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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	10 STK
GTIN	 4 046356 428330
GTIN	4046356428330

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

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Technical data

General

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	$\leq 2 \mu\text{A}$
Residual current I_{PE}	$\leq 2 \mu\text{A}$
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 (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	$\leq 60 \text{ V}$
Output voltage limitation at 1 kV/ μs (line-earth) spike	$\leq 650 \text{ V}$
Residual voltage at I_n (line-line)	$\leq 70 \text{ V}$
Residual voltage with I_{an} (10/1000) μs (line-line)	$\leq 50 \text{ V}$
Voltage protection level U_p (line-line)	$\leq 70 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 50 \text{ V}$ (C3 - 10 A)
	$\leq 55 \text{ V}$ (C3 - 50 A)
Voltage protection level U_p (line-earth)	$\leq 650 \text{ V}$ (C1 - 500 V / 250 A)
	$\leq 700 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 650 \text{ V}$ (C3 - 10 A)
	$\leq 700 \text{ V}$ (C3 - 50 A)
Response time t_A (line-line)	$\leq 1 \text{ ns}$
Response time t_A (line-earth)	$\leq 100 \text{ ns}$

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Technical data

Protective circuit

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 (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

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 ² ... 2.5 mm ²
Conductor cross section solid	0.2 mm ² ... 2.5 mm ²
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

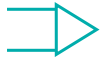
Environmental Product Compliance

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

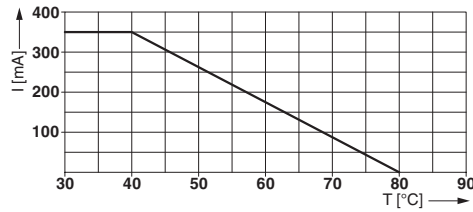
Drawings

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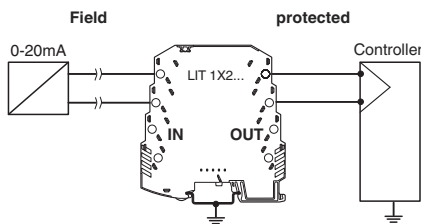
Pictogram



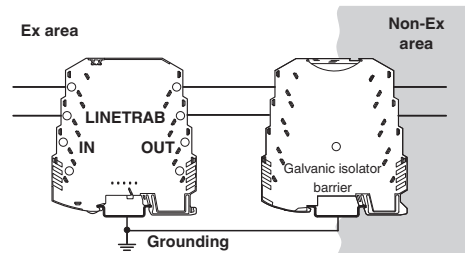
Diagram



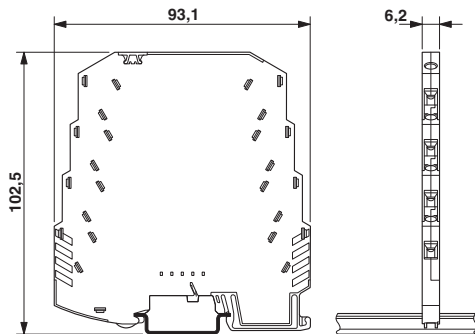
Application drawing



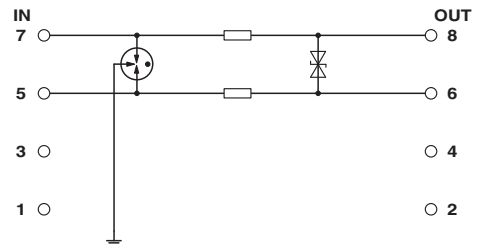
Application drawing



Dimensional drawing



Circuit diagram



Approvals

Approvals

Approvals

UL Listed / EAC / EAC / DNV GL

Ex Approvals

IECEX / ATEX

Approval details

UL Listed




<http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm>

FILE E 138168

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Approvals

EAC		EAC-Zulassung
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EAC		RU C- DE.A*30.B01561
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DNV GL	http://exchange.dnv.com/tari/	TAE00001N8
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