

# LIT 2X1-24 - Surge protection device



2804636

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Surge protection in one-piece 6.2 mm wide DIN rail module for two conductors with common reference potential.

## Your advantages

- Space saving with a narrow overall width of just 6 mm
- Cost-optimized with tailored product features
- Universal use with extended nominal voltage range

## Commercial data

Item number	2804636
Packing unit	10 pc
Minimum order quantity	1 pc
Sales key	CL02
Product key	CL2211
GTIN	4046356428316
Weight per piece (including packing)	54.12 g
Weight per piece (excluding packing)	53.46 g
Customs tariff number	85363010
Country of origin	DE

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## Technical data

### Product properties

Product type	Surge protection for MCR technology
Product family	LINETRAB
IEC test classification	C1
	C2
	C3
	D1
Type	DIN rail module, one-piece
Surge protection fault message	none

### Insulation characteristics

Overvoltage category	III
Pollution degree	2

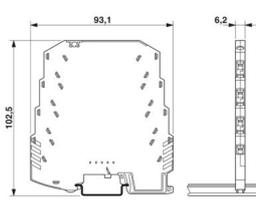
### Electrical properties

Nominal voltage $U_N$	24 V DC
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### Connection data

Connection method	Screw connection
Screw thread	M3
Tightening torque	0.8 Nm
Conductor cross-section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section rigid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section AWG	24 ... 14

### Dimensions

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

### Material specifications

Color	anthracite grey (RAL 7016)
Flammability rating according to UL 94	V-0
Insulating material	PBT
Housing material	PBT

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## Mechanical properties

### Mechanical data

Open side panel	No
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### Protective circuit

Direction of action	Line-Earth Ground
Maximum continuous operating voltage $U_C$	36 V DC
	25 V AC
Rated current	350 mA (40 °C)
Operating effective current $I_C$ at $U_C$	$\leq 2 \mu\text{A}$
Protective conductor current $I_{PE}$	$\leq 4 \mu\text{A}$
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (line-ground)	5 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$ (line-earth)	500 A
	1 kA (in total)
Total discharge current $I_{Total}$ (8/20) $\mu\text{s}$	10 kA
	20 kA (1x)
Max. discharge current $I_{max}$ (8/20) $\mu\text{s}$ maximum (line-line)	10 kA
Max. discharge current $I_{max}$ (8/20) $\mu\text{s}$ maximum (line-earth)	20 kA (in total)
Nominal pulse current $I_{an}$ (10/1000) $\mu\text{s}$ (line-earth)	50 A
	100 A (in total)
Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-earth) spike	$\leq 60 \text{ V}$
Residual voltage at $I_n$ (conductor-ground)	$\leq 50 \text{ V}$
Residual voltage with $I_{an}$ (10/1000) $\mu\text{s}$ (line-earth)	$\leq 60 \text{ V}$
Voltage protection level $U_p$ (line-earth)	$\leq 60 \text{ V}$ (C1 - 500 V / 250 A)
	$\leq 95 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 55 \text{ V}$ (C3 - 10 A)
	$\leq 55 \text{ V}$ (C3 - 50 A)
	$\leq 250 \text{ V}$ (D1 - 500 A)
Response time $t_A$ (line-earth)	$\leq 1 \text{ ns}$
Input attenuation aE, asym.	typ. 0.3 dB (1 MHz/50 $\Omega$ )
	typ. 0.2 dB (350 kHz/150 $\Omega$ )
Cut-off frequency $f_g$ (3 dB), asym. (PE) in 50 $\Omega$ system	typ. 6 MHz
Cut-off frequency $f_g$ (3 dB), asym. (PE) in 150 $\Omega$ system	typ. 2 MHz
Capacity	$\leq 1.3 \text{ nF}$ (per channel)
Resistance per path	3.3 $\Omega$ 20 %
Surge protection fault message	none
Max. required back-up fuse	315 mA (T)
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

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## Environmental and real-life conditions

### Ambient conditions

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

## Standards and regulations

Standards/specifications	IEC 61643-21
Note	A2:2012
Standards/specifications	EN 61643-21
Note	2001 + A1:2009 + A2:2013

## Mounting

Mounting type	DIN rail: 35 mm
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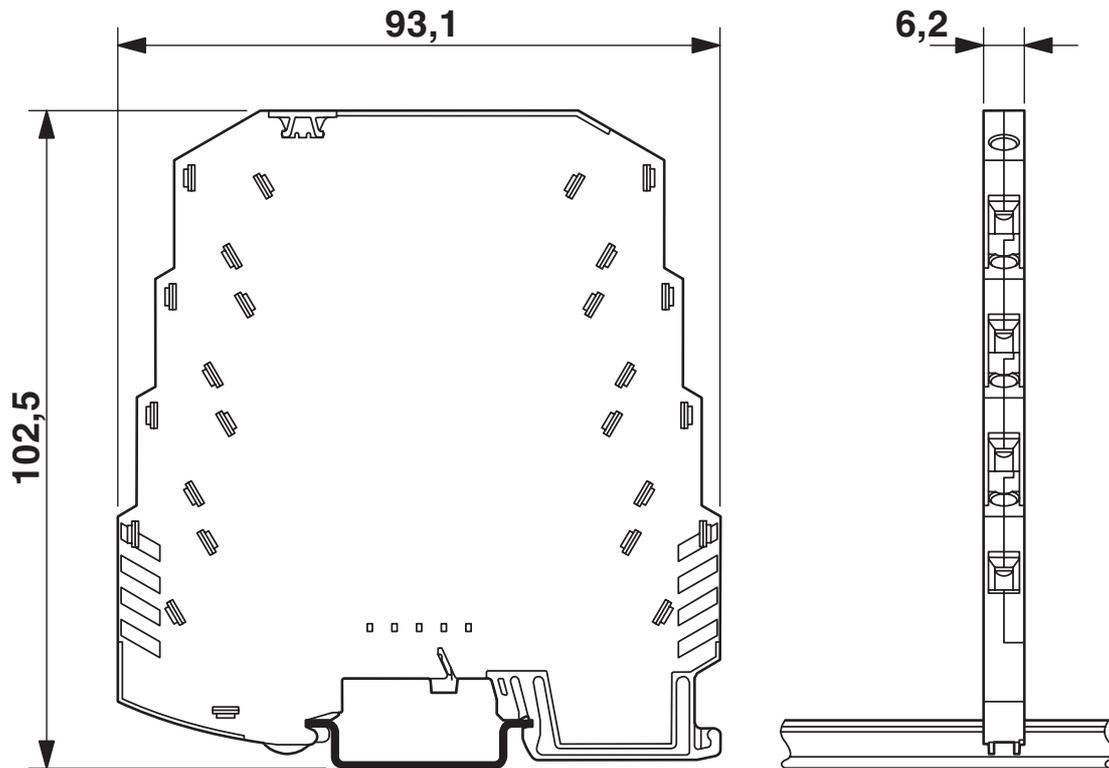
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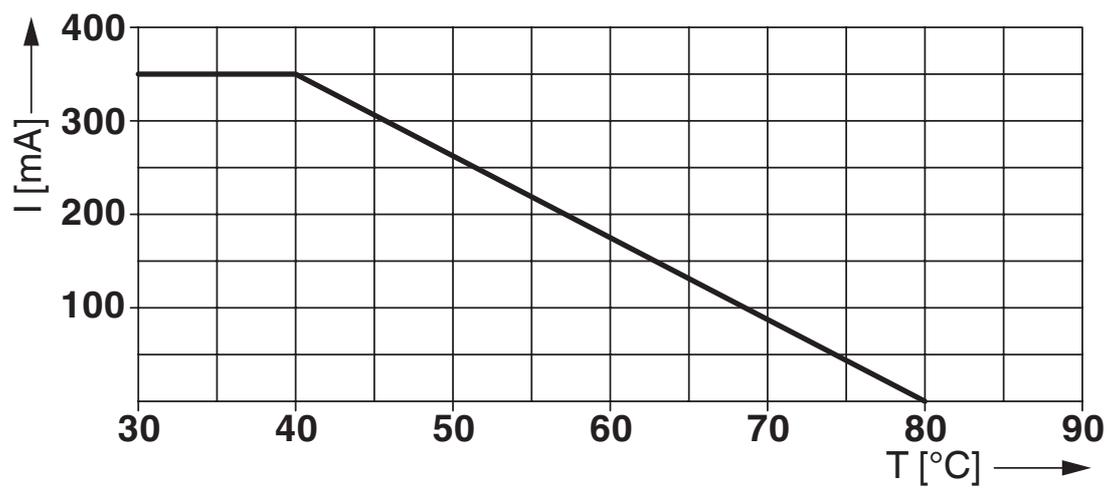
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## Drawings

Dimensional drawing



Diagram



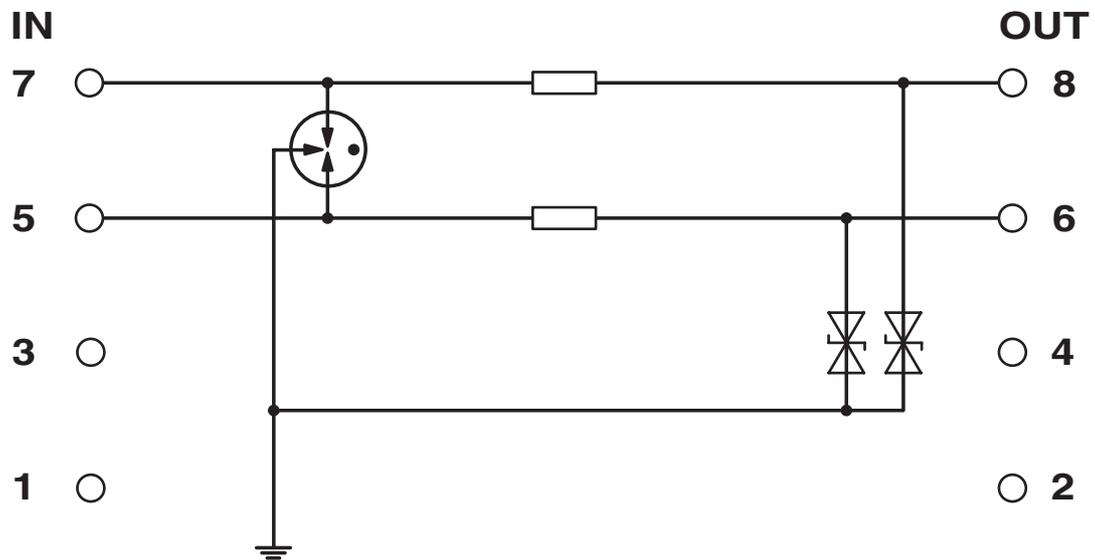
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Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2804636>



**DNV GL**

Approval ID: TAE00001N8



**UL Listed**

Approval ID: FILE E 138168

**UAE-RoHS**

Approval ID: 23-10-88889

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## Classifications

### ECLASS

ECLASS-13.0	27171501
ECLASS-15.0	27171501

### ETIM

ETIM 9.0	EC000943
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### UNSPSC

UNSPSC 21.0	39121600
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

### China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

### EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	c39ddbfe-1fd3-4714-8585-882fac004681

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