Surge protection device - LIT 1X2-24 - 2804610

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Surge protection in the one-piece 6.2 mm DIN rail module for one floating signal circuit in 2-wire technology. Tested according to the protection types in Ex areas Ex ia IIC/Ex iaD. HART-compatible.

Why buy this product

- Can be used in binary, analog, and intrinsically safe circuits
- Protection of up to four signal wires over a design width of 6.2 mm

Key Commercial Data

Packing unit	1 STK
GTIN	4 046356 428330
GTIN	4046356428330
Weight per Piece (excluding packing)	60.000 g
Custom tariff number	85363010
Country of origin	Germany

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

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Technical data

Ambient conditions

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
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	350 mA (40° C)
Operating effective current I_C at U_C	≤ 2 µA
Residual current I_{PE}	≤ 2 µA
Nominal discharge current I_n (8/20) µs (line-line)	5 kA
Nominal discharge current I_n (8/20) µs (line-earth)	5 kA
Pulse discharge current I_{imp} (10/350) µs (core-ground)	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 (Core-Core)	10 kA
Max. discharge current I_{max} (8/20) µs maximum (Core-Earth)	10 kA
	20 kA (in total)
Nominal pulse current Ian (10/1000) µs (Core-Core)	50 A
Nominal pulse current Ian (10/1000) µs (Core-Earth)	50 A
	100 A (in total)
Output voltage limitation at 1 kV/µs (core-core) spike	≤ 60 V
Output voltage limitation at 1 kV/µs (core-earth) spike	≤ 650 V
Residual voltage at I_n (line-line)	≤ 70 V
Residual voltage with Ian (10/1000)µs (conductor-conductor)	≤ 50 V

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Protective circuit

Voltage protection level U_p (core-core)	≤ 70 V (C2 - 10 kV / 5 kA)
	≤ 50 V (C3 - 10 A)
	≤ 55 V (C3 - 50 A)
Voltage protection level U_p (core-ground)	≤ 650 V (C1 - 500 V / 250 A)
	≤ 700 V (C2 - 10 kV / 5 kA)
	≤ 650 V (C3 - 10 A)
	≤ 700 V (C3 - 50 A)
Response time t_A (line-line)	≤ 1 ns
Response time tA (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 fg (3 dB), sym. in 50 Ohm system	typ. 6 MHz
Cut-off frequency fg (3 dB), sym. in 150 Ohm system	typ. 2 MHz
Capacity	≤ 1.3 nF (per channel)
Resistance in series	3.3 Ω ±20 %
Surge protection fault message	none
Max. required back-up fuse	315 mA (T)
Impulse durability (conductor-conductor)	C2 - 10 kV/5 kA
	C3 - 50 A
Impulse durability (conductor-ground)	C1 - 1 kV/500 A
	C2 - 10 kV/5 kA
	C3 - 50 A
	D1 - 500 A
Alternating current carrying capacity (line-signalground)	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 mm² ... 2.5 mm²
Conductor cross section solid	0.2 mm² ... 2.5 mm²
Conductor cross section AWG	24 ... 14

Connection, equipotential bonding

Connection method	DIN rail NS35

Standards and Regulations

Standards/specifications	EN 61643-21 A2:2013

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Standards and Regulations

	EN 60079-0 2012
	EN 60079-11 2012
	EN 60079-26 2007
	IEC 60079-0 2011
	IEC 60079-11 2011
	IEC 60079-26 2006

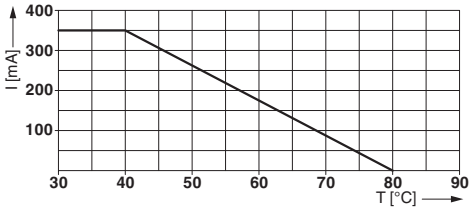
Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab “Downloads”, Category “Manufacturer's declaration”

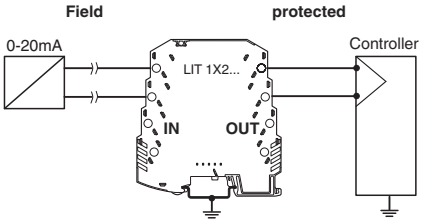
Drawings

Pictogram

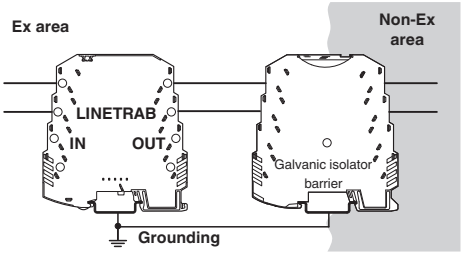
Diagram



Application drawing



Application drawing



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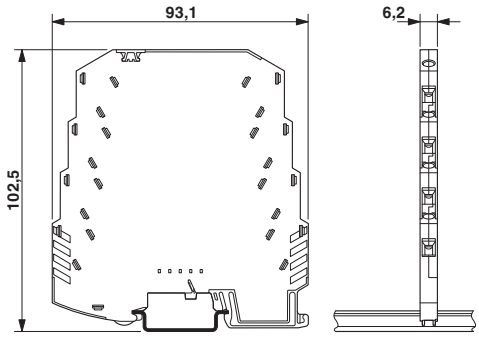
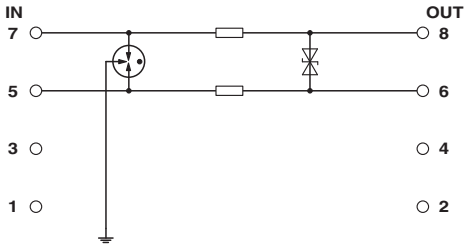
Dimensional drawing



Circuit diagram



Classifications

eCl@ss

eCl@ss 4.0	27140201
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
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

UNSPSC

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

Approvals

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Approvals

Approvals

UL Listed / EAC / EAC / DNV GL

Ex Approvals

IECEx / ATEX

Approval details

UL Listed	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 138168
EAC		EAC-Zulassung
EAC		RU C-DE.A*30.B01561
DNV GL	http://exchange.dnv.com/tari/	TAE00001N8

Accessories

Accessories

System adapter

System adapter - MINI MCR-SL-V8-FLK 16-A - 2811268

Eight MINI analog signal converters with screw connection method can be connected to a control system using a system adapter and system cabling with a minimum of wiring and very low error risk.

System cable

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Accessories

Cable - VIP-CAB-FLK16/FR/FR/0,14/2,0M - 2900156

Round cable set; controller: MINI-Analog, TRABTECH LINETRAB LIT; connection 1: IDC/FLK socket strip (1x 16-position, 90 °-Out put); connection 2: IDC/FLK socket strip (1x 16-position, 90 °-out put); cable length: 2 m

Cable - VIP-CAB-FLK16/FR/FR/0,14/1,0M - 2900155

Round cable set; controller: MINI-Analog, TRABTECH LINETRAB LIT; connection 1: IDC/FLK socket strip (1x 16-position, 90 °-Out put); connection 2: IDC/FLK socket strip (1x 16-position, 90 °-out put); cable length: 1 m

Cable - VIP-CAB-FLK16/FR/FR/0,14/0,5M - 2900154

Round cable set; controller: MINI-Analog, TRABTECH LINETRAB LIT; connection 1: IDC/FLK socket strip (1x 16-position, 90 °-Out put); connection 2: IDC/FLK socket strip (1x 16-position, 90 °-out put); cable length: 0.5 m

Terminal marking

Marker for terminal blocks - UC-TM 6 - 0818085

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

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

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

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Accessories

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

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

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

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

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

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

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

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