ProSurge

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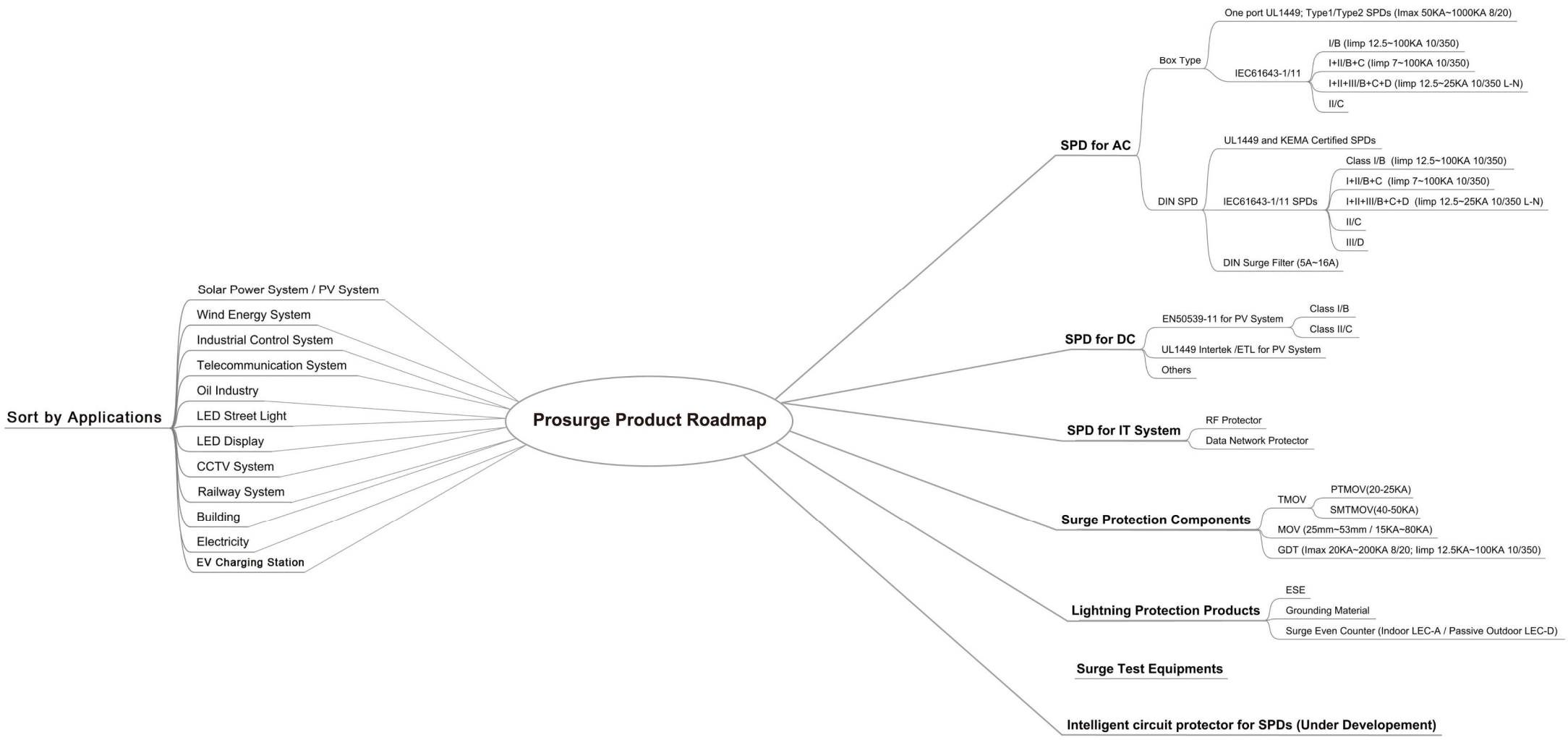
# Lightning/Surge Protection Products &Solutions

## ProSurge® Prosurge Electronics Co.,Ltd

*Surge Protection is Our Industry*

www.spd-china.com

Main Catalogue 2016


Prosurge Product Roadmap
Sort by Applications
Solar Power System / PV System
Wind Energy System
Industrial Control System
Telecommunication System
Oil Industry
LED Street Light
LED Display
CCTV System
Railway System
Building
Electricity
EV Charging Station
SPD for AC
Box Type
One port UL1449; Type1/Type2 SPDs (Imax 50KA~1000KA 8/20)
IEC61643-1/11
I/B (Iimp 12.5~100KA 10/350)
I+II/B+C (Iimp 7~100KA 10/350)
I+II+III/B+C+D (Iimp 12.5~25KA 10/350 L-N)
II/C
DIN SPD
UL1449 and KEMA Certified SPDs
IEC61643-1/11 SPDs
Class I/B (Iimp 12.5~100KA 10/350)
I+II/B+C (Iimp 7~100KA 10/350)
I+II+III/B+C+D (Iimp 12.5~25KA 10/350 L-N)
II/C
III/D
DIN Surge Filter (5A~16A)
SPD for DC
EN50539-11 for PV System
Class I/B
Class II/C
UL1449 Intertek /ETL for PV System
Others
SPD for IT System
RF Protector
Data Network Protector
Surge Protection Components
TMOV
PTMOV(20-25KA)
SMTMOV(40-50KA)
MOV (25mm~53mm / 15KA~80KA)
GDT (Imax 20KA~200KA 8/20; Iimp 12.5KA~100KA 10/350)
Lightning Protection Products
ESE
Grounding Material
Surge Even Counter (Indoor LEC-A / Passive Outdoor LEC-D)
Surge Test Equipments
Intelligent circuit protector for SPDs (Under Developement)

# CONTENTS


Page 01~08 Company Profile

Page 09~28 Din Rail Surge Protective Device for AC Power

Page 29~ 33 Surge Protective Device for Photovoltaic (PV)

Page 34~35 Surge Protective Device for Wind Turbines

Page 36~38 Surge Protective Device for LED Lighting

Page 39~40 One-Port Panel SPDs for AC Power

Page 41~44 Two-Port Surge Filter

Page 45~46 Thermally Protected MOV (TMOV)

Page 47~56 Data Line/ Telephone Line Surge Protectors

Page 57~58 Surge Event Counter

Page 59 Smart Surge Monitor

Page 60 Portable Surge Generator

Page 61 More Products

Page 62~73 SPDs Applications & Solutions


ProSurge®
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# SURGE PROTECTION SPECIALIST

## Our Strengths:

- **International R&D Team**
- **KEMA, UL, ETL, CE, RoHS, ISO9001 Certificates**
- **Global Patents Protected**
- **Competitive Cost**
- **Excellent Sevice**
- **5+ Years Warranty**
- **6 Sigma Quality Control**

**Global Partners**

# ProSurge® Prosurge Electronics Co.,Ltd

***Surge Protection is Our Industry***

## Mission

To be best Lightning & Surge protection manufacturer and solutions provider

## Core value

Honesty Duty Innovation Win-Win

## QEHS Assurance

▲ ISO9001 & 6 Sigma
▲ Perform testing of UL1449 4th, IEC61643-11, IEC61643-21 & EN50539-11 at Prosurge in-house Lab
▲ Strict bar code management tracking system
▲ Inspection by 100% before packing
▲ 5+ Years warranty
▲ Fulfill Society Responsibility according to EHS (Environment, Healthy and Safety) system

## R&D

▲ International R&D team including 2 senior engineers and US PHD expert, a senior member of IEC, UL & IEEE
▲ Main products are international patents protected to avoid any possible intellectual property risk

## International safety approval

▲ UL1449 4th
▲ KEMA (IEC61643-11)
▲ CE

## Honors

▲ Global supplier of Fortune 500 enterprises
▲ China National Hi-Tech enterprise
▲ Foshan Lightning & Surge protection R&D Center
▲ Foshan Intellectual Property model enterprise
▲ Guangdong Hi-Tech products approval
▲ Work safety standardization approval

## Productivity

▲ Factory size in Square Meter: 6000
▲ More than monthly 300K pcs SPDs in one shift

***To defend your choice with our strength and dignity***



This catalogue replaces the Surge Protection main catalogue published in 2015.



# Our Equipments

**Rated Functioning Temperature(Tf) tester**

★UL60691& IEC60691,

**1.2/50 Voltage Impulse Generator**

Meet the test requirements of IEC61643-11

**Environmental Test Chamber**

**Oscilloscope**

**Thermal Stability tester**

**Intermediate current as per UL1449-4th**

**Accelerated aging tester**

**Fluke Network Analysis and Testing Instrument**

**PS888 Tester**

**Digital Electric Bridge**

**SPD components Tester**

**Varistor V Parameter Tester**

**Surge Generator**

10/350 & 8/20 Impulse Current Generator
★Generate up to 30kA (10/350), 200kA (8/20) impulse current
★Meet the requirements of UL1449-4th and IEC61643-11
★Up test
★Operating duty test
★Total discharge current
★Surge Test

**Surge Generator**

★8/20 impulse Current Generator
★Combination Wave Generator
★1.2/50 Voltage Impulse Generator
★Generate up to 120kA(8/20) impulse current
★Meet the requirements of UL1449-4th and IEC61643-11
★Up test
★Operating duty test
★Total discharge current
★Surge Test

**Vibration Tester**

Test packing conditions of the products before shipment

**Online aging tester**

Goods are 100% tested on line with Uc applied before packing

## China Patents







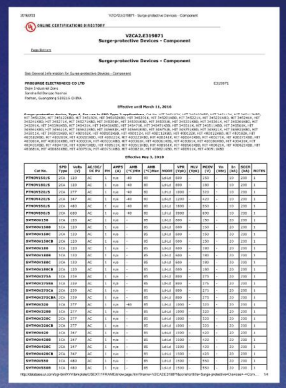









## Certificates and International Patents


UL


ETL


KEMA


CE


CE


CE


US PATENT


GERMANY PATENT

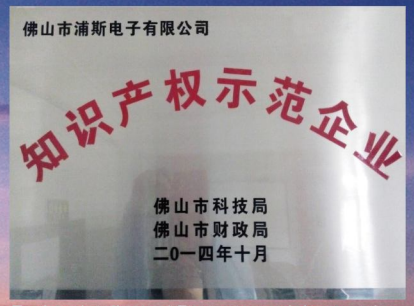

KOREA PATENT

## Honor


Quality Management Certificate


Lightning Protection R&D Center


High Technology Enterprise




Foshan intellectual Property model enterprise


IS09001


Work Safety Certificate


High Technology Product certificate



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# Products by Applications

- Surge Protective Device for Building
- Surge Protective Device for Telecom
- Surge Protective Device for Photovoltaic (PV)
- Surge Protective Device for LED Lighting
- Surge Protective Device for Wind Turbine
- Surge Protective Device for Railway
- Surge Protective Device for Electricity
- Surge Protective Device for Petrol and Gas
- Surge Protective Device for Industrial Sites
- Surge Protective Device for outdoor LED Display
- Surge Protective Device for CCTV / Security System
- Surge Protective Device for Electric Vehicle charging spot

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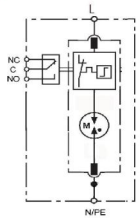
# Class I/I+II(Type1/Type1+2)SPD

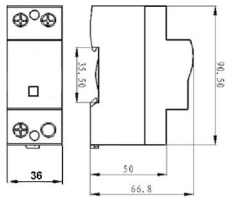
For LV Power Supply System

G25xxx-S

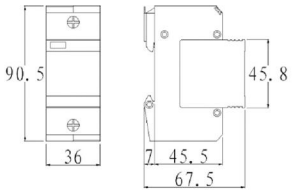
G25P/xxx-S




Basic circuit diagram




Dimension drawing




Dimension drawing

## Features

- Encapsulated spark gap technology to guarantee reliability in rugged environment
- Discharge capacity Iimp 25kA 10/350 per pole
- Low voltage protection level(Up)<1.5kV
- With remote signaling contact and failure indicator optional
- Pluggable design is optional for limp 25kA 10/350,Uc 150V~275V

| Type | | G25/xxx-S/G25P/xxx-S | | | G25xxx-S | | |
|---|---|---|---|---|---|---|---|
| | | 150 | 175 | 275 | 320 | 385 | 440 |
| In accordance with | | IEC61643-11:2011; UL1449-4th | | | | | |
| Category IEC/VDE | | I/I+II(B/B+C) | | | | | |
| Max. continuous operating voltage (V) | AC | 150 | 175 | 275 | 320 | 385 | 440 |
| | DC | 200 | 225 | 350 | 420 | 505 | 560 |
| Nominal discharge current(8/20) In | | 25kA | | | | | |
| Max. discharge current(8/20) Imax | | 100kA | | | | | |
| Lightning impulse current (10/350) Iimp | | 25kA | | | | | |
| Voltage protection level (1.2/50) | | <1.2kV | <1.2kV | <1.5kV | <1.6kV | <1.8kV | <2.0kV |
| Response time | | ≤ 100 ns | | | | | |
| Short-circuit current rating ( Isccr ) & follow current interrupt rating (Ifi) | | Isccr =10kArms ; Ifi≥ 10kArms@255Vac | | | | | |
| Backup fuse(only required if not already provided in mains) | | 250A gL/gG | | | | | |
| Operating temperature range | | - 40℃ ~ + 80℃ | | | | | |

●-S for remote alarm terminal optional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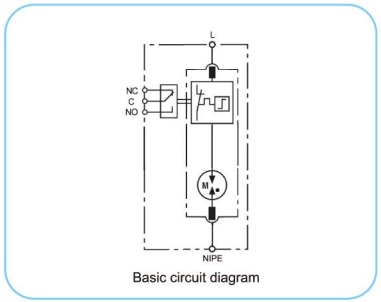
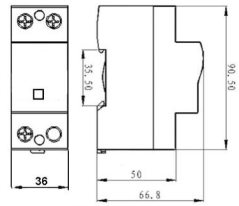
Class I/I+II(Type1/Type1+2)SPD

For LV Power Supply System


G50/xxx-S




Basic circuit diagram




Dimension drawing

## Features

- Encapsulated spark gap technology to guarantee reliability in rugged environment
- Discharge capacity Iimp 50kA 10/350 per pole
- Low voltage protection level(Up)<1.5kV
- With remote signaling contact and failure indicator optional

| Type | | G50/xxx-S | | | | | |
|---|---|---|---|---|---|---|---|
| | | 150 | 175 | 275 | 320 | 385 | 440 |
| In accordance with | | IEC61643-11:2011; UL1449-4th | | | | | |
| Category IEC/VDE | | I/I+II(B/B+C) | | | | | |
| Max. continuous operating voltage (V) | AC | 150 | 175 | 275 | 320 | 385 | 440 |
| | DC | 200 | 225 | 350 | 420 | 505 | 560 |
| Nominal discharge current(8/20) In | | 50kA | | | | | |
| Max. discharge current(8/20) Imax | | 100kA | | | | | |
| Lightning impulse current (10/350) Iimp | | 50kA | | | | | |
| Voltage protection level (1.2/50) | | <1.2kV | <1.2kV | <1.5kV | <1.6kV | <1.8kV | <2.0kV |
| Response time | | ≤ 100 ns | | | | | |
| Short-circuit current rating ( Isccr ) & follow current interrupt rating (Ifi) | | Isccr =10kArms ; Ifi≥ 10kArms@255Vac | | | | | |
| Backup fuse(only required if not already provided in mains) | | 500A gL/gG | | | | | |
| Operating temperature range | | - 40℃ ~ + 80℃ | | | | | |

●-S for remote alarm terminal optional

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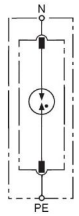
# Class I/I+II(Type1/Type1+2)SPD

For LV Power Supply System


**G100/255 NPE**


Dimension drawing




Basic circuit diagram

## Features:

- Encapsulated spark gap technology to guarantee reliability in rugged environment
- Comply with IEC61643-11 standard
- Discharge capacity Iimp 100kA(10/350μs)
- For N-PE protection
- Low voltage protection level
- High energy capability

| Type | G100/255NPE | G50/255NPE | G25/255NPE |
|---|---|---|---|
| In accordance with | | IEC61643-11:2011; UL1449-4th | |
| Category IEC/VDE | | I/I+II(B/B+C) | |
| Max. continuous operating voltage (V) | | 255Vac | |
| Nominal discharge current(8/20μs) In | 100kA | 50kA | 25kA |
| Max. discharge current(8/20μs) Imax | 200kA | 150kA | 100kA |
| Lightning impulse current (10/350μs) Iimp | 100kA | 50kA | 25kA |
| Voltage protection level (1.2/50μs)Up | | <1.5kV | |
| Response time | | ≤ 100 ns | |
| Follow current interrupt rating (Ifi) | | 10kArms @ 255Vac | |
| Operating temperature range | | - 40℃ ~ + 80℃ | |

●-S for remote alarm terminal optional


# Class I/I+II(Type1/Type1+2)SPD

For LV Power Supply System

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## Combination

### G25P Series

G25P/xxx-S/2P

G25P/xxx-S/PN50

G25P/xxx-S/3P

G25P/xxx-S/4P

G25P/xxx-S/3PN100

### G25 Series

G25/xxx-S/2P

G25/xxx-S/PN50

G25/xxx-S/3P

G25/xxx-S/4P

G25/xxx-S/3PN100

### G50 Series

G50/xxx-S/2P

G50/xxx-S/PN50

G50/xxx-S/3P

G50/xxx-S/4P

G50/xxx-S/3PN100

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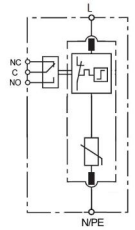
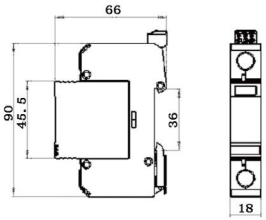
# Class I+II(Type1+2) SPD

For LV Power Supply System

## BPS7V/xxx-S




Basic circuit diagram




Dimension drawing

BPS7V/275-S/2P

BPS7V/275-S/PN15

BPS7V/275-S/3P

BPS7V/275-S/4P

BPS7V/275-S/3PN25

## Features:

- Class I+II (B+C) arrester in accordance with IEC61643-11, UL1449-4th
- Small size of 18mm plug-in SPD module, easy for maintenance
- High surge capability of 7kA(10/350us), 60kA(8/20us) for L-N, limp 15kA~25kA(10/350us) for N-PE
- Fault indication by red indication flag in window.
- Fast response and with remote alarm terminal optional.

| Type | | BPS7V/xxx-S | | | |
|---|---|---|---|---|---|
| | | 150 | 175 | 275 | 320 |
| In accordance with | | IEC61643-11:2011; UL1449-4th | | | |
| Category IEC/VDE | | I+II/ B+C | | | |
| Max. continuous operating voltage (V) | AC | 150 | 175 | 275 | 320 |
| | DC | 200 | 225 | 350 | 420 |
| Nominal discharge current(8/20μs) In | | 25kA | | | |
| Max. discharge current(8/20μs) Imax | | 60kA | | | |
| Lightning impulse current (10/350μs) limp | | 7kA | | | |
| Voltage protection level Up | @In | <0.7kV | <0.7kV | <1.3kV | <1.5kV |
| | @VPR | <0.6kV | <0.6kV | <1.0kV | <1.0kV |
| Response time | | ≤ 25 ns | | | |
| Follow current | | No | | | |
| Backup fuse(only required if not already provided in mains) | | 160A gL/gG | | | |
| Operating temperature range | | - 40℃ ~ + 80℃ | | | |

●-S for remote alarm terminal optional



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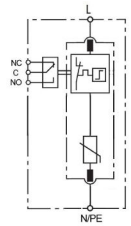
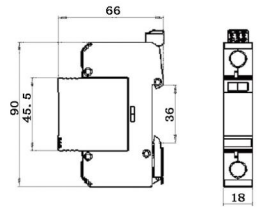
Class I+II(Type1+2) SPD

For LV Power Supply System

## BPS12.5V/xxx-S




Basic circuit diagram




Dimension drawing

BPS12.5V/275-S/2P

BPS12.5V/275-S/PN25

BPS12.5V/275-S/3P

BPS12.5V/275-S/4P

BPS12.5V/275-S/3PN50

## Features:

- Class I+II (B+C) arrester in accordance with IEC61643-11, UL1449-4th
- Small size of 18mm plug-in SPD module, easy for maintenance
- High surge capability of 12.5kA(10/350us), 80kA(8/20us) for L-N, limp 25kA~50kA(10/350us) for N-PE
- Fault indication by red indication flag in window.
- Fast response and with remote alarm terminal optional.

| Type | | BPS12.5V/xxx-S | | | |
|---|---|---|---|---|---|
| | | 150 | 175 | 275 | 320 |
| In accordance with | | IEC61643-11:2011; UL1449-4th | | | |
| Category IEC/VDE | | I+II/ B+C | | | |
| Max. continuous operating voltage (V) | AC | 150 | 175 | 275 | 320 |
| | DC | 200 | 225 | 350 | 420 |
| Nominal discharge current(8/20μs) In | | 25kA | | | |
| Max. discharge current(8/20μs) Imax | | 80kA | | | |
| Lightning impulse current (10/350μs) limp | | 12.5kA | | | |
| Voltage protection level Up | @In | <1.0kV | <1.0kV | <1.3kV | <1.5kV |
| | @VPR | <0.5kV | <0.6kV | <1.0kV | <1.0kV |
| Response time | | ≤ 25 ns | | | |
| Follow current | | No | | | |
| Backup fuse(only required if not already provided in mains) | | 200A gL/gG | | | |
| Operating temperature range | | - 40℃ ~ + 80℃ | | | |

●-S for remote alarm terminal optional

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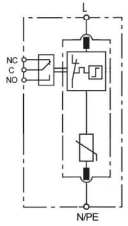
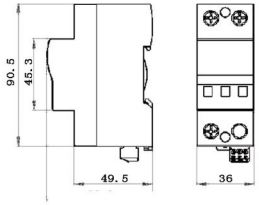
# Class I+II(Type1+2) SPD

For LV Power Supply System

**B25V/xxx-S**




Basic circuit diagram




Dimension drawing

B25V/275-S/2P

B25V/275-S/PN50

B25V/275-S/3P

B25V/275-S/4P

B25V/275-S/3PN100

## Features:

- Class I+II/B+C SPD in accordance with IEC61643-11 and UL1449-4th
- Non-pluggable protection module to avoid flashover caused by high impulse current
- High surge capacity of 25kA 10/350μs, 120kA 8/20μs per pole
- Reliable supervision due to disconnection device
- Fault indication by red indication flag in window
- Fast response

| Type | | B25V/xxx-S | | | |
|---|---|---|---|---|---|
| | | 150 | 175 | 275 | 320 |
| In accordance with | | IEC61643-11:2011; UL1449-4th | | | |
| Category IEC/VDE | | I+II/ B+C | | | |
| Max. continuous operating voltage (V) | AC | 150 | 175 | 275 | 320 |
| | DC | 200 | 225 | 350 | 420 |
| Nominal discharge current(8/20μs) In | | 25kA | | | |
| Max. discharge current(8/20μs) Imax | | 120kA | | | |
| Lightning impulse current (10/350μs) Iimp | | 25kA | | | |
| Voltage protection level Up | @In | <0.8kV | <0.8kV | <1.2kV | <1.5kV |
| | @VPR | <0.6kV | <0.6kV | <0.8kV | <1.0kV |
| Response time | | ≤ 25 ns | | | |
| Follow current | | No | | | |
| Backup fuse(only required if not already provided in mains) | | 315A gL/gG | | | |
| Operating temperature range | | - 40℃ ~ + 80℃ | | | |

●-S for remote alarm terminal optional



# Class I+II+III(Type1+2+3) SPD

For LV Power Supply System

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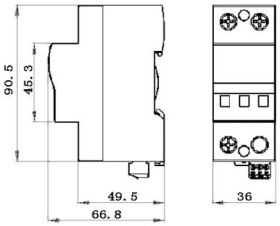
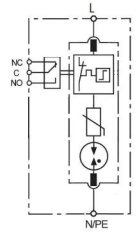
VT

**B12.5VT/xxx-S**




Dimension drawing




Basic circuit diagram

## Features:

- Type 1+2+3 SPD comply with IEC61643-11 standard
- Imax 65kA~120kA (8/20μs)
- Iimp 12.5kA (10/350μs) per pole
- VT technology, the best technology for power protection
- Very low clamping level and high surge current capability (High Iimp, low Up)
- High TOV withstand, increased reliability for areas with unstable power network
- No follow current + No leakage current + Intelligent distinguish Power frequency current and surge current to guarantee long service life

| Type | | B12.5VT/xxx-S | | | | | |
|---|---|---|---|---|---|---|---|
| | | 150 | 175 | 275 | 320 | 385 | 420 |
| In accordance with | | IEC61643-11:2011; UL1449-4th | | | | | |
| Category IEC/VDE | | I+II+III/ B+C+D | | | | | |
| Max. continuous operating voltage (V) | AC | 150 | 175 | 275 | 320 | 385 | 420 |
| | DC | 200 | 225 | 350 | 420 | 505 | 560 |
| Nominal discharge current(8/20μs) In | | 12.5kA | | | | | |
| Max. discharge current(8/20μs) Imax | | 65kA | | | | | |
| Lightning impulse current (10/350μs) Iimp | | 12.5kA | | | | | |
| Voltage protection level (Up) | @In | <0.7kV | <0.7kV | <1.0kV | <1.2kV | <1.4kV | <1.6kV |
| | @VPR | <0.5kV | <0.5kV | <0.6kV | <0.6kV | <0.8kV | <1.0kV |
| Response time | | ≤ 100 ns | | | | | |
| Follow current | | No | | | | | |
| Backup fuse(only required if not already provided in mains) | | 160A gL/gG | | | | | |
| Operating temperature range | | - 40℃ ~ + 80℃ | | | | | |

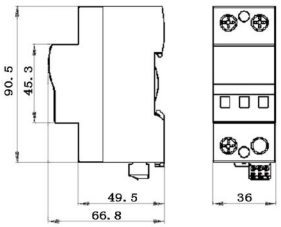
●-S for remote alarm terminal optional

# Class I+II+III (Type 1+2+3) SPD

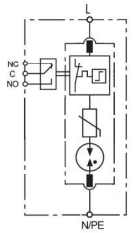
For LV Power Supply System

VT


**B25VT/xxx-S**




Dimension drawing




Basic circuit diagram

## Features:

- Type 1+2+3 SPD comply with IEC61643-11 standard
- Imax 65kA~120kA (8/20μs)
- Iimp 25kA (10/350μs) per pole
- VT technology, the best technology for power protection
- Very low clamping level and high surge current capability (High Iimp, low Up)
- High TOV withstand, increased reliability for areas with unstable power network
- No follow current + No leakage current + Intelligent distinguish Power frequency current and surge current to guarantee long service life

| Type | | B25VT/xxx-S | | | | |
|---|---|---|---|---|---|---|
| | | 150 | 175 | 275 | 320 | 385 |
| In accordance with | | IEC61643-11:2011; UL1449-4th | | | | |
| Category IEC/VDE | | I+II+III/ B+C+D | | | | |
| Max. continuous operating voltage (V) | AC | 150 | 175 | 275 | 320 | 385 |
| | DC | 200 | 225 | 350 | 420 | 505 |
| Nominal discharge current(8/20μs) In | | 25kA | | | | |
| Max. discharge current(8/20μs) Imax | | 120kA | | | | |
| Lightning impulse current (10/350μs) Iimp | | 25kA | | | | |
| Voltage protection level Up | @In | <0.8kV | <0.8kV | <1.0kV | <1.2kV | <1.2kV |
| | @VPR | <0.5kV | <0.5kV | <0.6kV | <0.6kV | <0.6kV |
| Response time | | ≤ 100 ns | | | | |
| Follow current | | No | | | | |
| Backup fuse(only required if not already provided in mains) | | 315A gL/gG | | | | |
| Operating temperature range | | - 40℃ ~ + 80℃ | | | | |

●-S for remote alarm terminal optional

# Type II (Type 2) SPD

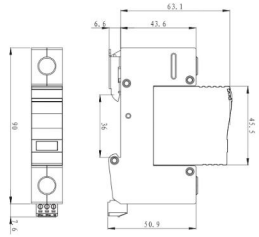
For LV Power Supply System

VT

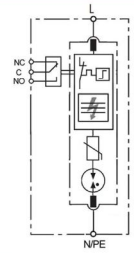
KEMA

EUR


**SPxxxVT-S**




Dimension drawing




Basic circuit diagram

## Features:

- KEMA certified per IEC61643-11:2011; EN61643-11:2012
- High reliability due to global patented with reliable arc-extinguish to provide the best surge protection
- VT technology, the best technology for power protection
- Very low clamping level and high surge current capability (high Iimp, low Up)
- High TOV withstand, increased reliability for areas with unstable power network
- No follow current, No leakage current, intelligent distinguish power frequency current and surge current to guarantee long service life

| Type | | SPxxxVT-S | |
|---|---|---|---|
| | | 275 | 320 |
| In accordance with | | IEC61643-11:2011; UL1449-4th | |
| Category IEC/VDE | | II/ C | |
| Max. continuous operating voltage (V) | AC | 275 | 320 |
| | DC | 350 | 420 |
| Nominal discharge current(8/20μs) In | | 20kA | |
| Max. discharge current(8/20μs) Imax | | 40kA | |
| Voltage protection level (Up) | @In | <1.4kV | <1.5kV |
| | @VPR | <0.9kV | <1.0kV |
| Response time | | ≤ 100 ns | |
| Follow current | | No | |
| Backup fuse(only required if not already provided in mains) | | 125A gL/gG | |
| Operating temperature range | | - 40℃ ~ + 80℃ | |

● -S for remote alarm terminal optional

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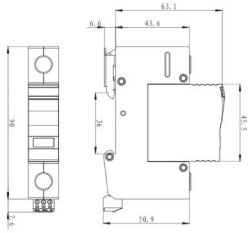
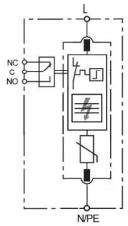
# KEMA approved Din-rail Surge Protective Devices

Type 2 SPD


**SPxxx-S**



Dimension drawing




Basic circuit diagram

Prosurge's SP series surge arrester is IEC61643-11:2011/EN61643-11:2012 approved Type 2 SPD.

It is a din-rail designed surge protective device featuring Prosurge's global patented design of thermally protected TMOV with special arc-extinguish device, providing fast and reliable protection for various power supply systems.

Built with window fault indication and optional remote alarm contact, it can monitor the operating status of the surge protector.


SPxxx/2P-S


SPxxx/PN-S

KEMA approved Din-rail Surge Protective Devices

Type 2 SPD

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SPxxx/3P-S

SPxxx/4P-S

SPxxx/3PN-S

● xxx-- means Uc: range from 150V to 385V

## Applications:

- Power supplies
- Telecom
- Industrial Automation
- Railway systems
- Photovoltaic (PV) systems
- UPS systems
- Electricity
- Electrical vehicle charging station
- Water treatment systems
- Motor control and starter systems
- AC/DC distribution
- Programmable logic controller (PLC)
- Power transfer equipments
- HAVC applications
- IT / Data centers
- AC drives,LT Panels,MCC,PCC,CNC machines
- Medical equipments
- Security systems

## Features/Benefits:

- IEC61643-11:2011 and EN61643-11:2012 certified type 2 SPD
- Inbuilt with thermally protected high energy
- MOV technology(Patented SMTMOV technology)
- Large surge energy capability.
- Low voltage protection level.
- DIN-rail mountable for easy installation
- Degradation failure indication.
- Fail-safe, self-protected design
- Pluggable module for easy replacement
- Meet both standards of UL1449 4th and IEC61643-11:2011

| | |
|---|---|
| Category IEC/VDE | T2 |
| Nominal discharge current(8/20) In | 20 kA |
| Maximum discharge current(8/20) Imax | 40 kA |
| Frequency | 48-62 Hz |
| Follow current | MOV model: Nil; GDT model: 100A self cutoff |
| Thermal disconnector | Internal: green - normal ; red - failure |
| Wire Range | Single-strand 35mm$^2$; multi-strand 25mm$^2$ |
| Mounting | 35mm DIN-Rail |
| Degree of Protection | IP 20 |
| Flammability | UL94 V0 |
| Operating & Storage Temperature | – 40℃ to + 80℃ |
| Remote alarm contact | NO/NC/C, Isolated Form C |
| Remote alarm contact capability Un/In | AC: 250V/0.5A DC: 250V/0.1A; 75V/0.5A |
| Remote alarm contact connecting wire | Max. 1.5mm$^2$or # 16AWG |

●Please contact info@spd-china.com for detail data sheet.

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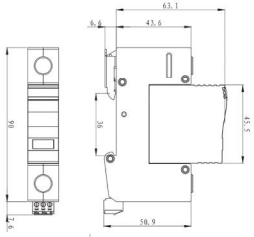
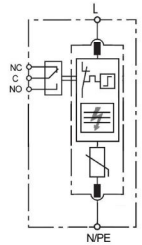
# UL listed Din-rail Surge Protective Devices

Type 4 SPD for Type1/2 application


**SPxxx-S**




Dimension drawing




Basic circuit diagram

Prosurge*s SP series surge arrester is UL1449-4th edition approved SPD.
It is a din-rail designed surge protective device featuring Prosurge*s global patented design of SMTMOV with special arc-extinguish device, providing fast and reliable protection for various power supply systems.

Built with window fault indication and optional remote alarm contact, it can monitor the operating status of the surge protector.

It is a very high short circuit current rating of 200kArms, which no need for considering additional overcurrent protection devices.


SPxxx-2P-S


SPxxx-PN-S




# UL listed Din-rail Surge Protective Devices

Type 4 SPD for Type1/2 application

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SPxxx-3P-S


SPxxx-4P-S


SPxxx-3PN-S

● xxx-- means Uc: range from 150V to 690V

## Applications:

- Power supplies
- Telecom
- Industrial Automation
- Railway systems
- Photovoltaic (PV) systems
- UPS systems
- Electricity
- Electrical vehicle charging station
- Water treatment systems
- Motor control and starter systems
- AC/DC distribution
- Programmable logic controller (PLC)
- Power transfer equipments
- HAVC applications
- IT / Data centers
- AC drives, LT panels, MCC, PCC, CNC machines
- Medical equipments
- Security systems

## Features/Benefits:

- UL 1449-4th listed type 4 SPD for type1/2 application, pass SCCR 200kArms
- Inbuilt with thermally protected high energy
- MOV technology(Patented SMTMOV technology)
- Large surge energy capability.
- Low voltage protection level.
- DIN-rail mountable for easy installation
- Degradation failure indication.
- Fail-safe, self-protected design
- Pluggable module for easy replacement
- No additional over-current protection devices required
- Meet both standards of UL1449-4th and IEC61643-11:2011

| | |
|---|---|
| Category IEC/VDE | Type 4 for type1/2 application |
| Short-Circuit Current Rating | 200 kA |
| Nominal discharge current(8/20) In | 20 kA |
| Maximum discharge current(8/20) Imax | 50 kA |
| Frequency | 50-60 Hz |
| Follow current | MOV model: Nil; GDT model: 200A self cutoff |
| Thermal disconnector | Internal: green - normal ; red - failure |
| Wire Range | 6-12AWG Solid / Stranded CU |
| Mounting | 35mm DIN-Rail |
| Degree of Protection | IP 20 |
| Flammability | UL94 V0 |
| Operating & Storage Temperature | - 40℃ ~ + 80℃ |
| Remote alarm contact | NO/NC/C, Isolated Form C |
| Remote alarm contact capability Un/In | AC: 250V/0.5A DC: 250V/0.1A; 75V/0.5A |
| Remote alarm contact connecting wire | Max. # 16AWG |

●Please contact info@spd-china.com for detail data sheet.

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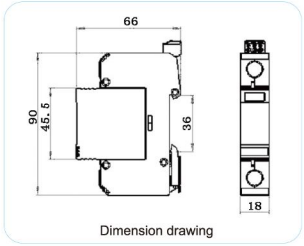
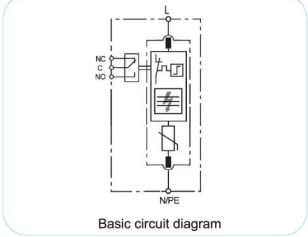
# ETL approved Din-rail Surge Protective Devices

Type1CA SPD

**V50/xxx-S**




Dimension drawing




Basic circuit diagram

Prosurge's ETL approved SPDs as per UL1449-4th addition, especially designed for low-voltage power supply system surge protection. Type 1CA SPD.

It is a din-rail designed surge protective device featuring Prosurge's global patented design and with special arc-extinguish device, providing fast and reliable protection for various power supply systems.

It is a very high short circuit current rating of 200kArms, which no need for considering additional overcurrent protection devices.

## Features/Benefits:

- UL 1449-4th listed type 1CA SPD with SCCR 200kArms without external fuse or CB nbuilt with thermally protected high energy MOV technology
- Imax 100kA ~150kA 8/20 for type 1 application. Imax 50kA for type 2 application.
- Fail-safe, self-protected design
- Pluggable module for easy replacement
- No additional over-current protection devices required
- ETL approved as per latest UL1449-4th

T50/xxx-S

DS50/xxx-2V-S

G100E/xxx-S

V100E/xxx-S



ETL approved Din-rail Surge Protective Devices

Type1CA SPD

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DS50/xxx-(V+T)-S

DT50/xxx-3V-S

DT50/xxx-4V-S

DT50/xxx-(3V+T)-S

## Product Specifications

| Type/Model | AC Rating | Max. Continuous Voltage (ac/dc) | | Nominal Discharge Current In (8/20μs) | Max. Surge current (8/20μs) | Voltage Protection Rating | | SCCR Rating |
|---|---|---|---|---|---|---|---|---|
| | | | | | | L-N or L-G | N-G | |
| V50/150 | Vrms:150V | 150V | 200V | 20kA | 50kA | 700 | 700 | 200kA |
| V50/180 | Vrms:180V | 180V | 240V | 20kA | 50kA | 700 | 700 | 200kA |
| V50/275 | Vrms:275V | 275V | 370V | 20kA | 50kA | 1000 | 1000 | 200kA |
| V50/320 | Vrms:320V | 320V | 420V | 20kA | 50kA | 1000 | 1000 | 200kA |
| V50/420 | Vrms:420V | 420V | 560V | 20kA | 50kA | 1200 | 1200 | 200kA |
| V50/550 | Vrms:550V | 550V | 710V | 20kA | 50kA | 1500 | 700 | 200kA |
| DT50/150-4V | Vrms:150V | 150V | 200V | 20kA | 50kA | 700 | 800 | 200kA |
| DT50/150-(3V+T) | | | | | 50kA | | | |
| DT50/180-4V | Vrms:180V | 180V | 240V | 20kA | 50kA | 700 | 800 | 200kA |
| DT50/180-(3V+T) | | | | | 50kA | | | |
| DT50/275-4V | Vrms:275V | 275V | 370V | 20kA | 50kA | 1000 | 1000 | 200kA |
| DT50/275-(3V+T) | | | | | 50kA | | | |
| DT50/320-4V | Vrms:320V | 320V | 420V | 20kA | 50kA | 1000 | 1000 | 200kA |
| DT50/320-(3V+T) | | | | | 50kA | | | |
| DT50/420-4V | Vrms:420V | 420V | 560V | 20kA | 50kA | 1200 | 1200 | 200kA |
| DT50/420-(3V+T) | | | | | 50kA | | | |
| DT50/550-4V | Vrms:550V | 550V | 710V | 20kA | 50kA | 1500 | 1500 | 200kA |
| V100E/150-S | Vrms:150V | 150V | 200V | 20kA | 100~150kA | 700 | 700 | 200kA |
| V100E/180-S | Vrms:180V | 180V | 240V | 20kA | 100~150kA | 700 | 700 | 200kA |
| V100E/250-S | Vrms:250V | 250V | 330V | 20kA | 100~150kA | 1000 | 1000 | 200kA |
| V100E/275-S | Vrms:275V | 275V | 370V | 20kA | 100~150kA | 1000 | 1000 | 200kA |
| V100E/320-S | Vrms:320V | 320V | 420V | 20kA | 100~150kA | 1200 | 1200 | 200kA |
| V100E/420-S | Vrms:420V | 420V | 560V | 20kA | 100~150kA | 1500 | 1500 | 200kA |
| V100E/510-S | Vrms:510V | 510V | 670V | 20kA | 100~150kA | 1500 | 1500 | 200kA |
| V100E/550-S | Vrms:550V | 550V | 710V | 20kA | 100~150kA | 1500 | 1500-- | 200kA |
| G100E/150 | Vrms:150V | 150V | -- | 20kA | 100~150kA | -- | 1200 | -- |
| G100E/255 | Vrms:255V | 255V | -- | 20kA | 100~150kA | -- | 1500 | -- |
| G100E/350 | Vrms:350V | 350V | -- | 20kA | 100~150kA | -- | 1800 | -- |
| G100E/440 | Vrms:440V | 440V | -- | 20kA | 100~150kA | -- | 2000 | -- |

# Class II/Type 2 SPD

For LV Power Supply System

## Combination

V40/xxx-S

T40/xxx-S

MDSS40/xxx-2V-S
or MDSS40/xxx-(V+T)-S

DS40/xxx-2V-S

DS40/xxxx-(V+T)-S

MDSS40/xxx-4V-S
or MDSS40/xxx-(3V+T)-S

MDSS40/xxx-PN

DT40/xxx-3V-S

DT40/xxx-4V-S

DT40/xxx-(3V+T)-S



Class II/Type 2 SPD

For LV Power Supply System

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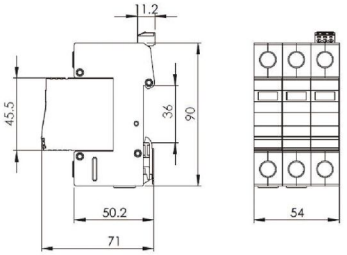
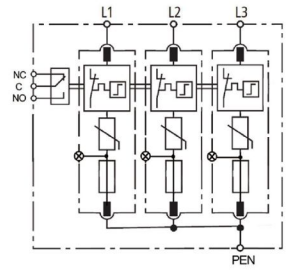
SP25/385VF-S/2P

SP25/385VF-S/3P




Dimension drawing




Basic circuit diagram

### Features:

- Class II SPD comply with IEC 61643-11 standard
- Inbuilt fuse in series with MOV design for more reliable over-current protection
- Failure indicators on both MOV and internal Fuse
- With window indication to indicate the internal thermal disconnector
- With optional remote alarm contact

| Part No. | | SP25/385VF-S/3P | |
|---|---|---|---|
| In accordance with | | IEC61643-11:2011; UL1449-4th | |
| Category IEC/VDE | | II/ C | |
| Max. continuous operating voltage V(AC/DC) | | 385/505 | |
| Nominal discharge current(8/20) In | | 10kA | |
| Max. discharge current(8/20) Imax | | 25kA | |
| Voltage protection level | @In | <1.8kV | |
| | @VPR | <1.4kV | |
| | @MLV | <2.3kV | |
| Response time | | ≤ 25 ns | |
| Follow current | | No | |
| Max.mains-side overcurrent protection | | Short circuit rating≤ 3kA | No need |
| | | Short circuit rating>3kA | 100A gL/gG |
| Thermal disconnector | | Internal MOV(green – normal ; red – failure) ; FUSE ( led on-normal,led off-failure ) | |

●This design with internal fuse is available in PV (Photovoltaic /Solar) DC SPD.

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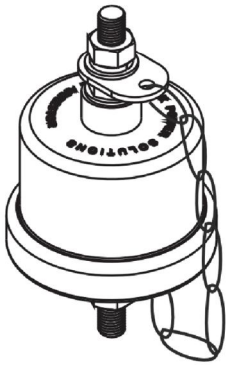
# Thermally Protected Lightning Arrester

Type 2 SPD



**TPLA40/xxxF**

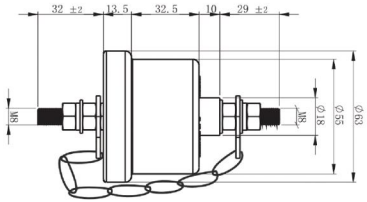
**Disconnector and indicator:**

Normal

Fail

**Installation Instruction:**

Dimension drawing




## Features:

Thermally Protected Lightning Arrester with thermal protection designed to provide protection for low-voltage overhead lines, consumer in-house supplies, distribution transformers and other systems.

- The TPLA40 surge arresters are in compliance with requirements Class II as defined by IEC 61643-11.
- Suitable for indoor and outdoor use
- With thermally disconnector to provide a safer protection
- The TPLA will disconnect from system after failed, very easy to identify failure indicator
- Easy installation

| Type | | TPLA40/xxxF | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 150 | 175 | 280 | 300 | 320 | 385 | 420 | 440 |
| In accordance with | | IEC61643-11:2011 | | | | | | | |
| Category IEC/VDE | | internal thermal disconnector | | | | | | | |
| Max. continuous operating | AC | 150 | 175 | 280 | 300 | 320 | 385 | 420 | 440 |
| voltage (V) | DC | 200 | 225 | 355 | 385 | 420 | 505 | 560 | 590 |
| Nominal discharge current(8/20μs) In | | 20kA | | | | | | | |
| Max. discharge current(8/20μs) Imax | | 40kA | | | | | | | |
| Voltage protection level (Up) | @In | <0.8kV | <0.8kV | <1.3kV | <1.4kV | <1.5kV | <1.8kV | <2.0kV | <2.2kV |
| Response time | | ≤ 25 ns | | | | | | | |
| Operating temperature range | | - 40℃ ~ + 70℃ | | | | | | | |
| Enclosure material | | thermoplastic; extinguishing degree UL94 V-0 | | | | | | | |
| Rated frequency | | 48 - 62 Hz | | | | | | | |
| Electric Strength | | ≥ 2500V (AC) | | | | | | | |
| Thermal disconnector | | Internal green - normal ; red - failure | | | | | | | |
| Earth connection wire | | <1.5m(insulated multi-strand 6mm²-10mm²) | | | | | | | |



# Class III/Type 3 SPD

For LV Power Supply System

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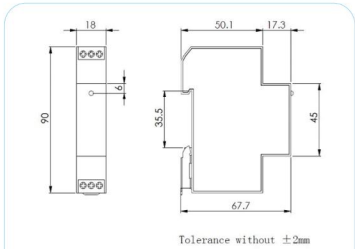
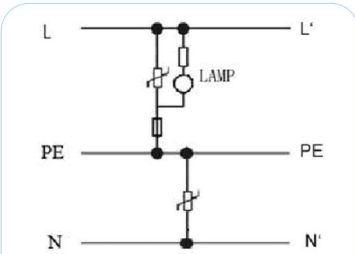
**MDS10/xxx-2V-F**




Dimension drawing




Basic circuit diagram

## Features:

- Class III (D) arrester in accordance with IEC61643-11 and UL1449-4th
- Terminal connection module.
  Single Phase L-PE + N-PE in ONE pole 18mm module
- Load current 10A
- Reliable supervision due to thermal disconnection device
- LED failure indicator.
- Fast response

| Type | | MDS10/xxx-2V-F | | | | |
|---|---|---|---|---|---|---|
| | | 150 | 175 | 275 | 300 | 320 |
| In accordance with | | IEC61643-11:2011; UL1449-4th | | | | |
| Category IEC/VDE | | III/D | | | | |
| Max. continuous operating | AC | 150 | 175 | 275 | 300 | 320 |
| voltage (V) | DC | 200 | 225 | 350 | 385 | 420 |
| Nominal discharge current(8/20μs) In | | L-PE:5kA N-PE:5kA | | | | |
| Max. discharge current(8/20μs) Imax | | L-PE:10kA N-PE:10kA | | | | |
| Voltage protection level (Up) | @In | <0.8kV | <0.8kV | <1.3kV | <1.4kV | <1.5kV |
| | @VPR | <0.5kV | <0.6kV | <1.0kV | <1.0kV | <1.0kV |
| Load current | | 10A | | | | |
| Response time | | ≤ 25 ns | | | | |
| Fault indication | | LED ON - normal OFF - failure | | | | |
| Operating temperature range | | - 40℃ ~ + 70℃ | | | | |

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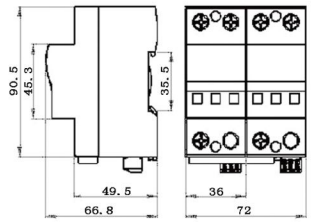
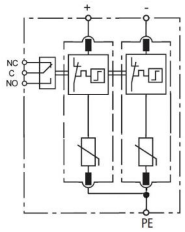
# Class I+II (Type 1+2) SPD

For Photovoltaic

## PVB12.5-600-V-C-S




Dimension drawing




Basic circuit diagram

## Features:

- Class I+II SPD for photovoltaic system
- In accordance with IEC61643-11,EN50539-11,UL1449-4th
- Common mode surge protection
- High surge capability of 12.5kA 10/350μs, Imax 60kA 8/20μs
- Reliable supervision due to disconnection device;
- Fault indication by red indication flag in window;
- With remote alarm terminal optional;
- PVB12.5-600 PV SPD with VT technology of no leakage current and no follow current is available.
- VT technology is the best technology for power protection. Very low clamping level and high surge current capability and with high TOV withstand, it is very reliable for areas with unstable power network.

| Type | | PVB12.5-600-V-C-S PVB12.5-600-VT-C-S |
|---|---|---|
| Nominal Voltage (Un) | | 600Vdc |
| Protection mode | | Common mode |
| In accordance with | | EN50539-11:2012; IEC61643-11:2011; UL1449-4th |
| Category IEC/VDE | | I+II/ B+C |
| Max. continuous operating voltage (V) | | 640Vdc |
| Nominal discharge current(8/20) In | | 12.5kA |
| Lightning impulse current(10/350) Iimp | | 12.5kA |
| Max. discharge current(8/20) Imax | | 100kA |
| Voltage protection level Up | @In | <1.8kV |
| | @VPR | <1.3kV |
| Response time | | ≤25 ns |
| Backup fuse(only required if not already provided in mains) | | 160A gR/gPV (700Vdc) |
| Operating temperature range | | - 40℃ ~ + 80℃ |

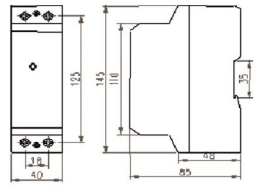
●-S for remote alarm terminal optional



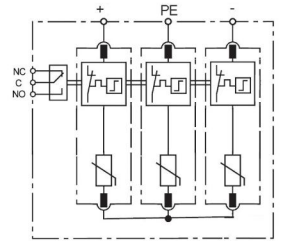
Class I+II (Type 1+2) SPD

For Photovoltaic

## PVB12.5-1000-V-CD-S




Dimension drawing




Basic circuit diagram

## Features:

- Class I+II SPD for photovoltaic system
- In accordance with IEC61643-11,EN50539-11,UL1449-4th
  Common mode and differential mode surge protection
- High surge capability of 12.5kA 10/350μs, Imax 60kA 8/20μs
- Reliable supervision due to disconnection device;
- Fault indication by red indication flag in window;
- PVB12.5-1000 PV SPD with VT technology of no leakage current and no follow current is available.
  VT technology is the best technology for power protection. Very low clamping level and high surge current capability and with high TOV withstand, it is very reliable for areas with unstable power network.

| Type | | PVB12.5-1000-V-CD-S PVB12.5-1000-VT-CD-S |
|---|---|---|
| Nominal Voltage (Un) | | 1000Vdc |
| Protection mode | | Common mode+ Differential mode |
| In accordance with | | EN50539-11:2012; IEC61643-11:2011; UL1449-4th |
| Category IEC/VDE | | I+II/ B+C |
| Max. continuous operating voltage (V) | | 1060Vdc 1020Vdc |
| Nominal discharge current(8/20) In | | 12.5kA |
| Lightning impulse current(10/350) Iimp | | 12.5kA |
| Max. discharge current(8/20) Imax | | 100kA |
| Voltage protection level Up | @In | <3.2kV |
| | @VPR | <2.6kV |
| Response time | | ≤25 ns |
| Backup fuse(only required if not already provided in mains) | | 160A gR/gPV (1100Vdc) |
| Operating temperature range | | - 40℃ ~ + 80℃ |

●-S for remote alarm terminal optional

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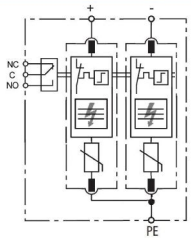
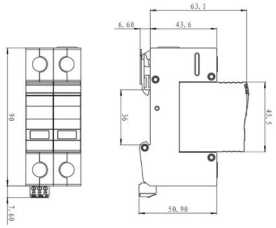
# Class II (Type 2) SPD

For Photovoltaic and DC System

**SPV600-V-C-S**




Basic circuit diagram




Dimension drawing

**More Chioce**
**(Ucpv:12V~750Vdc)**

**PV50-600-V-C-S**

**PV40-48-V-C-S**

## Features:

- Type 4 for Type1/2 surge protective devices, for Photovoltaic and DC system
- In accordance with EN50539 and UL1449-4th.
- UL listed, UL file No.E319871
- Pluggable design with window fault indication
- Nominal discharge current In 20kA 8/20 per pole, max discharge current Imax 50kA 8/20 per pole
- High reliability due to global patented thermally protected MOV (TMOV) with special arc-extinguish device

| Type | | SPV500-V-C-S | SPV600-V-C-S |
|---|---|---|---|
| In accordance with | | UL1449-4th | |
| Category IEC/VDE | | Type 4 for Type 1/2 application | |
| Protection Mode | | Common mode | |
| Nominal voltage (Vdc) | Un | 500 | 600 |
| Max. continuous operating voltage (Vdc) | Uc | 560 | 745 |
| Nominal discharge current(8/20) | In | 20kA | |
| Max. discharge current(8/20) | Imax | 50kA | |
| Voltage protection rating | @VPR | <1.5kV | <1.8kV |
| | @MLV | <2.4kV | <2.8kV |
| Short-circuit current rating(Iscpv) | | 1000A | |
| Response time /Follow current | | ⩽25 ns /No | |
| Backup fuse(only required if not already provided in mains) | | 125A gR/gPV | |
| Operating temperature range | | - 40℃ ~ + 80℃ | |

●-S for remote alarm terminal optional



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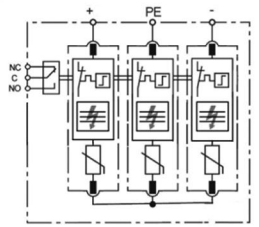
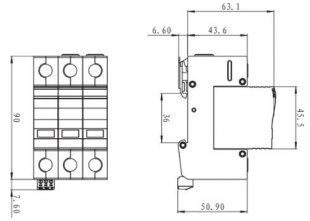
# Class II (Type 2) SPD

For Photovoltaic system

**SPV1000-V-CD-S**




Basic circuit diagram




Dimension drawing

**More Chioce**
**(Ucpv:600V~1500Vdc)**

**PV50-1000-V-CD-S**

**PV50-1200-V-CD-S**

## Features:

- Type 4 for Type1/2 surge protective devices, for Photovoltaic surge protection
- In accordance with EN50539 and UL1449-4th.
- UL listed, UL file No.E319871
- Pluggable design with window fault indication
- Nominal discharge current In 20kA 8/20 per pole, max discharge current Imax 50kA 8/20 per pole
- High reliability due to global patented thermally protected MOV (TMOV) with special arc-extinguish device

| Type | | SPV600-V-CD-S | SPV750-V-CD-S | SPV1000-V-CD-S | SPV1200-V-CD-S |
|---|---|---|---|---|---|
| In accordance with | | UL1449-4th | | | |
| Category IEC/VDE | | Type 4 for Type 1/2 application | | | |
| Protection Mode | | Common mode & Differential mode | | | |
| Nominal voltage (Vdc) | Un | 600 | 750 | 1000 | 1200 |
| Max. continuous operating voltage (Vdc) | Uc | 700 | 840 | 1200 | 1490 |
| Nominal discharge current(8/20) | In | 20kA | | | |
| Max. discharge current(8/20) | Imax | 50kA | | | |
| Voltage protection rating | @VPR | <1.8kV | <2.0kV | <3.0kV | <3.6kV |
| | @MLV | <4.2kV | <4.4kV | <4.8kV | <5.6kV |
| Short-circuit current rating(Iscpv) | | ⩽25 ns | | | |
| Response time /Follow current | | No | | | |
| Backup fuse(only required if not already provided in mains) | | 125A gR/gPV | | | |
| Operating temperature range | | - 40℃ ~ + 80℃ | | | |

●-S for remote alarm terminal optional

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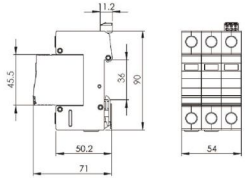
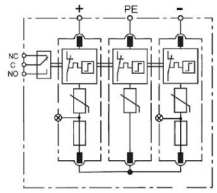
# Class II (Type 2) SPD

For Photovoltaic system

**SPV25-1000-VF-CD-S**

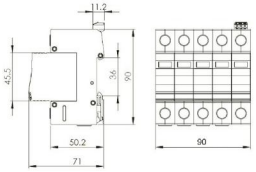



Dimension drawing

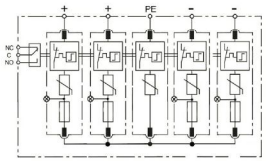



Basic circuit diagram

**SPV25-1000-VF-CD-2-S**




Dimension drawing




Basic circuit diagram

## Features:

- Special design of SPD with internal fuse for Photovoltaic
- Common mode & Differential mode surge protection
- Inbuilt fuse in series with MOV design for more reliable over-current protection
- Failure indicators on both MOV and internal Fuse
- Special MOV technology for DC application with long service life
- Dry contact is optional

| Type | | SPV25-1000-VF-CD-S |
|---|---|---|
| In accordance with | | EN50539;IEC61643-11:2011; UL1449-4th |
| Category IEC/VDE | | II/ C |
| Protection Mode | | Common mode & Differential mode |
| Nominal voltage (Vdc) | Un | 1000 |
| Max. continuous operating voltage (Vdc) | Uc | 1020 |
| Nominal discharge current(8/20) | In | 12.5kA |
| Max. discharge current(8/20) | Imax | 25kA |
| Voltage protection rating | @VPR | <4.0kV |
| | @MLV | <3.2kV |
| Response time | | ≤25 ns |
| Follow current | | No |
| Short-circuit current rating(Iscpv) | | 1000A |
| Thermal disconnector | | Internal MOV(green - normal ; red - failure) ;FUSE（LED on-normal, LED off-failure） |

●-S for remote alarm terminal optional



# Class I (Type 1) SPD

for Wind Energy System

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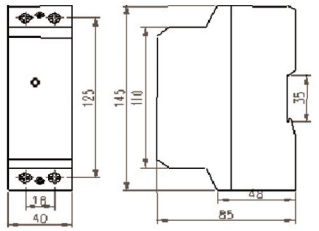
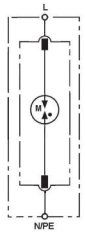
**G35/760-WT**




Dimension drawing




Basic circuit diagram

## Features:

- Comply with IEC 61643-11 and UL1449-4th
- Class I/B surge arrester for use in wind turbines
- Max. continuous operating voltage up to 760Vac
- High discharge capacity of 35kA 10/350, 120kA 8/20
- Fast response

| Type | G35/760-WT |
|---|---|
| In accordance with | IEC61643-11:2011; UL1449-4th |
| Category IEC/VDE | I / B |
| Max. continuous operating voltage Uc | 760Vac |
| Nominal discharge current(8/20) In | 35kA |
| Max. discharge current(8/20) Imax | 120kA |
| Lightning impulse current (10/350) Iimp | 35kA |
| Voltage protection level (1.2/50) Up | ≤4kV |
| Response time | ≤100 ns |
| short-circuit current rating (Isccr)& follow current | Isccr =10kArms ; Ifi⩾10kArms@255Vac |
| interrupt rating (Ifi) | 250A gL/gG |
| Backup fuse(only required if not already provided in mains) | - 40℃ ~ + 80℃ |

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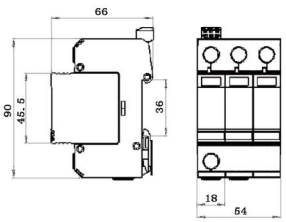
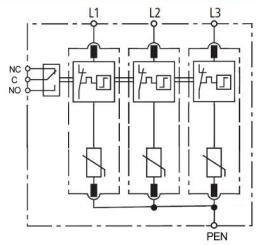
# Class II (Type 2) SPD

for Wind Energy System


**DT40/xxx-3V-S/WT**




Dimension drawing




Basic circuit diagram

## Features:

- Comply with IEC 61643-11 and UL1449-4th
- High Discharge Capacity with 8/20 us waveform, Imax 40kA
- Max. continuous operating voltage up to 850Vac, especially for wind turbine system
- Visual status indication and remote signal contact available.
- Pluggable design, easy replaced without any tools.
- Fast response

| Type | | DT40/750-3V-S/WT | |
|---|---|---|---|
| In accordance with | | IEC61643-11:2011; UL1449-4th | |
| Category IEC/VDE | | II/C | |
| Max. continuous operating voltage (VAC/VDC) Uc | | 750/970 | 850/1100 |
| Nominal discharge current(8/20) In | | 20kA | 20kA |
| Max. discharge current(8/20) Imax | | 40kA | 40kA |
| Voltage protection rating | @In | <3.5kV | <3.8kV |
| | @VPR | <2.8kV | <3.0kV |
| Response time | | ≤25 ns | |
| Follow current | | No | |
| Backup fuse(only required if not already provided in mains) | | 125A gL/gG | |
| Operating temperature range | | - 40℃ ~ + 80℃ | |

●-S for remote alarm terminal optional



# Surge Arresters for Lighting Application

ProSurge®
*Surge Protection is Our Industry*

Prosurge's compact and thermally protected SPD is especially for LED light fixtures for transient overvoltage protection. It is built with Prosurge*s patented thermally protected MOV, provides fast and reliable surge protection.

## Features:

- Meet IEC 61643-11 and UL1449-4th
- Max. discharge current from 6kA (8/20) up to 25kA (8/20) per phase
- Open circuit voltage Uoc 6kV to 20kV.
- IP65 Water-proof
- Offering full mode protection to L-PE, L-N, N-PE
- LED light indication and remote signal contact available.
- Series connected and Parallel connected are available

## Applications:

- Tunnel, Roadway lighting
- Outdoor LED lightning, LED Street lighting
- Traffic lighting, Flood lighting
- Digital signage , Parking lot lighting
- Wash wall lighting etc.

## Part Numbering Code

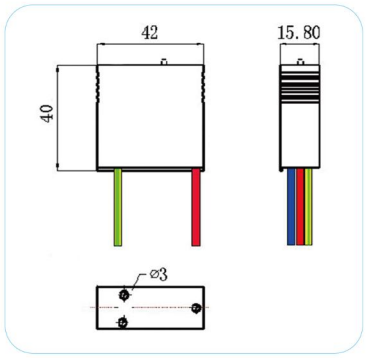
**HIT WS ***/xxx - && / #**

- **Connection type (*S* for series connection; * P* for parallel connection)**
- **Max. discharge current Imax (8/20)**
- **Max. continuous operating voltage Uc (150~550Vac)**
- **Modules combination (1V, 2V, 3V, V+T,2V+T)**
- **SPD family for LED street Light**
- **Product logo**

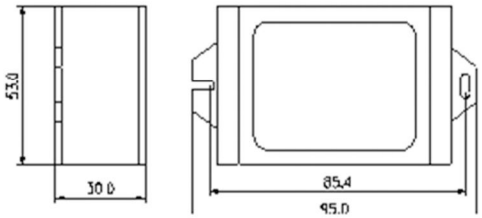
★series connection: Rated load Current 3A

# Dimensions

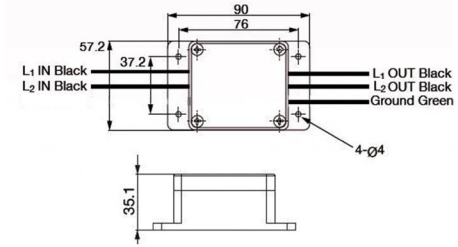

**WS(2V+T)/xxx-6 & WS(V+T)/xxx-10**
**WS(V+T)/xxx-20& WS1V/xxx-20**
**42*40*16mm**



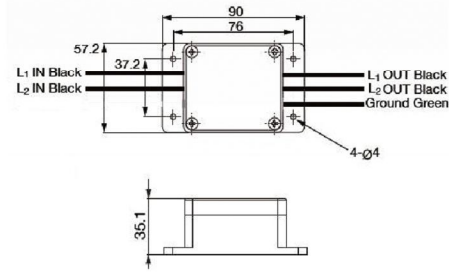
**WS(2V+T)/xxx-10/# & WS(V+T)/xxx-10/#**
**WS(V+T)/xxx-20/# & WS3V/xxx-10/#**
**90*53*30mm**



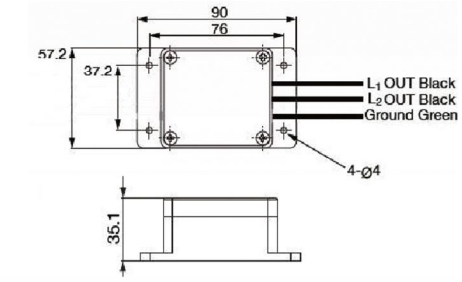

**WS2V/xxx-25/#**
**90*58*35mm**




**WS3V/xxx-25/S**
**90*58*35mm**




**WS3V/xxx-25/P**
**90*58*35m**






Surge Arresters for Lighting Application
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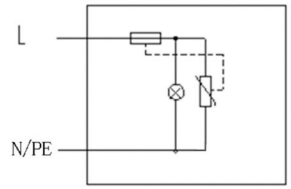
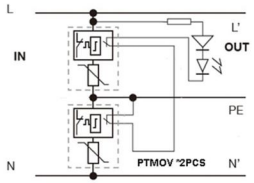
## Product Specifications

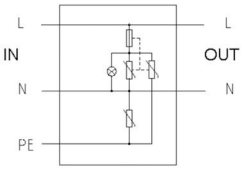
| Uc xxx | 150~180Vac | 275~320Vac | 420Vac | 550Vac |
|---|---|---|---|---|
| Power supply system | 120Vac | 220~277Vac | 347Vac | 480Vac |
| Voltage protection level Up | 600Vac | 1200~1400Vac | 1400Vac | 1800Vac |



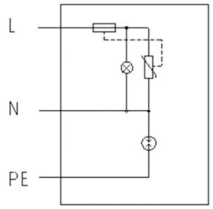

1V



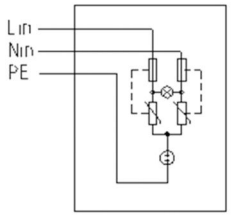

2V




3V




V+T




2V+T

| Part No. | Maximum Discharge Current Imax(8/20μs) | Nominal Discharge Current In (8/20μs) | Protection mode | | | Uoc |
|---|---|---|---|---|---|---|
| | | | L-N | L-G | N-G | |
| WS(2V+T)/xxx-6 | 6kA | 3kA | -- | Y | Y | 6kV |
| WS(2V+T)/xxx-10/S<br>WS(2V+T)/xxx-10/P | 10kA | 5kA | -- | Y | Y | 10kV |
| WS(V+T)/xxx-10 | 10kA | 5kA | Y | -- | Y | 10kV |
| WS(V+T)/xxx-10/S<br>WS(V+T)/xxx-10/P | 10kA | 5kA | Y | -- | Y | 10kV |
| WS3V/xxx-10/S<br>WS3V/xxx-10/P | 10kA | 5kA | Y | Y | Y | 10kV |
| WS(V+T)/xxx-20 | 20kA | 10kA | Y | -- | Y | 20kV |
| WS(V+T)/xxx-20/S<br>WS(V+T)/xxx-20/P | 20kA | 10kA | Y | -- | Y | 20kV |
| WS(V+T)/xxx-20 | 20kA | 10kA | Y | Y | -- | 20kV |
| WS2V/xxx-25/S<br>WS2V/xxx-25/P | 25kA | 10kA | -- | Y | Y | 20kV |
| WS3V/xxx-25/S<br>WS3V/xxx-25/P | 25kA | 10kA | Y | Y | Y | 20kV |

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# One-Port Panel SPDs for AC Power

Prosurge PSP series surge panel is designed in according to UL1449-4th. With Large surge energy capability available from 25kA to 800kA/phase. It is suitable for using in service entrance applications to smaller distribution panels.

## Features:

- UL 1449 4th with SCCR 200KArms listed thermally protected MOV technology(PTMOV) Patent protected
- Full modes protection
- Large surge energy capability with compact size
- Low voltage protection level.
- NEMA 4 enclosure
- Degradation failure indication.
- Surge event counter optional
- Failure pre-test optional
- Sine wave tracking function optional
- Surge Monitor optional
- Threaded NPT

## Applications:

- For commercial and industrial applications where sensitive electronic equipment is to be protected.
- For service entrance surge protection
- Switchgear and distribution panel.

**Type A:** W*D*H:90*58*35mm
for 1ph & Split 25~50kA/Phase

**Type B :** W*D*H:130*80*70mm
25~50kA/Phase

**Type C :** W*D*H:175*125*100mm
75~200kA/Phase

**Type D:** W*D*H:200*150*100mm
250~300kA/Phase

**Type E :** W*D*H:232*170*109mm (Metal)
75~300kA/Phase

**Type F** :W*D*H:358*307*154mm (Metal)
400~800kA/Phase



One-Port Panel SPDs for AC Power

ProSurge®
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## Model Configuration: PSP && xx - /P- #

- PSP — SPD family (Panel SPD)
- && — Voltage code for power distribution system
- xx — Max. Surge current per phase
- /P — Plastic enclosure (without */P* : Metal enclosure)
- # — Optional function

## && : Voltage code for power distribution system

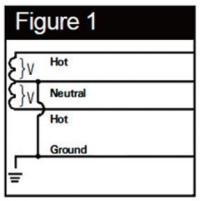
| | |
|---|---|
| 120SP ,240SP= 120/240V;240/480V Split-phase three-wire+ground | (Figure1) |
| 127Y,277Y,347Y = 220Y/127V,380Y/220V&400Y/230V&415Y/240V&480Y/277V, 600Y/347V Three-phase wye(star)four-wire+ground | (Figure2) |
| 120H,240H = 120/240V,240V/480V Three-phase high leg delta | (Figure3) |
| 240D,480D,600D = 240V,480V,600V Three-phase delta three-wire+ground | (Figure4) |
| 127S,277S,347S,480V =127V,220&230V&240V&277V,347V,480V Single-phase two-wire+ground | (Figure5) |

## xx: Max. surge current per Phase (Available from 25kA ~ 800kA/Phase)

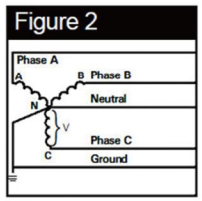
/P : Plastic enclosure (without */P* : Metal enclosure)
/P for Type A/B/C/D; (without*/P* for Type: E/F)

## # : Optional function

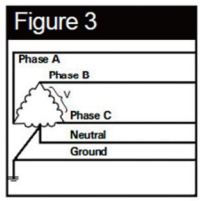
| | |
|---|---|
| C = Surge Counter | (for Type C/D/E/F ) |
| T=Failure Test | (for Type C/D/E/F) |
| A=Remote Alarm | (for Type B/C/D/E/F) |
| F = Sine wave tracking | (for Type B/C/D/E/F) |
| M = Surge Monitoring | (for Type C/D/E/F) |



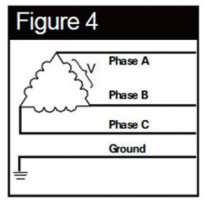

SPLIT
2 Hots, 1 Neu, 1 Grnd



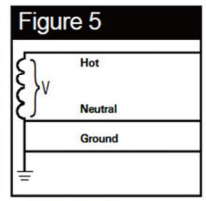

WYE
3 Hots, 1 Neu, 1 Grnd




HI-LEG DELTA (B High)
3 Hots, (B HIGH),
1 Neu, 1 Grnd




DELTA & HRG WYE
3 Hots, 1 Grnd




SINGLE POLE
1 Hot, 1 Neu, 1 Grnd

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# Two-Port Surge Filter

Prosurge BSF series surge filter is two-port Surge Protective Device with LC Filter especially for low-voltage power supply system surge protection at the boundaries from lightning protection zone 0B-2 and higher.

## Part Number Description: BSF&&&-x/***-###A-$$$(-VT)

**BSF :** Box type Surge power Filter
**&&&:** Max. surge current (Available from 25kA ~200KA)
**x:** Power system (1/3:single phase/three phase)
***** :** Input voltage – Uc(150/180/275/320/420/550)
**###:** Load Current rating - continuous (5A/10A/16A/20A/32A/50A/63A/100A/ 120A : )
**$$$:** protection mode (3P: 3+0 PN:1+1;3PN: 3+1) .
**(-VT):** Optional Prosurge "VT" technology: Spark Gap & MOV combination technology, no leakage current, no follow current, high TOV capacity, low voltage protection level, Intelligent distinguish power frequency current and surge current to guarantee long service life and reliability

## Features:

- Different Technology optional: MOV, Spark Gap, MOV & Spark Gap combination etc.
- High Surge capacity: 25kA~ 200kA per module available for primary stage protection
- Different load current: 5A ~ 120A available for single phase or 3 phase
- Overload short circuit protection Fuse / Circuit Breaker available
- Lower pass filter L-C with working at frequency 600Hz~3500Hz
- Multi-mode protection L-N, L-E & N-E
- Multi-stage protection circuit design including Primary stage + Filter Circuit L/C + Secondary stage protection
- LED failure indication
- Remote alarm function available
- Surge counter optional

L*W*H:360*280*132
for 1ph 50A~120A/120kA~200kA


L*W*H:220*143*48
for 1ph 20A~45A


L*W*H:152*133*48
for 1ph 10A~16A

L*W*H:870*630*150
for 3ph 80A~120A/200kA

L*W*H:510*370*140
for 3ph 50~63A / Imax 200KA


L*W*H:120*65*35.5
for 1ph 5A~10A

# Din Rail Surge Filter

ProSurge®
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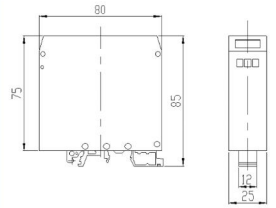
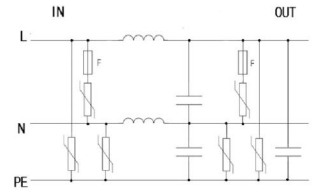
**DSF10/xxx-10A/3P/C**




Dimension drawing




Basic circuit diagram

## Features:

- Class III (D) surge protector in accordance with IEC61643-11 and UL1449-4th
- Surge power filter with rated load current 10A, max discharge current 20kA 8/20
- Interference suppressor filter >40dB @ 1MHz
- Low voltage protection level
- Failure indication by LED

| Type | | DSF10/175-10A/3P/C | DSF10/320-10A/3P/C |
|---|---|---|---|
| In accordance with | | IEC61643-11:2011; UL1449-4th | |
| Category IEC/VDE | | III / D | |
| Nominal Voltage Un | | 100-130V 1phase 2W | 200-250V 1 phase 2W |
| Max. continuous operating voltage (AC) | | 175 | 320 |
| Max.continuous current rating | | 10A | |
| Protection modes | | Line-Neutral, Line-Earth, Neutral-Earth | |
| Nominal discharge current(8/20) In/mode | | 5kA | |
| Max. discharge current(8/20) Imax/mode | | 10kA | |
| Max. discharge current(8/20) Imax/phase | | 20kA | |
| Voltage protection level (Up) | @In | <0.8kV | <1.2kV |
| | @VPR | <0.7kV | <1.0kV |
| Temporary overvoltage - TOV | | 195VAC | 370VAC |
| Filter attenuation | | >40dB @ 1MHz | |
| Internal protection (fusing) | | Thermal fusing on primary MOVs | |
| External disconnector requirements | | 10A HRC fuse | |
| Environment | | -10 to 60?C, 0 to 90%RH (non-condensing) | |
| Cross-section of connection wire | | multi-strand 1.3- 2.5mm2 | |
| Mounting | | 35mm DIN-rail in accordance with EN 50022/DIN46277-3 | |
| Enclosure material | | thermoplastic; extinguishing degree UL94 V-0 | |
| Degree of protection | | IP20 | |
| Indicators | | LED Alarm, Green - Normal, IED off - fail | |
| Dimensions | | 80(L)*25(W)*85(H) | |

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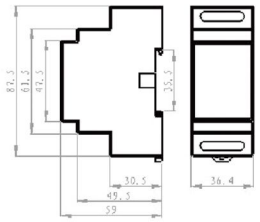
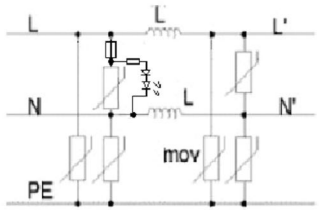
# Din Rail Surge Filter


**DSF10/xxx-10A/3P**




Dimension drawing




Basic circuit diagram

## Features:

- Class III (D) surge protector in accordance with IEC61643-11 and UL1449-4th
- With rated load current 10A to 16A, max discharge current 20kA 8/20 per phase
- Low voltage protection level
- Failure indication by LED light

| Type | | DSF10/175-10A/3P | DSF10/320-10A/3P | DSF10/175-16A/3P | DSF10/320-16A/3P |
|---|---|---|---|---|---|
| In accordance with | | IEC61643-11:2011; UL1449-4th | | | |
| Category IEC/VDE | | III / D | | | |
| Max. continuous Current rating | | 10A | | 16A | |
| Nominal Voltage Un | | 100-130V 1phase 2W | 200-250V 1phase 2W | 100-130V 1phase 2W | 200-250V 1phase 2W |
| Max. continuous operating voltage (AC) | | 175 | 320 | 175 | 320 |
| Protection modes | | Line-Neutral, Line-Earth, Neutral-Earth | | Line-Neutral, Line-Earth, Neutral-Earth | |
| Nominal discharge current(8/20) In/mode | | 5kA | | 5kA | |
| Max. discharge current(8/20) Imax/mode | | 10kA | | 10kA | |
| Max. discharge current(8/20) Imax/phase | | 20kA | | 20kA | |
| Voltage protection level (Up) | @In | <0.8kV | <1.2kV | <0.8kV | <1.2kV |
| | @VPR | <0.7kV | <1.0kV | <0.7kV | <1.0kV |
| Temporary overvoltage - TOV | | 195VAC | | 370VAC | |
| Internal protection (fusing) | | Thermal fusing on primary MOVs | | | |
| External disconnector requirements | | 10A HRC fuse | | 16A HRC fuse | |
| Environment | | -10 to 60?C, 0 to 90%RH (non-condensing) | | | |
| Indicators | | LED Alarm, Green - Normal, LED off - fail | | | |
| Dimensions | | 87(L)*36(W)*59(H)mm | | | |



Din Rail Surge Filter

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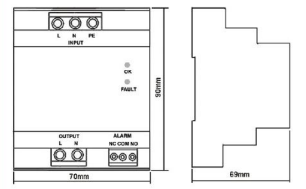
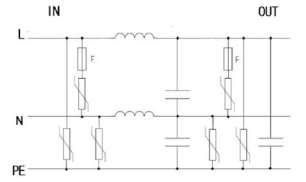
**DSF25/xxx-25A/3P/C-S**




Dimension drawing




Basic circuit diagram

## Features:

- Class III (class D) surge protector in accordance with IEC61643-11 and UL1449-4th
- Series type SPD/surge power filter, rated load current 25A with max discharge current 31kA 8/20 per phase
- Interference suppressor filter >45dB @ 1MHz
- Low voltage protection level
- Failure indication by LED
- With remote alarm contact

| Type | | DSF25/175-25A/3P/C-S | DSF25/320-25A/3P/C-S |
|---|---|---|---|
| In accordance with | | IEC61643-11:2011; UL1449-4th | |
| Category IEC/VDE | | III / D | |
| Nominal Voltage Un | | 100-130V 1∮ 2W | 200-250V 1∮ 2W |
| Max. continuous operating voltage (AC) | | 175 | 320 |
| Max.continuous current rating | | 25A | |
| Protection modes | | Line-Neutral, Line-Earth, Neutral-Earth | |
| Nominal discharge current(8/20) In/mode | | 10kA(L-N);3kA(L/N-PE) | |
| Max. discharge current(8/20) Imax/mode | | 25kA(L-N);6kA(L/N-PE) | |
| Max. discharge current(8/20) Imax/phase | | 31kA | |
| Voltage protection level Up | @In | <0.8kV | <1.2kV |
| | @VPR | <0.7kV | <1.0kV |
| Temporary overvoltage - TOV | | 195VAC | 370VAC |
| Filter attenuation | | >45dB @ 1MHz | |
| Internal protection (fusing) | | Thermal fusing on primary MOVs | |
| External disconnector requirements | | 25A HRC fuse or MCB | |
| Alarms/indicators | | 2 part display, Power OK, Protection fault. | |
| Dimensions | | 90mm (L) x 70mm (W) x 69mm (H) | |
| **Additional data for Remote Alarm Contacts** | | | |
| Remote alarm contact type | | Isolated Form C | |
| Switching capability | | dry contact alarm relay 125Vac1A;/30Vdc, 2A | |
| Max. Size of connecting wire | | Max. 1.5mm2(or # 16AWG) | |

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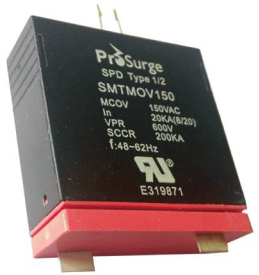
# Thermally Protected MOV (TMOV)

Prosurge Electronics' patented SMTMOV is widely adopted by global customers as the most crucial component for various SPDs, especially type 1 and type 2 surge panels.
It eliminates the possible failure caused by standard MOV. The SMTMOV is comprised of a voltage clamping device and a disconnecting apparatus that monitors the status of the MOV. In overvoltage situation, the MOV is securely disconnected from the system power by an arc shield.
Upon failure that SMTMOV can provide remote indication via micro-switch.

## Applications:

- Surge protective device and systems
- AC/DC distribution systems
- High voltage power supplies
- Telecommunications equipment
- Motor control systems
- Computer related products
- PLC applications
- Power transfer switches




## Features:

- Quick thermal response and perfect circuit cutoff function due to special thermal disconnector design with arc extinguishing device (Patent No. US20110170217A1).
- Wide operating temperature range and high reliability.
- High surge current capability and low leakage current.
- Floating remote signaling contact (50mA 12Vdc) for fault indication
- Type 2 SPD, application in the AC mains, service entrance, and heavy industrial etc.
- Short circuit current rating (SCCR) 200kArms
- UL1449-4th approved UL for Type 1 or 2 and CSA for Type 2. UL file No.:E319871
- Meeting IEC61643-11 standard
- CE; EN61643-11; EN61000-3/-6

| Model | MCOV | | Surge Current | | Varistor Voltage@1mA | VPR |
|---|---|---|---|---|---|---|
| | Vrms(V) | Vdc(V) | x 1 time @ 8/20 μ s | In 15 times @ 8/20 μ s | V1mA (V) | |
| SMTMOV150 | 150 | 200 | 50kA | 20kA | 228~270 | 600V |
| SMTMOV180 | 180 | 230 | 50kA | 20kA | 250~310 | 600V |
| SMTMOV275 | 275 | 350 | 50kA | 20kA | 409~475 | 800V |
| SMTMOV320 | 320 | 410 | 50kA | 20kA | 485~563 | 1000V |
| SMTMOV420 | 420 | 560 | 50kA | 20kA | 646~748 | 1500V |
| SMTMOV550 | 550 | 745 | 50kA | 20kA | 820~1000 | 1500V |
| SMTMOV690 | 690 | 910 | 40kA | 20kA | 1000~1250 | 2000V |



Thermally Protected MOV (TMOV)

ProSurge®
Surge Protection is Our Industry


**Remote signalling contact Model A**


**Remote signalling contact Model B**

## Features:

- Compact size to save much installation space
- Quick thermal response and perfect circuit cutoff function due to special thermal disconnector design with internal arc extinguishing device(Patent)
- Wide operating temperature range and high reliability
- High surge current capability
- Low leakage current
- Visual fault indication and floating remote signaling contact for fault indication
- Short circuit current rating (SCCR) up to 200kArms
- Application in the AC mains, service entrance, and heavy industrial etc.

| Model | MCOV | | Surge Current | | VPR |
|---|---|---|---|---|---|
| | Vrms(V) | Vdc(V) | x 1 time @ 8/20 μ s | In 15 times @ 8/20 μ s | |
| PTMOV150 | 150 | 200 | 25kA | 10kA | 600V |
| PTMOV180 | 180 | 230 | 25kA | 10kA | 700V |
| PTMOV275 | 275 | 350 | 25kA | 10kA | 900V |
| PTMOV320 | 320 | 410 | 25kA | 10kA | 1000V |
| PTMOV385 | 385 | 505 | 25kA | 10kA | 1300V |
| PTMOV420 | 420 | 560 | 25kA | 10kA | 1500V |
| PTMOV550 | 550 | 745 | 22kA | 10kA | 1800V |
| PTMOV690 | 690 | 910 | 22kA | 10kA | 2200V |

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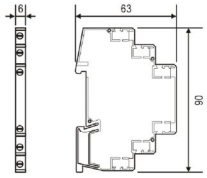
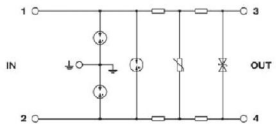
# Data Network SPD

## Features:

- For data and signal protection, can be used for tracker, controller etc. signal and data transmission surge protection
- Small size, only 6.2mm wide module
- Suitable to use for RS232 or RS485 protection
- One pair line protection




Dimension drawing



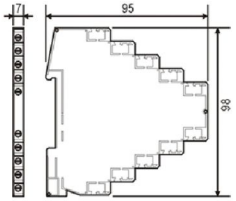

Basic circuit diagram

## DM-xxx/S2

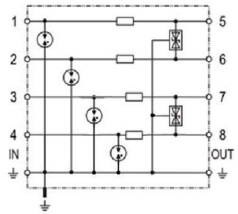
| Type | | DM-12/S2 | DM-24/S2 | DM-48/S2 | DM-110/S2 |
|---|---|---|---|---|---|
| Nominal voltage | Un | 12V | 24V | 48V | 110V |
| Rated voltage (max. continuous dc/ac) | Uc | 14V/9.5V | 33V/23V | 55V/38.5V | 170V/120V |
| Nominal current | Il | 0.5kA | | | |
| Lightning impulse current (10/350) per line | Iimp | 0.5kA | | | |
| Nominal discharge current (8/20) per line | In | 5kA | | | |
| Nominal discharge current (8/20) Total | In | 10kA | | | |
| Voltage protection level at In line-line | Up | ≤25V | ≤50V | ≤100V | ≤260V |
| Voltage protection level at In line-PG | Up | ≤750V | ≤750V | ≤750V | ≤750V |
| Voltage protection level at 1kV/ μs line-line | Up | ≤19V | ≤45V | ≤70V | ≤230V |
| Voltage protection level at 1kV/ μs line-PG | Up | ≤650V | ≤650V | ≤650V | ≤650V |

## Features:

- In according with IEC61643-21;
- Small size, only 7mm wide module
- Two-pair lines protection




Dimension drawing




Basic circuit diagram

## DM-xxx/S4

| Type | | DM-05/S4 | DM-12/S4 | DM-24/S4 | DM-32/S4 | DM-48/S4 | DM-110/S2 |
|---|---|---|---|---|---|---|---|
| Nominal voltage | Un | 5V | 12V | 24V | 32V | 48V | 110V |
| Rated voltage (max. continuous dc/ac) | Uc | 6V/4.2V | 15V/10.6V | 33V/23.3V | 36V/29V | 54V/38V | 170V/120V |
| Nominal current | Il | 0.7kA | | | | | |
| Lightning impulse current (10/350) per line | Iimp | 2kA | | | | | |
| Nominal discharge current (8/20) per line | In | 5kA | | | | | |
| Nominal discharge current (8/20) Total | In | 20kA | | | | | |
| Voltage protection level at In line-line | Up | ≤26V | ≤40V | ≤55V | ≤75V | ≤100V | ≤400V |
| Voltage protection level at In line-PG | Up | ≤26V | ≤40V | ≤55V | ≤75V | ≤100V | ≤400V |
| Voltage protection level at 1kV/ μs line-line | Up | ≤11V | ≤25V | ≤48V | ≤65V | ≤75V | ≤350V |
| Voltage protection level at 1kV/ μs line-PG | Up | ≤11V | ≤25V | ≤48V | ≤65V | ≤75V | ≤350V |



Data Network SPD

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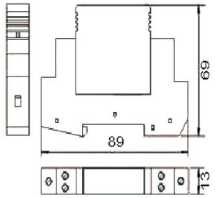
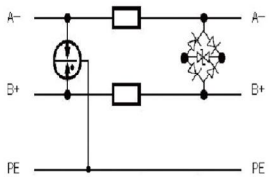
## Features:

- Data network SPD in according with IEC61643-21;
- Can be used for tracker, controller etc. signal and data transmission surge protection
- Pluggable surge protection for DIN mounting;
- Signal transmission is not interrupted when exchanging module
- Two-stage protection circuit.
- Suitable to use for RS232 or RS485 surge protection




Dimension drawing



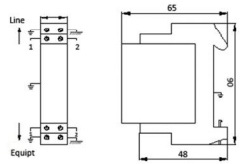

Basic circuit diagram

## DM-xxx/B0

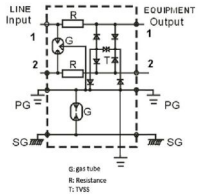
| Type | | DM-05/B0 | DM-12/B0 | DM-24/B0 | DM-48/B0 |
|---|---|---|---|---|---|
| In accordance with | | IEC 61643-21 | | | |
| Nominal voltage (Vdc) | Un | 5 | 12 | 24 | 48 |
| Max. continuous operating voltage (Vdc/ac) | Uc | 6/5 | 15/12 | 28/24 | 60/48 |
| C2 Nominal discharge current(8/20) | In | 5kA | | | |
| C2 Total nominal Discharge Current(8/20us) | | 10kA | | | |
| Voltage protection level (V) | L-L@C2 (8/20 μs)Up | <30 | <45 | <55 | <190 |
| Voltage protection level (V) | L-G@C2 (8/20 μs)Up | <500 | <500 | <500 | <500 |
| Voltage protection level (V) | L-L@C3 (8/20 μs)Up | <24 | <38 | <48 | <145 |
| Voltage protection level (V) | L-G@C3 (8/20 μs)Up | <600 | <600 | <600 | <600 |

## Features:

- Data network protector in according with IEC61643-21;
- Pluggable surge protection for DIN mounting;
- Two-stage protection circuit;
  2 pairs of line surge protection, SG and
- PG separately protected
- Suitable for RS485 surge protection




Dimension drawing




Basic circuit diagram

## DM-xxx/C0

| Type | | DM-06/C0 | DM-12/C0 | DM-24/C0 | DM-48/C0 |
|---|---|---|---|---|---|
| In accordance with | | IEC 61643-21:2005 | | | |
| Nominal voltage (Vdc) | Un | 5 | 12 | 24 | 48 |
| Max. continuous operating voltage (Vdc/ac) | Uc | 6/5 | 15/12 | 28/24 | 60/48 |
| C2 Nominal discharge current(8/20) | In | 5kA | | | |
| C2 Total nominal Discharge Current(8/20us) | | 10kA | | | |
| Voltage protection level (V) | L-L/L-PG@C2 (8/20 μs)Up | ≤30 | ≤45 | ≤100 | ≤100 |
| Voltage protection level (V) | PG-SG@C2 (8/20 μs)Up | ≤500 | ≤500 | ≤500 | ≤500 |
| Voltage protection level (V) | L-L/L-PG@C3 (8/20 μs)Up | ≤24 | ≤48 | ≤75 | ≤75 |
| Voltage protection level (V) | PG-SG@C3 (8/20 μs)Up | ≤600 | ≤600 | ≤600 | ≤600 |

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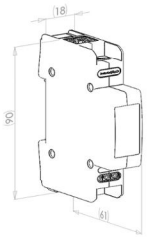
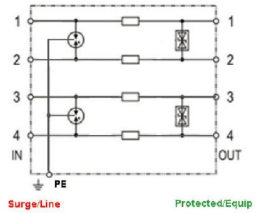
# Data Network SPD

**DM-xxx/M4A**



Dimension drawing




Basic circuit diagram

## Features:

- In according with IEC61643-21;
- For data and signal protection, can be used for tracker, controller etc. signal and data transmission surge protection
- Pluggable surge protection for DIN mounting;
- Two-stage protection circuit;
- Suitable for RS485 surge protection

| Type | | DM-05/M4A | DM-12/M4A | DM-24/M4A | DM-48/M4A | DM-110/M4A |
|---|---|---|---|---|---|---|
| In accordance with | | | | IEC 61643-21 | | |
| Nominal voltage (Vdc) | Un | 5 | 12 | 24 | 48 | 110 |
| Max. continuous operating voltage (Vdc/ac) | Uc | 6/5 | 15/12 | 28/24 | 54/38 | 170/120 |
| C2 Nominal discharge current(8/20) | In | | | 5kA | | |
| C2 Total nominal Discharge Curren(8/20us) | | | | 20kA | | |
| Voltage protection level (V) | L-LT@C2 (8/20 μs)Up | <30 | <45 | <55 | <100 | <400 |
| | L-G@C2 (8/20 μs)Up | <500 | <500 | <500 | <500 | <700 |
| | L-LT@C3 (8/20 μs)Up | <24 | <38 | <48 | <75 | <350 |
| | L-G@C3 (8/20 μs)Up | <600 | <500 | <600 | <600 | <800 |

# LSA-PLUS technology system

for Telephone line surge protection

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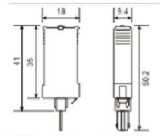
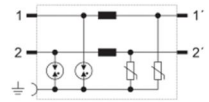
**LSA P110L**

## Features:

- Designed for using for telephone line protection or measurement and control system in according to IEC61643-21;
- Based on the LSA-PLUS wiring technology, easy for installation.
- Providing surge voltage protection for one pair of conductors or two single conductors.



Dimension drawing



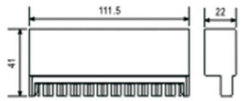

Basic circuit diagram

| Type | | LSA P12L | LSA P60L | LSA P110L |
|---|---|---|---|---|
| Nominal voltage | Un | 12V | 60V | 110V |
| Rated voltage (max. continuous d.c.voltage) | Uc | 14V | 100V | 180V |
| Rated voltage (max. continuous a.c.voltage) | Uc | 9.9V | 70.5V | 126.5V |
| Nominal current | IL | 0.36A | 0.36A | 0.36A |
| Lightning impulse current (10/350 μs) | Iimp | 0.5kA | 0.5kA | 0.5kA |
| Nominal discharge current (8/20 μs) per line | In | 5kA | 5kA | 5kA |
| Voltage protection level (line-PG) at 1 kV/ μs | Up | ⩽ 25 V | ⩽ 200 V | ⩽ 300 V |
| Bandwidth (line-PG) | fg | 0.14MHz | 0.14MHz | 0.14MHz |
| Series impedance per line | R | 100 μH+1.7 | 100 μ H+1.7 | 100 μ H+1.7 |
| Capacitance | C | ⩽ 3nF | ⩽ 0.3nF | ⩽ 0.15 nF |

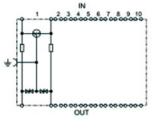
**LSA X P110L**

## Features:

- Designed for using for telephone system or measurement and control system in according to IEC61643-21;
- Based on the LSA-PLUS wiring technology, easy for installation.
- Providing surge voltage protection for ten pairs of conductors or twenty single conductors.
- High nominal discharge current 5kA 8/20 per line.
- Good transmission



Dimension drawing



Basic circuit diagram

| Type | | LSA X P 110L |
|---|---|---|
| Nominal voltage | UN | 110V |
| Rated voltage (max. continuous d. c. voltage) | UC | 180V |
| Rated voltage (max. continuous a. c. voltage) | UC | 126.5V |
| Nominal current | IL | 0.36A |
| Lightning impulse current (10/350 *s) | Iimp | 0.5kA |
| Nominal discharge current (8/20 *s) per line | In | 5kA |
| Voltage protection level (line-PG) at In | UP | ⩽ 500 V |
| Voltage protection level (line-PG) at 1kV/*s line-PG | UP | ⩽ 300 V |
| Bandwidth (line-PG) | fG | 0.14MHz |
| Series impedance per line | R | 100*H+1.7 |
| Capacitance line-PG | C | ⩽ 1nF |
| Response time | tA | ⩽ 25ns |

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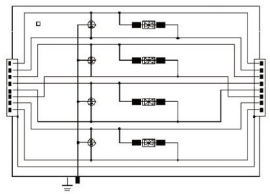
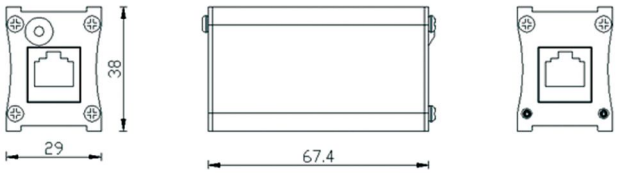
# Data Network SPD


## D05/RJ45-CAT6/H


## D-48/RJ45-CAT6/H (POE)



Basic circuit diagram




Dimension drawing

## Features:

- **Surge arrester for Ethernet, Twisted Pair, Cat 6 network systems against surges**
- **In according with IEC61643–21;**
  **High discharge capability, total nominal discharge current 8kA 8/20**
- **Simple installation;**
- **Din Rail Type is available;**

| Type | | D-05/RJ45-CAT6/H | D-05/RJ45-CAT6/H (POE) |
|---|---|---|---|
| In accordance with | | IEC 61643-21:2005 EN50173 Category 6 | IEC 61643-21:2005 EN50173 Category 6 IEEE 802.3af |
| Nominal voltage (Vdc) | Un | 05 | 48 |
| Max. continuous operating voltage (Vdc/ac) | Uc | 06 | 48 |
| C2 Nominal discharge current(8/20) | In | 2.5kA | 2.5kA |
| C2 Total nominal Discharge Curren(8/20us) | | 8kA | 8kA |
| Lightning impulse current (10/350us) | | 500A | |
| Voltage protection level (V) | @C2 (8/20 μs)Up | <35 | <190 |
| | @C3 (8/20 μs)Up | <13 | <145 |
| Nominal Current (A) | IL | 200mA | |
| Transmission Speed(bps) | | 1000Mbps | |
| Ttransmission standards | | 10BaseT/ 100BaseT/1000BaseT /1000BaseTX(CAT6)/(CAT6)/POE(15W) | |
| Pinning | | 1/2, 3/6, 4/5, 7/8 | |



Data Network SPD

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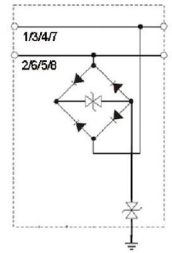
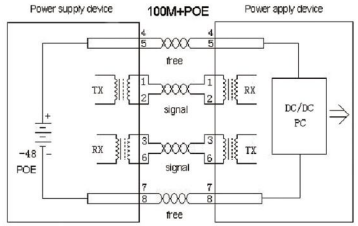
## DSB-05/RJ45-CAT6-16P(POE)




Basic circuit diagram




Basic circuit diagram

## Features:

- Telecommunication protector In according with IEC61643-21;
- 16 ports surge protection modules with RJ45 connector;
- Available for Ethernet network and Telecom;
- 19" bay design, can be installed conveniently on the 19 inch’s standard machine-cabinet;
- Fast response;

| Type | | DSB-05/RJ45-CAT6-16P(POE) In accordance with IEC 61643-21 ; EN50173 Category 6 | |
|---|---|---|---|
| Pinning | | 1/2,3/6,4/5,7/8 for data | 1&2/ 3&6 or 4&5/ 7&8 for POE |
| Nominal voltage (Vdc) Un | | 5 | 48 |
| Max. continuous operating voltage (Vdc/ac) Uc | | 6/5 | 60/48 |
| C2 Nominal discharge current(8/20) In | | 100A | |
| C2 Total nominal Discharge Current(8/20us) | | 400A | |
| Voltage protection level (V) | @C2 (8/20 μs)Up | <30 | <250 |
| | @C3 (8/20 μs)Up | <24 | <190 |
| | | --- | 0.5 |
| | | 1000Mbps | --- |
| | | ⩽3.0 | --- |
| | | 10BaseT / 100BaseT/1000BaseT /1000BaseTX(CAT6) | --- |
| | | 19 inch’s standard machine-cabinet | |
| | | RJ45 Female/ Female *16pcs | |
| | | 482X 89 X 27 | |
| | | - 0℃ ~ + 80℃ | |

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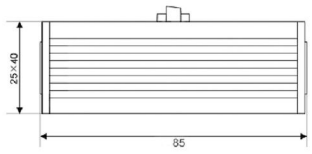
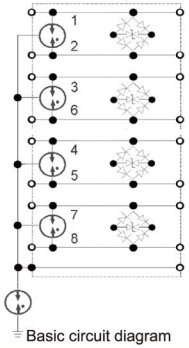
# Data Network SPD

**D-xxx/RJ45H-8**

**D-xxx/RJ45H-8(POE)**




Dimension drawing




Basic circuit diagram

## Features:

- Data network protector In according with IEC61643-21;
- RJ45 connector for cat5 network technology, 10BaseT, 100BaseT, 8 wires protection.
- Also Application for analogue, ISDN,DSL system, Ethernet Twisted Pair;
- Din Rail Type is available;

| Type | | D-05/RJ45H-8 | D-12/RJ45H-8 | D-24/RJ45H-8 | D-48/RJ45H-8 |
|---|---|---|---|---|---|
| In accordance with | | IEC 61643-21 | | | |
| Nominal voltage (Vdc) | Un | 05 | 12 | 24 | 48 |
| Max. continuous operating voltage (Vdc/ac) | Uc | 6/5 | 15/12 | 28/24 | 60/48 |
| C2 Nominal discharge current(8/20) | In | 100A (L-L) /2.5kA(L-G) | | | |
| C2 Total nominal Discharge Curren(8/20us) | | 400A (L-L) /20kA(L-G) | | | |
| Voltage protection level (V) | L-L@C2 (8/20 μs)Up | <30 | <45 | <55 | <190 |
| | L-G@C2 (8/20 μs)Up | <600 | <600 | <600 | <600 |
| | L-L@C3 (8/20 μs)Up | <24 | <38 | <48 | <145 |
| | L-G@C3 (8/20 μs)Up | <800 | <800 | <800 | <800 |
| Nominal Current (A) | IL | 1A | | | |
| Transmission Speed(bps) | | 1000Mbps | | | |
| Insertion loss at 80MHz (dB) | | ⩽3.0 | | | |
| Transmission standards | | 10BaseT/ 100BaseT/1000BaseT | | | |
| Pinning | | 1/2, 3/6, 4/5, 7/8 | | | |
| Mounting | | 35mm DIN-rail in accordance with EN 50022/DIN46277-3 ( Optional ) | | | |
| Type of Connection IN/OUT | | RJ45 Female/ Female | | | |
| Dimensions (mm) | | 85 X 25 X 40 | | | |
| Operating temperature range | | - 25℃ ~ + 70℃ | | | |



Data Network SPD

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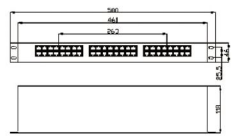
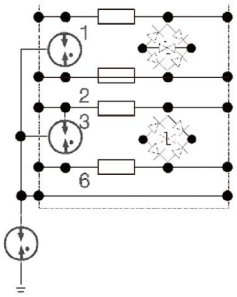
**DSB-xxx/RJ45H-24P**



Dimension drawing




Basic circuit diagram

## Features:

- Telecommunication protector In according with IEC61643-21;
- 24 surge protection modules with RJ45 connector;
- 19" bay design, can be installed conveniently on the 19 inch's standard machine-cabinet;
- Especially used in Ethernet10/100BaseT, ATM, Token Ring network system protection.

| Type | | DSB-5/RJ45H-24P | DSB-12/RJ45H-24P | DSB-24/RJ45H-24P | DSB-48/RJ45H-24P |
|---|---|---|---|---|---|
| In accordance with | | IEC 61643-21 | | | |
| Nominal voltage (Vdc) | Un | 05 | 12 | 24 | 48 |
| Max. continuous operating voltage (Vdc/ac) | Uc | 6/5 | 15/12 | 28/24 | 60/48 |
| C2 Nominal discharge current(8/20) | In | 100A (L-L) /2.5kA(L-G) | | | |
| C2 Total nominal Discharge Curren(8/20us) | | 400A (L-L) /10kA(L-G) | | | |
| Voltage protection level (V) | L-L@C2 (8/20 μs)Up | <30 | <45 | <55 | <190 |
| | L-G@C2 (8/20 μs)Up | <600 | <600 | <600 | <600 |
| | L-L@C3 (8/20 μs)Up | <24 | <38 | <48 | <145 |
| | L-G@C3 (8/20 μs)Up | <800 | <800 | <800 | <800 |
| Nominal Current (A) | IL | 1A | | | |
| Transmission Speed(bps) | | 1000Mbps | | | |
| Insertion loss at 80MHz (dB) | | ⩽3.0 | | | |
| Ttransmission standards | | 10BaseT/ 100BaseT/1000BaseT | | | |
| Pinning | | 1/2, 3/6 | | | |
| Mounting | | 19 inch*s standard machine-cabinet | | | |
| Type of Connection IN/OUT | | RJ45 Female/ Female | | | |
| Dimensions (mm) | | 500 X 118 X 46 | | | |
| Operating temperature range | | - 25℃ ~ + 70℃ | | | |

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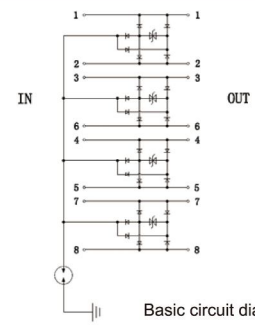
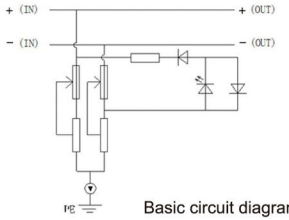
# Data Network SPD


Basic circuit diagram




Basic circuit diagram

## D24RJ45-P24DT/2F

## Features:

- Combined SPD, provides surge protection for power supply and Ethernet
- In according with IEC61643-21
- Degradation failure indicates

| Type | | D24RJ45-P24DT/2F |
|---|---|---|
| In accordance with | | IEC 61643-21 |
| Dimensions (mm) | | 84.4*61.4*34 |
| Operating temperature range | | - 40℃ ~ + 80℃ |
| **Power protection parameter(DC) (Type2)** | | |
| System voltage(50/60Hz) (Vdc) | Un | 24V |
| Max. continuous operating voltage (Vdc) | Uc | 26.8V |
| Nominal discharge current(8/20) | In | 5kA |
| Max Discharge current Imax (8/20 μs) | Imax | 10kA |
| Voltage protection level (V) | Up | <300V |
| Rated current (A) | IL | 2A |
| Type of Connection | 7mm Terminal Block | |
| **Ethernet protection parameter(RJ45) (Type2)** | | |
| Nominal voltage (Vdc) | Un | 24V |
| Max. continuous operating voltage (Vdc) | Uc | 26.8V |
| C2 Nominal discharge current(8/20) | In | 250A |
| C2 Total nominal Discharge Current (8/20us) | | 1kA |
| Voltage protection level (V) | L-L@C2 (8/20 μs)Up | <55V |
| | L-PG@C2 (8/20 μs)Up | <500V |
| | L-L@C3 (1KV/ μs)Up | <48V |
| | L-PG@C3 (1KV/ μs)Up | <700V |
| Transmission Speed (bps) | 1000Mbps | |



# Lightning Event Counter

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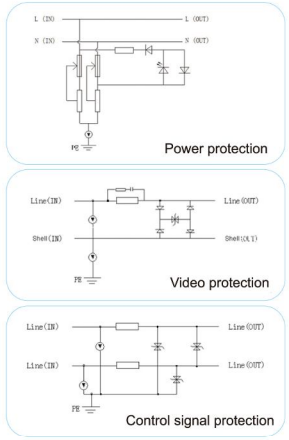


## C24T-V05BNC-P230T/3F

## Features:

- Combined SPD, especially used in monitoring camera chain protection, provides full protection for mains, video and control system;
- Simple installation with BNC connector and connection clamps;

| Type | | C24T-V05BNC-P230T/3F |
|---|---|---|
| In accordance with | | IEC 61643-21 |
| Dimensions (mm) | | 84.4*61.4*34 |
| Operating temperature range | | - 40℃ ~ + 80℃ |
| **Power protection parameter(DC) (Type2)** | | |
| System voltage(50/60Hz) (Vdc) | Un | 230/440V |
| Max. continuous operating voltage (Vdc) | Uc | 320V |
| Nominal discharge current(8/20) | In | 5kA |
| Max Discharge current Imax (8/20 μs) | Imax | 10kA |
| Voltage protection level (V) | Up | <0.9kV |
| Rated current (A) | IL | 2A |
| Type of Connection | 7mm Terminal Block | |
| **Ethernet protection parameter(RJ45) (Type2)** | | |
| Nominal voltage (Vdc) | Un | 5V |
| Max. continuous operating voltage (Vdc) | Uc | 6V |
| C2 Nominal discharge current(8/20) | In | 5A |
| C2 Total nominal Discharge Current (8/20us) | | 10kA |
| Voltage protection level (V) | L-L@C2 (8/20 μs)Up | <300V |
| | L-PG@C2 (8/20 μs)Up | <500V |
| | L-L@C3 (1KV/ μs)Up | <24V |
| | L-PG@C3 (1KV/ μs)Up | <700V |
| Transmission Speed (bps) | 1000Mbps | |
| **Control signal protection parameter (Type2)** | | |
| Nominal voltage (Vdc) | Un | 24V |
| Max. continuous operating voltage (Vdc) | Uc | 28V |
| C2 Nominal discharge current(8/20) | In | 5kA |
| C2 Total nominal Discharge Current (8/20us) | | 10kA |
| Voltage protection level (V) | L-L@C2 (8/20 μs)Up | <55V |
| | L-PG@C2 (8/20 μs)Up | <55V |
| | L-L@C3 (1KV/ μs)Up | <48V |
| | L-PG@C3 (1KV/ μs)Up | <48V |

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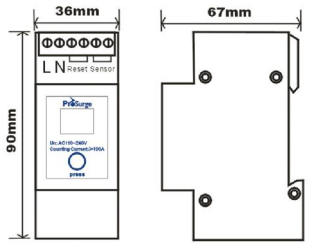
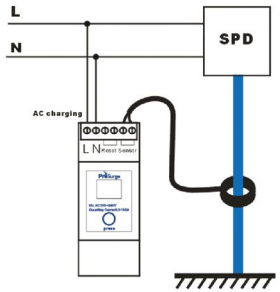
# Lightning Event Counter

LEC-A




Dimension drawing



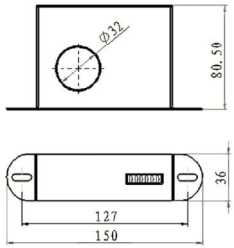

## Features:

- LEC-A lightning event counter is used for regrstering the lightning event in a certain area.
- Potential-free registration of discharge currents of surge protective device
- Sensitive response, trigger current from 100A
- Stable capability, strongly anti-jamming
- Din rail design, easy to install and use
- Easy installation by enclosing the earth conductor of the arrester with an open toroidal core
- Voltage or current counting alternative is available
- 2 digital LCD display with setting and resetting buttons
- AC online charging to the battery

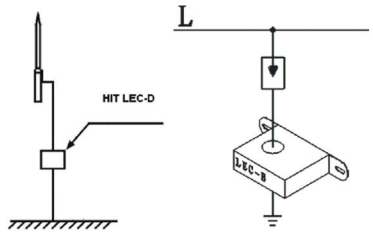
| Type | LEC-A |
|---|---|
| Nominal Voltage | AC:110~240V |
| Counting Current (rise time ⩾8 μs) | ⩾100A |
| Display Model | LCD |
| Indicator | Lightning Event 0~99 |
| Reset | short-circuit tow terminals of “RESET” |
| Current Sample Mode | Inductive Probe |
| Working mode | Battery service life> 3month without AC power |
| Operation temperature (℃) | -20~+60 |
| Mounting on | 35 mm DIN rail |
| Dimension of counter (mm) | 150x80.5x36,2 modules, DIN 43880 |
| Screw torque | 0.2Nm |
| Enclosure material | thermoplastic; extinguishing degree UL94 V-0 |

# Passive Lightning Event Counter


LEC-D




Dimension drawing




## Features:

- Passive lightning event counter is used for registering the direct lightning event.
- Long service life due to no battery need
- Sensitive response with trigger current 500A
- Can register very high lightning strike up to 150kA 8/20
- 32mm through hole, easy to install and use, a simple insertion of the down conductor
- Mechanical count, 6 digit display

| Type | LEC-D |
|---|---|
| Counting Current (rise time⩾8 μs) | > 500A |
| Sequence of impulse | > 1s |
| Display Model | Electromechanical digital display |
| Indicator | Lightning Event 0~999999 |
| Current Sample Mode | Inductive Probe (Built-in) |
| Working mode | No battery need |
| Operation temperature (℃) | -20~+60 |
| Dimension of window (mm) | 32 |
| Dimension of counter (mm) | 150x80.5x36 |
| Enclosure material | Steel |
| Degree of protection | IP67 |

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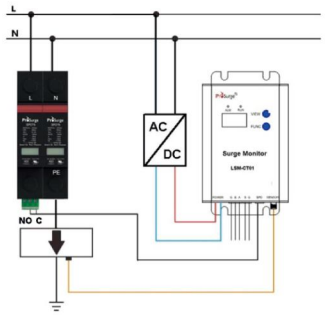
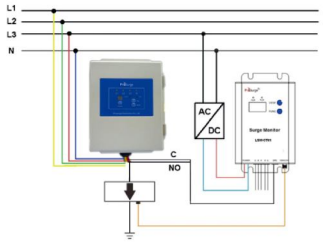
# Surge Monitor

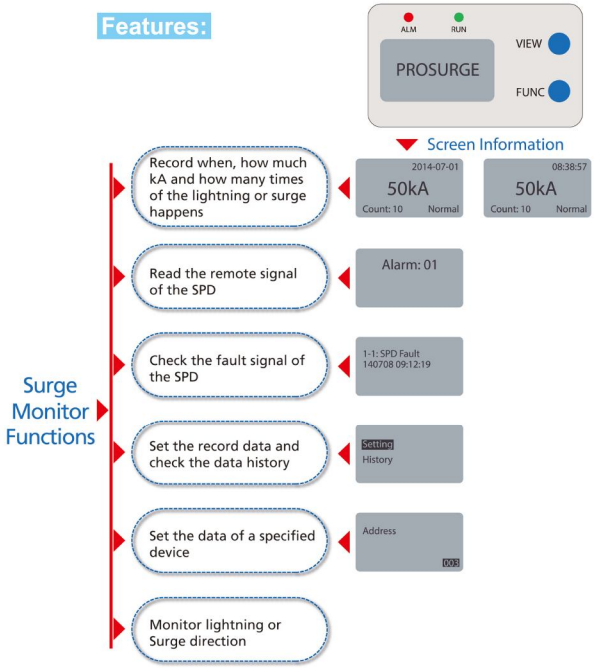

The surge monitor is designed for monitoring Lightning and surge system, tell when and how much kA and how many times of the lightning or surge passing through. It can be widely used in railway, wind turbine power plant, Photovoltaic power plant, Communication room, building and electric etc. applications.

## LSM-CT01




## Features:




| Technical data | LSM-CT01 |
|---|---|
| Rated input voltage | 10~28VDC (DC Switching Power Supply is not recommended) |
| Overall power consumption | ≤1W |
| Output voltage | 0~5V (correspond to 0~50kA) |
| Lightning current sensor | One way, 1~50kA, tolerance: ± 5% |
| Fault switch of the surge protective device | One way, give alarm when the switch closing |
| Input current for lightning protection | 10/700 us@5kV, 5 times each for positive and negative polarity with interval 1 minute |
| RS485 | 10/700 us@1kV, 5 times each for positive and negative polarity with interval 1 minute |
| MTBF | 100 thousand hours (base on Bellcore TR-332), 25℃ |
| Degree of protection | IP40 |

# Portable Surge Generator

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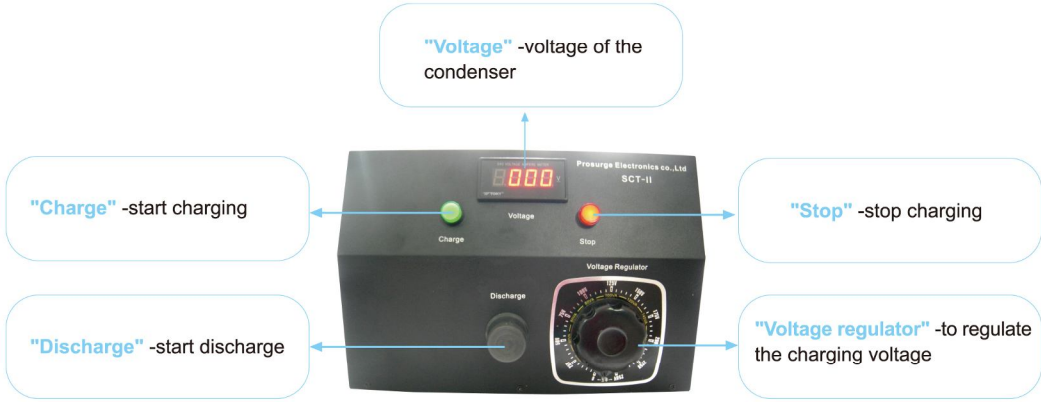



## SCT-II

## Features:

- Portable, designed for field using.
- Easy operation.
- Current impulse up to 2000A
- 220V AC power input.
- The SCT-II Portable surge generator is designed with two functions.
  A)For on-site testing of the Lightning Event Counter.
  B)To verify how the surge protective device protect the equipments in the power supply system. The generator is able to deliver current impulse, simulating a lightning current to the SPD, verify the SPD protection functions.

| | | |
|---|---|---|
| **(i) General** | | |
| Dimension (L x W x D) | | 350x250x220 mm |
| Weight | | 9kg |
| Case Material | | Steel |
| Operation Temp. | | 0℃ ~ 40℃ |
| Operation Humidity | | ≤75% |
| Storage Temp. | | -10℃ ~ 50℃ |
| Power Supply | | 220V AC |
| **(ii) Technical data** | | |
| Allowable Tolerance of Impulse Current | Front time | ± 20% |
| | Time to half value | |
| Surge current | | 2000A |
| power consumption | | 60W |
| Charging Voltage Display | | Four Digital LED display |

## Other Date Network Protector

D-xxx/BNC

D-xxx/RJ11

D-xxx/DB

D-xxx/RJ45

## R.F Protector

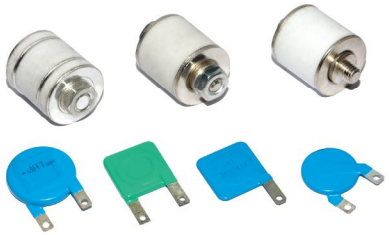
CR/xxx-N/MF

CR/xxx-7/16/FF

CT/xxx-N/MF

CT/xxx-B/MF

## GDT&MOV Components



## Lightning Equipotential Bonding

## PDU

## Lightning Protection Materials

## Surge Protection for Building

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There are many electromechanical systems inside a building which will be damaged if lightning hit the building or nearby the building. Installing SPDs is part of a comprehensive lightning protection solution for buildings. Power supply system need multi-level lightning protection at main power distribution / secondary power distribution / end users. Proper SPDs are also needed at systems like elevator / security / fire control / broadcasting ect.

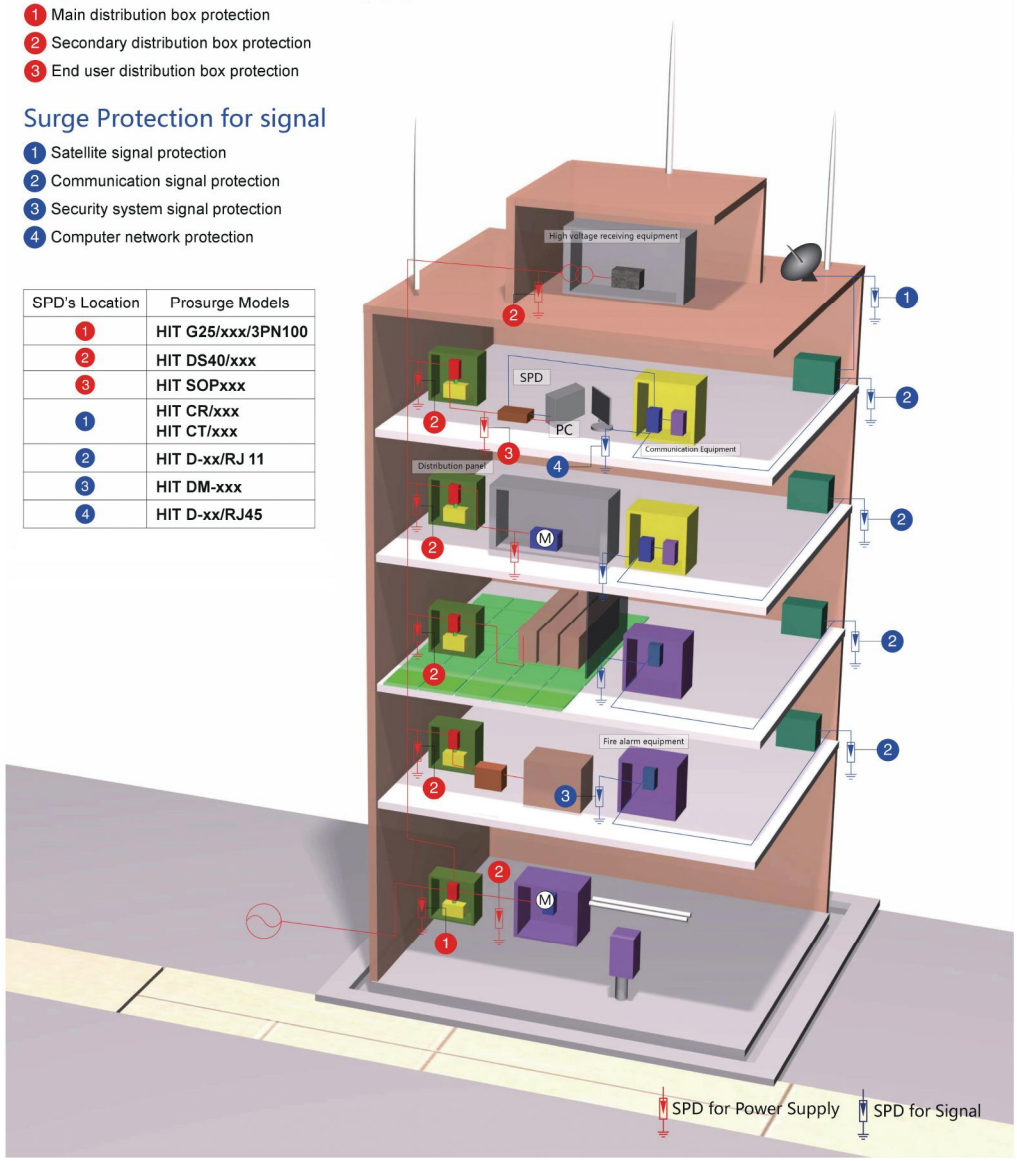
### Surge Protection for Power Supply

1. Main distribution box protection
2. Secondary distribution box protection
3. End user distribution box protection

### Surge Protection for signal

1. Satellite signal protection
2. Communication signal protection
3. Security system signal protection
4. Computer network protection

| SPD's Location | Prosurge Models |
|---|---|
| 1 | HIT G25/xxx/3PN100 |
| 2 | HIT DS40/xxx |
| 3 | HIT SOPxxx |
| 1 | HIT CR/xxx<br>HIT CT/xxx |
| 2 | HIT D-xx/RJ 11 |
| 3 | HIT DM-xxx |
| 4 | HIT D-xx/RJ45 |



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# Surge Protection for CCTV System

Various outdoor monitoring cameras are in exposed location while the long cables will induce harmful surge voltage. With proper SPDs on camera*s power supply/video signal/control signal channels can reduce the damage to cameras and indoor equipments.

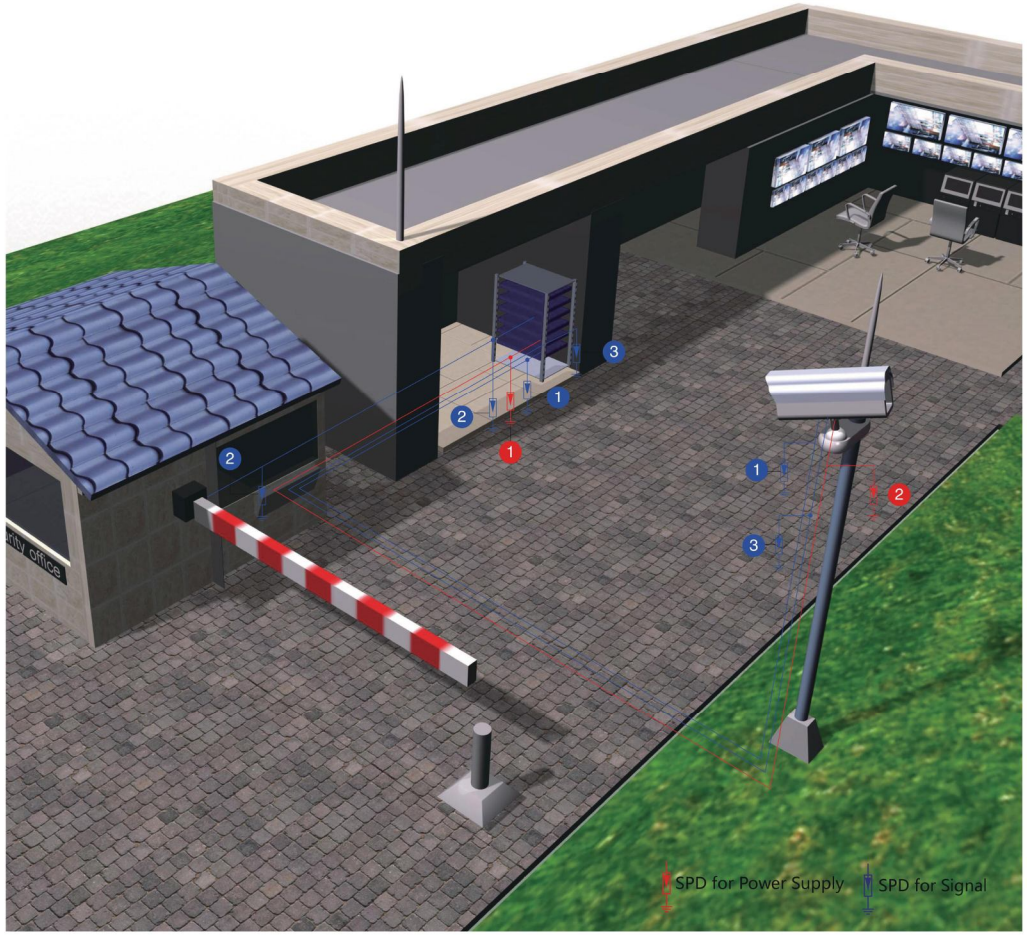
## Surge Protection for Power Supply

1. Power distribution cabinet protection
2. Camera protection

## Surge Protection for signal

1. Camera signal protection
2. Assess control signal protection
3. Data signal protection

| SPD's Location | Prosurge Models |
|---|---|
| 1 | HIT DS40/xxx |
| 2 | HIT D20/xxx |
| 1 | HIT D-05/BNC |
| 2 | HIT DM-xxx |
| 3 | HIT D-12/C-2 |
| 1 2 3 | HIT CVxxx-3F<br>HIT CVxxx-2F |






# Surge Protection for Railway System

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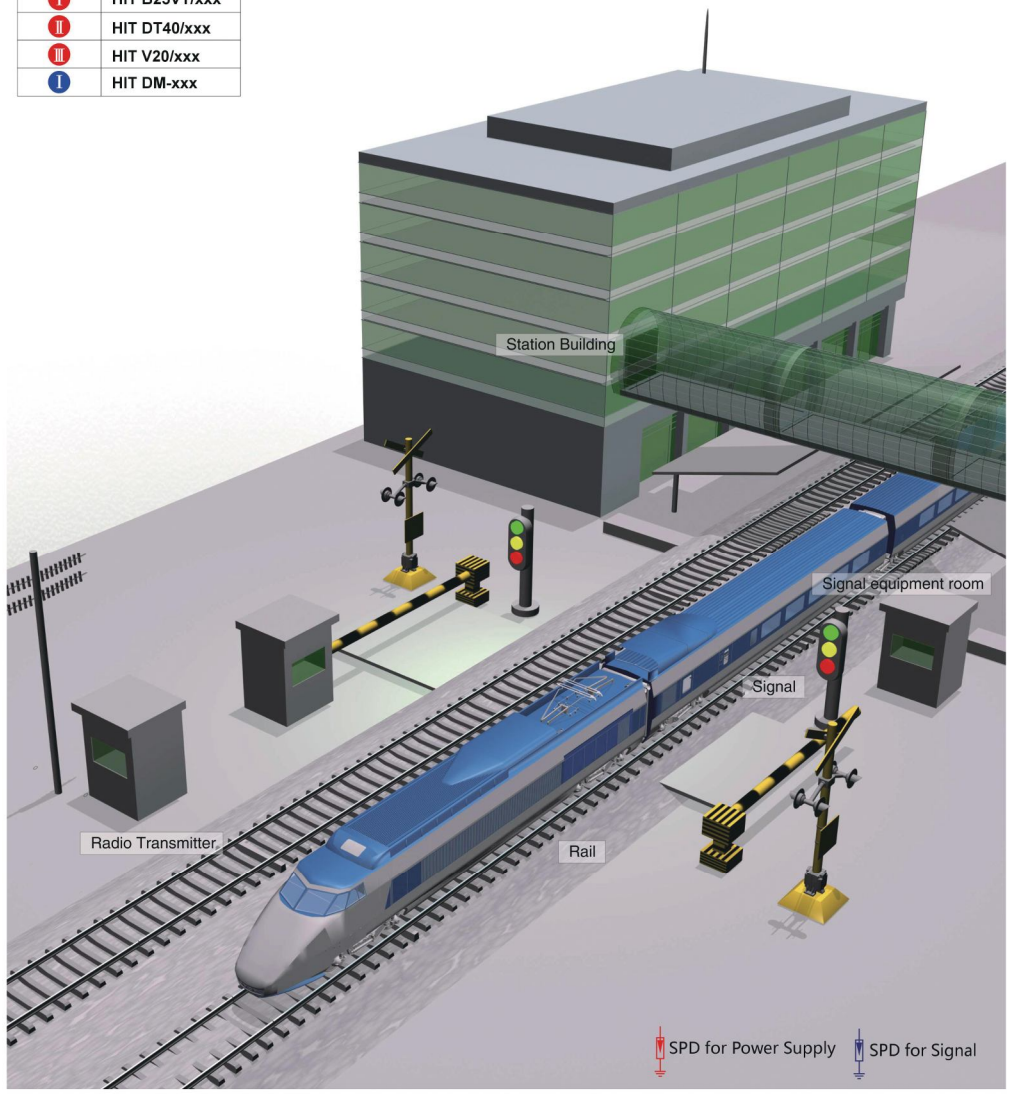
Railway system are highly sensitive and thus over voltage and over current induced by lightning stroke will damage all kinds of equipments via power supply and signal transmission channels and threat the safety and normal operation of railway system. Power supply cables and all kinds of electronic and signal equipments must be with proper SPDs.

| Surge Protection Class | Prosurge Models |
|---|---|
| I | HIT B25VT/xxx |
| II | HIT DT40/xxx |
| III | HIT V20/xxx |
| I | HIT DM-xxx |



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# Surge Protection for Telecom System

Wireless base station is one of the most common victims of lightning. The iron tower attracts lightning and the equipments on the tower and in the machine room also endure huge secondary lightning impact. Multi-level power supply SPDs are needed for utility power. All cooper cables and optical fibers need proper SPDs.

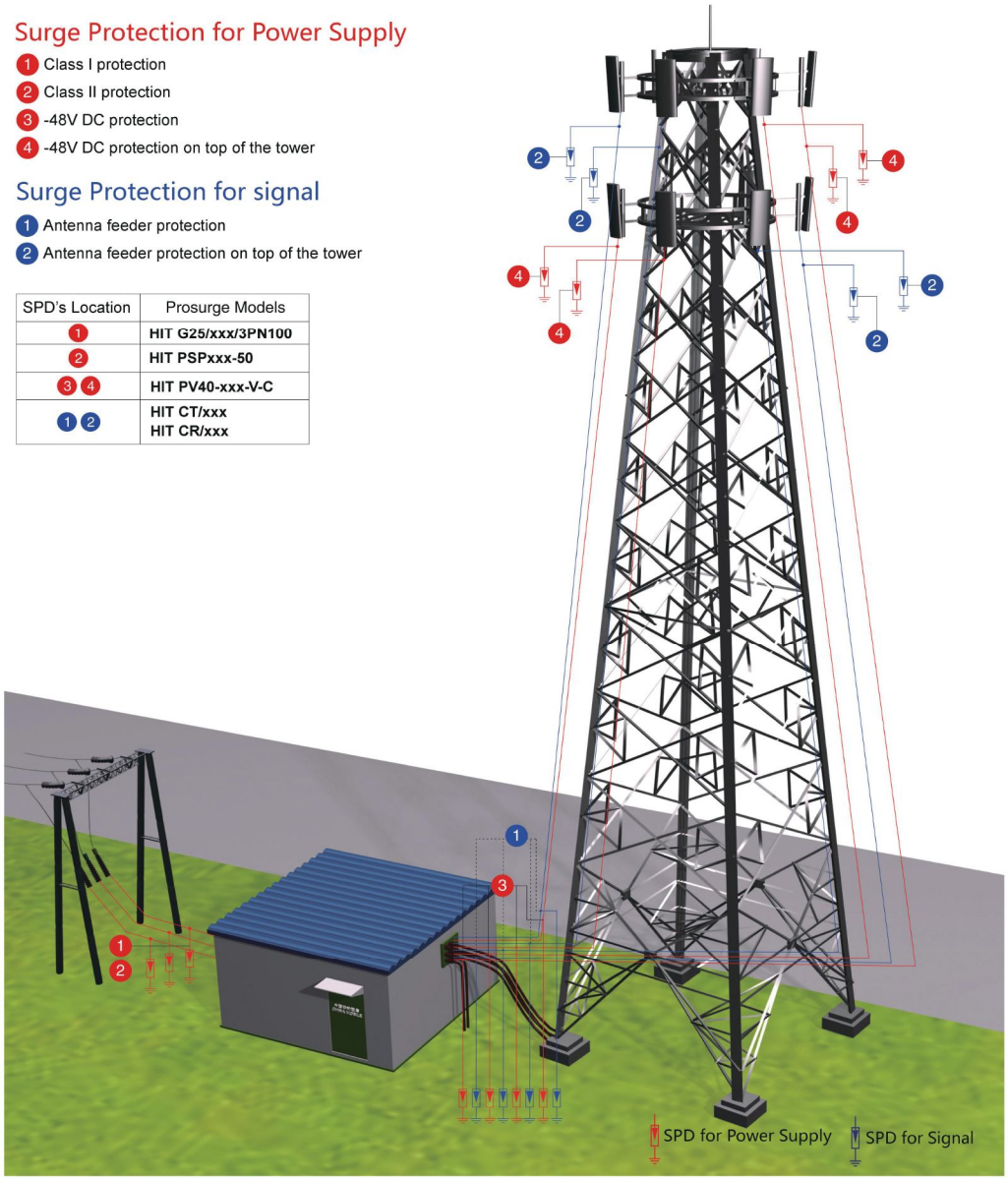
## Surge Protection for Power Supply

1. Class I protection
2. Class II protection
3. -48V DC protection
4. -48V DC protection on top of the tower

## Surge Protection for signal

1. Antenna feeder protection
2. Antenna feeder protection on top of the tower

| SPD's Location | Prosurge Models |
|---|---|
| 1 | HIT G25/xxx/3PN100 |
| 2 | HIT PSPxxx-50 |
| 3 4 | HIT PV40-xxx-V-C |
| 1 2 | HIT CT/xxx<br>HIT CR/xxx |






# Surge Protection for Lighting Application

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LED street lights are replacing the traditional street lights with their strengths like low consumption and long life span ect. But their exposed location makes it facing the impact of all kinds of surges and thus we must take these damages into consideration when installing the LED street light. It is necessary to install proper SPDs on LED streets light's power supply line.

## Surge Protection for Power Supply

1. Power distribution cabinet protection
2. LED street light protection

| SPD's Location | Prosurge Models |
|---|---|
| 1 | HIT DT40/xxx |
| 2 | HIT WS##-xxx |

# Surge Protection for LED Displays

LED displays are being widely used and they are installed outdoors and some even as an individual building. LED displays in LPZ0 B are victims of lightning. There are various cables inside a LED display including power supply cable, data cable, audio cable, video cable and other cables for sensors. A LED display system can be effectively protected by installing proper SPDs on each cable.

## Surge Protection for Power Supply

1. Power distribution cabinet protection
2. LED driver protection

## Surge Protection for signal

1. Data line protection
2. Video line protection
3. Audio line protection
4. Other sensors protection

| SPD's Location | Prosurge Models |
|---|---|
| 1 | HIT DS60/xxx |
| 2 | HIT DS40/xxx |
| 1 | HIT D-05/RJ45 |
| 2 | HIT D-05/BNC |
| 3 | HIT D-110/RJ11 |
| 4 | HIT DM-xxx |




# Surge Protection for PV System

PV systems are set up outdoors and are prone to lightning damage. Lightning and surge protections are essential to their efficient operation. After the external lightning protection, the most crucial work is to protect the invertor. SPDs are needed at the DC input end and AC output end of the invertor. They are also needed at the two ends of long distance signal cable.

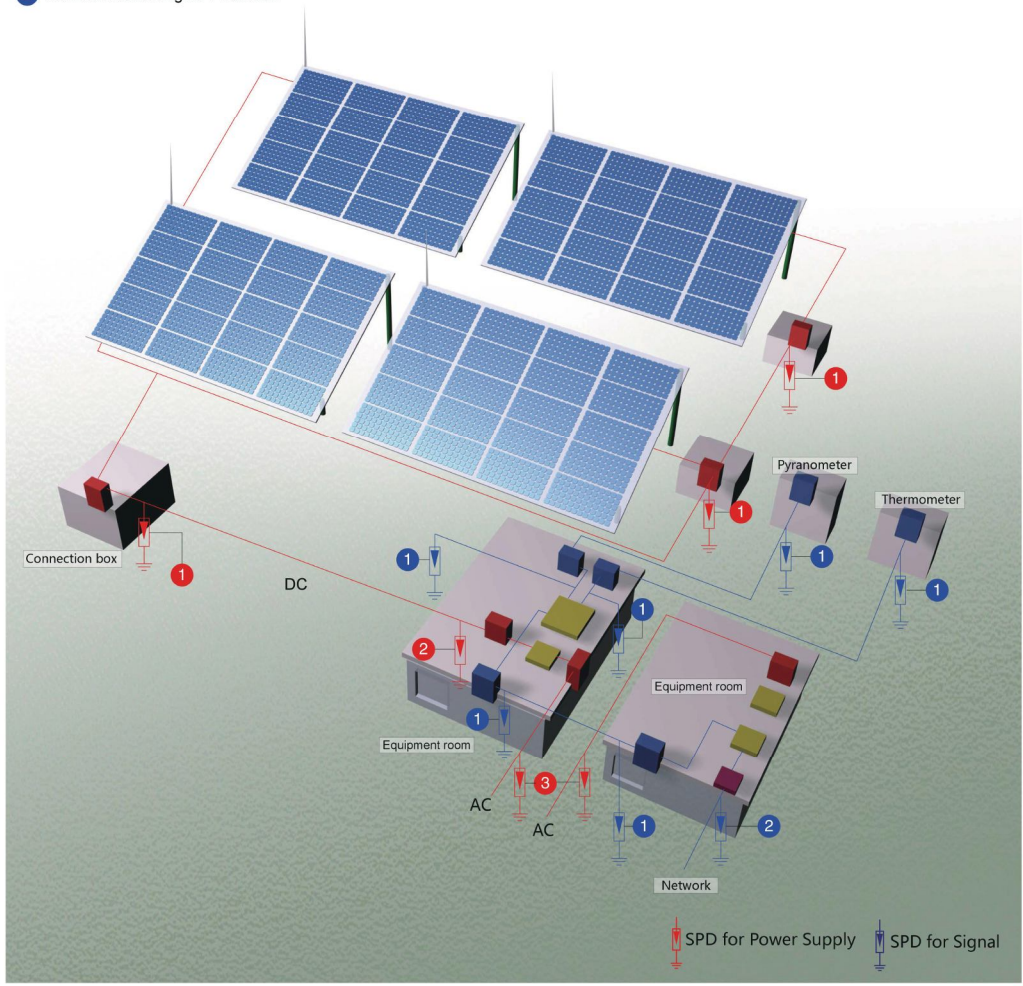
## Surge Protection for Power Supply

1. DC connection box protection
2. Invertor's DC side protection
3. Invertor's AC side protection

## Surge Protection for signal

1. Data Signal Protection
2. Communication Signal Protection

| SPD's Location | Prosurge Models |
|---|---|
| 1 | HIT PVB12.5-xxx |
| 2 | HIT PV40-xxx |
| 3 | HIT DT40/xxx |
| 1 | HIT DM-xxx |
| 2 | HIT D-xx/RJ45<br>HIT D-xx/RJ 11 |



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# Surge Protection for Wind Turbine

Wind turbines are in open and exposed environment and the tall windmill is highly prone to lightning damage and thus must be well-protected against it. After lightning receiving / down conducting / grounding, it is necessary to install SPDs on:

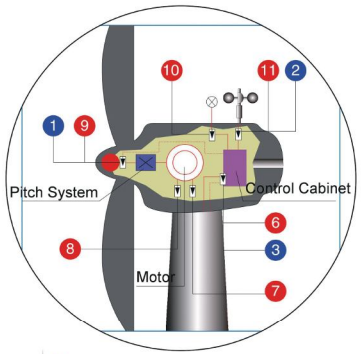
- stator/rotor of the generator
- transformers of different levels
- controlling and communication signal cables

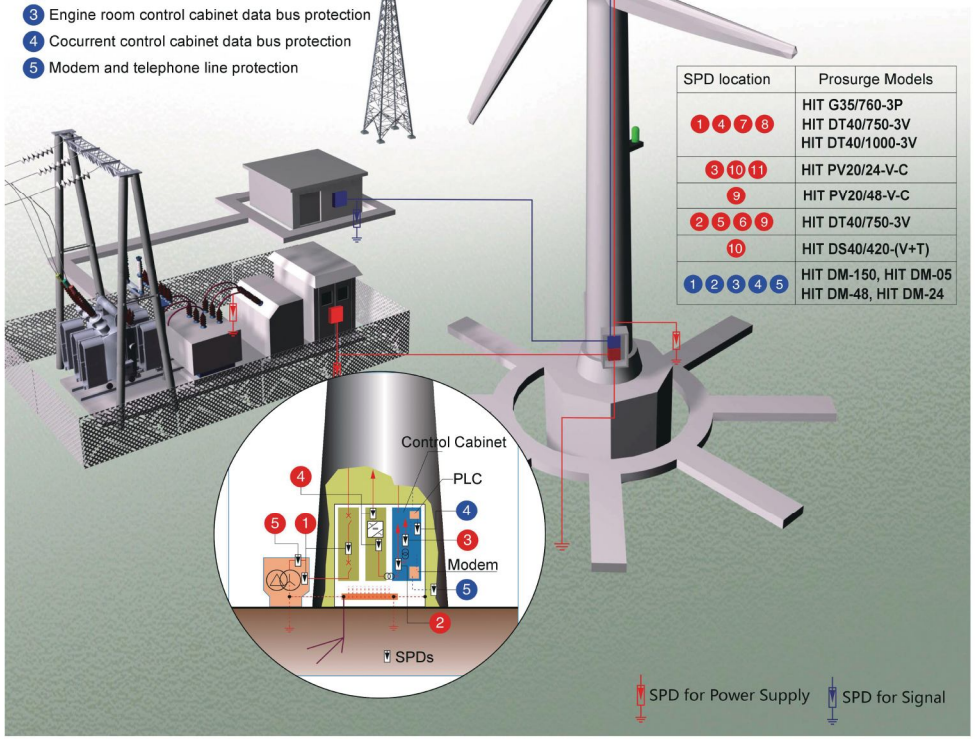
## Surge Protection for Power Supply

1. Power distribution cabinet protection
2. Grid connection control protection
3. Grid connection control protection
4. Cocurrent device protection
5. Control circuit breaker protection
6. Engine room control cabinet protection
7. Rotor protection
8. Stator protection
9. Pitch system protection
10. Aerial sign protection
11. Anemoscope data signal protection

## Surge Protection for signal

1. Pitch system signal line protection
2. Anemoscope data line protection
3. Engine room control cabinet data bus protection
4. Cocurrent control cabinet data bus protection
5. Modem and telephone line protection




| SPD location | Prosurge Models |
|---|---|
| 1 4 7 8 | HIT G35/760-3P<br>HIT DT40/750-3V<br>HIT DT40/1000-3V |
| 3 10 11 | HIT PV20/24-V-C |
| 9 | HIT PV20/48-V-C |
| 2 5 6 9 | HIT DT40/750-3V |
| 10 | HIT DS40/420-(V+T) |
| 1 2 3 4 5 | HIT DM-150, HIT DM-05<br>HIT DM-48, HIT DM-24 |



# Surge Protection for Oil Station

Oil stations are normally situated along the road and mainly seen as individual buildings which are prone to lightning damage. Moreover, oil station is highly risky of flammability and explosion and thus lightning protection is paramount. It is not enough to have lightning protection only on oil tank area and buildings. Equipotential bonding is needed for overhead cables and proper SPDs are needed for power supply cables, test signal cables, control signal cables and telecommunication cables.

## Surge Protection for Power Supply

1. Low voltage power distribution protection
2. Oil engine power distribution protection
3. Service station protection

## Surge Protection for signal

1. Communication network protection
2. Liquid level meter signal protection

| SPD's Location | Prosurge Models |
|---|---|
| 1 | HIT G25/xxx/3PN100 |
| 2 3 | HIT PSPxxx-50 |
| 1 | HIT D-xx/RJ45<br>HIT D-xx/RJ 11 |
| 2 | HIT DM-xxx |

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# Surge Protection for EV Charging Station

As a clean, energy-saving and quiet vehicle, Electric vehicles (EV) are becoming more common and popular. With the rise of electric vehicles comes the need for more electric charging stations. This sensitive electronics in both the vehicle and charge cable can be seriously damaged by surges. A heavy-duty surge protection against lightning and surge is necessary to protect your charging well.

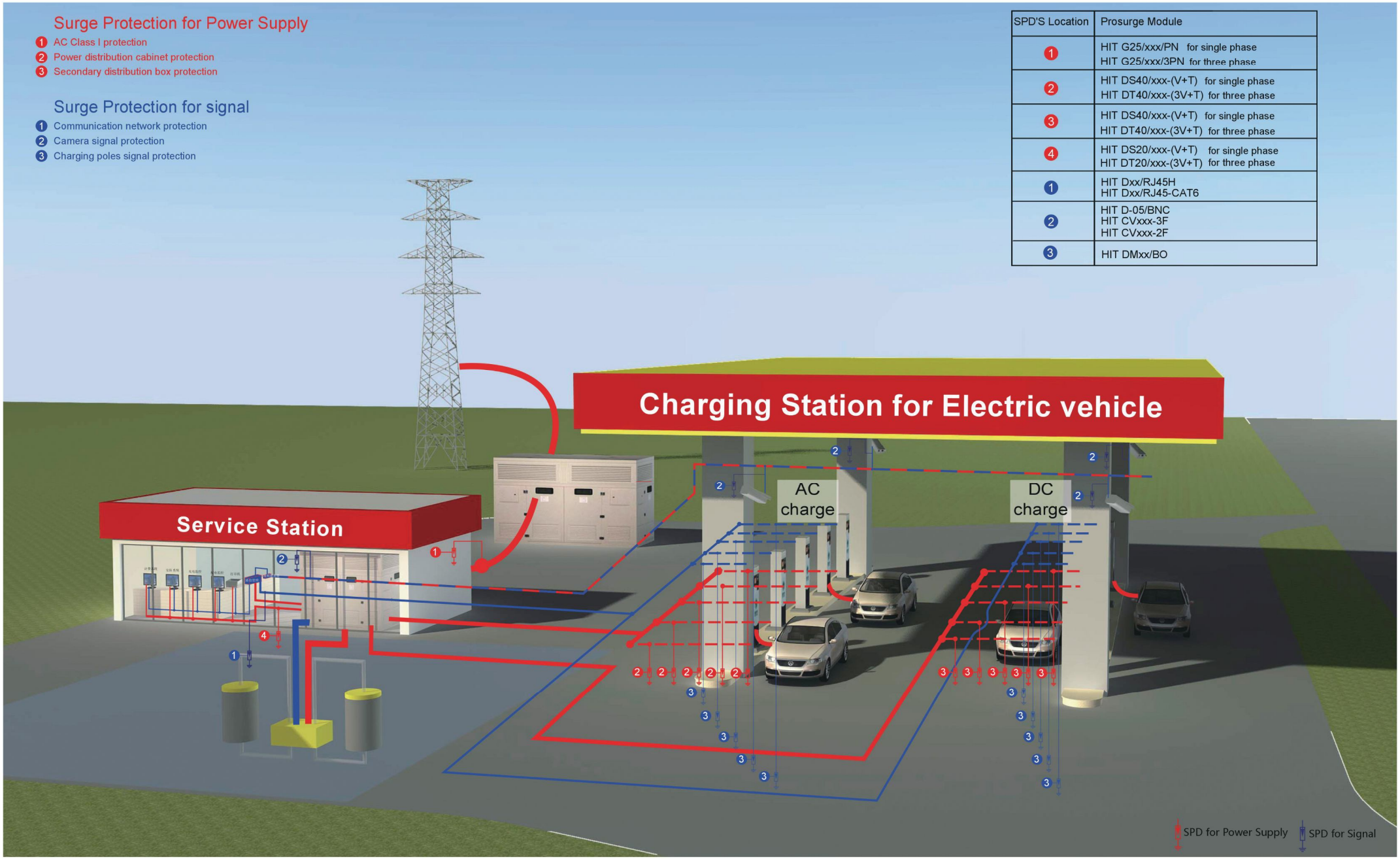
## Surge Protection for Power Supply

1. AC Class I protection
2. Power distribution cabinet protection
3. Secondary distribution box protection

## Surge Protection for signal

1. Communication network protection
2. Camera signal protection
3. Charging poles signal protection

| SPD'S Location | Prosurge Module |
|---|---|
| 1 | HIT G25/xxx/PN for single phase<br>HIT G25/xxx/3PN for three phase |
| 2 | HIT DS40/xxx-(V+T) for single phase<br>HIT DT40/xxx-(3V+T) for three phase |
| 3 | HIT DS40/xxx-(V+T) for single phase<br>HIT DT40/xxx-(3V+T) for three phase |
| 4 | HIT DS20/xxx-(V+T) for single phase<br>HIT DT20/xxx-(3V+T) for three phase |
| 1 | HIT Dxx/RJ45H<br>HIT Dxx/RJ45-CAT6 |
| 2 | HIT D-05/BNC<br>HIT CVxxx-3F<br>HIT CVxxx-2F |
| 3 | HIT DMxx/BO |



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# Surge Protection for Industrial Control System

In industrial control area, all sorts of equipments need data / signal connection to the control center. Lightning can paralyze the whole system and thus it is essential to install proper SPDs on various channels to protect the equipments and control center as well.

## Surge Protection for Power Supply

1. AC Class I protection
2. AC Class II protection
3. DC 24V protection

## Surge Protection for signal

1. Pressure signal protection
2. Flow signal protection
3. Temperature signal protection
4. Location signal protection
5. Liquid level signal protection
6. Communication signal protection

| SPD's Location | Prosurge Models |
|---|---|
| 1 | **HIT G25/xxx/3PN100** |
| 2 | **HIT PSPxxx-50** |
| 1 2 3 4 5 | **HIT DM-xxx** |
| 6 | **HIT D-xx/RJ45**<br>**HIT D-xx/RJ11** |