

S-FLP Series The Tubular Parallel Form Structure Surge Protective Devices



→ Standards

IEC 61643-21/GB 18802.21; IEC 60079-4/GB 3836.4
IEC 62305-1~IEC 62305-5; IEC 61508-1~IEC 61508-7

→ Model description

X|X|X|X|X|X|X|X

- Explosion proof: blank: Non explosion proof type
Ex: Explosion proof type
- Protected mode: blank: floating
G: grounding
- Voltage: 5: 5 V DC; 24: 24 V DC
- Input channel: 2: 2-wire; 3: 3-wire
4: 4-wire; 2D: dual channel
2S: 2-wire series; 3S: 3-wire series
2P: 2-wire parallel; 3P: 3-wire parallel
4P: 4-wire parallel
- Structure: T: 12.4 mm module insert
S: 7.4 mm; P: field installation
- Types: FL: lightning protection
- Series: S: S series SPD

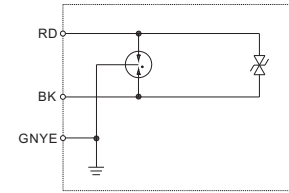
→ Features

- 2-wire, 3-wire, 4-wire;
- Multiple protection circuit, strong resistance to surge;
- M20 × 1.5 etc (match);
- Field parallel install module;
- 304 stainless steel shell;
- Apply to 0 ~ 24 V measurement and control system.

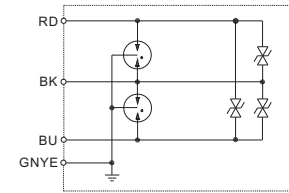
→ Parameters

Parameter	Type	S-FLP-2P-24.Ex	S-FLP-3P-24.Ex	S-FLP-4P-24.Ex
Voltage Un		24 V	24 V	24 V
Max.continuous voltage Uc (DC)		32 V	32 V	32 V
Max.continuous voltage Uc (AC)		22.5 V	22.5 V	22.5 V
Impulse current I _{imp} (10/350 μs)		2 kA	2 kA	2 kA
Total discharge current I _n (8/20 μs, C2)		20 kA	20 kA	20 kA
Discharge current per path I _n (8/20 μs, C2)		10 kA	10 kA	10 kA
Voltage protection U _p (8/20 μs, C2)		L-L ≤ 60 V/L-PE ≤ 650 V	L-L ≤ 60 V/L-PE ≤ 650 V	L-L ≤ 60 V/L-PE ≤ 650 V
Bandwidth f ₀ (100 Ω resistance)		10 MHz	10 MHz	10 MHz
Intrinsically safe circuit certification		Ex d IIC Gb, Ex ia IIC T6 Ga		
Response time T _a		< 1ns		
Temperature		-40 °C~80 °C		
Thread size (match)		M20×1.5, 1/2" NPT, 3/4" NPT etc. (Pin thread)		
Installation		parallel form structure		
Grounding mode		connecting lead		
Output wire size		1.5 mm ² , length 250 mm, Multiple lines to soft or hard, wear-resistance		
Material		304 stainless steel		
Protection degree		IP67		

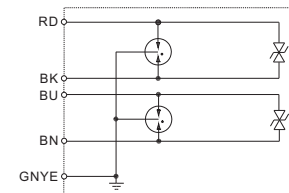
→ Wiring diagram



S-FLP-2P-24.Ex



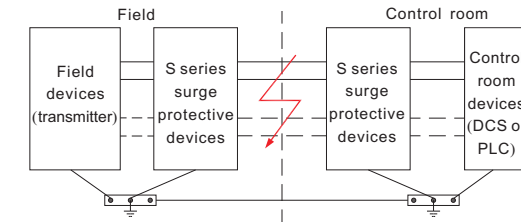
S-FLP-3P-24.Ex



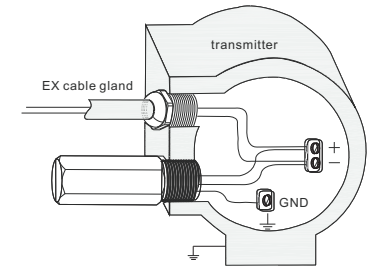
S-FLP-4P-24.Ex

→ Applications

S-FLP series Form structure SPD is used to protect signals and control equipments, preventing interference caused by lightning or high voltage switch. In a short surge impact, by discharging the transient current to the ground to clamp the voltage in a safe level and ensure the transmission. It guarantees the safety for industrial automation equipment. This product is a 304 stainless steel shell, hybrid circuit design with the advantages of strong surge shock resistance. Moreover, it is easy to use and install, can be used with the transmitter, flowmeter, etc.



Equipotential connection drawing



Connection diagram

→ Grounding

It is necessary to ground the SPD correctly. Each SPD should be grounding by DIN rail.

→ Explosion protection parameters

Parameters certified by China National Quality Supervision and Test Centre for Explosion Protected Electrical Products (CQST):

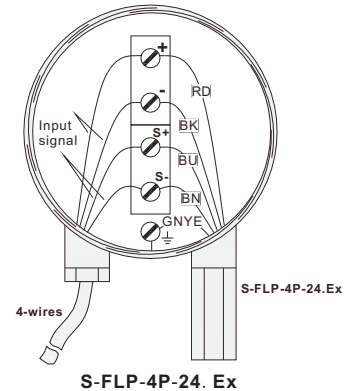
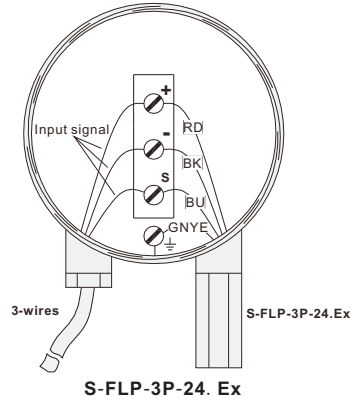
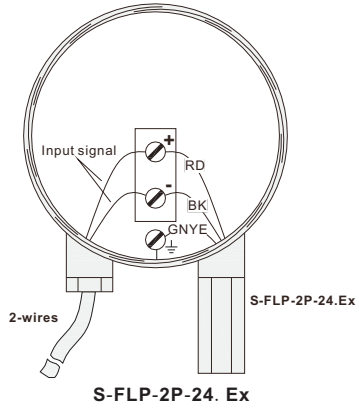
Explosive-proof grade: Ex ia IIC T6 Ga

Explosion proof parameters: (please see the explosion-proof certificate for details)

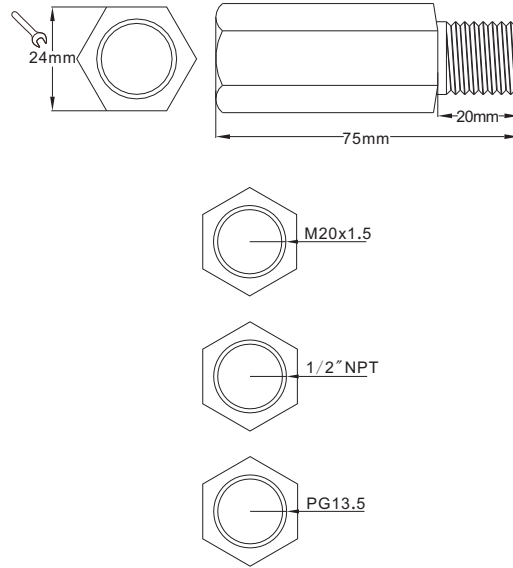
Nanjing New Power Electric Co., Ltd.

Type	Intrinsically safe parameter
S-FLP-2P-24.Ex	U=30 V DC, I=50 mA, C=0 μF, L=0 mH, P=0.375 W
S-FLP-3P-24.Ex	U=30 V DC, I=33 mA, C=0 μF, L=0 mH, P=0.24 W
S-FLP-4P-24.Ex	U=30 V DC, I=25 mA, C=0 μF, L=0 mH, P=0.18 W

→ Connections



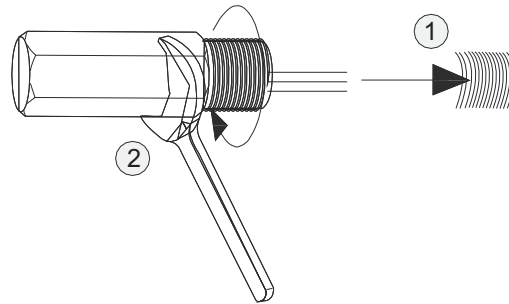
→ Dimension



NOTE: Please match thread size before order.

→ Installation

○ Installation steps are as follows:

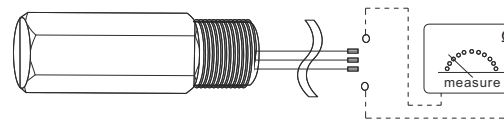


Installation

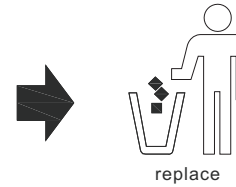
SPD as shown in the above steps 1: aim at the transmitter devices such as internal thread, as shown in step 2: clockwise, until tighten SPD.

NOTE: Wire Size, 1.5 mm², length: 250 mm.

→ Check



RD wire ↔ BK wire
 BU wire ↔ BN wire
 RD wire, BK wire, BU wire, BN wire ↔ GNYE wire
 When 1 Ω or less,



→ Attention

- The devices degree of protection is IP65. It is suitable for installed in indoor.
- The devices were designed for use in pollution degree 2 and overvoltage category III as per IEC/EN 60664-1. If used in areas with higher pollution degree, the devices need to be protected accordingly.
- Installation position shall not be affected by strong mechanical vibration; impact and electromagnetic induction from signal terminal and power supply, should conformity with the requirements on electromagnetic interference resistance of products in Class 3 industrial field atmosphere stipulated in IEC 61000-4; the atmosphere shall be free from gases that are corrosive to metal and plastic components.
- Before installation, please check the surge protector is intact or not. If have any damage, it should not be installed.
- Only using the SPD according to this document, if more than the rated value, SPD and other device are likely to be damaged.
- Devices must only be repaired directly by the manufacturer. Tampering with the apparatus is dangerous and therefore forbidden.

→ Supplements

- The apparatus must be installed, connected and adjusted by qualified personnel in non-hazardous area according with the instruction manual.
- If faults cannot be eliminated, the apparatus must be taken out of operation and protected from being placed in service again inadvertently.
- The operator must strictly comply with the relevant local safety standards and guidelines.
- If there is any content difference between the specification and the website or sample, the instructions shall prevail. We reserve the rights to change or update the product information without prior noticing the users.