

## Surge protection device - LIT 2-24 - 2804665

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Surge protection in one-piece 6.2 mm wide DIN rail module for two floating signal wires. Tested in acc. with the protection types in Ex areas: Ex ia IIC / Ex iaD.

### Your advantages

- Complete normal mode voltage protection between all wires
- Cross-arrester bridging of the reference potential with ME 6,2 TBUS



### Key Commercial Data

Packing unit	10 pc
GTIN	
GTIN	4046356428323

### Technical data

#### Dimensions

Height	93.1 mm
Width	6.2 mm
Depth	102.5 mm (incl. DIN rail 7.5 mm)

#### Ambient conditions

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

#### General

Housing material	PBT
Flammability rating according to UL 94	V-0
Color	anthracite grey RAL 7016
Mounting type	DIN rail: 35 mm

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## Technical data

### General

Type	DIN rail module, one-piece
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 $U_C$	36 V DC
	25 V AC
Rated current	500 mA (40 °C)
Operating effective current $I_C$ at $U_C$	$\leq 2 \mu A$
Residual current $I_{PE}$	$\leq 2 \mu A$
Nominal discharge current $I_n$ (8/20) $\mu s$ (line-line)	250 A
Nominal discharge current $I_n$ (8/20) $\mu s$ (line-earth)	5 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu s$ (line-earth)	500 A
	1 kA (in total)
Total discharge current $I_{total}$ (8/20) $\mu s$	10 kA
	20 kA (1x)
Max. discharge current $I_{max}$ (8/20) $\mu s$ maximum (line-line)	250 A
Max. discharge current $I_{max}$ (8/20) $\mu s$ maximum (line-earth)	10 kA
	20 kA (in total)
Nominal pulse current $I_{an}$ (10/1000) $\mu s$ (line-line)	50 A
Nominal pulse current $I_{an}$ (10/1000) $\mu s$ (line-earth)	50 A
	100 A (in total)
Output voltage limitation at 1 kV/ $\mu s$ (line-line) spike	$\leq 60 V$
Output voltage limitation at 1 kV/ $\mu s$ (line-earth) spike	$\leq 650 V$
Residual voltage at $I_n$ (line-line)	$\leq 60 V$
Residual voltage with $I_{an}$ (10/1000) $\mu s$ (line-line)	$\leq 60 V$
Voltage protection level $U_p$ (line-line)	$\leq 60 V$ (C1 - 500 V / 250 A)
	$\leq 55 V$ (C3 - 10 A)
	$\leq 55 V$ (C3 - 50 A)
Voltage protection level $U_p$ (line-earth)	$\leq 650 V$ (C1 - 500 V / 250 A)
	$\leq 650 V$ (C2 - 10 kV / 5 kA)
	$\leq 650 V$ (C3 - 10 A)
	$\leq 700 V$ (C3 - 50 A)
	$\leq 700 V$ (D1 - 500 A)
Response time $t_A$ (line-line)	$\leq 1 ns$
Response time $t_A$ (line-earth)	$\leq 100 ns$

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## Technical data

### Protective circuit

Input attenuation aE, sym.	typ. 0.3 dB (2.4 MHz/50 Ω)
	typ. 0.3 dB (700 kHz / 150 Ω)
Cut-off frequency f <sub>g</sub> (3 dB), sym. in 50 Ohm system	typ. 7.7 MHz
Cut-off frequency f <sub>g</sub> (3 dB), sym. in 150 Ohm system	typ. 2.5 MHz
Capacity	≤ 1.3 nF (per path)
Resistance per path	0 Ω
Surge protection fault message	none
Max. required back-up fuse	500 mA (T)
Impulse durability (line-line)	C1 - 500 V / 250 A
	C3 - 50 A
Impulse durability (line-earth)	C1 - 500 V / 250 A
	C2 - 10 kV / 5 kA
	C3 - 50 A
	D1 - 500 A
Alternating current carrying capacity (line-earth)	5 A - 1 s

### Connection data

Connection method	Screw connection
Screw thread	M3
Tightening torque	0.8 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> ... 2.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 14

### Connection, equipotential bonding

Connection method	DIN rail NS35
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### Standards and Regulations

Standards/specifications	EN 61643-21 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 <sub>i</sub>	typ. 1.3 nF
Max. internal inductance L <sub>i</sub>	< 1 μH
Maximum inner time factor (R <sub>i</sub> /L <sub>i</sub> )	10 μs
Max. input current I <sub>i</sub>	500 mA (T4 / ≤ 80 °C)
	500 mA (T5 / ≤ 50 °C)

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## Technical data

### General

	500 mA (T6 / ≤40 °C)
Max. input voltage $U_i$	36 V DC
max. input power $P_i$	635 mW

### Conformity / approvals

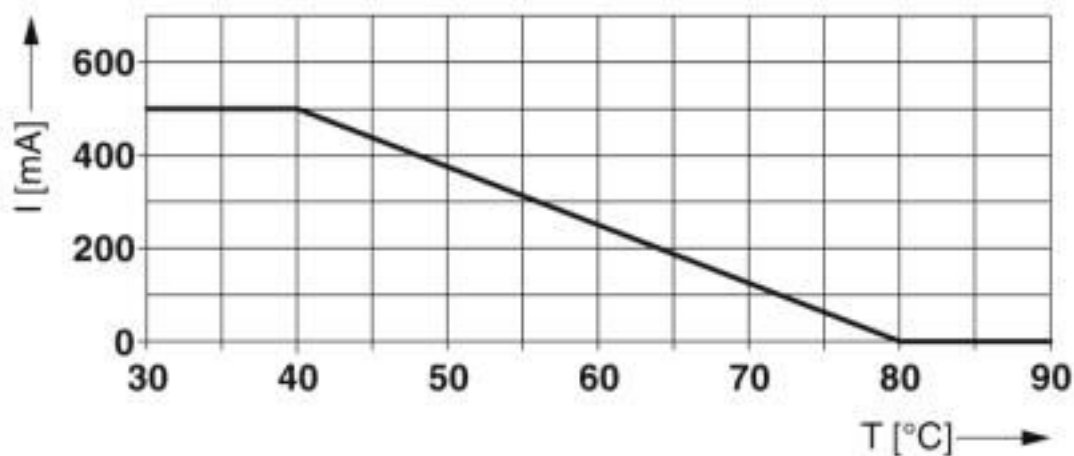
ATEX	# II 1 G Ex ia IIC T4...T6
	# II 1 D Ex iaD 20 T85°C...135°C
IECEX	Ga Ex ia IIC T4...T6
	Ex iaD 20 T85 °C...T135 °C

### Environmental Product Compliance

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

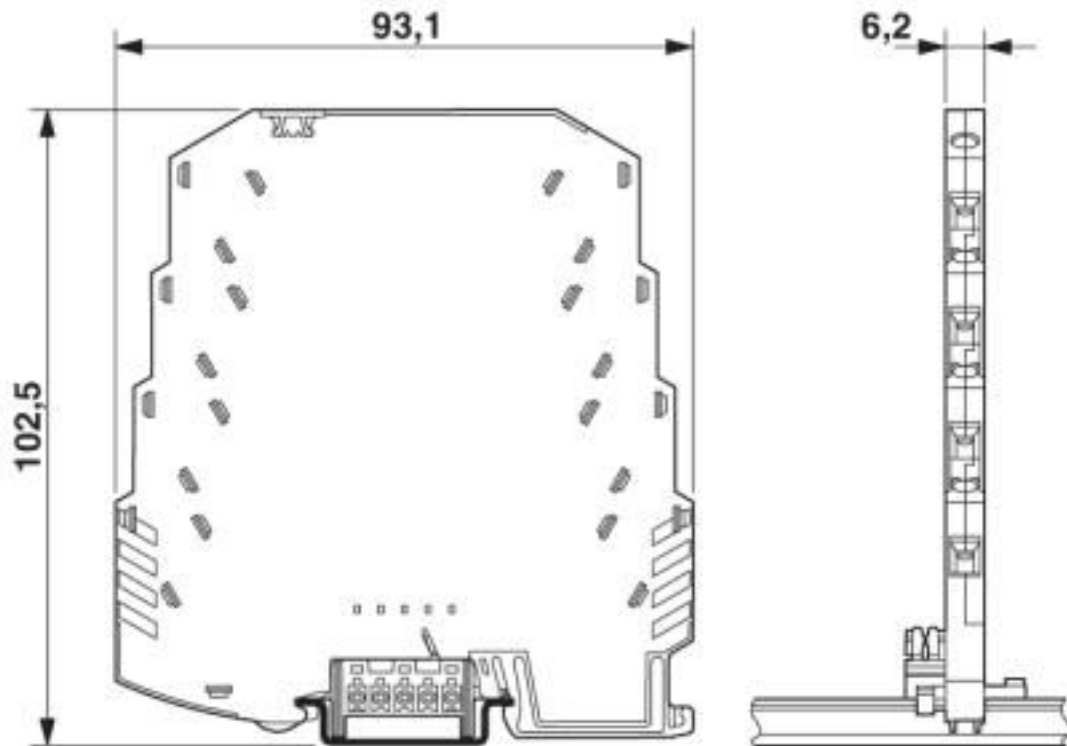
## Drawings

Diagram

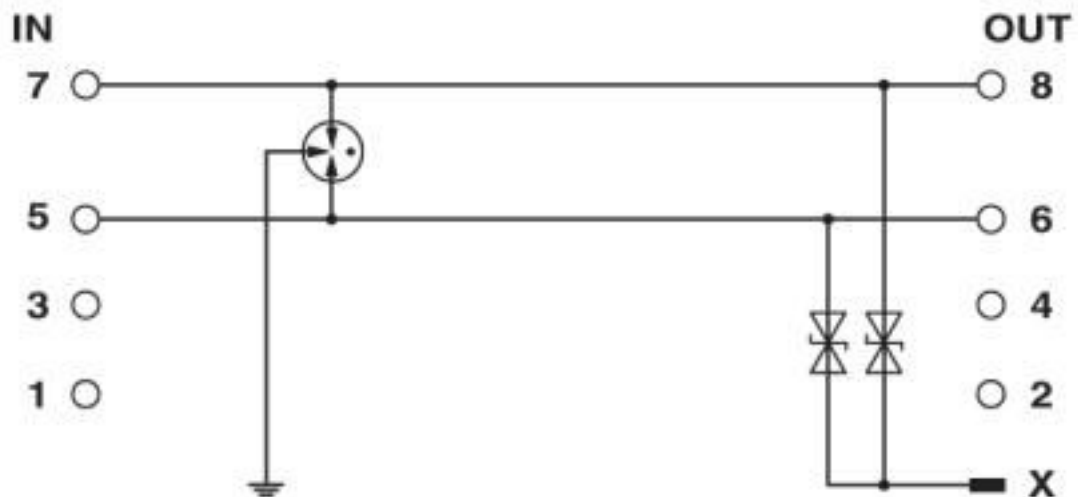


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Dimensional drawing



Circuit diagram



## Classifications

eCl@ss

eCl@ss 10.0.1	27130807
eCl@ss 4.0	27130800
eCl@ss 4.1	27130800

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## Classifications

### eCl@ss

eCl@ss 5.0	27130800
eCl@ss 5.1	27130800
eCl@ss 6.0	27130800
eCl@ss 7.0	27130807
eCl@ss 8.0	27130807
eCl@ss 9.0	27130807

### ETIM

ETIM 2.0	EC000943
ETIM 3.0	EC000943
ETIM 4.0	EC000943
ETIM 5.0	EC000943
ETIM 6.0	EC000943
ETIM 7.0	EC000943

### UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620
UNSPSC 18.0	39121620
UNSPSC 19.0	39121620
UNSPSC 20.0	39121620
UNSPSC 21.0	39121620

## Approvals

### Approvals

Approvals

DNV GL / UL Listed / EAC / EAC

Ex Approvals

IECEX / ATEX / EAC Ex

### Approval details

DNV GL		<a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a>	TAE00001N8
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## Approvals

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.*09.B.00169
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## Accessories

### Accessories

#### DIN rail connector

DIN rail bus connectors - ME 6,2 TBUS-2 1,5/5-ST-3,81KMGY - 2969401



DIN rail bus connector for potential bridging of devices arranged next to one another across all modules.

#### PCB plug

Printed-circuit board connector - IMC 1,5/ 5-ST-3,81 - 1857919



PCB connector, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 5, pitch: 3.81 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

#### Terminal marking

Marker for terminal blocks - UC-TM 6 - 0818085



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into tall marker groove, for terminal block width: 6.2 mm, lettering field size: 5.6 x 10.5 mm, Number of individual labels: 80

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### Accessories

#### Marker for terminal blocks - UC-TM 6 OG - 0818328



Marker for terminal blocks, Sheet, orange, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into tall marker groove, for terminal block width: 6.2 mm, lettering field size: 5.6 x 10.5 mm, Number of individual labels: 80

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#### Marker for terminal blocks - UC-TM 6 YE - 0818331



Marker for terminal blocks, Sheet, yellow, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into tall marker groove, for terminal block width: 6.2 mm, lettering field size: 5.6 x 10.5 mm, Number of individual labels: 80

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#### Marker for terminal blocks - UC-TM 6 BU - 0818344



Marker for terminal blocks, Sheet, blue, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into tall marker groove, for terminal block width: 6.2 mm, lettering field size: 5.6 x 10.5 mm, Number of individual labels: 80

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#### Marker for terminal blocks - UC-TM 6 RD - 0818357



Marker for terminal blocks, Sheet, red, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into tall marker groove, for terminal block width: 6.2 mm, lettering field size: 5.6 x 10.5 mm, Number of individual labels: 80

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#### Marker for terminal blocks - UC-TM 6 GN - 0818360



Marker for terminal blocks, Sheet, green, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into tall marker groove, for terminal block width: 6.2 mm, lettering field size: 5.6 x 10.5 mm, Number of individual labels: 80

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