

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.

Product Features

- ✓ 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 pc
Weight per Piece (excluding packing)	60.0 GRM
Custom tariff number	85363010
Country of origin	Germany

Technical data

Dimensions

Height	93 mm
Width	6.2 mm
Depth	102.5 mm

Ambient conditions

Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Degree of protection	IP20

General

Housing material	PBT
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Surge protection device - LIT 1X2-24 - 2804610

Technical data

General

Inflammability class according to UL 94	V-0
Color	black
Standards for air and creepage distances	IEC 60664-1
	EN 60079-11
Mounting type	DIN rail: 35 mm
Type	Rail-mountable 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 operating voltage U_C	25 V AC
	36 V DC
Nominal current I_N	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 (Core-Core)	5 kA
Nominal discharge current I_n (8/20) μs (Core-Earth)	5 kA
	10 kA (Total)
Total surge current (8/20) μs	20 kA
Total surge current (10/350) μs	1 kA
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 (Total)
Nominal pulse current I_{an} (10/1000) μs (Core-Core)	50 A
Nominal pulse current I_{an} (10/1000) μs (Core-Earth)	50 A
	100 A (Total)
Impulse discharge current (10/350) μs , peak value I_{imp}	500 A
Output voltage limitation at 1 kV/ μs (Core-Core) spike	$\leq 60 V$
Output voltage limitation at 1 kV/ μs (Core-Earth) spike	$\leq 650 V$
Residual voltage at I_n , (conductor-conductor)	$\leq 70 V$
Residual voltage with I_{an} (10/1000) μs (conductor-conductor)	$\leq 50 V$
Voltage protection level U_P (Core-Core)	$\leq 70 V$ (C2 - 10 kV / 5 kA)
	$\leq 50 V$ (C3 - 10 A)

Surge protection device - LIT 1X2-24 - 2804610

Technical data

Protective circuit

	$\leq 80 \text{ V (D1 - 500 A)}$
Voltage protection level U_p (Core-Earth)	$\leq 650 \text{ V (C1 - 500 V / 250 A)}$
	$\leq 700 \text{ V (C2 - 10 kV / 5 kA)}$
	$\leq 700 \text{ V (D1 - 500 A)}$
Response time t_A (Core-Core)	$\leq 1 \text{ ns}$
Response time t_A (Core-Earth)	$\leq 100 \text{ ns}$
Input attenuation a_E , sym.	typ. $0.7 \text{ dB (1 MHz / 50 } \Omega)$
	typ. $0.3 \text{ dB (350 kHz / 150 } \Omega)$
Cut-off frequency f_g (3 dB), sym. in 50 Ohm system	typ. 6 MHz
Cut-off frequency f_g (3 dB), sym. in 150 Ohm system	typ. 2 MHz
Capacity	$\leq 1.3 \text{ nF (per channel)}$
Resistance in series	$3.3 \text{ } \Omega \text{ } 20 \%$
Max. required back-up fuse	315 mA
Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)	C2 (10 kV/5 kA)
	C3 (25 A)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)	C2 (10 kV/5 kA)
	C3 (25 A)
	D1 (500 A)
Alternating current carrying capacity in acc. with IEC 61643-21 (Core-Earth)	5 A - 1 s

Connection data

Connection method	Screw connection
Connection type IN	Screw terminal blocks
Connection type OUT	Screw terminal blocks
Screw thread	M3
Conductor cross section stranded min.	0.2 mm^2
Conductor cross section stranded max.	2.5 mm^2
Conductor cross section solid min.	0.14 mm^2
Conductor cross section solid max.	2.5 mm^2
Conductor cross section AWG/kcmil min.	26
Conductor cross section AWG/kcmil max	12

Connection, equipotential bonding

Connection method	DIN rail NS35
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Standards and Regulations

Standards/regulations	IEC 61643-21
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Surge protection device - LIT 1X2-24 - 2804610

Technical data

Standards and Regulations

	DIN EN 61643-21
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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

ETIM

ETIM 2.0	EC000943
ETIM 3.0	EC000943
ETIM 4.0	EC000943
ETIM 5.0	EC000943

UNSPSC

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

Approvals

Approvals

Approvals

UL Listed / GL

Ex Approvals

IECEX / ATEX / INMETRO

Surge protection device - LIT 1X2-24 - 2804610

Approvals

Approvals submitted

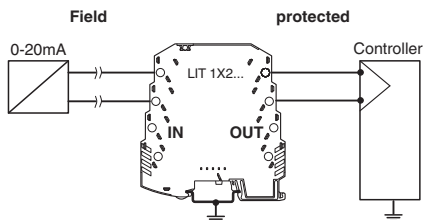
Approval details

UL Listed 

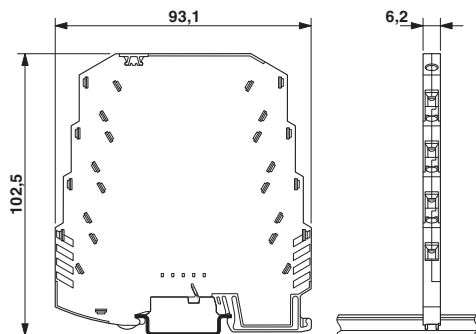
GL

Drawings

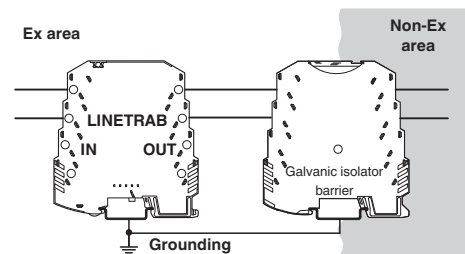
Application drawing



Dimensioned drawing



Application drawing



Circuit diagram

