

PV-SET 3ST/1000DC/15A-3MPP-SC - Surge protection device set



2800833

<https://www.phoenixcontact.com/us/products/2800833>

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Surge protection in IP65 housing for the DC side of an inverter with three MPP trackers up to 1000 V DC, connection via SUNCLIX plug/socket, plug-in varistors with thermal disconnect device between L+, L-, and ground/PE.

Commercial data

Item number	2800833
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	CL1341
GTIN	4046356654814
Weight per piece (including packing)	3,250 g
Weight per piece (excluding packing)	3,250 g
Country of origin	DE

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Technical data

Product properties

IEC test classification	PV T2
Type	Installation housing
Distance between live and grounded parts	8 mm
Surge protection fault message	optical

Insulation characteristics

Protection class	II
Overvoltage category	III
Pollution degree	2

Electrical properties

Nominal current I_N	25 A DC (per MPP)
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Indicator/remote signaling

Switching function	Changeover contact, 1-pos.
Operating voltage	5 V AC ... 250 V AC
	30 V DC
Operating current	5 mA AC ... 1.5 A
	1.5 A DC

Connection data

PE

Connection method	Screw terminal blocks
Screw thread	M5
Tightening torque, min	4.5 Nm
Tightening torque	30 lb _F -in. (UL)
Stripping length	16 mm
Connection method	MC 1,5/3
Screw thread	M2
Tightening torque, min	0.25 Nm
Tightening torque	2 lb _F -in. ... 4 lb _F -in.
Stripping length	7 mm
Conductor cross-section flexible min.	0.14 mm ²
Conductor cross-section flexible max.	1.5 mm ²
Conductor cross-section, rigid min.	0.14 mm ²
Conductor cross-section, rigid max.	1.5 mm ²

Dimensions

Width	300 mm
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Height	300 mm
Depth	142 mm
Horizontal pitch	14 Div.

Material specifications

Flammability rating according to UL 94	V2 (Gehäuse / Deckel)
	V0 (Steckverbinder)
Cover material	Polycarbonate, transparent
Housing material	Polycarbonate, glass-fiber-reinforced
Connector material	PA

Protective circuit

Direction of action	(L+)-PE & (L-)-PE & (L+)-(L-)
Maximum continuous operating voltage U_C	1000 V DC
Rated load current I_L	≤ 80 A DC
Protective conductor current I_{PE}	≤ 20 μ A
	≤ 250 μ A AC
Standby power consumption P_C	≤ 20 mW
Nominal discharge current I_n (8/20) μ s (L+) - (L-)	15 kA
Nominal discharge current I_n (8/20) μ s (L-) - PE	15 kA
Maximum discharge current I_{max} (8/20) μ s (L+) - (L-)	40 kA
Total discharge current I_{Total} (8/20) μ s	40 kA
Voltage protection level U_p (L+) - (L-)	≤ 3.7 kV
Voltage protection level U_p (L+) - PE	≤ 3.7 kV
Voltage protection level U_p (L-) - PE	≤ 3.7 kV
Residual voltage U_{res} (L+) - (L-)	≤ 3.7 kV (at I_n)
	≤ 3.1 kV (at 5 kA)
	≤ 3.5 kV (at 10 kA)
	≤ 4 kV (at 20 kA)
	≤ 4.6 kV (at 30 kA)
	≤ 5 kV (at 40 kA)
Residual voltage U_{res} (L+) - PE	≤ 3.7 kV (at I_n)
	≤ 3.1 kV (at 5 kA)
	≤ 3.5 kV (at 10 kA)
	≤ 4 kV (at 20 kA)
	≤ 4.6 kV (at 30 kA)
	≤ 5 kV (at 40 kA)
Residual voltage U_{res} (L-) - PE	≤ 3.7 kV (at I_n)
	≤ 3.1 kV (at 5 kA)
	≤ 3.5 kV (at 10 kA)
	≤ 4 kV (at 20 kA)
	≤ 4.6 kV (at 30 kA)
	≤ 5 kV (at 40 kA)

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Response time t_A (L+) - (L-)	≤ 25 ns
Response time t_A (L+) - PE	≤ 25 ns
Response time t_A (L-) - PE	≤ 25 ns
Max. backup fuse with branch wiring	not required

Protective circuit DC voltage side (DC)

Rated surge voltage resistance U_{imp}	6 kV
Short-circuit current I_{SCSTC}	25 A DC (per MPP)
Open-circuit voltage U_{OCSTC}	830 V DC (Solar generator)
Maximum discharge current I_{max} (8/20) μ s (L+) - (L-)	40 kA
Maximum discharge current I_{max} (8/20) μ s (L-) - PE	40 kA
Maximum discharge current I_{max} (8/20) μ s (L+) - PE	40 kA
Response time t_A (L+) - (L-)	≤ 25 ns
Response time t_A (L+) - PE	≤ 25 ns
Response time t_A (L-) - PE	≤ 25 ns
Recommended backup fuse maximum	not required
Total discharge current I_{Total} (8/20) μ s	40 kA
Insulation resistance R_{iso}	> 5 G Ω (at 500 V DC)
Max. backup fuse with branch wiring	not required
Nominal discharge current I_n (8/20) μ s (L+) - (L-)	15 kA
Nominal discharge current I_n (8/20) μ s (L+) - PE	15 kA
Nominal discharge current I_n (8/20) μ s (L-) - PE	15 kA
Rated load current I_L	≤ 80 A DC
Residual voltage U_{res} (L+) - (L-)	≤ 3.7 kV (at I_n)
	≤ 3.1 kV (at 5 kA)
	≤ 3.5 kV (at 10 kA)
	≤ 4 kV (at 20 kA)
	≤ 4.6 kV (at 30 kA)
	≤ 5 kV (at 40 kA)
Residual voltage U_{res} (L+) - PE	≤ 3.7 kV (at I_n)
	≤ 3.1 kV (at 5 kA)
	≤ 3.5 kV (at 10 kA)
	≤ 4 kV (at 20 kA)
	≤ 4.6 kV (at 30 kA)
	≤ 5 kV (at 40 kA)
Residual voltage U_{res} (L-) - PE	≤ 3.7 kV (at I_n)
	≤ 3.1 kV (at 5 kA)
	≤ 3.5 kV (at 10 kA)
	≤ 4 kV (at 20 kA)
	≤ 4.6 kV (at 30 kA)
	≤ 5 kV (at 40 kA)
Protective conductor current I_{PE}	≤ 20 μ A
	≤ 250 μ A AC

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Voltage protection level U_p (L+) - (L-)	≤ 3.7 kV
Voltage protection level U_p (L+) - PE	≤ 3.7 kV
Voltage protection level U_p (L-) - PE	≤ 3.7 kV
Standby power consumption P_C	≤ 20 mW

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP65
	IP65
Impact strength	IK08
Ambient conditions	A, B
Ambient temperature (operation)	-30 °C ... 55 °C

Standards and regulations

Air clearances and creepage distances

Standards/regulations	EN 50539-11
Standards/specifications	IEC 61439-2
Note	2011
Standards/specifications	EN 61439-2
Note	2011
Standards/specifications	EN 50539-11
Note	Surge protection

Mounting

Mounting type	Surface/Panel mounting
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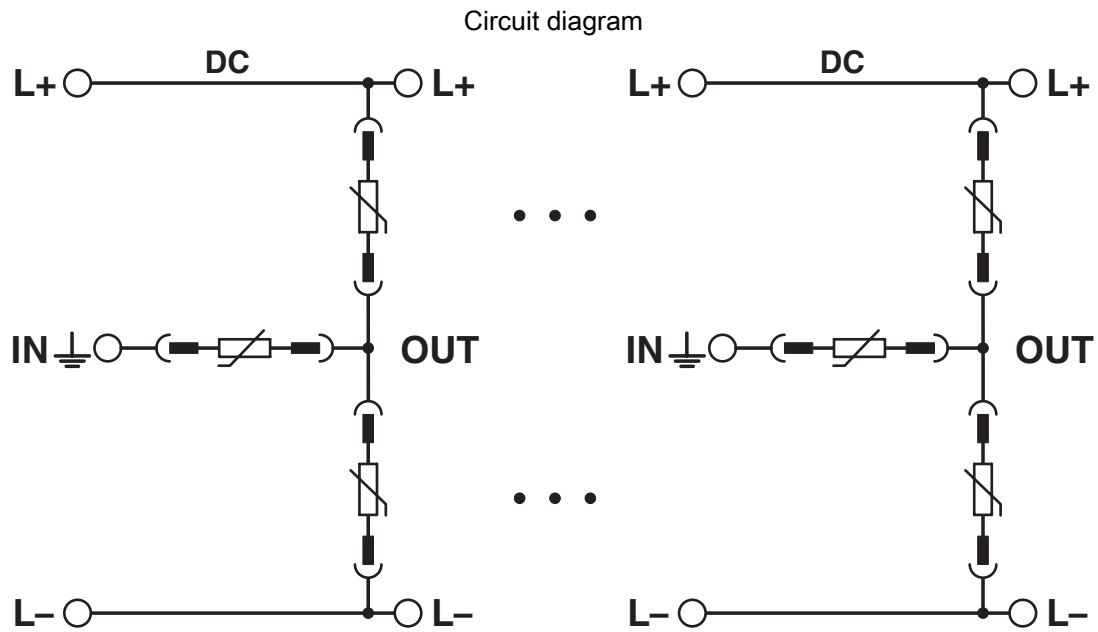
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Drawings



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Environmental product compliance

EU REACH SVHC

REACH candidate substance (CAS No.)	
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	No substance above 0.1 wt%
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