SIEMENS

Data sheet 5SD7414-1

Lightning arresters, type 1 Requirement class B, UC 350V Pluggable protective modules 4-pole, 3+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	Yes
• Test Class III, Type 3	No
Number of SPD ports	1
Design of the product	Lightning arresters
Design of pole	3+N/PE
Designation of the protective paths	L-N, L-PE, N-PE
accessories	3 x 5SD7418-1 + 1 x 5SD7418-0
Mounting type	DIN rail NS 35
Material / of the enclosure	PBT
Size of surge arrester	8 TE
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	142.4 mm
Height	95 mm
Depth	71.5 mm
Net weight	1 433 g

Electrical data	
Type of distribution system	TT, TN-S
Operating voltage	240 / 415 V AC
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	25 kA
• between N and PE / at (8/20) µs	50 kA
• between N and PE / at (8/20) µs	100 kA
Total lightning impulse current / at (10/350) µs	100 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) µs	
• 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

Type of electrical connection	Screw terminal
Wire stripping length	18 mm
Tightening torque	4.3 ... 4.7
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	
• at AC	12 ... 250
• at DC	125 V (200 mA DC)
Operating current / of the remote-signaling contacts	
• at AC	10 mA ... 1 A
• at DC	1 A DC (30 V DC)
Connection type of remote signaling contact	M2
Connectable conductor cross-section	
• for remote signaling contacts / for rigid conductor	0.14 ... 1.5
• for finely stranded conductor / for remote signaling contacts	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	15
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	
Type of surge protective device (SPD) / according to UL	4CA
Type of distribution system / according to UL	3Y
Type of distribution system	TT, TN-S
Designation of the protective paths / according to UL	L-L, L-N, L-G, N-G
TOV behavior	
• at TOV test voltage (L-N)	415 V AC (5 s / withstand mode) / 457 V AC (120 min / withstand mode)
• at TOV test voltage (N-PE)	1200 V (200 ms / withstand mode)
Measured Limiting Voltage (MLV) / between L and L	2.45 kV
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 L	528 V
Maximum Continuous Operating Voltage (MCOV) / between L and Ground (GND)	528 V
Maximum Continuous Operating Voltage (MCOV) / between L and N	264 V

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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
Leakage current / according to UL	20 kA
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	3.56 lb
Net weight [lb] / according to UL	3.16 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=5SD7414-1

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/5SD7414-1

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=5SD7414-1

CAx-Online-Generator
http://www.siemens.com/cax

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