



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

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
Product version	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
fastening method	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
shock acceleration	25 gn
vibrational acceleration / at 5 Hz ... 500 Hz / limited to 2,5 h / per axis	5 gn
Ambient temperature / during operation / minimum permissible ... ambient temperature / during operation / maximum permissible	-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	
type of distribution system	TT, TN-S
operating voltage	240 V
operating voltage	230 V
operating frequency	50/60 Hz
continuous operating voltage	
• maximum	350 V

<ul style="list-style-type: none"> • between N and PE 	350 V
<ul style="list-style-type: none"> • between L and (PE)N 	350 V
load current	125 A (< 55°C)
protective conductor current	10 µA (264 V AC)
discharge current	
<ul style="list-style-type: none"> • between L and (PE)N / at (8/20) µs 	25 kA
<ul style="list-style-type: none"> • between L and N / at (8/20) µs 	50 kA
<ul style="list-style-type: none"> • between L and PE / at (8/20) µs 	50 kA
<ul style="list-style-type: none"> • between L and PE / at (8/20) µs 	25 kA
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • lightning current peak value / between L and PE 	25 kA
<ul style="list-style-type: none"> • lightning current peak value / between N and PE 	100 kA
<ul style="list-style-type: none"> • lightning current peak value / between L and N 	25 kA
charge of the flash / at (10/350) µs	
<ul style="list-style-type: none"> • charge of the flash / between L and N 	12.5 A·s
<ul style="list-style-type: none"> • charge of the flash / between L and PE 	12.5 A·s
<ul style="list-style-type: none"> • charge of the flash / between N and PE 	50 A·s
specific energy of the flash / at (10/350) µs	
<ul style="list-style-type: none"> • between L and N 	160
<ul style="list-style-type: none"> • between L and PE 	160
<ul style="list-style-type: none"> • between N and PE 	2 500
follow current extinguishing capability	
<ul style="list-style-type: none"> • between N and PE 	100 A
<ul style="list-style-type: none"> • between L and N 	50 kA
short-circuit rating (SCCR) / at 264 V	50 kA
protection level	
<ul style="list-style-type: none"> • between L and N 	1.5 kV
<ul style="list-style-type: none"> • between L and PE 	2.5 kV
<ul style="list-style-type: none"> • between N and L 	1.5 kV
<ul style="list-style-type: none"> • between N and PE 	1.5 kV
<ul style="list-style-type: none"> • between PE and N and/or L 	1.5 kV
residual voltage	
<ul style="list-style-type: none"> • between L and (PE)N <ul style="list-style-type: none"> — at rated value of discharge current / maximum 	1.5 kV
<ul style="list-style-type: none"> • between L and PE <ul style="list-style-type: none"> — at rated value of discharge current / maximum 	2.5 kV
<ul style="list-style-type: none"> • between N and PE <ul style="list-style-type: none"> — at rated value of discharge current / maximum 	1.5 kV
response value of the surge voltage / at 6 kV / at (1.2/50) µs	
<ul style="list-style-type: none"> • between L and N 	1.5 kV
<ul style="list-style-type: none"> • between L and PE 	2.5 kV
<ul style="list-style-type: none"> • between N and PE 	1.5 kV
<ul style="list-style-type: none"> • response time / between L and (PE)N 	100 ns
<ul style="list-style-type: none"> • response time / between N and PE 	100 ns
adjustable response factor / of tripping 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
stripped length	18 mm
tightening torque	4.5 ... 4.5
stripped length	18 mm
connectable conductor cross-section	
<ul style="list-style-type: none"> • for finely stranded conductor 	2.5 ... 25
<ul style="list-style-type: none"> • 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	
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)
operational 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	16
tightening torque / for remote signaling contacts	0.25 N·m
stripped 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	1S
type of distribution system	TT, TN-S
designation of the protective paths / according to UL	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 / safe failure mode)
• at TOV test voltage (N-PE)	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
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
operational 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

