

LIT 2-24 - Surge protection device

2804665

<https://www.phoenixcontact.com/us/products/2804665>



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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	2804665
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL02
Product key	CL2211
Catalog page	Page 92 (C-6-2013)
GTIN	4046356428323
Weight per piece (including packing)	64.68 g
Weight per piece (excluding packing)	52 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	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 µH
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	36 V DC
max. input power P_i	635 mW
Maximum inner time factor (R_i/L_i)	10 µs

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

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	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) μs (line-line)	250 A
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)	250 A
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)	$\leq 60 V$
Residual voltage with I_{an} (10/1000) μs (line-line)	$\leq 60 V$
Voltage protection level U_p (line-line)	$\leq 60 V$ (C1 - 500 V / 250 A)
	$\leq 55 V$ (C3 - 10 A)
	$\leq 55 V$ (C3 - 50 A)
Voltage protection level U_p (line-earth)	$\leq 650 V$ (C1 - 500 V / 250 A)
	$\leq 650 V$ (C2 - 10 kV / 5 kA)
	$\leq 650 V$ (C3 - 10 A)
	$\leq 700 V$ (C3 - 50 A)
	$\leq 700 V$ (D1 - 500 A)
Response time t_A (line-line)	$\leq 1 ns$

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Response time t_A (line-earth)	≤ 100 ns
Input attenuation aE, sym.	typ. 0.3 dB (2.4 MHz/50 Ω) typ. 0.3 dB (700 kHz / 150 Ω)
Cut-off frequency f_g (3 dB), sym. in 50 Ω system	typ. 7.7 MHz
Cut-off frequency f_g (3 dB), sym. in 150 Ω system	typ. 2.5 MHz
Capacity	≤ 1.3 nF (per path)
Resistance per path	0 Ω
Surge protection fault message	none
Max. required back-up fuse	500 mA (T)
Impulse durability (line-line)	C1 - 500 V / 250 A C3 - 50 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	≤ 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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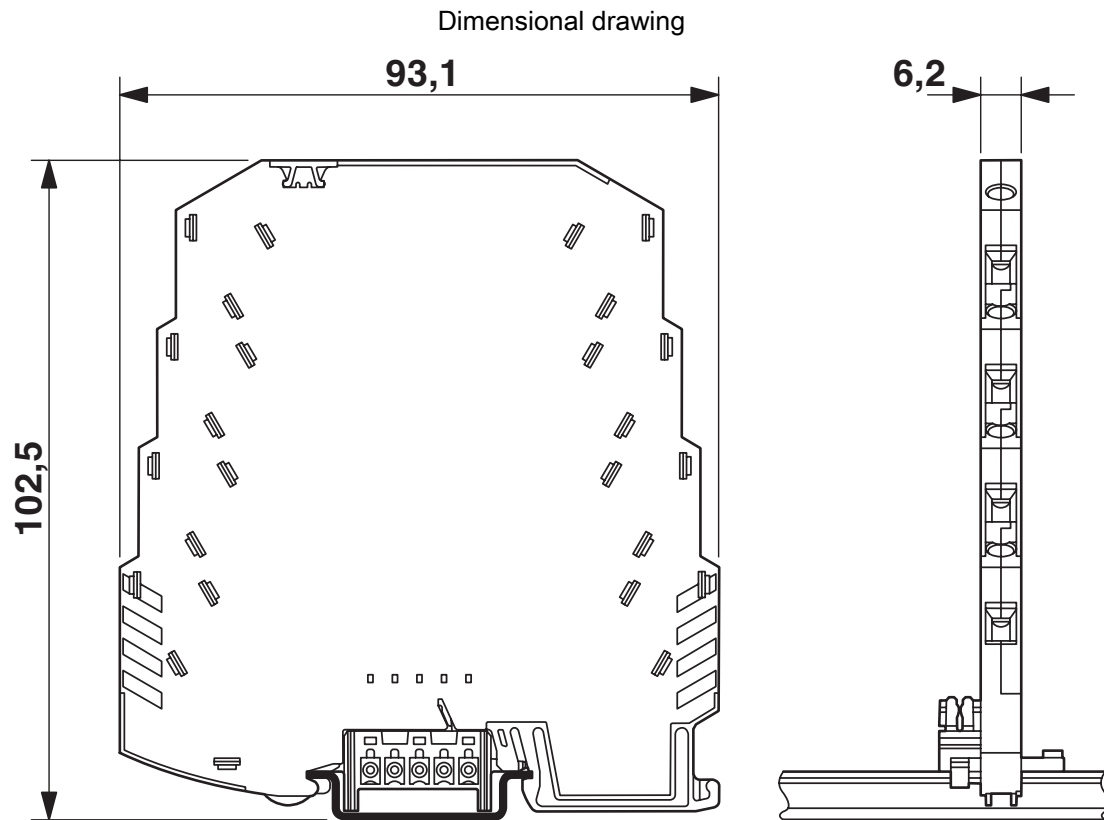
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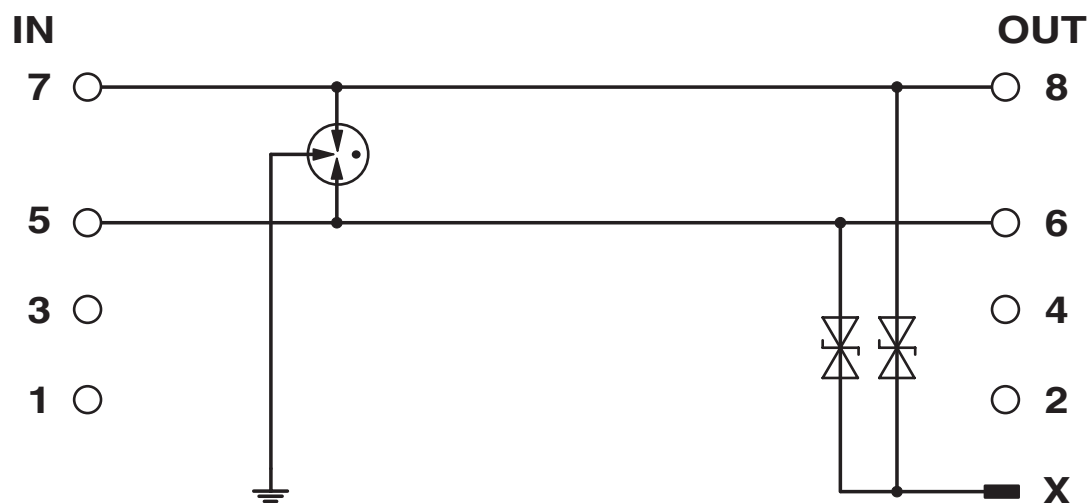
<https://www.phoenixcontact.com/us/products/2804665>



Drawings



Circuit diagram



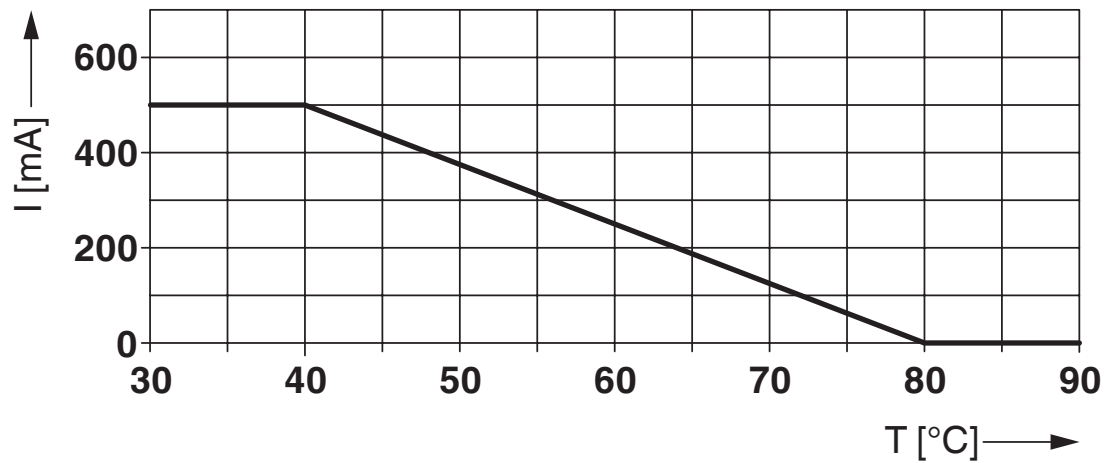
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Diagram



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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2804665>



EAC

Approval ID: EAC-Zulassung



DNV GL

Approval ID: TAE00001N8



EAC

Approval ID: RU C-DE.*09.B.00169



UL Listed

Approval ID: FILE E 138168

UAE-RoHS

Approval ID: 23-10-88889



ATEX

Approval ID: KEMA 09ATEX0051 X



EAC Ex

Approval ID: RU C-DE.**87.B.00420



IECEx

Approval ID: IECEx KEM 09.0018X



CCC

Approval ID: 2020322316000816



NEPSI-EX

Approval ID: GYJ20.1176X



CCC

Approval ID: 2020322316000816

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UKCA-EX

Approval ID: DEKRA 21UKEX0233 X

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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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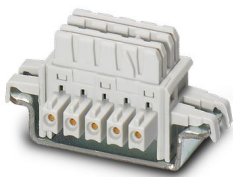
Accessories

ME 6,2 TBUS-2 1,5/5-ST-3,81KMGY - DIN rail bus connectors

2969401

<https://www.phoenixcontact.com/us/products/2969401>

DIN rail bus connector for potential bridging of devices arranged next to one another across all modules.



IMC 1,5/ 5-ST-3,81 - Printed-circuit board connector

1857919

<https://www.phoenixcontact.com/us/products/1857919>



PCB connector, nominal cross section: 1.5 mm², color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Pin, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: IMC 1,5/...-ST, pitch: 3.81 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 0 °, plug-in system: COMBICON MC 1,5, locking: without, mounting: without, type of packaging: packed in cardboard

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UC-TM 6 - Marker for terminal blocks

0818085

<https://www.phoenixcontact.com/us/products/0818085>



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 6.2 mm, lettering field size: 5.6 x 10.5 mm, Number of individual labels: 80

UC-TM 6 OG - Marker for terminal blocks

0818328

<https://www.phoenixcontact.com/us/products/0818328>



Marker for terminal blocks, Sheet, orange, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 6.2 mm, lettering field size: 5.6 x 10.5 mm, Number of individual labels: 80

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UC-TM 6 YE - Marker for terminal blocks

0818331

<https://www.phoenixcontact.com/us/products/0818331>



Marker for terminal blocks, Sheet, yellow, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 6.2 mm, lettering field size: 5.6 x 10.5 mm, Number of individual labels: 80

UC-TM 6 BU - Marker for terminal blocks

0818344

<https://www.phoenixcontact.com/us/products/0818344>



Marker for terminal blocks, Sheet, blue, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 6.2 mm, lettering field size: 5.6 x 10.5 mm, Number of individual labels: 80

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UC-TM 6 RD - Marker for terminal blocks

0818357

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Marker for terminal blocks, Sheet, red, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 6.2 mm, lettering field size: 5.6 x 10.5 mm, Number of individual labels: 80

UC-TM 6 GN - Marker for terminal blocks

0818360

<https://www.phoenixcontact.com/us/products/0818360>



Marker for terminal blocks, Sheet, green, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 6.2 mm, lettering field size: 5.6 x 10.5 mm, Number of individual labels: 80

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SZS 0,6X3,5 VDE - Screwdriver

1212602

<https://www.phoenixcontact.com/us/products/1212602>



Screwdriver, slot-headed, VDE insulated, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

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