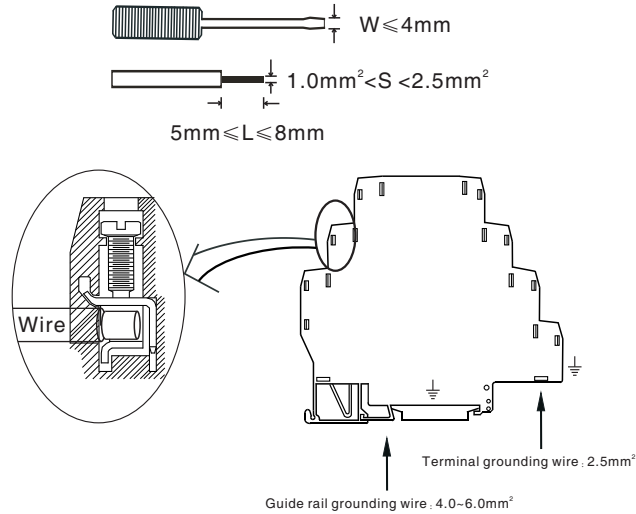


## ■ Connections

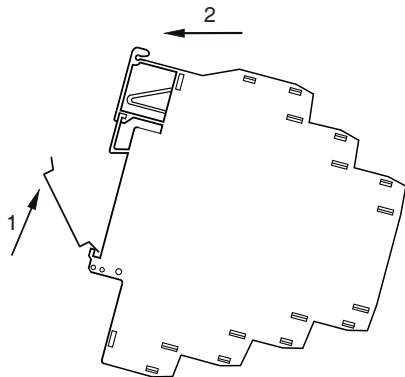
- (1).The SPDs adopt M3 screw terminals;
- (2).The wires are multiple cables with a cross section area of  $0.5\text{mm}^2 \sim 2.5\text{mm}^2$  or single cable about  $0.5\text{mm}^2 \sim 4\text{mm}^2$ , the grounding terminal should connect multiple cables with a cross section area of  $2.5\text{mm}^2$ ;
- (3).If grounding by guide rail, guide rail should connect multiple cables with a cross section area of  $4\text{mm}^2 \sim 6\text{mm}^2$ ;
- (4).The stripping length is about 5~8mm,locked tightly by bolt.



## ■ Installation

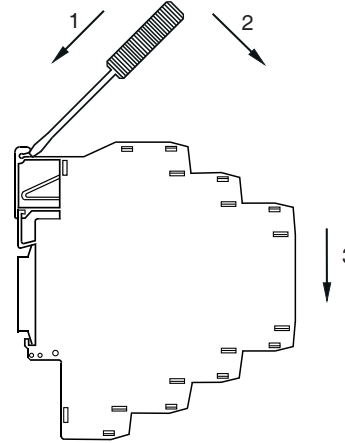
This series SPD is designed for mounting on 35mm DIN guide rail.

- (1).Make the downside of the SPD's bottom locked into the guide rail;
- (2).Push the upside of the SPD's bottom in the rail;
- (3).Suggest using copper or steel guide rail.



## ■ Disassembly

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



## ■ Maintenance

- (1).When using the SPD,you must have a reliable grounding.
- (2).Before give power to the SPD, must check again the wiring of the input and the output to make sure they are correct.
- (3).The products were test strictly before leaving factory. If users find any abnormalities in the module, please contact the nearest agent or our company.
- (4).In 5 years from the delivery date, if the product works improperly during normal operation, we will repair or replace it without payment.

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<http://www.chenzhu-inst.com>



## Surge Protective Devices

### CZLB 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 CZLB series intrinsically safe type SPD is used for protecting measuring and control circuits, bus systems and communication systems from damage of lightning surge voltage or operating overvoltage.

### Main features:

- Space-saving width of just 7.6mm
- Ground through terminal or DIN rail
- Convenient and reliable by screw connection
- High-bandwidth, low insertion loss, suitable for all kinds of signals

## Technical data

Type Parameter	CZLB-5(T2) CZLB-5(R3)	CZLB-24(B2) CZLB-24(B3)	CZLB-24P
Rated operating voltage $U_n$	5VDC	24VDC	24VDC
Max.operating voltage $U_c$	6VDC	32VDC	36VDC
Rated operating current $I_L$	250mA	250mA	10A
Resistance per path	1 $\Omega$ /line	1 $\Omega$ /line	-
Voltage bandwidth (-0.5dB)	10MHz	10MHz	-
Response time	<1ns	<1ns	<1ns
Nominal discharge current $I_n(8/20\mu s)$	5kA/line	5kA/line	5kA/line
Max. discharge current $I_{max}(8/20\mu s)$	10kA/line	10kA/line	10kA/line
Total discharge current $I_{total}(8/20\mu s)$	20kA	20kA	20kA
Protection level $U_p$ (line to line)	40V	60V	85V
Protection level $U_p$ (line to ground)	600V	600V	600V
Leakage current	<10uA	<1uA	<1uA

Temperature range: -40°C~+85°C  
 Relative humidity: 10%~90%  
 Dimensions(L x W x H): 92.4mm×7.6mm×97.7mm  
 Connections: Screw connection  
 Max.sectional area: 2.5mm<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

National Supervision and Inspection Center for Explosion Protection and Safety of instrumentation

Test standards:  
 GB3836. 1(equal to IEC 60079-0)  
 GB3836.4(equal to IEC 60079-11)

Ex parameters: (see the explosion-proof certification )

GYB12. 1381X(CZLB-5)

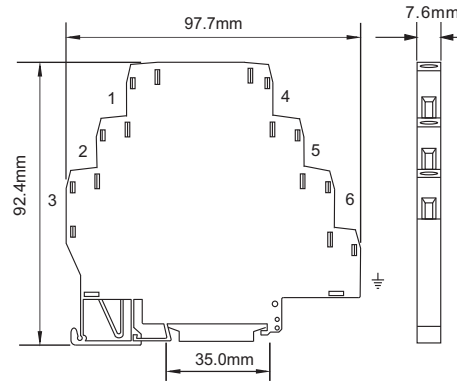
GYB12. 1383X(CZLB-24)

$C_i \approx 0\mu F$   $L_i \approx 0mH$  T4:Pi=1.3W(-40°C ~+40°C)

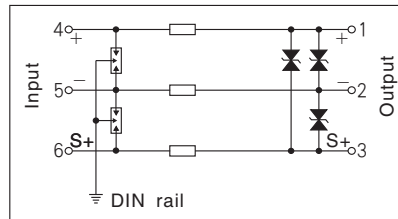
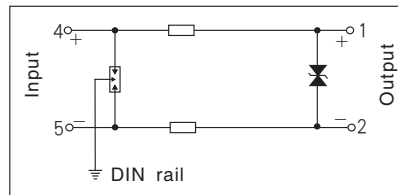
$U_i=6V$   $I_i=250mA$  T5:Pi=1.2W(-40°C ~+60°C)

$U_i=29V$   $I_i=100mA$  T6:Pi=1.0W(-40°C ~+60°C)

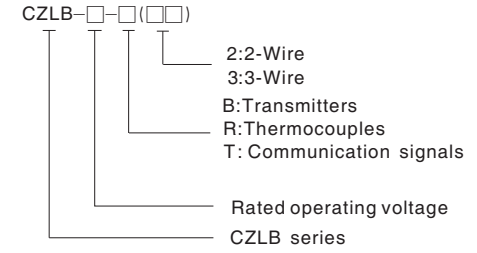
## Dimensions



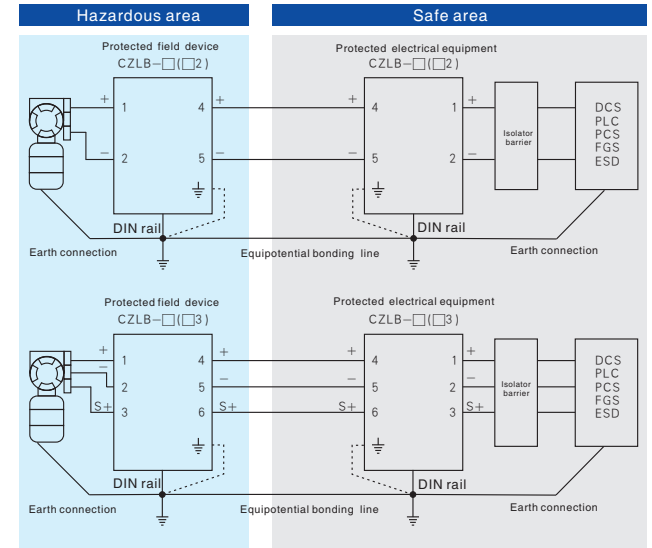
## Function principle diagram



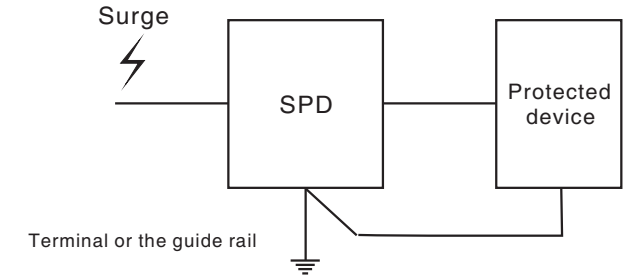
## Model designations



## Typical application



## Earthing system



Note:Put the line to connect SPD grounding and the protected equipment shell,then If the protected equipment without a grounding end, only make the surge protective devices connected to earth ground. The grounding wire should adopt the diameter of 2.5mm<sup>2</sup> cable.When you connected to grounding by terminal or the mounting rail,the grounding wire should adopt the diameter of 4~6mm<sup>2</sup> cable.