

# LIT 2-12 - Surge protection device



2804694

<https://www.phoenixcontact.com/us/products/2804694>

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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

- Space saving with a narrow overall width of just 6□mm
- Install quickly and error-free with DIN rail connectors
- No signal interference with reliable attenuation

## Commercial data

Item number	2804694
Packing unit	10 pc
Minimum order quantity	10 pc
Sales key	CL02
Product key	CL2211
Catalog page	Page 92 (C-6-2013)
GTIN	4046356462198
Weight per piece (including packing)	65.94 g
Weight per piece (excluding packing)	55.75 g
Customs tariff number	85363010
Country of origin	DE

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## Technical data

### Product properties

IEC test classification	C1
	C2
	C3
	D1
Type	DIN rail module, one-piece
Product type	Surge protection for MCR technology
Product family	LINETRAB

### Insulation characteristics

Overvoltage category	III
Pollution degree	2

### Electrical properties

Nominal voltage $U_N$	12 V DC
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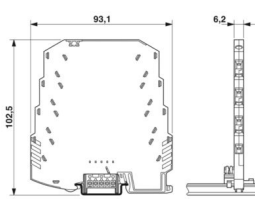
### Connection data

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

### Ex data

Maximum inner capacitance $C_i$	typ. 3 nF
Max. internal inductance $L_i$	< 1 $\mu$ H
Max. input current $I_i$	500 mA ( $T_4 / \leq 80^\circ\text{C}$ )
	500 mA ( $T_5 / \leq 50^\circ\text{C}$ )
	500 mA ( $T_6 / \leq 40^\circ\text{C}$ )
Max. input voltage $U_i$	18 V DC
max. input power $P_i$	635.00 mW
Maximum inner time factor ( $R_i/L_i$ )	10 $\mu$ s

### Dimensions

Dimensional drawing	
Width	6.2 mm

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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

## Mechanical properties

### Mechanical data

Open side panel	No
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## Protective circuit

Direction of action	Line-Line & Line-Earth Ground
Maximum continuous voltage $U_C$	18 V DC
	13 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)	350 A
Nominal discharge current $I_n$ (8/20) $\mu s$ (line-ground)	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)	350 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)	70 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	$\leq 50 V$
Output voltage limitation at 1 kV/ $\mu s$ (line-earth) spike	$\leq 650 V$
Residual voltage at $I_n$ (conductor-conductor)	$\leq 50 V$
Residual voltage with $I_{an}$ (10/1000) $\mu s$ (line-line)	$\leq 50 V$
Voltage protection level $U_p$ (line-line)	$\leq 50 V$ (C1 - 500 V / 250 A)
	$\leq 35 V$ (C3 - 10 A)
	$\leq 40 V$ (C3 - 70 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)

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Response time $t_A$ (line-line)	$\leq 1$ ns
Response time $t_A$ (line-earth)	$\leq 100$ ns
Input attenuation aE, sym.	typ. 0.3 dB (1.5 MHz/50 $\Omega$ )
	typ. 0.3 dB (500 kHz / 150 $\Omega$ )
Cut-off frequency $f_g$ (3 dB), sym. in 50 $\Omega$ system	typ. 5 MHz
Cut-off frequency $f_g$ (3 dB), sym. in 150 $\Omega$ system	typ. 1.7 MHz
Capacity	$\leq 1.5$ nF (per path)
Resistance per path	0 $\Omega$
Surge protection fault message	none
Max. required back-up fuse	500 mA (T)
Impulse durability (line-line)	C1 - 500 V / 250 A
	C3 - 70 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

## 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	$\leq 2000$ m (amsl)

## Approvals

### 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

## Standards and regulations

Standards/specifications	EN 61643-21
Note	A2:2013
Standards/specifications	EN 60079-0
Note	2018
Standards/specifications	EN 60079-11
Note	2012
Standards/specifications	IEC 60079-0
Note	2017
Standards/specifications	IEC 60079-11
Note	2011

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## Mounting

Mounting type	DIN rail: 35 mm
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## Classifications

### ECLASS

ECLASS-11.0	27130807
ECLASS-13.0	27171501

### ETIM

ETIM 9.0	EC001625
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### UNSPSC

UNSPSC 21.0	39121620
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## Environmental product compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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