

# Surge protection device - TT-ST-2/2-24DC - 2858881

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Spring cage modular terminal block with integrated surge protection, for assembly on NS 35/7.5, voltage  $U_N$  24 V DC, terminal width: 6.2 mm, cover width: 2.2 mm

## Why buy this product

- Multi-stage modular terminal blocks with spring-cage connection
- Disconnection of signal circuits by disconnect knife



## Key Commercial Data

Packing unit	10 STK
GTIN	 4 017918 939137
GTIN	4017918939137

## Technical data

### Dimensions

Height	100 mm
Width	6.2 mm
Depth	63.5 mm (incl. DIN rail 7.5 mm)

### Ambient conditions

Ambient temperature (operation)	-40 °C ... 85 °C
Altitude	≤ 2000 m (amsl (above mean sea level))
Degree of protection	IP20

### General

Housing material	PA 6.6
Flammability rating according to UL 94	V-0
Color	jet black RAL 9005
Overvoltage category	III

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## Technical data

### General

Degree of pollution	2
Mounting type	DIN rail: 35 mm
Type	Double-level terminal block
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 voltage $U_C$	30 V DC
	21 V AC
Rated current	300 mA (45°C)
Operating effective current $I_C$ at $U_C$	$\leq 10 \mu\text{A}$ (per path)
Residual current $I_{PE}$	$\leq 20 \mu\text{A}$
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (line-earth)	5 kA (per path)
	10 kA (in total)
Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$ (line-earth)	1 kA (per path)
	2 kA (in total)
Total discharge current $I_{total}$ (8/20) $\mu\text{s}$	10 kA
Total discharge current $I_{total}$ (10/350) $\mu\text{s}$	2 kA
Max. discharge current $I_{max}$ (8/20) $\mu\text{s}$ maximum (line-earth)	5 kA (per path)
	10 kA (in total)
Nominal pulse current $I_{an}$ (10/1000) $\mu\text{s}$ (line-earth)	100 A (per path)
	200 A (in total)
Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-earth) spike	$\leq 40$ V
Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-earth) static	$\leq 40$ V
Residual voltage at $I_n$ (line-earth)	$\leq 40$ V
Residual voltage with $I_{an}$ (10/1000) $\mu\text{s}$ (line-earth)	$\leq 45$ V
Voltage protection level $U_p$ (line-earth)	$\leq 80$ V (C2 - 10 kV / 5 kA)
Voltage protection level $U_p$ static (line-earth)	$\leq 40$ V (C2 - 10 kV / 5 kA)
Response time $t_A$ (line-earth)	$\leq 1$ ns
Input attenuation aE, asym.	typ. 0.6 dB (500 kHz/50 $\Omega$ )
	typ. 0.1 dB (170 kHz/150 $\Omega$ )
	typ. 0.1 dB (40 kHz/600 $\Omega$ )
Cut-off frequency $f_g$ (3 dB), asym. (PE) in 50 Ohm system	typ. 3 MHz
Cut-off frequency $f_g$ (3 dB), asym. (PE) in 150 Ohm system	typ. 1 MHz
Cut-off frequency $f_g$ (3 dB), asym. (PE) in 600 Ohm system	typ. 250 kHz

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## Technical data

### Protective circuit

Capacity (line-earth)	typ. 2 nF
Resistance in series	9.4 Ω ±20 %
Surge protection fault message	none
Max. required back-up fuse	315 mA (T)
Impulse durability (line-earth)	C2 - 10 kV/5 kA
	C3 - 100 A
	D1 - 1 kA

### Connection data

Connection method	Spring-cage connection
Connection method IN	Spring-cage
Connection method OUT	Spring-cage
Stripping length	8 mm
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section solid	0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross section AWG	24 ... 14

### Standards and Regulations

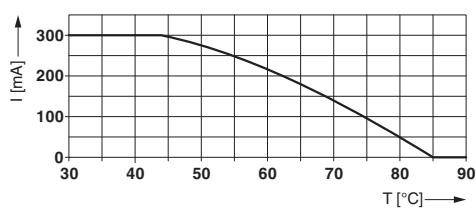
Standards/specifications	IEC 61643-21 2000 + A1:2008, modified
	EN 61643-21 2001 + A1:2009

### Environmental Product Compliance

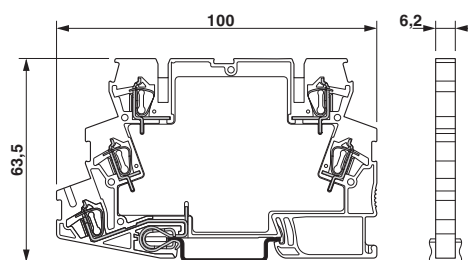
REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

## Drawings

Diagram

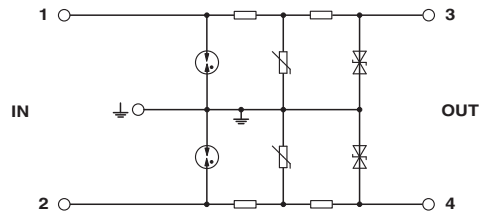


Dimensional drawing



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Circuit diagram



## Approvals

### Approvals

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Approvals

UL Listed / DNV GL

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Ex Approvals

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### Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 138168
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DNV GL	<a href="http://exchange.dnv.com/tari/">http://exchange.dnv.com/tari/</a>	TAE00001N7
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