SIEMENS

Data sheet

Computed date

5SD7444-1

Combination arrester type 1+2 Requirement class B+C, UC 350V Pluggable protective modules 4-pole, 3+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 	Yes
 Test Class III, Type 3 	No
number of SPD ports	1
Product version	Arrester combination
design of pole	3+N/PE
designation of the protective paths	L-N, L-PE, N-PE
Accessories	3 x 5SD7428-1 + 1 x 5SD7418-0 + 3 x 5SD7448-1
fastening method	DIN rail NS 35
material / of the enclosure	PBT
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	142.8 mm
Height	95 mm
depth	71.5 mm
net weight	1 236 g
Electrical data	
type of distribution system	TT, TN-S
operating voltage	240 / 415 V AC
operating voltage	230 V
operating frequency	50/60 Hz
continuous operating voltage	
• maximum	350 V
 between N and PE 	350 V

• between L and (PE)N	350 V
load current	125 A (< 55°C)
protective conductor current	0.01 mA
apparent power consumption / maximum	300 mVA
discharge current	
 between L and (PE)N / at (8/20) μs 	25 kA
 between L and PE / at (8/20) μs 	25 kA
 between N and PE / at (8/20) 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 flash / at (10/350) µs	
 charge of the flash / between L and N 	12.5 A·s
 charge of the flash / between L and PE 	12.5 A·s
charge of the flash / between N and PE	50 A·s
specific energy of the flash / at (10/350) µs	
between L and N	160
between L and PE	160
between N and PE	2 500
follow current extinguishing capability	
between N and PE	100 A (350 V AC)
between L and N	25 kA (264 V AC), 3 kA (350 V AC)
short-circuit rating (SCCR) / at 264 V	25 kA
protection level	
between L and N	1.5 kV
between L and PE	2.2 kV
between N and PE	1.5 kV
residual voltage	1.0 (V
between L and (PE)N	
- at rated value of discharge current / maximum	1.5 kV
— at 10 kA / maximum	1.5 KV
— at 5 kA / maximum	1.2 KV 1 KV
— at 3 kA / maximum	0.9 kV
between L and PE	0.9 KV
	2.2.147
- at rated value of discharge current / maximum	2.2 kV 2 kV
— at 10 kA / maximum	
— at 5 kA / maximum	1.8 kV
— at 3 kA / maximum	1.6 kV
between N and PE	4 5 1 1
— at rated value of discharge current / maximum	1.5 kV
— at 10 kA / maximum	1 kV
— at 5 kA / maximum	0.9 kV
— at 3 kA / maximum	0.8 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 	2.2 kV
 between N and PE 	1.5 kV
 response time / between L and (PE)N 	25 ns
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)
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Connections/ Terminals	
Connections/ Terminals type of electrical connection	Screw terminal
type of electrical connection	Screw terminal 18 mm

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The of distribution system TT, TN-S designation of the protective paths / according to UL L-L, L-N, L-G, N-G TOV behavior 415 V AC (5 s / withstand mode) / 457 V AC (120 min / safe failure mode) • 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 (MLV) / between L and L 2.47 kV Measured Limiting Voltage (MLV) / between L and Ground (GND) 1.55 kV Measured Limiting Voltage (MLV) / between L and N 1.34 kV Measured Limiting Voltage (MLV) / between N and Ground (GND) 528 V Maximum Continuous Operating Voltage (MCOV) / between N and L 528 V Maximum Continuous Operating Voltage (MCOV) / between L and N 528 V between L and L 264 V Maximum Continuous Operating Voltage (MCOV) / between L and N 264 V between L and N 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 20 kA between N and Ground (GND) / according to UL 20 kA ieakage current / according to UL 20 kA ieakage current / according to UL 20 kA </td <td>type of surge protective device (SPD) / according to UL</td> <td>4CA</td>	type of surge protective device (SPD) / according to UL	4CA
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TOV behavior at TOV test voltage (L-N) at TOV test voltage (N-PE) 1200 V (200 ms / withstand mode) Measured Limiting Voltage (MLV) / between L and L 2.47 kV Measured Limiting Voltage (MLV) / between L and Ground (GND) 1.55 kV Measured Limiting Voltage (MLV) / between L and N 1.34 kV Measured Limiting Voltage (MLV) / between L and N 1.34 kV Measured Limiting Voltage (MLV) / between N and Ground (GND) 528 V 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 Ground (GND) 524 V Ieakage current / according to UL 20 kA Ieakage current / according to UL	type of distribution system	TT, TN-S
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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 Maximum Continuous Operating Voltage (MCOV) / between N and Ground (GND) 264 V Ieakage current / according to UL 20 kA	TOV behavior • at TOV test voltage (L-N) • at TOV test voltage (N-PE)	mode) 1200 V (200 ms / withstand mode)
Ground (GND)SectorMaximum Continuous Operating Voltage (MCOV) / between L and L528 VMaximum Continuous Operating Voltage (MCOV) / between L and Ground (GND)528 VMaximum Continuous Operating Voltage (MCOV) / between L and N264 VMaximum Continuous Operating Voltage (MCOV) / between N and Ground (GND)264 VIeakage current / according to UL20 kAIeakage current / according to UL20 kA (264 V AC)Ieakage current / according to UL20 kA (264 V AC)<	TOV behavior • at TOV test voltage (L-N) • at TOV test voltage (N-PE) Measured Limiting Voltage (MLV) / between L and L Measured Limiting Voltage (MLV) / between L and Ground (GND)	mode) 1200 V (200 ms / withstand mode) 2.47 kV 1.55 kV
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between L and Ground (GND) 264 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 between N and Ground (GND) / according to UL 20 kA sequential current 200 A (264 V AC) between L and N / according to UL 10 kA (264 V AC)	TOV behavior • at TOV test voltage (L-N) • at TOV test voltage (N-PE) Measured Limiting Voltage (MLV) / between L and L Measured Limiting Voltage (MLV) / between L and Ground (GND) Measured Limiting Voltage (MLV) / between L and N Measured Limiting Voltage (MLV) / between N and Ground (GND)	mode) 1200 V (200 ms / withstand mode) 2.47 kV 1.55 kV 1.34 kV 1.08 kV
between L and N Maximum Continuous Operating Voltage (MCOV) / between N and Ground (GND) 264 V leakage current / according to UL 20 kA 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)	TOV behavior • at TOV test voltage (L-N) • at TOV test voltage (N-PE) Measured Limiting Voltage (MLV) / between L and L Measured Limiting Voltage (MLV) / between L and Ground (GND) Measured Limiting Voltage (MLV) / between L and N Measured Limiting Voltage (MLV) / between N and Ground (GND) Maximum Continuous Operating Voltage (MCOV) / between L and L	mode) 1200 V (200 ms / withstand mode) 2.47 kV 1.55 kV 1.34 kV 1.08 kV 528 V
between N and Ground (GND) 20 kA leakage current / according to UL 20 kA 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)	TOV behavior • at TOV test voltage (L-N) • at TOV test voltage (N-PE) Measured Limiting Voltage (MLV) / between L and L Measured Limiting Voltage (MLV) / between L and Ground (GND) Measured Limiting Voltage (MLV) / between L and N Measured Limiting Voltage (MLV) / between N and Ground (GND) Maximum Continuous Operating Voltage (MCOV) / between L and L Maximum Continuous Operating Voltage (MCOV) / between L and Ground (GND)	mode) 1200 V (200 ms / withstand mode) 2.47 kV 1.55 kV 1.34 kV 1.08 kV 528 V 528 V
leakage current / according to UL 20 kA sequential current 20 kA • 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)	TOV behavior • at TOV test voltage (L-N) • at TOV test voltage (N-PE) Measured Limiting Voltage (MLV) / between L and L Measured Limiting Voltage (MLV) / between L and Ground (GND) Measured Limiting Voltage (MLV) / between L and N Measured Limiting Voltage (MLV) / between N and Ground (GND) Maximum Continuous Operating Voltage (MCOV) / between L and L Maximum Continuous Operating Voltage (MCOV) / between L and Ground (GND) Maximum Continuous Operating Voltage (MCOV) / between L and Ground (GND)	mode) 1200 V (200 ms / withstand mode) 2.47 kV 1.55 kV 1.34 kV 1.08 kV 528 V 528 V
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leakage current / according to UL 20 kA sequential current 200 A (264 V AC) • 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)	TOV behavior • at TOV test voltage (L-N) • at TOV test voltage (N-PE) Measured Limiting Voltage (MLV) / between L and L Measured Limiting Voltage (MLV) / between L and Ground (GND) Measured Limiting Voltage (MLV) / between L and N Measured Limiting Voltage (MLV) / between N and Ground (GND) Maximum Continuous Operating Voltage (MCOV) / between L and L Maximum Continuous Operating Voltage (MCOV) / between L and Ground (GND) Maximum Continuous Operating Voltage (MCOV) / between L and Ground (GND) Maximum Continuous Operating Voltage (MCOV) / between L and N Maximum Continuous Operating Voltage (MCOV) / between N and Ground (GND)	mode) 1200 V (200 ms / withstand mode) 2.47 kV 1.55 kV 1.34 kV 1.08 kV 528 V 528 V 264 V 264 V
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)	TOV behavior • at TOV test voltage (L-N) • at TOV test voltage (N-PE) Measured Limiting Voltage (MLV) / between L and L Measured Limiting Voltage (MLV) / between L and Ground (GND) Measured Limiting Voltage (MLV) / between L and N Measured Limiting Voltage (MLV) / between N and Ground (GND) Maximum Continuous Operating Voltage (MCOV) / between L and L Maximum Continuous Operating Voltage (MCOV) / between L and Ground (GND) Maximum Continuous Operating Voltage (MCOV) / between L and Ground (GND) Maximum Continuous Operating Voltage (MCOV) / between N and Ground (GND) leakage current / according to UL	mode) 1200 V (200 ms / withstand mode) 2.47 kV 1.55 kV 1.34 kV 1.08 kV 528 V 528 V 264 V 264 V 264 V
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)	TOV behavior • at TOV test voltage (L-N) • at TOV test voltage (N-PE) Measured Limiting Voltage (MLV) / between L and L Measured Limiting Voltage (MLV) / between L and Ground (GND) Measured Limiting Voltage (MLV) / between L and N Measured Limiting Voltage (MLV) / between N and Ground (GND) Maximum Continuous Operating Voltage (MCOV) / between L and L Maximum Continuous Operating Voltage (MCOV) / between L and Ground (GND) Maximum Continuous Operating Voltage (MCOV) / between L and Ground (GND) Maximum Continuous Operating Voltage (MCOV) / between L and N Maximum Continuous Operating Voltage (MCOV) / between N and Ground (GND) leakage current / according to UL	mode) 1200 V (200 ms / withstand mode) 2.47 kV 1.55 kV 1.34 kV 1.08 kV 528 V 528 V 264 V 264 V 20 kA 20 kA
between L and N / according to UL 10 kA (264 V AC)	TOV behavior • at TOV test voltage (L-N) • at TOV test voltage (N-PE) Measured Limiting Voltage (MLV) / between L and L Measured Limiting Voltage (MLV) / between L and Ground (GND) Measured Limiting Voltage (MLV) / between L and N Measured Limiting Voltage (MLV) / between N and Ground (GND) Maximum Continuous Operating Voltage (MCOV) / between L and L Maximum Continuous Operating Voltage (MCOV) / between L and Ground (GND) Maximum Continuous Operating Voltage (MCOV) / between L and Ground (GND) Maximum Continuous Operating Voltage (MCOV) / between L and N Maximum Continuous Operating Voltage (MCOV) / between N and Ground (GND) leakage current / according to UL leakage current / according to UL leakage current / according to UL	mode) 1200 V (200 ms / withstand mode) 2.47 kV 1.55 kV 1.34 kV 1.08 kV 528 V 528 V 264 V 264 V 264 V 20 kA 20 kA 20 kA
	TOV behavior • at TOV test voltage (L-N) • at TOV test voltage (N-PE) Measured Limiting Voltage (MLV) / between L and L Measured Limiting Voltage (MLV) / between L and Ground (GND) Measured Limiting Voltage (MLV) / between L and N Measured Limiting Voltage (MLV) / between N and Ground (GND) Maximum Continuous Operating Voltage (MCOV) / between L and L Maximum Continuous Operating Voltage (MCOV) / between L and Ground (GND) Maximum Continuous Operating Voltage (MCOV) / between L and Ground (GND) Maximum Continuous Operating Voltage (MCOV) / between N and Ground (GND) leakage current / according to UL leakage current / according to UL leakage current / according to UL sequential current	mode) 1200 V (200 ms / withstand mode) 2.47 kV 1.55 kV 1.34 kV 1.08 kV 528 V 528 V 264 V 264 V 264 V 20 kA 20 kA 20 kA
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AWG number / as coded connectable conductor cross 30 section / for remote signaling contacts / according to UL /	TOV behavior • at TOV test voltage (L-N) • at TOV test voltage (N-PE) Measured Limiting Voltage (MLV) / between L and L Measured Limiting Voltage (MLV) / between L and Ground (GND) Measured Limiting Voltage (MLV) / between L and N Measured Limiting Voltage (MLV) / between N and Ground (GND) Maximum Continuous Operating Voltage (MCOV) / between L and L Maximum Continuous Operating Voltage (MCOV) / between L and Ground (GND) Maximum Continuous Operating Voltage (MCOV) / between L and Ground (GND) Maximum Continuous Operating Voltage (MCOV) / between N and Ground (GND) leakage current / according to UL leakage current / according to UL leakage current / according to UL sequential current • between N and Ground (GND) / according to UL • between L and N / according to UL	mode) 1200 V (200 ms / withstand mode) 2.47 kV 1.55 kV 1.34 kV 1.08 kV 528 V 528 V 264 V 264 V 20 kA 20 kA 20 kA 20 kA 20 kA 20 kA

minimum	
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	3.15 lb
net weight [lb] / according to UL	2.72 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=5SD7444-1 Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/5SD7444-1

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=5SD7444-1

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