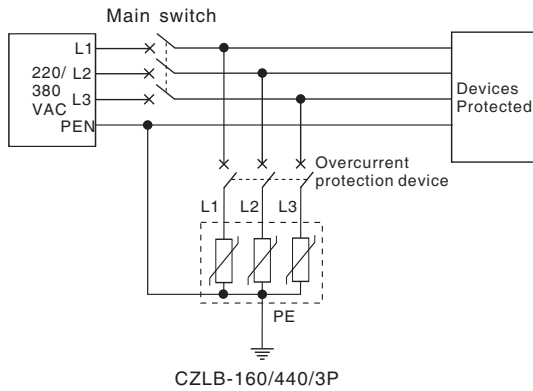
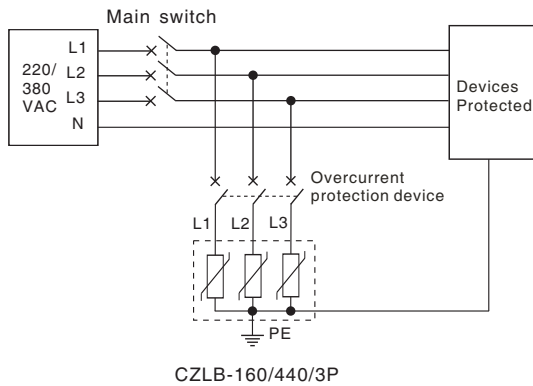


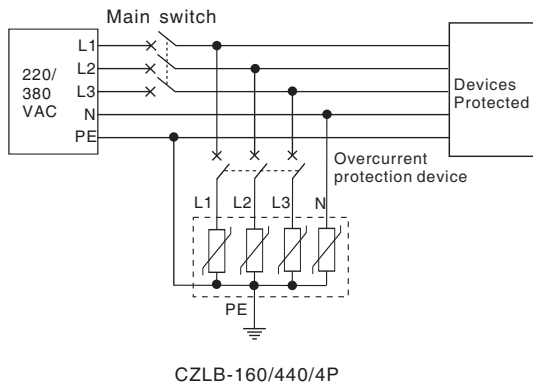
**TN-C system**



**IT system**



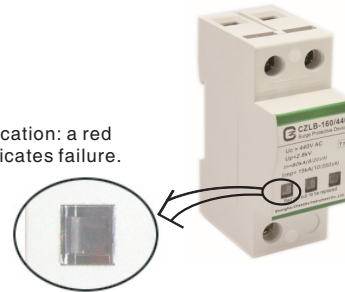
**TN-S system**



**■Replacement**

Check the status indicator. If the indicator is red, it need to be replaced.

Status indication: a red window indicates failure.



**■Maintenance**

- 1.SPDS must be reliably grounded.
- 2.Make sure the connections between cable and terminals are firm and correct.
3. SPDS' quality are well controlled and strictly inspected before delivery. If non-functional ones are found during operation, please contact us early enough.
- 4.Within 5 years of delivery, any problems occurred during normal operations can get treatments free.

**Surge Protective Device**

CZLB-160/440 Series



SHANGHAI CHENZHU INSTRUMENT CO.,LTD.



Add: Building 6, 201 Minyi Road, Caohejing Hi-Tech Park  
Songjiang New Industrial Park, Shanghai 201612, P.R. China  
Tel : +86-21-64513350 Fax : +86-21-64846984  
Email: chenzhu@chenzhu-inst.com  
http://www.chenzhu-inst.com

**⚠ Caution**

- Please check if SPDs' type and specification on the packages and the labels are consistent with the contract.
- Read this instruction carefully before using SPDs. Contact us if there is any questions.
- In case of damage cause by electrostatic, friction should be avoid.
- In case of any failure, disassembling SPDs is prohibited.

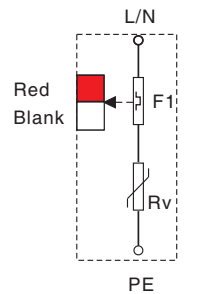
## General

CZLB-160/440 series AC power supply SPDs are designed according to the domestic criterials. It enables the connection between the power supply system and an equipotential network instantaneously when the surge occurs and limit the residual voltage to a certain level to protect the devices protected. Normally, it is used in lighting protection zone 1. For better protection effect, SPDs with different protection levels should be used downstream.

## Main technical parameters

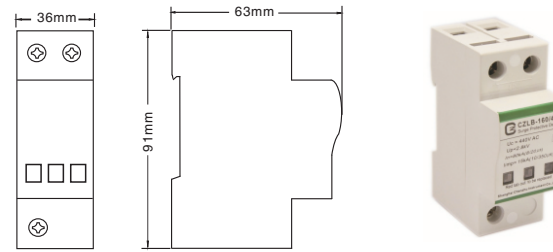
Nominal operating voltage $U_n$ :	220VAC
Max. operating voltage $U_c$ :	440VAC
Nominal discharge current $I_n$ (8/20us):	80kA
Max. discharge current $I_{max}$ (8/20us):	160kA
Impulse current $I_{imp}$ (10/350us):	15kA
Protection level $U_p$ :	<2.8kV
Response time:	<25ns
Leakage current:	<20uA
Status indication:	Blank:OK Red:failed
Ambient temperature:	-40°C~70°C
Relative humidity:	10%-90%
Air switch or fuse:	100A
Connection cable sectional area L/N:	$\geq 6\text{mm}^2$
Connection cable sectional area PE:	$\geq 10\text{mm}^2$
Housing protection level(IEC60529):	IP 20
Housing material flame-retarded level(UL94):	PBT/V0
Installation:	Standard 35mm DIN rail
Testing standard:	GB 18802.1/IEC 61643-1
Performance test:	Shanghai Lighting Protection Center

## Schematic diagram



CZLB-160/440

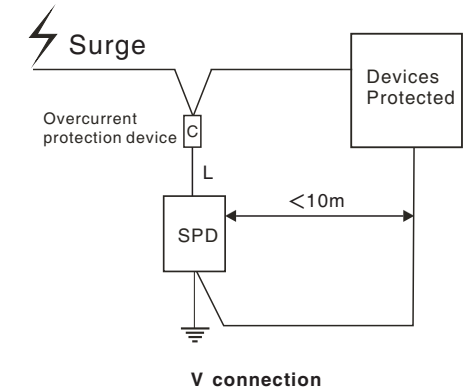
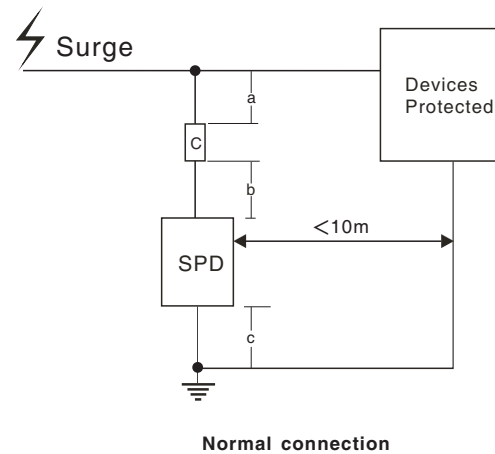
## Dimension



## Installation

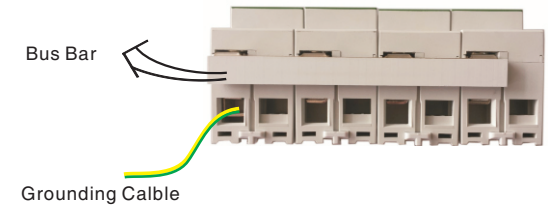
When install SPDs, the connection cable should be as short as possible. As the diagrams shown below,  $L(L=a+b+c$  in normal connection) should be less than 0.5 meters. Cable between SPD and the protected device should be less than 10m. The housing of the protected device should be grounded via SPD terminals.

In case of the main circuit broken because of a failed SPD, a protection device such as air switch or fuse should be installed before the SPDs. According to our tests, protection devices with a nominal current of 100A are recommended. The cross sectional area of the upper (for L/N connection) cable should be no less than  $6\text{mm}^2$  and the cross sectional area of the cable for grounding should be no less than  $10\text{mm}^2$ .



## Bus-bar installation

CZLB-160/440 series SPDs are delivered in single pieces. They should be connected by a bus-bar and then you can choose any piece for ground connection. Otherwise you need to ground all pieces. Loosen all the screws completely before you put the bar in and then tighten the screws except the one you chose for ground connection.



## Typical applications

### Single phase system

