

# Surge Protective Devices

## T-EX series



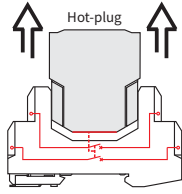
Before using the product, please read this manual and keep it well.

### 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 range SPD for signal can provide surge protection for field equipments such as sensors, transmitters, flow meters, solenoid valves, RTD, TC, devices with RS485 or RS232 interface and for I/O interfaces such as AI, AO, DI, DO, TI, PI in PLC, DCS, FGS, ESD control systems. Main features:



2.5kA(D1), 20kV/10kA(C2)  
Reliable discharging

- Easy maintenance  
Surge protective modules can be replaced online without disconnecting the circuit.
- Easy and reliable grounding  
Grounding is realized through a reliable four-point connection between the buckle and the rail.
- Focus on more details  
-Internationally well-known Components are used  
-Flammability V0  
-Salt mist test according to the highest industrial standard  
-Contact points gold plated which ensure reliable contact

### 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)

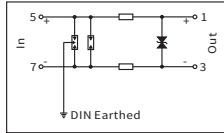
### Technical Data

| Type(order number)                         | T-5-EX-L(7086993)<br>T-5-EX-L3(7025543)<br>T-5-EX-L4(7019501) | T-24-EX-L(7096962)<br>T-24-EX-L3(7097610)<br>T-24-EX-L4(7040569) |
|--------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------|
| Rated operating voltage $U_n$              | 5VDC                                                          | 24VDC                                                            |
| Max. operating voltage $U_c$               | 6VDC                                                          | 32VDC                                                            |
| Rated operating current $I_n$              | 500mA                                                         | 500mA                                                            |
| Resistance (per line)                      | 1Ω                                                            | 1Ω                                                               |
| Bandwidth(-0.5dB)                          | 10MHz                                                         | 10MHz                                                            |
| Response time                              | <1ns                                                          | <1ns                                                             |
| Nominal discharge current $I_n(8/20\mu s)$ | 10kA                                                          | 10kA                                                             |
| Impulse current $I_{imp}(10/350\mu s)$     | 2.5kA                                                         | 2.5kA                                                            |
| Protection level Up (line to line)         | 40V(C1-1kV/500A)                                              | 60V(C1-1kV/500A)                                                 |
| Protection level Up (line to ground)       | 600V(C1-1kV/500A)                                             | 600V(C1-1kV/500A)                                                |
| Protection level Up(In) (line to ground)   | 1.6kV(C2-20kV/10kA)                                           | 1.6kV(C2-20kV/10kA)                                              |
| Leakage current                            | <10μA                                                         | <1μA                                                             |

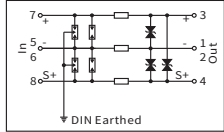
Temperature range: -40°C~+70°C  
Relative humidity: 5%~95%  
Dimensions(L×W×H): 90.0mm×12.5mm×77.5mm  
Connections: M2.5 Screw connection  
Seating torque: 0.4Nm  
Max. sectional area: 2.5mm<sup>2</sup>  
Grounding wire section area: 4~6mm<sup>2</sup>  
Installation: DIN 35mm

### Schematic Diagram

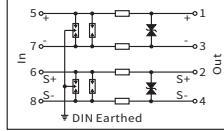
#### 2-wires T-EX-L



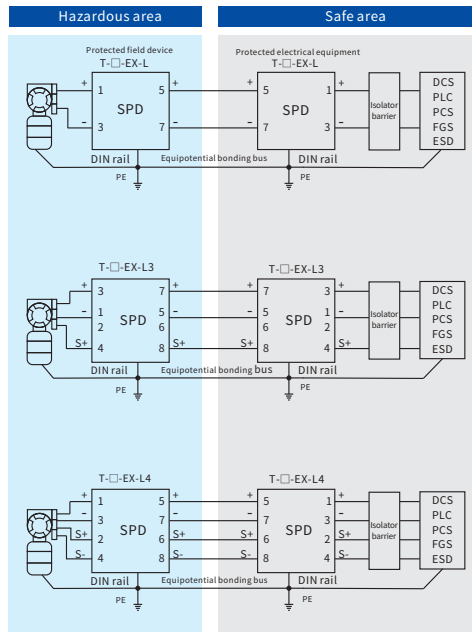
#### 3-wires T-EX-L3



#### 4-wires T-EX-L4

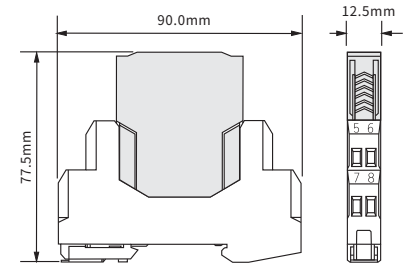


### Typical Application



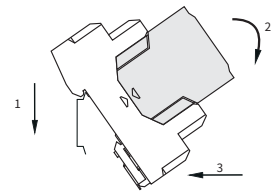
### Dimensions

(L×W×H): 90.0mm×12.5mm×77.5mm



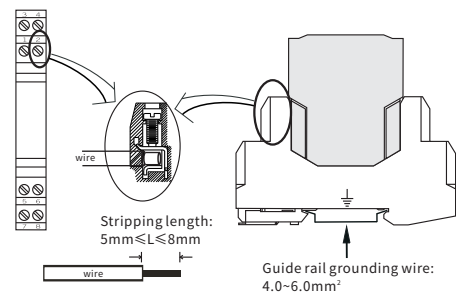
### Installation

- 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.



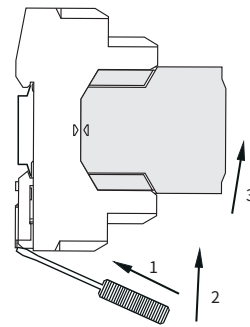
### Connections

- 1) The SPDs adopt M2.5 screw terminals.
- 2) The wires are multiple cables with a cross section area of 0.2mm<sup>2</sup>~2.5mm<sup>2</sup> or single cable about 0.2mm<sup>2</sup>~4mm<sup>2</sup>.
- 3) The stripping length is about 5~8mm, locked tightly by bolt.



### Disassembly

- 1) Insert a screwdriver (with an edge length ≤ 6mm) into the downside metal lock of the SPDs.
- 2) Push the screwdriver downwards as shown in the figure below and then rise up the bottom of the SPD's metal buckle.
- 3) Take the SPDs out of the rail.



### Maintenance

- 1) Check if the connections are correct and tight before powering on SPDs.
- 2) SPDs' quality is 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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