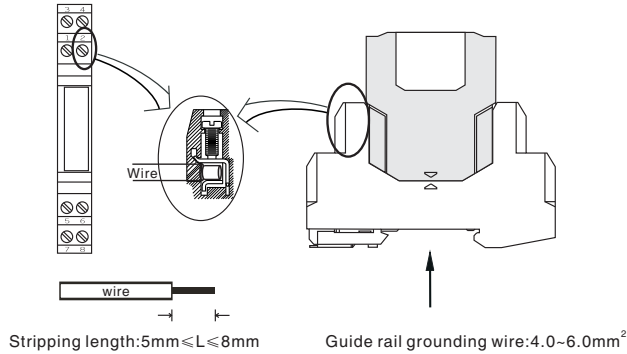


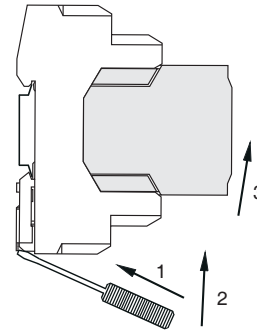
## ■ Connections

- (1).The SPDs adopt M2.5 screw terminals;
- (2).The wires are multiple cables with a cross section area of  $0.2\text{mm}^2$  ~  $2.5\text{mm}^2$  or single cable about  $0.2\text{mm}^2$  ~  $4\text{mm}^2$  ;
- (3).The stripping length is about 5~8mm, locked tightly by bolt.



## ■ Disassembly

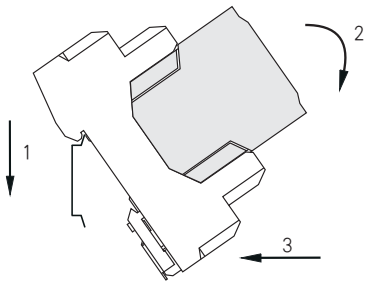
- (1).Insert a screwdriver (with an edge length  $\leq 6\text{mm}$ ) into the downside metal lock of the SPD;
- (2).Push the screwdriver downwards, as shown in the figure below, then rise up the bottom of the SPD's metal guide rail card;
- (3).Take the SPD out of the guide rail.



## ■ Installation

SPD must be reliably grounded. This series SPD is designed for mounting on 35mm DIN guide rail.

- (1).Make the upside of the SPD's bottom locked into the guide rail;
- (2).Push the downside of the SPD's bottom in the rail;
- (3).Copper or steel guide rails are suggested .



## ■ Maintenance

- (1). Check if the connections are correct and tight before powering on SPDs.
- (2). SPDs' quality are well controlled and strictly inspected before delivery. If non-functional ones are found during operation, please contact us early enough.
- (3). Within 5 years of delivery, any problems occurred during normal operations can get treatments free.



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## Surge Protective Devices

T-EX series



Before using the product, please read this manual carefully and save it well.

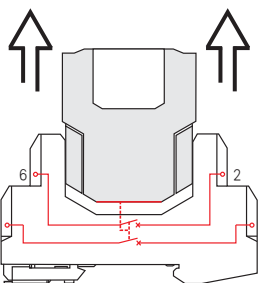
### ⚠ Caution

- Please check whether the product type on the package accords to the ordering contract;
- Read this manual carefully before installation or use. If there is something unclear ,you can dial our technic support hotline;
- Prevent friction, avoid electrostatic;
- Users are not allowed to dismantle or repair the SPD otherwise it will induce malfunction.

## Summarize

The T-EX series intrinsically safe type SPD is used for protecting measuring and control circuits, bus systems and communication systems from being damaged by lightning surge voltage or operating over voltage.

### Main features:



#### Hot-plug:

Hot plug is supported and module is easy to be replaced.

#### Compact design with high discharge capacity:

Space-saving width of just 12.5mm. Maximum discharge capacity up to 20kA.

#### It is convenient for grounding:

Ground through DIN rail, which can reduce field wiring.

## Technical data

Parameter	Type	T-5-EX-L T-5-EX-L3 T-5-EX-L4	T-5-EX-G T-5-EX-G4	T-24-EX-L T-24-EX-L3 T-24-EX-L4	T-24-EX-G T-24-EX-G4
Rated operating voltage $U_n$		5VDC	5VDC	24VDC	24VDC
Max. operating voltage $U_c$		6VDC	6VDC	32VDC	32VDC
Rated operating current $I_n$		500mA	500mA	500mA	500mA
Resistance (per line)		1Ω	1Ω	1Ω	1Ω
Bandwidth(-0.5dB)		10MHz	10MHz	10MHz	10MHz
Response time		<1ns	<1ns	<1ns	<1ns
Nominal discharge current $I_n(8/20\mu s)$		10kA	10kA	10kA	10kA
Max. discharge current $I_{max}(8/20\mu s)$		20kA	20kA	20kA	20kA
Impulse current $I_{imp}(10/350\mu s)$		2.5kA	2.5kA	2.5kA	2.5kA
Protection level $U_p$ (line to line)		40V	40V	60V	60V
Protection level $U_p$ (line to ground)		600V	40V	600V	60V
Protection level $U_p(I_n)$ (line to ground)		1.6kV	200V	1.6kV	220V
Leakage current		<3uA	<3uA	<1uA	<1uA

Temperature range: -40°C~+85°C  
 Relative humidity: 10%~90%  
 Dimensions(L W H): 90.0mm 12.5mm 77.5mm  
 Connections: Screw connection  
 Max. sectional area: 2.5mm<sup>2</sup>  
 Grounding wire section area: 4~6mm<sup>2</sup>  
 Installation: DIN 35mm

## Certificates

### Lightning protection performance test

Shanghai Lightning Protection Center  
 Test standards: GB/T 18802.21(IEC 61643-21)

### Functional safety level:SIL3

National Quality Supervision and Inspection Center for Products of Process Automation Instrumentation  
 Test standards: GB/T 20438.1(IEC 61508-1)  
 GB/T 20438.2(IEC 61508-2)

### Ex mark: Ex ia IIC T4~T6 Ga

China National Quality Supervision and Test Center for Explosion Protected electrical products  
 Test standards: GB3836.1(equal to IEC 60079-0)  
 GB3836.4(equal to IEC 60079-11)

Ex parameters: (see the explosion-proof certification )

Type	$U_i(V)$	$I_i(mA)$	$P_i(W)$	$C_i(\mu F)$	$L_i(mH)$
T-5-EX-□□	6	500	0.75	0	0
T-24-EX-□	28	100	0.7	0	0
T-24-EX-□4	28	100	0.7	0	0
T-24-EX-L3	28	50	0.35	0	0

## Model designations

T-□-□-□□

Blank: 2-wire  
 3: 3-wire  
 4: 4-wire

L:Isolated voltage>500V(line to ground)  
 G:Isolated voltage<500V(line to ground)

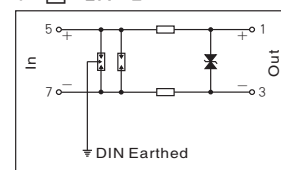
Ex:Intrinsically safe type

Rated operating voltage

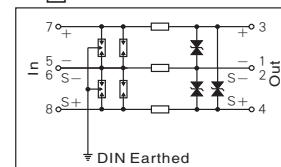
T series SPD

## Function principle diagram

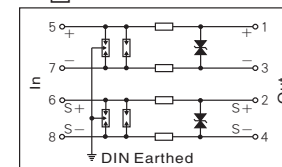
T-□-EX-L



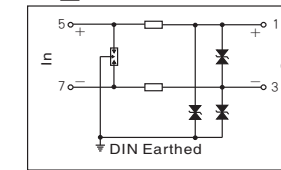
T-□-EX-L3



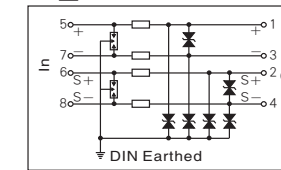
T-□-EX-L4



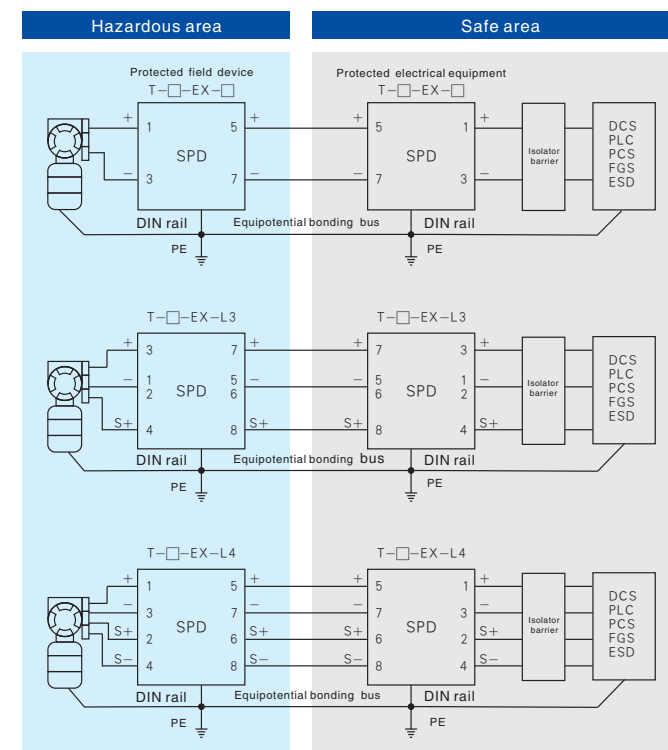
T-□-EX-G



T-□-EX-G4



## Typical application



## Dimensions

