

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

Product Features

- 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

package_quantity	10
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
Degree of protection	IP20

General

Housing material	PA 6.6
Inflammability class according to UL 94	V0
Color	blue
Standards for air 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

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Technical data

Protective circuit

IEC test classification	C1
IEC test classification	C2
IEC test classification	C3
IEC test classification	D1
VDE requirement class	C1
VDE requirement class	C2
VDE requirement class	C3
VDE requirement class	D1
Nominal voltage U_N	24 V DC
Maximum continuous operating voltage U_C	30 V DC
Maximum continuous voltage U_C (wire-wire)	30 V DC
Nominal current I_N	250 mA (40°C)
Operating effective current I_C at U_C	$\leq 5 \mu A$
Residual current I_{PE}	$\leq 1 \mu A$
Nominal discharge current I_n (8/20) μs (Core-Core)	5 kA
Nominal discharge current I_n (8/20) μs (Core-Earth)	5 kA
Total surge current (8/20) μs	10 kA
Nominal pulse current I_{an} (10/1000) μs (Core-Core)	100 A
Nominal pulse current I_{an} (10/1000) μs (Core-Earth)	100 A
Impulse discharge current (10/350) μs , peak value I_{imp}	500 A
Output voltage limitation at 1 kV/ μs (Core-Core) spike	$\leq 50 V$
Output voltage limitation at 1 kV/ μs (Core-Earth) spike	$\leq 1.7 kV$
Voltage protection level U_P (Core-Core)	$\leq 75 V$ (C2 - 10 kV / 5 kA)
Voltage protection level U_P (Core-Core)	$\leq 55 V$ (C1 - 1 kV/500 A)
Voltage protection level U_P (Core-Core)	$\leq 50 V$ (C3 (10 A))
Voltage protection level U_P (Core-Core)	$\leq 50 V$ (C3 - 100 A)
Voltage protection level U_P (Core-Earth)	$\leq 2.2 kV$ (C2 - 10 kV / 5 kA)
Voltage protection level U_P (Core-Earth)	$\leq 1.5 kV$ (C3 - 10 A)
Voltage protection level U_P (Core-Earth)	$\leq 2 kV$ (C3 - 100 A)
Voltage protection level U_P (Core-Earth)	$\leq 2 kV$ (D1 - 500 A)
Response time t_A (Core-Core)	$\leq 1 ns$
Response time t_A (Core-Earth)	$\leq 100 ns$
Input attenuation a_E , sym.	typ. 0.7 dB ($\leq 400 kHz/50 \Omega$)
Input attenuation a_E , sym.	typ. 0.3 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 (Core-Core)	$\leq 2 nF$
Resistance in series	4.7 $\Omega \pm 20 \%$
Resistance in series	4.7 Ω
Surge protection fault message	None

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Technical data

Protective circuit

Max. required back-up fuse	250 mA (T/IEC 60127-2/3)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)	C2 (10 kV/5 kA)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)	C1 (1 kV / 500 A)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)	C3 (100 A)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)	C2 (10 kV/5 kA)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)	C3 (100 A)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)	D1 (500 A)
Alternating current carrying capacity in acc. with IEC 61643-21 (Core-Core)	0.5 A/1s

Connection data

Connection method	Screw terminal blocks
Connection type IN	Screw terminal blocks
Connection type OUT	Screw terminal blocks
Screw thread	M3
Tightening torque	0.6 Nm
Stripping length	8 mm
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	2.5 mm ²
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	4 mm ²
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	14

General

Maximum inner capacitance C_i	2 nF
Maximum inner inductance L_i	1 μ H
Maximum inner time factor (R_i/L_i)	0.1 μ s
Max. input current I_i	250 mA ($T_A < 40$ °C)
Max. input voltage U_i	30 V
Maximum input power P_i	0.75 W
Insulation voltage to ground	500 V +10 %

Conformity / approvals

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

classifications

eCl@ss

eCl@ss 4.0	27140201
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classifications

eCl@ss

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
ETIM 5.0	EC000943

UNSPSC

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

approvals

IECEX / ATEX / UL Listed / cUL Listed / INMETRO / cULus Listed / GOST / UL Listed /

Approval details

IECEX

ATEX

UL Listed

cUL Listed

INMETRO

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approvals

cULus Listed 

GOST 



accessories

End cover

D-DEK 1,5 BK - 2838995



Marker pen

B-STIFT - 1051993



Terminal marking

ZBF 6:UNBEDRUCKT - 0808710



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accessories

ZBF 6/WH-100:UNBEDRUCKT - 0808736



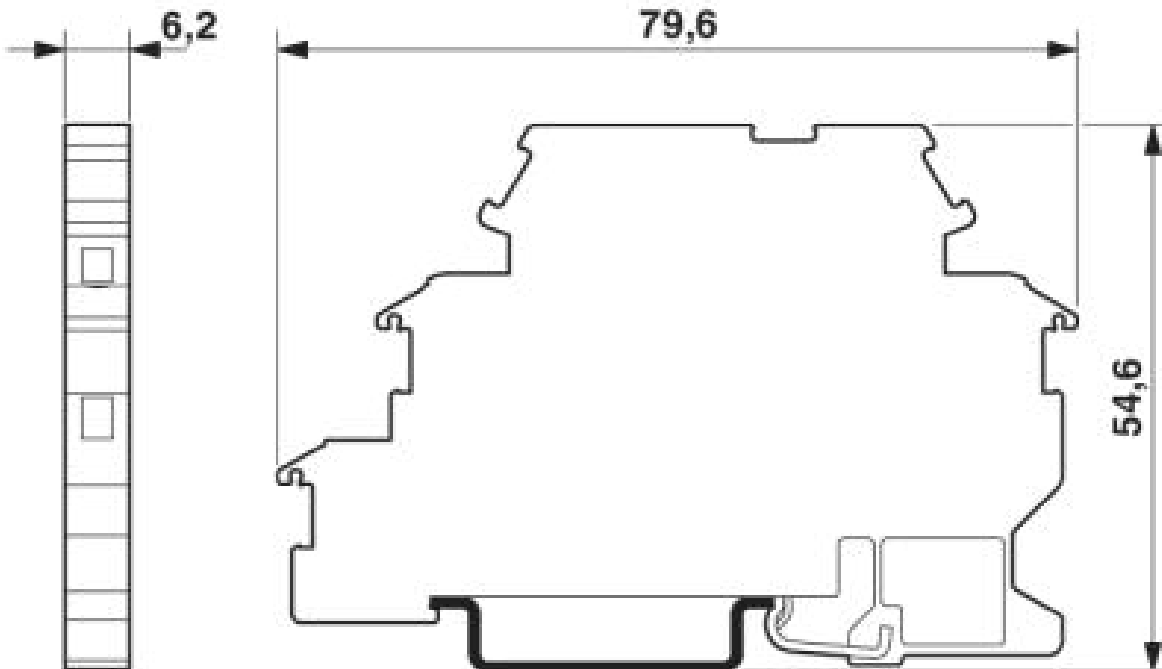
Labeled terminal marker

ZBF 6,LGS:FORTL.ZAHLEN - 0808749



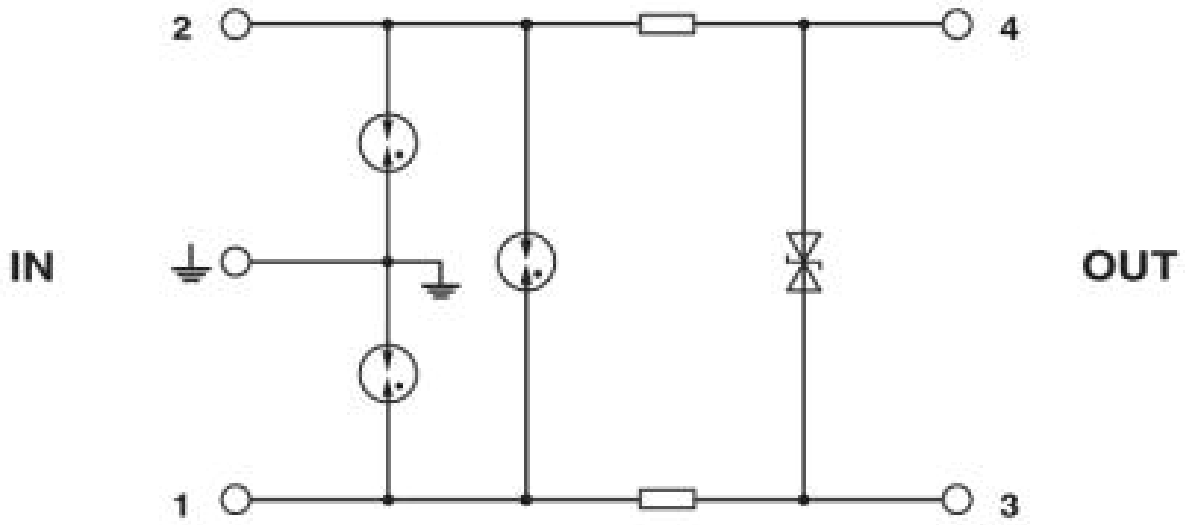
Drawings

Dimensioned drawing



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Circuit diagram



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