## **SIEMENS**

Data sheet 5SD7412-1RC



SPD Type 1, 2P 1+1 FM UN 240/415V, UC 350V a.c. 1+1 CIRCUIT

General data	
standard	IEC 61643-11: 2011, EN 61643-11: 2012
product designation	Surge protection device
SPD classification according to EN 61643-11	
• Test Class I, Type 1	Yes
• Test Class II, Type 2	No
<ul> <li>Test Class III, Type 3</li> </ul>	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
fastening method	DIN rail NS 35
material of the enclosure	PBT
size of surge arrester	4 TE
degree of pollution	2
overvoltage category according 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
relative humidity during operation	5 95 %
installation altitude at height above sea level maximum	2 000 m
width	71.2 mm
height	95 mm
depth	71.2 mm
net weight	730 g
Electrical data	
type of distribution system	TT, TN-S
operating voltage	
• at AC	230 V
value range of the operating frequency	50 / 60 Hz
continuous operating voltage	
• at AC maximum	350 V
<ul> <li>between N and PE at AC maximum</li> </ul>	350 V
• between L and (PE)N at AC maximum	350 V
discharge current	
<ul> <li>between L and (PE)N at (8/20) μs</li> </ul>	25 kA
<ul> <li>between L and N at (8/20) µs</li> </ul>	50 kA
<ul> <li>between L and PE at (8/20) μs</li> </ul>	50 kA
<ul> <li>between L and PE at (8/20) μs</li> </ul>	25 kA

	400.1.4
• 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> <li>lightning current peak value between L and PE</li> </ul>	25 kA
<ul> <li>lightning current peak value between N and PE</li> </ul>	100 kA
lightning current peak value between L and N	25 kA
charge of the flash at (10/350) µs	
<ul> <li>charge of the flash between L and N</li> </ul>	12.5 A·s
<ul> <li>charge of the flash between L and PE</li> </ul>	12.5 A·s
charge of the flash between N and PE	50 A·s
specific energy of the flash at (10/350) µs	
<ul><li>between L and N</li></ul>	160
<ul> <li>between L and PE</li> </ul>	160
between N and PE	2 500
follow current extinguishing capability	
<ul><li>between N and PE</li></ul>	100 A
<ul> <li>between L and N</li> </ul>	50 kA
short-circuit rating (SCCR) at 264 V	50 kA
protection level	
• between L and N maximum	1.5 kV
• between L and PE maximum	2.5 kV
between N and L	1.5 kV
between N and PE maximum	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	1.0 KV
at rated value of discharge current maximum	2.5 kV
between N and PE	2.5 NV
at rated value of discharge current maximum	1.5 kV
response value of the surge voltage at 6 kV at (1.2/50) µs	1.0 KV
• between L and N	1.5 kV
• between L and PE	2.5 kV
between N and PE	1.5 kV
a response time between L and /DENI	100 ns
• response time between L and (PE)N	
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 N·m
connectable conductor cross-section	
<ul> <li>for finely stranded conductor</li> </ul>	2.5 25 mm²
for rigid conductor	2.5 35 mm²
finely stranded	2.5 25 mm²
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	
product component remote signaling contact	Yes
switching function of the remote signaling contacts	PDT contact
operating voltage of the remote signaling contacts at AC	12 250 V
operational current of the remote signaling contacts at AC	10 mA 1 A
connection type of remote signaling contact	M2
connectable conductor cross-section for remote signaling	0.14 1.5 mm <sup>2</sup>
contacts for rigid conductor	
connectable conductor cross-section for remote signaling	0.14 1.5 mm²

contacts for finely stranded conductor	
AWG number as coded connectable conductor cross section for remote signaling contacts	28 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	
<ul><li>at TOV test voltage (L-N)</li></ul>	415 V AC (5 s / withstand mode) / 457 V AC (120 min / safe failure mode)
<ul><li>at TOV test voltage (N-PE)</li></ul>	1200 V (200 ms / withstand mode)
Measured Limiting Voltage (MLV)	
<ul><li>between L and Ground (GND)</li></ul>	1.57 kV
<ul><li>between L and N</li></ul>	1.35 kV
<ul><li>between N and Ground (GND)</li></ul>	1.08 kV
Maximum Continuous Operating Voltage (MCOV)	
<ul><li>between L and Ground (GND)</li></ul>	528 V
<ul><li>between L and N</li></ul>	264 V
<ul><li>between N and Ground (GND)</li></ul>	264 V
discharge current	
<ul> <li>between N and Ground (GND) according to UL rated value</li> </ul>	20 kA
<ul> <li>between L and N according to UL rated value</li> </ul>	20 kA
between L and Ground (GND) according to UL rated value	20 kA
AWG number as coded connectable conductor cross section	
<ul> <li>according to UL</li> </ul>	12 2
for remote signaling contacts according to UL	30 14
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
ambient temperature	
during operation	-40 +80 °C
during storage	-40 +80 °C
installation altitude above sea level according to UL	6 562 ft
gross weight [lb] according to UL	1.71 lb(av)
net weight [lb] according to UL	1.64 lb(av)
combustibility class according to UL 94	V0
standards according to UL	UL 1449 edition 4
Approvals Certificates	

**General Product Approval** other Environment



Confirmation



Confirmation

Miscellaneous

Environmental Confirmations

## Environment

**Environmental Confirmations** 

## Further information

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

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

Industry Mall (Online ordering system)

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

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

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

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) <a href="http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=5SD7412-1RC">http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=5SD7412-1RC</a>

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

7/3/2024 last modified:

## **SIEMENS**

Data sheet 5SD7414-1RC

SPD Type 1, 4P 3+1 FM UN 240/415V, UC 350V a.c. 3+1 CIRCUIT



IEC 6143-11: 2011, EN 61643-11: 2012	General data	
SPD classification according to EN 61643-11  • Test Class II, Type 2 • Test Class III, Type 3 No number of SPD ports 1 design of the product design of pole designation of the protective paths fastening method DIN rail NS 35 material of the enclosure size of surge arrester degree of pollution 2 overvorlage category according to IEC 61010-1 III protection class IP at connection all terminals shook acceleration vibrational acceleration at 5 Hz 500 Hz limited to 2,5 h per axis relative humidity during operation installation altitude at height above sea level maximum vibration acceleration at 142,4 mm height height 95 mm depth 17.15 mm net weight 1433 g  Electrical data Vibpe of distribution system operating voltage • at AC value range of the operating frequency between L and (PE)N at (8/20) µs • between L and (PE)N at (8/20) µs • between L and PE at (8/20) µs	standard	IEC 61643-11: 2011, EN 61643-11: 2012
• Test Class II, Type 1 • Test Class III, Type 3 No number of SPD ports 1 design of the product design of the product design of pole 3•NPE designation of the protective paths L-N, L-PE, N-PE fasterning method DIN rail NS 35 material of the enclosure size of surge arrester 8 TE degree of pollution 2 overvoltage category according to IEC 61010-1 III protection class IP at connection all terminals shook acceleration vibrational acceleration at 5 Hz 500 Hz limited to 2.5 h per axis relative humidity during operation sinstallation allitude at height above sea level maximum height 95 mm depth 11.5 mm net weight 11.5 mm net weight 11.5 mm net weight 14.33 g  Flectrical data type of distribution system operating voltage • at AC maximum • between L and (PE)N at (8/20) μs • between L and PE at (8/20) μs	product designation	Surge protection device
• Test Class II, Type 2  • Test Class II, Type 3  No number of SPD ports  design of the product  design of pole  3*NPE  designation of the protective paths  Li, L-PE, N-PE  fastening method  DIN rail NS 35  material of the enclosure  size of surge arrester  degree of pollution  2  overvoltage category according to IEC 61010-1  III  protection class IP at connection all terminals  protection class IP at connection all terminals  protection acceleration at 5 Hz 500 Hz limited to 2,5 h per axis  installation altitude at height above sea level maximum  width  142.4 mm  height  depth  71.5 mm  net weight  1433 g  Electrical data  type of distribution system  operating voltage  • at AC  230 V  value range of the operating frequency  continuous operating voltage  • at AC maximum  • between L and (PE)N at (8/20) µs  • between L and PE at (8/20) µs	SPD classification according to EN 61643-11	
• Test Class III, Type 3  number of SPD ports  design of the product  design of pole  designation of the protective paths  L-N, L-PE, N-PE  fastening method  DIN rail NS 35  material of the enclosure  size of surge arrester  degree of pollution  2  overvoltage category according to IEC 61010-1  III  protection class IP at connection all terminals  shock acceleration  25 gn  vibrational acceleration at 5 Hz 500 Hz limited to 2,5 h per axis  relative humidity during operation  installation altitude at height above sea level maximum  width  height  depth  71.5 mm  net weight  11.5 mm  net weight  120 v  value range of the operating frequency  continuous operating voltage  • at AC  value range of the operating frequency  between L and (PE)N at AC maximum  • between L and (PE)N at AC maximum  • between L and (PE)N at (8/20) µs  • between L and (PE)N at (8/20) µs  • between L and PE at (8/20) µs	<ul> <li>Test Class I, Type 1</li> </ul>	Yes
number of SPD ports  design of the product design of pole designation of the protective paths L-N, L-PE, N-PE fastening method DiN rail NS 35 material of the enclosure size of surge arrester degree of pollution 2 overvoltage category according to IEC 61010-1 III protection class IP at connection all terminals IP20 shock acceleration Z5 gn vibrational acceleration at 5 Hz 500 Hz limited to 2,5 h per axis relative humidity during operation 5 95 % installation altitude at height above sea level maximum width 142.4 mm height 95 mm depth 71.5 mm net weight Itectrical data Itype of distribution system Operating voltage • at AC 230 V valuer range of the operating frequency continuous operating voltage • at AC maximum • between N and PE at AC maximum • between L and (PE)N at (PS)O µs • between L and (PE)N at AC maximum • between L and (PE)N at (PS)O µs • between L and (PE)N at (PS)O µs • between L and PE at (R20) µs	• Test Class II, Type 2	Yes
design of the product  design of pole  designation of the protective paths  fastening method  material of the enclosure  size of surge arrester  degree of pollution  overvoltage category according to IEC 61010-1  III  protection class IP at connection all terminals  shock acceleration  vibrational acceleration at 5 Hz 500 Hz limited to 2,5 h per axis  relative humidity during operation  installation allitude at height above sea level maximum  width  height  depth  71,5 mm  net weight  1433 g  Electrical data  type of distribution system  operating voltage  • at AC  value range of the operating frequency  continuous operating voltage  • at AC  value range of the operating frequency  obstween L and (PE)N at (8/20) µs  • between L and (PE)N at (8/20) µs  • between L and (PE)N at (8/20) µs  • between L and PE at (8/20) µs	• Test Class III, Type 3	No
design of pole 3+N/PE designation of the protective paths	number of SPD ports	1
designation of the protective paths  L-N, L-PE, N-PE fastening method  DIN rail NS 35  material of the enclosure  size of surge arrester  degree of pollution  2  overvoltage category according to IEC 61010-1  III  protection class IP at connection all terminals  shock acceleration  vibrational acceleration at 5 Hz 500 Hz limited to 2,5 h per axis  relative humidity during operation  installation altitude at height above sea level maximum  width  height  height  for of distribution system  operating voltage  at AC  value range of the operating frequency  continuous operating frequency  at AC maximum  between N and PE at AC maximum  between L and (PE)N at (8/20) µs  between L and NE (8/20) µs  between L and NE (8/20) µs  between L and PE at (8/20) µs	design of the product	Lightning arresters
fastening method DIN rall NS 35 material of the enclosure PBT size of surge arrester 8 TE degree of pollution 2 overvoltage category according 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 relative humidity during operation 5 95 % installation allitude at height above sea level maximum 2 000 m width 142.4 mm height 95 mm depth 71.5 mm net weight 1433 g Electrical data type of distribution system TT, TN-S operating voltage • at AC 230 V value range of the operating frequency 50 / 60 Hz continuous operating voltage • at AC maximum 350 V • between N and PE at AC maximum 350 V obetween L and (PE)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 50 kA • between L and PE at (8/20) µs 50 kA	design of pole	3+N/PE
material of the enclosure  size of surge arrester  degree of pollution  2  overvoltage category according to IEC 61010-1  protection class IP at connection all terminals  shock acceleration  25 gn  vibrational acceleration at 5 Hz 500 Hz limited to 2,5 h per axis  relative humidity during operation  5 95 %  installation altitude at height above sea level maximum  2 000 m  width  42.4 mm  height  99 mm  depth  71.5 mm  net weight  1 433 g  Electrical data  type of distribution system  operating voltage  • at AC  value range of the operating frequency  continuous operating voltage  • at AC maximum  • between N and PE at AC maximum  5 kA  • between L and (PE)N at (8/20) µs  • between L and (PE)N at (8/20) µs  • between L and PE at (8/20) µs	designation of the protective paths	L-N, L-PE, N-PE
size of surge arrester  degree of pollution  2 overvoltage category according to IEC 61010-1  protection class IP at connection all terminals  shock acceleration  25 gn  vibrational acceleration at 5 Hz 500 Hz limited to 2,5 h per axis  relative humidity during operation  installation altitude at height above sea level maximum  2 000 m  width  42.4 mm  height  95 mm  depth  71.5 mm  net weight  Electrical data  type of distribution system  7T, TN-S  operating voltage  at AC  value range of the operating frequency  50 / 60 Hz  continuous operating voltage  at AC maximum  550 V  between L and (PE)N at AC maximum  550 kA  between L and N at (8/20) µs  55 kA  between L and PE at (8/20) µs  55 kA	fastening method	DIN rail NS 35
degree of pollution 2 overvoltage category according to IEC 61010-1 IIII 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 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 1433 g  Electrical data type of distribution system TT, TN-S operating voltage • at AC 230 V value range of the operating frequency 50 / 60 Hz continuous operating voltage • at AC maximum 350 V • between L and (PE)N at AC maximum 350 V discharge current • between L and (PE)N at (8/20) µs 50 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 50 kA • between L and PE at (8/20) µs 50 kA	material of the enclosure	PBT
overvoltage category according 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 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 • at AC 230 V value range of the operating frequency 50 / 60 Hz  continuous operating voltage • at AC maximum 350 V • between L and (PE)N at AC maximum 350 V  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 50 kA • between L and PE at (8/20) µs 50 kA	size of surge arrester	8 TE
protection class IP at connection all terminals  shock acceleration  25 gn  vibrational acceleration at 5 Hz 500 Hz limited to 2,5 h per axis  relative humidity during operation  installation altitude at height above sea level maximum  2 000 m  width  142.4 mm  height  495 mm  depth  71.5 mm  net weight  Liectrical data  type of distribution system  operating voltage  at AC  value range of the operating frequency  continuous operating voltage  at AC maximum  350 V  between L and (PE)N at AC maximum  between L and (PE)N at (8/20) µs  between L and N at (8/20) µs  between L and PE at (8/20) µs	degree of pollution	2
shock acceleration 25 gn  vibrational acceleration at 5 Hz 500 Hz limited to 2,5 h per axis  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 1433 g  Electrical data  type of distribution system 7TT, TN-S  operating voltage  at AC 230 V  value range of the operating frequency 50 / 60 Hz  continuous operating voltage  at AC maximum 350 V  between L and (PE)N at AC maximum 350 V  discharge current  between L and N at (8/20) µs 25 kA  between L and PE at (8/20) µs 50 kA  between L and PE at (8/20) µs 50 kA  between L and PE at (8/20) µs 50 kA  between L and PE at (8/20) µs 50 kA  between L and PE at (8/20) µs 50 kA	overvoltage category according to IEC 61010-1	III
vibrational acceleration at 5 Hz 500 Hz limited to 2,5 h per axis  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  • at AC 230 V  value range of the operating frequency 50 / 60 Hz  continuous operating voltage  • at AC maximum 350 V  • between N and PE at AC maximum 350 V  discharge current  • between L and (PE)N at (8/20) µs 25 kA  • between L and PE 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	protection class IP at connection all terminals	IP20
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 1433 g  Electrical data type of distribution system 7TT, TN-S  operating voltage  • at AC 230 V value range of the operating frequency 50 / 60 Hz  continuous operating voltage  • at AC maximum 350 V • between N and PE at AC maximum 350 V  discharge current  • between L and (PE)N at (8/20) µs 25 kA • between L and PE 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	shock acceleration	25 gn
installation altitude at height above sea level maximum  width  height  42.4 mm  height  95 mm  depth  71.5 mm  net weight  1 433 g  Electrical data  type of distribution system  operating voltage  • at AC  value range of the operating frequency  type of distribution system  operating voltage  • at AC  value range of the operating frequency  toolinuous operating voltage  • at AC maximum  • between N and PE at AC maximum  story  • between L and (PE)N at AC maximum  • between L and (PE)N at (8/20) µs  • between L and N at (8/20) µs  • between L and PE at (8/20) µs		5 gn
width 142.4 mm height 95 mm depth 71.5 mm net weight 1433 g  Electrical data type of distribution system TT, TN-S operating voltage • at AC 230 V value range of the operating frequency 50 / 60 Hz  continuous operating voltage • at AC maximum 350 V • between N and PE at AC maximum 350 V • between L and (PE)N at AC maximum 350 V  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	relative humidity during operation	5 95 %
height	installation altitude at height above sea level maximum	2 000 m
depth 71.5 mm  net weight 1433 g  Electrical data  type of distribution system TT, TN-S  operating voltage  • at AC 230 V  value range of the operating frequency 50 / 60 Hz  continuous operating voltage  • at AC maximum 350 V  • between N and PE at AC maximum 350 V  • between L and (PE)N at AC maximum 350 V  discharge current  • between L and (PE)N at (8/20) µs 25 kA  • between L and PE 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	width	142.4 mm
net weight  Electrical data  type of distribution system  TT, TN-S  operating voltage  at AC  value range of the operating frequency  tontinuous operating voltage  at AC maximum  between N and PE at AC maximum  between L and (PE)N at AC maximum  between L and (PE)N at (8/20) µs  between L and N at (8/20) µs  between L and PE at (8/20) µs	height	95 mm
type of distribution system  operating voltage  • at AC  value range of the operating frequency  • at AC maximum  • between N and PE at AC maximum  • between L and (PE)N at AC maximum  • between L and (PE)N at (8/20) µs  • between L and PE at (8/20) µs	depth	71.5 mm
type of distribution system  operating voltage  • at AC  value range of the operating frequency  continuous operating voltage  • at AC maximum  • between N and PE at AC maximum  • between L and (PE)N at (8/20) µs  • between L and N at (8/20) µs  • between L and PE at (8/20) µs	net weight	1 433 g
operating voltage  • at AC  value range of the operating frequency  continuous operating voltage  • at AC maximum  • between N and PE at AC maximum  • between L and (PE)N at AC maximum  • between L and (PE)N at (8/20) µs  • between L and N at (8/20) µs  • between L and PE at (8/20) µs	Electrical data	
at AC     value range of the operating frequency     50 / 60 Hz  continuous operating voltage     • at AC maximum     • between N and PE at AC maximum     • between L and (PE)N at AC maximum     • between L and (PE)N at (8/20) μs     • between L and N at (8/20) μs     • between L and PE at (8/20) μs	type of distribution system	TT, TN-S
value range of the operating frequency  continuous operating voltage  at AC maximum  between N and PE at AC maximum  between L and (PE)N at AC maximum  between L and (PE)N at (8/20) µs  between L and N at (8/20) µs  between L and PE at (8/20) µs  between L and PE at (8/20) µs  between L and PE at (8/20) µs  50 kA	operating voltage	
continuous operating voltage  • at AC maximum  • between N and PE at AC maximum  • between L and (PE)N at AC maximum  350 V  discharge current  • between L and (PE)N at (8/20) µs  • between L and N at (8/20) µs  • between L and PE at (8/20) µs  • between L and PE at (8/20) µs	• at AC	230 V
at AC maximum     between N and PE at AC maximum     between L and (PE)N at AC maximum     350 V      discharge current     between L and (PE)N at (8/20) μs     between L and N at (8/20) μs     between L and PE at (8/20) μs     between L and PE at (8/20) μs	value range of the operating frequency	50 / 60 Hz
<ul> <li>between N and PE at AC maximum         <ul> <li>between L and (PE)N at AC maximum</li> <li>discharge current</li> <li>between L and (PE)N at (8/20) μs</li> <li>between L and N at (8/20) μs</li> <li>between L and PE at (8/20) μs</li> <li>between L and PE at (8/20) μs</li> </ul> </li> </ul>	continuous operating voltage	
between L and (PE)N at AC maximum      discharge current     between L and (PE)N at (8/20) μs     between L and N at (8/20) μs     between L and PE at (8/20) μs     between L and PE at (8/20) μs	at AC maximum	350 V
discharge current  • between L and (PE)N at (8/20) μs  • between L and N at (8/20) μs  • between L and PE at (8/20) μs  25 kA  • between L and PE at (8/20) μs	<ul> <li>between N and PE at AC maximum</li> </ul>	350 V
<ul> <li>between L and (PE)N at (8/20) μs</li> <li>between L and N at (8/20) μs</li> <li>between L and PE at (8/20) μs</li> <li>25 kA</li> </ul>	<ul> <li>between L and (PE)N at AC maximum</li> </ul>	350 V
<ul> <li>between L and N at (8/20) μs</li> <li>between L and PE at (8/20) μs</li> <li>50 kA</li> <li>55 kA</li> </ul>	discharge current	
• between L and PE at (8/20) μs 25 kA	<ul> <li>between L and (PE)N at (8/20) μs</li> </ul>	25 kA
	<ul> <li>between L and N at (8/20) μs</li> </ul>	50 kA
between N and PE at (8/20) µs     50 kA	<ul> <li>between L and PE at (8/20) μs</li> </ul>	25 kA
	<ul> <li>between N and PE at (8/20) μs</li> </ul>	50 kA

	400.1.4
• 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	
<ul> <li>lightning current peak value between L and PE</li> </ul>	25 kA
<ul> <li>lightning current peak value between N and PE</li> </ul>	100 kA
lightning current peak value between L and N	25 kA
charge of the flash at (10/350) µs	
<ul> <li>charge of the flash between L and N</li> </ul>	12.5 A·s
<ul> <li>charge of the flash between L and PE</li> </ul>	12.5 A·s
charge of the flash between N and PE	50 A·s
specific energy of the flash at (10/350) µs	
<ul> <li>between L and N</li> </ul>	160
<ul> <li>between L and PE</li> </ul>	160
<ul> <li>between N and PE</li> </ul>	2 500
follow current extinguishing capability	
<ul><li>between N and PE</li></ul>	100 A
<ul> <li>between L and N</li> </ul>	50 kA
short-circuit rating (SCCR) at 264 V	50 kA
protection level	
between L and N maximum	1.5 kV
between L and PE maximum	2.5 kV
between N and L	1.5 kV
between N and PE maximum	1.5 kV
between PE and N and/or L	1.5 kV
residual voltage	1.0 KV
_	
between L and (PE)N      ct rated value of discharge current maximum.	1.5 kV
<ul> <li>— at rated value of discharge current maximum</li> <li>• between L and PE</li> </ul>	1.5 KV
	0.5187
— 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
<ul> <li>response time between L and (PE)N</li> </ul>	100 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)
Connections/ Terminals	
type of electrical connection	Screw terminal
stripped length	18 mm
tightening torque	4.3 4.7 N·m
connectable conductor cross-section	
for finely stranded conductor	2.5 25 mm²
for rigid conductor	2.5 35 mm²
finely stranded	2.5 25 mm²
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	opasa, remote digraming contact
	Vac
product component remote signaling contact	Yes
switching function of the remote signaling contacts	PDT contact
operating voltage of the remote signaling contacts at AC	12 250 V
operational current of the remote signaling contacts at AC	10 mA 1 A
connection type of remote signaling contact	M2
connectable conductor cross-section for remote signaling contacts for rigid conductor	0.14 1.5 mm²
connectable conductor cross-section for remote signaling	0.14 1.5 mm²

contacts for finely stranded conductor	
AWG number as coded connectable conductor cross section for remote signaling contacts	28 15
tightening torque for remote signaling contacts	0.25 N·m
stripped length of the cable for remote signaling contacts	7 mm
EMA/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	
<ul> <li>at TOV test voltage (L-N)</li> </ul>	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
<ul><li>between L and Ground (GND)</li></ul>	1.57 kV
<ul><li>between L and N</li></ul>	1.35 kV
<ul><li>between N and Ground (GND)</li></ul>	1.08 kV
Maximum Continuous Operating Voltage (MCOV)	
<ul><li>between L and L</li></ul>	528 V
<ul><li>between L and Ground (GND)</li></ul>	528 V
<ul><li>between L and N</li></ul>	264 V
<ul><li>between N and Ground (GND)</li></ul>	264 V
discharge current	
<ul> <li>between N and Ground (GND) according to UL rated value</li> </ul>	20 kA
<ul> <li>between L and N according to UL rated value</li> </ul>	20 kA
<ul> <li>between L and Ground (GND) according to UL rated value</li> </ul>	20 kA
<ul> <li>between L and L according to UL rated value</li> </ul>	20 kA
AWG number as coded connectable conductor cross section	
<ul> <li>according to UL</li> </ul>	12 2
<ul> <li>for remote signaling contacts according to UL</li> </ul>	30 14
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
ambient temperature	
during operation	-40 +80 °C
during storage	-40 +80 °C
installation altitude above sea level according to UL	6 562 ft
	3.56 lb(av)
gross weight [lb] according to UL	
gross weight [lb] according to UL net weight [lb] according to UL	3.16 lb(av)

General Product Approval other Environment

Confirmation





Miscellaneous

Confirmation

Environmental Confirmations

Environment

Environmental Confirmations

Further information

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875 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=5SD7414-1RC

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

https://support.industry.siemens.com/cs/ww/en/ps/5SD7414-1RC

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

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

3/20/2024 last modified: