

## Surge protection plug - CTM 2X1- 24DC - 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

- ✓ The CTM 10-MAG surge protection magazine can be freely fitted with various protective plugs
- ✓ Can be used in LSA-PLUS disconnect and control strips or CT-TERMIBLOCK
- ✓ Typical installation locations include marshalling distributors
- ✓ Space-saving LSA-PLUS connection technology
- ✓ Modular compact protection for high-density networks

RoHS


24V

IP20

IEC



### Key Commercial Data

Packing unit	10 pc
GTIN	 4 017918 819538
GTIN	4017918819538
Weight per Piece (excluding packing)	10.380 g
Custom tariff number	85363010
Country of origin	Germany

### Technical data

#### Dimensions

Height	21 mm
Width	9.5 mm
Depth	53.5 mm

#### Ambient conditions

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

#### General

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## Technical data

### General

Housing material	PA
Flammability rating according to UL 94	V-0
Color	black
Standards for clearances and creepage distances	DIN VDE 0110-1
	IEC 60664-1
Overvoltage category	II
Degree of pollution	2
Mounting type	On CT-TERMIBLOCK and LSA-PLUS disconnect strip
Type	LSA-PLUS module
Number of positions	2
Direction of action	Line-Line & Line-Earth Ground
Arrester can be tested with CHECKMASTER from software version:	From SW rev. 1.10

### Protective circuit

IEC test classification	B2
	C1
	C2
	C3
	D1
VDE requirement class	B2
	C1
	C2
	C3
	D1
Nominal voltage $U_N$	24 V DC
Maximum continuous voltage $U_C$	$\pm 30$ V DC
	21 V AC
Rated current	380 mA AC (25 °C)
Operating effective current $I_C$ at $U_C$	$\leq 5$ $\mu$ A
Residual current $I_{PE}$	$\leq 2$ $\mu$ A
Nominal discharge current $I_n$ (8/20) $\mu$ s (line-earth)	5 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu$ s (line-earth)	1 kA
Total discharge current $I_{total}$ (8/20) $\mu$ s	10 kA
Total discharge current $I_{total}$ (10/350) $\mu$ s	2.5 kA
Max. discharge current $I_{max}$ (8/20) $\mu$ s maximum (line-earth)	10 kA (in total)
Nominal pulse current $I_{an}$ (10/1000) $\mu$ s (line-earth)	100 A
Output voltage limitation at 1 kV/ $\mu$ s (line-earth) spike	55 V
Output voltage limitation at 1 kV/ $\mu$ s (line-earth) static	$\leq 45$ V
Residual voltage at $I_n$ (line-earth)	$\leq 50$ V
Residual voltage with $I_{an}$ (10/1000) $\mu$ s (line-earth)	$\leq 15$ V
Voltage protection level $U_p$ (line-earth)	$\leq 100$ V (C2 - 10 kV/5 kA, spike)

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### Technical data

#### Protective circuit

	≤ 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 Ohm system	2.7 MHz
Capacity (line-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

#### Connection data

Connection method	can be plugged into COMTRAB-TERMIBLOCK and LSA-PLUS disconnect and switching strips
Connection method IN	COMTRAB plug-in system
Connection method OUT	COMTRAB plug-in system
Connection technology	LSA-PLUS

#### Connection, equipotential bonding

Connection method	Spring contact
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#### Standards and Regulations

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

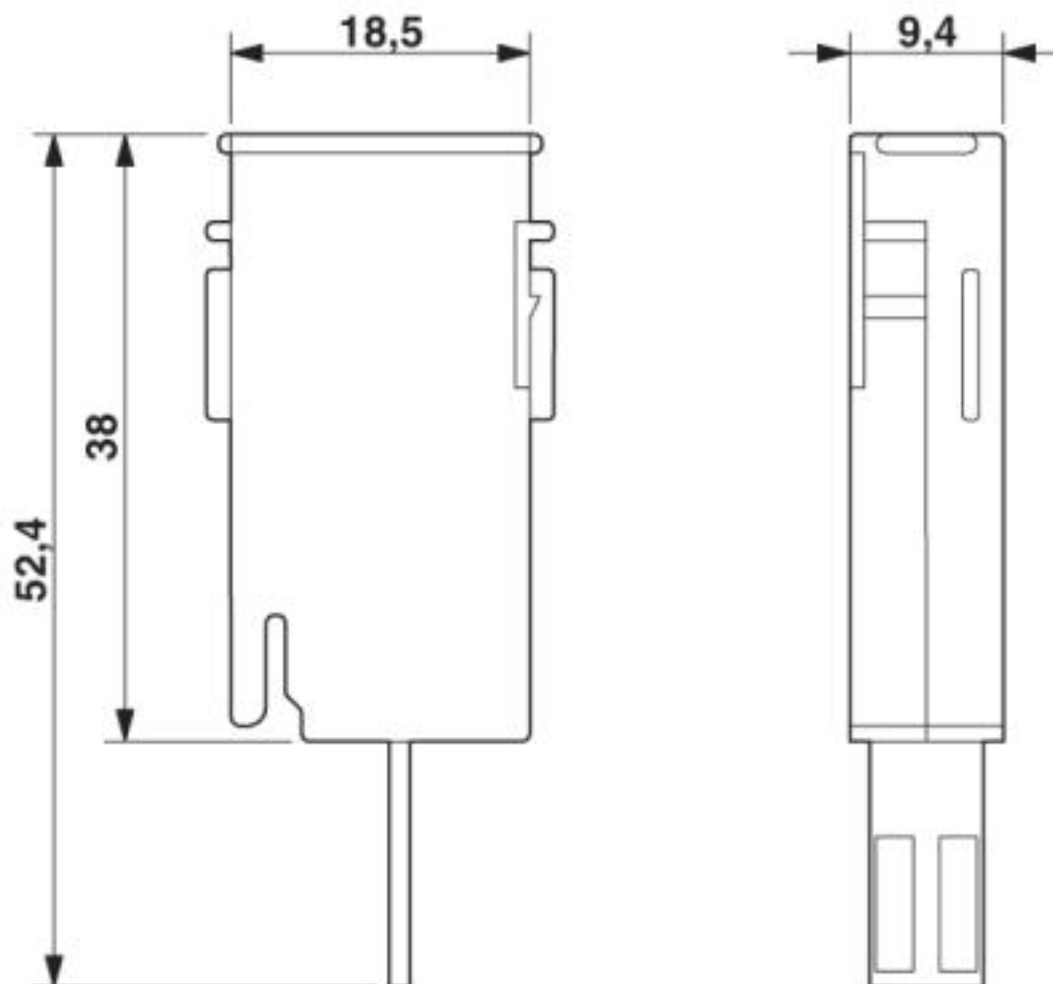
#### Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

### Drawings

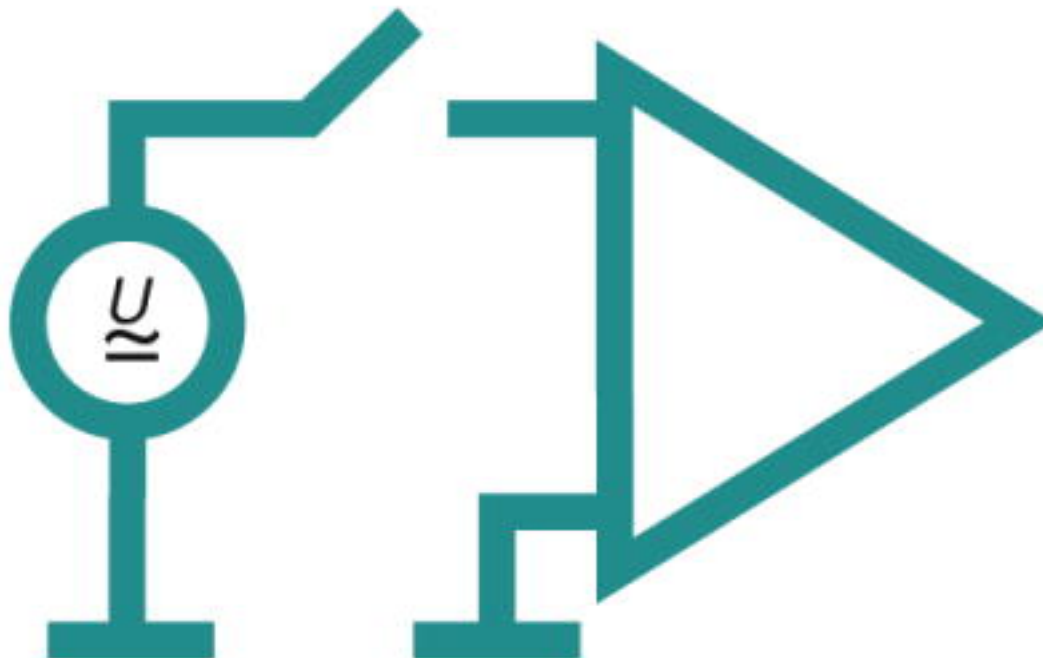
# Surge protection plug - CTM 2X1- 24DC - 2838500

Dimensional drawing

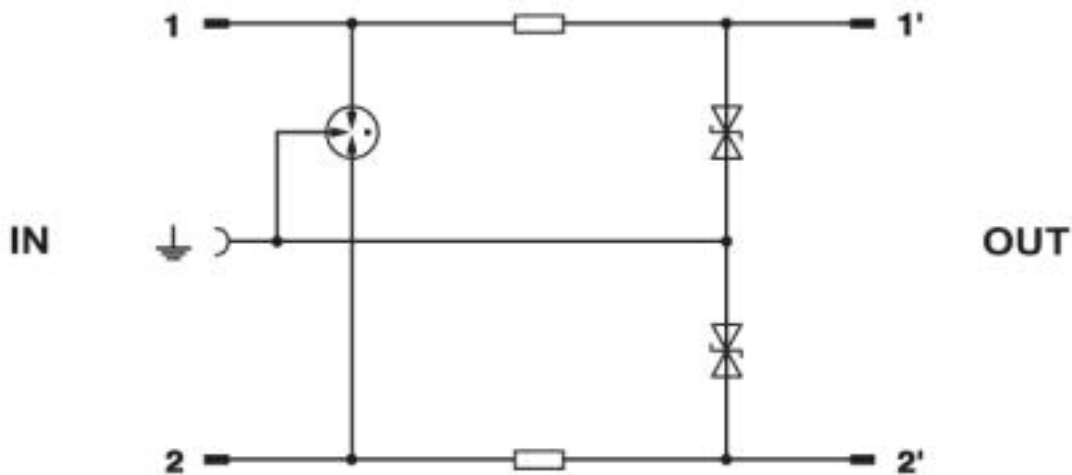


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Pictogram



Circuit diagram



## Classifications

eCl@ss

eCl@ss 4.0	27130800
eCl@ss 4.1	27130800
eCl@ss 5.0	27130800
eCl@ss 5.1	27130800
eCl@ss 6.0	27130800
eCl@ss 7.0	27130807

# Surge protection plug - CTM 2X1- 24DC - 2838500

## Classifications

### eCl@ss

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
ETIM 7.0	EC000943

### UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620
UNSPSC 18.0	39121620
UNSPSC 19.0	39121620
UNSPSC 20.0	39121620
UNSPSC 21.0	39121620

## Approvals

### Approvals

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#### Approvals

UL Listed / EAC

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#### Ex Approvals

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### Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 138168
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EAC		RU C- DE.A*30.B01561
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## Surge protection plug - CTM 2X1- 24DC - 2838500

### Accessories

#### Necessary add-on products

Disconnect strip - CT 10-TL - 2765356



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

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Grounding rail - CT 1-10-ES - 2765547



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

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Screw termination block - CT-TERMIBLOCK 10 DA - 0441711



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

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Magazine - CTM 10-MAG - 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

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### Additional products

Mounting clip - CT 10-MB/ 3 - 2765372



Mounting clip, for holding 3 disconnect or ground wire strips. Version: 10 double conductors, dimensions: A 104.5 mm, B 65 mm.

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## Surge protection plug - CTM 2X1- 24DC - 2838500

### Accessories

Mounting clip - CT 10-MB/10 - 2765385



Mounting clip, for holding 10 disconnect or ground wire strips. Version: 10 double conductors, dimensions: A 104.5 mm, dimensions B 245.5 mm

Cable feed-through sleeve - CT-KDT - 2765518



Cable bush for assembly troughs, for protection of the lines guided through the laminated frame

Short-circuit connector - CTM EST - 2838649



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

Shield connection - SSA 3-6 - 2839295



Shield fast connection for 3 ... 6 mm cable diameter. Potential connecting cable: 200 mm, 1 mm<sup>2</sup>, color: black

Shield connection - SSA 5-10 - 2839512



Shield fast connection for 5 ... 10 mm cable diameter. Potential connecting cable: 200 mm, 1 mm<sup>2</sup>, color: black