

AC & DC Surge Protection Devices

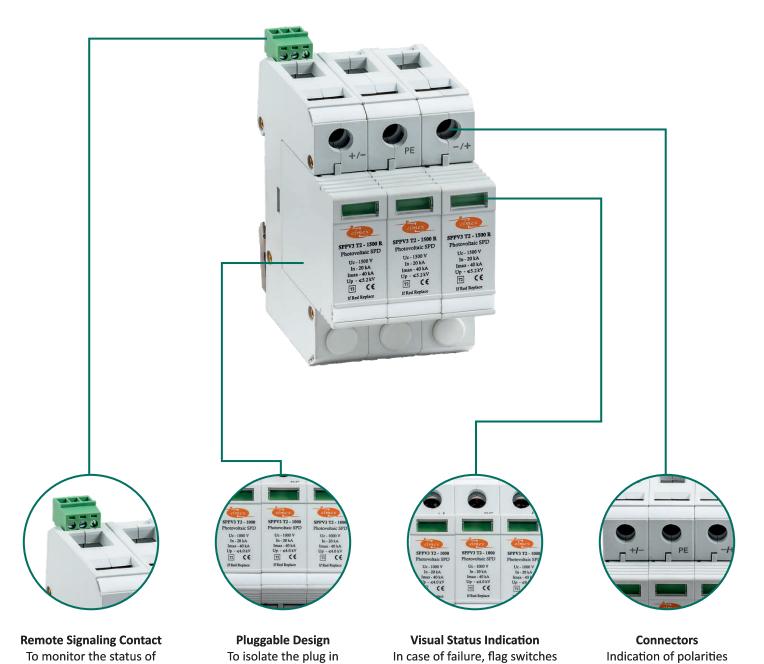


'elmex' Surge Protection Device (SPD)



ensuring physical separation

between terminals



Feat	ures
Type 2 Surge Protection Device	Maximum Discharge Current (8/20μs): 40kA
Pluggable Design - Easy to Replace	Remote Signalling Contact (optional)
Quick Response Time ≤ 25 ns	IEC 61643 - 11 Compliance - for AC SPD
Visual Status - Fault Indication by Red Flag	IEC 61643 - 31 Compliance - for DC SPD

to red-replacement

recommended

case of maintenance

SPD remotely



Surge Protective Device (SPD) Terminology



Surge Protective Device (SPD) is designed to limit transient over voltages of atmospheric origin and divert current waves to earth, so as to limit the amplitude of this over voltage to a value that is not hazardous for the electrical installation and electric switchgear.

Type 2 SPD: The type 2 SPD is the main protection system for all low voltage electrical installations. Installed in each electrical switchboard, it prevents the spread of over voltages in the electrical installations and protects the load.

- **Nominal Voltage (Un):** The nominal voltage stands for the nominal voltage of the system to be protected.
- Maximum Continuous Operating Voltage (Uc): The maximum continuous operating voltage is the r.m.s value of the maximum voltage which may be connected to corresponding terminals of Surge Protective Device during operations.
- Maximum Continuous Operating Voltage for PV System (Ucpv): The maximum continuous operating voltage for Photovoltaic (PV) system is the value of maximum DC voltage which may be permanently applied to terminals of SPD.

- Voltage Protection Level (Up): The Voltage Protection Level is the maximum instantaneous value of the voltage at terminals of SPD.
- Nominal Discharge Current (In): The nominal discharge current is the peak value of the current that can be passed through SPD having a wave shape of 8/20 µs.
- Maximum Discharge Current (Imax): The maximum discharge current is the peak value of the current which the device can safely discharge through the SPD having a wave shape of 8/20 μs.





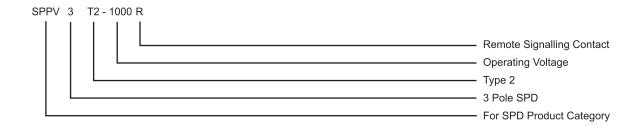
Applications

- Photovoltaic & Wind
- Industry & Automation
- Commercial & Residential Installations
- Telecom, IT & Data Centers

- LED Outdoor & Lighting
- · Smart Grid & LV Metering
- Water Treatment



SPD Code Description







320V AC 3+1 Pole Type 2 SPD



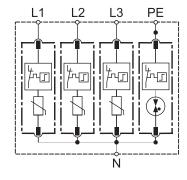
320V AC 3+1 Pole with Remote Signalling Type 2 SPD

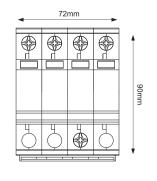


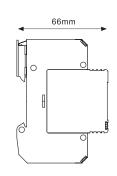


TECHNICAL PARAMETERS	SPECIFICATIONS
SPD Classification According to EN61643-11	Type 2
SPD Classification According to IEC61643-11	Class II
Nominal Voltage (Un)	230 / 415 V AC
Max. Continuous Operating Voltage (Uc)	320V AC
Max. Continuous Operating Voltage [N-PE] (Uc)	255V AC
Nominal Discharge Current (In)	20kA
Max. Discharge Current (Imax)	40kA
Voltage Protection Level (Up)	≤ 1.5kV
Voltage Protection Level [N-PE] (Up)	≤ 1.5kV
Response Time (t _A)	≤ 25ns
Response Time [N-PE] (t _A)	≤ 100ns
Operating Temperature Range (Tu)	-40°C to +70°C
Operating State / Fault Indication	Green / Red
Cross-Section Area (Min)	4mm ²
Cross-Section Area (Max)	35mm²
Mounting	35mm Din rail
Enclosure Material	Thermoplastic UL94-V0
Remote Signalling Contact	Optional
Degree of Protection	IP20

CONNECTION DIAGRAM











320V AC 1+1 Pole Type 2 SPD



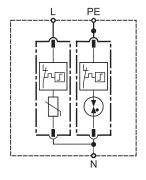
320V AC 1+1 Pole with Remote Signalling Type 2 SPD

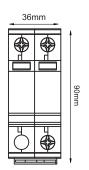


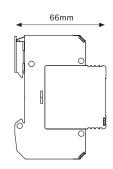


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Max. Continuous Operating Voltage (Uc)	320V AC
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Nominal Discharge Current (In)	20kA
Max. Discharge Current (Imax)	40kA
Voltage Protection Level (Up)	≤ 1.5kV
Voltage Protection Level [N-PE] (Up)	≤ 1.5kV
Response Time (t _A)	≤ 25ns
Response Time [N-PE] (t _A)	≤ 100ns
Operating Temperature Range (Tu)	-40°C to +70°C
Operating State / Fault Indication	Green / Red
Cross-Section Area (Min)	4mm ²
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Enclosure Material	Thermoplastic UL94-V0
Remote Signalling Contact	Optional
Degree of Protection	IP20

CONNECTION DIAGRAM









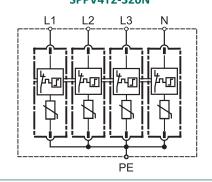


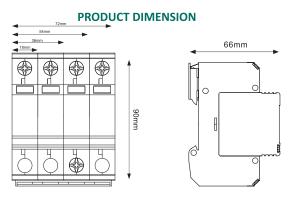
320V AC 1 Pole, 2 Pole, 3 Pole & 4 Pole - Type 2 SPD



TECHNICAL PARAMETERS	SPECIFICATIONS
SPD Classification According to EN61643-11	Type 2
SPD Classification According to IEC61643-11	Class II
Nominal Voltage (Un)	230 / 415 V AC
Max. Continuous Operating Voltage (Uc)	320V AC
Nominal Discharge Current (In)	20kA
Max. Discharge Current (Imax)	40kA
Voltage Protection Level (Up)	≤ 1.5kV
Response Time (t _A)	≤ 25ns
Operating Temperature Range (Tu)	-40°C to +70°C
Operating State / Fault Indication	Green / Red
Cross-Section Area (Min)	4mm ²
Cross-Section Area (Max)	35mm ²
Mounting	35mm Din rail
Enclosure Material	Thermoplastic UL94-V0
Remote Signalling Contact	Optional
Degree of Protection	IP20

CONNECTION DIAGRAM SPPV4T2-320N









1000V DC - Type 2 SPD



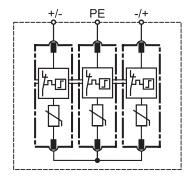
1000V DC with

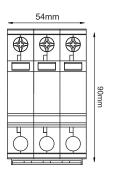


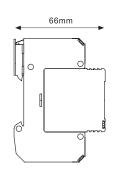


TECHNICAL PARAMETERS	SPECIFICATIONS
SPD Classification According to EN61643-31	Type 2
SPD Classification According to IEC61643-31	Class II
Max. Continuous Operating Voltage (Ucpv)	1000V DC
Nominal Discharge Current (In)	20kA
Max. Discharge Current (Imax)	40kA
Voltage Protection Level (Up)	≤ 4.0kV
Response Time (t _A)	≤ 25ns
Operating Temperature Range (Tu)	-40°C to +70°C
Operating State / Fault Indication	Green / Red
Cross-Section Area (Min)	4mm ²
Cross-Section Area (Max)	25mm²
Mounting	35mm Din rail
Enclosure Material	Thermoplastic UL94-V0
Short Circuit Current Rating (Iscpv)	1000A
Remote Signalling Contact	Optional
Degree of Protection	IP20

CONNECTION DIAGRAM











1500V DC - Type 2 SPD



1500V DC with

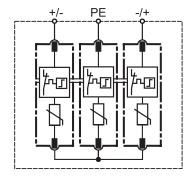
Remote Signalling Contact - Type 2 SPD

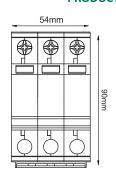


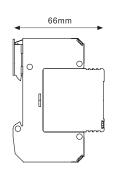


TECHNICAL PARAMETERS	SPECIFICATIONS
SPD Classification According to EN61643-31	Type 2
SPD Classification According to IEC61643-31	Class II
Max. Continuous Operating Voltage (Ucpv)	1500V DC
Nominal Discharge Current (In)	20kA
Max. Discharge Current (Imax)	40kA
Voltage Protection Level (Up)	≤ 5.2kV
Response Time (t _A)	≤ 25ns
Operating Temperature Range (Tu)	-40°C to +70°C
Operating State / Fault Indication	Green / Red
Cross-Section Area (Min)	4mm ²
Cross-Section Area (Max)	25mm²
Mounting	35mm Din rail
Enclosure Material	Thermoplastic UL94-V0
Short Circuit Current Rating (Iscpv)	1000A
Remote Signalling Contact	Optional
Degree of Protection	IP20

CONNECTION DIAGRAM







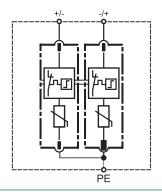


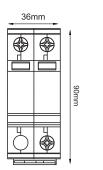
600V DC - Type 2 SPD

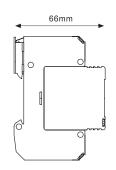


TECHNICAL PARAMETERS	SPECIFICATIONS
SPD Classification According to EN61643-31	Type 2
SPD Classification According to IEC61643-31	Class II
Max. Continuous Operating Voltage (Ucpv)	600V DC
Nominal Discharge Current (In)	20kA
Max. Discharge Current (Imax)	40kA
Voltage Protection Level (Up)	≤ 2.8kV
Response Time (t _A)	≤ 25ns
Operating Temperature Range (Tu)	-40°C to +70°C
Operating State / Fault Indication	Green / Red
Cross-Section Area (Min)	4mm ²
Cross-Section Area (Max)	25mm²
Mounting	35mm Din rail
Enclosure Material	Thermoplastic UL94-V0
Short Circuit Current Rating (Iscpv)	1000A
Remote Signalling Contact	Optional
Degree of Protection	IP20

CONNECTION DIAGRAM

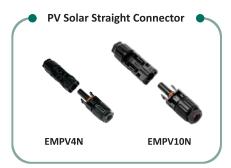




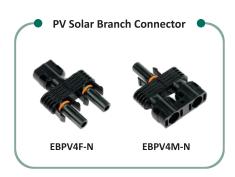










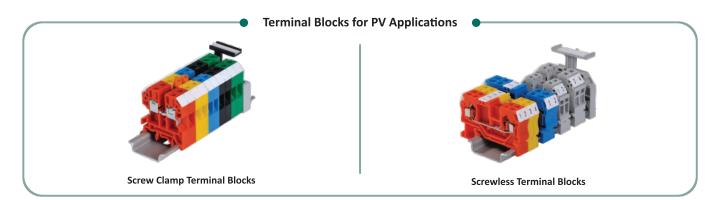
































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