Lightning Protector Unit (LPU)

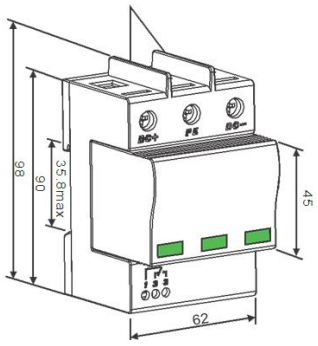
BONT®

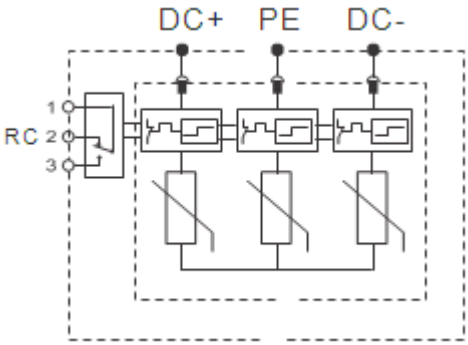
Bont Technologies GmbH

DC Surge Protective Device

LP-20C/3P-PV Series

Increase electric clearance
And creepage distance





Application range

LP-20C/3P-PV series Photovoltaic DC Surge Protective Devices are applied To solar photovoltaic power generation system or other DC power system, Providing protection against overvoltage arising from lightning. They can work normally at high altitude.

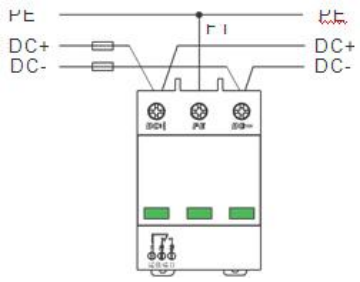
Main features

- Ultrawide electric clearance and creepage distance, high withstand stress levels, can meet the application requirement at a high altitude.
- Unnecessary to consider load current, plug & play design, live wire replacement, easy maintenance.
- Built-in temperature control and circuit breaking technology, high security performance, no follow current.
- Green lights in notice window indicates normal, any red indicates broken and need to replace, clear and easy distinguish.
- Optional telesignalisation monitoring interface, can realize remote monitoring.
- High working voltage, high current capacity, high safety and stability performance.

Main Technical Date

Type	LP-20C/3P-PV800	LP-20C/3P-PV1000
Maximum Continuous Operating Voltage Uc - V	800	1000
Voltage Protection Level Up kV	<3.6	<3.6
Voltage Limiting Ures(at 5kA) kV	<2.8	<2.8
Norminal Discharge Current (8/20μs)kA	20	
Maximum Discharge Current(8/20μs)kA	40	
Housing Material	Flame-retardant Reinforced Nylon(UL 94V-0)	
Recommended Grounding Conductor Cross-Sectional Area	10mm^2 Multi-Strand Flexible Wire	
Maximum Strength of Back-up Protection Fuse	80 AgL	
Protection class	Ip20	

Wiring Diagram



DC Surge Protective Device

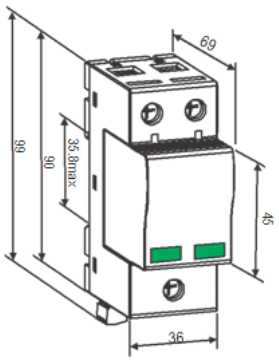
LP-20C/2P-PV Series

Application range

LP-20C/2P-PV series Photovoltaic DC Surge Protective Devices are applied To solar photovoltaic power generation system or other DC power system, Providing protection against overvoltage arising from lightning.

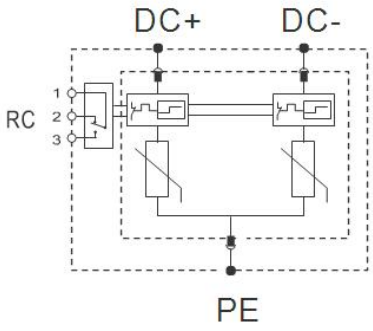
Main features

- Unnecessary to consider load current, plug & play design, live wire replacement, easy maintenance.
- Built-in temperature control and circuit breaking technology, high security performance, no follow current.
- Green lights in notice window indicates normal, any red indicates broken and need to replace, clear and easy distinguish.
- Optional telesignalisation monitoring interface, can realize remote monitoring.
- High current capacity, high safety and stability performance.

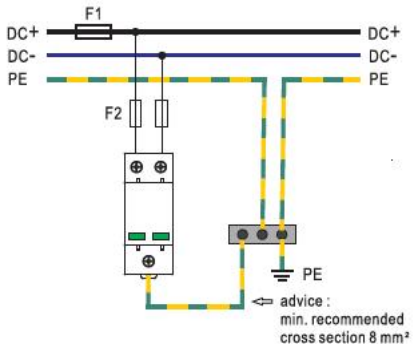


Main Technical Date

Type	LP-20C/2P-PV100	LP-20C/2P-PV500	LP-20C/2P-PV600
Maximum Continuous Operating Voltage Uc - V	100	500	600
Voltage Protection Level Up kV	<0.8	<1.8	<2.2
Voltage Limiting Ures(at 5kA) kV	<0.4	<1.3	<1.5
Nominal Discharge Current (8/20μs)kA	20		
Maximum Discharge Current(8/20μs)kA	40		
Housing Material	Flame-retardant Reinforced Nylon(UL 94V-0)		
Recommended Grounding Conductor Cross-Sectional Area	10mm^2 Multi-Strand Flexible Wire		
Maximum Strength of Back-up Protection Fuse	80 AgL		
Protection class	Ip20		

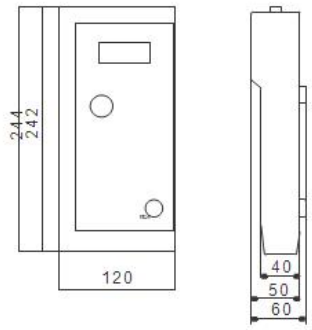


Wiring Diagram



Portable SPD Tester

LP-TEST 108B



Application range

LP-TEST 108B portable SPD tester is applied to test leakage current of MOV, break-over voltage and breakdown voltage of MOV, GDT, TVS etc.

Main features

- Small volume, convenient carrying.
- Quick response and accurate.
- LCD display, large font, clear and easy to identify.
- Battery and external power supply dual-use, easy to use.
- Power save design, durable.
- Intelligent testing with one-key, east to operate.

Main Technical Date

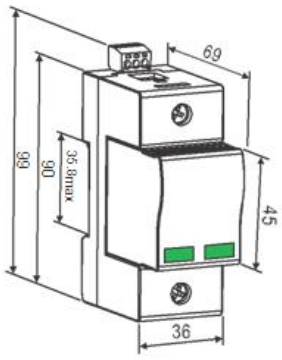
Part No.	LP-TEST108B			
Test method	Automatic			
Power	DC 9V / "AA" Size Batteries (4 pieces)			
	Leakage current	voltage	Resolution	Accuracy
reference voltage	(0.1μA accuracy)	0-1000V	1V	3%
Break-over voltage	-	0-1000V	1V	3%

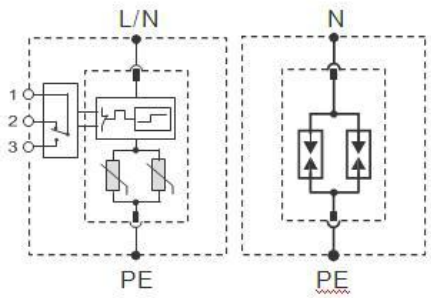
Instruction for Use

1. Select type of tester
   Select type of tester according to type of tested product ([A]: voltage-limiting type SPD or [B] voltage switch type SPD)
   [A]: Test break-over voltage and leakage current of product when current is 1 mA, and then display them on screen in order.
   [B]: Test breakdown of GDT, spark gap, TVS, etc.
2. Test mothed
   a. Connect testing pens to input and output ports.
   b. Press red button, and release it after hearing a sound of "beep", if on "A" side, first display break-over voltage, then display leakage current; if on "B" side, display breakdown voltage. (Unit of voltage is V, unit of leakage current is μA).

Synthesizing Type SPD for Power

LP-40B+C





Application Range

LP-40B+C series are applied to equipotential bonding of the building low voltage main distribution boxes, providing protection against the overvoltage arrising from lightning strike to the power class B & C or misoperation.

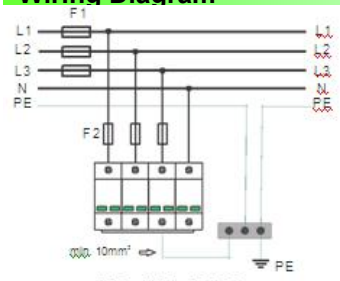
Main features

- Provide protection for power class B and class C simultaneously.
- Unnecessary to consider load current, plug & play design live wire replacement, easy maintenance.
- Built-in temperature control and circuit breaking technology, high security performance.
- Green light indicates normal, red light indicates broken and need to replace, clear and easy distinguish.
- Optional telesignalisation monitoring interface, can realize remote monitoring.
- Function of lightning protection backup, half of protection ability is available when either red light on.
- Assembled combination modules such as 1P+N, 2P, 3P+N, 4P, etc. Applied to various electric networks system.

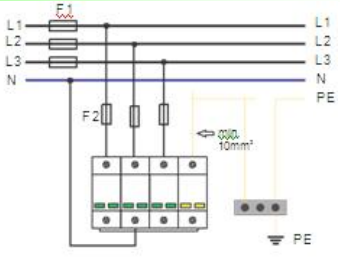
Main Technical Date

Type	LP-40B+C			LP-100/G (N-PE)
Maximum Continuous Operating Voltage Uc ~ V	275	385	690	255
Voltage Protection Level Up kV	＜2. 2	＜2. 4	＜3. 0	＜1. 2
Voltage Limiting Ures(at 5kA) kV	＜1. 0	＜1. 2	＜2. 0	＜0. 3
Norminal Discharge Current (8/20μs)kA	40			40
Maximum Discharge Current(8/20μs)kA	80			100
Impulsive Discharge Current limp(10/350) KA	1. 5			10
Housing Material	Flame-retardant Reinforced Nylon(UL 94V-0)			
Response Time ns	＜25			
Recommended Grounding Conductor Cross-Sectional Area	16mm² Multi-Strand Flexible Wire			
Combination Mode	1P	2P	3P	4P	1P+NPE	3P+NPE
Maximum Strength of Back-up Protection Fuse	125 AgL					

Wiring Diagram



LP-40B+C/4P



LP-40B+C/3P+NPE

SPD for Power Class C

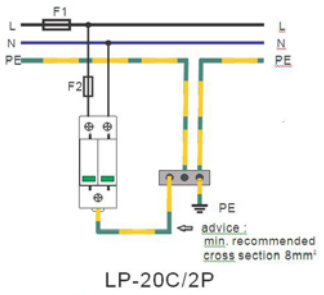
LP-20C

Application Range

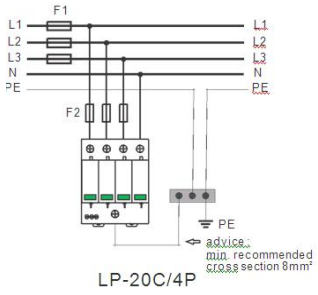
LP-20C series are applied to equi potemtial bonding of the building low voltage distribution boxes, providing protection against the overvoltage from lightning strike to the power class C or misoperation.

Main features

- Unnecessary to consider load current, plug & play design live wire replacement, easy maintenance.
- Built-in temperature control and circuit breaking technology, high security performance.
- Green light indicates normal, red light indicates broken and need to replace, clear and easy distinguish.
- Optional telesignalisation monitoring interface, can realize remote monitoring.
- Assembled combination modules such as 1P+N, 2P, 3P+N, 4P, etc. Applied to various electric networks system.



LP-20C/2P

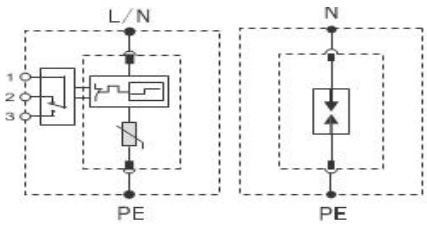


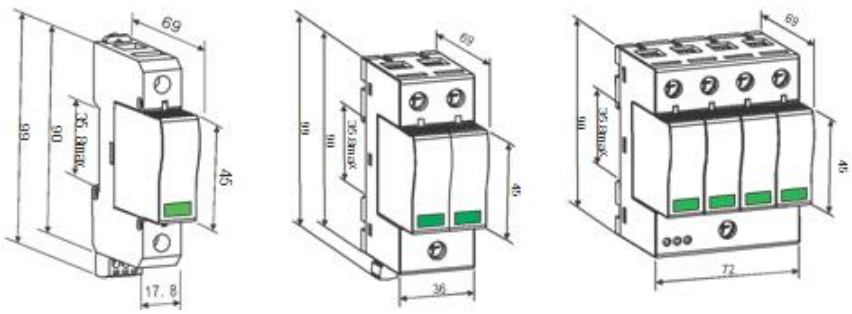
LP-20C/4P

Main Technical Date

Type	LP-20C				LP-65/G (N-PE)	
Maximum Continuous Operating Voltage Uc ~ V	75	275	385	690	255	
Voltage Protection Level Up kV	<0.8	<1.5	<1.8	<2.7	<1.2	
Voltage Limiting Ures(at 5kA) kV	<0.4	<1.0	<1.3	<2.0	<0.3	
Norminal Discharge Current (8/20μs)kA	20				25	
Maximum Discharge Current(8/20μs)kA	40				65	
Housing Material	Flame-retardant Reinforced Nylon(UL 94V-0)					
Recommended Grounding Conductor Cross-Sectional Area	10mm² Multi-Strand Flexible Wire					
Combination Mode	1P	2P	3P	4P	1P+NPE	3P+NPE
Maximum Strength of Back-up Protection Fuse	80 AgL					

Wiring Diagram





SPD for Power Class D

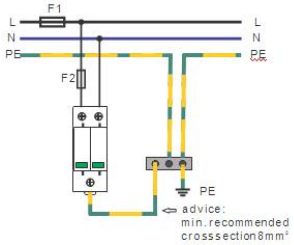
LP-10D

Application Range

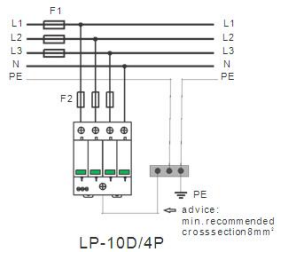
LP-10C series are applied to equi potemtial bonding of the building terminal distribution boxes, providing protection against the over voltage arising from lightning strike to the power class D or misoperation.

Main features

- Unnecessary to consider load current, plug & play design live wire replacement, easy maintenance.
- Built-in temperature control and circuit breaking technology, high security performance.
- Green light indicates normal, red light indicates broken and need to replace, clear and easy distinguish.
- Optional telesignalisation monitoring interface, can realize remote monitoring.
- Assembled combination modules such as 1P+N, 2P, 3P+N, 4P, etc. Applied to various electric networks system.



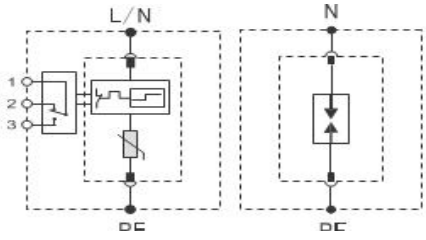
LP-10D/2P



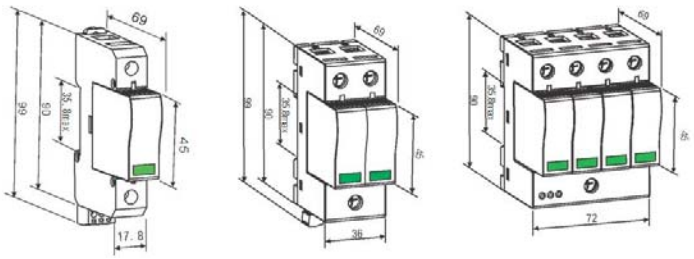
LP-10D/4P

Main Technical Date

Type	LP-10D			LP-65/G (N-PE)
Maximum Continuous Operating Voltage	48	275	385	255
Voltage Protection Level Up kV	<0.6	<1.3	<1.5	<1.2
Voltage Limiting Ures(at 5kA) kV	<0.4	<1.0	<1.3	<0.3
Norminal Discharge Current (8/20μs)kA	10			25
Maximum Discharge Current(8/20μs)kA	20			65
Open circuit voltage Uoc KV	20			-
Housing Material	Flame-retardant Reinforced Nylon(UL 94V-0)			
Recommended Grounding Conductor Cross-Sectional Area	10mm² Multi-Strand Flexible Wire			
Combination Mode	1P	2P	3P	4P	1P+NPE	3P+NPE
Maximum Strength of Back-up Protection Fuse	50 A gL					

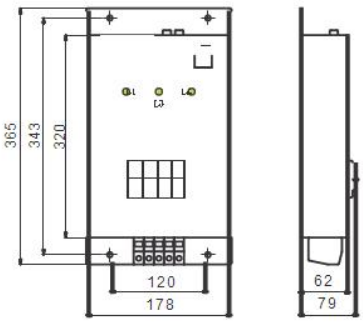


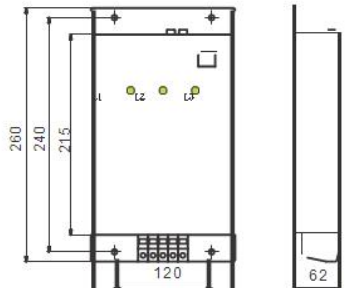
Wiring Diagram

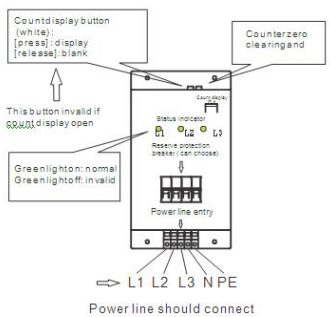


Power Surge Protective Box

LP-20C/Y







Application Range

LP-20C/Y are applied to equipotential bonding of the low voltage main or distribution boxes in the building, providing protection against the over voltage arising from the lightning strike to power supply or misoperation.

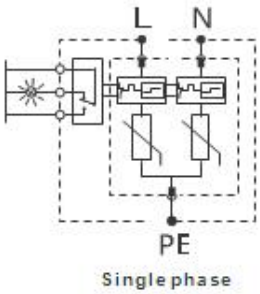
Main features

- Convenient wiring, standard connection components.
- Built-in temperature control and circuit breaking technology, high security performance.
- Green light on indicates normal, off indicates broken, clear and easy distinguish.
- Function of lightning count, capable of storage and display of lighting frequency.
- Display status of normal on and off.
- Totally-enclosed metal shell, good shielding effectiveness, free maintenance.

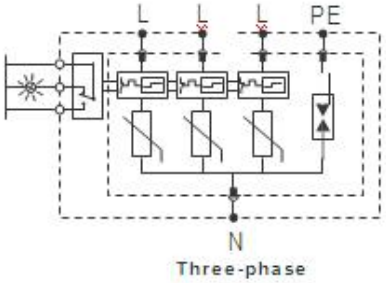
Main Technical Date

Part No.	LP-20C/Y3C	LP-20C/Y5C	LP-40B+C/Y3C	LP-40B+C/Y5C
	LP-20C/Y3CS	LP-20C/Y5CS	LP-40B+C/Y3CS	LP-40B+C/Y5CS
Rated working voltage Ue V	220V	380V	220V	380V
Max continuous working voltage Uc V ~	385		385	
Voltage protection level Up V	<2.5		<3.0	
Nominal discharge current In(8/20)	20kA		40kA	
Max discharge current Imax (8/20)	40kA		80kA	
Reserve protection breaker	40A/2P	40A/4P	63A/2P	63A/4P
Protection principle	2P	3P+NPE	2P	3P+NPE
Response time ns	<25			
Leakage current 75% Uc 1mA	<20μA			
Enclosure material	Aluminum alloy			
Cross-sectional area of earth lead	10mm² Multi-Strand Flexible Wire			
Counter starting current	≥ 400A			
Count range	0-99			

Wiring Diagram



Single phase



Three-phase

SPD for Signal

LP-V36

Application Range

The LKS Lightning Protector unit model LP-V is design specially for automation process Control Instruments system use. It use to protect both side of the equipment. The built in arrestor can also be widely used for transmission system by current loops. It absorbs surge only without affecting instrumentation signal and its design for DIN rail mounting.

Main features

- Protect Two wire system line
- Modular design with DIN mount
- Quick response

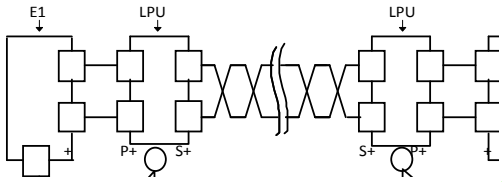
Main Technical Date

Nominal Voltage	5V, 12V, 24V
Max. Claim Voltage	7V, 15V, 30V
Discharge Voltage	Between lines 12V or more
	Between line & ground 500V or less
Max Surge Voltage	2.0 time of Nominal Voltage
Response Time	< 0.001 μs or less
Discharges Current	20kA
Max. Load Current	100mA for signal and 2A for power line
Internal Series Resistance	Approximately 3 - 5R(including return)
Enclosure	Flame retardant enhanced nylon
Surge withstand Capability	ANSI or IEE62.41
Design according to	IEC61643-21
Operating Temperature	- 40 ºC to 70ºC
Operating Humidity	30 ~ 90% RH Max. (Non-Condensing)
Mounting	DIN Rail - Standard
Size	W18 x H90 x D66 (mm)
Weight	90g
Certification Standard	IEC61643-21:2000
	EN61000-6-1:2007
	EN61000-6-3:2007

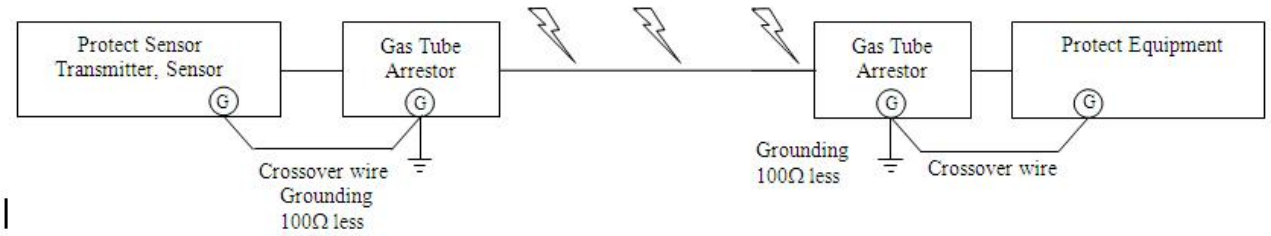
***Note: For effective protection earth-link resistance must be below 5ohm

Connection Diagram:

Connection

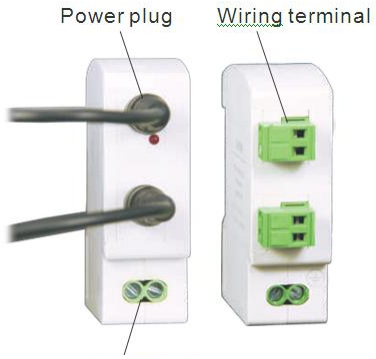


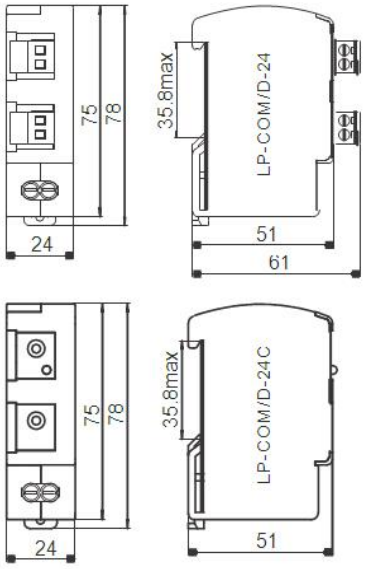
The idea of protection system link

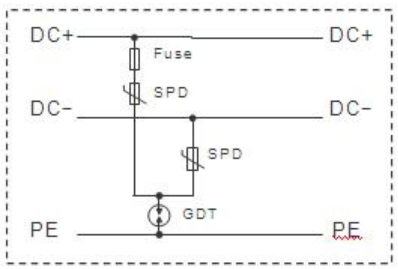


SPD for DC Power

LP-COM/D







Application Range

LP-COM/D series surge protective devices for DC power are applid to the front side of the device in power supply line of different voltage, such as computer system, modem, signal control, etc. Provide protection against over voltage arising from lightning or misoperation.

Main features

- Adopt 35mm standard DIN rail, convenient for installation and use.
- Adopt multilayer protection technology, strong protection ability high reliability.
- Build in 4mm² elevating terminal strong wiring ability, more reliable grounding.
- Small volume, exquisite, flexible and convenience combination, strong adaptability.

Main Technical Date

Part No.	LP-COM/D-5 LP-COM/D-5C	LP-COM/D-12 LP-COM/D-12C	LP-COM/D-24 LP-COM/D-24C	LP-COM/D-48	LP-COM/D-110	LP-COM/D-230
Rated working voltage Ue V	5	12	24	48	110	230
Max continuous working voltage Uc V	8	18	36	75	180	350
Voltage protection level Up V	<400	<400	<400	<500	<800	<1500
Nominal discharge current In(8/20) kA	2.5kA			5kA		
Max discharge current Imax (8/20) kA	5kA			10kA		
Connection mode	Wiring terminal					
Leakage current	None					
Response time	25ns					
Enclosure material	Enhanced flame retardant nylon (UL94V-0)					
Installation mode	35mm standard DIN rail installation					
Cross-sectional area of earth lead	3mm² multi stranded / flexible					

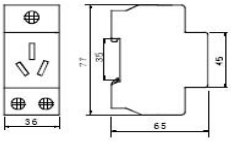
Direction for Use

1. The protector installed in the power channel in the front of protected device
2. Connect the earthing wire of the protector to the equalizing ring of the lightning protection system, length of earth line should be less than 0.5m.
3. Free special maintenance when fault occurs in the system, dismantle the protector , then check if the system resume normal state, it is that the protector was broken and need to be replace.

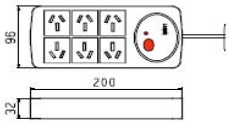
Surge Protective Socket

LP-CZ

Appearance and installation dimension

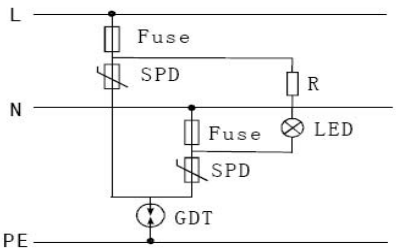


LP-CZ/PDU appearance and dimension



LP-CZ/06 Outline Dimension

Schematic circuit diagram



Application range

LP-CZ series socket power lightning protection device are applicable to the front side of various terminal consumer equipment of AC not more than 220V and rated current less than 10A, providing protection against overvoltage arising from lightning to the power supply line and misoperation. (option from standard IEC61643-1 and GB50343)

Main features

- ☆ High current capacity, low residual voltage.
- ☆ Modularized design, standard socket design, convenient for installation and use.
- ☆ Introducing multilayer protection technology, strong protection ability, high reliability.
- ☆ Build-in temperature fuse, safe and reliable
- ☆ Red pilot lamp on indicate normal, off indicate invalid.

Main technical data

Type	LP-CZ/PDU	LP-CZ/06
Rated working voltage Un V	220	220
Max. continuous Voltage Uc V	320	320
Voltage protection level Up V	<1.3	<1.5
Part No.	086201	086202
Rated working current Ie A	10	
Norminal discharge current In (8/20μs) kA	10	
Max. Discharge current Imax (8/20μs) kA	20	
Connection mode	Standard GB three-position socket	
Response time ns	<25	
Enclosure material	enhanced flame retardant nylon (flame retardancy: V0)	
Method of installation	35mm standard DIN rail installation	
Cross-sectional area	≥2.5 mm² stranded/flexible	

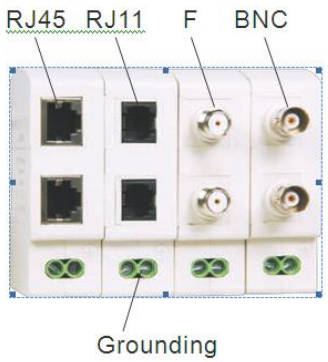
Installation instruction

1. The protector connected in parallel between the power channel and the protected device.
2. Connect the input terminal to the power wire or insert the input terminal into the power socket, and then insert the power wire of protected device into socket, make sure the reliable connection.
3. Connect the earthing wire of the protector to the equalizing ring of the lightning protection system
4. If the red indicator light on after circuit be electrified. The lightning protection work is normal.

CE
CERTIFICATION

DIN Rail SPD for Signal

LP-C Series

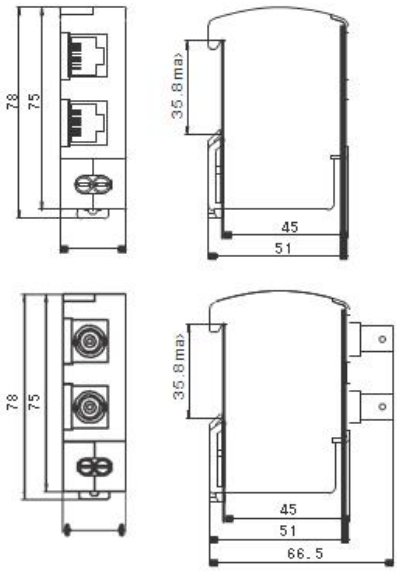


Application Range

LP-C series DIN rail surge protective devices are applied to the front side of computer network, monitoring video system, telephone system, control system, CATV, etc, providing protection against over voltage arising from lightning strike to the signal line and misoperation.

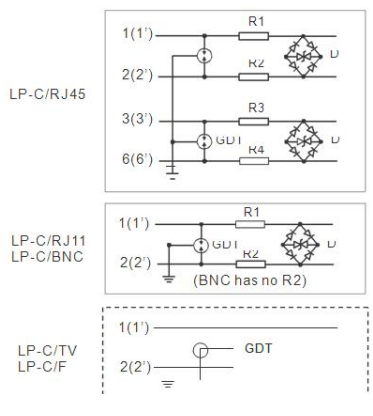
Main features

- Adopt 35mm standard DIN rail, convenient for installation and use.
- Adopt multilayer protection technology, strong protection ability high reliability.
- Build in 4mm² elevating terminal strong wiring ability, more reliable grounding.
- Small volume, exquisite, flexible and convenience combination, strong adaptability.



Main Technical Date

Part No.		LP-C/RJ45 LP-C/RJ45/K	LP-C/RJ11	LP-C/BNC	LP-C/TV	LP-C/F
Rated working voltage Ue V		5	110	12	24	24
Max continuous working voltage Uc V		8	130	18	36	36
Voltage protection level Up V	Line to Line	<45	<350	<80	<80	<80
	Line to earth	<500	<500	<750	<750	<750
Nominal discharge current In(8/20) kA		2.5kA	2.5kA	5kA	5kA	5kA
Connection mode		RJ45	RJ11	BNC	TV	F
Transmission rate Vs		100M 1000M	40M	16M	16M	16M
Insertion loss dB		≤ 0.5				
Enclosure material		Enhanced flame retardant nylon (UL94V-0)				
Installation mode		35mm standard DIN rail installation				
Cross-sectional area of earth lead		3mm² multi stranded / flexible				



Direction for Use

13. The protector connected in series between signal channel and the protected device.

14. Connect the earthing wire of the protector to the equalizing ring of the lightning protection system, length of earth line should be less than 0.5m.

15. Free special maintenance when fault occurs in the system, dismantle the protector , then check if the system resume normal state, it is that the protector was broken and need to be replace.

Monitoring Integration SPD

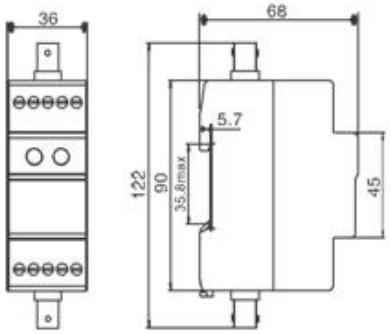
LP-XA230BC

Application Range

LP-XA230BC series triad integration SPD are applied to surge protection of power control, signal, BNC video signal or RJ45 Ethernet with characteristics of low clamping voltage, quick response etc. which can release and prevent the damage to the protected device arising from inductive surge from power and control wire or the other surge over voltage. They are widely used in the field of serucity moniting system “Global E-eye” system of telecom, data room demand so on.

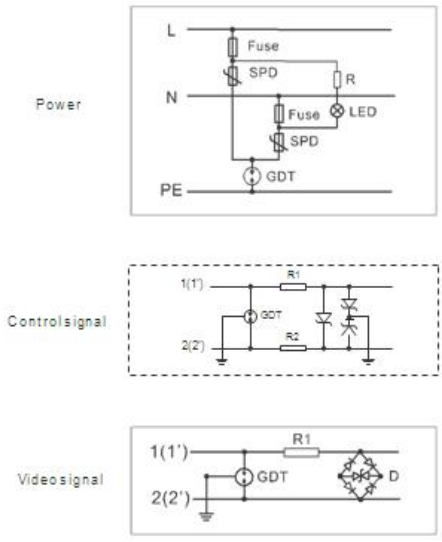
Main features

- Modularization DIN rail design, convenient for installation and replacement.
- Built in temperature control and circuit breaking technology and multi protection technology, strong protection ability, high reliability.
- Green light on in notice window indicates power normal, off indicates broken, clear and distinguished.
- Function of multi-protection : power, video, signal, control signal, RJ45.
- Build in 4mm² elevating earthing terminal, more reliable earthing.



Main Technical Date

Part No.		AC (A)	DC (D)	Control signal(C)	BNC
Rated working voltage Ue V		230	24	12	12
Max continuous working voltage Uc V		320	36	18	18
Voltage protection level Up V	Line to Line	-	-	<80	<80
	Line to earth	<1400	<500	<750	<750
Nominal discharge current In(8/20) kA		5	2.5	5	5
Max discharge current Imax (8/20) kA		10	5	-	-
Connection mode		Wiring terminal	Wiring terminal	Wiring terminal	BNC
Transmission rate Vs		-	-	2M	16M
Insertion loss dB		-	-	≤0.5	
Enclosure material		Enhanced flame retardant nylon (UL94V-0)			
Cross-sectional area of earth lead		3mm²multi stranded / flexible			

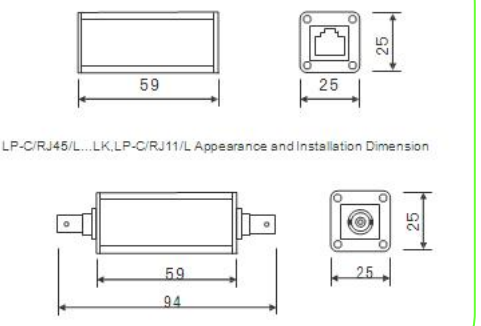


Function Description

Part No.	Protection Items		
	Power	Video Signal	Control Signal
LP-XA230BC/3A	230VAC	√	√
LP-XA230BC/2A	230VAC	√	O
LP-XA230BC/3D	24VDC	√	√
LP-XA230BC/2D	24VDC	√	O

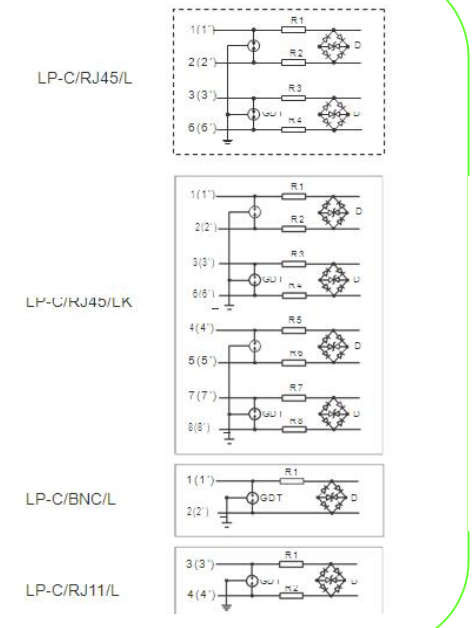
Aluminium Shell SPD for Signal

LP-RJ45/BNC/RJ11



LP-C/RJ45/L...LK,LP-C/RJ11/L Appearance and Installation Dimension

LP-C/BNC/L Appearance and Installation Dimension



Application Range

LP-C/RJ45/L~series surge protective device areapplied to the electronic equipment of data system, such as moderm in the computer network, server, working station, HUB.

LP-C/BNC/L ~ series surge protective devices for video signal are applied to coaxial transmission device such as mainthin cable, thick cable, network wire, CATV, video monitoring device, public television, satellite television receiver and VOD system etc.

LP-C/RJ11/L ~ surge protective devices are applied to telephone, fax, program control machine room, etc.

They can prevent above system or equipments from the permanent damage or surge voltage caused by lightning or industrial noise etc.

Main features

- Aluminium profile shell, attractive and durable, good shielding effect.
- Standard RJ45 interface, convenience to use, reliable connection.
- Adopt multilayer protection circuit, selecting the latest high-speed surge protection device of quick response, low output residual voltage and super transmission performance.

Main Technical Date

Part No. / Technical data		LP-C/RJ45/L	LP-C/RJ45/LK	LP-C/BNC/L	LP-C/RJ11/L
Rated working voltage Ue V		5V	5V	12V	110V
Max continuous working voltage Uc V		8V	8V	18V	130V
Nominal discharge current In(8/20)		2.5kA	2.5kA	5kA	2.5kA
Voltage protection level Up V	Line to line	＜45V	＜45V	＜80V	＜350V
	Line to earth	＜500V	＜500V	＜750V	＜500V
Transmission rate Vs		100M	1000M	16M	40M
Protection form		1,2,3,6 lines	1,2,3,4,5,6,7,8 lines	coaxial cable	3,4 lines
Insertion loss dB		≤ 0.5dB			
Response time Ta	Line to line	≤ 1 ns	≤ 1 ns	≤ 1 ns	≤ 1 ns
	Line to earth	≤ 100 ns	≤ 100 ns	≤ 100 ns	≤ 100 ns
Work temperature		-40~70Deg C			

Function Description

1. The protector connected in series between signal channel and protected device.
2. Connect the earthing wire of the protector to the equalizing ring of the lightning protection system, length of earth line should be less than 0.5m.
3. The surge protector is need less for maintenance, when it is suspicious of the protector fault in system operation, please dismantle the spd module and then check it. If the system recovers normal, spd has been broken down and needs replacement. During replacing spd module, circuit will not be cut of and can be work normal.

SPD for Antenna Feeder

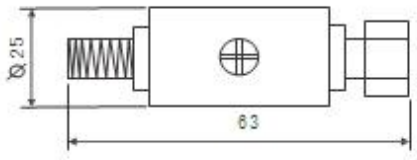
LP-TK Series

Application Range

LP-TK series SPD are applied to antenna feeder equipment and transceiver system, such as mobile communication base station,wireless local telephone, the third generation mobile communication TD-SCDMA, GPRS global locator MMDS, microwave spectrum communicationsm satellite and microwave communication station and etc. Can prevent above electronic system device from damage arising from surge radio wave impulse.

Main features

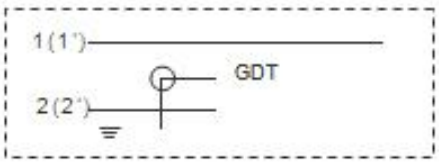
- High current capacity, low residual voltage
- Wide frequency bandwidth, small standing wave ration, low insertion loss.
- Various conductor available, strong adaptation ability.
- Standard interface, convenient for installation and replacement.
- Anti-riot design, safe and reliable.



Example: F interface

Main Technical Date

Part No.	LP-TK
frequency range	0-2.5GHz
Rated working voltage Ue V	12V
Max continuous working voltage Uc V	18V
Voltage protection level Up V	<200V
Nominal discharge current In(8/20)	10kA
Insertion loss	≤ 0.5dB
Connection mode	Connect in series
Enclosure material	Copper
Response time ns	<100ns
Interface type	F, N, BNC, SMA, TNC, etc.
Standing wave radio	≤12



Function Description

4. The protector connected in series between signal channel and protected device. In order to avoid lightning the antenna feeder lightning protector device should be connected in series at the output terminal of antenna and input terminal of protected device respectively.

5. Connect the earthing wire of the protector to the equalizing ring of the lightning protection system; length of earth line should be less than 0.5m.

6. The surge protector is need less for maintenance, when it is suspicious of the protector fault in system operation, please dismantle the SPD module and then check it. If the system recovers normal, SPD has been broken down and needs replacement. During replacing SPD module, circuit will not be cut of and can be work normal.

Lightning Counter

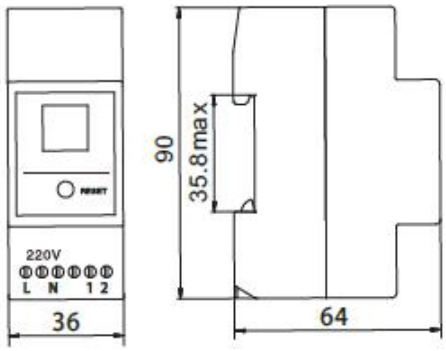
LP-JS

Application Range

LP-JS lightning counter is used to test and record the discharge frequency of the surge protector (record the lightning current rush frequency beyond certain degree which is convenient for the user to do statistics and analysis on the lightning situation in specific area. It can be used accompanying with various surge protectors, also can be used as the supported product of the surge protective box.

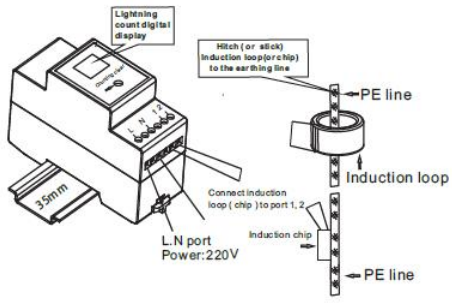
Main features

- Large counting range, wide application range.
- Sensitive response, precision counting, no mal operation. 2-bit digital display, easy and clear to recognize.
- No data loss after power off.
- DIN rail installation, convenient for installation and replacement.
- Adopt single chip technology, advanced and reliable structure.



Main Technical Date

Rated working voltage	220VAC
Effective action current	≥1kA
Counting number	0-99
Sampling mode	Inductance coil
Enclosure material	ABS
Installation mode	35mm standard DIN rain installation
Wiring mode	Wiring terminal
Working temperature	-40 °C to 70 °C

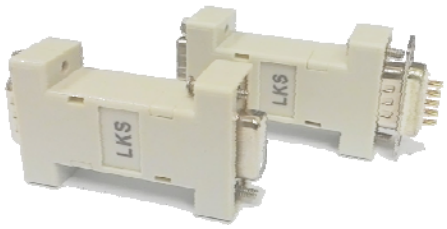


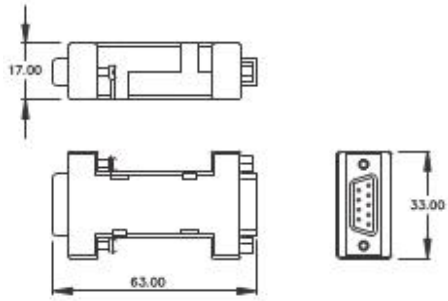
Function Description

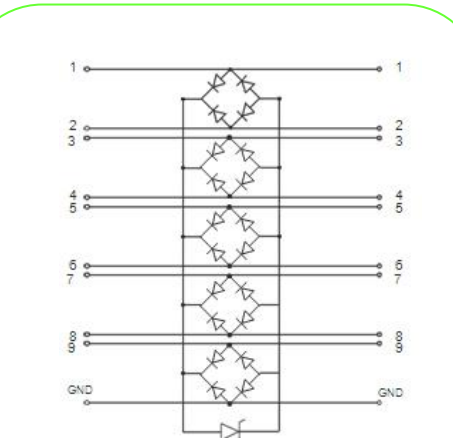
7. Install the lightning counter on the 35mm standard DIN rail.
8. Connect the induction coil of lightning counter to the port 1, 2, (no direction). Hitch (or stick) the inductions loop (or clip) to the earthing line.
9. Connect power line (220VAC) to L, N port of lightning counter and then LED is on.
10. Press " RESET" button if the initial state of the counter is not zero.
11. In case of malfunction of lightning counter, the using place should not have strong source of interface.

Signal SPD

LP-DB9 Series







Application Range

LP-DB9 Series surge protective device are applied to the equipment for the surge protective with DB9 interface, which can prevent the signal equipment from the permanent damage or transient interruption arising from inductive overvoltage, overcurrent and the other transient surge voltage caused by lightning or industrial noise, etc.

Main features

- Standard DB9 interface, convenience for installation and replacement.
- Choosing the latest high-speed surge protective component quick response, low output residual voltage and super transmission performance.
- Small volume, exquisite, strong applicability

Main Technical Date

Part No.	LP-C/DB9-5	LP-C/DB9-12
Typical application	RS-232	RS-485
Rated working voltage Ue V	5V	12V
Max continuous working voltage Uc V	8V	18V
Voltage protection level Up V	<80V	<80V
Nominal discharge current In(8/20)	100A	
Impulse voltage (10/700)	1.5kV	
Connection mode	DB9	
Transmission rate Vs (bit/s)	45M	
Insertion loss	≤ 0.5	
Enclosure material	ABS	

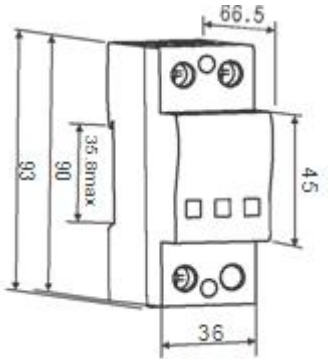
Function Description

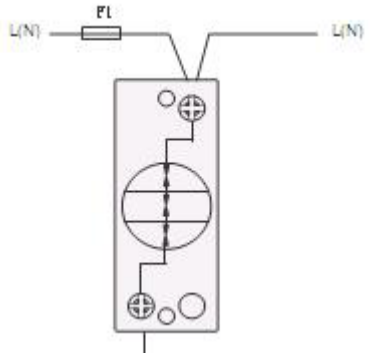
12. The surge protector is connected in series between signal channel and the protected equipment.

13. The surge protector is needless for special maintenance, when it is suspicious of the protector fault in system operation, please dismantle the SPD module and then check. If the system recovers normality, SPD has been broken down and needs replacement. During replacing SPD module, circuit will not be cut off and can be work normal.

Switch-Type SPD

LP-50A





Application range

LP-50A are applied at the low voltage side of transformer with rated working voltage 230/400V or zone between LPZO and LPZ1, which can protect CLASS I or CLASSI+II against overvoltage arising from the lightning or surge. This series products are not applied to the system with the expected short-circuit current beyond rated breaking follow current. The fuse must be connected to the front side of the production series.

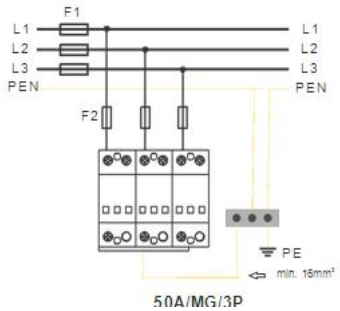
Main features

- With function of protecting CLASS I+II
- Large current capacity, low residual voltage, totally enclosed structure, no arc escape
- Build in multi-gap, continuous voltage, strong ability of off follow-current.
- Many protection mode(L-N, L-PE, N-PE) & combination (2P,3+NPE, 4P) apply to various power network.

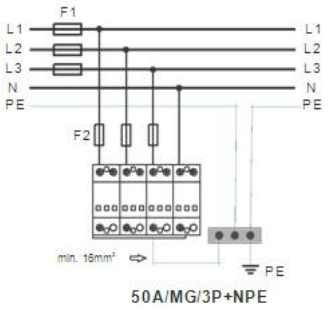
Main Technical Date

Type		LP-50A/MG	LP-50A/G	LP-50A/GN
Rated Working Voltage Ue ~ V		230/400		
Maximum Continuous Operating		320		255
Voltage Protection Level Up kV		＜1.5		＜0.8
Impulsive Discharge Current Iimp(10/350) KA		25		50
Component & Protection Level		MOV+GDT(class I+II)	GDT(class I)	GDT(class I)
Housing Material		Flame-retardant Reinforced Nylon(UL 94V-0)		
Response Time ns		＜100		
Recommended Grounding Conductor		16mm²Multi-Strand Flexible Wire		
Combination Node		2P、3P、4P、3P+NPE		
Rated Backup Follow Current If(at 50/60Hz)	at Uc: 255V	5kA		1kA
	at Uc: 320V	3kA		0. 3kA
Insulation Resistance		>5M Ω		
Max Intensity Of Backup Fuse (If mains>250A)		250AgL		

Wiring Diagram



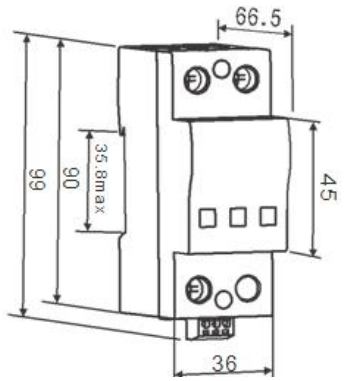
50A/MG/3P

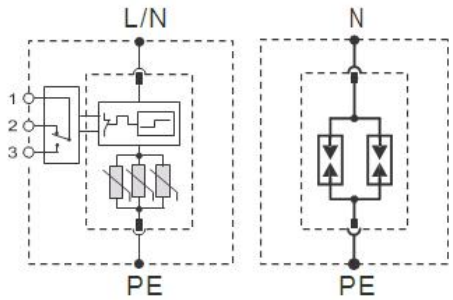


50A/MG/3P+NPE

SPD for Power Class B

LP-75B





Application range

LP-75B series are applied to equipotential bonding of the building low voltage main distribution boxes, providing protection against the overvoltage arising from lightning strike to the power class B or misoperation.

Main features

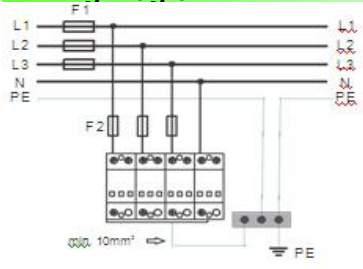
- Large current capacity, low residual voltage.
- Build-in temperature control and circuit breaking technology, high security performance.
- Lighting off in notice window indicates normal, red indicates broken, clear and easy distinguish.
- Optional telesignalisation monitoring interface, can realize remote monitoring.
- Realizable wiring to reduce conductor resistance.
- Assembled combination modules such as 1P+N, 2P, 3P+N, 4P etc, applied for various electric network system.

Main Technical Date

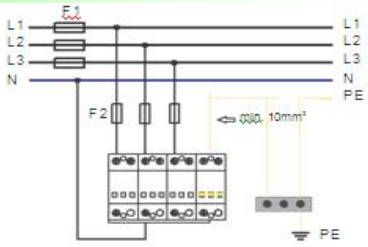
Type	LP-75B		LP-100/G/L (N-PE)
Maximum Continuous Operating Voltage Uc ~ V	275	385	255
Voltage Protection Level Up kV	＜2. 3	＜2. 5	＜1. 2
Voltage Limiting Ures(at 5kA) kV	＜1. 0	＜1. 2	＜0. 3
Norminal Discharge Current (8/20μs)kA	80		40
Maximum Discharge Current(8/20μs)kA	120		100
Impulsive Discharge Current limp(10/350) KA	10		10
Housing Material	Flame-retardant Reinforced Nylon(UL 94V-0)		
Response Time ns	＜25		
Recommended Grounding Conductor Cross-Sectional Area	16mm^2 Multi-Strand Flexible Wire		

Combination Mode	1P	2P	3P	4P	1P+NPE	3P+NPE
Maximum Strength of Back-up Protection Fuse	160 AgL					

Wiring Diagram

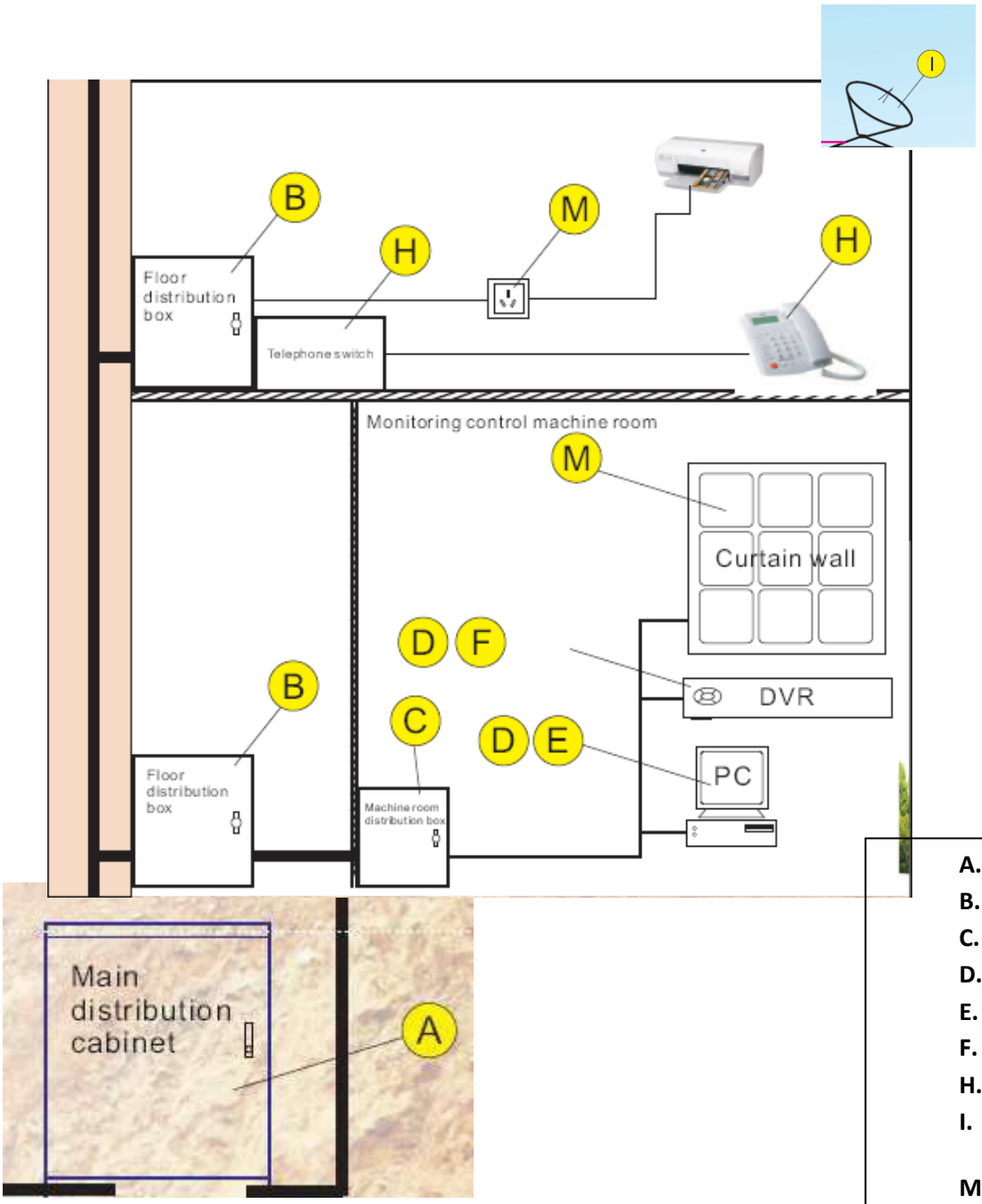


LP-75B/4P



LP-75B/3P+NPE

Lightning Protection System Application



A. LP-40B/1+NPE
B. LP-20C/1+NPE
C. LP-A230/1+NPE
D. LP-CZ/06
E. LP-C/RJ45
F. LP-C/BNC
H. LP-RJ11
I. LPTK/1

M. LP-COM

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