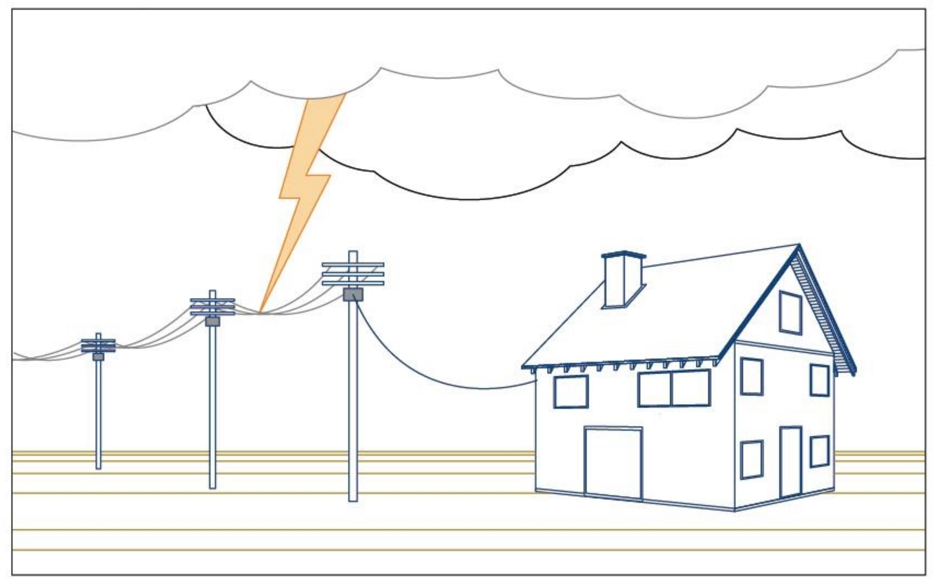
Surge Protector

Surge Protector

- Surge Protective Device (SPD) applies to AC circuits of 50/60Hz, rated voltage up to 385V, and discharge current up to 100kA (8/20μs).
- Main applications: distribution boards, industrial equipment, residential buildings, commercial facilities, photovoltaic systems, etc.
- User-friendly design, with modular structure and visual indicator, suitable for quick installation and replacement.
- Standards: IEC61643-II / IEC61643-1.

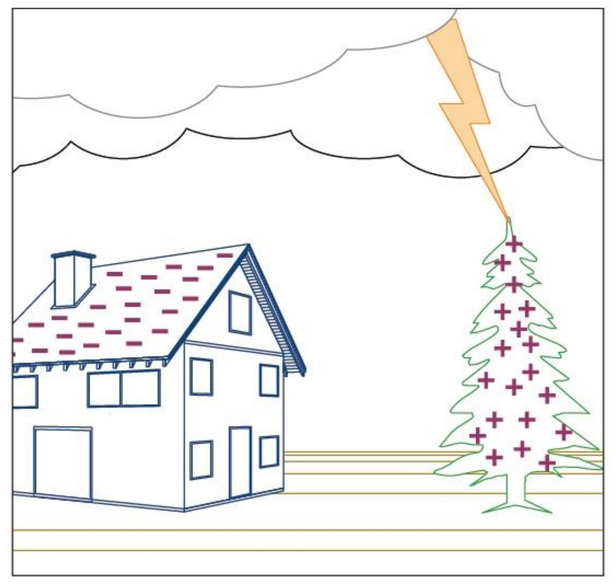
Why Do We Need SPD?


Direct lightning strike on a lightning conductor or the roof of a building


Direct lightning strike on an overhead line

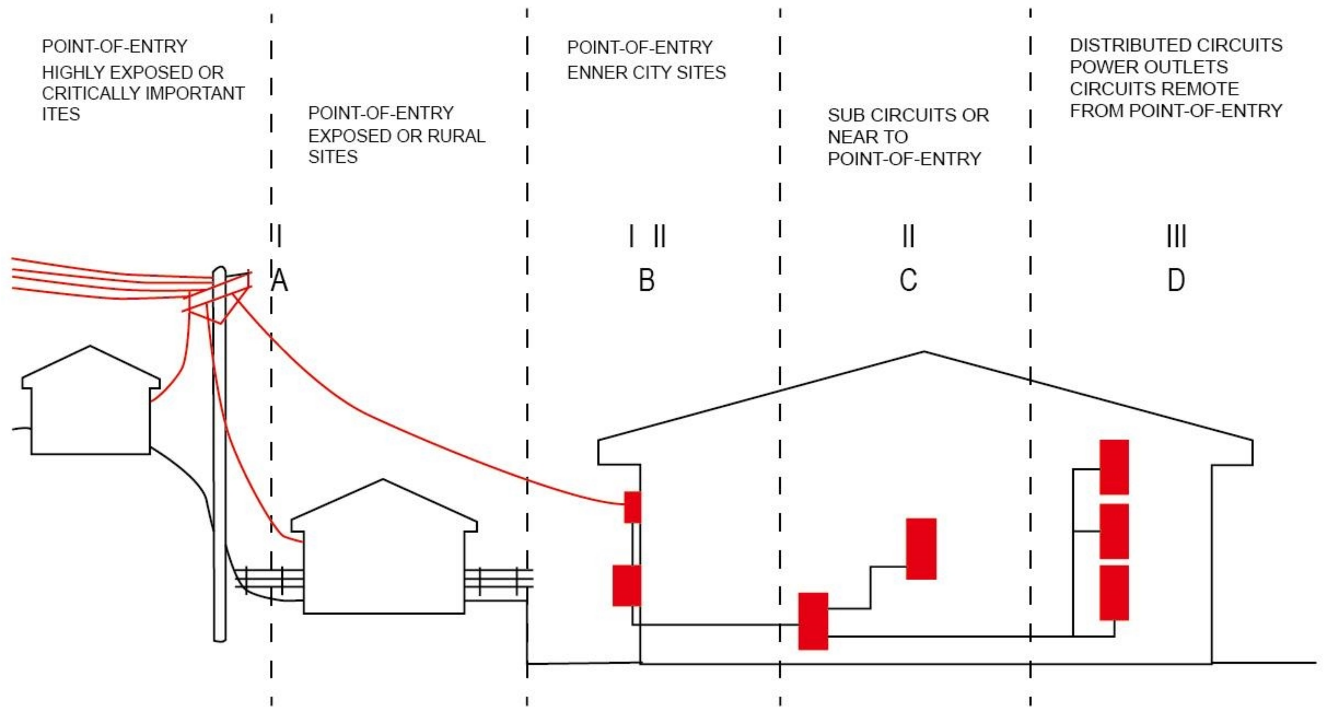

Increase in ground potential


Magnetic field


Electrostatic field

Lightning penetrates buildings through various pathways and can damage electrical and information equipment.

How to Choose Right Type SPD



- Type 1 SPD installed at the origin, e.g. main distribution board.
- Type 2 SPD installed at sub-distribution boards (Combined Type 1 & 2 SPDs are available and are usually installed in consumer units).
- Type 3 SPD installed close to the protected load. They must only be installed as a supplement to Type 2 SPD.

Installation and Maintenance

- The protector is connected by copper wire, with a cross-sectional area of: Soft wire: 2.5-16mm² Hard wire: 2.5-25mm².
- The grounding wire shall be applied with double-color wires over 4mm².
- In order to prevent the surge protector from being damaged due to various factors or burned out due to transient overvoltage, each SPD must be protected by fuse or circuit breaker (MCB), and the breaking capacity of the circuit breaker must be greater than the short-circuit current at that place. The characteristic curve is C curve, and it can withstand the impact of SPD surge current without action or damage.
- See Figure 3, Figure 4, Figure 5 and Figure 6 for wiring diagram of low voltage system.
  Wiring diagram of low voltage system.
- After the protector is installed as required, it can automatically protect the Internet without adjustment.
- During the operation, it is necessary to regularly check whether the module signs are red, observe whether the fuse signs are red, and replace the failed components in time.

a)TN-C System

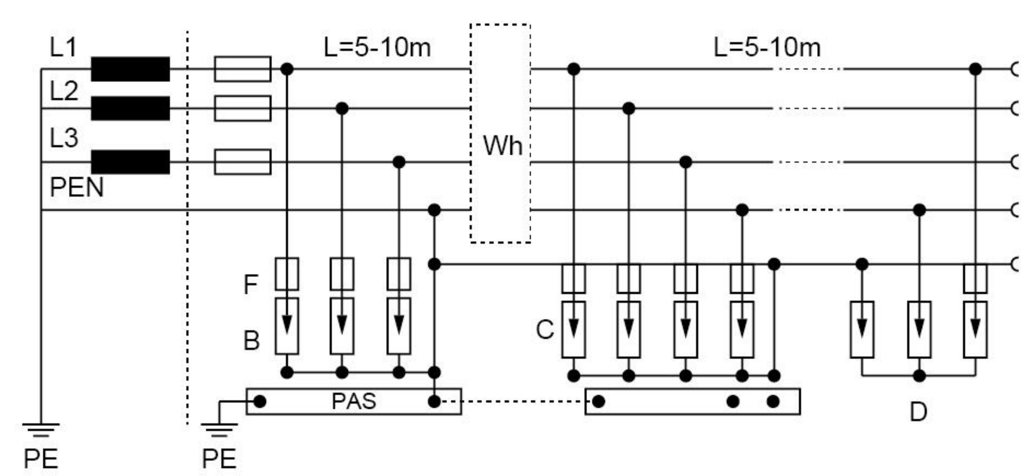


Figure 3

b)TN-S System

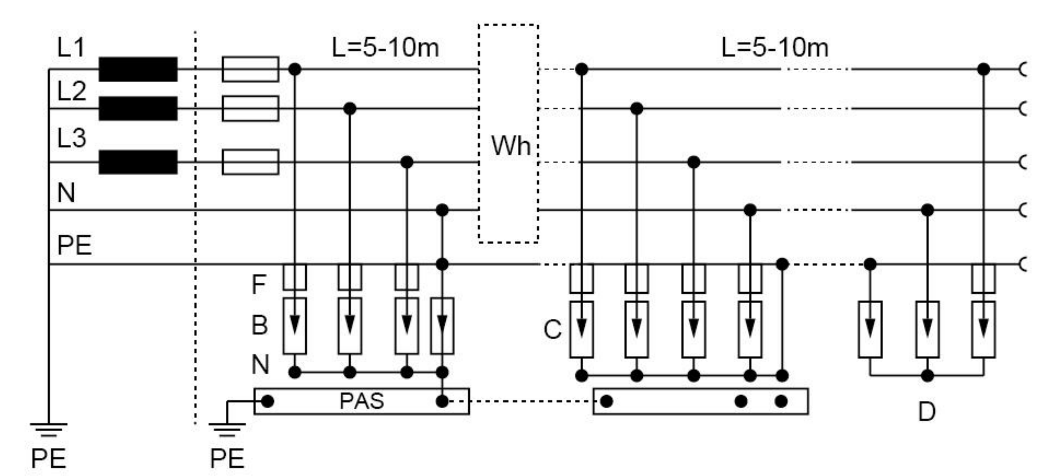


Figure 4

c)TT System

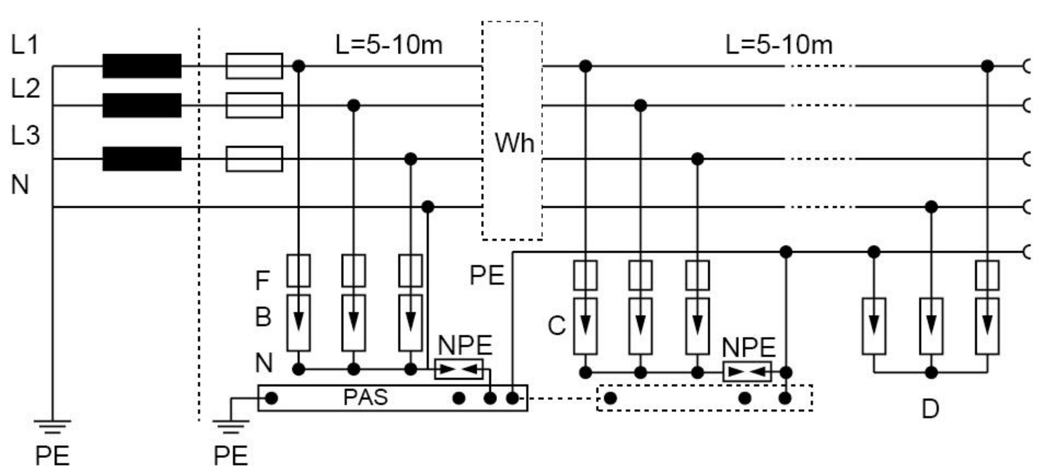


Figure 5

d)IT System

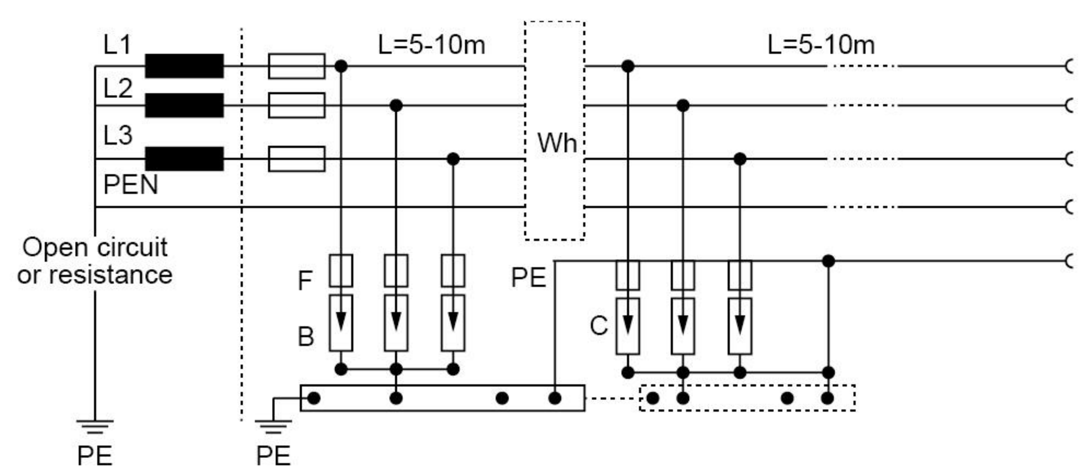
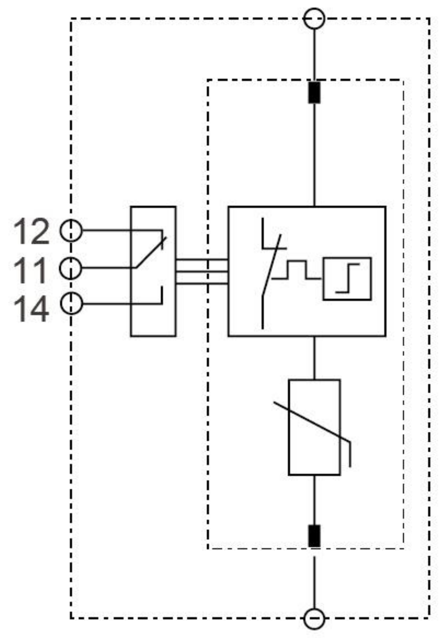
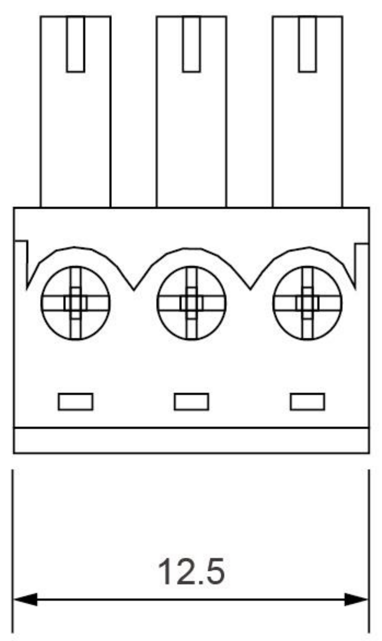
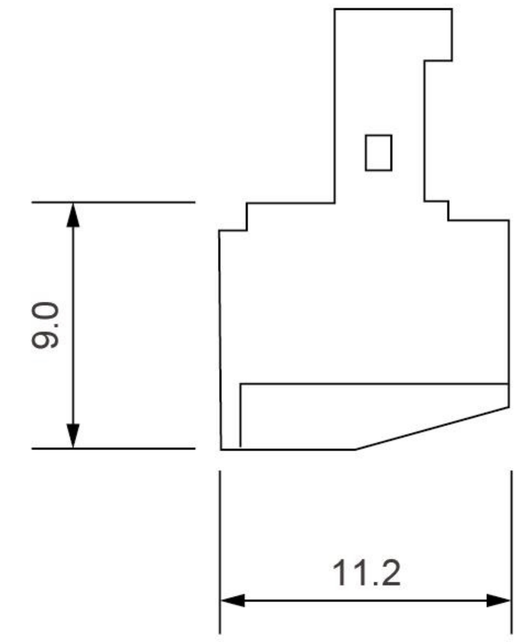


Figure 6







Order Note

Order Choosing Specification						
Client Information						
SPD Type	Poles	Norminal discharge current (8/20μs) In	Maximum discharge current (8/20μs) Imax	Model	Quantity	Delivery Date
☐ T1 ☐ T2 ☐ T3 ☐ T1+T2 ☐ T1+T2+T3	☐ 1P ☐ 2P ☐ 3P ☐ 4P ☐ 1P+N ☐ 3P+N ☐ 1P+NPE ☐ 3P+NPE	☐ 5kA ☐ 10kA ☐ 20kA ☐ 30kA ☐ 40kA ☐ 50kA	☐ 10kA ☐ 20kA ☐ 40kA ☐ 60kA ☐ 80kA ☐ 100kA			

1.General

1.1 Function

EBS3U Series Surge protector device(referred to as SPD) is used for power supply systems such as IT, TT, TN-C, TN-S, TN-CS, etc. for low-voltage AC distribution systems, for indirect lightning and direct lightning or other A surge of transient overvoltage is protected. The SPD has a common mode(MC) and differential mode(MD) protection. The SPD complies with GB/T18802.1/IEC61643-II.

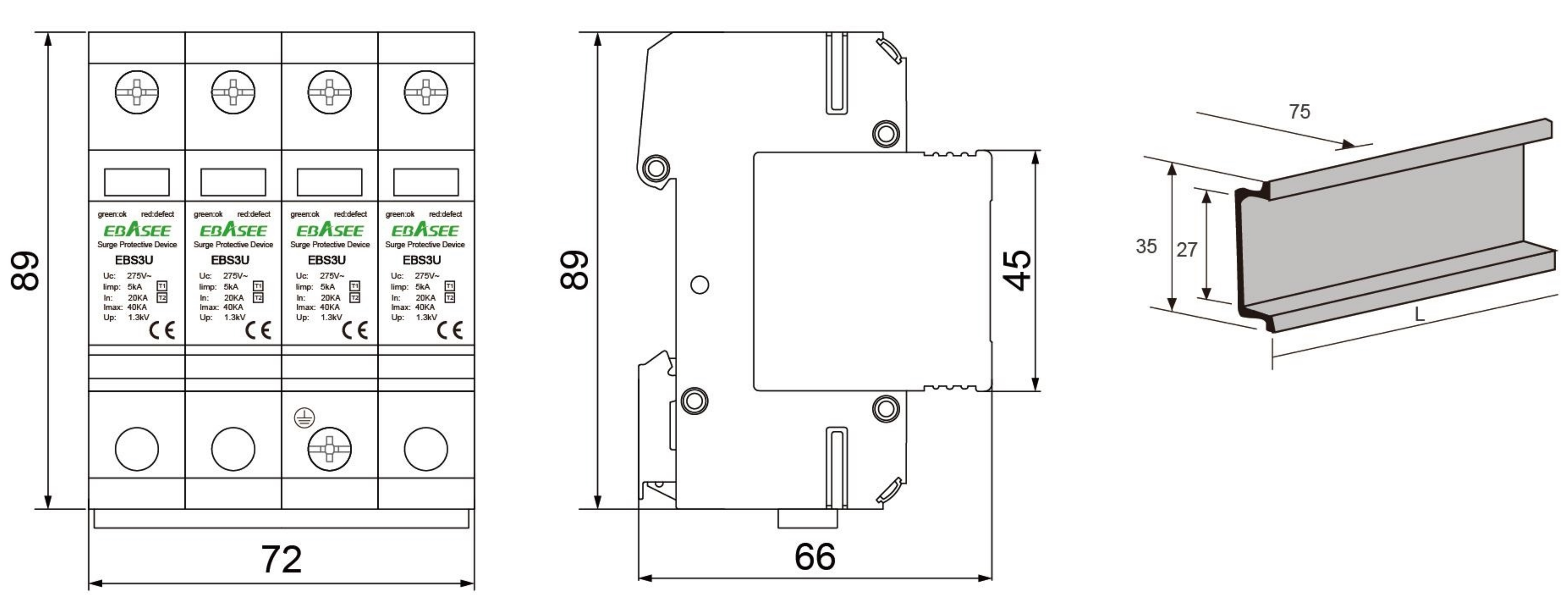
2.Nomenclature

EBS 3U - 60 / 1P

- EBS: Company code
- 3U: Design code
- 60: Max. release current
- 1P: Poles

- Poles: 1P, 2P, 3P, 4P, 1P+N, 3P+N, 1P+NPE, 3P+NPE
- Max. Continuous operating a.c.voltage Voltage UC:140, 275, 320, 385, 420V
- SPD Type: T1, T2, T3
- Voltage protection level: Up 1.2, 1.5, 1.8, 2.0kV
- Maximum discharge current (8/20μs): Imax 10, 20, 40, 60, 80, 100kA
- Norminal discharge current (8/20μs): In 5, 10, 20, 30, 40, 50kA

3.Dimensions



4.Specifications

Standard		EBS3U-40
According to IEC61643-11		Type 2
Max. continous operation AC voltage	Uc	275V AC
Norminal discharge current（8/20μs）	In	20kA
Maximum discharge current (8/20μs)	Imax	40kA
Voltage protection level (L-N)	Up	1.8kV
Response time (L-N)	tA	25ns
Environment temperature	Tu	-25°C~40°C
Status indicator		Green / red
Mounting		35mm DIN-rail
Cross section of wire (Min.)	mm²	4mm²
Cross section of wire (Max.)	mm²	35mm²
Casing material		Thermoplastic UL94-V0
Protection grade		IP20
Remote Signalling		Optional
Dimension (LxWxH)		90x70x18/36/54/72mm
Poles		1P, 2P, 3P, 4P, 1P+N, 3P+N, 1P+NPE, 3P+NPE