町洋机电（中国）有限公司
DINKLE ELECTRIC MACHINERY (CHINA) CO., LTD.

RES2 直流电源电涌保护器 (SPDⅡ类)

RES2电涌保护器SPD

使用说明书

RES2-直流系列

⚠注意

- 使用产品前，请认真仔细阅读本说明书！
- 安装、调试和检查须由专业的电气工程人员进行。
- 必须遵守相关的国家和地方法规和标准。
- 安装使用前务必检查和确认产品无外部破损，若有缺陷，不得使用！
- 请确认产品应用系统最大工作电压不超过产品最大允许值Uc或Ucpv。
- 请依照本说明书中推荐的接线铜缆要求，并可靠接地。
- 请采用本说明书中推荐的最大后备保护熔丝规格。
- 产品状态窗口颜色由绿色变为红色，请及时更换相同规格产品。
- 若基座损坏，须更换整个产品。

本公司对产品保留修改及说明书的变更权，如有更新，再另行通知。

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■ 概述

RES2系列直流电源SPD符合IEC、GB等设计标准，适用于低压电源直流供电系统；能在电涌产生瞬间，将被保护线路接入等电位系统中，将电压限制在一定水平，起到保护用户用电设备的作用。

■ 命名方式

RES2-XX-XXXXX

- 无：不带遥信报警
- F：带遥信报警
- 24：Un=24VDC
  110：Un=110VDC
  220：Un=220VDC
  1000：Ucpv=1000VDC
  1500：Ucpv=1500VDC
- 40：最大放电电流I_{max}：40kA
- 系列号

■ 产品型号

型号	型号
RES2-40-24	RES2-40-24F
RES2-40-110	RES2-40-110F
RES2-40-220	RES2-40-220F
RES2-40-1000	RES2-40-1000F
RES2-40-1500	RES2-40-1500F

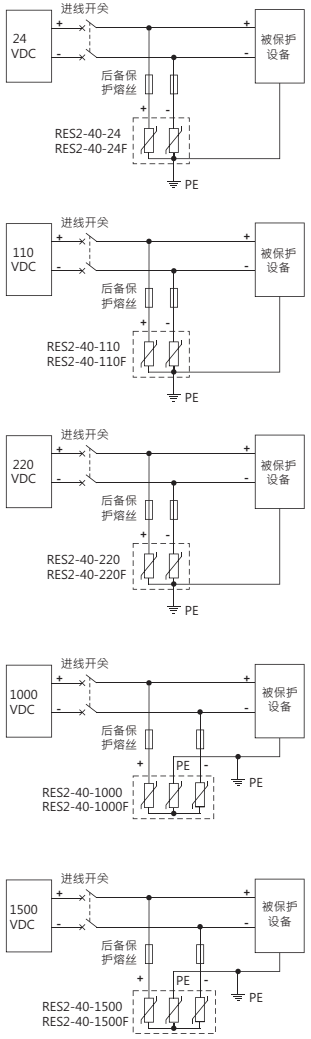
注：带“F”型号具有遥信报警功能

■ 主要技术参数

技术参数 \ 产品型号	RES2-40-24	RES2-40-110	RES2-40-220	RES2-40-1000	RES2-40-1500
额定工作电压Un	24V DC	110V DC	220V DC	-	-
最大工作电压Uc	90V DC 60V AC	180V DC 120V AC	320V DC 220V AC	-	-
最大工作电压Ucpv	-	-	-	1000V DC	1500V DC
电压保护水平Up	0.6kV	0.8kV	1.2kV	4.0kV	6.0kV
测试标准	GB/T18802.1；IEC61643-11			GB/T18802.31	

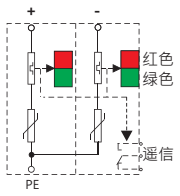
标称放电电流In(8/20μs)：	20kA
最大放电电流Imax (8/20μs)：	40kA
响应时间：	< 25ns
漏电流：	< 20μA
推荐后备保护熔丝：	80A
链接导线截面积L/N：	⩾4mm²
链接导线截面积P/E：	⩾6mm²
锁紧扭矩：	2~3Nm
状态指示：	绿色：正常；红色：失效
工作温度：	-40°C~+70°C
相对湿度：	5%~95%
外壳防护等级(IEC60529)：	IP 20
外壳材料/阻燃等级(UL94)：	PA66/V0
安装：	DIN35mm标准导轨
保护类别：	用于电源的电涌保护器SPDⅡ类
性能测试：	上海防雷产品测试中心
遥信报警输出：	250VAC/0.5A；24VDC/0.5A

■ 典型应用

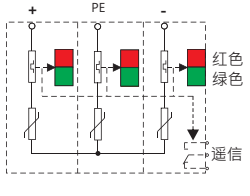


■ 电路原理图

RES2-40-24 RES2-40-24F
RES2-40-110 RES2-40-110F
RES2-40-220 RES2-40-220F

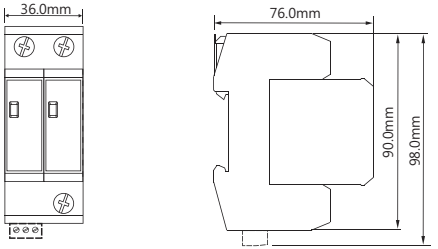


RES2-40-1000 RES2-40-1000F
RES2-40-1500 RES2-40-1500F

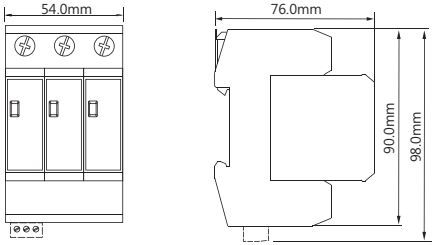


■ 外形尺寸

RES2-40-24 RES2-40-24F
RES2-40-110 RES2-40-110F
RES2-40-220 RES2-40-220F



RES2-40-1000 RES2-40-1000F
RES2-40-1500 RES2-40-1500F



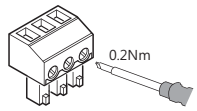
■ 维护

1、检查SPD的状态指示窗口，若非全绿，则需更换SPD或者失效的电涌防护模块。
2、遥信端子可连接截面积⩽1.5mm²的多段或单股铜导线，剥线长度为6~7mm，由螺钉锁紧，紧固力矩0.2Nm。
3、上电前应检查线缆与接线端子之间的连接是否牢固，接地是否可靠。
4、产品出厂前经过严格检验和质量控制，如发现异常情况，请及时与本公司联系。
5、产品执发货之日起五年内，正常使用过程中出现产品质量问题均由本公司免费维护。


绿色：正常


红色：失效


遥信报警输出



0.14 mm² - 1.5mm²

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RES2 Surge Protective Device for DC Power

RES2 Surge Protective Device

User Manual

RES2-DC Series

⚠ Caution

- Read this manual carefully before installation ！
- Installation, adjustment and inspection must be carried out by professional electrical engineers！
- Must comply with relevant national and local regulations and standards.
- Be sure to check and confirm that the product has no external damage before installation. Do not use if there is external damage.
- Please confirm that the maximum operating voltage of the product application system does not exceed the maximum allowable value of the product, Uc.
- Please follow the recommended copper wire requirements in this manual, and reliable grounding.
- Please follow the recommended maximum backup fuse spec.
- Please replace the product with the same specifications in time as the color of the product status window changes from green to red.
- Please replace the whole product as the socket is damaged.

The company reserves the right to modify the product and change the specification. If there is any update, it will be notified separately.

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General

RES2 series DC power SPDs are designed according to the IEC and GB standards. Suitable for low voltage power supply DC power supply system; It enable the connection between the power supply system and an equipotential network instantaneously the surge occurs and limits the residual voltage to a certain level to protect the devices.

Nomenclature

RES2-XX-XXXXX

- none： w/o remote signal
  F： with remote signal
- 24：Un=24VDC
  110：Un=110VDC
  220：Un=220VDC
  1000：Ucpv=1000VDC
  1500：Ucpv=1500VDC
- 40：Max. discharge current, Imax：40kA
- Series number

Product model number

Model number	Model number
RES2-40-24	RES2-40-24F
RES2-40-110	RES2-40-110F
RES2-40-220	RES2-40-220F
RES2-40-1000	RES2-40-1000F
RES2-40-1500	RES2-40-1500F

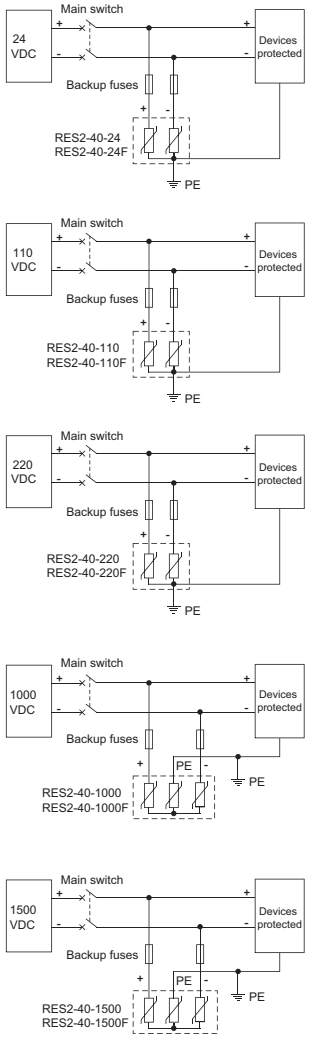
Note, "-F" with remote signal function

Main technical parameters

Parameter \ Model	RES2-40 -24	RES2-40 -110	RES2-40 -220	RES2-40 -1000	RES2-40 -1500
Nominal operating voltage Un	24V DC	110V DC	220V DC	-	-
Max. operating voltage Uc	90V DC 60V AC	180V DC 120V AC	320V DC 220V AC	-	-
Max. operating voltage Ucpv	-	-	-	1000V DC	1500V DC
Protection level Up	0.6kV	0.8kV	1.2kV	4.0kV	6.0kV
Test Standards	GB/T18802.1 ; IEC61643-11			GB/T18802.31	

Nominal discharge cur. In(8/20us):	20kA
Max. discharge cur. In(8/20us):	40kA
Response time:	＜25ns
Leakage current:	＜20μA
Max. backup fuse:	80A
Connection wire section area L/N:	≥4mm²
Connection wire section area PE:	≥6mm²
Locking torque:	2~3Nm
Status indicator：	Green : OK ; Red : Failed
Working temperature：	-40°C~+70°C
Relative humidity：	5%~95%
Housing protection level (IEC60529)：	IP 20
Housing Material/flame-retarded level (UL94)：	PA66/V0
Installation：	Standard 35 mm DIN rail
Protection level：	Surge Protection level , class II for Power
Certificate Authority：	Shanghai lighting protection center
Remote signal output：	250VAC/0.5A；24VDC/0.5A

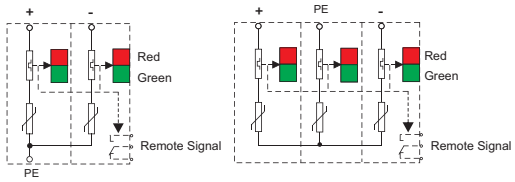
Typical applications



Schematic diagram

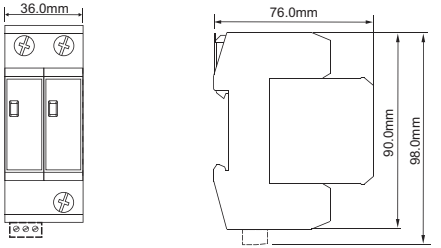
RES2-40-24 RES2-40-24F
RES2-40-110 RES2-40-110F
RES2-40-220 RES2-40-220F

RES2-40-1000 RES2-40-1000F
RES2-40-1500 RES2-40-1500F

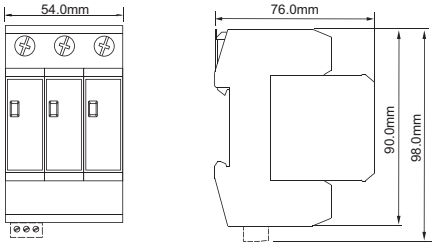


Dimensions

RES2-40-24 RES2-40-24F
RES2-40-110 RES2-40-110F
RES2-40-220 RES2-40-220F



RES2-40-1000 RES2-40-1000F
RES2-40-1500 RES2-40-1500F



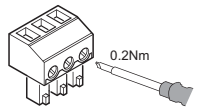
Maintenance

1、Check the status indicator and replace the failed module or whole product if the status indicator is not all green.
2、Connect the terminal blocks of remote signal with solid or stranded conductor. The conductor section area is small than 1.5mm² and strip length is between 6 and 7mm. Tightened by screw with 0.2 Nm torque.
3、Before Power on, Make sure the connection tightened firmly between conductors and terminal blocks and grounding is reliable.
4、The product undergoes rigorous inspection and quality control before leaving the factory. If abnormal conditions are found, please contact us.
5、5 years guarantee from the date of delivery, free replacement of malfunction products.


Green-OK


Red-failed


Remote Signal Output



0.14 mm² - 1.5mm²