

## Surge protection device - TT-2/2- 24DC - 2838173

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Modular terminal block with three-stage surge protection for two signal wires with common reference potential, separate ground connection, nominal voltage: 24 V DC, for mounting on NS 35/7.5, terminal width: 6.2 mm, terminal height: 54.6 mm

### Product Features

- ✓ Versions with and without disconnect knife
- ✓ 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	1 pc
Weight per Piece (excluding packing)	28.02 GRM
Custom tariff number	85363010
Country of origin	Germany

### Technical data

#### Dimensions

Height	79.6 mm
Width	6.2 mm
Depth	54.6 mm

#### Ambient conditions

Ambient temperature (operation)	-40 °C ... 85 °C
Degree of protection	IP20

#### General

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### Technical data

#### General

Housing material	PA 6.6
Inflammability class according to UL 94	V0
Color	black
Standards for air and creepage distances	IEC 60664-1
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-Earth Ground

#### Protective circuit

IEC test classification	C1
	C2
	C3
	D1
Nominal voltage $U_N$	24 V DC
Maximum continuous operating voltage $U_C$	30 V DC
Maximum continuous voltage $U_C$ (wire-ground)	30 V DC
Nominal current $I_N$	300 mA (40°C)
Operating effective current $I_C$ at $U_C$	$\leq 10 \mu\text{A}$ (per path)
Residual current $I_{PE}$	$\leq 10 \mu\text{A}$ (per path)
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (Core-Earth)	5 kA
Total surge current (8/20) $\mu\text{s}$	10 kA
Nominal pulse current $I_{an}$ (10/1000) $\mu\text{s}$ (Core-Earth)	100 A
Impulse discharge current (10/350) $\mu\text{s}$ , peak value $I_{imp}$	500 A
Output voltage limitation at 1 kV/ $\mu\text{s}$ (Core-Earth) spike	$\leq 50$ V
Voltage protection level $U_P$ (Core-Earth)	$\leq 90$ V (C2 - 10 kV / 5 kA)
	$\leq 55$ V (C1 - 1 kV/500 A)
	$\leq 45$ V (C3 - 10 A)
	$\leq 50$ V (C3 - 100 A)
	$\leq 130$ V (D1 - 500 A)
Response time $t_A$ (Core-Earth)	$\leq 1$ ns
Input attenuation $a_E$ , asym.	0.4 dB ( $\leq 200$ kHz / 50 $\Omega$ )
	0.1 dB ( $\leq 30$ kHz/150 $\Omega$ )
Cut-off frequency $f_g$ (3 dB), asym. (PE) in 50 Ohm system	typ. 1.5 MHz
Cut-off frequency $f_g$ (3 dB), asym. (PE) in 150 Ohm system	typ. 550 kHz
Capacity (Core-Core)	$\leq 4$ nF
Resistance in series	6.6 $\Omega \pm 20\%$

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### Technical data

#### Protective circuit

	6.6 Ω
Surge protection fault message	None
Max. required back-up fuse	315 mA (T/IEC 60127-2/3)
Surge current resistance (conductor-ground)	C1 - 1 kV/500 A
	C2 - 10 kV/5 kA
	C3 - 100 A
	D1 (500 A)
Alternating current carrying capacity (conductor-ground)	0.5 A/1 s

#### Connection data

Connection method	Screw connection
Connection type IN	Screw terminal blocks
Connection type OUT	Screw terminal blocks
Screw thread	M3
Tightening torque	0.8 Nm
Stripping length	8 mm
Conductor cross section stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	4 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	14

### Classifications

#### eCl@ss

eCl@ss 4.0	27140201
eCl@ss 4.1	27130801
eCl@ss 5.0	27130801
eCl@ss 5.1	27130801
eCl@ss 6.0	27130807
eCl@ss 7.0	27130807
eCl@ss 8.0	27130807

#### ETIM

ETIM 2.0	EC000943
ETIM 3.0	EC000943
ETIM 4.0	EC000943

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## Classifications

### ETIM

ETIM 5.0	EC000943
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### UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620

## Approvals

### Approvals

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#### Approvals

GOST / GOST / GL / UL Listed

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#### Ex Approvals

UL Listed / cUL Listed / cULus Listed

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#### Approvals submitted

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### Approval details

GOST
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GOST
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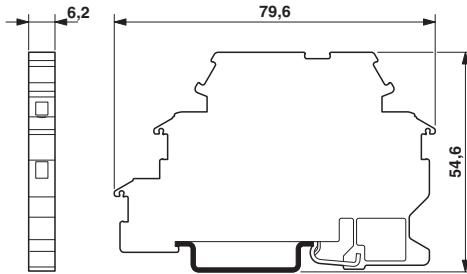
GL
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UL Listed
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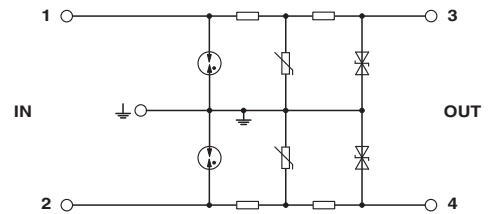
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## Drawings

Dimensioned drawing



Circuit diagram



Schematic diagram

