

电涌保护器SPD

F-48-M2、F-48-N2
F-48-M3、F-48-N3
F-48-M4、F-48-N4

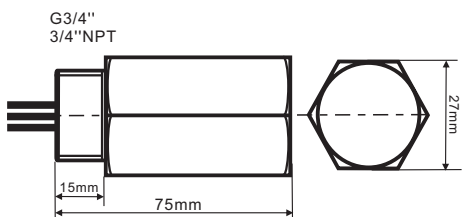
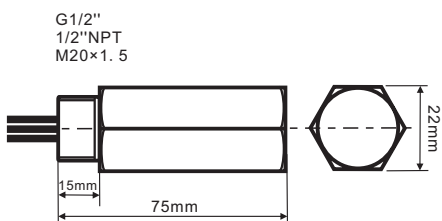


注意

- 请核对产品外包装，产品标签的型号、规格是否与订货合同一致。
- 本产品安装、使用前应仔细阅读本说明书，如有疑问，请与本公司联系。
- 严禁私自拆装仪表，防止仪表失效或发生故障。

SISPD-PDCH-04B

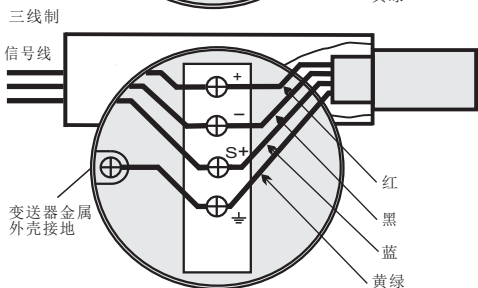
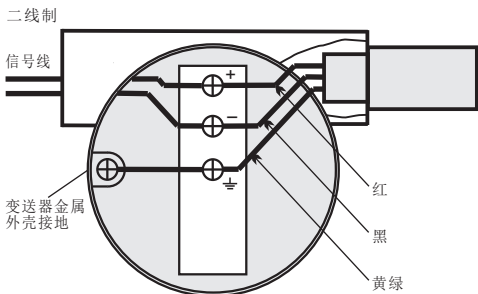
■ 外形尺寸图



注：红、黑、蓝、灰导线规格：34/0.178(0.81mm² 18AWG)，线长240mm。
黄绿导线规格：26/0.254(1.32mm²，16AWG)，线长240mm。

■ 接线

使用SPD时必须有可靠的接地，SPD与被保护设备连接导线(包括接地线)应尽可能短，并减少弯曲。



F-48系列现场安装型SPD主要用于保护变送器、流量计等现场仪表，使其免受因雷击而引起电涌电压的损坏。

- F-48系列SPD的特点是：
- (1) 安装方便，通过螺纹直接固定在变送器备用电缆输入螺孔上；
 - (2) 并联连接在被保护设备信号线上，无信号衰减；
 - (3) 可保护二线制、三线制、四线制的现场仪表。

■ 主要技术参数

额定工作电压Un(DC)：	24V
最大工作电压Uc(DC)：	48V
标称放电电流In(8/20us)：	10kA
冲击电流Iimp(10/350us)：	2.5kA
限制电压Up(In, 线对地)：	1.0kV
响应时间(线对线)：	1ns
响应时间(线对地)：	100ns
漏电流(最大工作电压时)：	<2uA
温度范围：	-40℃~+85℃
相对湿度：	5%~95%
材料：	304不锈钢
防护等级：	IP67

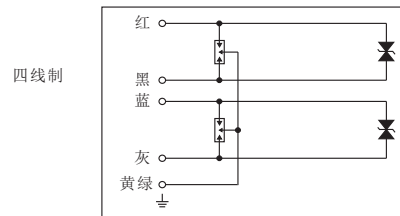
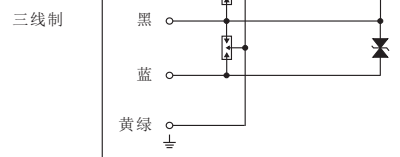
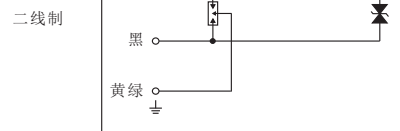
■ 安全认证

认证机构	标准	证号	认证标志
NEPSI	GB3836.1-2010 GB3836.2-2010 GB3836.4-2010 GB12476.1-2013 GB12476.4-2010	GYB22.2533X	Ex d IIC T4-T6 Gb Ex ia IIC T4-T6 Ga Ex iaD 20 T85-T135

- 防爆标志为Ex ia IIC T4-T6 Ga, Ex iaD 20 T85-T135时：
1. 只能按照安装说明进行安装。
 2. 电涌保护器应通过内部螺纹(1/2"NPT, M20×1.5)安装在设备的壳外中。当使用在可燃性粉尘环境时，本设备的壳外应符合GB 12476.4-2010第6.1条的规定。整体导线应进行适当的机械保护，并可靠端接在本设备的壳外中。(螺纹3/4"NPT, G1/2"或G3/4"可联系本公司进行定制。)
 3. 温度组别与使用环境温度的关系：
- | 接线 | Ui(V) | Ii(mA) | Pi(W) | Ci(uF) | Li(mH) | 温度组别与产品使用环境温度 |
|---------------------|-------|--------|-------|--------|--------|---|
| 红-黑
蓝-灰
红-黑-蓝 | 48 | 500 | 5.32 | 0 | 0 | T4: -40℃~+85℃
T5: -40℃~+80℃
T6: -40℃~+70℃ |
4. 产品未提供接地/固定连接。作为安装的一部分，用户/安装人员有责任确保正确接地。

- 对防爆标志为Ex d IIC T4-T6 Gb时：
1. 当产品为隔爆型时，产品需要通过隔爆螺纹(1/2"NPT, 3/4"NPT, M20×1.5)连接到获得认证的金属隔爆壳上。NPT螺纹应锁紧至少5扣螺纹，M螺纹应锁紧至少6扣螺纹并且防止自松型。
 2. 整体导线应进行适当的机械保护，并端接在金属隔爆壳中。隔爆壳不得产生大于1.45 MPa的压力。隔爆壳应具有外部固定设施和内部接地设施。电涌保护器未提供接地/固定连接。黄-绿导线未连接到电涌保护器的金属外壳。安装时，黄-绿导线需与隔爆壳内部接地可靠连接。作为安装的一部分，用户/安装人员有责任确保正确接地。
 3. 有关隔爆接头尺寸的信息，请联系原始制造商。
 3. 温度组别与使用环境温度的关系：

Un(V)	Uc(V)	IImax(mA)	温度组别与产品使用环境温度
24	48	500	T4: -40℃~+85℃ T5: -40℃~+80℃ T6: -40℃~+70℃



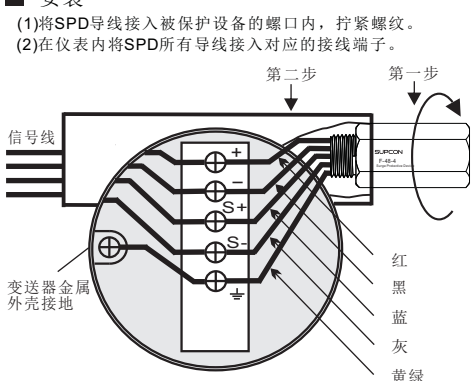
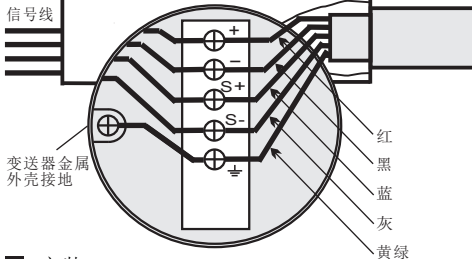
■ 命名方式

F-48-□2表示2线制，F-48-□3表示3线制，F-48-□4表示4线制。

注：□为N、M、X、Y、Z。其中N为1/2"NPT, M为M20×1.5, X为3/4"NPT, Y为G1/2", Z为G3/4", G螺纹为非隔爆螺纹。(X、Y、Z为定制。)

- F-48-□
- 2: 二线制
 - 3: 三线制
 - 4: 四线制
- N: 1/2"NPT
M: M20×1.5
X: 3/4"NPT (定制)
Y: G1/2" (定制)
Z: G3/4" (定制)

■ 安装



■ 维护

- (1) SPD上电前，必须再次检查输入端与输出端的接线是否正确。
- (2) 产品在出厂前均经过严格检验和质量控制，如发现工作异常，请及时与本公司联系。

浙江中控自动化仪表有限公司
ZHEJIANG SUPCON INSTRUMENT CO.,LTD.

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20 Surge Protective Device

F-48-M2、F-48-N2
F-48-M3、F-48-N3
F-48-M4、F-48-N4



Caution

- Please check whether the product type on the package accords to the ordering contract.
- Read this manual carefully before installation.
- If there is any questions ,contact us early enough.
- Disassembling or repairing SPDs are not allowed or it will cause malfunction.

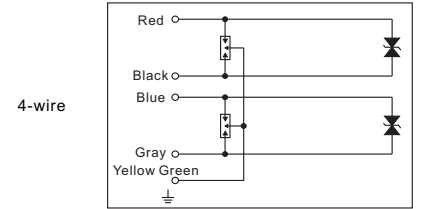
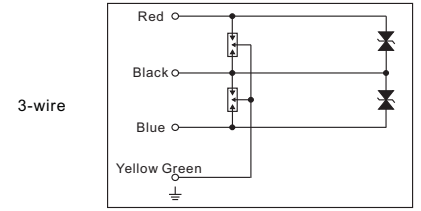
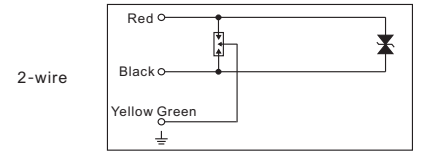
F-48 series surge protective device is designed for protecting devices in the field from being damaged by surges and field instruments which is usually caused by lightning strikes.

Main features:

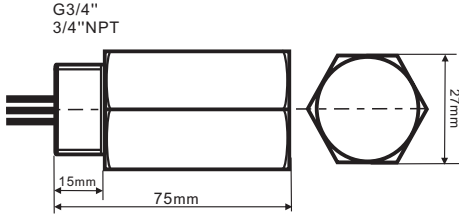
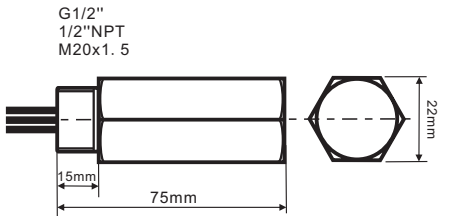
- (1). Conveniently installed on spare screwed holes of protected devices.
- (2). Paralleled with signal cables of protected devices.
- (3). Protecting 2-wire, 3-wire, 4-wire field devices.

■ **Specification**

Rated operating voltage Un (DC): 24V
Max. operating voltage Uc (DC) : 48V
Rated discharge current In(8/20μs): 10kA
Impulse current Iimp(10/350μs): 2.5kA
Protection level Up (ln, line to ground): 1.0kV
Response time (line to line): 1ns
Response time (line to ground): 100ns
Leakage current: <2uA
Temperature range: -40°C~+85°C
Relative humidity: 5%-95%
Material: 304stainless steel
Degree of protection: IP67



■ **Dimensions**



Note: Red, black, blue and gray wire size 32/0.178 (0.81 mm², 18AWG), length 240mm.
Yellow Green Wire size 26/0.254 (1.32mm², 16AWG), length 240mm.

■ **Safety Certification**

Certification body	Standards	Certification No.	Ex mark
NEPSI	GB3836.1-2010 GB3836.2-2010 GB3836.4-2010 GB12476.1-2013 GB12476.4-2010	GYB22.2533X	Ex d IIC T4-T6 Gb Ex ia IIC T4-T6 Ga Ex iaD 20 T85-T135

- Ex marking: Ex ia IIC T4-T6 Ga, Ex iaD 20 T85-T135;
1. Install only as per installation instruction.
2. The surge protection device shall be installed together with an intrinsically safe equipment enclosure with an internal thread 1/2"NPT, M20x1.5. When used in explosive dust atmosphere, the connected enclosure together with the surge protection device shall comply with IEC 60079-11 Clause 6.1.3. The integral wires shall be suitably mechanically protected and reliably terminated in the intrinsically safe equipment enclosure. (You can contact us to customize the thread 3/4"NPT, G1/2" or G3/4".)
3. Temperature code depends on ambient temperature as follows:

Connections	Ui(V)	Ii(mA)	Pi(W)	Ci(uF)	Li(mH)	T-code & ambient temperature
Red-Black Blue-Gray Red-Black-Blue	48	500	5.32	0	0	T4: -40°C~+85°C T5: -40°C~+80°C T6: -40°C~+70°C

4. It is the responsibility of the user/installer to ensure proper earthing as part of the installation. There is no earthing/bonding connection provided.

Ex marking: Ex d IIC T4-T6 Gb.

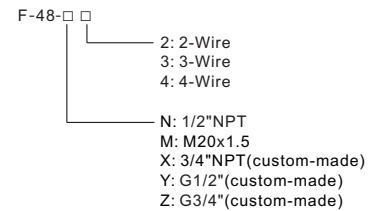
1. The SPD shall be connected to a certified metal flameproof enclosure with type of protection Ex db by flameproof threads (1/2"NPT, 3/4"NPT or M20x1.5). NPT threads shall engage at least 5 full threads wrench tight. Metric threads shall engage at least 6 full threads and effectively be locked from self loosening. The integral wires shall be suitably mechanically protected and terminated in metallic flameproof enclosure. The flameproof enclosure shall not generate a pressure greater than 1.45 MPa. The flameproof enclosure shall have an external bonding facility and internal earthing facility. The surge protection device is not provided with earthing/bonding connection. The yellow-green wire is not connected to the metal enclosure of SPD. The yellow-green wire needs to be reliably connected to internal earthing of the flameproof enclosure during installation. It is the responsibility of the user/installer to ensure proper earthing as part of the installation.
2. Contact the original manufacturer for information on the dimensions of the flameproof joints.
3. Temperature code depends on ambient temperature as follows:

Un(V)	Uc(V)	IImax(mA)	T-code & ambient temperature
24	48	500	T4: -40°C~+85°C T5: -40°C~+80°C T6: -40°C~+70°C

■ **Model designations**

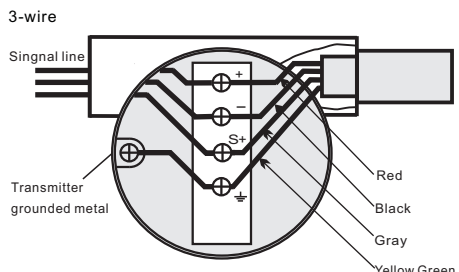
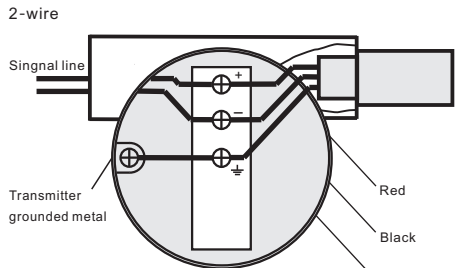
F-48-□2 is 2-wire system, F-48-□3 is 3-wire system, and F-48-□4 is 4-wire system.

Note: □ is N, M, X, Y, Z. N is 1/2"NPT, M is M20×1.5, X is 3/4"NPT, Y is G1/2", Z is G3/4", G thread is non-flameproof

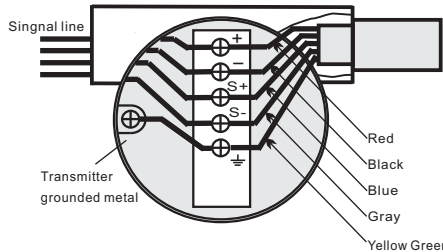


■ **Connections**

SPD must be reliably grounded. The wires between surge protective device and protected devices (including ground lines) should be as short as possible.



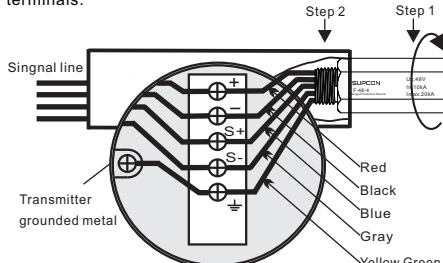
4-wire



■ **Installation**

Step 1: Put SPD wires/cables inside the protected device (through the thread connections) and then tighten the thread.

Step 2: Connect SPD wires/cables to the corresponding terminals.



■ **Maintenance**

1. Check if the connections are correct and tight before powering on SPD.
2. SPD's quality is well controlled and strictly inspected before delivery. If non-functional ones are found during operation, please contact us early enough.

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