

Lightning arresters, type 1 Requirement class B, UC 350V Pluggable protective modules 2-pole, 1+1 circuit for TN-S and TT systems with remote display



Article number

| General data | |
|---|---------------------------------------|
| Standard | IEC 61643-11: 2011, EN 61643-11: 2012 |
| Product designation | Surge protection device |
| SPD classification / acc. to EN 61643-11 | |
| • Test Class I, Type 1 | Yes |
| • Test Class II, Type 2 | No |
| • Test Class III, Type 3 | No |
| Number of SPD ports | 1 |
| Design of the product | Lightning arresters |
| Design of pole | 1+N/PE |
| Designation of the protective paths | L-N, L-PE, N-PE |
| accessories | 1 x 5SD7418-1 + 1 x 5SD7418-0 |
| Mounting type | DIN rail NS 35 |
| Material / of the enclosure | PBT |
| Size of surge arrester | 4MW |
| Degree of pollution | 2 |
| Overvoltage category / acc. to IEC 61010-1 | III |
| Protection class IP / at connection all terminals | IP20 |

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| Shock acceleration | 25 gn |
| Vibrational acceleration / at 5 Hz ... 500 Hz / limited to 2,5 h / per axis | 5 gn |
| Ambient temperature / during operation | -40 °C ... 80 °C |
| Ambient temperature / during storage and transport | -40 °C ... 80 °C |
| Relative humidity / during operation | 5 % ... 95 % |
| Installation altitude / at height above sea level / maximum | 2 000 m |
| Width | 71.2 mm |
| Height | 94.8 mm |
| Depth | 71.2 mm |
| Net weight | 742 g |

Electrical data

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| Type of distribution system | TT, TN-S |
| Operating voltage | 240 V |
| Continuous operating voltage | |
| • between N and PE | 350 V |
| • between L and (PE)N | 350 V |
| Load current | 125 A (< 55°C) |
| Protective conductor current | 10 µA (264 V AC) |
| Discharge current | |
| • between L and (PE)N / at (8/20) µs | 25 kA |
| • between L and N / at (8/20) µs | 50 kA |
| • between L and PE / at (8/20) µs | 50 kA |
| • between L and PE / at (8/20) µs | 25 kA |
| • between N and PE / at (8/20) µs | 100 kA |
| Total lightning impulse current / at (10/350) µs | 50 kA |
| Lightning current peak value / at (10/350) µs | |
| • Lightning current peak value / between L and PE | 25 kA |
| • Lightning current peak value / between N and PE | 100 kA |
| • Lightning current peak value / between L and N | 25 kA |
| Charge of the lightning surge / at (10/350) µs | |
| • Charge of the lightning surge / between L and N | 12.5 A·s |
| • Charge of the lightning surge / between L and PE | 12.5 A·s |
| • Charge of the lightning surge / between N and PE | 50 A·s |
| Follow current extinguishing capability | |
| • between N and PE | 100 A |
| • between L and N | 50 kA |

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| Short-circuit rating (SCCR) / at 264 V | 50 kA |
| Protection level | |
| • between L and N | 1.5 kV |
| • between L and PE | 2.5 kV |
| • between N and L | 1.5 kV |
| • between N and PE | 1.5 kV |
| • between PE and N and/or L | 1.5 kV |
| Residual voltage | |
| • between L and (PE)N — at rated value of discharge current / maximum | 1.5 kV |
| • between L and PE — at rated value of discharge current / maximum | 2.5 kV |
| • between N and PE — at rated value of discharge current / maximum | 1.5 kV |
| Response value of the surge voltage / at 6 kV / at (1.2/50) μ s | |
| • between L and N | 1.5 kV |
| • between L and PE | 2.5 kV |
| • between N and PE | 1.5 kV |
| Response time | |
| • between L and (PE)N | 100 ns |
| • between N and PE | 100 ns |
| Settable response factor / of trip current | 1.6 |
| Fuse protection type / at V-shaped connection | 125 A AC (gG) |
| Fuse protection type / for T-connector | 315 A AC (gG) |

Connections/Terminals

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|---|-----------------------------------|
| Type of electrical connection | Screw terminal |
| Wire stripping length | 18 mm |
| Tightening torque | 4.5 ... 4.5 |
| Wire stripping length | 18 mm |
| Connectable conductor cross-section | |
| • for finely stranded conductor | 2.5 ... 25 |
| • for rigid conductor | 2.5 ... 35 |
| • finely stranded | 2.5 ... 25 |
| AWG number / as coded connectable conductor cross section | 13 ... 2 |
| Design of the thread / of the connection screw | M5 |
| Signal design | Optical, remote signaling contact |

Indicator/remote signaling

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|--|-----------------------------------|
| Switching function / of the remote-signaling contacts | PDT contact |
| Operating voltage / of the remote-signaling contacts <ul style="list-style-type: none"> • at AC • at DC | 12 ... 250 125 V (200 mA DC) |
| Operating current / of the remote-signaling contacts <ul style="list-style-type: none"> • at AC • at DC | 10 mA ... 1 A 1 A DC (30 V DC) |
| Connection type of remote signaling contact | M2 |
| Connectable conductor cross-section <ul style="list-style-type: none"> • for remote signaling contacts / for rigid conductor • for finely stranded conductor / for remote signaling contacts | 0.14 ... 1.5 0.14 ... 1.5 |
| AWG number / as coded connectable conductor cross section / for remote signaling contacts / minimum | 28 |
| AWG number / as coded connectable conductor cross section / for remote signaling contacts / maximum | 16 |
| Tightening torque / for remote signaling contacts | 0.25 N·m |
| Wire stripping length / of the cable / for remote signaling contacts | 7 mm |

NEMA/UL - Data

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| Type of surge protective device (SPD) / according to UL | 4CA |
| Type of distribution system / according to UL | 1S |
| Type of distribution system | TT, TN-S |
| Designation of the protective paths / according to UL | L-N, L-G, N-G |
| TOV behavior <ul style="list-style-type: none"> • at TOV test voltage (L-N) • at TOV test voltage (N-PE) | 415 V AC (5 s / withstand mode) / 457 V AC (120 min / safe failure mode) 1200 V (200 ms / withstand mode) |
| Measured Limiting Voltage (MLV) / between L and Ground (GND) | 1.57 kV |
| Measured Limiting Voltage (MLV) / between L and N | 1.35 kV |
| Measured Limiting Voltage (MLV) / between N and Ground (GND) | 1.08 kV |
| Maximum Continuous Operating Voltage (MCOV) / between L and Ground (GND) | 528 V |
| Maximum Continuous Operating Voltage (MCOV) / between L and N | 264 V |
| Maximum Continuous Operating Voltage (MCOV) / between N and Ground (GND) | 264 V |
| Leakage current / according to UL | 20 kA |
| Leakage current / according to UL | 20 kA |

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|---|-------------------|
| Leakage current / according to UL | 20 kA |
| Sequential current | |
| • between N and Ground (GND) / according to UL | 200 A (264 V AC) |
| • between L and N / according to UL | 10 kA (264 V AC) |
| AWG number / as coded connectable conductor cross section / for remote signaling contacts / according to UL / minimum | 30 |
| AWG number / as coded connectable conductor cross section / for remote signaling contacts / according to UL / maximum | 14 |
| Installation altitude above sea level / according to UL | 6 562 ft |
| Gross weight [lb] / according to UL | 1.71 lb |
| Net weight [lb] / according to UL | 1.64 lb |
| Combustibility class acc. to UL 94 | V0 |
| Standards / according to UL | UL 1449 edition 4 |
| Operating voltage / of the remote-signaling contacts / according to UL | 125 V |
| Operating current / of the remote-signaling contacts / at AC / according to UL | 1 A |
| AWG number / as coded connectable conductor cross section / according to UL / minimum | 12 |
| AWG number / as coded connectable conductor cross section / according to UL / maximum | 2 |

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

<http://www.siemens.com/lowvoltage/catalogs>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=5SD7412-1>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/5SD7412-1>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)

http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=5SD7412-1

CAx-Online-Generator

<http://www.siemens.com/cax>