

Surge protection device - TT-2-PE-M-24DC - 2920641

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Modular terminal block with two-stage surge protection for one operated floating double conductor, disconnect knife on both signal paths, separate ground connection, nominal voltage: 24 V DC.

Why buy this product

- Versions with and without disconnect knife
- Protection of a floating double wire
- Protection of two signal wires with common reference potential
- Multi-stage modular terminal blocks with screw connection technology
- Disconnection of signal circuits by disconnect knife



Key Commercial Data

Packing unit	14 pc
GTIN	 4 046356 160193
GTIN	4046356160193

Technical data

Dimensions

Height	94.8 mm
Width	6.2 mm
Depth	69.1 mm
Horizontal pitch	1 Div.

Ambient conditions

Ambient temperature (operation)	-40 °C ... 80 °C
Altitude	≤ 2000 m (amsl (above mean sea level))
Degree of protection	IP20 (with end cover)

General

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Technical data

General

Housing material	PA 6.6
Flammability rating according to UL 94	V-0
Color	jet black RAL 9005
Mounting type	DIN rail: 35 mm
Type	Double-level terminal block with PE foot – separate PE connection
Number of positions	2
Direction of action	Line-Line & Line-Earth Ground

Protective circuit

IEC test classification	C1
	C2
	C3
	D1
Nominal voltage U_N	24 V DC
Maximum continuous voltage U_C	30 V DC
	21 V AC
Rated current	300 mA (40 °C)
Operating effective current I_C at U_C	$\leq 5 \mu A$
Residual current I_{PE}	$\leq 2 \mu A$
Nominal discharge current I_n (8/20) μs (line-line)	5 kA
Nominal discharge current I_n (8/20) μs (line-earth)	5 kA
Pulse discharge current I_{imp} (10/350) μs (line-earth)	500 A
Total discharge current I_{total} (8/20) μs	10 kA
Nominal pulse current I_{an} (10/1000) μs (line-line)	30 A
Nominal pulse current I_{an} (10/1000) μs (line-earth)	100 A
Output voltage limitation at 1 kV/ μs (line-line) spike	$\leq 45 V$
Output voltage limitation at 1 kV/ μs (line-earth) spike	$\leq 650 V$
Output voltage limitation at 1 kV/ μs (line-line) static	$\leq 45 V$
Output voltage limitation at 1 kV/ μs (line-earth) static	$\leq 650 V$
Residual voltage at I_n (line-line)	$\leq 45 V$
Residual voltage with I_{an} (10/1000) μs (line-line)	$\leq 50 V$
Voltage protection level U_p (line-line)	$\leq 45 V$ (C1 - 500 V / 250 A)
	$\leq 55 V$ (C2 - 10 kV / 5 kA)
Response time t_A (line-line)	$\leq 1 ns$
Response time t_A (line-earth)	$\leq 100 ns$
Input attenuation aE, sym.	typ. 0.6 dB ($\leq 500 kHz / 50 \Omega$)
	typ. 0.2 dB ($\leq 200 kHz / 150 \Omega$)
Cut-off frequency f_g (3 dB), sym. in 50 Ohm system	typ. 6 MHz
Cut-off frequency f_g (3 dB), sym. in 150 Ohm system	typ. 2 MHz
Capacity (line-line)	$< 2.5 nF$
Resistance in series	$3.3 \Omega \pm 20 \%$

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Protective circuit

Surge protection fault message	none
Max. required back-up fuse	315 mA (T)
Impulse durability (line-line)	C2 - 10 kV/5 kA
Impulse durability (line-earth)	C2 - 10 kV/5 kA
	D1 - 500 A

Connection data

Connection method	Screw connection
Connection method IN	Screw terminal blocks
Connection method OUT	Screw terminal blocks
Screw thread	M3
Tightening torque	0.6 Nm
Stripping length	8 mm
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section solid	0.2 mm ² ... 4 mm ²
Conductor cross section AWG	24 ... 14

Standards and Regulations

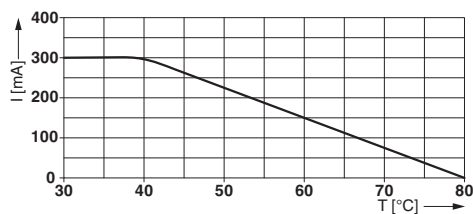
Standards/specifications	EN 61643-21 2001
	IEC 61643-21 2000

Environmental Product Compliance

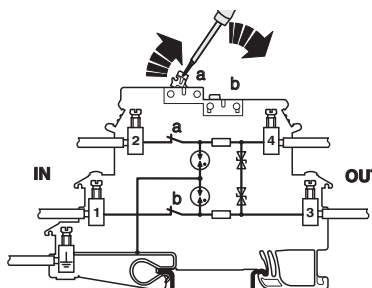
REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Drawings

Diagram

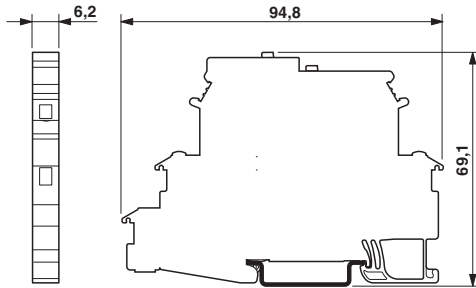


Connection diagram

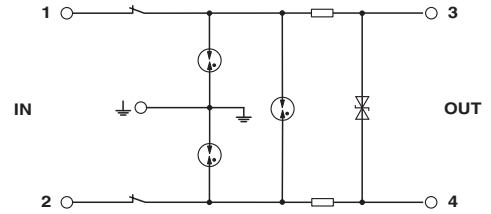


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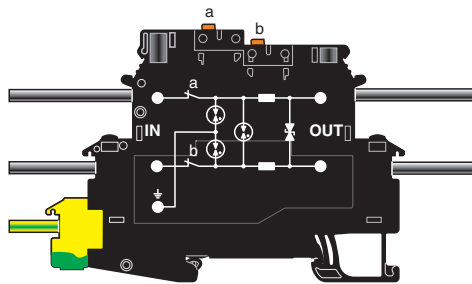
Dimensional drawing



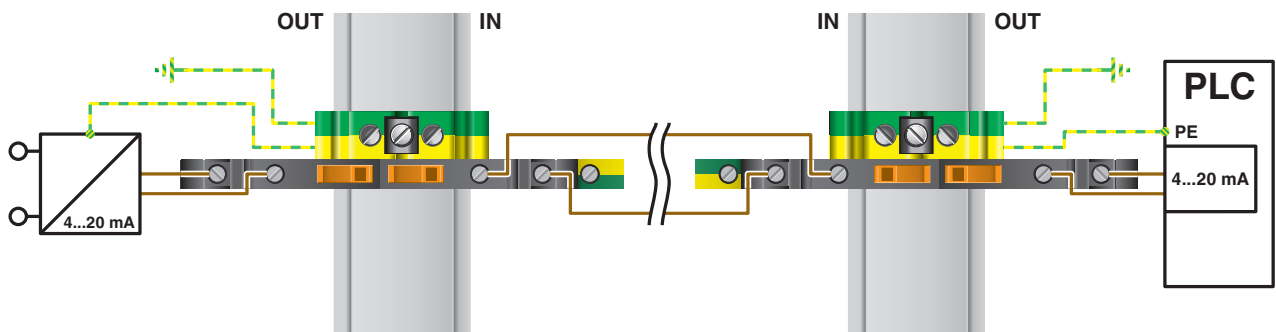
Circuit diagram



Schematic diagram



Application drawing



Approvals

Approvals

Approvals

EAC / EAC / UL Listed


Ex Approvals


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Approvals

Approval details

EAC		EAC-Zulassung
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EAC		RU C- DE.A*30.B01561
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UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 138168
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