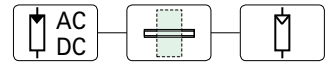


Surge Protection SPPVT2



Powering Business Worldwide



Max. continuous operating voltage
U_c

Type
Designation

Article No.

Units per
package

Plug-in Surge Arrester SPPVT2 for Photovoltaic application

- For insulated and earthed systems

sg04914



600 V DC	SPPVT2-06-2+PE	176088	1/40
1000 V DC	SPPVT2-10-2+PE	176090	1/40

With auxiliary switch

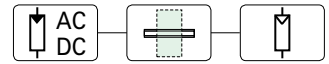
600 V DC	SPPVT2-06-2+PE-AX	176087	1/40
1000 V DC	SPPVT2-10-2+PE-AX	176089	1/40

sg04714



Inserts for replacement

600 V DC	SPPVT2-06	176091	1/50
1000 V DC	SPPVT2-10	176092	1/50

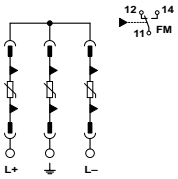


Description Plug-in Surge Arrester SPPVT2-...-2+PE(-AX)

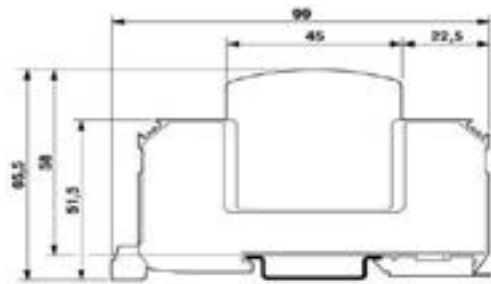
- Increased safety through compliance with the EN 50539-11 standard
- Safe contacting thanks to integrated redary bolts
- Easy to replace thanks to a plug-type arrester
- Optimal protection of the inverter thanks to a low protection level
- Selective replacement of defective connectors thanks to a visual status indicator
- Optimized planning of maintenance interventions thanks to remote signalling (Type -AX)
- No wrong connecting possible thanks to coded connectors and base elements

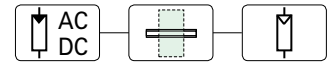
Connection diagram

SPPVT2(H)-...-2+PE(-AX)



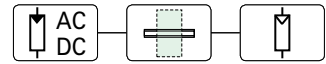
Dimensions (mm)





Technical Data

	SPPVT2-06-2+PE(-AX)	SPPVT2-10-2+PE(-AX)
Environmental condition		
Degree of protection	IP20	IP20
Ambient temperature of operation	-40 ... +80°C	-40 ... +80°C
Altitude	≤ 2000 m	≤ 2000 m
Allowed range of air humidity of operation	5 ... 95 %	5 ... 95 %
General		
Standards/regulations	EN 50539-11	EN 50539-11
EN Test class	PV T2	PV T2
SPD failure performance	OCM	OCM
Mounting	DIN rail 35 mm	DIN rail 35 mm
Material of the enclosure	PBT/PA	PBT/PA
Pollution degree	II	II
Flammability class according to UL 94	V0	V0
Signal for surge protection defective	visual, with remote signalling contact	visual, with remote signalling contact
Predictive circuit on the direct current side (DC)		
Max. continuous operating voltage	U_{CPV} 800 V DC	1170 V DC
No-load output voltage	U_{DCSTC} ≤ 670 V DC	≤ 970 V DC
Short-circuit current strength	I_{SCPV} 2000 A	2000 A
Nominal load current	I_L 80 A DC	80 A DC
Predictive conductor current	I_{PE}	
DC	≤ 20 μA	≤ 20 μA
AC	≤ 300 μA	≤ 250 μA
Standby power consumption	P_c ≤ 20 mVA	≤ 25 mVA
Nominal discharge current (8/20) μs	15 kA	15 kA
Maximum discharge current (8/20) μs	I_{max} 40 kA	40 kA
Total lightning discharge current (8/20) μs	I_{Total} 40 kA	40 kA
Voltage protection level (L+) - (L-)	U_p ≤ 2.7 kV	≤ 3.7 kV
Voltage protection level (L+/L-) - PE	U_p ≤ 2.7 kV	≤ 3.7 kV
Responding time	t_A ≤ 25 ns	≤ 25 ns
Size		
Height	99 mm	99 mm
Width	53.4 mm	53.4 mm
Depth	65.5 mm	65.5 mm
Module units (MU)	3 MU	3 MU
Weight		
...+PE	gross 313 g / net 288 g	gross 337 g / net 311 g
...+PE-AX	gross 320 g / net 294 g	gross 343 g / net 317 g
Connection data		
Type of connection	Screw connection	Screw connection
Lift terminal capacity		
flexible	1.5-25 mm ²	1.5-25 mm ²
solid	1.5-35 mm ²	1.5-35 mm ²
Bolt thread	M5	M5
Tightening torque	4.5 Nm	4.5 Nm
Stripping length	16 mm	16 mm
Type of connection	Biconnect-terminals	Biconnect-terminals
Lift terminal capacity		
solid	1.5-16 mm ²	1.5-16 mm ²
Bolt thread	M6	M6
Tightening torque	30 lb in	30 lb in
Auxiliary Switch		
Switching function	CO, 1-pole	CO, 1-pole
Rated operational voltage	5 ... 250 V AC, 30 V DC	5 ... 250 V AC, 30 V DC
Rated operational current	5 mA ... 1.5 A AC, 1.5 A DC	5 mA ... 1.5 A AC, 1.5 A DC
Type of connection	MC 1.5/3	MC 1.5/3
Lift terminal capacity		
flexible	0.14-1.5 mm ²	0.14-1.5 mm ²
solid	0.14-1.5 mm ²	0.14-1.5 mm ²
Lift terminal capacity AWG/kcmil	30 ... 14	30 ... 14
Bolt thread	M2	M2
Tightening torque	0.25 Nm, 2 ... 4 lb in	0.25 Nm, 2 ... 4 lb in
Stripping length	7 mm	7 mm



Max. continuous operating voltage
 U_c

Type
Designation

Article No.

Units per
package

Plug-in Surge Arrester SPPVT12 for Photovoltaic application

- For insulated and earthed systems

sg04914



600 V DC	SPPVT12-06-2+PE	177258	1/40
1000 V DC	SPPVT12-10-2+PE	177256	1/40

With auxiliary switch

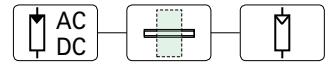
600 V DC	SPPVT12-06-2+PE-AX	177257	1/40
1000 V DC	SPPVT12-10-2+PE-AX	177255	1/40

sg04714



Inserts for replacement

600 V DC	SPPVT12-06	177259	1/50
1000 V DC	SPPVT12-10	177260	1/50

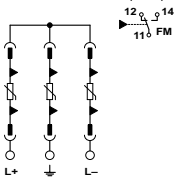


Description Plug-in Surge Arrester SPPVT12-...-2+PE(-AX)

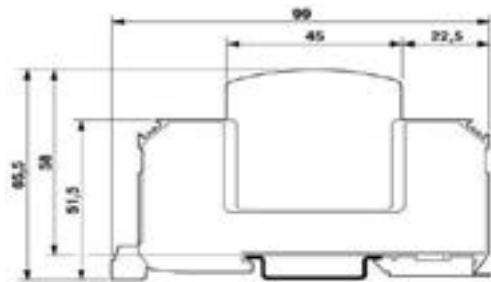
- Increased safety through compliance with the EN 50539-11 standard
- Safe contacting thanks to integrated redary bolts
- Easy to replace thanks to a plug-type arrester
- Optimal protection of the inverter thanks to a low protection level
- Selective replacement of defective connectors thanks to a visual status indicator
- Optimized planning of maintenance interventions thanks to remote signalling (Type -AX)
- No wrong connecting possible thanks to coded connectors and base elements
- Always the right arrester thanks to universal Type1/Type2 predective components

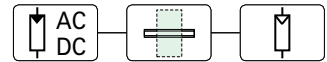
Connection diagram

SPPVT12-...-2+PE(-AX)



Dimensions (mm)





Technical Data

		SPPVT12-06-2+PE(-AX)	SPPVT12-10-2+PE(-AX)
Environmental condition			
Degree of protection		IP20	IP20
Ambient temperature of operation		-40 ... +80°C	-40 ... +80°C
Altitude		≤ 2000 m	≤ 2000 m
Allowed range of air humidity of operation		5 ... 95 %	5 ... 95 %
General			
Standards/regulations		EN 50539-11	EN 50539-11
EN Test class		PV T1/PV T2	PV T1/PV T2
SPD failure performance		OCM	OCM
Mounting		DIN rail 35 mm	DIN rail 35 mm
Material of the enclosure		PBT/PA	PBT/PA
Pollution degree		II	II
Flammability class according to UL 94		V0	V0
Signal for surge protection defective		visual, with remote signalling contact	visual, with remote signalling contact
Protective circuit on the direct current side (DC)			
Max. continuous operating voltage	U_{CPV}	720 V DC	1050 V DC
No-load output voltage	U_{OCSTC}	≤ 600 V DC	≤ 875 V DC
Short-circuit current strength	I_{SCPV}	2000 A	2000 A
Nominal load current	I_L	80 A DC	80 A DC
Preductive conductor current	I_{PE}		
DC		≤ 20 μA	≤ 20 μA
AC		≤ 350 μA	≤ 350 μA
Standby power consumption	P_C	≤ 20 mVA	≤ 25 mVA
Nominal discharge current (8/20) μs		15 kA	15 kA
Maximum discharge current (8/20) μs	I_{max}	40 kA	40 kA
Lightning test current (10/350) μs, Peak current	I_{imp}	5 kA	5 kA
Total lightning discharge current (8/20) μs	I_{Total}	7 kA	5 kA
Voltage protection level (L+) - (L-)	U_p	≤ 2.6 kV	≤ 3.5 kV
Voltage protection level (L+/L-) - PE	U_p	≤ 2.6 kV	≤ 3.5 kV
Responding time	t_A	≤ 25 ns	≤ 25 ns
Required max. back-up fuse with stub-line wiring		not necessary	not necessary
Size			
Height		99 mm	99 mm
Width		53.4 mm	53.4 mm
Depth		65.5 mm	65.5 mm
Module units (MU)		3 MU	3 MU
Weight			
...+PE		gross 407 g / net 379 g	gross 407 g / net 379 g
...+PE-AX		gross 414 g / net 386 g	gross 414 g / net 386 g
Connection data			
Type of connection		Screw connection	Screw connection
Lift terminal capacity			
flexible		1.5-25 mm ²	1.5-25 mm ²
solid		1.5-35 mm ²	1.5-35 mm ²
Bolt thread		M5	M5
Tightening torque		4.5 Nm	4.5 Nm
Stripping length		16 mm	16 mm
Type of connection		Biconnect-terminals	Biconnect-terminals
Lift terminal capacity			
solid		1.5-16 mm ²	1.5-16 mm ²
Bolt thread		M6	M6
Tightening torque		30 lb in	30 lb in
Auxiliary Switch			
Switching function		CO, 1-pole	CO, 1-pole
Rated operational voltage		5 ... 250 V AC, 30 V DC	5 ... 250 V AC, 30 V DC
Rated operational current		5 mA ... 1.5 A AC, 1.5 A DC	5 mA ... 1.5 A AC, 1.5 A DC
Type of connection		MC 1.5/3	MC 1.5/3
Lift terminal capacity			
flexible		0.14-1.5 mm ²	0.14-1.5 mm ²
solid		0.14-1.5 mm ²	0.14-1.5 mm ²
Lift terminal capacity AWG/kcmil		30 ... 14	30 ... 14
Bolt thread		M2	M2
Tightening torque		0.25 Nm, 2 ... 4 lb in	0.25 Nm, 2 ... 4 lb in
Stripping length		7 mm	7 mm

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Eaton Industries (Austria) GmbH
Scheydgasse 42
1210 Vienna
Austria

Eaton
EMEA Headquarters
Route de la Longeraie 7
1110 Morges, Switzerland

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