

CTM 2X1- 24DC - Surge protection plug



2838500

<https://www.phoenixcontact.com/us/products/2838500>

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LSA-PLUS plug (COMTRAB CTM) with protective circuit for 2-conductor signal circuits grounded on one side. Nominal voltage: 24 V DC

Your advantages

- Space-saving due to compact design
- Flexible fields of application with modular protective plug
- Can be used in LSA-PLUS disconnect and control strips or CT-TERMIBLOCK via adapted connection technology

Commercial data

Item number	2838500
Packing unit	10 pc
Minimum order quantity	10 pc
Sales key	CL03
Product key	CL3211
Catalog page	Page 142 (C-4-2019)
GTIN	4017918819538
Weight per piece (including packing)	10.58 g
Weight per piece (excluding packing)	10.384 g
Customs tariff number	85363010
Country of origin	DE

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Technical data

Product properties

Product type	Surge protection for MCR technology
Product family	COMTRAB
IEC test classification	B2
	C1
	C2
	C3
	D1
VDE requirement class	B2
	C1
	C2
	C3
	D1
Type	LSA-PLUS module
Number of positions	2
Surge protection fault message	none
Arrester can be tested with CHECKMASTER from software version:	From SW rev. 1.10

Insulation characteristics	
Overvoltage category	II
Pollution degree	2

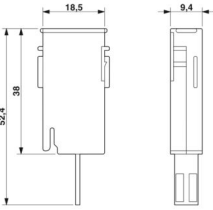
Electrical properties

Nominal voltage U_N	24 V DC
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Connection data

Connection method	can be plugged into COMTRAB-TERMIBLOCK and LSA-PLUS disconnect and switching strips
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Dimensions

Dimensional drawing	
Width	9.5 mm
Height	21 mm
Depth	53.5 mm

Material specifications

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Color	black (RAL 9005)
	Copper
Flammability rating according to UL 94	V-0
Housing material	PA

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	± 30 V DC
	21 V AC
Rated current	380 mA AC (25 °C)
Operating effective current I_C at U_C	≤ 5 μ A
Residual current I_{pE}	≤ 2 μ A
Nominal discharge current I_n (8/20) μ s (line-ground)	5 kA
Pulse discharge current I_{imp} (10/350) μ s (line-earth)	1 kA
Total discharge current I_{total} (8/20) μ s	10 kA
Total discharge current I_{total} (10/350) μ s	2.5 kA
Max. discharge current I_{max} (8/20) μ s maximum (line-earth)	10 kA (in total)
Nominal pulse current I_{an} (10/1000) μ s (line-earth)	100 A
Output voltage limitation at 1 kV/ μ s (line-earth) spike	55 V
Output voltage limitation at 1 kV/ μ s (line-earth) static	≤ 45 V
Residual voltage at I_n (conductor-ground)	≤ 50 V
Residual voltage with I_{an} (10/1000) μ s (line-earth)	≤ 15 V
Voltage protection level U_p (line-earth)	≤ 100 V (C2 - 10 kV/5 kA, spike)
	≤ 45 V (C2 - 10 kV/5 kA, static)
	≤ 45 V (C3 - 7.5 kV / 100 A, spike)
	≤ 15 V (C3 - 7.5 kV / 100 A, static)
Response time t_A (line-earth)	≤ 1 ns
Input attenuation aE, asym.	0.3 dB (≤ 700 kHz)
Cut-off frequency f_g (3 dB), asym. (PE) in 100 Ω system	2.7 MHz
Capacity (Core-Earth)	1.2 nF ($f=1$ MHz / $V_R=0$ V)
Resistance per path	3.3 Ω 10 %
Surge protection fault message	none
Impulse durability (line-earth)	C2 - 4 kV / 2 kA
	C3 - 100 A
	B2 - 4 kV / 100 A
	D1 - 1 kA
Alternating current carrying capacity (line-earth)	5 A - 1 s

Environmental and real-life conditions

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Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 75 °C

Standards and regulations

VDE requirement class	B2
	C1
	C2
	C3
	D1

Air clearances and creepage distances

Standards/regulations	DIN VDE 0110-1 / IEC 60664-1
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Standards Information technology specification

Standards/regulations	IEC 61643-21
	IEC 61643-21
Standards/specifications	IEC 61643-21
Note	2000

Mounting

Mounting type	On CT-TERMIBLOCK and LSA-PLUS disconnect strip
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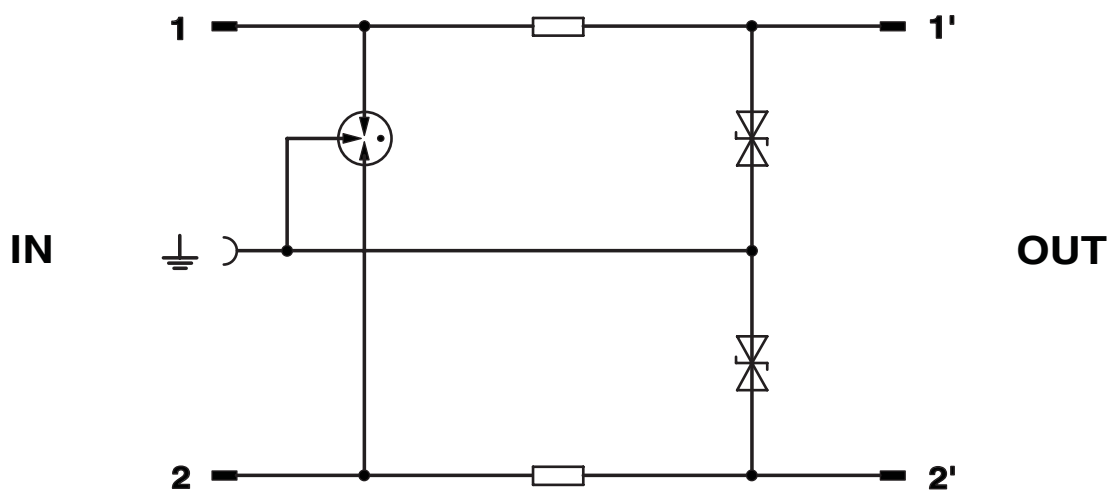
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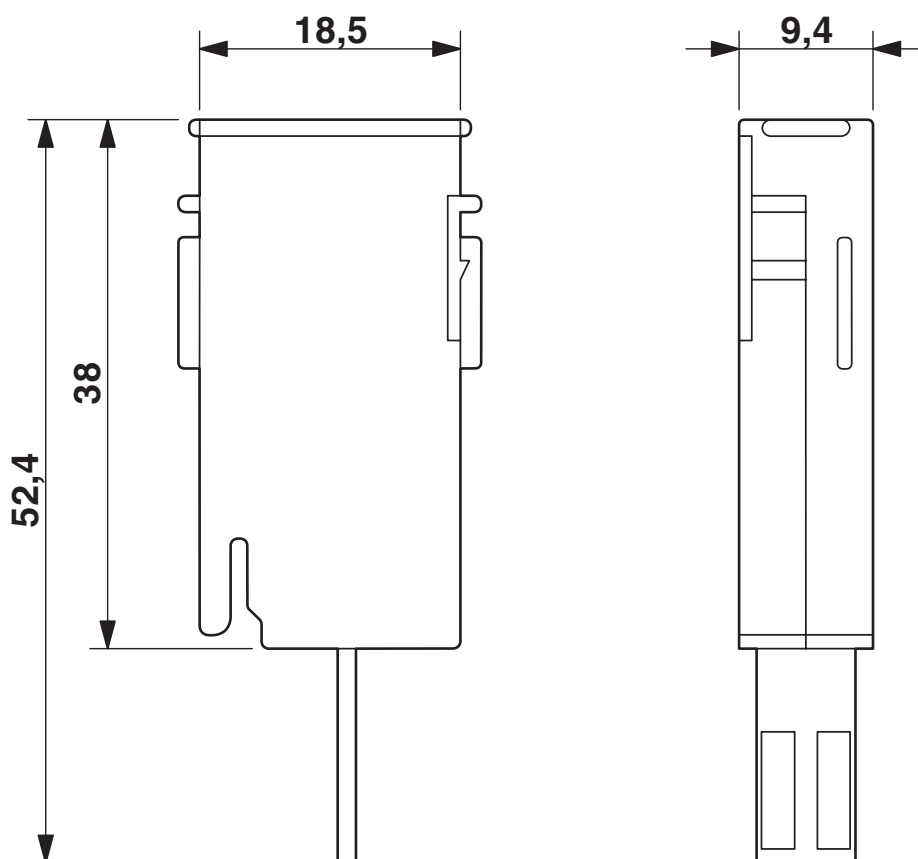


Drawings

Circuit diagram



Dimensional drawing



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Approvals

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EAC

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



UL Listed

Approval ID: FILE E 138168

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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	39121600
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	9d76fbce-22bc-4c7a-9386-deedc63127d1

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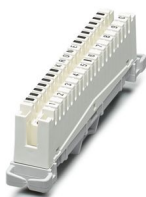


Mandatory accessories

CT 10-TL - Disconnect strip

2765356

<https://www.phoenixcontact.com/us/products/2765356>



LSA-PLUS disconnect strip to hold the CTM and CT 10 protection modules.
Version: 10 double conductors, dimension A: 124 mm.

CT 1-10-ES - Grounding busbar

2765547

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Ground rail for CTM protective plug when used in combination with LSA-PLUS disconnect strip. Version: 10 double conductors

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CT-TERMIBLOCK 10 DA - Screw termination block

0441711

<https://www.phoenixcontact.com/us/products/0441711>



Screw termination block with disconnect contacts for accommodating protective plugs CT and CTM. Use in MCR and telecommunications systems. Design: 10 double wires

CTM 10-MAG - Magazine

2838610

<https://www.phoenixcontact.com/us/products/2838610>



Magazine with a grounding rail to accommodate up to 10 LSA-PLUS protective plugs (COMTRAB CTM), to insert in CT-TERMIBLOCK or LSA-PLUS disconnect strip

Accessories

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CTM EST - Short-circuit connector

2838649

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LSA-PLUS grounding plug (COMTRAB CTM) to short-circuit and ground potentials in CT-TERMIBLOCK... and disconnect strip CT 10...

SSA 3-6 - Shield connection

2839295

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Shield fast connection for 3 ... 6 mm cable diameter. Potential connecting cable: 200 mm, 1 mm², color: black

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SSA 5-10 - Shield connection

2839512

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Shield fast connection for 5 ... 10 mm cable diameter. Potential connecting cable:
200 mm, 1 mm², color: black

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