LERDN™

Lightning protection solution for power supply syster

Lerdn surge protection solution

◆ Quality policy and environmental guideline

LERDN carried out the management work strictly in accordance with the ISO9001 and ISO14001,In the whole process,such as developmen manufacturing,circulation,use,consumption and waste,etc. LERDN constantly improve the quality of our product and service by strict self--discipline,meanwhile,LERDN consciously reduce and constantly improve the activity regarding environment pollution and security threat, so as to seek harmonious intergrowth with environment.

◆ Design basis

GB50057-94(2000 edition) Code for design of lightning protection of buildings / GB50343-2004 Technical Code for lightning protection of buildings electronic information system Shanghai stipulation on design and audit of construction lightning protection project (abbreviatio Shanghai regulations on design of lightning protection)

◆ Devision of lightning protection zone

The division of lightning protection zone divide the protected and controlled building under lightning electromagnetic pulse environment into different lightning protection zone(LPZ).

Lightning protection zone is divided into: direct lightning non-protection zone, direct lightning protection zone, No. 1 protection zone, No.2 protection zone, subsequent protection zone(diagram3.2.2), and complied with the stipulation as below:

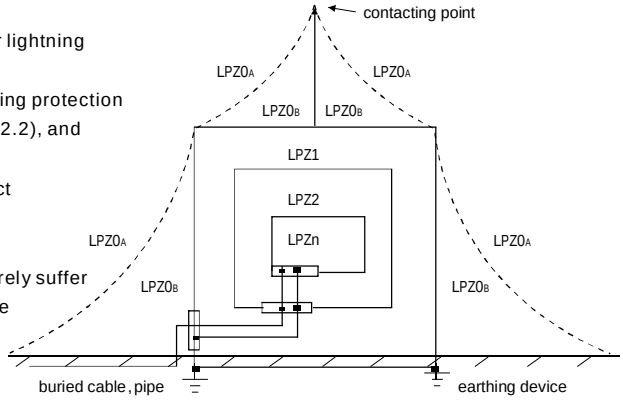
1 direct lightning non-protection zone(LPZOA):No electromagnetic attenuation,each object rarely suffer from damage of direct lightning strike, which belong to complete exposition non-protection zone

2 direct lightning protection zone(LPZOB):No electromagnetic attenuation, each object rarely suffer from damage of direct lightning strike, which belong to complete exposition protection zone

3 No.1 protection zone(LPZ1):due to the shielding measures of the building, the lightning current go through each conductor is less than that in LPZOB, the electromagnetic preliminary attenuated,each object is never damaged by lightning strike.

4 No.2 protection zone(LPZ2): the subsequent protection zone that the lightning current and the electromagnetic need to be further reduced

5 subsequent protection zone(LPZn):the subsequent protection zone that lightning electromagnetic pulse need to be further reduced, in order to protect the precision equipment of the stage 3.



Note: : equipotential earthing terminal electrode at the interface of different lightning protection zone.

: exterior wall of building , room or other shield for shieldi

dashed line : protection range calculated according to Rolling-ball Meth

Lightning protection level option table of electronic information system of the building

lightning protection level	Electronic information system
Level A	● large computer center, large communication center, national financial center, bank, airport, large port,train hub station,etc ● Grade A safety prevention system,such as network TV monitoring and alarm system of national cultural relics, archival bank ● large medical equipment, five-star hotel
Level B	● medium computer cente,medium communication center,mobile communication base station.large stadium (gymnasium) monitoring system,securities center. ● Grade B safety prevention system,such as network TV monitoring and alarm system of national cultural relics,archival bank ● radar station, microwave station,expressway monitoring and charge system ● media medical equipment ● four-star hotel
Level C	● miniature communication center,telecommunication bureau. ● large and medium CATV system. ● three-star or below hotel.
Level D	Electronic system device in common use except for grade A, grade B and grade C.

Power source line SPD nominal discharge current parameter value (GB50343/Shanghai stipulation on design of lightning protection)

Lightning protection level	Interface of LPZ0 and LPZ1		Interface of LPZ1 and LPZ2,LPZ2 and LPZ3		
	the stage 1 nominal discharge current		the stage 2 nominal discharge current	the stage 3 nominal discharge current	the stage 4 nominal discharge current
	10/350μs	8/20μs	8/20μs	8/20μs	8/20μs
Level A	≥20/12.5	≥80/40	≥40/20	≥20/10	≥10/5
Level B	≥15/12.5	≥60/40	≥40/20	≥20/10	≥5/5
Level C	≥12.5/10	≥50/30	≥20/10		
Level D	≥12.5/6.5	≥50/30	≥10/10		

Remarks: the unit of nominal discharge current (kA)

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LERDN lightning protection product type selection table

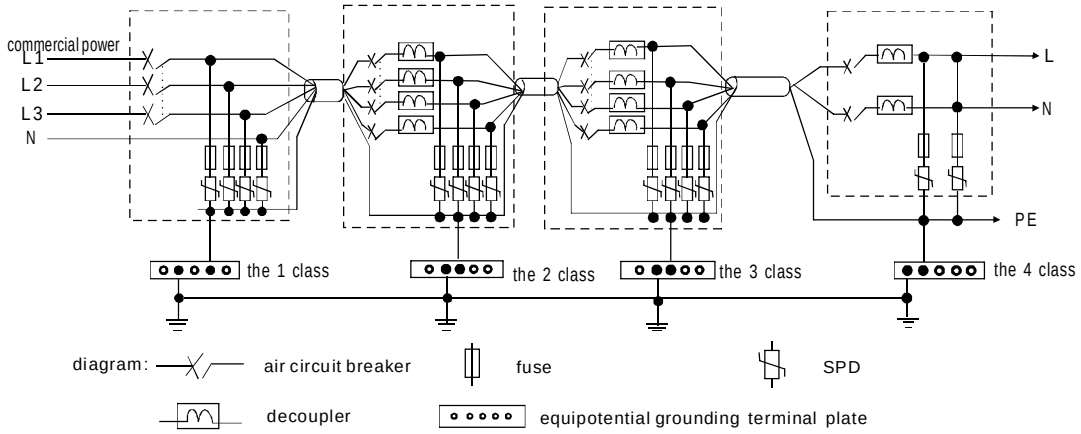
Lightning protection level	The 1 class	The 2 class	The 3 class	The 4 class
Level A	LDY-75B	LDY-40B	LDY-20C	LDY-10D
Level B	LDY-75B	LDY-40B	LDY-20C	LDY-10D
Level C	LDY-40B	LDY-20B	LDY-10D	
Level D	LDY-40B	LDY-20B		

LERDN lightning protection product specific parameter

Type	Nominal discharge current In	Max.discharge current Imax	Protection level Up
LDY-75B	75kA	120kA	<2.3kV
LDY-40B	40kA	80kA	<2.2kV
LDY-20C	20kA	40kA	<1.8kV
LDY-10D	10kA	20kA	<1.5kV

♦ Lightning protection device installation position

Impulse resistance overvoltage class	I	II	III	IV
Impulse resistance overvoltage: rated value	6KV	4KV	2.5KV	1.5KV
SPD installation position	main distribution cabinet	main distribution cabinet	distribution cabinet for information computer room	information device need special protection



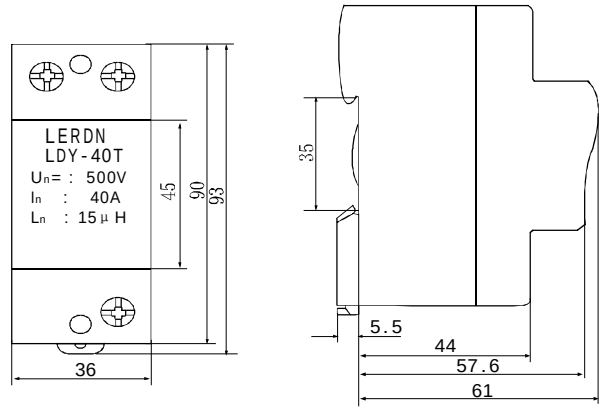
Note: 1、when the length between the voltage-switching type protector and the voltage limiting type protector less than 10m or length between both voltage limiting type protector less than 5m, the decoupler should be inserted into the two class protector.

2、As the decoupler is connected in series in the circuit, we should select the decoupler according to the load current in the circuit.

LERDN decoupler parameter table

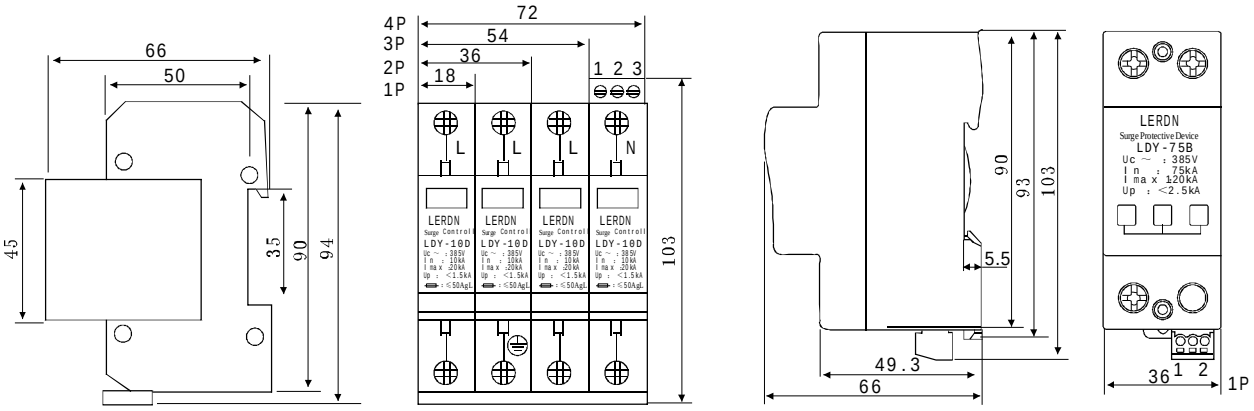
Type	Rated working voltage Un	Rated current In	Rated inductance Ln
LDY-63T	500V	63A	7.5μH
LDY-40T	500V	40A	15μH
LEY-35T	500V	35A	15μH

♦ Appearance and installation dimension



decoupler appearance and installation dimension

◆ SPD installation dimension diagram



（ LDY-20C、LDY-10D ）　　（ LDY-75B、LDY-40B ）

◆ Wiring diagram