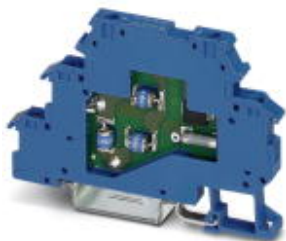


## Surge protection device - TT-EX(I)- 24DC - 2832124

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Modular terminal block with three-stage surge protection for a floating Ex-i signal circuit, separate PE connection, nominal voltage: 24 V DC, for mounting on NS 35/7.5, terminal block width: 6.2 mm, terminal block height: 54.6 mm. HART-compatible

### Your advantages

- Versions with and without disconnect knife
- To terminate a row of TERMITRAB TT... devices, covers are available in the corresponding colors
- Other voltage levels available on request
- Protection of a floating double wire in intrinsically safe circuits
- Multi-stage modular terminal blocks with screw connection technology
- Disconnection of signal circuits by disconnect knife



### Key Commercial Data

Packing unit	10 pc
GTIN	
GTIN	4017918172831

### Technical data

#### Dimensions

Height	79.6 mm
Width	6.2 mm
Depth	54.6 mm

#### 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

# Surge protection device - TT-EX(I)- 24DC - 2832124

## Technical data

### General

Housing material	PA 6.6
Flammability rating according to UL 94	V-0
Color	sky blue RAL 5015
Standards for clearances and creepage distances	EN 60079-11
Mounting type	DIN rail: 35 mm
Type	Double-level terminal block with PE foot – separate PE connection
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	250 mA (40 °C)
Operating effective current $I_C$ at $U_C$	$\leq 5 \mu\text{A}$
Residual current $I_{PE}$	$\leq 1 \mu\text{A}$
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (line-line)	5 kA
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (line-earth)	5 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$ (line-earth)	500 A
Total discharge current $I_{total}$ (8/20) $\mu\text{s}$	10 kA
Nominal pulse current $I_{an}$ (10/1000) $\mu\text{s}$ (line-line)	100 A
Nominal pulse current $I_{an}$ (10/1000) $\mu\text{s}$ (line-earth)	100 A
Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-line) spike	$\leq 50 \text{ V}$
Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-earth) spike	$\leq 1.7 \text{ kV}$
Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-line) static	$\leq 50 \text{ V}$
Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-earth) static	$\leq 1.7 \text{ kV}$
Voltage protection level $U_p$ (line-line)	$\leq 55 \text{ V}$ (C1 - 1 kV/500 A)
	$\leq 75 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 50 \text{ V}$ (C3 - 10 A)
	$\leq 50 \text{ V}$ (C3 - 100 A)
Voltage protection level $U_p$ (line-earth)	$\leq 2.2 \text{ kV}$ (C2 - 10 kV / 5 kA)
	$\leq 1.5 \text{ kV}$ (C3 - 10 A)
	$\leq 2 \text{ kV}$ (C3 - 100 A)
	$\leq 2 \text{ kV}$ (D1 - 500 A)
Response time $t_A$ (line-line)	$\leq 1 \text{ ns}$
Response time $t_A$ (line-earth)	$\leq 100 \text{ ns}$
Input attenuation aE, sym.	typ. 0.7 dB ( $\leq 400 \text{ kHz}/50 \Omega$ )
	typ. 0.3 dB ( $\leq 200 \text{ kHz} / 150 \Omega$ )

# Surge protection device - TT-EX(I)- 24DC - 2832124

## Technical data

### Protective circuit

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)	$\leq 2$ nF
Resistance in series	$4.7 \Omega \pm 20 \%$
Surge protection fault message	none
Max. required back-up fuse	250 mA (T)
Impulse durability (line-line)	C1 - 1 kV / 500 A
	C2 - 10 kV / 5 kA
	C3 - 100 A
Impulse durability (line-earth)	C2 - 10 kV / 5 kA
	C3 - 100 A
	D1 - 500 A
Alternating current carrying capacity (line-earth)	0.5 A - 1 s

### Connection data

Connection method	Screw terminal blocks
Screw thread	M3
Tightening torque	0.6 Nm
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	EN 61643-21 2001 + A1:2009 + A2:2013
	EN 60079-0 2012
	EN 60079-11 2012
	EN 60079-26 2007
	IEC 60079-0 2011
	IEC 60079-11 2011
	IEC 60079-26 2006

### General

Maximum inner capacitance $C_i$	2 nF
Max. internal inductance $L_i$	1 $\mu$ H
Maximum inner time factor ( $R_i/L_i$ )	0.1 $\mu$ s
Max. input current $I_i$	250 mA ( $T_A < 40$ °C)
Max. input voltage $U_i$	30 V DC
max. input power $P_i$	0.75 W
Ambient temperature (operation)	-40 °C ... 40 °C (T6 / 85 °C)
	-40 °C ... 50 °C (T5 / T 100 °C)
	-40 °C ... 80 °C (T4 / 135 °C)

# Surge protection device - TT-EX(I)- 24DC - 2832124

## Technical data

### Conformity / approvals

ATEX	# II 1G Ex ia IIC T4...T6 Ga
	# II 1D Ex ia IIIC T135°C...T85°C Da
IECEX	Ex ia IIC T4...T6 Ga
	Ex ia IIIC T135 °C...T85 °C Da

### Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Approvals

### Approvals


Approvals

UL Listed / EAC / EAC


Ex Approvals

IECEX / ATEX / UL Listed / cUL Listed / EAC Ex / cULus Listed

### 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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EAC		EAC-Zulassung
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EAC		RU C- DE.A*30.B01561
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