

LIT 1X2-24 - Surge protection device



2804610

<https://www.phoenixcontact.com/us/products/2804610>

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Surge protection in a one-piece 6.2 mm wide DIN rail module for one floating signal circuit in 2-conductor technology. Tested in accordance with the following types of protection in Ex areas: Ex ia IIC / Ex iaD. HART-compatible.

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	2804610
Packing unit	10 pc
Minimum order quantity	10 pc
Sales key	CL02
Product key	CL2211
Catalog page	Page 124 (C-4-2019)
GTIN	4046356428330
Weight per piece (including packing)	64.86 g
Weight per piece (excluding packing)	53 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
Wire pairs per module	1

Insulation characteristics

Overvoltage category	III
Pollution degree	2

Electrical properties

Nominal voltage U_N	24 V DC
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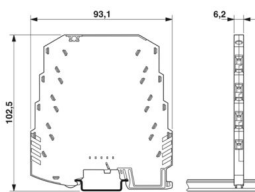
Connection data

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

Ex data

Maximum inner capacitance C_i	typ. 1.3 nF
Max. internal inductance L_i	< 1 μ H
Max. input current I_i	350 mA ($T_4 / \leq 80^\circ\text{C}$)
	200 mA ($T_5 / \leq 50^\circ\text{C}$)
	150 mA ($T_6 / \leq 40^\circ\text{C}$)
Max. input voltage U_i	36 V DC
max. input power P_i	3.00 W
Maximum inner time factor (R_i/L_i)	0.2 μ s

Dimensions

Dimensional drawing	
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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

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	36 V DC
	25 V AC
Rated current	350 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) μs (line-line)	5 kA
Nominal discharge current I_n (8/20) μs (line-ground)	5 kA
Pulse discharge current I_{imp} (10/350) μs (line-earth)	500 A
	1 kA (in total)
Total discharge current I_{total} (8/20) μs	10 kA
	20 kA (1x)
Max. discharge current I_{max} (8/20) μs maximum (line-line)	10 kA
Max. discharge current I_{max} (8/20) μs maximum (line-earth)	10 kA
	20 kA (in total)
Nominal pulse current I_{an} (10/1000) μs (line-line)	50 A
Nominal pulse current I_{an} (10/1000) μs (line-earth)	50 A
	100 A (in total)
Output voltage limitation at 1 kV/ μs (line-line) spike	$\leq 60 V$
Output voltage limitation at 1 kV/ μs (line-earth) spike	$\leq 650 V$
Residual voltage at I_n (conductor-conductor)	$\leq 70 V$
Residual voltage with I_{an} (10/1000) μs (line-line)	$\leq 50 V$
Voltage protection level U_p (line-line)	$\leq 70 V$ (C2 - 10 kV / 5 kA)
	$\leq 50 V$ (C3 - 10 A)
	$\leq 55 V$ (C3 - 50 A)
Voltage protection level U_p (line-earth)	$\leq 650 V$ (C1 - 500 V / 250 A)
	$\leq 700 V$ (C2 - 10 kV / 5 kA)
	$\leq 650 V$ (C3 - 10 A)
	$\leq 700 V$ (C3 - 50 A)

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Response time t_A (line-line)	≤ 1 ns
Response time t_A (line-earth)	≤ 100 ns
Input attenuation aE, sym.	typ. 0.7 dB (1 MHz/50 Ω)
	typ. 0.3 dB (350 kHz/150 Ω)
Cut-off frequency f_g (3 dB), sym. in 50 Ω system	typ. 6 MHz
Cut-off frequency f_g (3 dB), sym. in 150 Ω system	typ. 2 MHz
Capacity	≤ 1.3 nF (per channel)
Resistance per path	3.3 $\Omega \pm 20$ %
Surge protection fault message	none
Max. required back-up fuse	315 mA (T)
Impulse durability (line-line)	C2 - 10 kV / 5 kA
	C3 - 50 A
Impulse durability (line-earth)	C1 - 1 kV / 500 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	≤ 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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