

## Surge protection plug - CTM 2X1-180DC-GS-P - 2838623

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LSA-PLUS protective plug (COMTRAB CTM) with power cross and coarse surge protection for 2 signal lines.  
Nominal voltage: 180 V DC

### Product Features

- 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



### Key commercial data

Packing unit	1 pc
Weight per Piece (excluding packing)	8.34 GRM
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)	-40 °C ... 85 °C
Degree of protection	IP20

#### General

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### Technical data

#### General

Housing material	PA
Inflammability class according to UL 94	V0
Color	black
Standards for air and creepage distances	DIN VDE 0110-1
	IEC 60664-1
Surge voltage category	II
Pollution degree	2
Mounting type	On CT-TERMIBLOCK and LSA-PLUS disconnect strip
Type	LSA-PLUS module
Direction of action	Line-Line & Line-Earth Ground
Arrester can be tested with CHECKMASTER from software version:	From SW rev. 2.20
Near-end crosstalk attenuation aN between adjacent articles	70 dB (up to 1 MHz 100 Ω system)
	50 dB (up to 10 MHz 100 Ω system)
	30 dB (up to 100 MHz, 100 Ω system)

#### Protective circuit

IEC test classification	A2
	B1
	B2
	B3
	C1
	C2
	C3
	D1
	D2
VDE requirement class	A2
	B1
	B2
	B3
	C1
	C2
	C3
	D1
	D2
Nominal voltage $U_N$	180 V DC
Maximum continuous operating voltage $U_C$	± 180 V DC
Maximum continuous voltage $U_C$ (wire-ground)	± 180 V DC

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### Technical data

#### Protective circuit

Nominal current $I_N$	120 mA (25 °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) $\mu\text{s}$ (Core-Earth)	5 kA
Total surge current (8/20) $\mu\text{s}$	10 kA
Total surge current (10/350) $\mu\text{s}$	2.5 kA
Max. discharge current $I_{max}$ (8/20) $\mu\text{s}$ maximum (Core-Earth)	10 kA (in total)
Nominal pulse current $I_{an}$ (10/1000) $\mu\text{s}$ (Core-Earth)	200 A
Impulse discharge current (10/350) $\mu\text{s}$ , peak value $I_{imp}$	1 kA
Output voltage limitation at 1 kV/ $\mu\text{s}$ (Core-Earth) spike	$\leq 800 \text{ V}$
Output voltage limitation at 1 kV/ $\mu\text{s}$ (Core-Earth) static	$\leq 800 \text{ V}$
Residual voltage at $I_n$ , (conductor-ground)	$\leq 70 \text{ V}$
Residual voltage with $I_{an}$ (10/1000) $\mu\text{s}$ (conductor-ground)	$\leq 28 \text{ V}$
Voltage protection level $U_P$ (Core-Earth)	$\leq 900 \text{ V}$ (C2, 10 kV/5 kA, spike)
	$\leq 70 \text{ V}$ (C2, 10 kV/5 kA, static)
	$\leq 1 \text{ kV}$ (C3, 7.5 kV/100 A, spike)
	$\leq 30 \text{ V}$ (C3, 7.5 kV/100 A, static)
Response time $t_A$ (Core-Earth)	$\leq 100 \text{ ns}$
Input attenuation $a_E$ , asym.	0.5 dB ( $\leq 10 \text{ MHz}$ )
	0.6 dB (up to 60 MHz in 100 $\Omega$ system)
	1 dB (Up to 100 MHz, 100 $\Omega$ )
Cut-off frequency $f_g$ (3 dB), asym. (PE) in 100 Ohm system	$> 100 \text{ MHz}$
Capacity (Core-Earth)	5 pF ( $f=1 \text{ MHz} / V_R=0 \text{ V}$ )
Resistance in series	5.5 $\Omega \pm 1.5 \Omega$ (symmetry: $\pm 0.5 \Omega$ )
	5.5 $\Omega$ ( $\pm 1.5 \Omega$ )
Surge current resistance (conductor-ground)	C2 (4 kV / 2 kA)
	C3 - 100 A
	B2 - 4 kV/100 A
	D1 - 1 kA
Alternating current carrying capacity (conductor-ground)	5 A - 1 s

#### Connection data

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

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## Technical data

### Connection, equipotential bonding

Connection method	Spring contact
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### Standards and Regulations

Standards/regulations	IEC 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

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Approvals

GOST / UL Listed

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Ex Approvals

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## Approvals

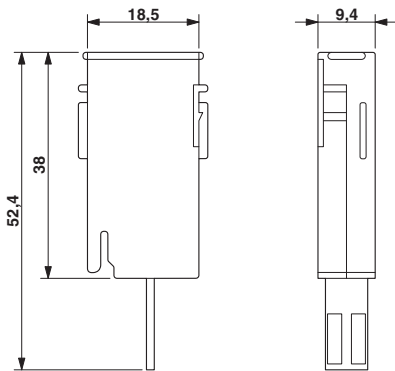
Approvals submitted

## Approval details



## Drawings

Dimensioned drawing



Circuit diagram

