacts                          | Contact   | 8                  |        |
| Rated voltage / current  Contact arrangement |           | 30V / 2A           |        |
|  |           | Male               | Female |
| Cable  |           | PUR                |        |
| Protocols                                    |           | Ethernet CAT5e (10 | Gbps)  |
| Connector style                              | Length(m) | Part number        |        |
| Straight male mate RJ45                      | 0.6       | 399-A4EML60        |        |
|  | 1.5       | 399-A4EM015        |        |
|  | 3         | 399-A4EM030        |        |
| Straight female mate RJ45                    | 0.6       | 399-A4EFL60        |        |
|  | 1.5       | 399-A4EF015        |        |
|  | 3         | 399-A4EF030        |        |
| Angled male mate RJ45                        | 0.6       | 398-A4EML60        |        |
|  | 1.5       | 398-A4EM015        |        |
|  | 3         | 398-A4EM030        |        |
| Angled male mate RJ45                        | 0.6       | 398-A4EFL60        |        |
|  | 1.5       | 398-A4EF015        |        |
|  | 3         | 398-A4EF030        |        |

The configuration of connectors and the cable length can be customized. For more details, please contact Dinkle

### M12 A-Code Molded Circular Connector Mate RJ45 Connector



185  $oxed{1}$ 

### M12 A-Code Molded Connector Mate RJ45 Connector

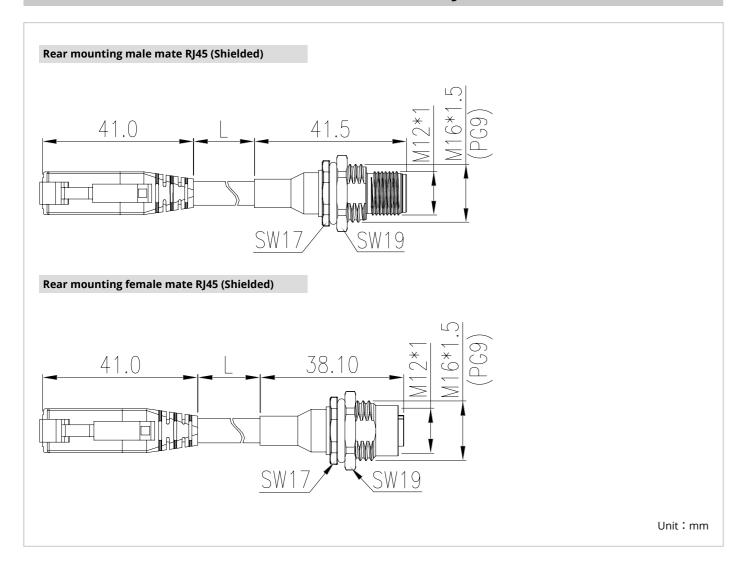
| Protocols                          | Ethernet   |  |  |
|------------------------------------|--|--|--|
| Cross-section                      |  |  |  |
| Communication                      | Ethernet CAT5e (1 Gbps)  |  |  |
| Coding                             | A  |  |  |
| Number of cores                    | 8  |  |  |
| Outer sheath, material             | PUR  |  |  |
| Outer sheath, color                | Blue (RAL 5021)  |  |  |
| Outer sheath, diameter             | 6.0 ± 0.3 mm   |  |  |
| Ambient temperature (operation)    | -40 °C ~ +80 °C  |  |  |
| Shielding                          | AL-mylar, tinned copper braided shield   |  |  |
| Conductor material                 | Stranded bare copper   |  |  |
| AWG signal line                    | 26AWG  |  |  |
| Wire colors                        | White/Blue, Blue, White/Orange, Orange, White/Green, Green, White/Brown, Brown |  |  |
| Core diameter including insulation | 0.92 ± 0.05 mm   |  |  |
| Conductor resistance               | < 148 Ω/km   |  |  |
|                                    | ISO/IEC 11801  |  |  |
| Standards / Regulations            | UL 1581  |  |  |
|                                    | UL 758   |  |  |
| UL AWM style                       | 20963  |  |  |
| Flammability test                  | IEC 60332-1, FT2   |  |  |

### M12 A-Code Molded Connector Mate RJ45 Connector ( Shield ) - Networks

| Cadima and an exert  | Code      | Α           |     |  |           |
|--|-----------|-------------|-----|--|-----------|
| Coding and contacts  | Contact   | 8           |     |  |           |
| Rated voltage / current  Contact arrangement  Cable  |           | 30V / 1A    |     |  |           |
|  |           | Male Female |     |  |           |
|  |           |             |     |  | Protocols |
| Connector style  | Length(m) | Part numb   | per |  |           |
| Straight male mate RJ45  | 0.6       | 299-A8EML   | .60 |  |           |
|  | 1.5       | 299-A8EM015 |     |  |           |
|  | 3         | 299-A8EM030 |     |  |           |
| Straight female mate RJ45  | 0.6       | 299-A8EFL60 |     |  |           |
| CAN THE STATE OF T | 1.5       | 299-A8EF015 |     |  |           |
| ( Barrell  | 3         | 299-A8EF030 |     |  |           |
| Angled male mate RJ45  | 0.6       | 298-A8EML60 |     |  |           |
|  | 1.5       | 298-A8EM015 |     |  |           |
|  | 3         | 298-A8EM0   | 030 |  |           |
| Angled female mate RJ45  | 0.6       | 298-A8EFL   | 60  |  |           |
| P. Contraction of the contractio | 1.5       | 298-A8EF015 |     |  |           |
|  | 3         | 298-A8EF030 |     |  |           |
| RJ45 + RJ45  | 1         | 0206-0301   |     |  |           |
|  | 3         | 0206-0303   |     |  |           |
|  | 5         | 0206-0305   |     |  |           |

The configuration of connectors and the cable length can be customized. For more details, please contact Dinkle

### M12 A-Code Device Circular Connector Mate RJ45 Connector



### M12 A-Code Device Connector Mate RJ45 Connector

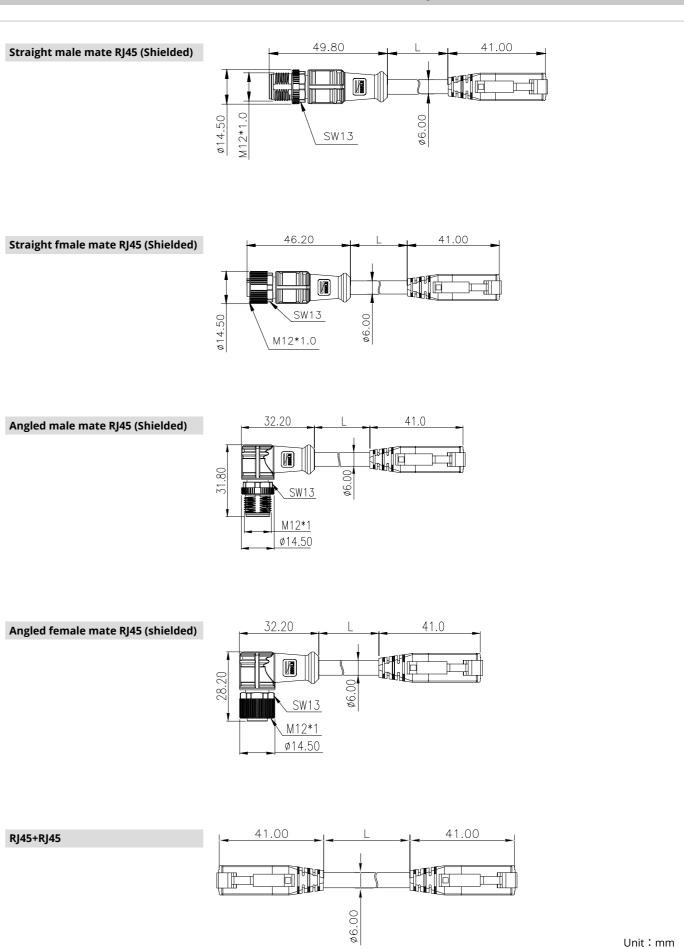
| Protocols                          | Ethernet   |  |  |  |
|------------------------------------|--|--|--|--|
| Cross-section                      |  |  |  |  |
| Communication                      | Ethernet CAT5e (1 Gbps)  |  |  |  |
| Coding                             | A  |  |  |  |
| Number of cores                    | 8  |  |  |  |
| Outer sheath, material             | PUR  |  |  |  |
| Outer sheath, color                | Blue (RAL 5021)  |  |  |  |
| Outer sheath, diameter             | 6.0 ± 0.3 mm   |  |  |  |
| Ambient temperature (operation)    | -40 °C ~ +80 °C  |  |  |  |
| Shielding                          | AL-mylar, tinned copper braided shield   |  |  |  |
| Conductor material                 | Stranded bare copper   |  |  |  |
| AWG signal line                    | 26AWG  |  |  |  |
| Wire colors                        | White/Blue, Blue, White/Orange, Orange, White/Green, Green, White/Brown, Brown |  |  |  |
| Core diameter including insulation | 0.92 ± 0.05 mm   |  |  |  |
| Conductor resistance               | < 148 Ω/km   |  |  |  |
|                                    | IEC 61076-2-101  |  |  |  |
| Standards / Regulations            | IEC 60512  |  |  |  |
|                                    | IEC 60529  |  |  |  |
| UL AWM style                       | UL 2238  |  |  |  |
| Flammability test                  | VO   |  |  |  |

### M12 A-Code Device Connector Mate RJ45 Connector ( Shield ) - Networks

| Coding and contacts | Code            | Α                                     |      |  |  |
|---------------------|-----------------|---------------------------------------|------|--|--|
| Coding and contacts | Contact         | 8                                     |      |  |  |
| Rated voltage / cu  | rrent           | 30V / 2A                              | A    |  |  |
| Contact arrangen    | nent            | Male Female                           |      |  |  |
| Cable               |                 | PUR                                   |      |  |  |
| Protocols           |                 | Ethernet CAT5e (1Gbps)                |      |  |  |
|                     | 1               | Rear mounting mate RJ45 with 2m cable |      |  |  |
| Connector style     | Mount<br>thread | Part num                              | ber  |  |  |
| Male (§)            | M16 x 1.5       | 0206-700-0302                         |      |  |  |
| 250                 | Pg9             | 0206-702-0                            | 0302 |  |  |
| Female (§)          | M16 x 1.5       | 0206-710-0302                         |      |  |  |
| 49                  | Pg9             | 0206-712-0302                         |      |  |  |

The wire length can be customized. For more details, please contact Dinkle

### M12 D-Code Molded Circular Connector Mate RJ45 Connector



### M12 D-Code Molded Connector Mate RJ45 Connector

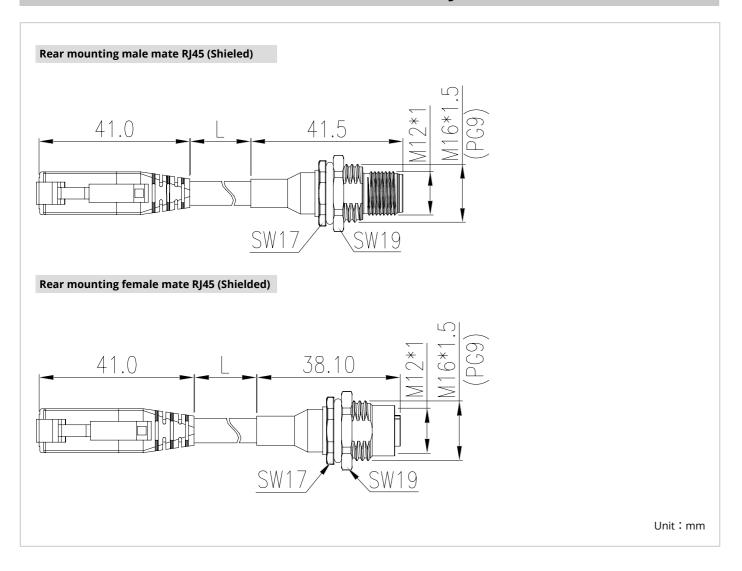
|                                    | Profinet                                  | Ethernet                                 |  |  |
|------------------------------------|---|--|--|--|
| Protocols                          | PROFIT®                                   | Ethernet                                 |  |  |
| Cross-section                      |   |  |  |  |
| Communication                      | Profinet (100 Mbps)                       | Ethernet CAT5 (100 Mbps)                 |  |  |
| Coding                             | D   | D  |  |  |
| Number of cores                    | 4   | 4  |  |  |
| Outer sheath, material             | PVC                                       | PUR                                      |  |  |
| Outer sheath, color                | Green (RAL 6008)                          | Blue (RAL 5021)                          |  |  |
| Outer sheath, diameter             | 6.5 ± 0.2 mm                              | 6.0 ± 0.3 mm                             |  |  |
| Ambient temperature (operation)    | -40 °C ~ +80 °C                           | -40 °C ~ +80 °C                          |  |  |
| Shielding                          | AL-Foil, tin-plated copper braided shield | AL-mylar, tinned copper braided shield   |  |  |
| Conductor material                 | Stranded tinned copper                    | Stranded bare copper                     |  |  |
| AWG signal line                    | 22AWG                                     | 26AWG                                    |  |  |
| Wire colors                        | White, Yellow, Blue, Orange               | White/Orange, Orange, White/Green, Green |  |  |
| Core diameter including insulation | 1.5 ± 0.1 mm                              | 0.9 ± 0.05 mm                            |  |  |
| Conductor resistance               | 59.4 Ω/km(@20 °C)                         | < 148 Ω/km                               |  |  |
|                                    | IEC 61156-6                               | ISO/IEC 11801                            |  |  |
| Standards / Regulations            | ISO/IEC 11801                             | UL 1581                                  |  |  |
|                                    | UL 758                                    | UL 758                                   |  |  |
| UL AWM style                       | 21694                                     | 20963                                    |  |  |
| Flammability test                  | IEC 60332-1, FT2                          | IEC 60332-1, FT2                         |  |  |

### M12 D-Code Molded Connector Mate RJ45 Connector ( Shield ) - Networks

| Calling and souts at   | Code      | D           |                    | D           | )                       |  |
|--|-----------|-------------|--------------------|-------------|-------------------------|--|
| Coding and contacts  | Contact   | 4           |                    | 4           |                         |  |
| Rated voltage / current  |           | 250V / 4A   |                    | 30V / 2A    |                         |  |
| Contact arrangement  |           | Male        | Female             | Male        | Female                  |  |
| Cable  | Cable     |             | PVC                |             | IR                      |  |
| Protocols  | Protocols |             | Profinet (100Mbps) |             | Ethernet CAT5 (100Mbps) |  |
| Connector style  | Length(m) |             | Part r             | umber       |                         |  |
| Straight male mate RJ45  | 0.6       | 299-D4      | PML60              | 299-D4      | EML60                   |  |
|  | 1.5       | 299-D4      | PM015              | 299-D4      | EM015                   |  |
| ON ON  | 3         | 299-D4      | PM030              | 299-D4EM030 |                         |  |
| Straight female mate RJ45  | 0.6       | 299-D4PFL60 |                    | 299-D4EFL60 |                         |  |
|  | 1.5       | 299-D4PF015 |                    | 299-D4EF015 |                         |  |
| 0,00   | 3         | 299-D4PF030 |                    | 299-D4EF030 |                         |  |
| Angled male mate RJ45  | 0.6       | 298-D4PML60 |                    | 298-D4EML60 |                         |  |
|  | 1.5       | 298-D4PM015 |                    | 298-D4EM015 |                         |  |
|  | 3         | 298-D4PM030 |                    | 298-D4EM030 |                         |  |
| Angled female mate RJ45  | 0.6       | 298-D4PFL60 |                    | 298-D4EFL60 |                         |  |
|  | 1.5       | 298-D4PF015 |                    | 298-D4EF015 |                         |  |
| S S  | 3         | 298-D4      | IPF030             | 298-D4      | EF030                   |  |
| RJ45 + RJ45  | 1         | 0206-0101   |                    | 0206-0201   |                         |  |
| A A  | 3         | 0206-0103   |                    | 0206-0203   |                         |  |
| THE STATE OF THE S | 5         | 0206-0105   |                    | 0206-0205   |                         |  |

The configuration of connectors and the cable length can be customized. For more details, please contact Dinkle

### M12 D-Code Device Circular Connector Mate RJ45 Connector



### M12 D-Code Device Connector Mate RJ45 Connector

|                                    | Profinet                                  | Ethernet                                 |
|------------------------------------|---|--|
| Protocols                          | PROFIT®                                   | Ethernet                                 |
| Cross-section                      |   |  |
| Communication                      | Profinet (100 Mbps)                       | Ethernet CAT5 (100 Mbps)                 |
| Coding                             | D   | D  |
| Number of cores                    | 4   | 4  |
| Outer sheath, material             | PVC                                       | PUR                                      |
| Outer sheath, color                | Green (RAL 6008)                          | Blue (RAL 5021)                          |
| Outer sheath, diameter             | 6.5 ± 0.2 mm                              | 6.0 ± 0.3 mm                             |
| Ambient temperature (operation)    | -40 °C ~ +80 °C                           | -40 °C ~ +80 °C                          |
| Shielding                          | AL-Foil, tin-plated copper braided shield | AL-mylar, tinned copper braided shield   |
| Conductor material                 | Stranded tinned copper                    | Stranded bare copper                     |
| AWG signal line                    | 22AWG                                     | 26AWG                                    |
| Wire colors                        | White, Yellow, Blue, Orange               | White/Orange, Orange, White/Green, Green |
| Core diameter including insulation | 1.5 ± 0.1 mm                              | 0.9 ± 0.05 mm                            |
| Conductor resistance               | 59.4 Ω/km(@20 °C)                         | < 148 Ω/km                               |
|                                    | IEC 61156-6                               | ISO/IEC 11801                            |
| Standards /<br>Regulations         | UL AWM style                              | UL 1581                                  |
|                                    | Flammability test                         | UL 758                                   |
| UL AWM style                       | 21694                                     | 20963                                    |
| Flammability test                  | IEC 60332-1, FT2                          | IEC 60332-1, FT2                         |

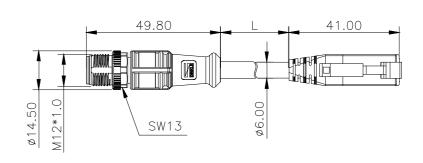
### M12 D-Code Device Connector Mate RJ45 Connector ( Shield ) - Networks

| Coding and contacts     | Code                    | D              |                         | D             |        |
|-------------------------|-------------------------|----------------|-------------------------|---------------|--------|
| Coding and contacts     | Contact                 | 4              |                         | 4             |        |
| Rated voltage / current |                         | 250V / 4A      |                         | 30V / 4A      |        |
| Contact arrangement     |                         | Male           | Female                  | Male          | Female |
| Cable                   |                         | PVC            |                         | PUR           |        |
| Protocols               | PROFINET CAT5 (100Mbps) |                | Ethernet CAT5 (100Mbps) |               |        |
|                         | r mounting mat          | e RJ45 with 2m |                         |               |        |
| Connector style         | Mount thread            |                | Part n                  | umber         |        |
| Male<br>§               | M16 x 1.5               | 0206-700-0102  |                         | 0206-700-0202 |        |
| Pg9                     |                         | 0206-702-0102  |                         | 0206-702-0202 |        |
| Female<br>③             | M16 x 1.5               | 0206-710-0102  |                         | 0206-710-0202 |        |
|                         | Pg9                     | 0206-71        | 12-0102                 | 0206-712-0202 |        |

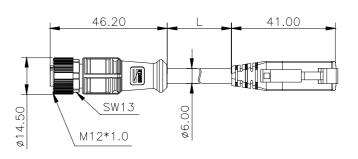
The wire length can be customized. For more details, please contact Dinkle

### M12 X-Code Molded Circular Connector Mate RJ45 Connector

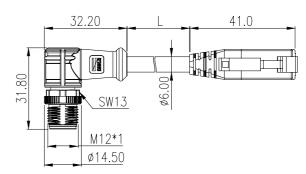
#### Straight male mate RJ45 (Shielded)



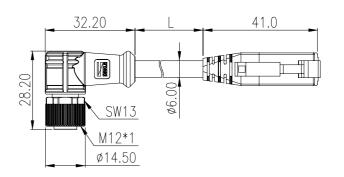
#### Straight female mate RJ45 (Shielded)



#### Angled male mate RJ45 (Shielded)



#### Angled female maate RJ45 (Shielded)



Unit: mm

### M12 X-Code Molded Connector Mate RJ45 Connector

|                                    | Ethernet   |  |  |  |
|------------------------------------|--|--|--|--|
| Protocols                          | Ethernet   |  |  |  |
| Cross-section                      |  |  |  |  |
| Communication                      | Ethernet CAT6A (10 Gbps)   |  |  |  |
| Coding                             | X  |  |  |  |
| Number of cores                    | 8  |  |  |  |
| Outer sheath, material             | PUR  |  |  |  |
| Outer sheath, color                | Blue (RAL 5021)  |  |  |  |
| Outer sheath, diameter             | 6.45 ± 0.2 mm  |  |  |  |
| Ambient temperature (operation)    | -40 °C ~ +80 °C  |  |  |  |
| Shielding                          | AL-mylar, tinned copper braided shield   |  |  |  |
| Conductor material                 | Stranded bare copper   |  |  |  |
| AWG signal line                    | 26AWG  |  |  |  |
| Wire colors                        | White/Orange, Orange, White/Green, Green, White/Brown, Brown, White/Blue, Blue |  |  |  |
| Core diameter including insulation | 1.08 ± 0.2 mm  |  |  |  |
| Conductor resistance               | 148 Ω/km   |  |  |  |
|                                    | ISO/IEC 11801  |  |  |  |
| Standards / Regulations            | UL AWM style   |  |  |  |
|                                    | Flammability test  |  |  |  |
| UL AWM style                       | 20549  |  |  |  |
| Flammability test                  | IEC 60332-1, FT2   |  |  |  |

### M12 X-Code Molded Connector Mate RJ45 Connector ( Shield ) - Networks

| Coding and contacts  | Code      | X                       |  |  |
|--|-----------|-------------------------|--|--|
| Coding and contacts  | Contact   | 8                       |  |  |
| Rated voltage / curr   | ent       | 50V / 0.5A              |  |  |
|  |           | Male                    |  |  |
| Contact arrangeme  | ent       |                         |  |  |
| Cable  |           | PUR                     |  |  |
| Protocols  |           | Ethernet CAT6A (10Gbps) |  |  |
| Connector style  | Length(m) | Part number             |  |  |
| Straight male mate RJ45  | 0.6       | 299-X8AML60             |  |  |
| A STATE OF THE PARTY OF THE PAR | 1.5       | 299-X8AM015             |  |  |
|  | 3         | 299-X8AM030             |  |  |

The configuration of connectors and the cable length can be customized. For more details, please contact Dinkle

# Accessories

For sensor/actuator cables, receptacles, and connectors not yet used by field I/O devices, DINKLE offers M8 and M12 plastic sealing caps to increase the IP rating of unmated connectors. Especially for panel and PCB applications, you can also choose a waterproof cover with a rubber strap to avoid the risk of losing the cover during use.



| Product S                   | Size              | N        | 18         | M        | 112        |
|-----------------------------|-------------------|----------|------------|----------|------------|
|                             | Suitable mounting | For male | For female | For male | For female |
|                             | thread            |          | Part n     | umber    |            |
| Plastic sealing cap         | -                 | -        | -          | -        | 200-A002   |
|                             | -                 | -        | -          | 200-A001 | -          |
|                             | -                 | 300-A003 | -          | -        | -          |
|                             | -                 | -        | 300-A005   | -        | -          |
| Plastic sealing cap<br>with | M16 x 1.5, Pg9    | -        | -          | 200-A003 | -          |
|                             | retaining chain   | -        | -          | -        | 200-A004   |
|                             | M12               | -        | 300-A001   | -        | -          |
|                             | M8                | 300-A004 | 300-A002   | -        | -          |

For unused connection endpoints of sensor/actuator cables, sockets, and field I/O devices, Dinkle has introduced the M8 and M12 series plastic sealing caps to enhance the IP rating of unpaired connectors. Specifically, for panel and PCB connectors on the device side, you can also choose waterproof caps with rubber chains to prevent the risk of loss due to dropping during use.