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Surge Protection SPPV

V T2

SPPVT2-08

8

CE

8

CE

SPPVT2-06

CE

SPPVT2-08



xPole

wa_sg106319



Description

- Suitable SPD for PV applications
- Test class 2 tested SPDs are suitable for applications without an external lightning protection system
- Auxiliary contact available with AX types

Types

SPPV "AX"

• These types come with an auxiliary contact

Class 2 tested photovoltaic SPD

DC voltage per MPPT	Туре	Arti	cle No. U
Uc	Designation		p

• For insulationed and earthed systems



	SPP\/T2-06-2+PF	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 \/ DO		170000	1/40



Inserts for replacement

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

Class 2 tested photovoltaic SPD





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

- Increased safety through compliance with the IEC 61643-31 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



Dimensions (mm)



AC	M
ЧDC	ĻĻ

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 IEC/EN 61643-31 IEC/EN 61643-31 IEN Test class PV T2 PV T2 SPD failure performance OCFM OCFM DIN rail 35 mm DIN rail 35 mm Mounting Material of the enclosure PBT/PA PBT/PA Pollution degree 11 П Flammabilty class according to UL 94 VO VO Signal for surge protection defective visual, with remote signalling contact visual, with remote signalling contact Predective circuit on the direct current side (DC) 800 V DC 1170 V DC Max. continuous operating voltage UCPV No-load output voltage ≤ 670 V DC ≤ 975 V DC U_{OCSTC} Short-circuit current strength I_{SCPV} 2000 A 2000 A 80 A DC 80 A DC Nominal load current I_L Predective conductor current I_{PE} DC ≤ 20 µA ≤ 20 µA AC ≤ 300 µA ≤ 250 µA Standby power consumption P_{C} \leq 20 mVA $\leq 25 \text{ mVA}$ Nominal discharge current (8/20) µs 15 kA 15 kA Maximum discharge current (8/20) µs 40 kA 40 kA I_{max} Total lightning discharge current (8/20) µs 40 kA 40 kA I_{Total} Voltage protection level (L+) - (L-) Up $\leq 2.7 \text{ kV}$ $\leq 3.7 \text{ kV}$ Voltage protection level (L+/L-) - PE Up $\leq 2.7 \text{ kV}$ \leq 3.7 kV Responding time ≤ 25 ns ≤ 25 ns t_A Size 99 mm 99 mm Hight Width 53.4 mm 53.4 mm Depth 63.6 mm 63.6 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 mm² 1.5-25 mm² 1.5-35 mm² 1.5-35 mm² solid Bolt thread M5 M5 Tightening torque 4.5 Nm 4.5 Nm Stripping length 16 mm 16 mm **Auxiliary Switch** CO, 1-pole CO, 1-pole Switching function 5 ... 250 V AC, 30 V DC 5 ... 250 V AC, 30 V DC Rated operational voltage 5 mA ... 1.5 A AC, 1 A DC Rated operational current 5 mA ... 1.5 A AC, 1 A DC Type of connection MC 1.5/3 MC 1.5/3 Lift terminal capacity flexible 0.14-1.5 mm² 0.14-1.5 mm² solid 0.14-1.5 mm² 0.14-1.5 mm² Lift terminal capacity AWG/kcmil 30 ... 14 30 ... 14 Bolt thread M2 M2 0.25 Nm, 2 ... 4 lb in 0.25 Nm, 2 ... 4 lb in Tightening torque Stripping length 7 mm 7 mm

xPole

Surge Protection Combined class 1/2 tested photovoltaic SPD

1.5

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Description

- Suitable SPD for PV applications
- Combined test class 1/2 tested SPDs are suitable for applications with an external lightning protection system
- Auxiliary contact available with AX types

Types

SPPV "AX"

• These types come with an auxiliary contact

Combined class 1/2 tested photovoltaic SPD

Itage per MPPT Type Article No. Designation	itage per MPPT Type Designation	Article No.



600 V DC	SPPVT12-06-2+PE	177258 1/40
1000 V DC	SPPVT12-10-2+PE	177256 1/40
With auxiliary switch		
With auxiliary switch 600 V DC	SPPVT12-06-2+PE-AX	177257 1/40



Inserts for replacement

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

Combined class 1/2 tested photovoltaic SPD



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

- Increased safety through compliance with the IEC 61643-31 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



Dimensions (mm)



Combined class 1/2 tested photovoltaic SPD

AC	M
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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		IEC/EN 61643-31	IEC 61643-31
IEN Test class		PV T1/PV T2	PV T1/PV T2
SPD failure performance		OCFM	OCFM
Mounting		DIN rail 35 mm	DIN rail 35 mm
Material of the enclosure		PBT/PA	PBT/PA
Pollution degree			
Flammabilty class according to UL 94		VO	VO
Signal for surge protection defective		visual, with remote signalling contact	visual, with remote signalling contact
Predective circuit on the direct current side (DC)			
Max. continuous operating voltage	U _{CPV}	720 V DC	1170 V DC
No-load output voltage	U _{OCSTC}	≤ 600 V DC	≤ 975 V DC
Short-circuit current strength	I _{SCPV}	2000 A	2000 A
Nominal load current	_l_	80 A DC	80 A DC
Predective conductor current	I _{PE}		
		≤ 20 µA	≤ 20 µA
		≤ 350 µA	≤ 350 µA
Standby power consumption	Pc	≤ 25 mVA	$\leq 25 \text{ mVA}$
Nominal discharge current (8/20) µs		15 kA	15 kA
Maximum discharge current (8/20) µs	max	40 KA	4U KA
Lightning test current (10/350) µs, Peak current	l _{imp}	5 KA	5 KA
Iotal lightning discharge current (8/20) µs	Total	7 KA	5 KA
Voltage protection level (L+) - (L-)	Up	≤ 2.6 kV	$\leq 3.5 \text{ kV}$
Voltage protection level (L+/L-) - PE	Up	≤ 2.b KV	≤ 3.5 KV
Responding time	t _A	≤ 25 ns	≤ 25 NS
Required max. back-up ruse with stub-line wiring		not neccessary	not neccessary
Size		00 mm	00 mm
Hight		99 mm	99 mm
Ponth		53.4 IIIIII	53.4 [[][]]
Medulo unite (MU)		2 MU	2 MI
Moight		3 1010	3 1010
		gross 407 g / pot 270 g	groce 407 g / pot 270 g
		gross 414 g / not 296 g	gross 407 g / net 375 g
Connection data		gioss 414 g / Het 560 g	giuss 414 g / Her 300 g
Type of connection		Screw connection	Screw connection
lift terminal canacity			
flavible		1 5-75 mm ²	1 5-25 mm ²
solid		1.5.25 mm ²	1.5-25 mm ²
Bolt thread		M5	M5
Tightening torque		4.5 Nm	4.5 Nm
Strinning length		16 mm	16 mm
Auxiliary Switch		10 mm	
Switching function		CO 1-pole	CO 1-pole
Bated operational voltage		5 250 V AC 30 V DC	5 250 V ΔC 30 V DC
Bated operational current		5 mA $15 A A C$ $1 A D C$	5 mA 15 A AC 1 A DC
Type of connection		MC 1 5/3	MC 1 5/3
lift terminal canacity			
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 canacity AWG/kcmil		30 14	30 14
Rolt thread		M2	M2
Tightening torque		0.25 Nm 2 4 lb in	0.25 Nm 2 4 lh in
Strinning length		7 mm	7 mm
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