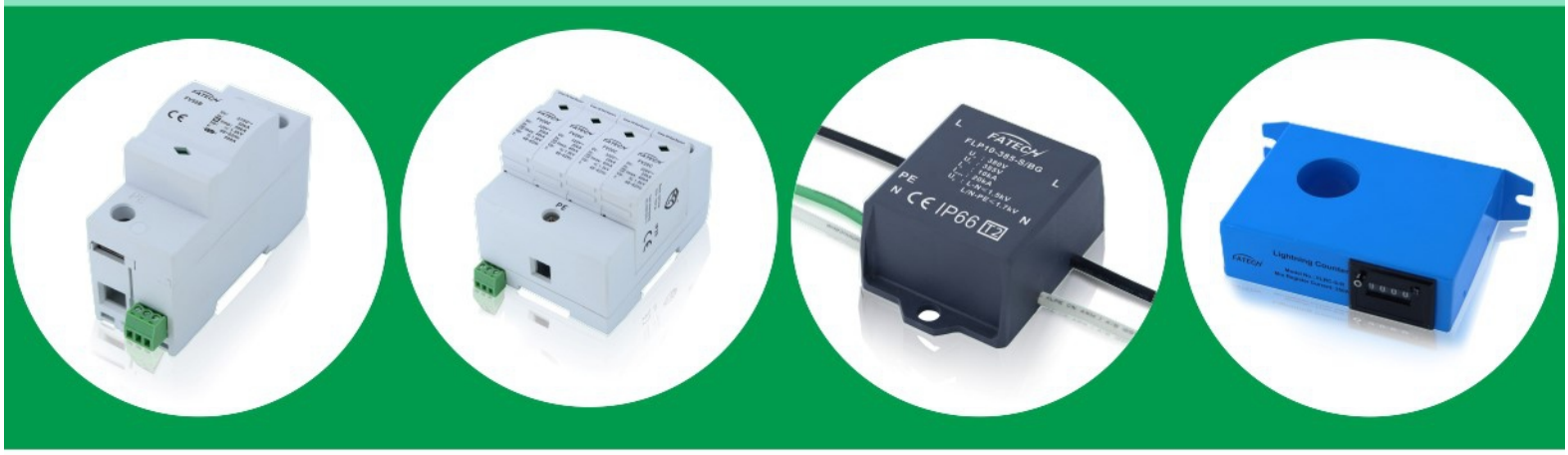
FATECH

Lightning and Surge Protection



Product Catalogue

FATECH ELECTRONIC(FOSHAN)CO.,LTD.

Contents

About us:

FATECH ELECTRONIC (FOSHAN) Co., Ltd., is located in Guangdong Provincial New Light Production Base, CHINA, is a professional ISO9001-2008 manufacturer on R&D and producing lightning and surge protection devices (SPD). Our company gathered all kinds of high-skilled personnel, including senior PhD, senior engineers, and excellent technicians with more than 10 years experience.

Our main products:

- Surge Protective Device for Photovoltaic System
- Surge Protective Device for Low-voltage Power System
- LED Street Light Surge Protection Device
- Intelligent Surge Protective Device
- Surge filter/Surge Protective Device box type
- Surge Protective Device for Signal Coaxial System
- Lightning Counter
- Test Device

Global partners:

We are now exporting to more than 100 countries and areas, mainly in Europe, Asia, Latin-America, and Middle East. Our global partners including Ericsson, Sri Lanka Telecom, Telefonica-Movie and so on.

ERICSSON movistar Sri Lanka Telecom SIEMENS

Our in-house test lab:

Fatech has established independent quality test center, including reliable testing lab., environment aging testing lab., and products release testing lab., which can be performed tests below:

- Impulse current generator (8/20 μs/160kA and 10/350μs/20kA)
- Thermal stability tester
- Salt Spray Chamber
- Multi-function Varistor Tester
- On-line Aging Tester
- Dielectric Voltage Withstand Tester
- 1.2/50 Voltage Impulse Generator
- Environment Stimulating Tester
- Lightning Surge Counter Tester

Our certificates:

Fatech is ISO9001-2008 approved manufacturer, all products are CE certified, main products are TUV certified according to IEC/EN61643-11:2011. New patented products are developed every year.

Factory



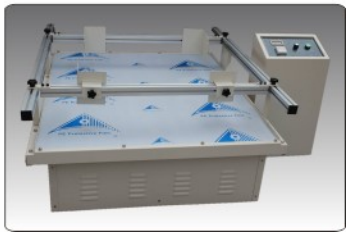


Test Lab.

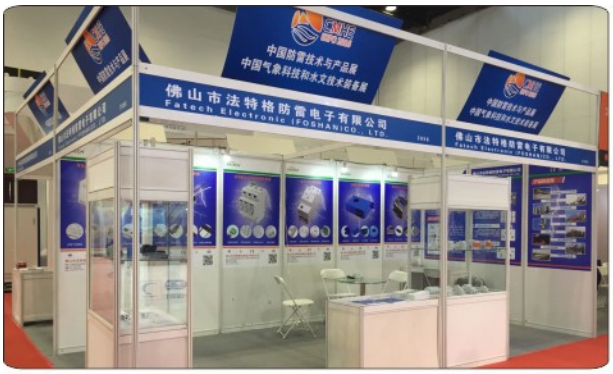






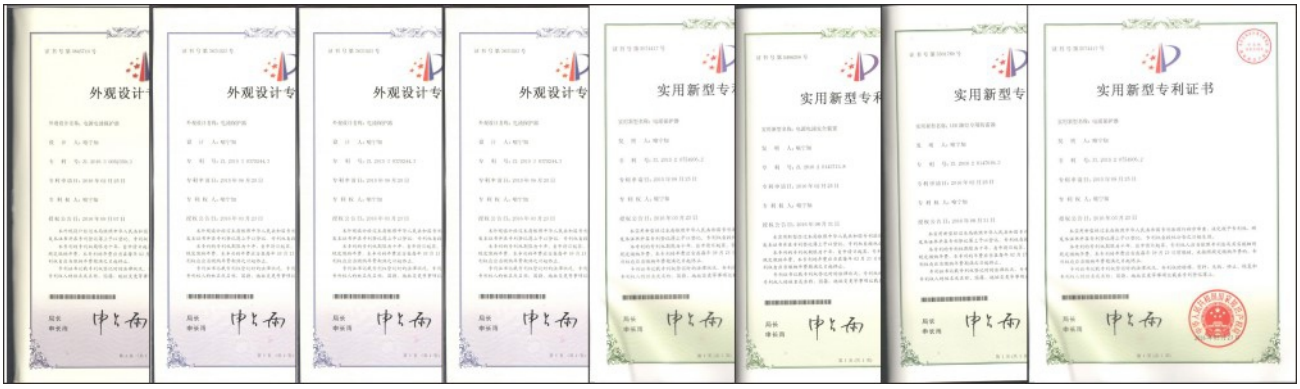



National & International Exhibition



Site operation

Patents



International Certificates-CE

ISO9001

International Certificate-TUV mark & TUV CE

Registration Certificate in China

Test Reports in Third party`s Test Lab.China

Cause of transient over-voltage

A surge is a burst of energy that exceeds the voltage and amperage capacity of downstream equipment, causing equipment damage if not suppressed. The most observable, destructive cause of surge damage is lightning. Troughmagnetic induction, even non-direct lightning strikes in the vicinity of exposed overhead electrical lines can produce 20kV surges. Surprisingly, however, lightning is not the most common cause of power disturbances. In many areas, 80% to 90% of surges come from ①utility distribution systems ②inductive loads ③electromagnetic interference and radio frequency interference.

Utility Distribution Systems interconnect many different types of loads that are continually switched, causingmomentary short circuits and contact reclosures that can be hazardous for computers and other sensitive equipment down the line. Inductive Loads are the result of powering up and down the electrical equipment with in a facility. They can send voltage fluctuations through power lines to other sensitive equipment on the line.

Electromagnetic Interference (EMI) and Radio Frequency Interference (RFI) are caused by the proliferationof electronic equipment in the work environment. They can be responsible for data errors and the early wear of electronic components.

Terminology of electrical characteristics

◆ **Surge Protective Device:**
Device designed to limit transient overvoltages and run-off lightning currents. It consists of at least one non-linear component.

◆ **Protection Mode:**
Common mode (MC): protection between live conductors and earth;
Differential mode (MD): protection between live conductors.

◆ **1.2/50 Wave:**
Standardized overvoltage waveform created on networks and which adds to the network's voltage.

◆ **8/20 Wave:**
Current waveform which passes through equipment when subjected to an overvoltage (low energy).

◆ **10/350 Wave:**
Current waveform which passes through equipment when subjected to an overvoltage due to a direct lightning strike.

◆ **U_c: Max. Continuous Operating Voltage**
which is the root mean square value of the max. voltage which may be applied to the correspondingly marked terminals of the surge protective device during operation.

◆ **U_N: Nominal Voltage**
Nominal AC voltage of the network. Nominal voltage between phase and neutral (AC rms value).

◆ **U_p: Voltage Protection Level.**
Parameter characterizing surge arrester operation by the level of voltage limitation between its terminals and which is selected from the list of preferred values in the standard. This value is greater than the highest value obtained during voltage limitation measurements.

◆ **I_n: Nominal Discharge Current.**
Peak value of an impulse current.Wave-form 8/20μs, which the surge protective device is rated for, according to a certain test programme.It is used to determine the Up value of the surge arrester.

◆ **I_{max}: Max. Discharge Current.**
Peak value of an impulse current 8/20μs, which can safely discharged by the device. I_{max} is greater than I_n.

◆ **I_{imp}: Lighting Impulse Current.**
A standardized impulse current curve, with a waveform 10/350μs. It's parameters (peak value, charge, specific power) simulate the loads of natural lighting currents.

Equipment impulse withstand voltage

Equipment tolerance levels are classified according to 4 categories as the following table.
Note: The protection level Up is chosen according to the equipment to be protected.

Categories	U_N (230/400V)	Examples
I	1500V	Equipment containing particular sensitive electronic circuits -computer workstations, computers, TV, HiFi Video, Alarms, etc; -Household appliances with electronic programmers, etc.
II	2500V	Domestic electrical equipment with mechanical programmers, portable tool, etc.
III	4000V	Distribution panels, switchgear, etc.
IV	6000V	Equipment for industrial use and equipment such as fixed motors permanently connected to the fixed installation, Electrical meters, principle over-current protection equipment, remote measurement devices etc.

Selection guideline

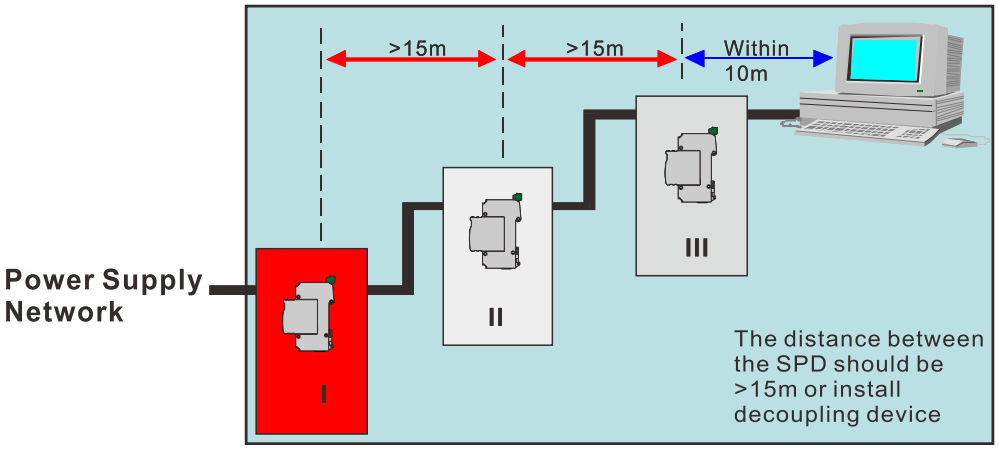
The operating voltage (U_c):
The choice of operating voltage is vital when selecting a SPD. When choice the U_c value, besides meet relevant standard, the fluctuation of the network or the Max. continuous fault voltage also should be taken into consideration.

The protection level (U_p):
The U_p value of the SPD is chosen according to and should be less than the impulse withstanding voltage of the equipment to be protected. But it does not mean that the lower of the U_p, the better of the SPD protection effect. Usually for the equipment connected to the network of 220V/380V, It's withstanding impulse voltage can meet the requirement of 2000-2500V. So the SPD with U_p<2500V can protect the equipment efficiently.

The alarm indicator:
In order to monitor the operating of the SPD, when SPD damaged, the user should know it and change the damaged SPD module immediately. In order to realize the monitoring function, it should chose the SPD with indicator.

Choice of the associated switching element:
All SPD are fitted with a built-in thermal disconnector. However, they must be equipped with an upstream protection element for protection against short-circuit currents.

Protection in three steps:



Terminology of electrical characteristics

Standard
The connections between the SPD and live conductors and earthing terminal must be as short as possible. As the impedance of these connections reduces the protection provided by SPD.

Location
For an effective protection, installing a head protective device is recommended to shunt the lightning current at the installed input, before it propagates.

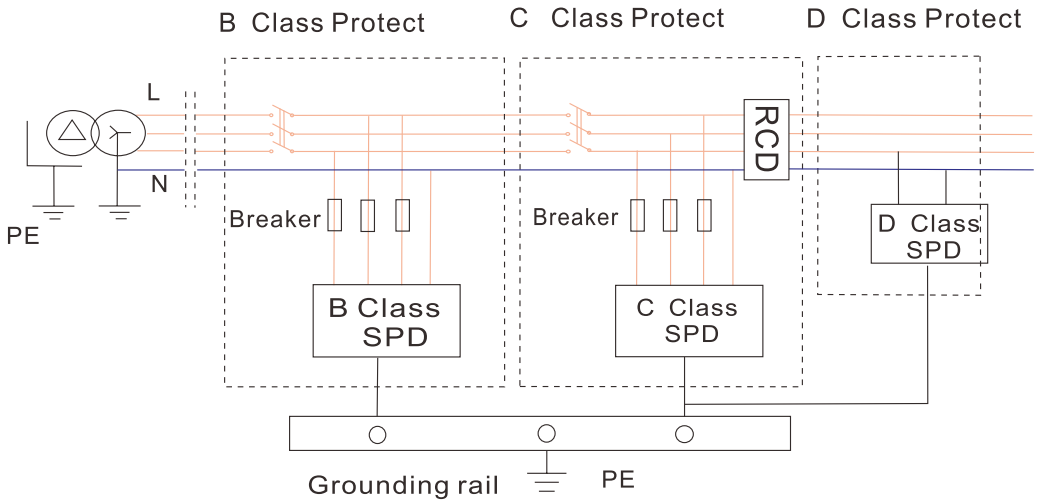
SPD connection
The calbe lenghth must be as short as possible for the voltage on the protected equipment to be equal to the SPD residual voltage. Kevin connection is recommended.

Choice of the associated switching element
All SPD are fitted with a built-in thermal disconnector. However, they must be equipped with an upstream protection element for protection again short-circuit currents.

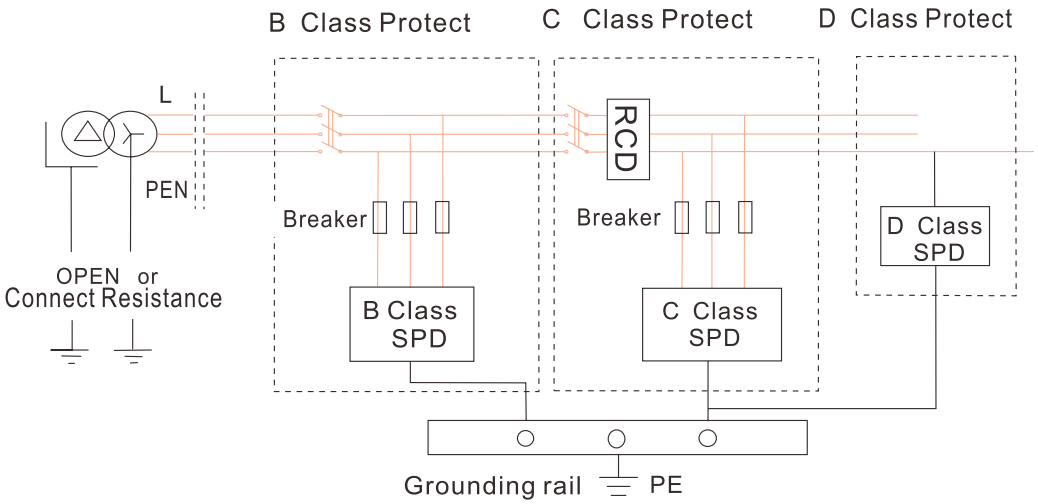
Importance of equipment to SPD distance
The SPD must be located as close as possible to the protected equipment. When this cannot be achieved, another SPD must be installed as close as possible to the equipment.

Importance of earth equipotentiality
Earth equipotentiality allows avoiding the loops or induced effects of lighting current from one circuit to another.

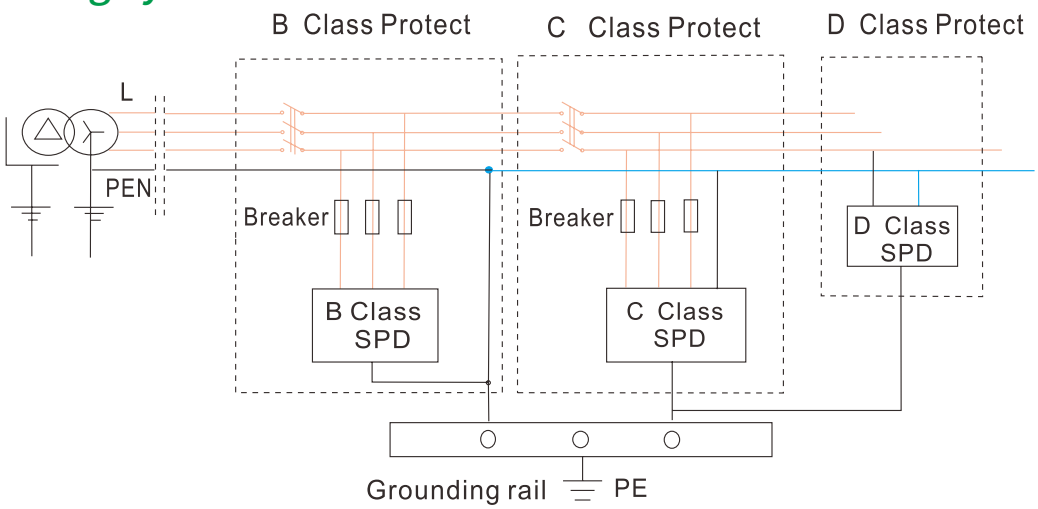
TT earthing system



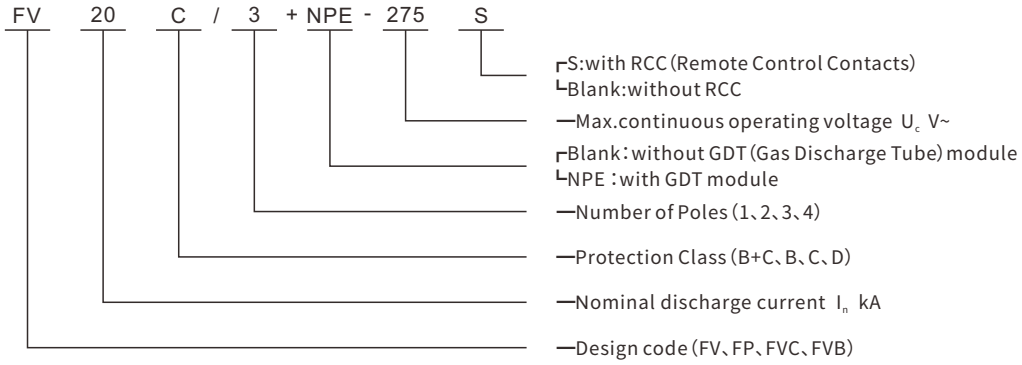
IT earthing system



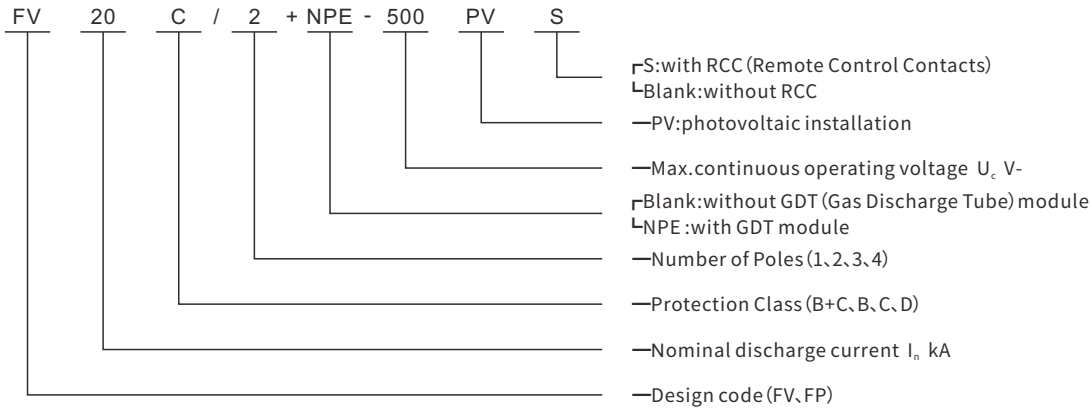
TN earthing system



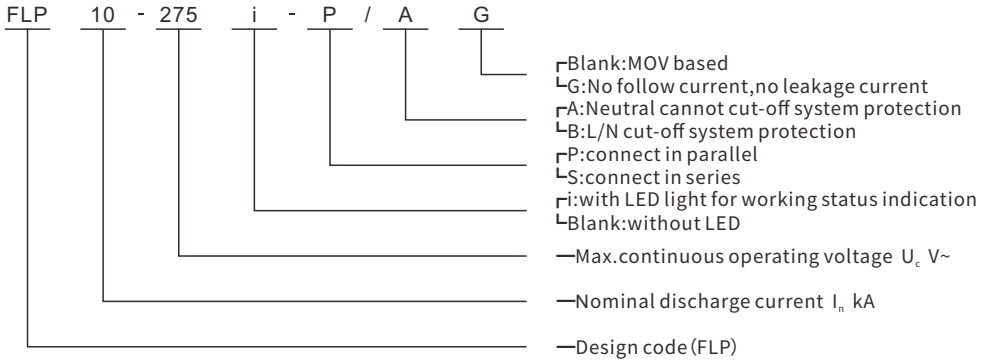
1.Surge Protective Device for Low-voltage Power System



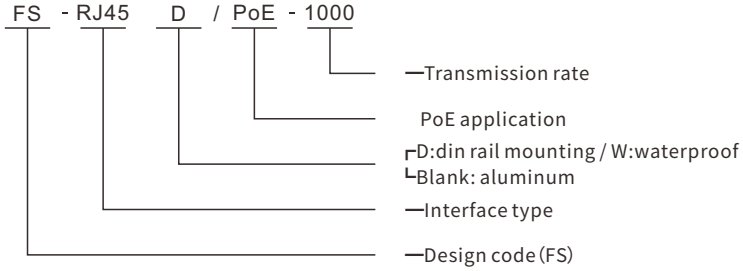
2.Surge Protective Device for Photovoltaic System



3.Surge Protective Device for LED Street Light

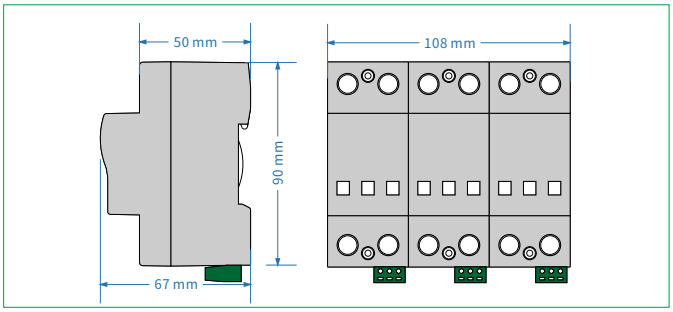


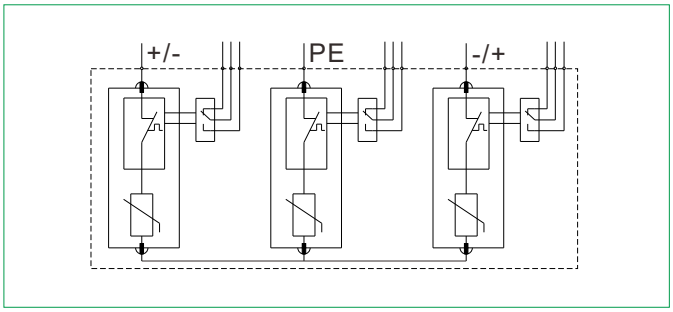
4.Surge Protective Device for Signal System



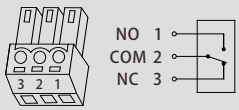
FV25B/3 -***PV (S)

- DC surge protective device used for photovoltaic system.
- The core parts are metal oxide vristor components with high discharge capacity.
- With Reliable control thanks to Thermo Dynamic Control disconnector.
- Remote signaling contact for control device optional.
- Fault indication via red mark in the inspection window.
- 3 poles, Y type.



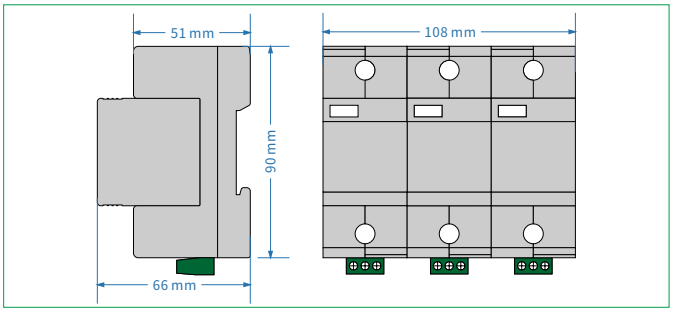


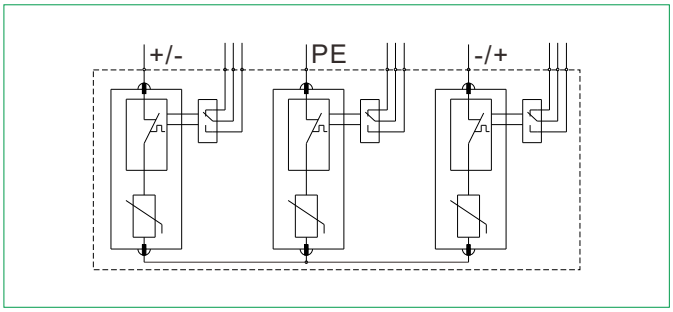
Model No.	FV25B/3-500PV (S)	FV25B/3-600PV (S)
Test class according IEC/EN 50539-11	Class I/B/T1	
Type of network	Photovoltaic system	
Protection Mode	+/- — PE 、 -/+ — PE、+/- — -/+	
Nominal voltage 50(60)Hz U_N	500V dc	600V dc
Maximum continuous operating voltage for PV application U_{CPV}	560V dc	670V dc
Max. discharge current (8/20μs) I_{max}	100kA	
Nominal discharge current (8/20μs) I_n	50kA	
Impulse current (10/350μs) I_{imp}	25kA	
Voltage protection level U_p	≤2.8kV	≤3.4kV
Response time t_A	≤25ns	
Recommended back-up fuse	315A	
Isolation resistance	>10^2MΩ	
I/O Connections	Multi core wire：6mm^2~35mm^2	
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)	
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m	
Degree of protection	IP20	
Housing material	UL94 V-0	
Disconnection indicator	Mechanical indicator (Red: replace)	
Remote control contact	Optional	

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm^2
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm^2
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

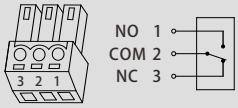
FV30B+C/3-***PV(S)

- DC surge protective device used for photovoltaic system.
- The core parts are metal oxide vristor components with high discharge capacity.
- With Reliable control thanks to Thermo Dynamic Control disconnector.
- Remote signaling contact for control device optional.
- Fault indication via red mark in the inspection window.
- 3 poles, Y type



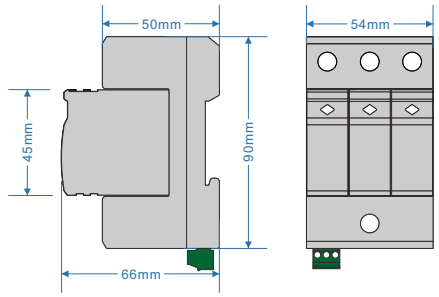


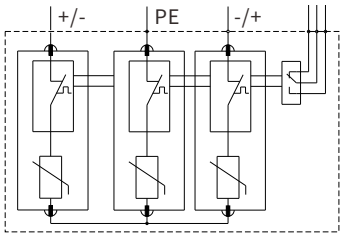
Model No.	FV30B+C/3-800PV(S)	FV30B+C/3-1000PV(S)	FV30B+C/3-1500PV(S)
Test class IEC/EN/VDE	Class I+II/B+C/ T1 T2		
Type of Network	Photovoltaic system		
Protection Mode	+/- — PE 、 -/+ — PE 、+/- — -/+		
Nominal voltage 50(60)Hz U_N	800V dc	1000V dc	1500V dc
Rated Voltage (Max. Cont. Operating Voltage) U_{CPV}	825V dc	1060V dc	1800V dc
Max. discharge current (8/20μs) I_{max}	60kA		
Nominal discharge current (8/20μs) I_n	30kA		
Impulse current (10/350μS) I_{imp}	7kA		
Voltage protective level U_p	≤3.6kV	≤4.0kV	≤6.0kV
Response time t_A	≤25ns		
Recommended back-up fuse	160A		
Isolation resistance	$>10^2$MΩ		
I/O Connections	Multi core wire：6mm²~35mm²		
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)		
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m		
Degree of protection	IP20		
Housing material	UL94 V-0		
Disconnection indicator	Mechanical indicator (Red: replace)		
Remote control contact	Optional		

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

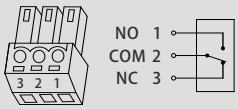
FV30B+C/3-***PV(S)

- DC surge protective device used for photovoltaic system.
- The core parts are metal oxide vristor components with high discharge capacity.
- With Reliable control thanks to Thermo Dynamic Control disconnector.
- Remote signaling contact for control device optional.
- Fault indication via red mark in the inspection window.
- 3 poles, Y type.



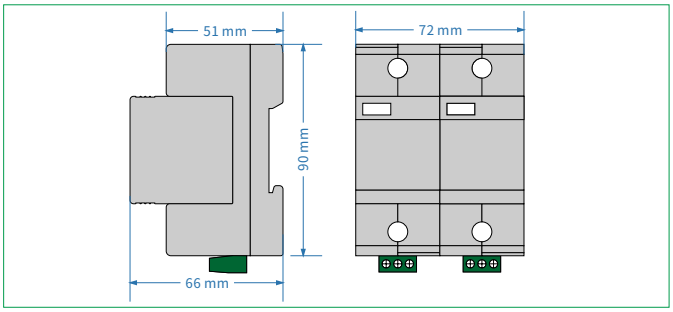


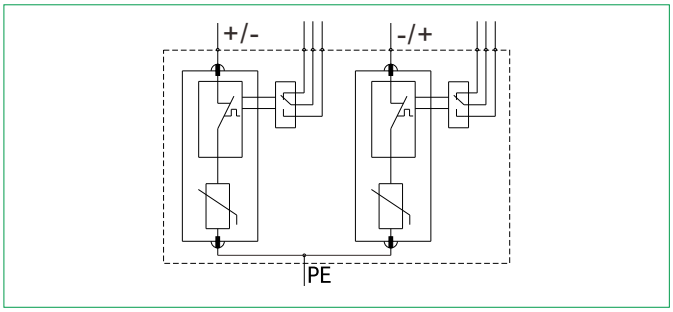
Model No.	FV30B+C/3-500PV(S)	FV30B+C/3-600PV(S)
Test class IEC/EN/VDE	Class I+II/B+C/ T1 T2	
Type of Network	Photovoltaic system	
Protection Mode	+/- — PE 、 -/+ — PE、+/- — -/+	
Nominal voltage 50(60)Hz U_N	500V dc	600V dc
Rated Voltage (Max. Cont. Operating Voltage) U_{CPV}	560V dc	670V dc
Max. discharge current (8/20μs) I_{max}	60kA	
Nominal discharge current (8/20μs) I_n	30kA	
Impulse current (10/350μS) I_{imp}	7kA	
Voltage protective level U_p	≤2.0kV	≤3.0kV
Response time t_A	≤25ns	
Recommended back-up fuse	160A	
Isolation resistance	$>10^2$MΩ	
I/O Connections	Multi core wire：6mm²~35mm²	
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)	
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m	
Degree of protection	IP20	
Housing material	UL94 V-0	
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)	
Remote control contact	Optional	

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

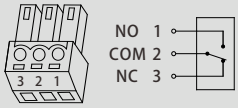
FV30B+C/2 -***PV (S)

- DC surge protective device used for photovoltaic system .
- The core parts are metal oxide vristor components with high discharge capacity.
- With Reliable control thanks to Thermo Dynamic Control disconnector.
- Remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- 2 poles, Y type.



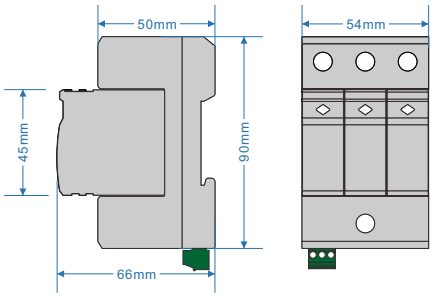


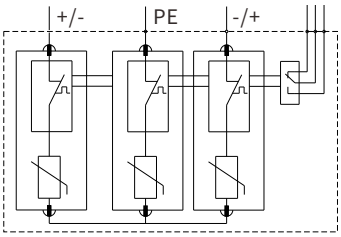
Model No.	FV30B+C/2-500PV (S)	FV30B+C/2-600PV (S)	FV30B+C/2-800PV (S)	FV30B+C/2-1000PV (S)
Test class IEC/EN/VDE	Class I+II/B+C/ T1 T2			
Type of Network	Photovoltaic system			
Protection Mode	+/- — PE 、 -/+ — PE			
Nominal voltage 50(60)Hz U_N	500V dc	600V dc	800V dc	1000V dc
Rated Voltage (Max. Cont. Operating Voltage) U_{CPV}	560V dc	670V dc	825V dc	1060V dc
Max. discharge current (8/20μs) I_{max}	60kA			
Nominal discharge current (8/20μs) I_n	30kA			
Impulse current (10/350μS) I_{imp}	7kA			
Voltage protective level U_p	≤2.0kV	≤3.0kV	≤3.6kV	≤4.0kV
Response time t_A	≤25ns			
Recommended back-up fuse	160A			
Isolation resistance	>10^2MΩ			
I/O Connections	Multi core wire：6mm²~35mm²，Single core wire：4mm²~35mm²			
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)			
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m			
Degree of protection	IP20			
Housing material	UL94 V-0			
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)			
Remote control contact	Optional			

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

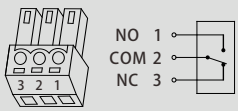
FV20C/3 -***PV (S)

- DC surge protective device used for photovoltaic system.
- The core parts are metal oxide vristor components with high discharge capacity.
- With Reliable control thanks to Thermo Dynamic Control disconnector.
- Remote signaling contact for control device optional.
- Fault indication via red mark in the inspection window.
- 3 poles, Y type.



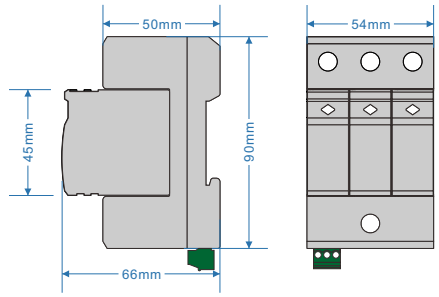


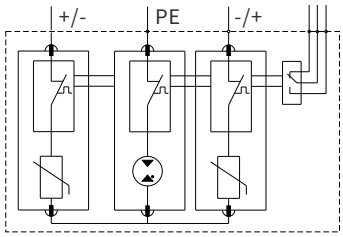
Model No.	FV20C/3-48PV (S)	FV20C/3-96PV (S)	FV20C/3-500PV (S)	FV20C/3-600PV (S)	FV20C/3-800PV (S)	FV20C/3-1000PV (S)	FV20C/3-1500PV (S)
Test class IEC/EN/VDE	Class II/C/T2						
Type of Network	Photovoltaic system						
Protection Mode	+/- — PE 、 -/+ — PE、+/- — -/+						
Nominal voltage 50(60)Hz U_N	48V dc	96V dc	500V dc	600V dc	800V dc	1000V dc	1500V dc
Rated Voltage (Max. Cont. Operating Voltage) U_{CPV}	75V dc	125V dc	560V dc	670V dc	825V dc	1060V dc	1800V dc
Max. discharge current (8/20μs) I_{max}	40kA						
Nominal discharge current (8/20μs) I_n	20kA						
Voltage protective level U_p	≤0.6kV	≤0.8kV	≤1.8kV	≤2.4kV	≤3.0kV	≤3.6kV	≤5.0kV
Response time t_A	≤25ns						
Recommended back-up fuse	125A						
Isolation resistance	$>10^2$MΩ						
I/O Connections	Multi core wire：4mm²~25mm²						
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)						
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m						
Degree of protection	IP20						
Housing material	UL94 V-0						
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)						
Remote control contact	Optional						

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

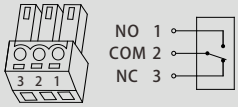
FV20C/2+NPE -***PV (S)

- DC surge protective device used for photovoltaic system.
- The core parts are metal oxide vristor components with high discharge capacity.
- With Reliable control thanks to Thermo Dynamic Control disconnector.
- Remote signaling contact for control device optional.
- Fault indication via red mark in the inspection window.
- 3 poles, Y type.



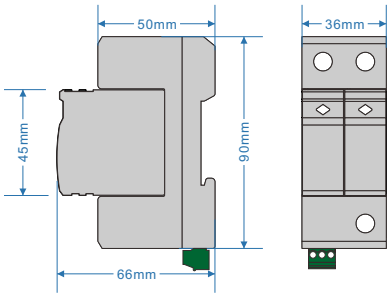


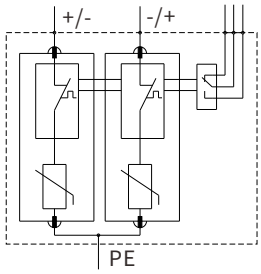
Model No.	FV20C/2+NPE-500PV (S)	FV20C/2+NPE-600PV (S)	FV20C/2+NPE-800PV (S)	FV20C/2+NPE-1000PV (S)
Test class IEC/EN/VDE	Class II/C/T2			
Type of Network	Photovoltaic system			
Protection Mode	+/- — PE 、 -/+ — PE、+/- — -/+			
Nominal voltage 50(60)Hz U_N	500V dc	600V dc	800V dc	1000V dc
Rated Voltage (Max. Cont. Operating Voltage) U_{CPV}	560V dc	670V dc	825V dc	1060V dc
Max. discharge current (8/20μs) I_{max}	40kA			
Nominal discharge current (8/20μs) I_n	20kA			
Voltage protective level U_p	≤2.0kV	≤2.5kV	≤3.0kV	≤3.6kV
Response time t_A	≤25ns			
Recommended back-up fuse	125A			
Isolation resistance	$>10^2$MΩ			
I/O Connections	Multi core wire：4mm²~25mm²			
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)			
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m			
Degree of protection	IP20			
Housing material	UL94 V-0			
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)			
Remote control contact	Optional			

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

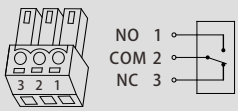
FV20C/2 -***PV (S)

- DC surge protective device used for photovoltaic system.
- The core parts are metal oxide vristor components with high discharge capacity.
- With Reliable control thanks to Thermo Dynamic Control disconnector.
- Remote signaling contact for control device optional.
- Fault indication via red mark in the inspection window.
- Type 2/ Class C.
- 2 poles, U type.



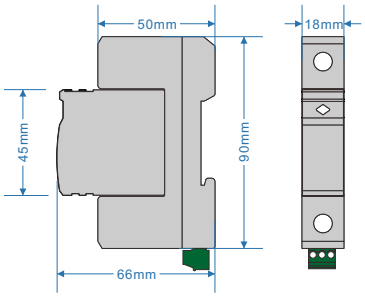


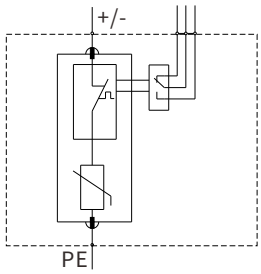
Model No.	FV20C/2-48PV (S)	FV20C/2-96PV (S)	FV20C/2-500PV (S)	FV20C/2-600PV (S)	FV20C/2-800PV (S)	FV20C/2-1000PV (S)
Test class IEC/EN/VDE	Class II/C/T2					
Type of Network	Photovoltaic system					
Protection Mode	+/- — PE 、 -/+ — PE					
Nominal voltage 50(60)Hz U_N	48V dc	96V dc	500V dc	600V dc	800V dc	1000V dc
Rated Voltage (Max. Cont. Operating Voltage) U_{CPV}	75V dc	125V dc	560V dc	670V dc	825V dc	1060V dc
Max. discharge current (8/20μs) I_{max}	40kA					
Nominal discharge current (8/20μs) I_n	20kA					
Voltage protective level U_p	≤0.6kV	≤0.8kV	≤1.8kV	≤2.4kV	≤3.0kV	≤3.6kV
Response time t_A	≤25ns					
Recommended back-up fuse	125A					
Isolation resistance	$>10^2$MΩ					
I/O Connections	Multi core wire：4mm²~25mm²					
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)					
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m					
Degree of protection	IP20					
Housing material	UL94 V-0					
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)					
Remote control contact	Optional					

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.3mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

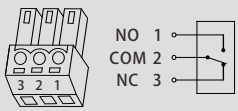
FV20C/1-***PV(S)

- DC surge protective device used for photovoltaic system.
- The core parts are metal oxide vristor components with high discharge capacity.
- With Reliable control thanks to Thermo Dynamic Control disconnector.
- Remote signaling contact for control device optional.
- Fault indication via red mark in the inspection window.
- 1 poles, I type.



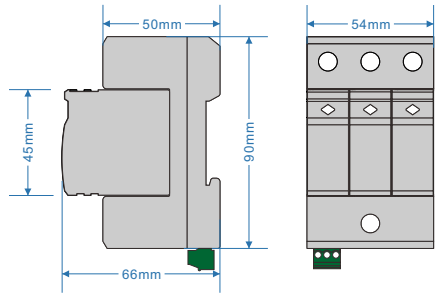


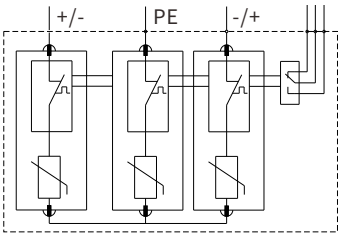
Model No.	FV20C/1-48PV(S)	FV20C/1-96PV(S)	FV20C/1-500PV(S)	FV20C/1-600PV(S)	FV20C/1-800PV(S)	FV20C/1-1000PV(S)
Test class IEC/EN/VDE	Class II/C/T2					
Type of Network	Photovoltaic system					
Protection Mode	+/- — PE					
Nominal voltage 50(60)Hz U_N	48V dc	96V dc	500V dc	600V dc	800V dc	1000V dc
Rated Voltage (Max. Cont. Operating Voltage) U_{CPV}	75V dc	125V dc	560V dc	670V dc	825V dc	1060V dc
Max. discharge current (8/20μs) I_{max}	40kA					
Nominal discharge current (8/20μs) I_n	20kA					
Voltage protective level U_p	≤0.6kV	≤0.8kV	≤1.8kV	≤2.4kV	≤3.0kV	≤3.6kV
Response time t_A	≤25ns					
Recommended back-up fuse	125A					
Isolation resistance	$>10^2$MΩ					
I/O Connections	Multi core wire：4mm²~25mm²					
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)					
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m					
Degree of protection	IP20					
Housing material	UL94 V-0					
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)					
Remote control contact	Optional					

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

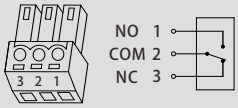
FV10D/3-***PV(S)

- DC surge protective device used for photovoltaic system.
- The core parts are metal oxide vristor components with high discharge capacity.
- With Reliable control thanks to Thermo Dynamic Control disconnector.
- Remote signaling contact for control device optional.
- Fault indication via red mark in the inspection window.
- 3 poles, Y type.



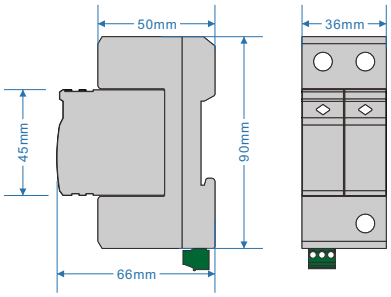


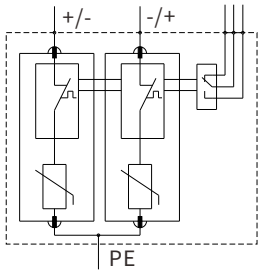
Model No.	FV10D/3-48PV(S)	FV10D/3-96PV(S)	FV10D/3-500PV(S)	FV10D/3-600PV(S)	FV10D/3-800PV(S)	FV10D/3-1000PV(S)	FV10D/3-1500PV(S)
Test class IEC/EN/VDE	Class III/D/ T3						
Type of Network	Photovoltaic system						
Protection Mode	+/- — PE 、 -/+ — PE、+/- — -/+						
Nominal voltage 50(60)Hz U_N	48V dc	96V dc	500V dc	600V dc	800V dc	1000V dc	1500V dc
Rated Voltage (Max. Cont. Operating Voltage) U_{CPV}	75V dc	125V dc	560V dc	670V dc	825V dc	1060V dc	1800V dc
Max. discharge current (8/20μs) I_{max}	20kA						
Nominal discharge current (8/20μs) I_n	10kA						
Voltage protective level U_p	≤0.3kV	≤0.6kV	≤1.8kV	≤2.4kV	≤3.0kV	≤3.6kV	≤5.0kV
Response time t_A	≤25ns						
Open circuit voltage U_{oc}	20kV						
Recommended back-up fuse	125A						
Isolation resistance	$>10^2$MΩ						
I/O Connections	Multi core wire:4mm²~25mm²						
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)						
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m						
Degree of protection	IP20						
Housing material	UL94 V-0						
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)						
Remote control contact	Optional						

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark: if the model number is without "S", the model is without remote control contact function				

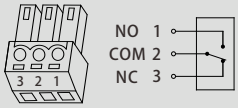
FV10D/2-***PV(S)

- DC surge protective device used for photovoltaic system.
- The core parts are metal oxide vristor components with high discharge capacity.
- With Reliable control thanks to Thermo Dynamic Control disconnector.
- Remote signaling contact for control device optional.
- Fault indication via red mark in the inspection window.
- 2 poles, U type.



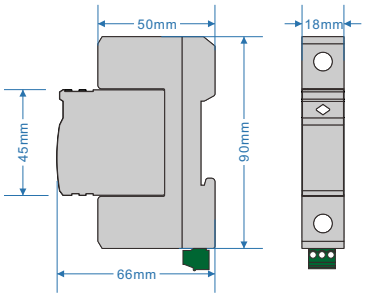


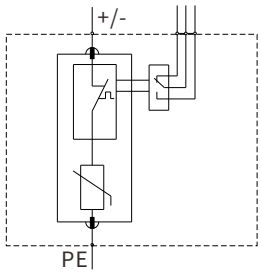
Model No.	FV10D/2-48PV(S)	FV10D/2-96PV(S)	FV10D/2-500PV(S)	FV10D/2-600PV(S)	FV10D/2-800PV(S)	FV10D/2-1000PV(S)
Test class IEC/EN/VDE	Class III/D/					
Type of Network	Photovoltaic system					
Protection Mode	+/- — PE 、 -/+ — PE					
Nominal voltage 50(60)Hz U_N	48V dc	96V dc	500V dc	600V dc	800V dc	1000V dc
Rated Voltage (Max. Cont. Operating Voltage) U_{CPV}	75V dc	125V dc	560V dc	670V dc	825V dc	1060V dc
Max. discharge current (8/20μs) I_{max}	20kA					
Nominal discharge current (8/20μs) I_n	10kA					
Voltage protective level U_p	≤0.3kV	≤0.6kV	≤1.8kV	≤2.4kV	≤3.0kV	≤3.6kV
Response time t_A	≤25ns					
Open circuit voltage U_{oc}	20kV					
Recommended back-up fuse	125A					
Isolation resistance	$>10^2$MΩ					
I/O Connections	Multi core wire：4mm²~25mm²					
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)					
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m					
Degree of protection	IP20					
Housing material	UL94 V-0					
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)					
Remote control contact	Optional					

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

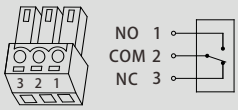
FV10D/1-***PV(S)

- DC surge protective device used for photovoltaic system.
- The core parts are metal oxide vristor components with high discharge capacity.
- With Reliable control thanks to Thermo Dynamic Control disconnector.
- Remote signaling contact for control device optional.
- Fault indication via red mark in the inspection window.
- 1 poles, I type.



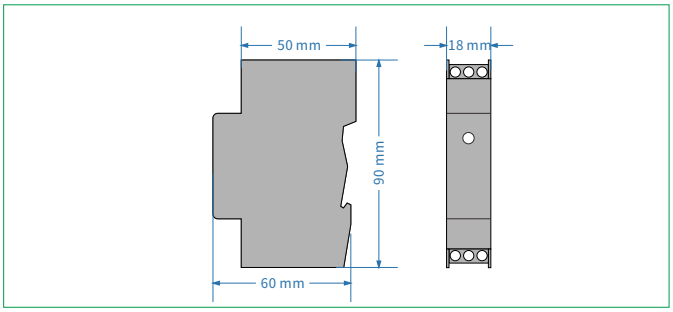


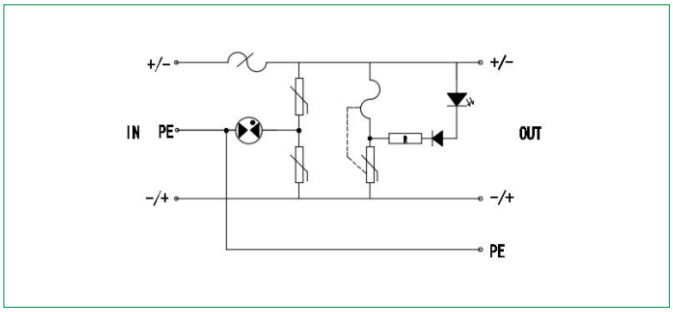
Model No.	FV10D/1-48PV(S)	FV10D/1-96PV(S)	FV10D/1-500PV(S)	FV10D/1-600PV(S)	FV10D/1-800PV(S)	FV10D/1-1000PV(S)
Test class IEC/EN/VDE	Class III/D/ T3					
Type of Network	Photovoltaic system					
Protection Mode	+/- — PE					
Nominal voltage 50(60)Hz U_N	48V dc	96V dc	500V dc	600V dc	800V dc	1000V dc
Rated Voltage (Max. Cont. Operating Voltage) U_{CPV}	75V dc	125V dc	560V dc	670V dc	825V dc	1060V dc
Max. discharge current (8/20μs) I_{max}	20kA					
Nominal discharge current (8/20μs) I_n	10kA					
Voltage protective level U_p	≤0.3kV	≤0.6kV	≤1.8kV	≤2.0kV	≤2.8kV	≤3.2kV
Response time t_A	≤25ns					
Open circuit voltage U_{oc}	20kV					
Recommended back-up fuse	125A					
Isolation resistance	$>10^2$MΩ					
I/O Connections	Multi core wire：4mm²~25mm²					
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)					
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m					
Degree of protection	IP20					
Housing material	UL94 V-0					
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)					
Remote control contact	Optional					

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

FV03D/2-***PVL

- Surge protective device used for DC power supply system.
- LED Failure indicator.
- Small size, convenient installation.
- 2 poles U type.

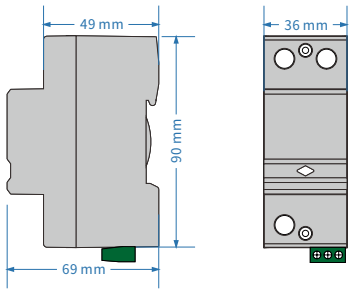


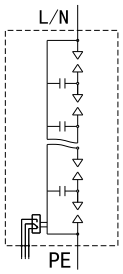


Model No.	FV03D/2-30PVL	FV03D/2-150PVL	FV03D/2-350PVL
Test class IEC/EN/VDE	Class III/D/ T3		
Type of Network	Photovoltaic system		
Protection Mode	+/- — PE 、 -/+ — PE、+/- — -/+		
Rated Voltage (Max. Cont. Operating Voltage) U_{CPV}	36V dc	180V dc	410V dc
Max. discharge current (8/20μs) I_{max}	6kA		
Nominal discharge current (8/20μs) I_n	3kA		
Voltage protective level U_p	≤0.21kV	≤0.70kV	≤1.40kV
Open circuit voltage U_{oc}	6kV		
Response time t_A	L-N:≤25ns , L/N-PE:≤100ns		
Isolation resistance	$>10^2$MΩ		
I/O Connections	Multi core wire：0.3mm²~2.0mm²		
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)		
Operation temperature range / humidity / altitude	-40℃~+80℃ / 30%~90% / 3000m		
Degree of protection	IP20		
Housing material	UL94 V-0		
Disconnection indicator	LED indicator (Green: OK, Go out: replace)		

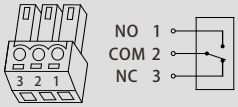
FV50B/1 -*** (S)

- Adopt unique designed seal construction with multilayer spark gap, no spark emission outside the housing.
- With working status indication window, and remote control contacts.
- Max.continuos operating voltage(Uc)150V~,255V~, 275V~,320V~,385V~ for your option.
- Mainly used in lightning protection zone (LPZ) 0 to 1, widely used in building entrance lines elevator, mineral, and so on.
- 1 pole.



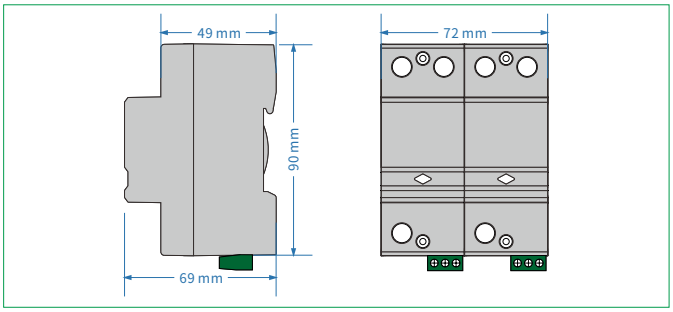


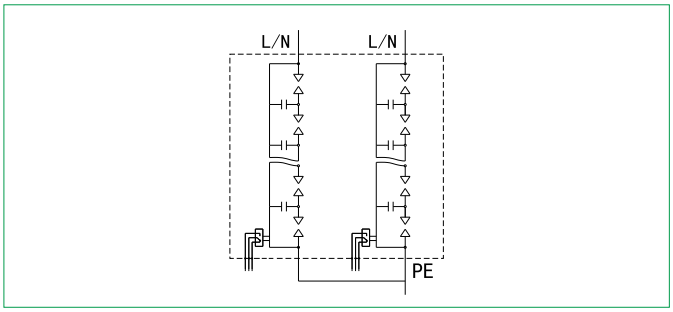
Model No.		FV50B/1-150 (S)	FV50B/1-255 (S)	FV50B/1-275 (S)	FV50B/1-320 (S)	FV50B/1-385 (S)
Test class IEC/EN/VDE		Class I/B/ T1				
Type of Network		TT , TN , IT				
Protection Mode		L / N - PE				
Nominal voltage 50(60)Hz U_N		110~	220V~	220V~	220V~	220V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	255V~	275V~	320V~	385V~
Impulse current (10/350μs) I_{imp}		50kA				
Nominal discharge current (8/20μs) I_n		50kA				
Voltage protective level U_p		≤1.8kV	≤1.8kV	≤1.8kV	≤2.0kV	≤2.0kV
Response time t_A		≤100ns				
Recommended back-up fuse		500A				
Isolation resistance		>10^2MΩ				
I/O Connections	L-N	Multi core wire：10mm²~25mm²				
	PE	Multi core wire：>16mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Green: OK, Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

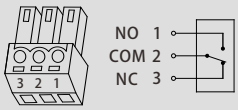
FV50B/2 -*** (S)

- Adopt unique designed seal construction with multilayer spark gap, no spark emission outside the housing.
- With working status indication window, and remote control contacts.
- Max.continuos operating voltage(Uc)150V~,255V~, 275V~,320V~,385V~ for your option.
- Mainly used in lightning protection zone (LPZ) 0 to 1, widely used in building entrance lines elevator, mineral, and so on.
- 1 phase, 2 poles.



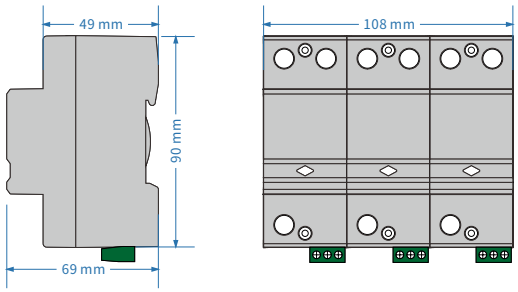


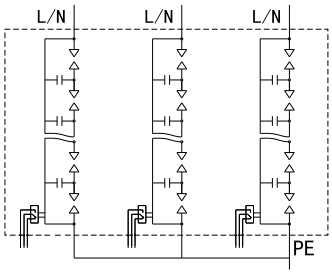
Model No.		FV50B/2-150 (S)	FV50B/2-255 (S)	FV50B/2-275 (S)	FV50B/2-320 (S)	FV50B/2-385 (S)
Test class IEC/EN/VDE		Class I/B/ T1				
Type of Network		TT , TN				
Protection Mode		L - PE , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	255V~	275V~	320V~	385V~
Impulse current (10/350μs) I_{imp}		50kA				
Nominal discharge current (8/20μs) I_n		50kA				
Voltage protective level U_p		≤1.8kV	≤1.8kV	≤1.8kV	≤2.0kV	≤2.0kV
Response time t_A		≤100ns				
Recommended back-up fuse		500A				
Isolation resistance		>10^2MΩ				
I/O Connections	L-N	Multi core wire：10mm²~25mm²				
	PE	Multi core wire：>16mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Green: OK, Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

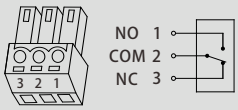
FV50B/3 -*** (S)

- ◆ Adopt unique designed seal construction with multilayer spark gap, no spark emission outside the housing.
- ◆ With working status indication window, and remote control contacts.
- ◆ Max.continuos operating voltage(Uc)150V~,255V~, 275V~,320V~,385V~for your option.
- ◆ Mainly used in lightning protection zone (LPZ) 0 to 1, widely used in building entrance lines elevator, mineral, and so on.
- ◆ 3 phase, 3 poles.



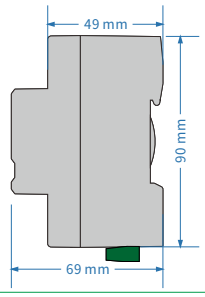


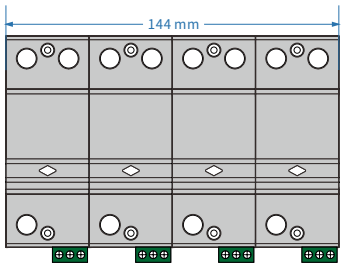
Model No.		FV50B/3-150 (S)	FV50B/3-255 (S)	FV50B/3-275 (S)	FV50B/3-320 (S)	FV50B/3-385 (S)
Test class IEC/EN/VDE		Class I/B/ T1				
Type of Network		IT				
Protection Mode		L1 , L2 , L3 - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	255V~	275V~	320V~	385V~
Impulse current (10/350μs) I_{imp}		50kA				
Nominal discharge current (8/20μs) I_n		50kA				
Voltage protective level U_p		≤1.8kV	≤1.8kV	≤1.8kV	≤2.0kV	≤2.0kV
Response time t_A		≤100ns				
Recommended back-up fuse		500A				
Isolation resistance		>10^2MΩ				
I/O Connections	L-N	Multi core wire：10mm²~25mm²				
	PE	Multi core wire：>16mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Green: OK, Red: replace)				
Remote control contact		Optional				

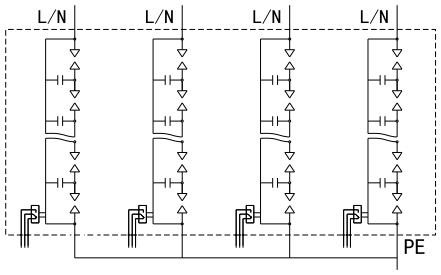
Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

FV50B/4 -*** (S)

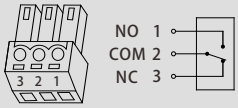
- Adopt unique designed seal construction with multilayer spark gap, no spark emission outside the housing.
- With working status indication window, and remote control contacts.
- Max.continuos operating voltage(Uc)150V~,255V~, 275V~,320V~,385V~for your option.
- Mainly used in lightning protection zone (LPZ) 0 to 1, widely used in building entrance lines elevator, mineral, and so on.
- 3 phase, 4 poles.





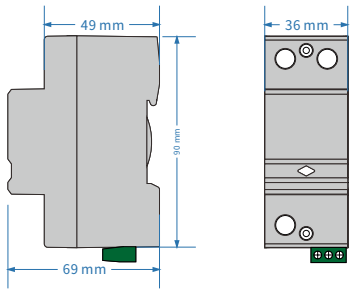


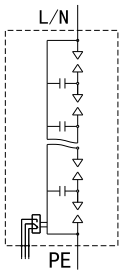
Model No.		FV50B/4-150 (S)	FV50B/4-255 (S)	FV50B/4-275 (S)	FV50B/4-320 (S)	FV50B/4-385 (S)
Test class IEC/EN/VDE		Class I/B/ T1				
Type of Network		TT , TN				
Protection Mode		L1 , L2 , L3 , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	255V~	275V~	320V~	385V ~
Impulse current (10/350μs) I_{imp}		50kA				
Nominal discharge current (8/20μs) I_n		50kA				
Voltage protective level U_p		≤1.8kV	≤1.8kV	≤1.8kV	≤2.0kV	≤2.0kV
Response time t_A		≤100ns				
Recommended back-up fuse		500A				
Isolation resistance		>10^2MΩ				
I/O Connections	L-N	Multi core wire：10mm²~25mm²				
	PE	Multi core wire：>16mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Green: OK, Red: replance)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

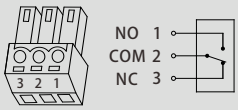
FV25B/1 -*** (S)

- Adopt unique designed seal construction with multilayer spark gap, no spark emission outside the housing.
- With working status indication window, and remote control contacts.
- Max.continuos operating voltage(Uc)150V~,255V~, 275V~,320V~,385V~for your option.
- Mainly used in lightning protection zone (LPZ) 0 to 1, widely used in building entrance lines elevator, mineral, and so on.
- 1 pole.



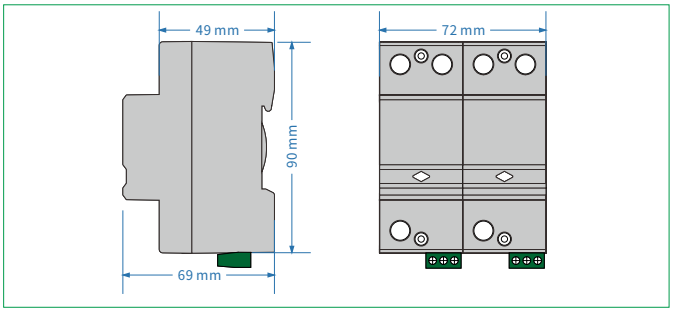


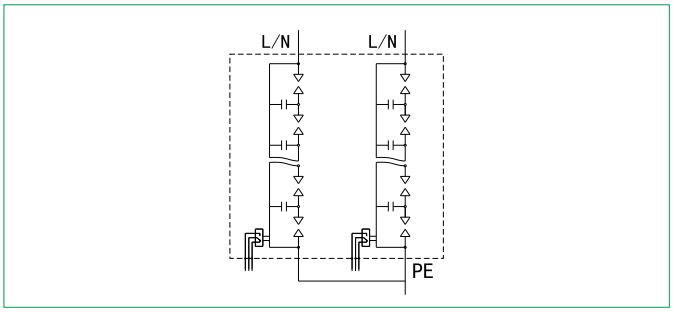
Model No.		FV25B/1-150 (S)	FV25B/1-255 (S)	FV25B/1-275 (S)	FV25B/1-320 (S)	FV25B/1-385 (S)
Test class IEC/EN/VDE		Class I/B/ T1				
Type of Network		TT , TN , IT				
Protection Mode		L / N - PE				
Nominal voltage 50(60)Hz U_N		110V~	220V~	220V~	220V~	220V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	255V~	275V~	320V~	385V~
Impulse current (10/350μs) I_{imp}		25kA				
Nominal discharge current (8/20μs) I_n		25kA				
Voltage protective level U_p		≤1.6kV	≤1.6kV	≤1.6kV	≤1.8kV	≤1.8kV
Response time t_A		≤100ns				
Recommended back-up fuse		315A				
Isolation resistance		>10^2MΩ				
I/O Connections	L-N	Multi core wire：10mm²~25mm²				
	PE	Multi core wire：>16mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Green: OK, Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

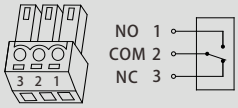
FV25B/2 -*** (S)

- Adopt unique designed seal construction with multilayer spark gap, no spark emission outside the housing.
- With working status indication window, and remote control contacts.
- Max.continuos operating voltage(Uc)150V~,255V~, 275V~,320V~,385V~for your option.
- Mainly used in lightning protection zone (LPZ) 0 to 1, widely used in building entrance lines elevator, mineral, and so on.
- 1 phase, 2 poles.



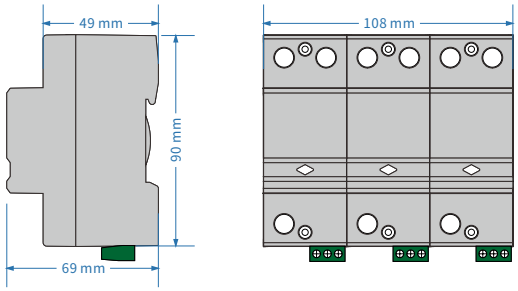


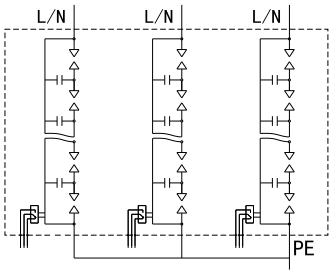
Model No.		FV25B/2-150 (S)	FV25B/2-255 (S)	FV25B/2-275 (S)	FV25B/2-320 (S)	FV25B/1-385 (S)
Test class IEC/EN/VDE		Class I/B/ T1				
Type of Network		TT , TN				
Protection Mode		L - PE , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	255V~	275V~	320V~	385V ~
Impulse current (10/350μs) I_{imp}		25kA				
Nominal discharge current (8/20μs) I_n		25kA				
Voltage protective level U_p		≤1.6kV	≤1.6kV	≤1.6kV	≤1.8kV	≤1.8kV
Response time t_A		≤100ns				
Recommended back-up fuse		315A				
Isolation resistance		>10^2MΩ				
I/O Connections	L-N	Multi core wire：10mm²~25mm²				
	PE	Multi core wire：>16mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Green: OK, Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

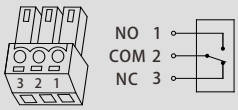
FV25B/3 -*** (S)

- ◆ Adopt unique designed seal construction with multilayer spark gap, no spark emission outside the housing.
- ◆ With working status indication window, and remote control contacts.
- ◆ Max.continuos operating voltage(Uc)150V~,255V~, 275V~,320V~,385V~for your option.
- ◆ Mainly used in lightning protection zone (LPZ) 0 to 1, widely used in building entrance lines elevator, mineral, and so on.
- ◆ 3 phase, 3 poles.



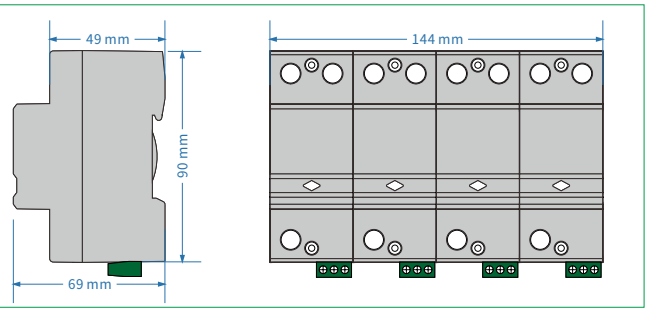


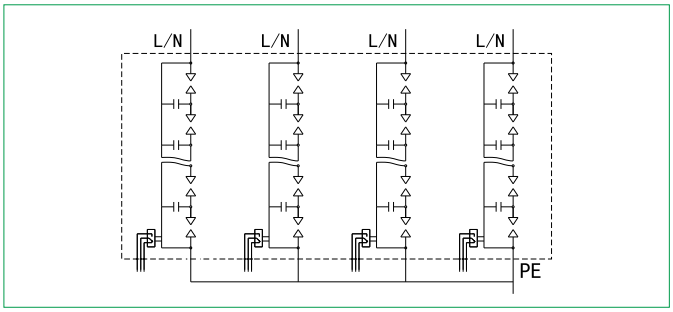
Model No.		FV25B/3-150 (S)	FV25B/3-255 (S)	FV25B/3-275 (S)	FV25B/3-320 (S)	FV25B/3-385 (S)
Test class IEC/EN/VDE		Class I/B/ T1				
Type of Network		IT				
Protection Mode		L1 , L2 , L3 - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	255V~	275V~	320V~	385V ~
Impulse current (10/350μs) I_{imp}		25kA				
Nominal discharge current (8/20μs) I_n		25kA				
Voltage protective level U_p		≤1.6kV	≤1.6kV	≤1.6kV	≤1.8kV	≤1.8kV
Response time t_A		≤100ns				
Recommended back-up fuse		315A				
Isolation resistance		>10^2MΩ				
I/O Connections	L-N	Multi core wire：10mm²~25mm²				
	PE	Multi core wire：>16mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Green: OK, Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

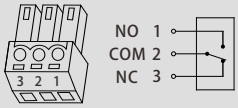
FV25B/4 -***S

- Adopt unique designed seal construction with multilayer spark gap, no spark emission outside the housing.
- With working status indication window, and remote control contacts.
- Max.continuos operating voltage(Uc)150V~,255V~, 275V~,320V~,385V~for your option.
- Mainly used in lightning protection zone (LPZ) 0 to 1, widely used in building entrance lines elevator, mineral, and so on.
- 3 phase, 4 poles.



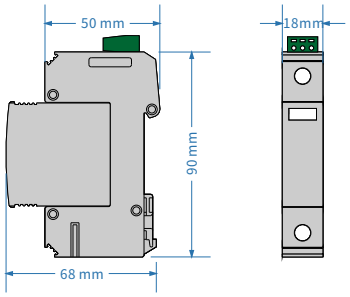


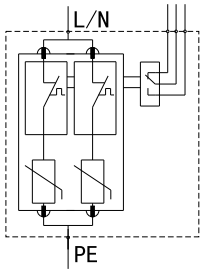
Model No.		FV25B/4-150 (S)	FV25B/4-255 (S)	FV25B/4-275 (S)	FV25B/4-320 (S)	FV25B/4-385 (S)
Test class IEC/EN/VDE		Class I/B/ T1				
Type of Network		TT , TN				
Protection Mode		L1 , L2 , L3 , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	255V~	275V~	320V~	385V ~
Impulse current (10/350μs) I_{imp}		25kA				
Nominal discharge current (8/20μs) I_n		25kA				
Voltage protective level U_p		≤1.6kV	≤1.6kV	≤1.6kV	≤1.8kV	≤1.8kV
Response time t_A		≤100ns				
Recommended back-up fuse		315A				
Isolation resistance		>10^2MΩ				
I/O Connections	L-N	Multi core wire：10mm²~25mm²				
	PE	Multi core wire：>16mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Green: OK, Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

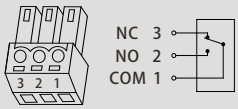
FVB12.5B+C/1-*** (S)

- Surge protective device with special design for saving installation space--- width 18mm/pole.
- High discharge current--- I_{imp} 12.5kA per pole.
- each pole with one indication window, indication window for clear display of SPD status.
- Remote controlling function for your option.
- Pluggable module--- convenient for maintenance.
- Protection mode --- L/N-PE.
- 1 pole.



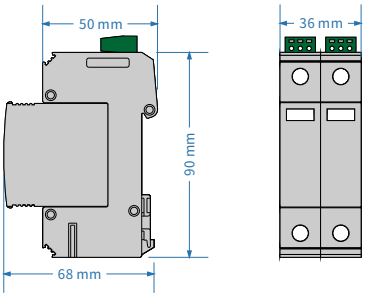


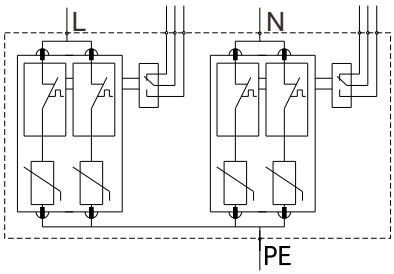
Model No.	FVB12.5B+C/1-150 (S)	FVB12.5B+C/1-275 (S)
Test class IEC/EN/VDE	Class I+II/B+C/ T1 T2	
Type of Network	TT , TN , IT	
Protection Mode	L / N - PE	
Nominal voltage 50(60)Hz U_N	110V~	220V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~
Impulse current (10/350μs) I_{imp}	12.5kA	
Max. discharge current (8/20μs) I_{max}	80kA	
Nominal discharge current (8/20μs) I_n	40kA	
Voltage protective level U_p	≤1.0kV	≤1.7kV
Response time t_A	≤25ns	
Recommended back-up fuse	160A	
Isolation resistance	$>10^2$MΩ	
I/O Connections	Multi core wire：4mm²~25mm²	
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)	
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m	
Degree of protection	IP20	
Housing material	UL94 V-0	
Disconnection indicator	Mechanical indicator (Red: replace)	
Remote control contact	Optional	

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

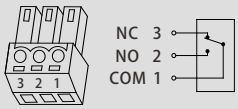
FVB12.5B+C/2-*** (S)

- Surge protective device with special design for saving installation space--- width 18mm/pole.
- High discharge current--- I_{imp} 12.5kA per pole.
- each pole with one indication window, indication window for clear display of SPD status.
- Remote controlling function for your option.
- Pluggable module--- convenient for maintenance.
- Protection mode --- L-PE,N-PE.
- 1 phase, 2 poles.



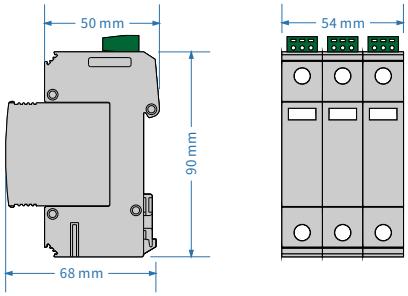


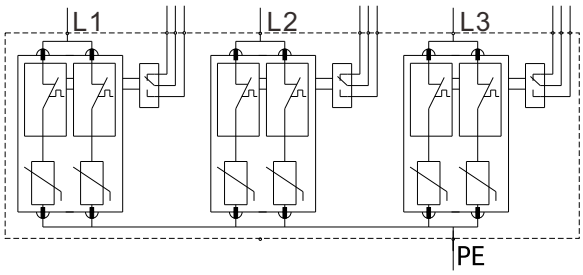
Model No.	FVB12.5B+C/2-150 (S)	FVB12.5B+C/2-275 (S)
Test class IEC/EN/VDE	Class I+II/B+C/ T1 T2	
Type of Network	TT , TN	
Protection Mode	L - PE , N - PE	
Nominal voltage 50(60)Hz U_N	110/220V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~
Impulse current (10/350μs) I_{imp}	12.5kA	
Max. discharge current (8/20μs) I_{max}	80kA	
Nominal discharge current (8/20μs) I_n	40kA	
Voltage protective level U_p	≤1.0kV	≤1.7kV
Response time t_A	≤25ns	
Recommended back-up fuse	160A	
Isolation resistance	$>10^2$MΩ	
I/O Connections	Multi core wire：4mm²~25mm²	
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)	
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m	
Degree of protection	IP20	
Housing material	UL94 V-0	
Disconnection indicator	Mechanical indicator (Red: replace)	
Remote control contact	Optional	

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

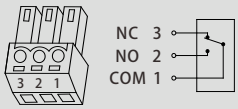
FVB12.5B+C/3-*** (S)

- Surge protective device with special design for saving installation space--- width 18mm/pole.
- High discharge current--- I_{imp} 12.5kA per pole.
- each pole with one indication window, indication window for clear display of SPD status.
- Remote controlling function for your option.
- Pluggable module--- convenient for maintenance.
- Protection mode --- L1,L2,L3-PE.
- 3 phase, 3 poles.



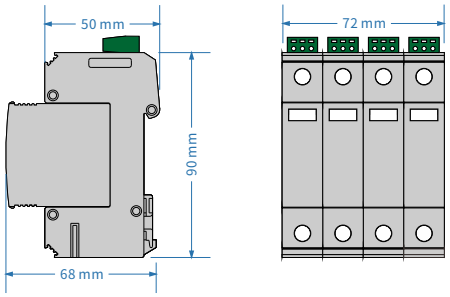


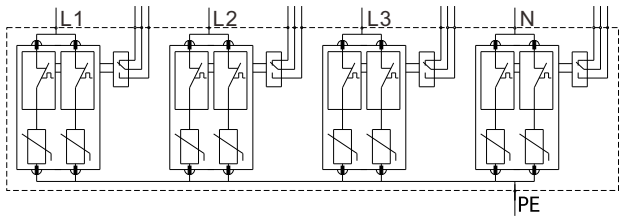
Model No.	FVB12.5B+C/3-150 (S)	FVB12.5B+C/3-275 (S)
Test class IEC/EN/VDE	Class I+II/B+C/ T1 T2	
Type of Network	IT	
Protection Mode	L1 , L2 , L3 - PE	
Nominal voltage 50(60)Hz U_N	110/220V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~
Impulse current (10/350μs) I_{imp}	12.5kA	
Max. discharge current (8/20μs) I_{max}	80kA	
Nominal discharge current (8/20μs) I_n	40kA	
Voltage protective level U_p	≤1.0kV	≤1.7kV
Response time t_A	≤25ns	
Recommended back-up fuse	160A	
Isolation resistance	$>10^2$MΩ	
I/O Connections	Multi core wire：4mm²~25mm²	
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)	
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m	
Degree of protection	IP20	
Housing material	UL94 V-0	
Disconnection indicator	Mechanical indicator (Red: replace)	
Remote control contact	Optional	

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

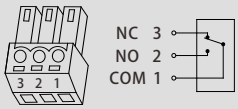
FVB12.5B+C/4-*** (S)

- Surge protective device with special design for saving installation space--- width 18mm/pole.
- High discharge current--- I_{imp} 12.5kA per pole.
- each pole with one indication window, indication window for clear display of SPD status.
- Remote controlling function for your option.
- Pluggable module--- convenient for maintenance.
- Protection mode --- L1,L2,L3,N-PE.
- 3 phase, 4 poles.



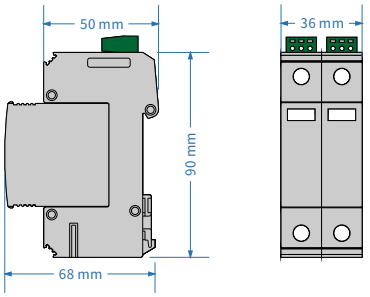


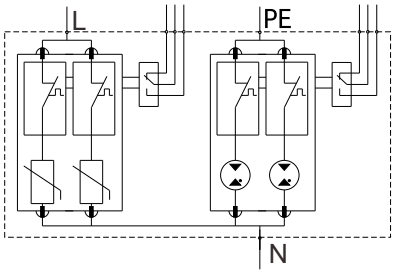
Model No.	FVB12.5B+C/4-150 (S)	FVB12.5B+C/4-275 (S)
Test class IEC/EN/VDE	Class I+II/B+C/ T1 T2	
Type of Network	TT , TN	
Protection Mode	L1 , L2 , L3 , N - PE	
Nominal voltage 50(60)Hz U_N	110/220V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~
Impulse current (10/350μs) I_{imp}	12.5kA	
Max. discharge current (8/20μs) I_{max}	80kA	
Nominal discharge current (8/20μs) I_n	40kA	
Voltage protective level U_p	≤1.0kV	≤1.7kV
Response time t_A	≤25ns	
Recommended back-up fuse	160A	
Isolation resistance	$>10^2$MΩ	
I/O Connections	Multi core wire：4mm²~25mm²	
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)	
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m	
Degree of protection	IP20	
Housing material	UL94 V-0	
Disconnection indicator	Mechanical indicator (Red: replace)	
Remote control contact	Optional	

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

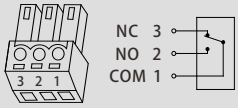
FVB12.5B+C/1+NPE-*** (S)

- Surge protective device with special design for saving installation space--- width 18mm/pole.
- High discharge current--- I_{imp} 12.5kA per pole.
- each pole with one indication window, indication window for clear display of SPD status.
- Remote controlling function for your option.
- Pluggable module--- convenient for maintenance.
- Protection mode --- L-N, N-PE.
- 1 phase, 2 poles.



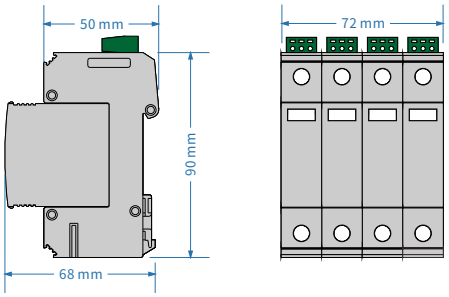


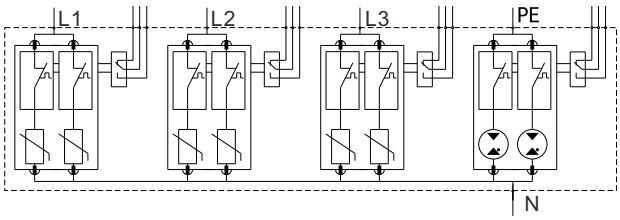
Model No.		FVB12.5B+C/1+NPE-150 (S)	FVB12.5B+C/1+NPE-275 (S)
Test class IEC/EN/VDE		Class I+II/B+C/ T1 T2	
Type of Network		TT	
Protection Mode		L - N , N - PE	
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	275V~
Impulse current (10/350μs) I_{imp}		12.5kA	
Max. discharge current (8/20μs) I_{max}		80kA	
Nominal discharge current (8/20μs) I_n		40kA	
Voltage protective level U_p	L-N	≤1.0kV	≤1.7kV
	N-PE	≤1.5kV	≤1.5kV
Response time t_A		L-N:≤25ns , N-PE:≤100ns	
Recommended back-up fuse		160A	
Isolation resistance		$>10^2$MΩ	
I/O Connections		Multi core wire：4mm²~25mm²	
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)	
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m	
Degree of protection		IP20	
Housing material		UL94 V-0	
Disconnection indicator		Mechanical indicator (Red: replance)	
Remote control contact		Optional	

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

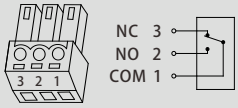
FVB12.5B+C/3+NPE-*** (S)

- Surge protective device with special design for saving installation space--- width 18mm/pole.
- High discharge current--- I_{imp} 12.5kA per pole.
- each pole with one indication window, indication window for clear display of SPD status.
- Remote controlling function for your option.
- Pluggable module--- convenient for maintenance.
- Protection mode --- L1,L2,L3-N,N-PE.
- 3 phase, 4 poles.



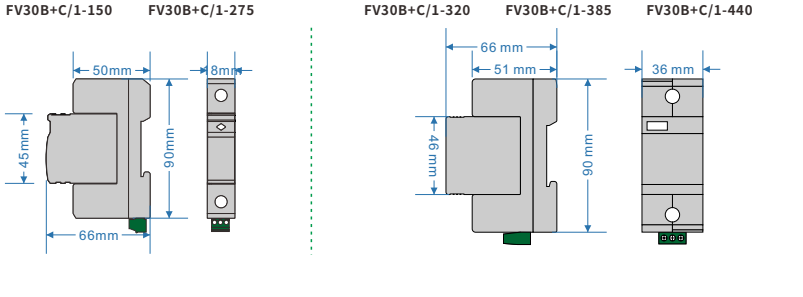


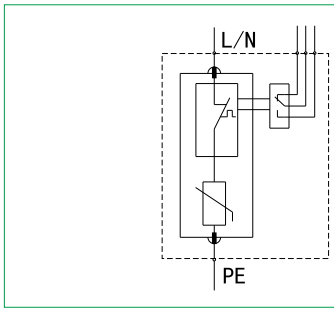
Model No.		FVB12.5B+C/3+NPE-150 (S)	FVB12.5B+C/3+NPE-275 (S)
Test class IEC/EN/VDE		Class I+II/B+C/ T1 T2	
Type of Network		TT	
Protection Mode		L1 , L2 , L3 - N , N - PE	
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	275V~
Impulse current (10/350μs) I_{imp}		12.5kA	
Max. discharge current (8/20μs) I_{max}		80kA	
Nominal discharge current (8/20μs) I_n		40kA	
Voltage protective level U_p	L-N	≤1.0kV	≤1.7kV
	N-PE	≤1.5kV	≤1.5kV
Response time t_A		L-N:≤25ns , N-PE:≤100ns	
Recommended back-up fuse		160A	
Isolation resistance		>10^2MΩ	
I/O Connections		Multi core wire：4mm²~25mm²	
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)	
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m	
Degree of protection		IP20	
Housing material		UL94 V-0	
Disconnection indicator		Mechanical indicator (Red: replace)	
Remote control contact		Optional	

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

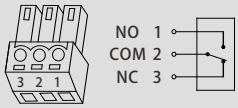
FV30B+C/1 -*** (S)

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L/N-PE.



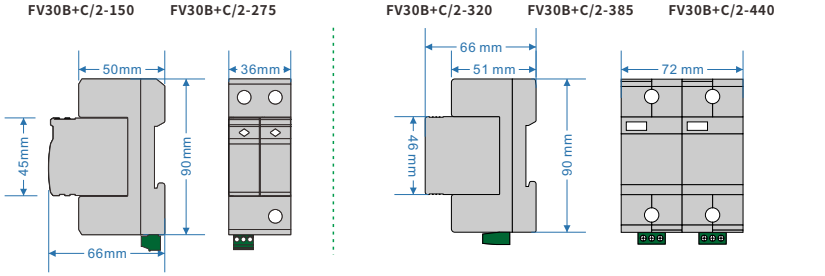


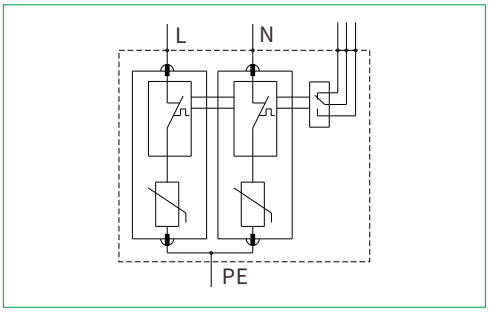
Model No.	FV30B+C/1-150 (S)	FV30B+C/1-275 (S)	FV30B+C/1-320 (S)	FV30B+C/1-385 (S)	FV30B+C/1-440(S)
Test class IEC/EN/VDE	Class I+II/B+C/ T1 T2				
Type of Network	TT , TN , IT				
Protection Mode	L / N - PE				
Nominal voltage 50(60)Hz U_N	110V~	220V~	220V~	220V~	220V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Impulse current (10/350μs) I_{imp}	7kA				
Max. discharge current (8/20μs) I_{max}	60kA				
Nominal discharge current (8/20μs) I_n	30kA				
Voltage protective level U_p	≤0.9kV	≤1.5kV	≤1.8kV	≤2.0kV	≤2.2kV
Response time t_A	≤25ns				
Recommended back-up fuse	160A				
Isolation resistance	$>10^2$MΩ				
I/O Connections	Multi core wire：4mm²~25mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

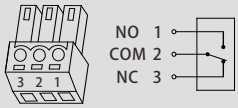
FV30B+C/2 -***(S)

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L-PE,N-PE.



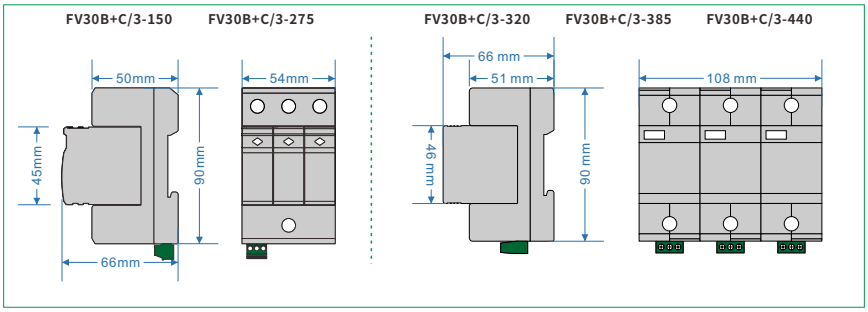


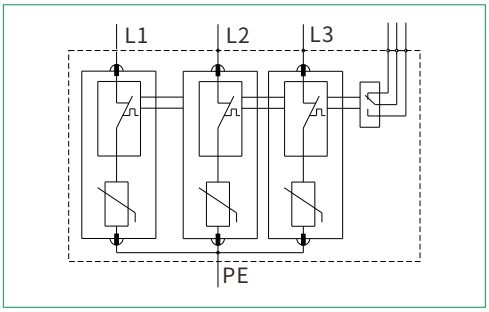
Model No.	FV30B+C/2-150(S)	FV30B+C/2-275(S)	FV30B+C/2-320(S)	FV30B+C/2-385(S)	FV30B+C/2-440(S)
Test class IEC/EN/VDE	Class I+II/B+C/ T1 T2				
Type of Network	TT , TN				
Protection Mode	L - PE , N - PE				
Nominal voltage 50(60)Hz U_N	110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Impulse current (10/350μs) I_{imp}	7kA				
Max. discharge current (8/20μs) I_{max}	60kA				
Nominal discharge current (8/20μs) I_n	30kA				
Voltage protective level U_p	≤0.9kV	≤1.5kV	≤1.8kV	≤2.0kV	≤2.2kV
Response time t_A	≤25ns				
Recommended back-up fuse	160A				
Isolation resistance	>10^2MΩ				
I/O Connections	Multi core wire：4mm²~25mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

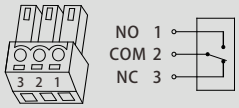
FV30B+C/3 -***(S)

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L1,L2,L3-PE.



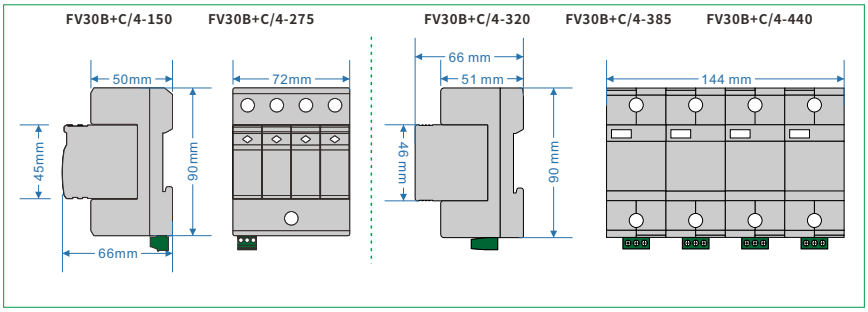


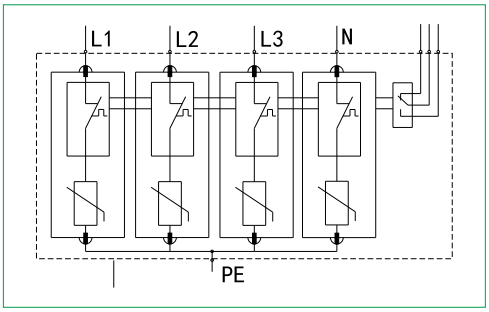
Model No.	FV30B+C/3-150(S)	FV30B+C/3-275(S)	FV30B+C/3-320(S)	FV30B+C/3-385(S)	FV30B+C/3-440(S)
Test class IEC/EN/VDE	Class I+II/B+C/ T1 T2				
Type of Network	IT				
Protection Mode	L1 , L2 , L3 - PE				
Nominal voltage 50(60)Hz U_N	110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Impulse current (10/350μs) I_{imp}	7kA				
Max. discharge current (8/20μs) I_{max}	60kA				
Nominal discharge current (8/20μs) I_n	30kA				
Voltage protective level U_p	≤0.9kV	≤1.5kV	≤1.8kV	≤2.0kV	≤2.2kV
Response time t_A	≤25ns				
Recommended back-up fuse	160A				
Isolation resistance	>10^2MΩ				
I/O Connections	Multi core wire：4mm²~25mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

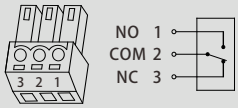
FV30B+C/4 -***(S)

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L1,L2,L3,N-PE.



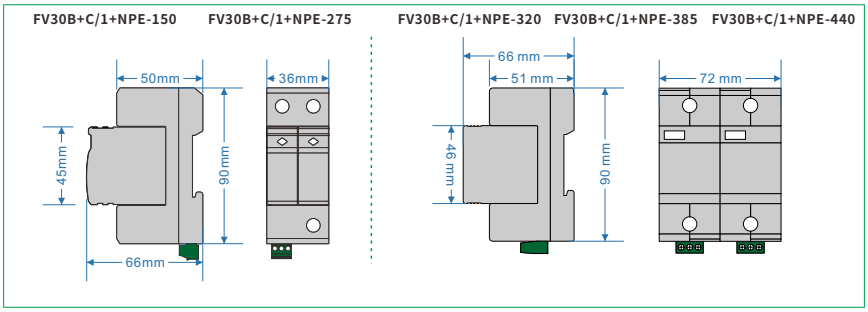


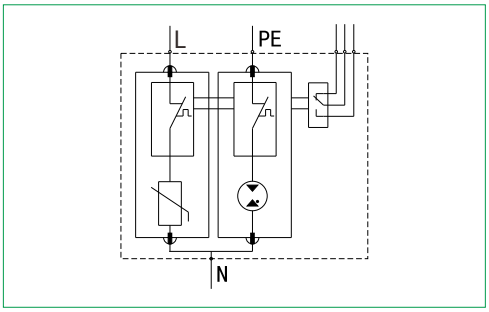
Model No.	FV30B+C/4-150(S)	FV30B+C/4-275(S)	FV30B+C/4-320(S)	FV30B+C/4-385(S)	FV30B+C/4-440(S)
Test class IEC/EN/VDE	Class I+II/B+C/ T1 T2				
Type of Network	TT , TN				
Protection Mode	L1 , L2 , L3 , N - PE				
Nominal voltage 50(60)Hz U_N	110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Impulse current (10/350μs) I_{imp}	7kA				
Max. discharge current (8/20μs) I_{max}	60kA				
Nominal discharge current (8/20μs) I_n	30kA				
Voltage protective level U_p	≤0.9kV	≤1.5kV	≤1.8kV	≤2.0kV	≤2.2kV
Response time t_A	≤25ns				
Recommended back-up fuse	160A				
Isolation resistance	$>10^2$MΩ				
I/O Connections	Multi core wire：4mm²~25mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

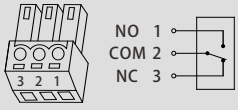
FV30B+C/1+NPE -***(S)

- Consisting of a base part and MOV + GDT pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L-N,N-PE.



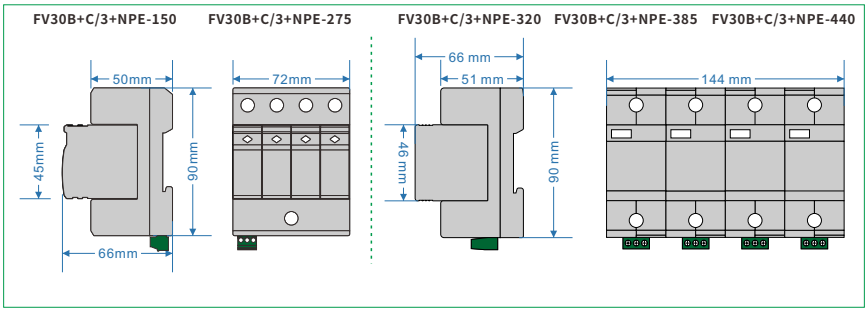


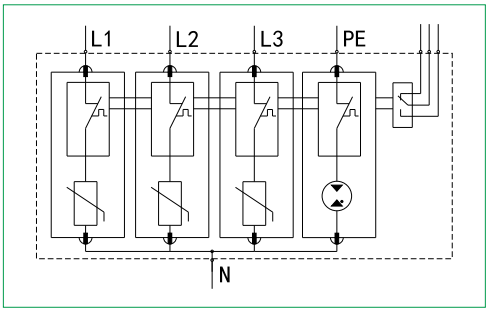
Model No.		FV30B+C/3+NPE-150(S)	FV30B+C/3+NPE-275(S)	FV30B+C/3+NPE-320(S)	FV30B+C/3+NPE-385(S)	FV30B+C/3+NPE-440(S)
Test class IEC/EN/VDE		Class I+II/B+C/ T1 T2				
Type of Network		TT				
Protection Mode		L - N , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	275V~	320V~	385V~	440V~
Impulse current (10/350μs) I_{imp}		7kA				
Max. discharge current (8/20μs) I_{max}		60kA				
Nominal discharge current (8/20μs) I_n		30kA				
Voltage protective level U_p	L-N	≤0.9kV	≤1.5kV	≤1.8kV	≤2.0kV	≤2.2kV
	N-PE	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV
Response time t_A		L-N:≤25ns , N-PE:≤100ns				
Recommended back-up fuse		160A				
Isolation resistance		>10^2MΩ				
I/O Connections		Multi core wire：4mm²~25mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Green: OK, Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

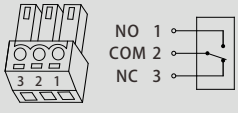
FV30B+C/3+NPE -***(S)

- Consisting of a base part and MOV + GDT pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L1,L2,L3-N,N-PE.



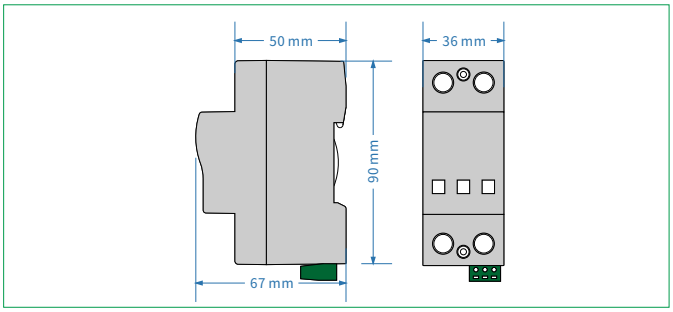


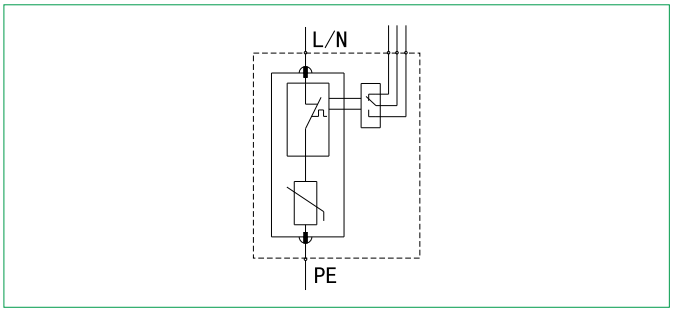
Model No.		FV30B+C/3+NPE-150(S)	FV30B+C/3+NPE-275(S)	FV30B+C/3+NPE-320(S)	FV30B+C/3+NPE-385(S)	FV30B+C/3+NPE-440(S)
Test class IEC/EN/VDE		Class I+II/B+C/ T1 T2				
Type of Network		TT				
Protection Mode		L1 , L2 , L3 - N , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	275V~	320V~	385V~	440V~
Impulse current (10/350μs) I_{imp}		7kA				
Max. discharge current (8/20μs) I_{max}		60kA				
Nominal discharge current (8/20μs) I_n		30kA				
Voltage protective level U_p	L-N	≤0.9kV	≤1.5kV	≤1.8kV	≤2.0kV	≤2.2kV
	N-PE	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV
Response time t_A		L-N:≤25ns , N-PE:≤100ns				
Recommended back-up fuse		160A				
Isolation resistance		>10^2MΩ				
I/O Connections		Multi core wire：4mm²~25mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Green: OK, Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

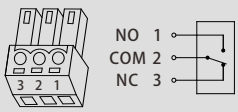
FV50C/1-***(S)

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L/N-PE.



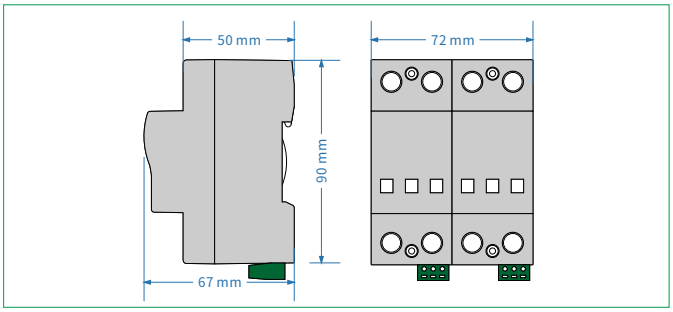


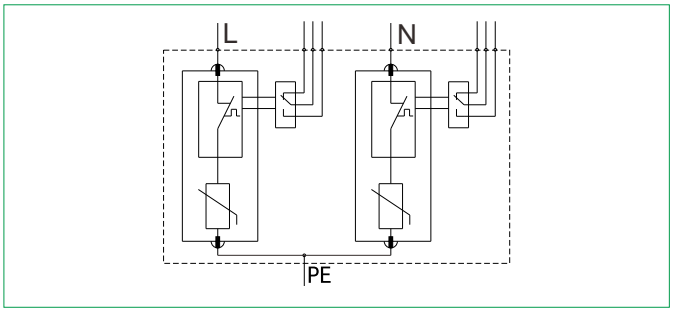
Model No.	FV50C/1-150(S)	FV50C/1-275(S)	FV50C/1-320(S)	FV50C/1-385(S)	FV50C/1-440(S)
Test class IEC/EN/VDE	Class II/C/T2				
Type of Network	TT , TN , IT				
Protection Mode	L / N - PE				
Nominal voltage 50(60)Hz U_N	110V~	220V~	220V~	220V~	220V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}	100kA				
Nominal discharge current (8/20μs) I_n	50kA				
Voltage protective level U_p	≤1.2kV	≤1.8kV	≤2.2kV	≤2.5kV	≤2.8kV
Response time t_A	≤25ns				
Recommended back-up fuse	125A				
Isolation resistance	$>10^2$MΩ				
I/O Connections	Multi core wire：6mm²~35mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

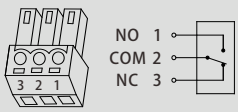
FV50C/2 -***(S)

- Consisting of a base part and MOV pluggable modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L-PE, N-PE.



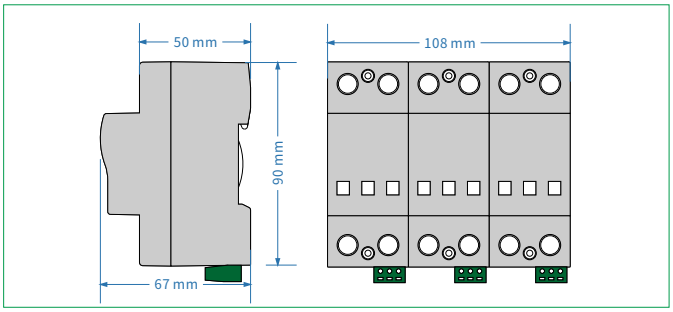


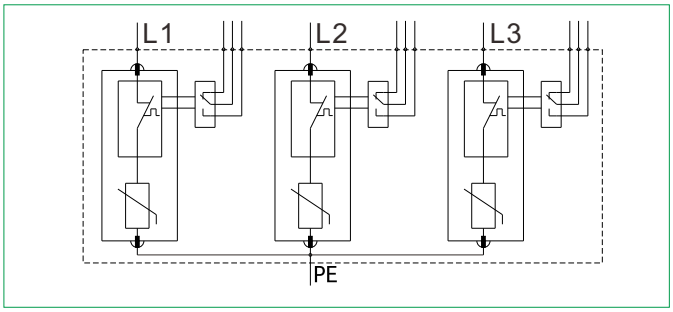
Model No.	FV50C/2-150(S)	FV50C/2-275(S)	FV50C/2-320(S)	FV50C/2-385(S)	FV50C/2-440(S)
Test class IEC/EN/VDE	Class II/C/T2				
Type of Network	TT , TN				
Protection Mode	L - PE , N - PE				
Nominal voltage 50(60)Hz U_N	110/220~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}	100kA				
Nominal discharge current (8/20μs) I_n	50kA				
Voltage protective level U_p	≤1.2kV	≤1.8kV	≤2.2kV	≤2.5kV	≤2.8kV
Response time t_A	≤25ns				
Recommended back-up fuse	125A				
Isolation resistance	$>10^2$MΩ				
I/O Connections	Multi core wire：6mm²~35mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

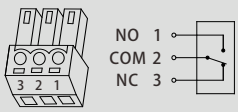
FV50C/3 -***(S)

- Consisting of a base part and MOV pluggable modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L1,L2,L3-PE.



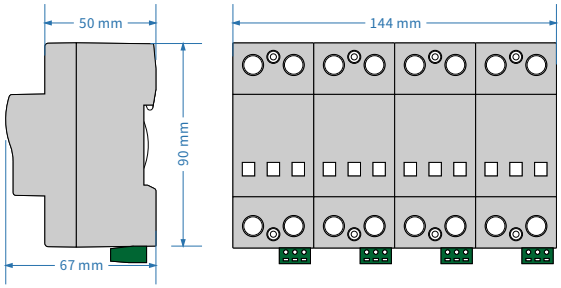


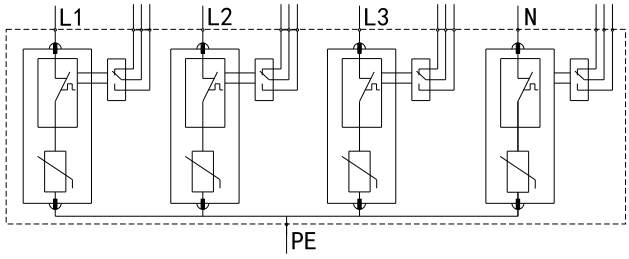
Model No.	FV50C/3-150(S)	FV50C/3-275(S)	FV50C/3-320(S)	FV50C/3-385(S)	FV50C/3-440(S)
Test class IEC/EN/VDE	Class II/C/T2				
Type of Network	IT				
Protection Mode	L1 , L2 , L3 - PE				
Nominal voltage 50(60)Hz U_N	110/220~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}	100kA				
Nominal discharge current (8/20μs) I_n	50kA				
Voltage protective level U_p	≤1.2kV	≤1.8kV	≤2.2kV	≤2.6kV	≤2.8kV
Response time t_A	≤25ns				
Recommended back-up fuse	125A				
Isolation resistance	>10^2MΩ				
I/O Connections	Multi core wire：6mm²~35mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

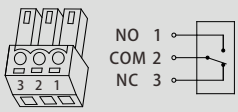
FV50C/4-***(S)

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L1,L2,L3,N-PE.



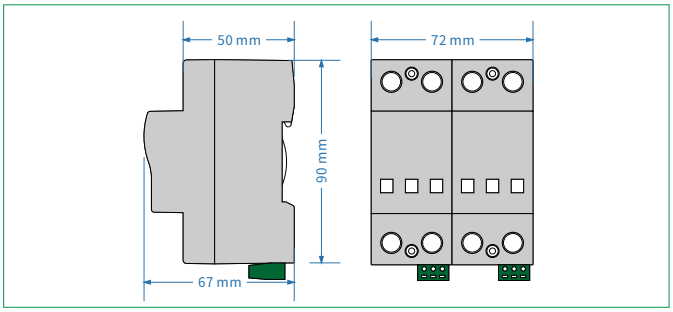


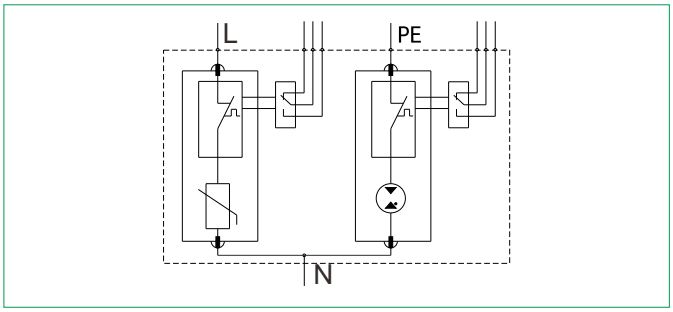
Model No.	FV50C/4-150(S)	FV50C/4-275(S)	FV50C/4-320(S)	FV50C/4-385(S)	FV50C/4-440(S)
Test class IEC/EN/VDE	Class II/C/T2				
Type of Network	TT , TN				
Protection Mode	L1 , L2 , L3 , N - PE				
Nominal voltage 50(60)Hz U_N	110/220~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}	100kA				
Nominal discharge current (8/20μs) I_n	50kA				
Voltage protective level U_p	≤1.2kV	≤1.8kV	≤2.2kV	≤2.5kV	≤2.8kV
Response time t_A	≤25ns				
Recommended back-up fuse	125A				
Isolation resistance	$>10^2$MΩ				
I/O Connections	Multi core wire：6mm²~35mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

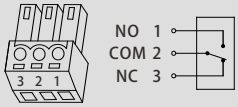
FV50C/1+NPE -***(S)

- Consisting of a base part and MOV + GDT pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L-N,N-PE.



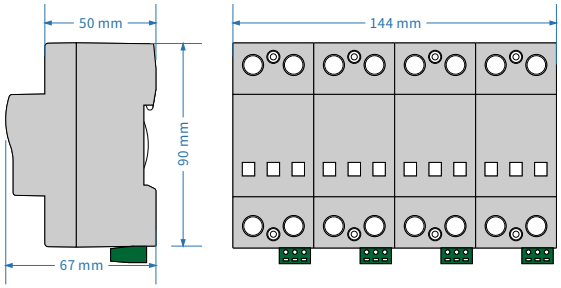


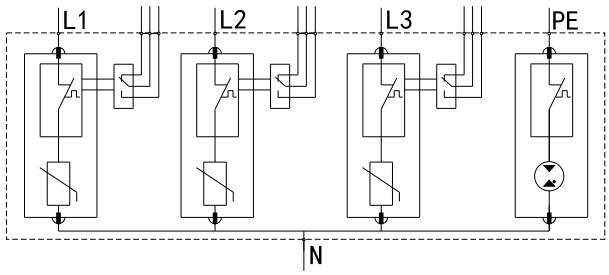
Model No.		FV50C/1+NPE-150(S)	FV50C/1+NPE-275(S)	FV50C/1+NPE-320(S)	FV50C/1+NPE-385(S)	FV50C/1+NPE-440(S)
Test class IEC/EN/VDE		Class II/C/T2				
Type of Network		TT				
Protection Mode		L - N , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}		100kA				
Nominal discharge current (8/20μs) I_n		50kA				
Voltage protective level U_p	L-N	≤1.2kV	≤1.8kV	≤2.2kV	≤2.5kV	≤2.8kV
	N-PE	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV
Response time t_A		L-N:≤25ns , N-PE:≤100ns				
Recommended back-up fuse		125A				
Isolation resistance		>10^2MΩ				
I/O Connections		Multi core wire：6mm²~35mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

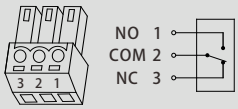
FV50C/3+NPE -***(S)

- Consisting of a base part and MOV + GDT pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L1,L2,L3-N,N-PE.



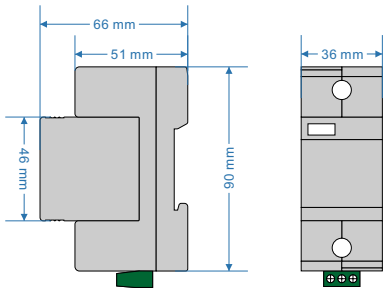


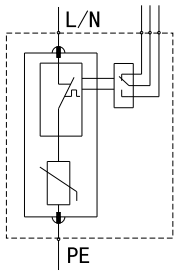
Model No.		FV50C/3+NPE-150(S)	FV50C/3+NPE-275(S)	FV50C/3+NPE-320(S)	FV50C/3+NPE-385(S)	FV50C/3+NPE-440(S)
Test class IEC/EN/VDE		Class II/C/T2				
Type of Network		TT				
Protection Mode		L1 , L2 , L3 - N , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}		100kA				
Nominal discharge current (8/20μs) I_n		50kA				
Voltage protective level U_p	L-N	≤1.2kV	≤1.8kV	≤2.2kV	≤2.5kV	≤2.8kV
	N-PE	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV
Response time t_A		L-N:≤25ns , N-PE:≤100ns				
Recommended back-up fuse		125A				
Isolation resistance		>10^2MΩ				
I/O Connections		Multi core wire：6mm²~35mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

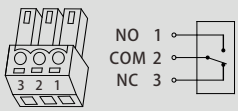
FV40C/1 -*** (S)

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L/N-PE.



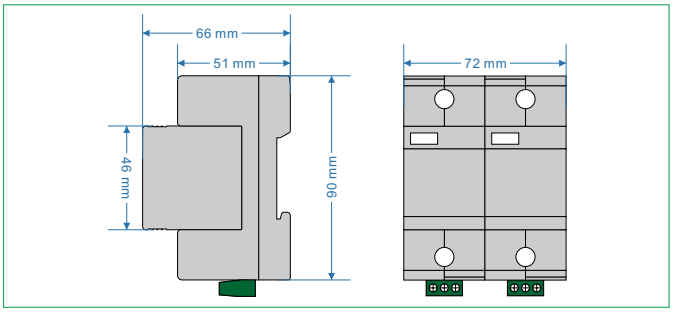


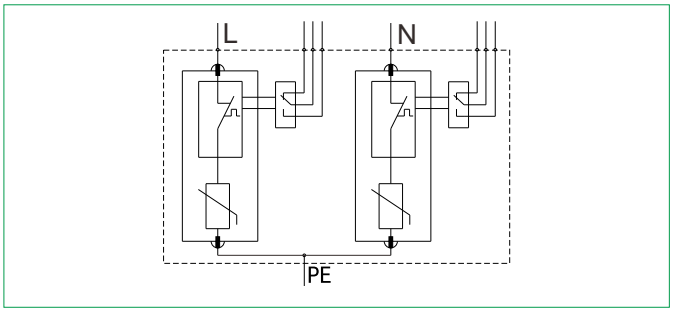
Model No.	FV40C/1-150 (S)	FV40C/1-275 (S)	FV40C/1-320 (S)	FV40C/1-385 (S)	FV40C/1-440 (S)
Test class IEC/EN/VDE	Class II/C/T2				
Type of Network	TT , TN , IT				
Protection Mode	L / N - PE				
Nominal voltage 50(60)Hz U_N	110V~	220V~	220V~	220V~	220V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}	80kA				
Nominal discharge current (8/20μs) I_n	40kA				
Voltage protective level U_p	≤1.0kV	≤1.7kV	≤2.0kV	≤2.5kV	≤2.7kV
Response time t_A	≤25ns				
Recommended back-up fuse	125A				
Isolation resistance	>10^2MΩ				
I/O Connections	Multi core wire：6mm²~35mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

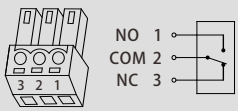
FV40C/2 -***(S)

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L-PE,N-PE.



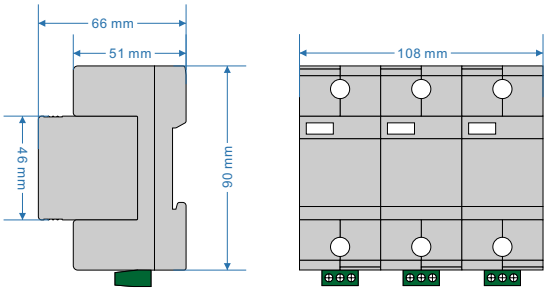


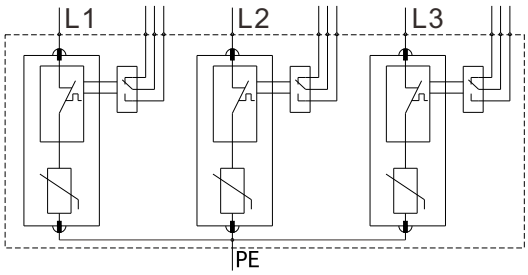
Model No.	FV40C/2-150(S)	FV40C/2-275(S)	FV40C/2-320(S)	FV40C/2-385(S)	FV40C/2-440(S)
Test class IEC/EN/VDE	Class II/C/T2				
Type of Network	TT , TN				
Protection Mode	L - PE , N - PE				
Nominal voltage 50(60)Hz U_N	110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}	80kA				
Nominal discharge current (8/20μs) I_n	40kA				
Voltage protective level U_p	≤1.0kV	≤1.7kV	≤2.0kV	≤2.5kV	≤2.7kV
Response time t_A	≤25ns				
Recommended back-up fuse	125A				
Isolation resistance	$>10^2$MΩ				
I/O Connections	Multi core wire：6mm²~35mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

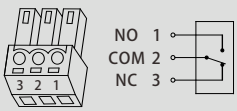
FV40C/3 -***(S)

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L1,L2,L3-PE.



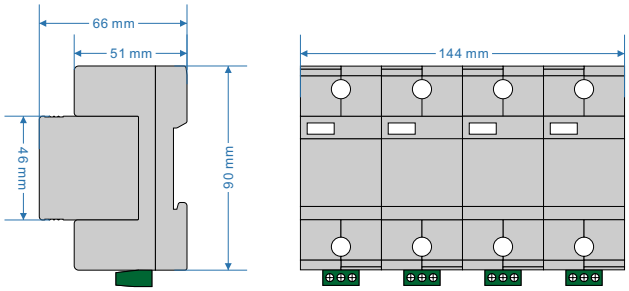


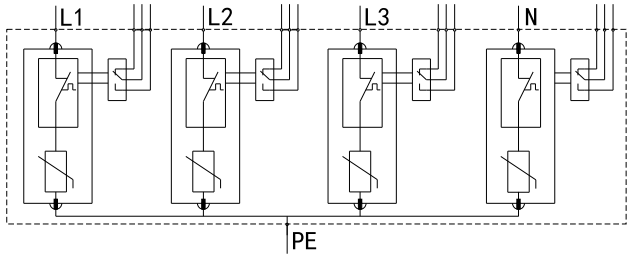
Model No.	FV40C/3-150(S)	FV40C/3-275(S)	FV40C/3-320(S)	FV40C/3-385(S)	FV40C/3-440(S)
Test class IEC/EN/VDE	Class II/C/T2				
Type of Network	IT				
Protection Mode	L1 , L2 , L3 - PE				
Nominal voltage 50(60)Hz U_N	110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}	80kA				
Nominal discharge current (8/20μs) I_n	40kA				
Voltage protective level U_p	≤1.0kV	≤1.7kV	≤2.0kV	≤2.5kV	≤2.7kV
Response time t_A	≤25ns				
Recommended back-up fuse	125A				
Isolation resistance	$>10^2$MΩ				
I/O Connections	Multi core wire：6mm²~35mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

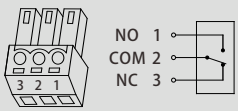
FV40C/4-***(S)

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L1, L2,L3,N-PE.



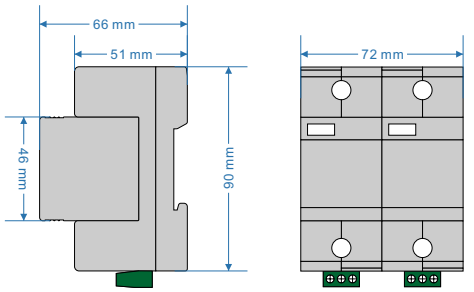


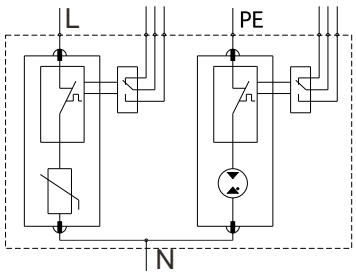
Model No.	FV40C/4-150(S)	FV40C/4-275(S)	FV40C/4-320(S)	FV40C/4-385(S)	FV40C/4-440(S)
Test class IEC/EN/VDE	Class II/C/T2				
Type of Network	TT , TN				
Protection Mode	L1 , L2 , L3 , N - PE				
Nominal voltage 50(60)Hz U_N	110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}	80kA				
Nominal discharge current (8/20μs) I_n	40kA				
Voltage protective level U_p	≤1.0kV	≤1.7kV	≤2.0kV	≤2.5kV	≤2.7kV
Response time t_A	≤25ns				
Recommended back-up fuse	125A				
Isolation resistance	$>10^2$MΩ				
I/O Connections	Multi core wire：6mm²~35mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

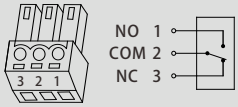
FV40C/1+NPE -***(S)

- Consisting of a base part and MOV + GDT pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L-N, N-PE.



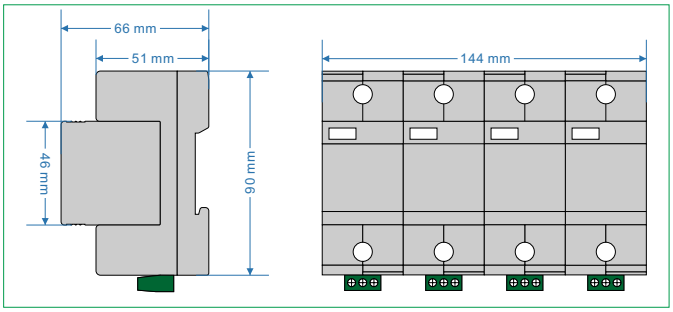


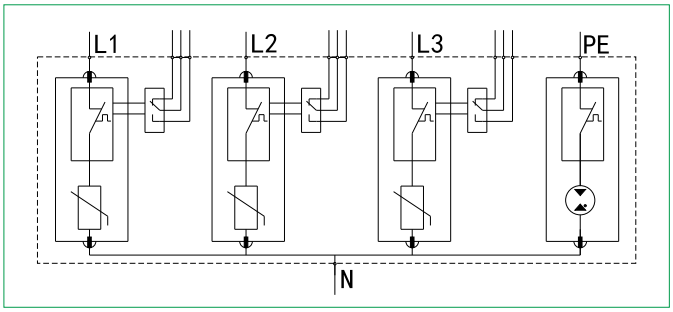
Model No.		FV40C/1+NPE-150(S)	FV40C/1+NPE-275(S)	FV40C/1+NPE-320(S)	FV40C/1+NPE-385(S)	FV40C/1+NPE-440(S)
Test class IEC/EN/VDE		Class II/C/T2				
Type of Network		TT				
Protection Mode		L - N , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}		80kA				
Nominal discharge current (8/20μs) I_n		40kA				
Voltage protective level U_p	L-N	≤1.0kV	≤1.7kV	≤2.0kV	≤2.5kV	≤2.7kV
	N-PE	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV
Response time t_A		L-N:≤25ns , N-PE:≤100ns				
Recommended back-up fuse		125A				
Isolation resistance		>10^2MΩ				
I/O Connections		Multi core wire：6mm²~35mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Green: OK, Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

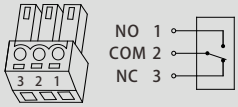
FV40C/3+NPE -***(S)

- Consisting of a base part and MOV + GDT pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L1,L2,L3-N,N-PE.



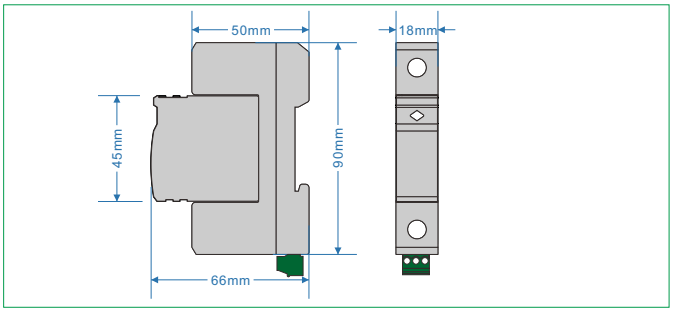


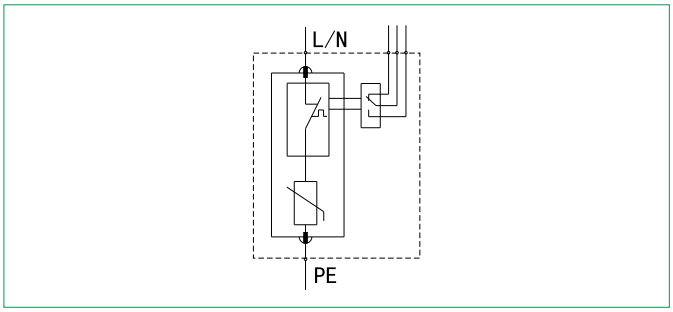
Model No.		FV40C/3+NPE-150(S)	FV40C/3+NPE-275(S)	FV40C/3+NPE-320(S)	FV40C/3+NPE-385(S)	FV40C/3+NPE-440(S)
Test class IEC/EN/VDE		Class II/C/T2				
Type of Network		TT				
Protection Mode		L1 , L2 , L3 - N , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}		80kA				
Nominal discharge current (8/20μs) I_n		40kA				
Voltage protective level U_p	L-N	≤1.0kV	≤1.7kV	≤2.0kV	≤2.5kV	≤2.7kV
	N-PE	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV
Response time t_A		L-N:≤25ns , N-PE:≤100ns				
Recommended back-up fuse		125A				
Isolation resistance		>10^2MΩ				
I/O Connections		Multi core wire：6mm²~35mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Green: OK, Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

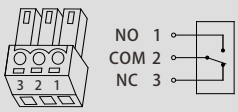
FV30C/1-***(S)

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L/N-PE.



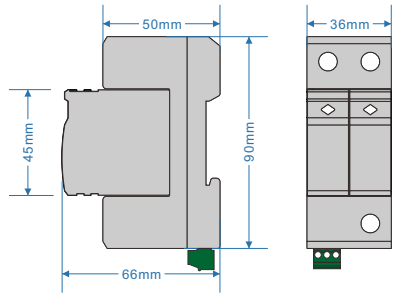


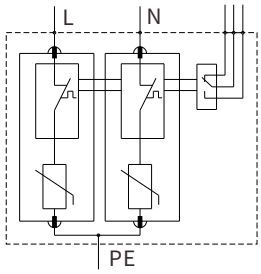
Model No.	FV30C/1-150(S)	FV30C/1-275(S)	FV30C/1-320(S)	FV30C/1-385(S)	FV30C/1-440(S)
Test class IEC/EN/VDE	Class II/C/T2				
Type of Network	TT , TN , IT				
Protection Mode	L / N - PE				
Nominal voltage 50(60)Hz U_N	110V~	220V~	220V~	220V~	220V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}	60kA			50kA	
Nominal discharge current (8/20μs) I_n	30kA			25kA	
Voltage protective level U_p	≤0.9kV	≤1.5kV	≤1.8kV	≤2.0kV	≤2.2kV
Response time t_A	≤25ns				
Recommended back-up fuse	125A				
Isolation resistance	$>10^2$MΩ				
I/O Connections	Multi core wire：4mm²~25mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

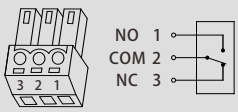
FV30C/2 -***(S)

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L-PE,N-PE.



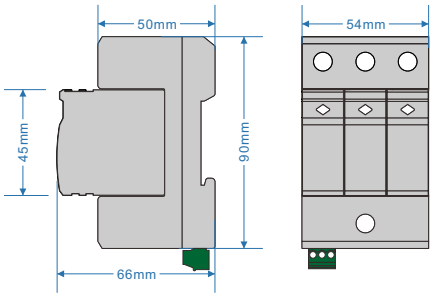


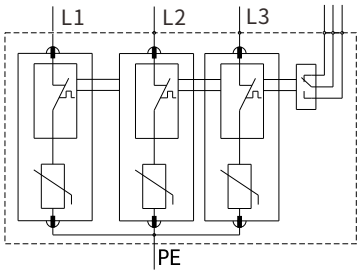
Model No.	FV30C/2-150(S)	FV30C/2-275(S)	FV30C/2-320(S)	FV30C/2-385(S)	FV30C/2-440(S)
Test class IEC/EN/VDE	Class II/C/T2				
Type of Network	TT , TN				
Protection Mode	L - PE , N - PE				
Nominal voltage 50(60)Hz U_N	110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}	60kA			50kA	
Nominal discharge current (8/20μs) I_n	30kA			25kA	
Voltage protective level U_p	≤0.9kV	≤1.5kV	≤1.8kV	≤2.0kV	≤2.2kV
Response time t_A	≤25ns				
Recommended back-up fuse	125A				
Isolation resistance	$>10^2$MΩ				
I/O Connections	Multi core wire：4mm²~25mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

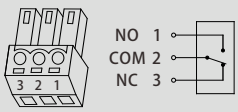
FV30C/3 -***(S)

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L1,L2,L3-PE.



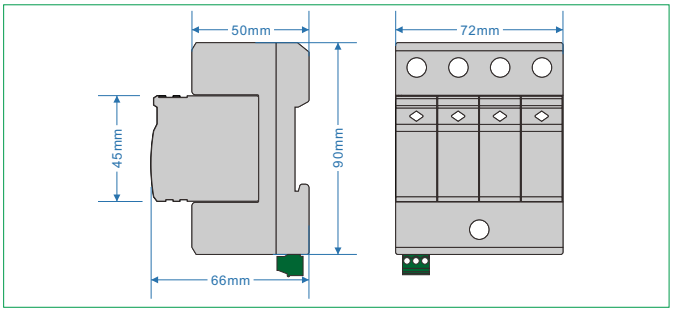


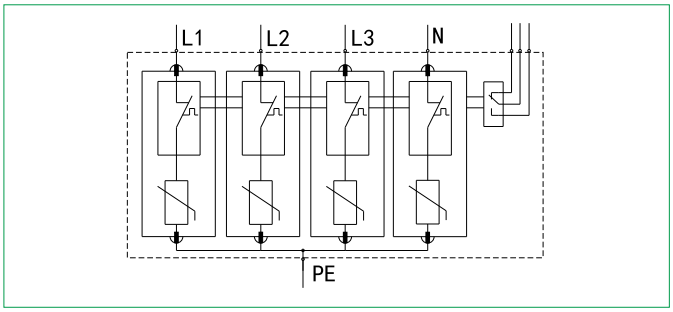
Model No.	FV30C/3-150(S)	FV30C/3-275(S)	FV30C/3-320(S)	FV30C/3-385(S)	FV30C/3-440(S)
Test class IEC/EN/VDE	Class II/C/T2				
Type of Network	IT				
Protection Mode	L1 , L2 , L3 - PE				
Nominal voltage 50(60)Hz U_N	110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}	60kA			50kA	
Nominal discharge current (8/20μs) I_n	30kA			25kA	
Voltage protective level U_p	≤0.9kV	≤1.5kV	≤1.8kV	≤2.0kV	≤2.2kV
Response time t_A	≤25ns				
Recommended back-up fuse	125A				
Isolation resistance	$>10^2$MΩ				
I/O Connections	Multi core wire：4mm²~25mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

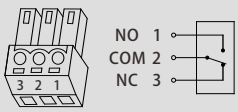
FV30C/4-***S

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L1,L2,L3,N-PE.



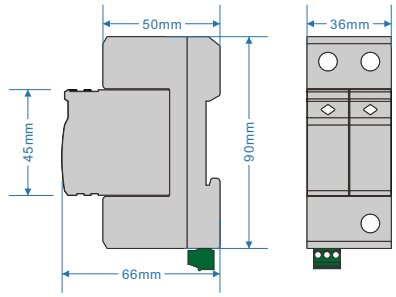


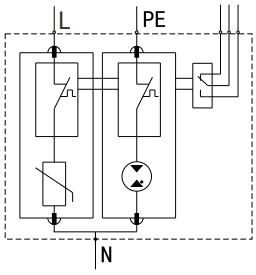
Model No.	FV30C/4-150(S)	FV30C/4-275(S)	FV30C/4-320(S)	FV30C/4-385(S)	FV30C/4-440(S)
Test class IEC/EN/VDE	Class II/C/T2				
Type of Network	TT , TN				
Protection Mode	L1 , L2 , L3 , N - PE				
Nominal voltage 50(60)Hz U_N	110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}	60kA			50kA	
Nominal discharge current (8/20μs) I_n	30kA			25kA	
Voltage protective level U_p	≤0.9kV	≤1.5kV	≤1.8kV	≤2.0kV	≤2.2kV
Response time t_A	≤25ns				
Recommended back-up fuse	125A				
Isolation resistance	$>10^2$MΩ				
I/O Connections	Multi core wire：4mm²~25mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Green: OK, Red: replance)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

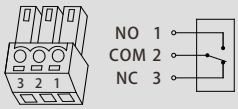
FV30C/1+NPE -***(S)

- Consisting of a base part and MOV + GDT pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L-N, N-PE.



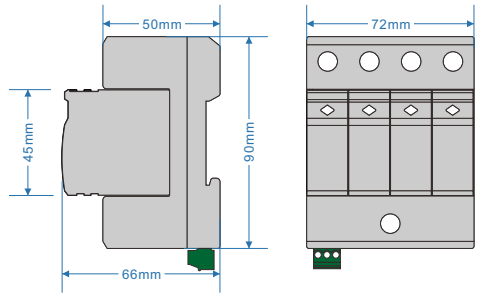


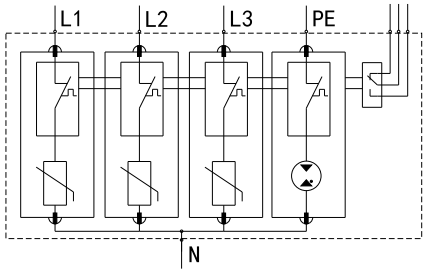
Model No.		FV30C/1+NPE-150(S)	FV30C/1+NPE-275(S)	FV30C/1+NPE-320(S)	FV30C/1+NPE-385(S)	FV30C/1+NPE-440(S)
Test class IEC/EN/VDE		Class II/C/T2				
Type of Network		TT				
Protection Mode		L - N , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}		60kA			50kA	
Nominal discharge current (8/20μs) I_n		30kA			25kA	
Voltage protective level U_p	L-N	≤0.9kV	≤1.5kV	≤1.8kV	≤2.0kV	≤2.2kV
	N-PE	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV
Response time t_A		L-N:≤25ns , N-PE:≤100ns				
Recommended back-up fuse		125A				
Isolation resistance		>10^2MΩ				
I/O Connections		Multi core wire：4mm²~25mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Green: OK, Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

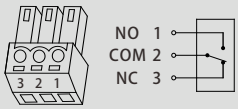
FV30C/3+NPE -***S

- Consisting of a base part and MOV + GDT pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L1,L2,L3-N,N-PE.



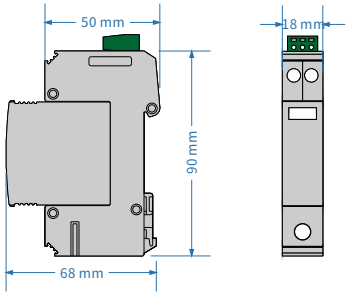


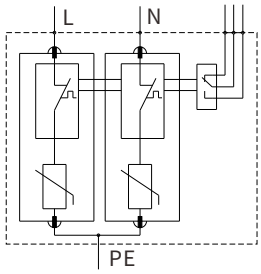
Model No.		FV30C/3+NPE-150(S)	FV30C/3+NPE-275(S)	FV30C/3+NPE-320(S)	FV30C/3+NPE-385(S)	FV30C/3+NPE-440(S)
Test class IEC/EN/VDE		Class II/C/T2				
Type of Network		TT				
Protection Mode		L1 , L2 , L3 - N , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}		60kA			50kA	
Nominal discharge current (8/20μs) I_n		30kA			25kA	
Voltage protective level U_p	L-N	≤0.9kV	≤1.5kV	≤1.8kV	≤2.0kV	≤2.2kV
	N-PE	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV
Response time t_A		L-N:≤25ns , N-PE:≤100ns				
Recommended back-up fuse		125A				
Isolation resistance		>10^2MΩ				
I/O Connections		Multi core wire：4mm²~25mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Green: OK, Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

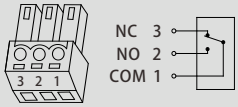
FVC20C/2 -***(S)

- Narrow size surge protective device special design for saving installation space--- width 9mm/pole.
- High discharge current--- Imax 40kA per pole.
- Indication window for clear display of SPD status--- each pole with one indication window.
- Remote controlling function -for your option.
- Pluggable module--- convenient for maintenance.
- Protection mode --- L-PE, N-PE.
- 1 phase, 2 poles.



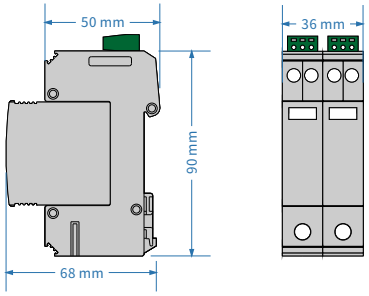


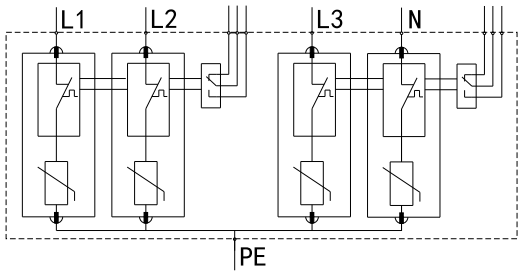
Model No.		FVC20C/2-150(S)	FVC20C/2-275(S)	FVC20C/2-320(S)	FVC20C/2-385(S)	FVC20C/2-440(S)
Test class IEC/EN/VDE		Class II/C/T2				
Type of Network		TT , TN				
Protection Mode		L - PE , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V ~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}		40kA				
Nominal discharge current (8/20μs) I_n		20kA				
Voltage protective level U_p		≤0.7kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
Response time t_A		≤25ns				
Recommended back-up fuse		125A				
Isolation resistance		>10^2MΩ				
I/O Connections	L-N	Multi core wire:1.5mm²~10mm²				
	PE	Multi core wire:2.5mm²~25mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark:if the model number is without"S", the model is without remote control contact function				

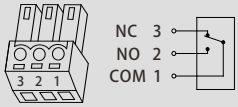
FVC20C/4-***(S)

- Narrow size surge protective device special design for saving installation space--- width 9mm/pole.
- High discharge current--- Imax 40kA per pole.
- Indication window for clear display of SPD status--- each pole with one indication window.
- Remote controlling function -for your option.
- Pluggable module--- convenient for maintenance.
- Protection mode --- L1,L2,L3,N-PE.
- 3 phase, 4 poles.



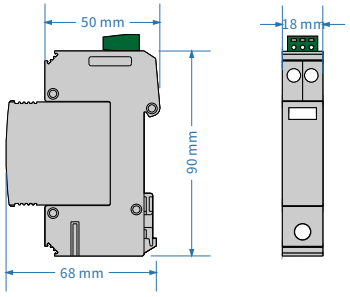


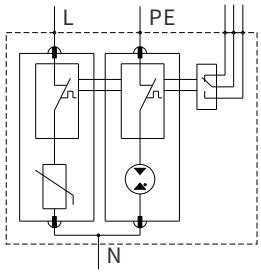
Model No.		FVC20C/4-150(S)	FVC20C/4-275(S)	FVC20C/4-320(S)	FVC20C/4-385(S)	FVC20C/4-440(S)
Test class IEC/EN/VDE		Class II/C/T2				
Type of Network		TT , TN				
Protection Mode		L1 , L2 , L3 , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}		40kA				
Nominal discharge current (8/20μs) I_n		20kA				
Voltage protective level U_p		≤0.7kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
Response time t_A		≤25ns				
Recommended back-up fuse		125A				
Isolation resistance		>10^2MΩ				
I/O Connections	L-N	Multi core wire:1.5mm²~10mm²				
	PE	Multi core wire:2.5mm²~25mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark:if the model number is without"S", the model is without remote control contact function				

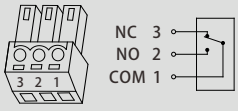
FVC20C/1+NPE -***(S)

- Narrow size surge protective device special design for saving installation space--- width 9mm/pole.
- High discharge current--- Imax 40kA per pole.
- Indication window for clear display of SPD status--- each pole with one indication window.
- Remote controlling function -for your option.
- Pluggable module--- convenient for maintenance.
- Protection mode --- L-N, N-PE.
- 1 phase, 2 poles.



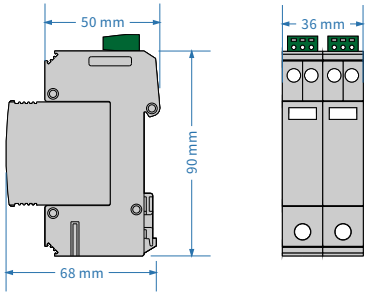


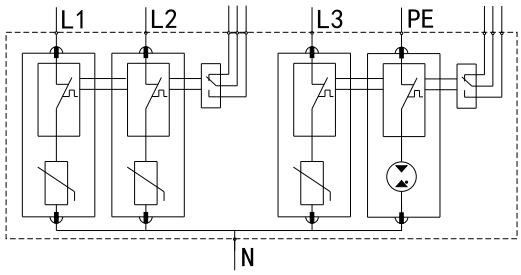
Model No.		FVC20C/1+NPE-150(S)	FVC20C/1+NPE-275(S)	FVC20C/1+NPE-320(S)	FVC20C/1+NPE-385(S)	FVC20C/1+NPE-440(S)
Test class IEC/EN/VDE		Class II/C/T2				
Type of Network		TT				
Protection Mode		L - N , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}		40kA				
Nominal discharge current (8/20μs) I_n		20kA				
Voltage protective level U_p	L-N	≤0.7kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
	N-PE	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV
Response time t_A		L-N:≤25ns , N-PE:≤100ns				
Recommended back-up fuse		125A				
Isolation resistance		>10^2MΩ				
I/O Connections	L-N	Multi core wire:1.5mm²~10mm²				
	PE	Multi core wire:2.5mm²~25mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark:if the model number is without"S", the model is without remote control contact function				

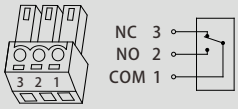
FVC20C/3+NPE -***S

- Narrow size surge protective device special design for saving installation space--- width 9mm/pole.
- High discharge current--- Imax 40kA per pole.
- Indication window for clear display of SPD status--- each pole with one indication window.
- Remote controlling function -for your option.
- Pluggable module--- convenient for maintenance.
- Protection mode --- L1,L2,L3-N,N-PE.
- 3 phase, 4 poles.



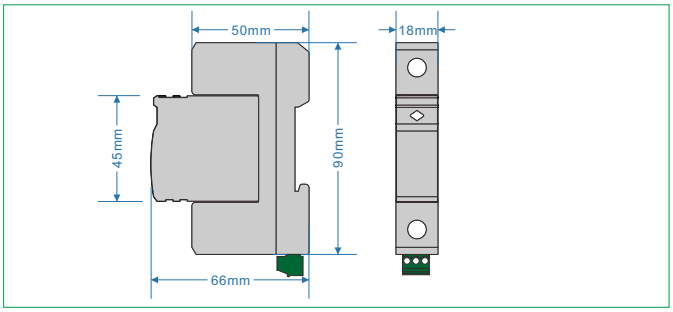


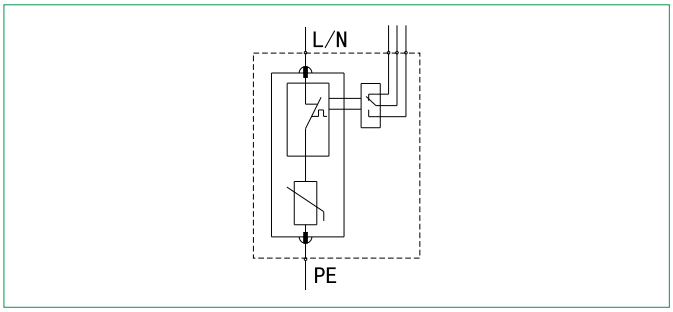
Model No.		FVC20C/3+NPE-150(S)	FVC20C/3+NPE-275(S)	FVC20C/3+NPE-320(S)	FVC20C/3+NPE-385(S)	FVC20C/3+NPE-440(S)
Test class IEC/EN/VDE		Class II/C/T2				
Type of Network		TT				
Protection Mode		L1 , L2 , L3 - N , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}		40kA				
Nominal discharge current (8/20μs) I_n		20kA				
Voltage protective level U_p	L-N	≤0.7kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
	N-PE	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV
Response time t_A		L-N:≤25ns , N-PE:≤100ns				
Recommended back-up fuse		125A				
Isolation resistance		>10^2MΩ				
I/O Connections	L-N	Multi core wire:1.5mm²~10mm²				
	PE	Multi core wire:2.5mm²~25mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark:if the model number is without"S", the model is without remote control contact function				

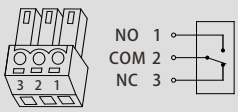
FV20C/1 -*** (S)

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L/N-PE.



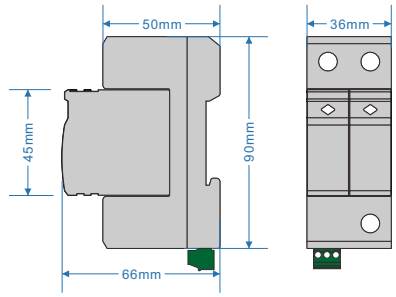


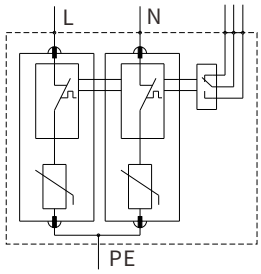
Model No.	FV20C/1-150 (S)	FV20C/1-275 (S)	FV20C/1-320 (S)	FV20C/1-385 (S)	FV20C/1-440 (S)
Test class IEC/EN/VDE	Class II/C/T2				
Type of Network	TT , TN , IT				
Protection Mode	L / N - PE				
Nominal voltage 50(60)Hz U_N	110V~	220V~	220V~	220V~	220V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}	40kA				
Nominal discharge current (8/20μs) I_n	20kA				
Voltage protective level U_p	≤0.7kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
Response time t_A	≤25ns				
Recommended back-up fuse	125A				
Isolation resistance	$>10^2$MΩ				
I/O Connections	Multi core wire：4mm²~25mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

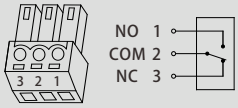
FV20C/2 -***(S)

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L-PE,N-PE.



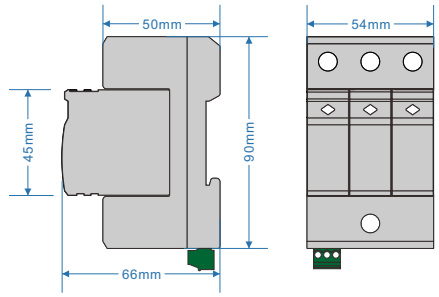


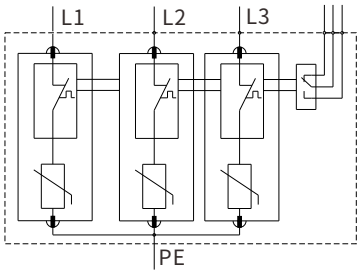
Model No.	FV20C/2-150(S)	FV20C/2-275(S)	FV20C/2-320(S)	FV20C/2-385(S)	FV20C/2-440(S)
Test class IEC/EN/VDE	Class II/C/T2				
Type of Network	TT , TN				
Protection Mode	L - PE , N - PE				
Nominal voltage 50(60)Hz U_N	110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}	40kA				
Nominal discharge current (8/20μs) I_n	20kA				
Voltage protective level U_p	≤0.7kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
Response time t_A	≤25ns				
Recommended back-up fuse	125A				
Isolation resistance	$>10^2$MΩ				
I/O Connections	Multi core wire：4mm²~25mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

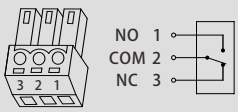
FV20C/3 -***(S)

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L1, L2, L3-PE.



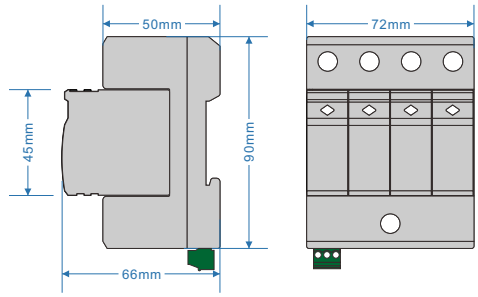


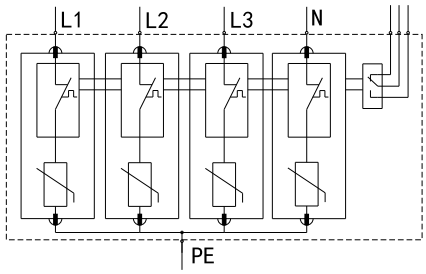
Model No.	FV20C/3-150(S)	FV20C/3-275(S)	FV20C/3-320(S)	FV20C/3-385(S)	FV20C/3-440(S)
Test class IEC/EN/VDE	Class II/C/T2				
Type of Network	IT				
Protection Mode	L1 , L2 , L3 - PE				
Nominal voltage 50(60)Hz U_N	110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}	40kA				
Nominal discharge current (8/20μs) I_n	20kA				
Voltage protective level U_p	≤0.7kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
Response time t_A	≤25ns				
Recommended back-up fuse	125A				
Isolation resistance	$>10^2$MΩ				
I/O Connections	Multi core wire：4mm²~25mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

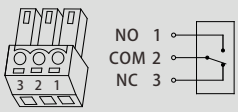
FV20C/4-***S

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L1,L2,L3,N-PE.



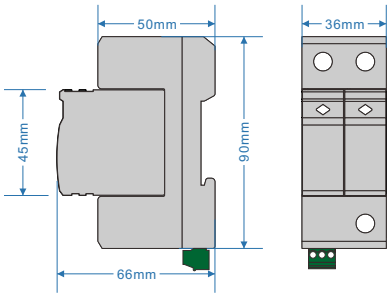


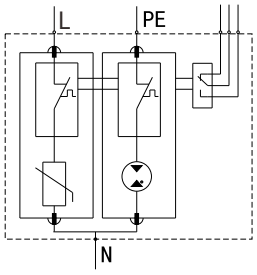
Model No.	FV20C/4-150(S)	FV20C/4-275(S)	FV20C/4-320(S)	FV20C/4-385(S)	FV20C/4-440(S)
Test class IEC/EN/VDE	Class II/C/T2				
Type of Network	TT , TN				
Protection Mode	L1 , L2 , L3 , N - PE				
Nominal voltage 50(60)Hz U_N	110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}	40kA				
Nominal discharge current (8/20μs) I_n	20kA				
Voltage protective level U_p	≤0.7kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
Response time t_A	≤25ns				
Recommended back-up fuse	125A				
Isolation resistance	$>10^2$MΩ				
I/O Connections	Multi core wire：4mm²~25mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

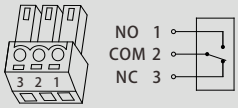
FV20C/1+NPE -***(S)

- Consisting of a base part and MOV + GDT pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L-N,N-PE.



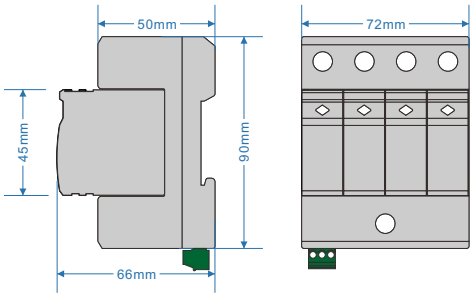


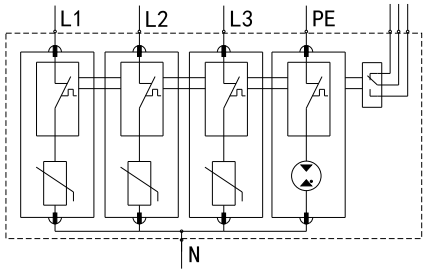
Model No.		FV20C/1+NPE-150(S)	FV20C/1+NPE-275(S)	FV20C/1+NPE-320(S)	FV20C/1+NPE-385(S)	FV20C/1+NPE-440(S)
Test class IEC/EN/VDE		Class II/C/T2				
Type of Network		TT				
Protection Mode		L - N , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}		40kA				
Nominal discharge current (8/20μs) I_n		20kA				
Voltage protective level U_p	L-N	≤0.7kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
	N-PE	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV
Response time t_A		L-N:≤25ns , N-PE:≤100ns				
Recommended back-up fuse		125A				
Isolation resistance		>10^2MΩ				
I/O Connections		Multi core wire：4mm²~25mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Green: OK, Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

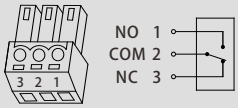
FV20C/3+NPE -***(S)

- Consisting of a base part and MOV + GDT pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L1,L2,L3-N,N-PE.



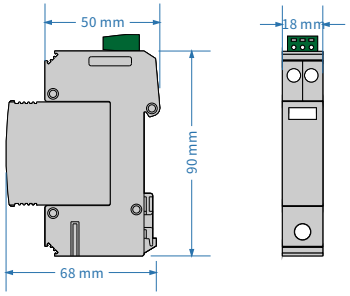


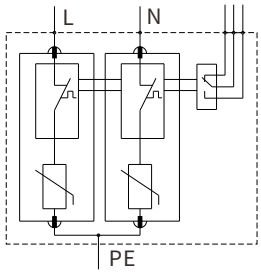
Model No.		FV20C/3+NPE-150(S)	FV20C/3+NPE-275(S)	FV20C/3+NPE-320(S)	FV20C/3+NPE-385(S)	FV20C/3+NPE-440(S)
Test class IEC/EN/VDE		Class II/C/T2				
Type of Network		TT				
Protection Mode		L1 , L2 , L3 - N , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V ~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}		40kA				
Nominal discharge current (8/20μs) I_n		20kA				
Voltage protective level U_p	L-N	≤0.7kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
	N-PE	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV
Response time t_A		L-N:≤25ns , N-PE:≤100ns				
Recommended back-up fuse		125A				
Isolation resistance		>10^2MΩ				
I/O Connections		Multi core wire：4mm²~25mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Green: OK, Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

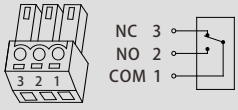
FVC10D/2 -***(S)

- Narrow size surge protective device special design for saving installation space--- width 9mm/pole.
- High discharge current--- Imax 20kA per pole.
- Indication window for clear display of SPD status--- each pole with one indication window.
- Remote controlling function -for your option.
- Pluggable module--- convenient for maintenance.
- Protection mode --- L-PE,N-PE.
- 1 phase, 2 poles.



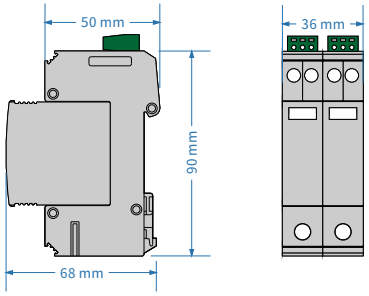


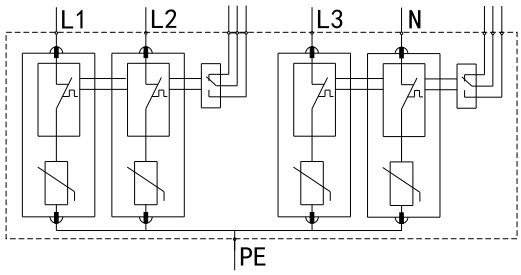
Model No.		FVC10D/2-150(S)	FVC10D/2-275(S)	FVC10D/2-320(S)	FVC10D/2-385(S)	FVC10D/2-440(S)
Test class IEC/EN/VDE		Class II+III/C+D/ T2 T3				
Type of Network		TT , TN				
Protection Mode		L / N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}		20kA				
Nominal discharge current (8/20μs) I_n		10kA				
Voltage protective level U_p		≤0.6kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
Open circuit voltage U_{oc}		20kV				
Response time t_A		≤25ns				
Recommended back-up fuse		63A				
Isolation resistance		>10^2MΩ				
I/O Connections	L-N	Multi core wire:1.5mm²~10mm²				
	PE	Multi core wire:2.5mm²~25mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark:if the model number is without"S", the model is without remote control contact function				

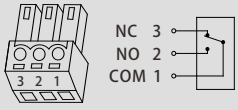
FVC10D/4 -***(S)

- Narrow size surge protective device special design for saving installation space--- width 9mm/pole.
- High discharge current--- Imax 20kA per pole.
- Indication window for clear display of SPD status--- each pole with one indication window.
- Remote controlling function -for your option.
- Pluggable module--- convenient for maintenance.
- Protection mode --- L1,L2,L3,N-PE.
- 3 phase, 4 poles.



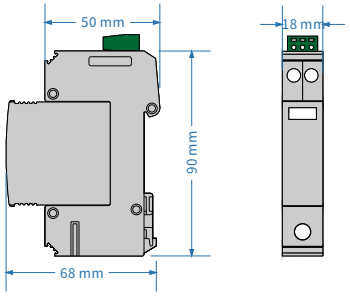


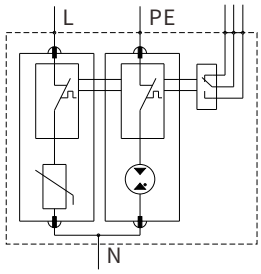
Model No.		FVC10D/4-150(S)	FVC10D/4-275(S)	FVC10D/4-320(S)	FVC10D/4-385(S)	FVC10D/4-440(S)
Test class IEC/EN/VDE		Class II+III/C+D/ T2 T3				
Type of Network		TT , TN				
Protection Mode		L1 , L2 , L3 , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}		20kA				
Nominal discharge current (8/20μs) I_n		10kA				
Voltage protective level U_p		≤0.6kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
Open circuit voltage U_{oc}		20kV				
Response time t_A		≤25ns				
Recommended back-up fuse		63A				
Isolation resistance		>10^2MΩ				
I/O Connections	L-N	Multi core wire:1.5mm²~10mm²				
	PE	Multi core wire:2.5mm²~25mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark:if the model number is without"S", the model is without remote control contact function				

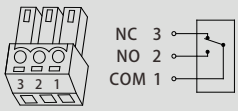
FVC10D/1+NPE -***(S)

- Narrow size surge protective device special design for saving installation space--- width 9mm/pole.
- High discharge current--- Imax 20kA per pole.
- Indication window for clear display of SPD status--- each pole with one indication window.
- Remote controlling function -for your option.
- Pluggable module--- convenient for maintenance.
- Protection mode --- L-N,N-PE.
- 1 phase, 2 poles.



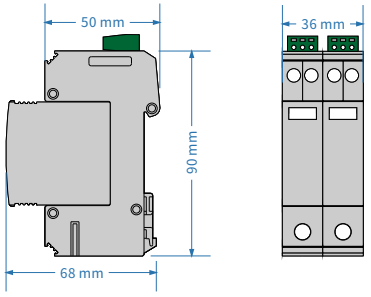


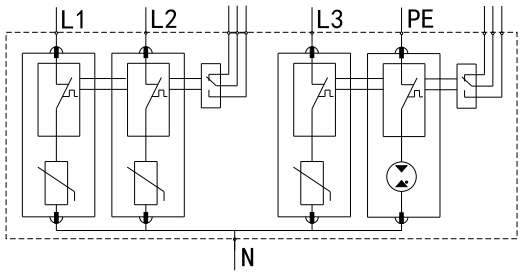
Model No.		FVC10D/1+NPE-150(S)	FVC10D/1+NPE-275(S)	FVC10D/1+NPE-320(S)	FVC10D/1+NPE-385(S)	FVC10D/1+NPE-440(S)
Test class IEC/EN/VDE		Class II+III/C+D/ T2 T3				
Type of Network		TT				
Protection Mode		L - N , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}		20kA				
Nominal discharge current (8/20μs) I_n		10kA				
Voltage protective level U_p	L-N	≤0.6kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
	N-PE	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV
Open circuit voltage U_{oc}		20kV				
Response time t_A		L-N:≤25ns , N-PE≤100ns				
Recommended back-up fuse		63A				
Isolation resistance		>10^2MΩ				
I/O Connections	L-N	Multi core wire：1.5mm²~10mm²				
	PE	Multi core wire：2.5mm²~25mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

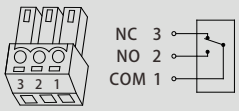
FVC10D/3+NPE -***(S)

- Narrow size surge protective device special design for saving installation space--- width 9mm/pole.
- High discharge current--- Imax 20kA per pole.
- Indication window for clear display of SPD status--- each pole with one indication window.
- Remote controlling function -for your option.
- Pluggable module--- convenient for maintenance.
- Protection mode --- L1,L2,L3-N,N-PE.
- 3 phase, 4 poles.



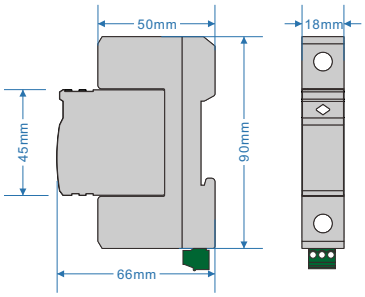


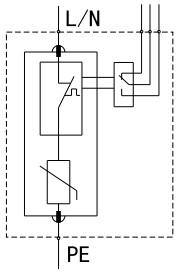
Model No.		FVC10D/3+NPE-150(S)	FVC10D/3+NPE-275(S)	FVC10D/3+NPE-320(S)	FVC10D/3+NPE-385(S)	FVC10D/3+NPE-440(S)
Test class IEC/EN/VDE		Class II+III/C+D/ T2 T3				
Type of Network		TT				
Protection Mode		L1 , L2 , L3 - N , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}		20kA				
Nominal discharge current (8/20μs) I_n		10kA				
Voltage protective level U_p	L-N	≤0.6kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
	N-PE	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV
Open circuit voltage U_{oc}		20kV				
Response time t_A		L-N:≤25ns , N-PE≤100ns				
Recommended back-up fuse		63A				
Isolation resistance		>10^2MΩ				
I/O Connections	L-N	Multi core wire：1.5mm²~10mm²				
	PE	Multi core wire：2.5mm²~25mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

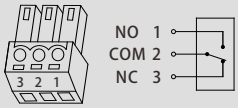
FV10D/1 -*** (S)

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L/N-PE.



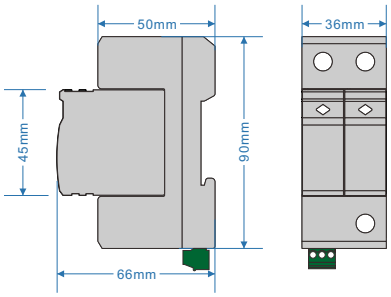


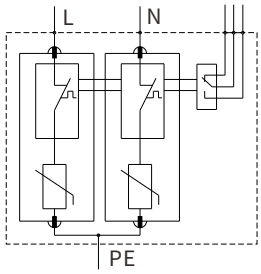
Model No.	FV10D/1-150 (S)	FV10D/1-275 (S)	FV10D/1-320 (S)	FV10D/1-385 (S)	FV10D/1-440 (S)
Test class IEC/EN/VDE	Class II+III/C+D/ T2 T3				
Type of Network	TT , TN , IT				
Protection Mode	L / N - PE				
Nominal voltage 50(60)Hz U_N	110V~	220V~	220V~	220V~	220V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}	20kA				
Nominal discharge current (8/20μs) I_n	10kA				
Voltage protective level U_p	≤0.6kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
Open circuit voltage U_{oc}	20kV				
Response time t_A	≤25ns				
Recommended back-up fuse	63A				
Isolation resistance	$>10^2$MΩ				
I/O Connections	Multi core wire：4mm²~25mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

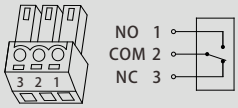
FV10D/2 -*** (S)

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L-PE,N-PE.



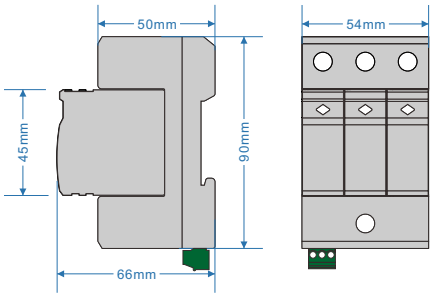


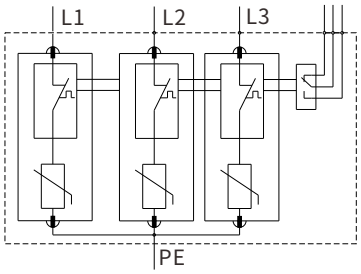
Model No.	FV10D/2-150(S)	FV10D/2-275(S)	FV10D/2-320(S)	FV10D/2-385(S)	FV10D/2-440(S)
Test class IEC/EN/VDE	Class II+III/C+D/ T2 T3				
Type of Network	TT , TN				
Protection Mode	L - PE , N - PE				
Nominal voltage 50(60)Hz U_N	110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}	20kA				
Nominal discharge current (8/20μs) I_n	10kA				
Voltage protective level U_p	≤0.6kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
Open circuit voltage U_{oc}	20kV				
Response time t_A	≤25ns				
Recommended back-up fuse	63A				
Isolation resistance	$>10^2$MΩ				
I/O Connections	Multi core wire：4mm²~25mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

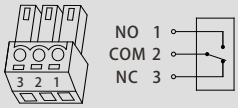
FV10D/3 -***S

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L1,L2,L3-PE.



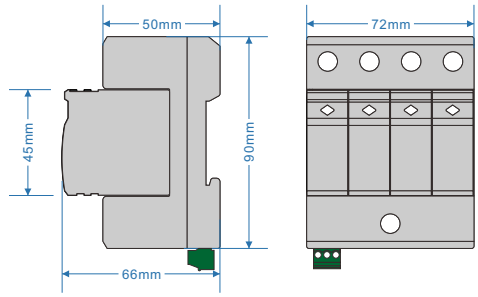


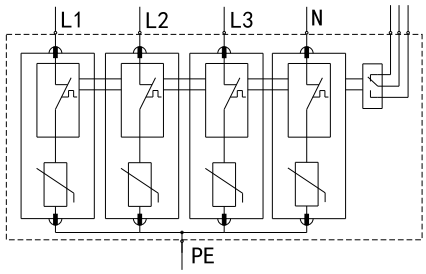
Model No.	FV10D/3-150(S)	FV10D/3-275(S)	FV10D/3-320(S)	FV10D/3-385(S)	FV10D/3-440(S)
Test class IEC/EN/VDE	Class II+III/C+D/ T2 T3				
Type of Network	IT				
Protection Mode	L1 , L2 , L3 - PE				
Nominal voltage 50(60)Hz U_N	110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}	20kA				
Nominal discharge current (8/20μs) I_n	10kA				
Voltage protective level U_p	≤0.6kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
Open circuit voltage U_{oc}	20kV				
Response time t_A	≤25ns				
Recommended back-up fuse	63A				
Isolation resistance	$>10^2$MΩ				
I/O Connections	Multi core wire：4mm²~25mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

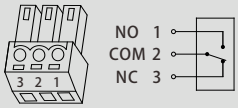
FV10D/4-***(S)

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L1,L2,L3,N-PE.



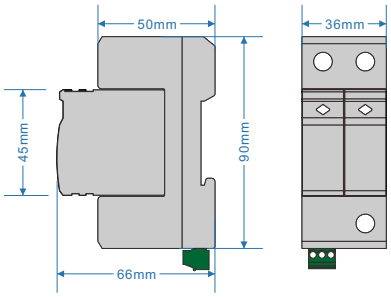


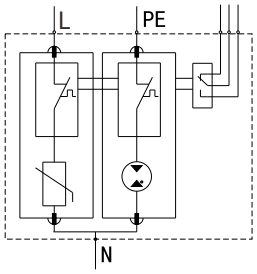
Model No.	FV10D/4-150(S)	FV10D/4-275(S)	FV10D/4-320(S)	FV10D/4-385(S)	FV10D/4-440(S)
Test class IEC/EN/VDE	Class II+III/C+D/ T2 T3				
Type of Network	TT , TN				
Protection Mode	L1 , L2 , L3 , N - PE				
Nominal voltage 50(60)Hz U_N	110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}	20kA				
Nominal discharge current (8/20μs) I_n	10kA				
Voltage protective level U_p	≤0.6kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
Open circuit voltage U_{oc}	20kV				
Response time t_A	≤25ns				
Recommended back-up fuse	63A				
Isolation resistance	$>10^2$MΩ				
I/O Connections	Multi core wire：4mm²~25mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

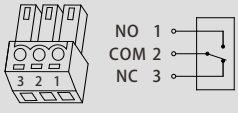
FV10D/1+NPE -*** (S)

- Consisting of a base part and MOV + GDT pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L-N,N-PE.



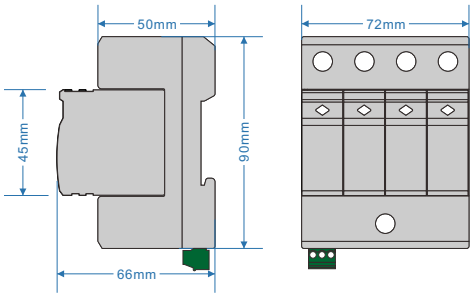


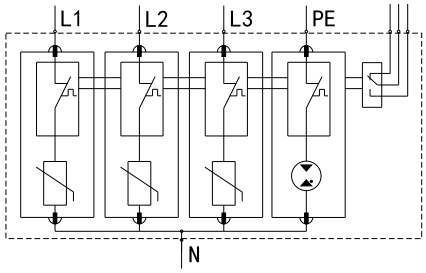
Model No.		FV10D/1+NPE-150(S)	FV10D/1+NPE-275(S)	FV10D/1+NPE-320(S)	FV10D/1+NPE-385(S)	FV10D/1+NPE-440(S)
Test class IEC/EN/VDE		Class II+III/C+D/ T2 T3				
Type of Network		TT				
Protection Mode		L - N , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}		20kA				
Nominal discharge current (8/20μs) I_n		10kA				
Voltage protective level U_p	L-N	≤0.7kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
	N-PE	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV
Open circuit voltage U_{oc}		20kV				
Response time t_A		L-N:≤25ns , N-PE:≤100ns				
Recommended back-up fuse		125A				
Isolation resistance		>10^2MΩ				
I/O Connections		Multi core wire：4mm²~25mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Green: OK, Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

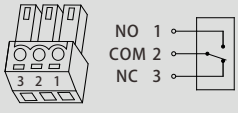
FV10D/3+NPE -***(S)

- Consisting of a base part and MOV + GDT pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L1,L2,L3-N,N-PE.



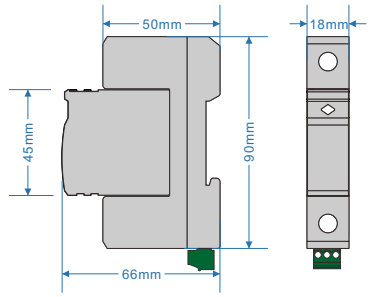


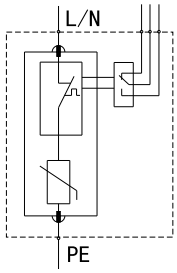
Model No.		FV10D/3+NPE-150(S)	FV10D/3+NPE-275(S)	FV10D/3+NPE-320(S)	FV10D/3+NPE-385(S)	FV10D/3+NPE-440(S)
Test class IEC/EN/VDE		Class II+III/C+D/ T2 T3				
Type of Network		TT				
Protection Mode		L1 , L2 , L3 - N , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}		20kA				
Nominal discharge current (8/20μs) I_n		10kA				
Voltage protective level U_p	L-N	≤0.7kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
	N-PE	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV
Open circuit voltage U_{oc}		20kV				
Response time t_A		L-N:≤25ns , N-PE:≤100ns				
Recommended back-up fuse		125A				
Isolation resistance		>10^2MΩ				
I/O Connections		Multi core wire：4mm²~25mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Green: OK, Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

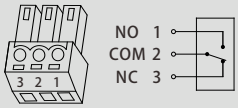
FV05D/1-***(S)

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L/N-PE.



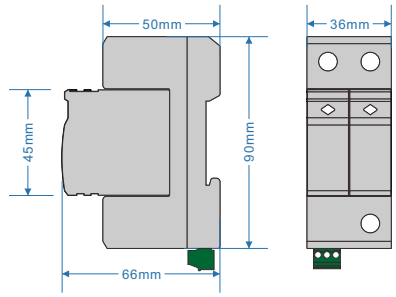


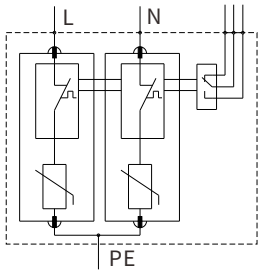
Model No.	FV05D/1-150(S)	FV05D/1-275(S)	FV05D/1-320(S)	FV05D/1-385(S)	FV05D/1-440(S)
Test class IEC/EN/VDE	Class II+III/C+D/ T2 T3				
Type of Network	TT , TN , IT				
Protection Mode	L / N - PE				
Nominal voltage 50(60)Hz U_N	110V~	220V~	220V~	220V~	220V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}	10kA				
Nominal discharge current (8/20μs) I_n	5kA				
Voltage protective level U_p	≤0.6kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
Open circuit voltage U_{oc}	10kV				
Response time t_A	≤25ns				
Recommended back-up fuse	16A				
Isolation resistance	$>10^2$MΩ				
I/O Connections	Multi core wire：4mm²~25mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

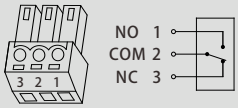
FV05D/2 -***(S)

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L-PE,N-PE.



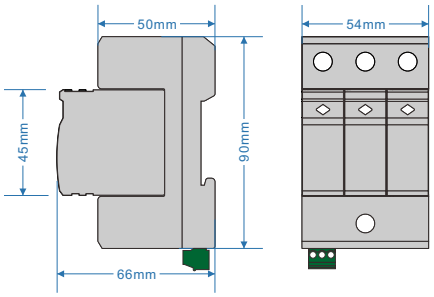


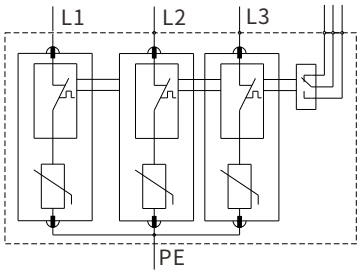
Model No.	FV05D/2-150(S)	FV05D/2-275(S)	FV05D/2-320(S)	FV05D/2-385(S)	FV05D/2-440(S)
Test class IEC/EN/VDE	Class II+III/C+D/ T2 T3				
Type of Network	TT , TN				
Protection Mode	L - PE , N - PE				
Nominal voltage 50(60)Hz U_N	110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}	10kA				
Nominal discharge current (8/20μs) I_n	5kA				
Voltage protective level U_p	≤0.6kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
Open circuit voltage U_{oc}	10kV				
Response time t_A	≤25ns				
Recommended back-up fuse	16A				
Isolation resistance	$>10^2$MΩ				
I/O Connections	Multi core wire：4mm²~25mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

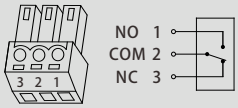
FV05D/3 -***(S)

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L1L2,L3-PE.



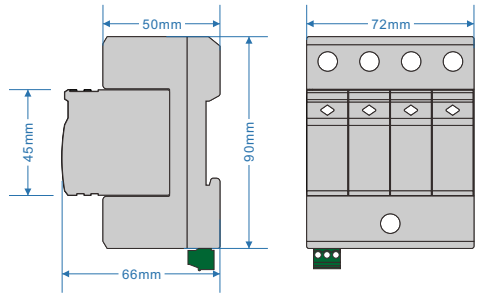


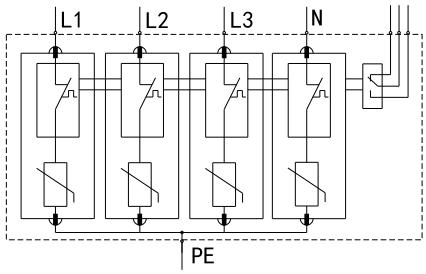
Model No.	FV05D/3-150(S)	FV05D/3-275(S)	FV05D/3-320(S)	FV05D/3-385(S)	FV05D/3-440(S)
Test class IEC/EN/VDE	Class II+III/C+D/ T2 T3				
Type of Network	IT				
Protection Mode	L1 , L2 , L3 - PE				
Nominal voltage 50(60)Hz U_N	110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}	10kA				
Nominal discharge current (8/20μs) I_n	5kA				
Voltage protective level U_p	≤0.6kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
Open circuit voltage U_{oc}	10kV				
Response time t_A	≤25ns				
Recommended back-up fuse	16A				
Isolation resistance	$>10^2$MΩ				
I/O Connections	Multi core wire：4mm²~25mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

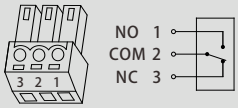
FV05D/4-***(S)

- Consisting of a base part and MOV pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L1,L2,L3,N-PE.



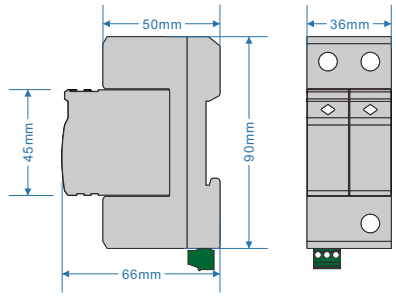


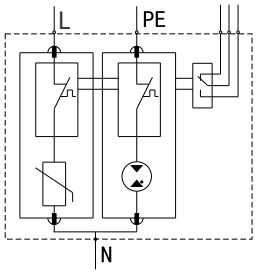
Model No.	FV05D/4-150(S)	FV05D/4-275(S)	FV05D/4-320(S)	FV05D/4-385(S)	FV05D/4-440(S)
Test class IEC/EN/VDE	Class II+III/C+D/ T2 T3				
Type of Network	TT , TN				
Protection Mode	L1 , L2 , L3 , N - PE				
Nominal voltage 50(60)Hz U_N	110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}	10kA				
Nominal discharge current (8/20μs) I_n	5kA				
Voltage protective level U_p	≤0.6kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
Open circuit voltage U_{oc}	10kV				
Response time t_A	≤25ns				
Recommended back-up fuse	16A				
Isolation resistance	$>10^2$MΩ				
I/O Connections	Multi core wire：4mm²~25mm²				
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m				
Degree of protection	IP20				
Housing material	UL94 V-0				
Disconnection indicator	Mechanical indicator (Green: OK, Red: replace)				
Remote control contact	Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

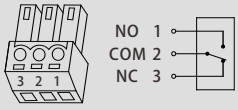
FV05D/1+NPE -***(S)

- Consisting of a base part and MOV + GDT pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L-N,N-PE.



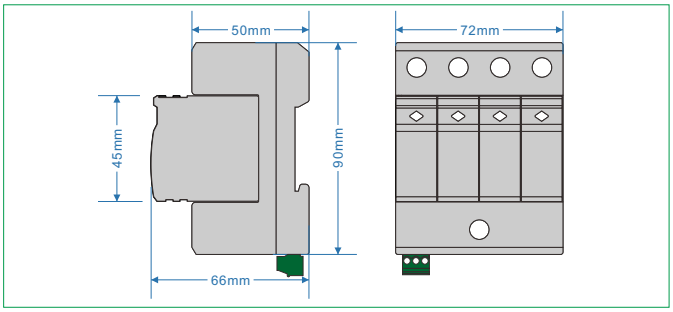


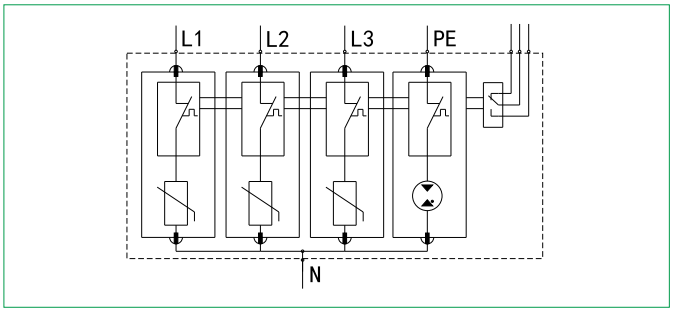
Model No.		FV05D/1+NPE-150(S)	FV05D/1+NPE-275(S)	FV05D/1+NPE-320(S)	FV05D/1+NPE-385(S)	FV05D/1+NPE-440(S)
Test class IEC/EN/VDE		Class II+III/C+D/ T2 T3				
Type of Network		TT				
Protection Mode		L - N , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}		10kA				
Nominal discharge current (8/20μs) I_n		5kA				
Voltage protective level U_p	L-N	≤0.7kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
	N-PE	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV
Open circuit voltage U_{oc}		10kV				
Response time t_A		L-N:≤25ns , N-PE:≤100ns				
Recommended back-up fuse		16A				
Isolation resistance		>10^2MΩ				
I/O Connections		Multi core wire：4mm²~25mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Green: OK, Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

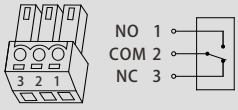
FV05D/3+NPE -*** (S)

- Consisting of a base part and MOV + GDT pluggable protection modules.
- For using in the lightning protection zones concept at boundary 1-2.
- The core parts are metal oxide vristor components with high discharge capacity.
- Low residual voltage and quick response.
- Reliable control thanks to Thermo Dynamic Control disconnector.
- With remote signaling contact for control device.
- Fault indication via red mark in the inspection window.
- Protection mode: L1, L2,L3-N,N-PE.



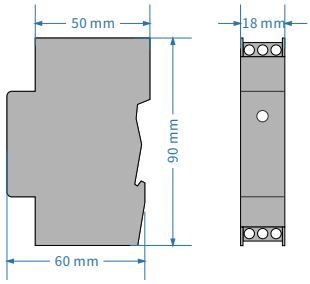


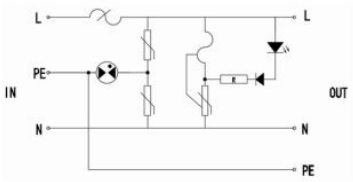
Model No.		FV05D/3+NPE-150(S)	FV05D/3+NPE-275(S)	FV05D/3+NPE-320(S)	FV05D/3+NPE-385(S)	FV05D/3+NPE-440(S)
Test class IEC/EN/VDE		Class II+III/C+D/ T2 T3				
Type of Network		TT				
Protection Mode		L1 , L2 , L3 - N , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}		10kA				
Nominal discharge current (8/20μs) I_n		5kA				
Voltage protective level U_p	L-N	≤0.7kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
	N-PE	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV	≤1.5kV
Open circuit voltage U_{oc}		10kV				
Response time t_A		L-N:≤25ns , N-PE:≤100ns				
Recommended back-up fuse		16A				
Isolation resistance		>10^2MΩ				
I/O Connections		Multi core wire：4mm²~25mm²				
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		UL94 V-0				
Disconnection indicator		Mechanical indicator (Green: OK, Red: replace)				
Remote control contact		Optional				

Port definition of remote control contact	Range of signal access		Recommended wire specification	
	AC	U_{max}≤250V	Single core wire	Max≤1.5mm²
		I_{max}≤0.5A		
	DC	U_{max}≤60V	Multi core wire	Max≤1.3mm²
		I_{max}≤0.1A		
Remark：if the model number is without“S”, the model is without remote control contact function				

FV03D/2 -***L

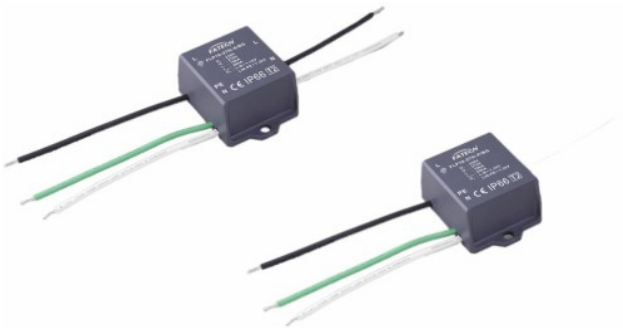
- Visible fault indication - Green on: Normal; Green off: Fault.
- For using in the lightning protection zones concept at boundary 2-3.
- One-One correspondence reliable screening to ensure reliability.
- Lower voltage protection level Up.
- I_{max} 6kA.



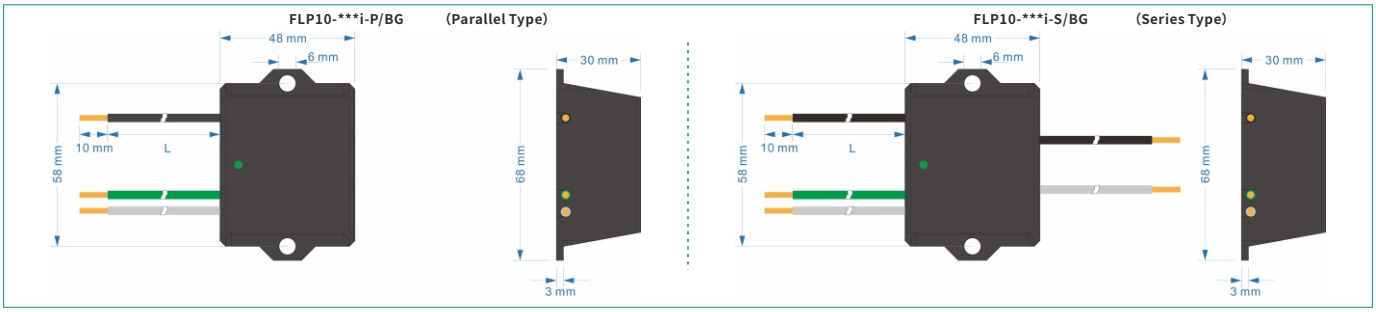


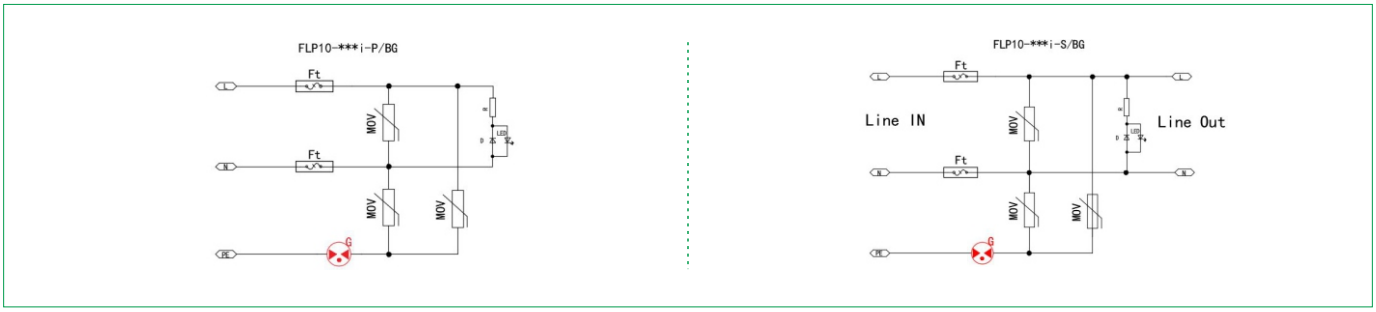
Model No.	FV03D/2-150L	FV03D/2-275L	FV03D/2-320L	FV03D/2-440L
Test class IEC/EN/VDE	Class II+III/C+D/ T2 T3			
Type of Network	TT , TN			
Protection Mode	L - PE , N - PE			
Nominal voltage 50(60)Hz U_N	110/220V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c	150V~	275V~	320V~	440V~
Max. discharge current (8/20μs) I_{max}	6kA			
Nominal discharge current (8/20μs) I_n	3kA			
Voltage protective level U_p	≤0.5kV	≤0.8kV	≤1.0kV	≤1.2kV
Open circuit voltage U_{oc}	6kV			
Response time t_A	L-N:≤25ns , L/N-PE:≤100ns			
Recommended back-up fuse	16A			
Isolation resistance	$>10^2$MΩ			
I/O Connections	Multi core wire：0.3-2.0mm^2			
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)			
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m			
Degree of protection	IP20			
Housing material	UL94 V-0			
Disconnection indicator	LED indicator light			
Remote control contact	NO			

FLP10-***i-*/BG



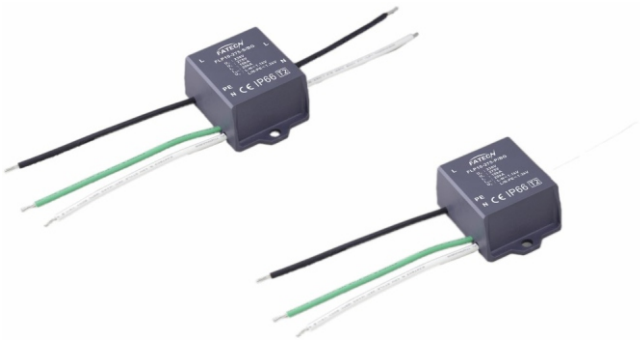
- New designed surge protection module for LED street light. with LED failure indicator.
- specifically for outdoor and commercial LED lighting applications, LED signage and traffic light manufacturers, including roadway lighting, parking garage lighting, wash wall lighting, traffic lighting, flood lighting, digital signage, street lightning, and tunneal lighting.
- Imax 20kA lightning surge protection.
- Metal oxide varistor (MOV) thermal protection.
- Water proof IP64.



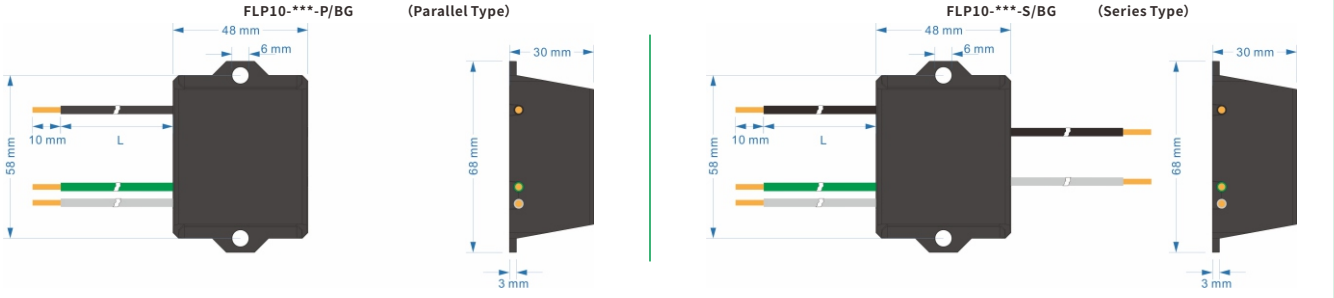


Model No.		FLP10-150i-P/BG FLP10-150i-S/BG	FLP10-275i-P/BG FLP10-275i-S/BG	FLP10-320i-P/BG FLP10-320i-S/BG	FLP10-385i-P/BG FLP10-385i-S/BG
Test class IEC/EN/VDE		Class II+III/C+D/ T2 T3			
Type of Network		LED street light			
Nominal voltage 50(60)Hz U_N		120V~	230V~	230V~	380V~
Rated Voltage (Max. Cont. Operating Voltage) U_C		150V~	275V~	320V~	385V~
Max. discharge current (8/20μs) I_{max}		20kA			
Nominal discharge current (8/20μs) I_n		10kA			
Voltage protective level U_p	L-N	≤0.8kV	≤1.1kV	≤1.3kV	≤1.5kV
	N-PE	≤1.0kV	≤1.3kV	≤1.5kV	≤1.7kV
Open circuit voltage U_{oc}		20kV			
Response time t_A		L-N:≤25ns , L/N-PE≤100ns			
Recommended back-up fuse		63A			
Thermal Cut-off Member		Internal			
Protection Mode		L - N , N - PE , L - PE			
Operation temperature range / altitude		-40°C~+80°C / 3000m			
Degree of protection		IP66			
Housing material		UL94 V-0			

FLP10-***-*/BG

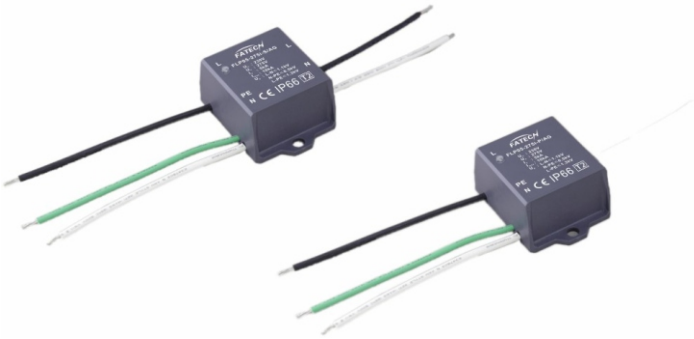


- New designed surge protection module for LED street light. without LED failure indicator.
- specifically for outdoor and commercial LED lighting applications, LED signage and traffic light manufacturers, including roadway lighting, parking garage lighting, wash wall lighting, traffic lighting, flood lighting, digital signage, street lightning, and tunneal lighting.
- Imax 20kA lightning surge protection.
- Metal oxide varistor (MOV) thermal protection.
- Water proof IP64.

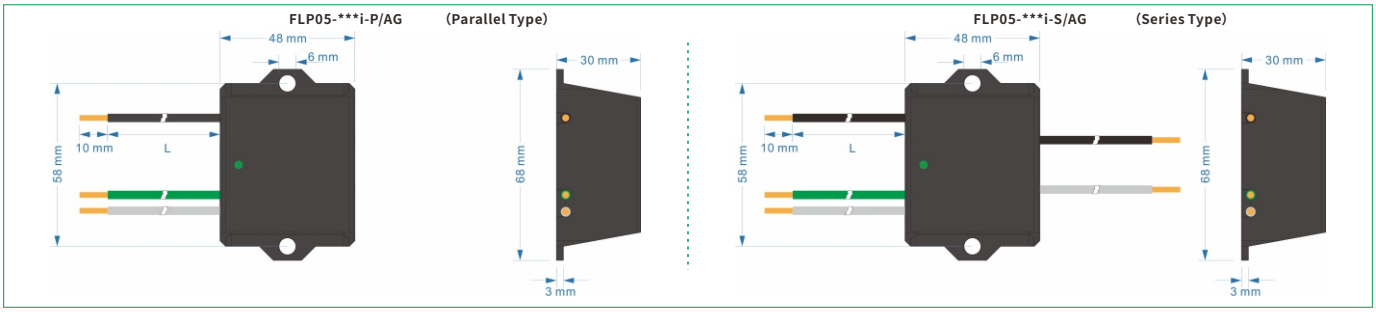


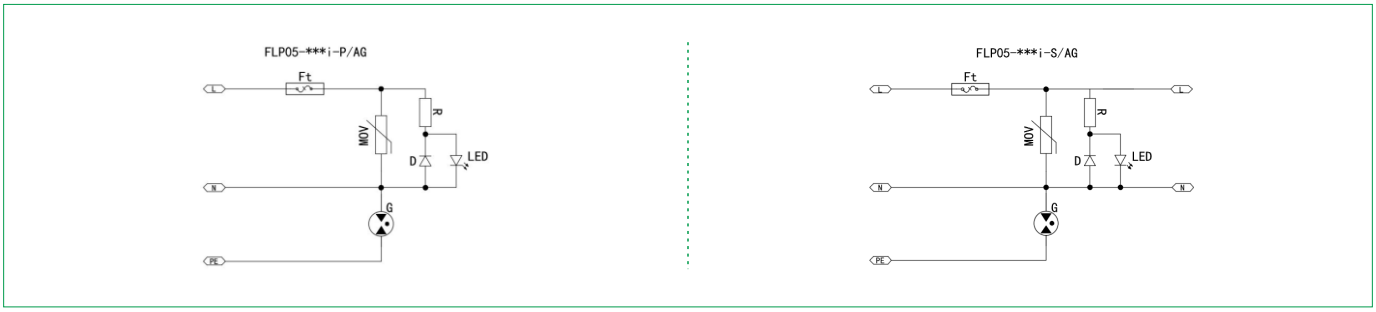
Model No.		FLP10-150-P/BG FLP10-150-S/BG	FLP10-275-P/BG FLP10-275-S/BG	FLP10-320-P/BG FLP10-320-S/BG	FLP10-385-P/BG FLP10-385-S/BG
Test class IEC/EN/VDE		Class II+III/C+D/ T2 T3			
Type of Network		LED street light			
Nominal voltage 50(60)Hz U_N		120V~	230V~	230V~	380V~
Rated Voltage (Max. Cont. Operating Voltage) U_C		150V~	275V~	320V~	385V~
Max. discharge current (8/20μs) I_{max}		20kA			
Nominal discharge current (8/20μs) I_n		10kA			
Voltage protective level U_p	L-N	≤0.8kV	≤1.1kV	≤1.3kV	≤1.5kV
	N-PE	≤1.0kV	≤1.3kV	≤1.5kV	≤1.7kV
Open circuit voltage U_{oc}		20kV			
Response time t_A		L-N:≤25ns , L/N-PE≤100ns			
Recommended back-up fuse		63A			
Thermal Cut-off Member		Internal			
Protection Mode		L - N , N - PE , L - PE			
Operation temperature range / altitude		-40°C~+80°C / 3000m			
Degree of protection		IP66			
Housing material		UL94 V-0			

FLP05-***i-*/AG



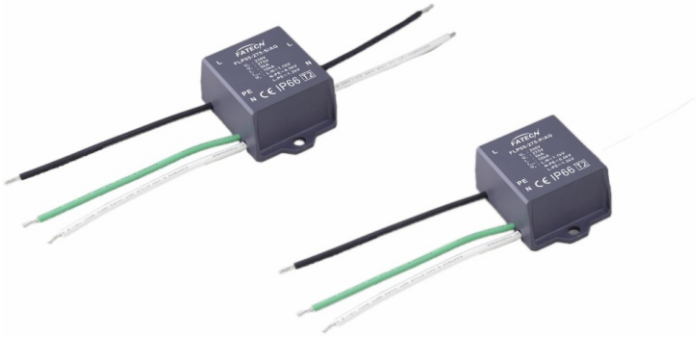
- New designed surge protection module for LED street light. with LED failure indicator.
- specifically for outdoor and commercial LED lighting applications, LED signage and traffic light manufacturers, including roadway lighting, parking garage lighting, wash wall lighting, traffic lighting, flood lighting, digital signage, street lightning, and tunneal lighting.
- Imax 10kA lightning surge protection.
- Metal oxide varistor (MOV) thermal protection.
- Water proof IP64.



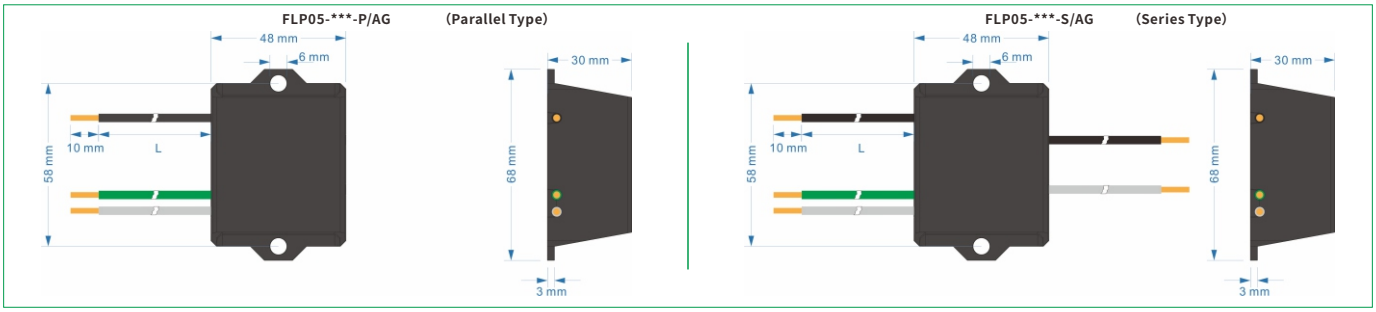


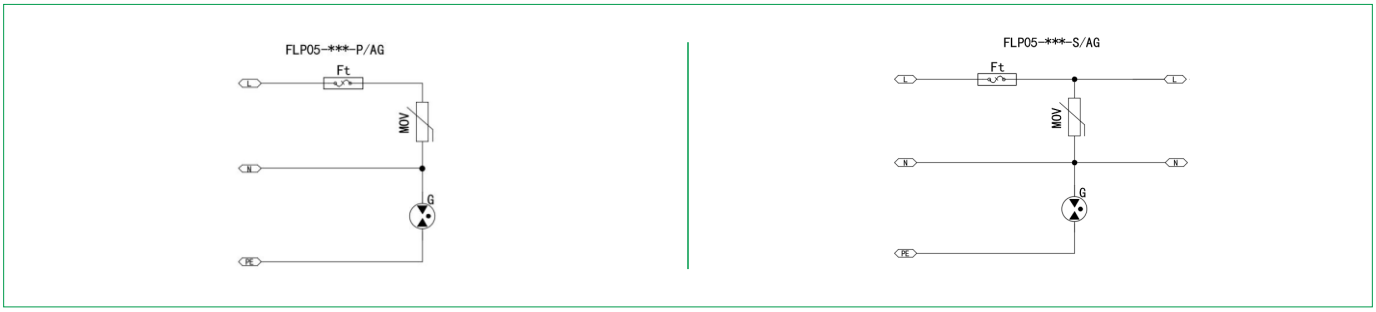
Model No.		FLP05-150i-P/AG FLP05-150i-S/AG	FLP05-275i-P/AG FLP05-275i-S/AG	FLP05-320i-P/AG FLP05-320i-S/AG	FLP05-385i-P/AG FLP05-385i-S/AG
Test class IEC/EN/VDE		Class II+III/C+D/ T2 T3			
Type of Network		LED street light			
Nominal voltage 50(60)Hz U_N		120V~	230V~	230V~	380V~
Rated Voltage (Max. Cont. Operating Voltage) U_C		150V~	275V~	320V~	385V~
Max. discharge current (8/20μs) I_{max}		10kA			
Nominal discharge current (8/20μs) I_n		5kA			
Voltage protection level U_p	L-N	≤0.8kV	≤1.1kV	≤1.3kV	≤1.5kV
	N-PE	≤0.5kV	≤0.5kV	≤0.6kV	≤1.0kV
	L-PE	≤1.0kV	≤1.3kV	≤1.5kV	≤1.7kV
Open circuit voltage U_{oc}		10kV			
Response time t_A		L-N:≤25ns , N-PE≤100ns			
Recommended back-up fuse		16A			
Thermal Cut-off Member		Internal			
Protection Mode		L - N , N - PE , L - PE			
Operation temperature range / altitude		-40°C~+80°C / 3000m			
Degree of protection		IP66			
Housing material		UL94 V-0			

FLP05-***-*/AG



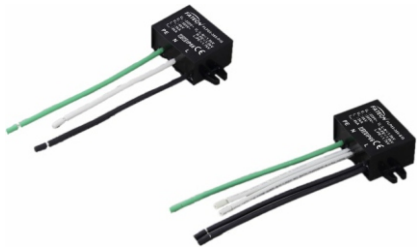
- New designed surge protection module for LED street light. without LED failure indicator.
- specifically for outdoor and commercial LED lighting applications, LED signage and traffic light manufacturers, including roadway lighting, parking garage lighting, wash wall lighting, traffic lighting, flood lighting, digital signage, street lightning, and tunneal lighting.
- Imax 10kA lightning surge protection.
- Metal oxide varistor (MOV) thermal protection.
- Water proof IP64.



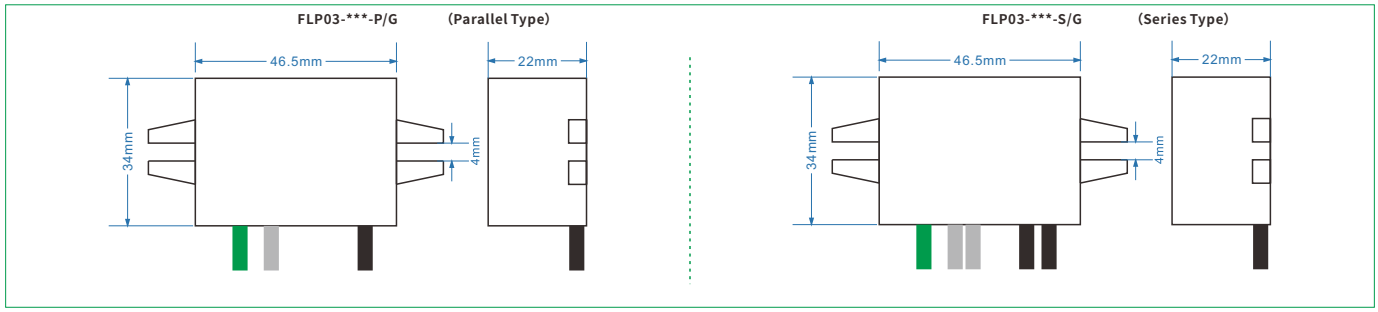


Model No.		FLP05-150-P/AG FLP05-150-S/AG	FLP05-275-P/AG FLP05-275-S/AG	FLP05-320-P/AG FLP05-320-S/AG	FLP05-385-P/AG FLP05-385-S/AG
Test class IEC/EN/VDE		Class II+III/C+D/ T2 T3			
Type of Network		LED street light			
Nominal voltage 50(60)Hz U_N		120V~	230V~	230V ~	380V~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	275V~	320V~	385V~
Max. discharge current (8/20μs) I_{max}		10kA			
Nominal discharge current (8/20μs) I_n		5kA			
Voltage protective level U_p	L-N	≤0.8kV	≤1.1kV	≤1.3kV	≤1.5kV
	N-PE	≤0.5kV	≤0.5kV	≤0.6kV	≤1.0kV
	L-PE	≤1.0kV	≤1.3kV	≤1.5kV	≤1.7kV
Open circuit voltage U_{oc}		10kV			
Response time t_A		L-N:≤25ns , N-PE≤100ns			
Recommended back-up fuse		16A			
Thermal Cut-off Member		Internal			
Protection Mode		L - N , N - PE , L - PE			
Operation temperature range / altitude		-40°C~+80°C / 3000m			
Degree of protection		IP66			
Housing material		UL94 V-0			

FLP03-***-***/G



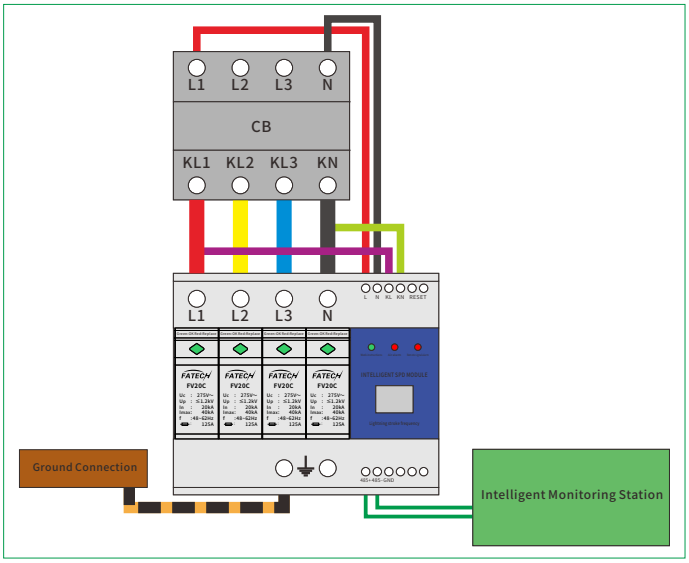
- New designed LED series connected surge protection module for lighting, without LED failure indicator.
- specifically for outdoor and commercial LED lighting applications, LED signage and traffic light manufacturers, including roadway lighting, parking garage lighting, wash wall lighting, traffic lighting, flood lighting, digital signage, street lightning, and tunneal lighting.
- Imax 6kA lightning surge protection.
- Metal oxide varistor (MOV) thermal protection.
- Parallel connected and series connected SPD options.
- Waterproof IP66.

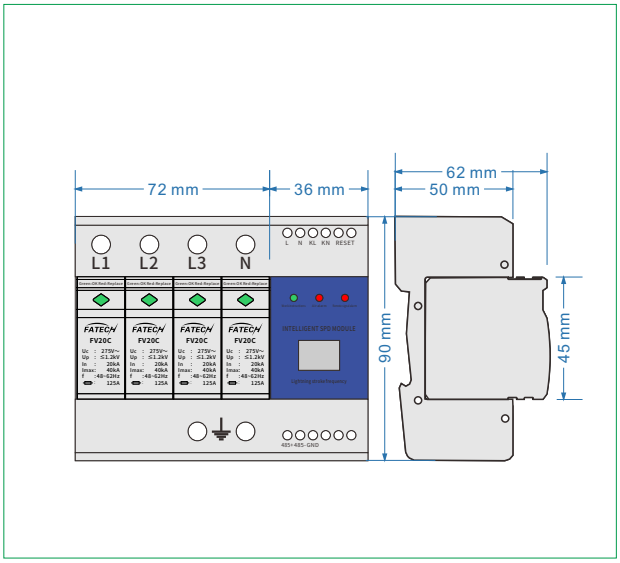


Model No.		FLP03-150-P/G FLP03-150-S/G	FLP03-275-P/G FLP03-275-S/G	FLP03-320-P/G FLP03-320-S/G	FLP03-385-P/G FLP03-385-S/G
Test class IEC/EN/VDE		Class II+III/C+D/ T2 T3			
Type of Network		LED street light			
Nominal voltage 50(60)Hz U_N		120V~	230V~	230V~	380~
Rated Voltage (Max. Cont. Operating Voltage) U_c		150V~	275V~	320V~	385V~
Max. discharge current (8/20μs) I_{max}		6kA			
Nominal discharge current (8/20μs) I_n		3kA			
Voltage protective level U_p	L-N	≤0.8kV	≤1.1kV	≤1.3kV	≤1.5kV
	N-PE	≤0.5kV	≤0.5kV	≤0.6kV	≤1.0kV
	L-PE	≤1.0kV	≤1.3kV	≤1.5kV	≤1.7kV
Open circuit voltage U_{oc}		6kV			
Response time t_A		L-N:≤25ns , N-PE≤100ns			
Recommended back-up fuse		16A			
Thermal Cut-off Member		NO			
Protection Mode		L - N , N - PE , L - PE			
Operation temperature range / altitude		-40°C~+80°C / 3000m			
Degree of protection		IP66			
Housing material		UL94 V-0			

FV20C/*-***SI

◆New designed intelligent surge protective device (SPD).
◆Combines SPD and detection module in one unit, designed for on-line monitoring of SPD degradation, circuit breaker working status, SPD action times (surge counting).
◆On-line checking automatically, real-time monitoring.
◆Adopt RS485 cable communication transmission data for monitoring module, which can connect with background server, to record and check the data.
◆Din-Rail mounting, with RS485 cable communication

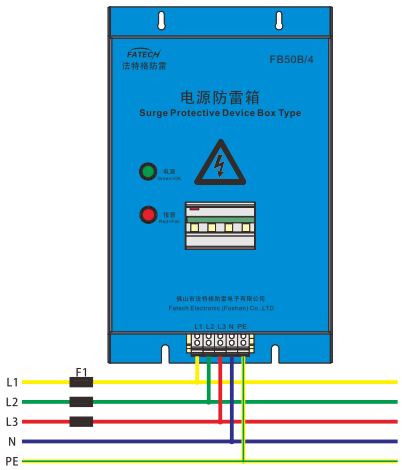


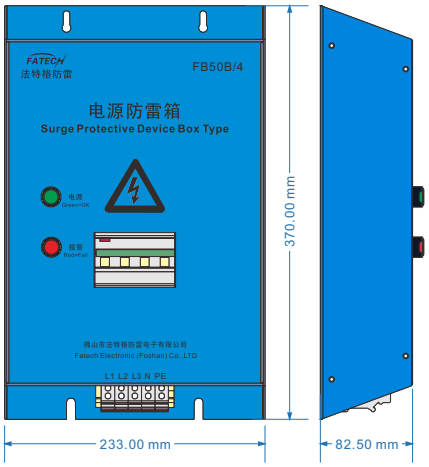


Model No.	FV20C/*-***SI
Function	Collect 3 channels signals: 1 channel SPD remote control contacts signals, 1 channel circuit-breaker working status, 1 channel SPD action times (surge counting)
Power supply	220V~
Surge protection capability	I_{max}(8/20μs) 40kA
SPD Remote signal monitoring	1 channel / built-in signal interface
Circuit-breaker status monitoring	1 channel / Determine whether SPD is working
Surge counts	1 channel / (0-99) built-in sensor
Surge counting action current	≥300A
Network	Flexible networking
Agreement	Specific agreement
Communication	Rs485
Installation	35mm Symmetrical rail (EN50022/DIN46277-3)
Operating temperature	-20°C~+60°C
Storage temperature	-20°C~+70°C
Alarm function	SPD remote control contacts signals, SPD action times, Circuit breaker disconnected
Degree of protection	IP20

FB50B/4-***S

- Three phase surge filter, metal box type.
- Remote control contacts function optional.
- Lightning and surge counter function optional.
- Overload short-circuit protection MCB available.
- With LED failure indicator.

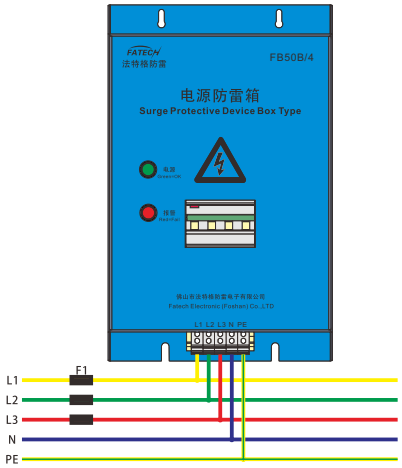


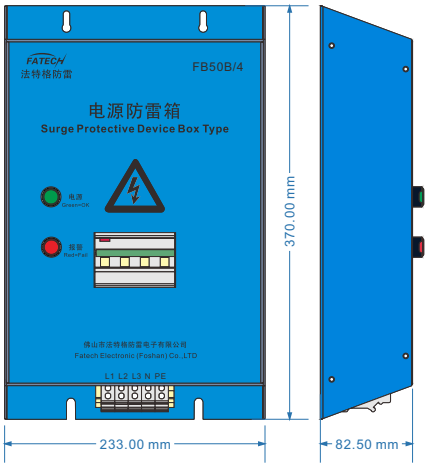


Model No.		FB50B/4-150S	FB50B/4-255S	FB50B/4-275S	FB50B/4-320S	FB50B/4-385S
Test class IEC/EN/VDE		Class I / B / T1				
Protection Mode		L1 , L2 , L3 , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_C		150V~	255V~	275V~	320V~	385V~
Impulse current (10/350μs) I_{imp}		50kA				
Nominal discharge current (8/20μs) I_n		50kA				
Voltage protective level U_p		≤1.8kV	≤1.8kV	≤1.8kV	≤2.0kV	≤2.0kV
Response time t_A		≤100ns				
Recommended back-up fuse		500A				
Isolation resistance		>10^2MΩ				
I/O Connections	L-N	Multi core wire：10mm²~25mm²				
	PE	Multi core wire：>16mm²				
Mounting		Bolting				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		Metal Plate				
Disconnection indicator		Mechanical indicator (Green: OK, Red: Fail)				
Remote control contact		Optional				

FB20C/4-***S

- Type 1 three phase surge filter, metal box type.
- Remote control contacts function optional.
- Lightning and surge counter function optional.
- Overload short-circuit protection MCB available.
- With LED failure indicator.





Model No.		FB20C/4-150S	FB20C/4-275S	FB20C/4-320S	FB20C/4-385S	FB20C/4-440S
Test class IEC/EN/VDE		Class II/T2/C				
Protection Mode		L1 , L2 , L3 , N - PE				
Nominal voltage 50(60)Hz U_N		110/220V~	220/380V~	220/380V~	220/380V~	220/380V~
Rated Voltage (Max. Cont. Operating Voltage) U_C		150V~	275V~	320V~	385V~	440V~
Max. discharge current (8/20μs) I_{max}		40kA				
Nominal discharge current (8/20μs) I_n		20kA				
Voltage protective level U_p		≤0.7kV	≤1.2kV	≤1.5kV	≤1.8kV	≤2.0kV
Response time t_A		≤25ns				
Recommended back-up fuse		125A				
Isolation resistance		>10^2MΩ				
I/O Connections	L-N	Multi core wire:10mm^2~25mm^2				
	PE	Multi core wire:>16mm^2				
Mounting		Bolting				
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m				
Degree of protection		IP20				
Housing material		Metal Plate				
Disconnection indicator		Mechanical indicator (Green: OK, Red: Fail)				
Remote control contact		Optional				

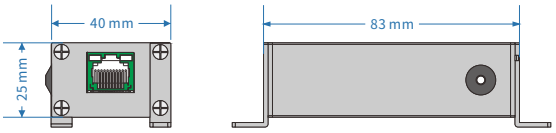
FS-RJ45-6/***

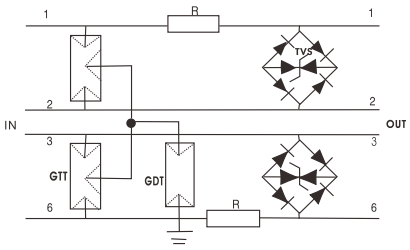

FS-RJ45-6/1000


FS-RJ45-6/100

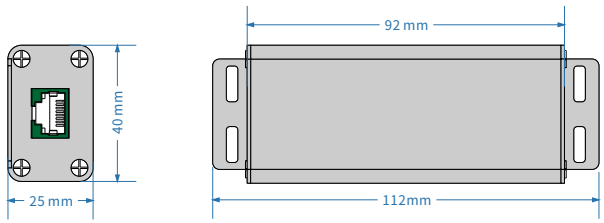
- RJ45 surge protective device are applied to the protection against inductive over voltage, power interference & electrostatic discharge (ESD) for sensitive lines of telecommunications. e.g. computer network equipment, switches, routers, HUBs & MODEMs.
- Convenient mounting
- Low insertion loss, low residual voltage
- Built-in semiconductor, quick response
- Low capacitance design, excellent transmission
- Can be designed and manufactured according to special requests of clients.
- Transmission rate: 100M，1000M for your option.

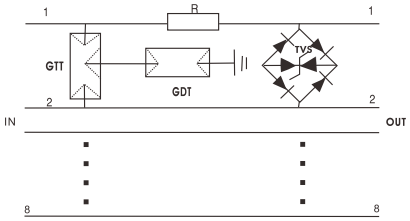
FS-RJ45-6/100





FS-RJ45-6/1000





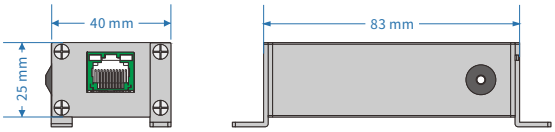
Model No.		FS-RJ45-6/100	FS-RJ45-6/1000
Type of Network		Network signal transmission system	
Nominal voltage 50(60)Hz U_N		6V	
Rated Voltage (Max. Cont. Operating Voltage) U_C		8V	
Rated current I_L		0.5A	
Max. discharge current (8/20μs) I_{max}		5.0kA	
Nominal discharge current (8/20μs) I_n		1.5kA	
Voltage protective level U_p	L-L	≤20V	
	L-PE	≤250V	
Adapt transmission rate		100Mbit/s	1000Mbit/s
Insertion loss		≤1.0Mbit/s	≤1.2Mbit/s
Protected Line (Pairs)		(1,2)；(3,6)	(1,2)；(3,6)；(4,5)；(7,8)
Interface	IN	RJ45	
	OUT	RJ45	
Mounting		Bolt fixing	
Response time t_A		≤10ns	
Operation temperature range / humidity / altitude		-40℃~+80℃ / 30%~90% / 3000m	
Housing material		Aluminium alloy	

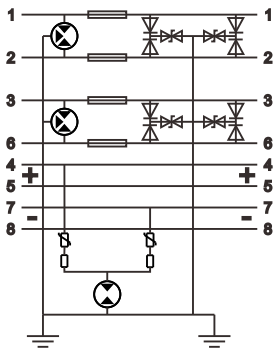
FS-RJ45/PoE-***

FS-RJ45/PoE-100

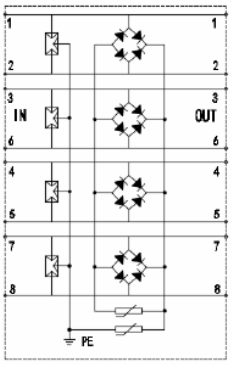
FS-RJ45/PoE-1000

- POE surge protective device RJ45, suitable for application of POE cable-powered server, wireless AP, network cameras, network switches and other communications equipment supply, network signal line surge protection, integrated design, easy installation.
- Adopt power supply + signal surge protection intergrated design.
- Use high quality main component with excellent performance.
- Small insertion loss, good trnasmission rate.
- Low residual voltage, efficient surge protection effect.
- Fast response, stable performance, reliable working.
- Small size, convenient application, maintenance free.





FS-RJ45/PoE-100

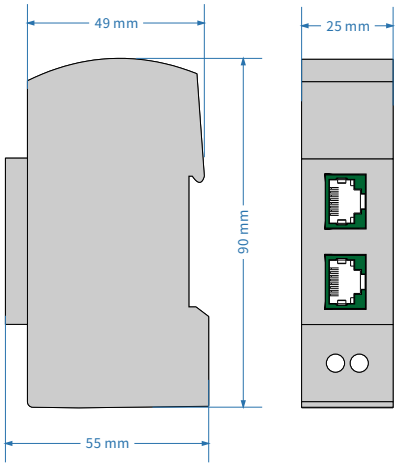


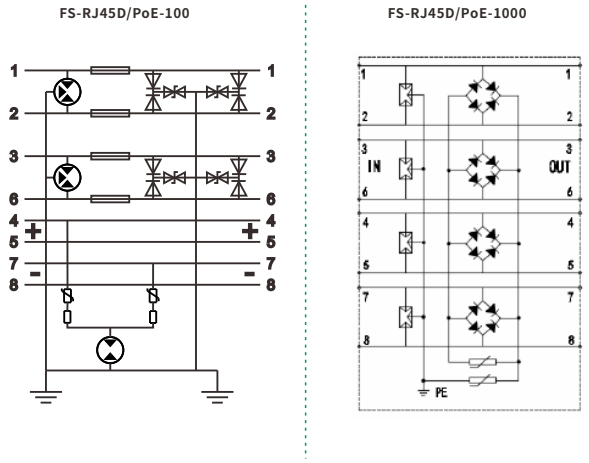
FS-RJ45/PoE-1000

Model No.		FS-RJ45/PoE-100		FS-RJ45/PoE-1000	
Type of Network		Network signal transmission system			
Line		Power Supply Line	Signal Line	Power Supply Line	Signal Line
Nominal voltage 50(60)Hz U_N		48V	5V	48V	5V
Rated Voltage (Max. Cont. Operating Voltage) U_c		64V	6V	64V	6V
Max. discharge current (8/20μs) I_{max}		3.0kA	2.5kA	2.0kA	2.0kA
Nominal discharge current (8/20μs) I_n		5.0kA	5.0kA	3.0kA	3.0kA
Voltage protective level U_p	L-L	≤150V	30V	≤150V	30V
	L-PE	≤600V	300V	≤600V	300V
Adapt transmission rate		—	100Mbit/s	—	1000Mbit/s
Insertion loss		—	≤0.5Mbit/s	—	≤0.5Mbit/s
Interface Port Type		+(4,5) ; -(7,8)	(1,2) ; (3,6)	(1,2) ; (3,6) ; (4,5) ; (7,8)	
Interface	IN	RJ45			
	OUT	RJ45			
Mounting		Bolt fixing			
Response time t_A		≤10ns			
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m			
Housing material		UL94 V-0			
Degree of protection		IP20			

FS-RJ45D/PoE-***

- Din rail RJ45 surge protective device, POE signal surge protector, suitable for application of POE cable-powered server, wireless AP, network cameras, network switches and other communications equipment supply, network signal line surge protection, integrated design, easy installation.
- Adopt power supply + signal surge protection intergrated design.
- Use high quality main component with excellent performance.
- Small insertion loss, good trnasmission rate.
- Low residual voltage, efficient surge protection effect.
- Fast response, stable performance, reliable working.
- Small size, DIN Rail installation, convenient application, maintenance free.

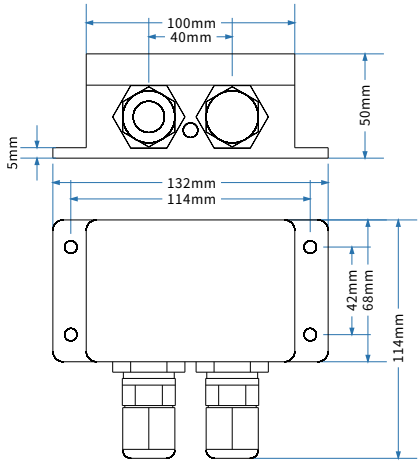


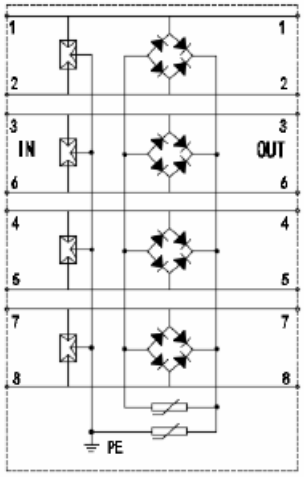


Model No.		FS-RJ45D/PoE-100		FS-RJ45D/PoE-1000	
Type of Network		Network signal transmission system			
Line		Power Supply Line	Signal Line	Power Supply Line	Signal Line
Nominal voltage 50(60)Hz U_N		48V	5V	48V	5V
Rated Voltage (Max. Cont. Operating Voltage) U_C		64V	6V	64V	6V
Max. discharge current (8/20μs) I_{max}		3.0kA	2.5kA	2.0kA	2.0kA
Nominal discharge current (8/20μs) I_n		5.0kA	5.0kA	3.0kA	3.0kA
Voltage protective level U_p	L-L	≤150V	30V	≤150V	30V
	L-PE	≤600V	300V	≤600V	300V
Adapt transmission rate		—	100Mbit/s	—	1000Mbit/s
Insertion loss		—	≤0.5Mbit/s	—	≤0.5Mbit/s
Interface Port Type		+(4,5) ; -(7,8)	(1,2) ; (3,6)	(1,2) ; (3,6) ; (4,5) ; (7,8)	
Interface	IN	RJ45			
	OUT	RJ45			
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)			
Response time t_A		≤10ns			
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m			
Housing material		UL94 V-0			
Degree of protection		IP20			

FS-RJ45W/PoE-1000

- Water-proof RJ45 PoE surge protective device.
- Adopt power supply + signal surge protection integrated design.
- Transmission rate: 1000M
- Rated voltage 5Vdc, 12Vdc, 24Vdc, 48Vdc available.
- Screw tie up installation, used outdoor.
- Degree of protection: IP65.

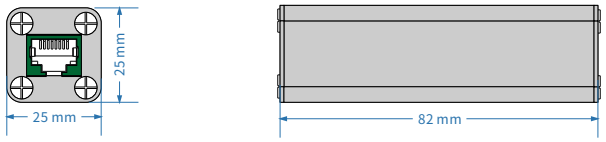


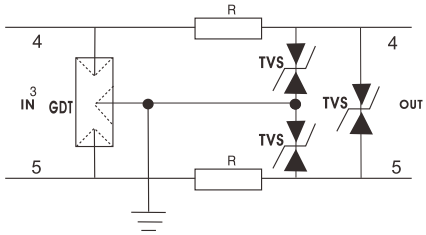


Model No.		FS-RJ45W/PoE-1000	
Line		Power Supply Line	Signal Line
Nominal Working Voltage U_n		48Vdc	5Vdc
Max. cont. Opertating Voltage U_c		64Vdc	6Vdc
Nominal Discharge Current (8/20μs) I_n		2kA	2kA
Max. discharge current (8/20μs) I_{max}		3kA	3kA
Protection level (8/20μs) U_p		≤350V	≤350V
Transmission rate		---	1000Mbps
Insertion loss		---	≤0.5dB
Interface port type		(1,2) ; (3,6) ; (4,5) ; (7,8)	
Interface	IN	RJ45	
	OUT	RJ45	
Shell		Plastic (ABS)	
Dimension		See the drawing	
Installation		Screw tie up	
Cable		CAT6, 8 core 4 twisted-pair	
Environment		Temperature: -40～+85°C, Relative Humidity 30%~90%	
Shell protection level		IP65	

FS-RJ11-110/10

- Telephone surge protective device is applied to the protection for telecommunications, e.g. SPC exchangers, twisted pairs of telephone stations, dial-up lines, DDN special line.
- Convenient mounting
- 4 pairs line protected
- Class C protection, low residual voltage
- Built-in semiconductor, quick response
- Low capacitance design, excellent transmission
- Can be designed and manufactured according to special requests of clients.

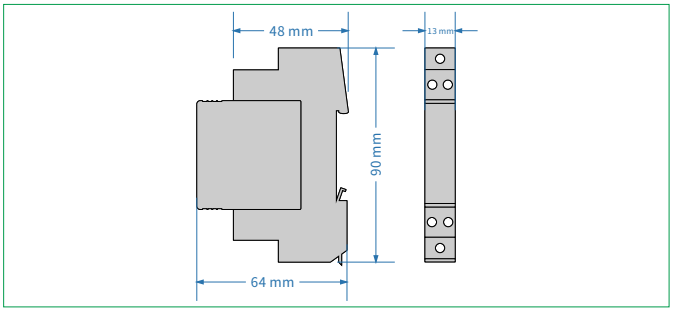


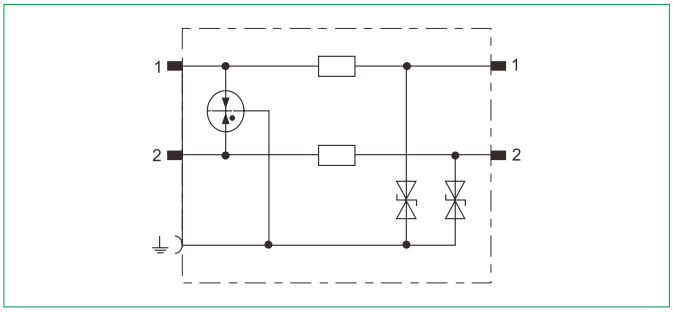


Model No.		FS-RJ11-110/10
Type of Network		Network signal transmission system
Nominal voltage 50(60)Hz U_N		110V
Rated Voltage (Max. Cont. Operating Voltage) U_C		185V
Rated current (I_L)		0.5A
Max. discharge current (8/20μs) I_{max}		3.0kA
Nominal discharge current (8/20μs) I_n		1.5kA
Voltage protective level U_p	L-L	≤30V
	L-PE	≤250V
Adapt transmission rate		10Mbit/s
Insertion loss		≤0.2Mbit/s
Protected Line (Pairs)		(3,4) ; (2,5)
Interface	IN	RJ11
	OUT	RJ11
Response time t_A		≤10ns
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m
Housing material		Aluminium alloy

FS-DR-***/***

- Din rail signal surge protective device are applied to control signal double wire circuit in LPZ0 to LPZ3, e.g. 4~20mA circuit, RS485 circuit, RS422 circuit, gas detector, car-park system, CCTV remote monitor, remote control circuits.
- Common and difference surge protection mode, excellent performance.
- The pluggable module allows a fast replacement in case of fail.
- The grounding is realized through an earthing-clip on the DIN-Rail and / or earthing – clamp.
- No limiting in operating current due to parallel connecting method.
- Mounting on 35mm Rail, small space.

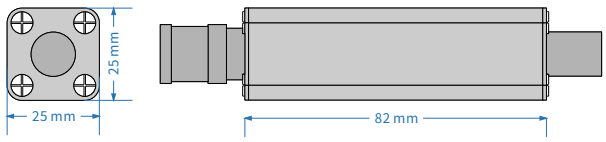


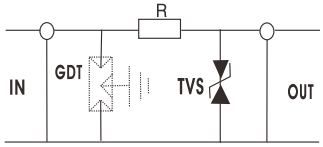


Model No.		FS-DR-5/1.6	FS-DR-12/2.9	FS-DR-15/4.1	FS-DR-24/5.6	FS-DR-30/7.0	FS-DR-48/9.3	FS-DR-60/10.0
Type of Network		Signal transmission system						
Nominal voltage 50(60)Hz U_N		5.0V	12.0V	15.0V	24.0V	30.0V	48.0V	60.0V
Rated Voltage (DC Max. Cont. Operating Voltage) U_C		6.0V	14.5V	17.8V	26.8V	34.8V	55.1V	70.1V
Rated Voltage (AC Max. Cont. Operating Voltage) U_C		4.2V	10.2V	12.5V	18.9V	24.5V	38.9V	49.0V
Rated current I_L		0.5A	0.5A	0.5A	0.5A	0.5A	0.5A	0.5A
Nominal discharge current (8/20μs) I_n		5.0kA	5.0kA	5.0kA	5.0kA	5.0kA	5.0kA	5.0kA
Voltage protective level (I_{imp}D1) U_p	L-L	≤50V	≤70V	≤85V	≤100V	≤130V	≤200V	≤240V
	L-PE	≤45V	≤60V	≤70V	≤80V	≤80V	≤120V	≤150V
Voltage protective level (1kV/μsC3) U_p	L-L	≤16V	≤38V	≤50V	≤70V	≤95V	≤150V	≤180V
	L-PE	≤8V	≤19V	≤25V	≤35V	≤50V	≤75V	≤90V
Each line sereis resistance		1.0Ω	1.5Ω	1.8Ω	1.8Ω	1.8Ω	1.8Ω	1.8Ω
Band width	L-L	1.6MHz	2.9MHz	4.1MHz	5.6MHz	7.0MHz	9.3MHz	10.0MHz
Capacitance	L-L	≤3.0nF	≤1.0nF	≤0.9nF	≤0.7nF	≤0.6nF	≤0.3nF	≤0.3nF
	L-PE	≤5.0nF	≤2.0nF	≤1.8nF	≤1.3nF	≤1.1nF	≤0.6nF	≤0.6nF
I/O Connections		Multi core wire：0.5mm²~2.5mm²						
Mounting		35mm Symmetrical rail (EN50022/DIN46277-3)						
Response time t_A		≤10ns						
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m						
Housing material		UL94 V-0						
Degree of protection		IP20						

FS-BNC-6/10

- RF signal surge protective device are applied to the integrated surge protection for the intelligent residential districts & multifunctional supervisory systems, e.g. vidicon powers, matrix controllers, video signals.
- Monoblock design, excellent protection.
- Class C surge protection, low residual voltage
- Low capacitance design, excellent transmission
- Can be designed and manufactured according to special requests of clients.

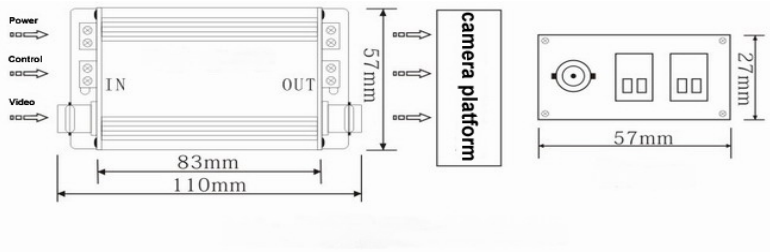




Model No.		FS-BNC-6/10
Type of Network		Signal transmission system
Nominal voltage 50(60)Hz U_N		6V
Rated Voltage (Max. Cont. Operating Voltage) U_C		8V
Rated current (I_L)		0.5A
Max. discharge current (8/20μs) I_{max}		10kA
Nominal discharge current (8/20μs) I_n		5kA
Voltage protective level U_p	L-L	≤20V
	L-PE	≤500V
Adapt transmission rate		10Mbit/s
Insertion loss		≤0.35Mbit/s
Interface	IN	BNC/F
	OUT	BNC/M
Response time t_A		≤10ns
Operation temperature range / humidity / altitude		-40°C~+80°C / 30%~90% / 3000m
Housing material		Aluminium alloy

FS-CCTV3

- Camera plastform / CCTV surge protective device, with video, control and power line surge protection function.
- High discharge current 10kA, fast response time 10-12ns.
- With over-current, over-heating device inside, long lifetime.
- Within LED light, installation convenient.



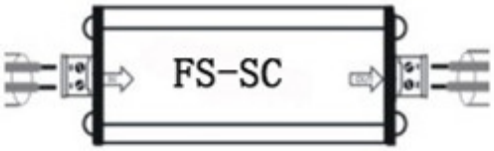
Power receptacle surge protector	
Interface port type	General Terminal 508-3
Operating voltage Un	220V AC
Nominal working current	10A
Nominal discharge current In(8/20μs)	5kA
Max. discharge current Imax(8/20μs)	10kA
Voltage protection level Up	≤ 700V
Protected mode	L-N;L-PE;N-PE
Protected class	Class III
Testing standard	IEC 61643-1:1998

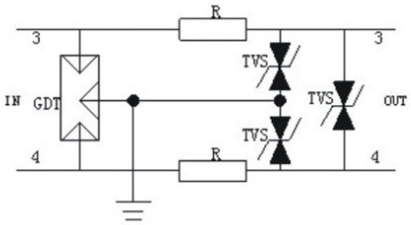
Power receptacle surge protector	
Interface port type	BNC (75Ω)
Operating voltage Un	5V DC
Nominal discharge current In(8/20μs)	5 kA
Max. discharge current Imax(8/20μs)	10 kA
Limiting voltage 10/700μs	≤ 15 V
Adapt transmission rate Bit/s	10 M
Insertion loss dB	≤ 0.3
Protected mode(line)	Coaxial
Testing standard	IEC 61643-21:2000

Power receptacle surge protector	
Interface port type	General Terminal 381-2
Operating voltage Un	24V DC
Nominal discharge current In(8/20μs)	5 kA
Max. discharge current Imax(8/20μs)	10 kA
Limiting voltage(line-line) 10/700μs	≤ 30V
Adapt transmission rate Bit/s	10M
Insertion loss dB	≤ 0.3
Protected mode(line)	One pair
Testing standard	IEC 61643-21:2000

FS-SC-***/***

- Screw Clamping data signal surge protective device applied to the surge protection for telecommunications, e.g. SPC exchangers, twisted pairs of telephone stations, dial-up lines, DDN special line.
- Convenient mounting
- Class C surge protection, low residual voltage
- Built-in semiconductor, quick response
- Low capacitance design, excellent transmission
- Can be designed and manufactured according to special requests of clients.



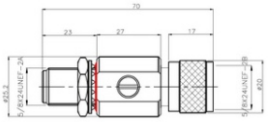


Model No.		FS-SC-5/10	FS-SC-12/10	FS-SC-24/10	FS-SC-48/10	FS-SC-120/1
Type of Network		Signal transmission system				
Nominal voltage 50(60)Hz U_N		5V	12V	24V	48V	120V
Max. cont. operating voltage U_C		8V	15V	48V	56V	150V
Rated current I_L		500mA				
Nominal discharge current (8/20μs) I_n		5kA				
Max. discharge current (8/20μs) I_{max}		10kA				
Voltage protective level (1.2/50μs)	L-L	≤20V	≤40V	≤80V	≤350V	≤350V
	L-PE	≤250V	≤250V	≤250V	≤350V	≤350V
Adapt transmission rate Bit/s		10M	10M	10M	1M	1M
Insertion loss dB		≤ 0.4 (100M)	≤ 0.4 (100M)	≤ 0.4 (100M)	≤ 0.5(100M)	≤ 0.5(100M)
Interface (In/Out)		Screw Clamping				
Protected line (Pairs)		Two	Two	Two	Two	Two
Response Time	L-L	≤10ns				
	L-PE	≤10ns				
Enclosure color		Black				
Dimension		25×25×86mm				
Testing standard		IEC 61643-21:2000				

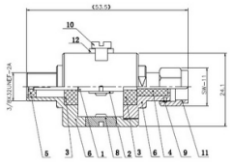
FA-*-***/***-*

- FA-*-***/***-* radio frequency surge protective device is designed for protection of antenna coaxial device, receive/transmit system, microwave communication, broadcast television, navigation communication etc.
- High discharge capacity, low residual voltage.
- Material brass.
- Interface port: coaxial

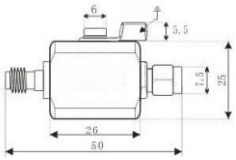
FA-N-*/***-K**



FA-F-*/***-K**



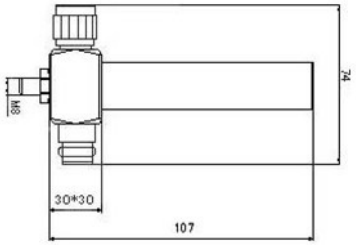
FS-SMA-5G/10

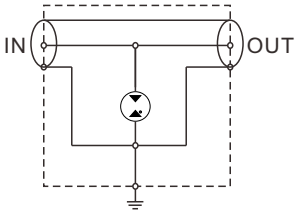


Model No.	FA-F-900/10-K	FA-F-1800/10-K	FA-F-2500/10-K	FA-N-900/10-K	FA-N-1800/10-K	FA-SMA-5G/10
Type of Network	Signal transmission system					
Working frequency range	DC-900MHz	DC-1800MHz	DC-2500MHz	DC-900MHz	DC-1800MHz	DC-5GHz
Nominal discharge current I_n(8/20μs)	10kA					
D.C.spark-over voltage	90V			230V		
Characteristics impedance	75Ω			50Ω		
Max. transmission power	200W					
Insertion loss	≤0.3dB					
Voltage standing wave ratio	≤1.2					
Testing standard	IEC 61643-11					
Operating temperature	-25°C~+70°C					
Storage temperature	-40°C~+85°C					
Relative humidity	≤95%					
Operating environment	Indoor or dry					
Interface port type	coaxial(F)			coaxial(N)		

FA-N-***/***-L

- FA-N-***/***-L (lambda/4) type antenna surge protective device are designed for protection of antenna coaxial device, receive/transmit system, microwave communication, broadcast television, navigation communication etc.
- High discharge capacity, low residual voltage.
- Material brass.
- Interface port: coaxial (N)

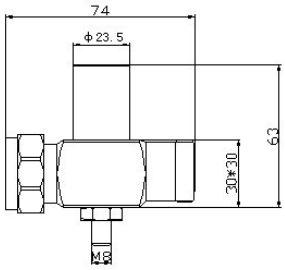


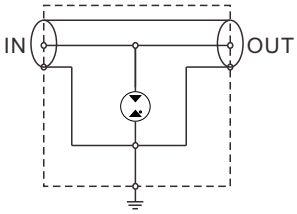


Model No.	FA-N-900/10-L	FA-N-1800/10-L
Type of Network	Signal transmission system	
Working frequency range	800-1000MHz	1700-1900MHz
Nominal discharge current I_n(8/20μs)	10kA	
D.C.spark-over voltage	90V	
Characteristics impedance	75Ω	
Max. transmission power	200W	
Insertion loss	≤0.2dB	
Voltage standing wave ratio	≤1.2	
Testing standard	IEC 61643-11:2000	
Operating temperature	-25℃~+70℃	
Storage temperature	-40℃~+85℃	
Relative humidity	≤95%	
Operating environment	Indoor or dry	
Interface port type	coaxial(N)	

FA-7/16-***/***-L

- FA-7/16-***/***-L 1/4λ type antenna surge protective device are designed for protection of antenna coaxial device, receive/transmit system, microwave communication, broadcast television, navigation communication etc.
- High discharge capacity, low residual voltage.
- Material brass.
- Interface port: coaxial (7/16)

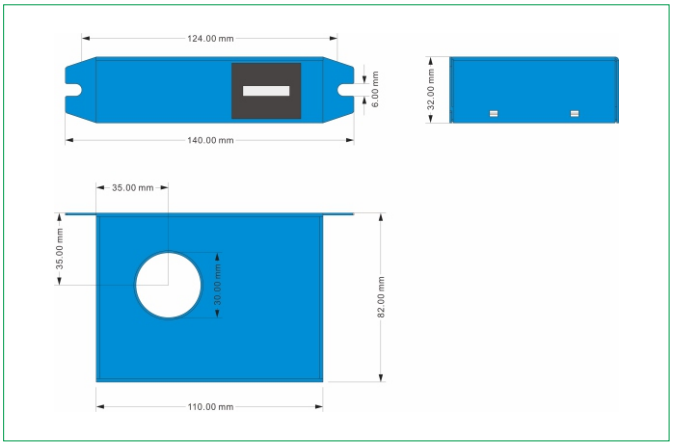


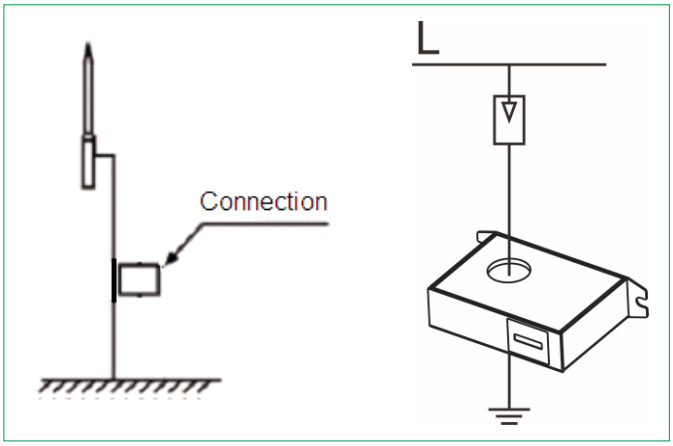


Model No.	FA-7/16-900/10-L	FA-7/16-1800/10-L
Type of Network	Signal transmission system	
Working frequency range	800-1000MHz	1700-1900MHz
Nominal discharge current I_n(8/20μs)	10kA	
Characteristics impedance	50Ω	
Max. transmission power	200W	
Insertion loss	≤0.2dB	
Voltage standing wave ratio	≤1.2	
Testing standard	IEC 61643-11:2000	
Operating temperature	-25°C~+70°C	
Storage temperature	-40°C~+85°C	
Relative humidity	≤95%	
Operating environment	Indoor or dry	
Interface port type	coaxial(N)	

FLRC-S/R

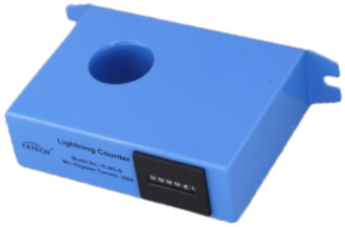
- Analogue type lightning counter.
- 4 digits display (0~9999).
- With reset function by press a buttonto clear the number to "0".
- No need battery / power supply.
- Metal plate. Easy installation and use.
- Installation window ---30mm.
- Sensitive response and wide lightning current measuring range.
- Can be used with all kinds of lightning and surge protectors and equipment.



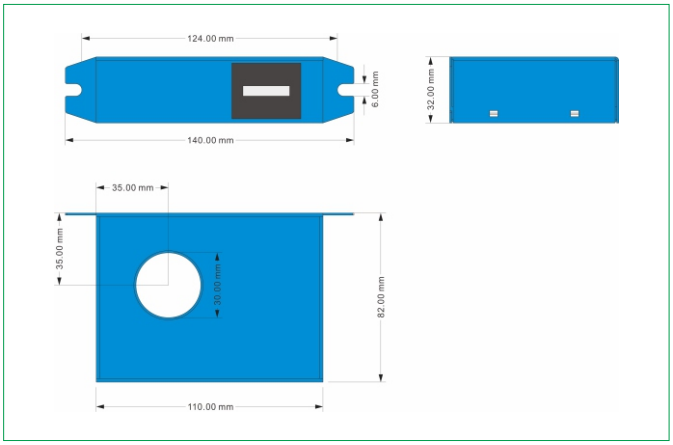


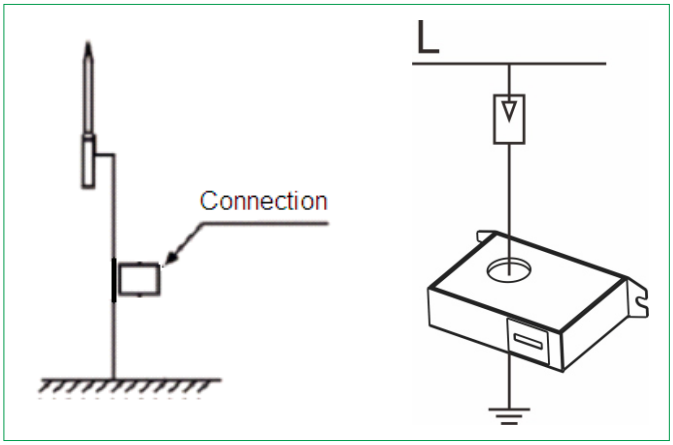
Model No.	FLRC-S/R
Minimum Current Sensitivity (rise time ≥8μs)	>350A
Maximum Detectable Current (Imax)	100kA
Sequence of impulse	> 1s
Display Model	Electromechanical Counter
Indicator	Lightning Event 0~9999
Reset function	Press one button to clear display number to "0"
Current Sample Mode	Inductive Probe (Built-in)
Working mode	No battery / No power supply needed
Operation temperature (°C)	-20°C~+70 °C
Dimension of installation window (mm)	30mm
Dimension of counter (mm)	110x33x82 mm
Enclosure material	Metal plate
Net Weight	0.46kg

FLRC-S/II



- Analogue type lightning counter.
- 6 digits display (0~999999).
- Long service life due to No battery need.
- Maintenance free.
- Counting accurately.
- Sensitive response and wide lightning current measuring range.
- Easy to install and use
- Can be used together with all kinds of lightning protectors and equipment.

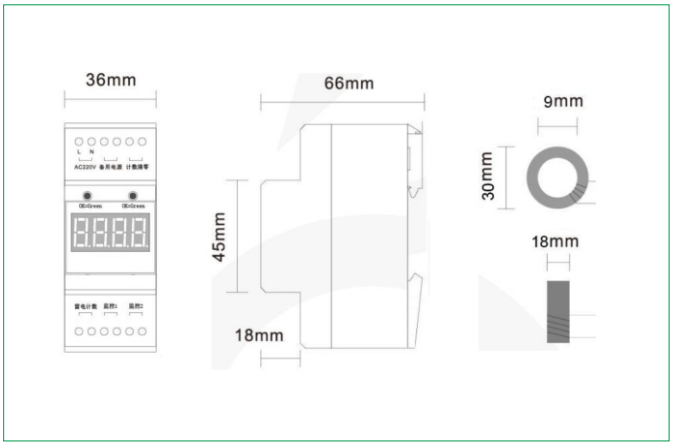


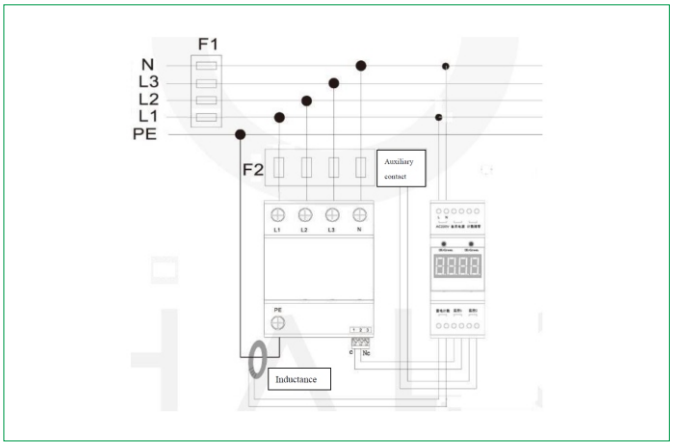


Model No.	FLRC-S/II
Minimum Current Sensitivity (rise time ≥8μs)	>350A
Maximum Detectable Current (Imax)	100kA
Sequence of impulse	> 1s
Display Model	Electromechanical Counter
Indicator	Lightning Event 0~999999
Current Sample Mode	Inductive Probe (Built-in)
Working mode	No battery / No power supply needed
Operation temperature (℃)	-20℃~+70℃
Dimension of installation window (mm)	30mm
Dimension of counter (mm)	110x33x82mm
Enclosure material	Metal plate
Net Weight	0.46kg

FLRC-D

- Digital type lightning counter.
- Installed together with SPD, or independently.
- Recording lightning/surge event times, monitoring SPD working status, and/or the front breaker working status.
- Online display status, terminals for monitor two groups circuit working status (two group SPDs, or one group SPD + one group MCB, or two MCBs working status.
- Data recorded accurately, 9999 times, data will not lose when power off.
- Terminal for connecting with back-up power, when power off, surge counter still can work.
- DIN rail installation.

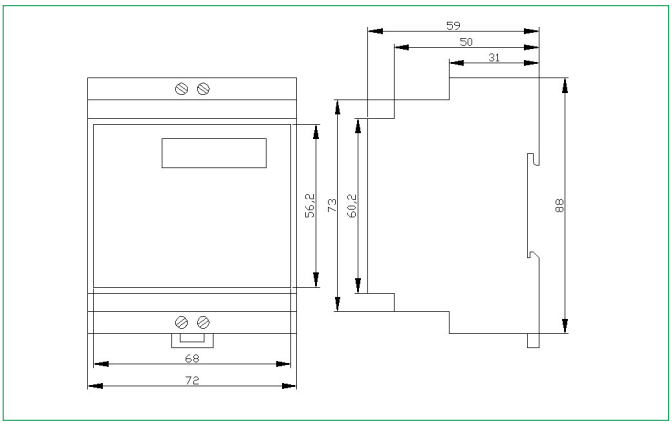


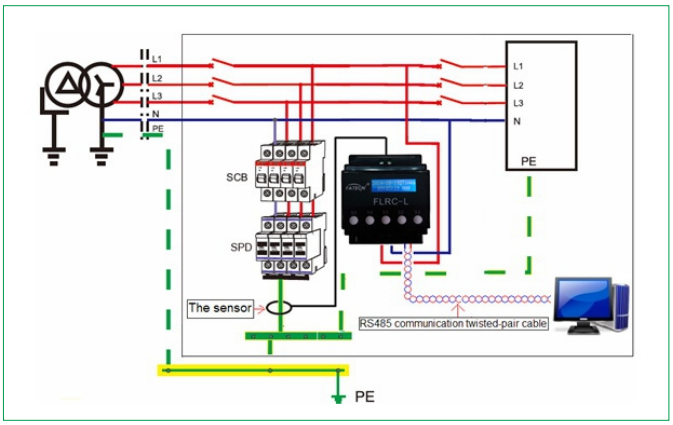


Type	FLRC-D
Nominal Voltage (Un)	220V~
Minimum CurrentSensitivity(rise time ≥8μs)	>0.1kA(8/20us)
Back-up power	6~12VAC
Product power consumption	<0.5W
Data record	Data will not lose in case of power off
Data clearing	Short-circuit the “Reset” terminals
Inductance size	Dia. 9mm
Operation temperature(℃)	-40~+80
Humidity	<90% (temp 25℃)
Enclosure material	Plastic,Flame retardant
Degree of protection	Ip20
Wiring spec.	0.5mm²~1.5mm²
Display Model	LCD
Indicator	Lightning Event 0~9999
Current Sample Mode	Inductive Probe
Dimension of counter (mm)	Width: 36mm

FLRC-L/II

- Digital type lightning counteris built with time clock function
- With RS485 communication function, could be communicate with PC.
- Can register 0~225 of lightning strikes, the data won't be lost in case of power failure.
- Can check the real time (year/month/day/hour/minute/second) of each lightning strike
- Number counting repetition up to 1 million times.
- the counter can clearly indicate whether the installation of the lightning surge damage suffered from the impact of lightning and power line. Because we are now using either Zinc oxide varistors or GDT module only when the physical damage to the structure of these devices, we know that lightning is installed where there is lightning; But after in stalling lightning counter, we'll know at the surge protection products installation place.

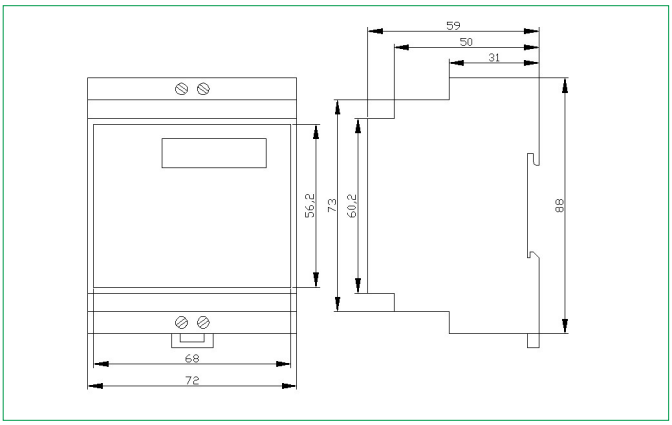


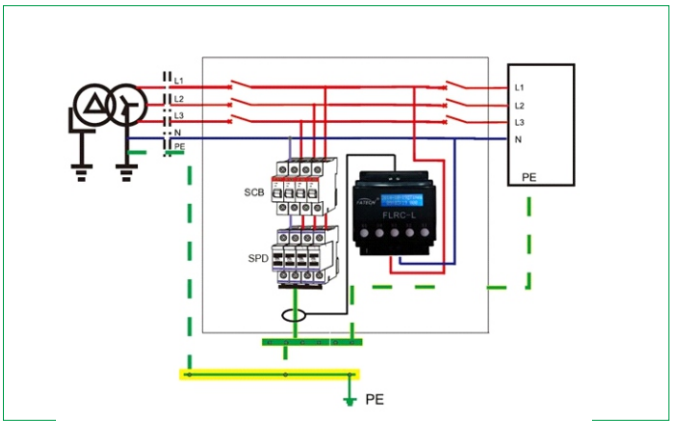


Type	FLRC-L/II
Working mode	220V AC
Indicator	0~125
Counting Current (rise time ≥8μs)	50A(8/20μs)
Maximum lightning current	150kA(8/20μs)
Date/ time indication	Y/M/D/H/M/S
Communication	RS485
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)
Enclosure material	UL94 V-0
Degree of protection	IP20
Operation temperature range / humidity / altitude	-40°C~+80°C / 30%~90% / 3000m

FLRC-L

- Digital type lightning counter is built with time clock function
- Can register 0~999 of lightning strikes, the data won't be lost in case of power failure.
- Can check the real time (year/month/day/hour/minute /second) of each lightning strike
- Number counting repetition up to 1 million times.
- Please reset when the counter registers125 lightning strikes,otherwises it will not count.
- The counter can clearly indicate whether the installation of the lightning surge damage suffered from the impact of lightning and power line. Because we are now using either Zinc oxide varistors or GDT module only when the physical damage to the structure of these devices, we know that lightning is installed where there is lightning; But after installing lightning counter, we'll know at the surge protection products installation place.





Type	FLRC-L
Working mode	220V AC
Indicator	0~125
Counting Current (rise time ≥8μs)	50A(8/20μs)
Maximum lightning current	150kA(8/20μs)
Date/ time indication	Y/M/D/H/M/S
Communication	RS485
Mounting	35mm Symmetrical rail (EN50022/DIN46277-3)
Enclosure material	UL94 V-0
Degree of protection	IP20
Operation temperature range / humidity / altitude	-40℃~+80℃ / 30%~90% / 3000m

FPT15-I

◆Introduction

FPT15-I Portable surge generator is designed for on-site testing of surge protective device and lightning strike counter.The surge generator is able to release max. discharge current 2.5kA, realized one-key operation of charging and discharging. Press the green “Start” button, the surge generator starts charging, the relay starts counting time until the device stop charging, while discharging. When time relay’s indication light off, the test end.

Note: Green “Start” button cannot be repeated click during testing.

◆ Characteristics:

-Portable type, small size.
-On site testing of lightning counter.
-Demonstration of SPD working.
-Realized one-key operation of charging and discharging
-Max. discharge current 2.5kA

◆ Panel Introduction

Charging Time	Control surge generator charging time. The original setting display as 3S, output voltage is 1100V, output surge current is 2.5kA. If need to reduce output surge current, you can reduce the charge time, that is to adjust the time of time relay, it can accurate to 0.1S.
Charging Voltage	Real-time voltage。
Start	Control charging and discharging procedure.
Test	Check the lamp ON or OFF before and after the test.
Output	Output current waveform, testing surge protective device or other products.

1.General	
Dimension (L*W*D)	360 X 345 X 160mm
Weight	11kg
Gase Material	steel
Operation Temp	0°C~40°C
Operation Humidity	≤75%
Storage Temp	-10°C~50°C
Power Supply	AC-220V

2. Technical data		
Allowable Tolerance of Impulse Current	Front time	8μs±10%
	Time to half value	20μs±10%
Surge current		2500A
Over-impulse range		<20%
Max Charging Voltage		1100V
Power consumption		50W
Charging Voltage Display		4 Digital LED display

SPD888

◆Introduction

SPD Tester 888 is designed for on-site testing of Surge Protective Devices (SPD) and the SPD's components;

This simple operation allows to measure a wide test range of the Nominal Voltage and Leakage Current.Users can determine the status of these components according to the tester readings through an easy-to-read LCD display.

◆ Characteristics:

Surge Protective Devices Tester, SPD Tester 888 is designed for on-site testing of Surge Protective Devices (SPD) and the SPD's components. This simple operation allows to measure a wide test range of the Nominal Voltage and Leakage Current. Users can determine the status of these components according to the tester readings through an easy-to-read LCD display.. Precise auto-sensing shutoff and audible function indication to obtain a highly accurate results.

◆ The tester can measure both type of SPD's components :

a) Voltage Limiting Type (MOV, TVS, Zener Diode)

The SPD tester injects a current of 1mA into the component and measure the Nominal Voltage. Then, the tester can use this voltage to find out the leakage current of the component.

b) Voltage Switching Type (Solid Discharge Tubes, Gas Discharge Tubes, Spark Gap)

The SPD tester injects an increasing voltage(10V/ms) into the component and measure the Break Down Voltage of the component.

1.General	
Dimension (L*W*D)	252*121*50mm
Weight	0.8kg
Gase Material	ABS
Color	Light Grey,Red and Block tester rod
Operation Temp	0°C~40°C
Operation Humidity	≤75%
Storage Temp	-10°C~50°C
Power Supply	1.5V Lr6 Alkaline Battery*4
Battery Life	500 measurements

2. Technical Specification				
	Measurement Range	Range	Resolution	Accuracy
1mA DC Reference Voltage	600V	50V~600V	1V	3%+5
	1000V	500V~1000V	1V	3%+5
Discharge Voltage	600V	50V~700V	1V	3%+5
	1000V	500V~1200V	1V	3%+5
Leakage Current	0~199.9μA	2.0~199.9μA	0.1μA	3%+10

3. Safety Parameter	
Maximum Overload Current	2mA
Maximum Output Voltage	≤1500V(No Load)
Case Protection Level	IP65
Calibration cycle	One a year(recommendation)

FATECH

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