

# CTM 1X2- 24DC - Surge protection plug

2838513

<https://www.phoenixcontact.com/us/products/2838513>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



LSA-PLUS plug (COMTRAB CTM) with protection for conductor pairs in floating signal circuits.  
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	2838513
Packing unit	10 pc
Minimum order quantity	1 pc
Sales key	CL03
Product key	CL3211
GTIN	4017918819545
Weight per piece (including packing)	9 g
Weight per piece (excluding packing)	9 g
Customs tariff number	85363010
Country of origin	DE

# CTM 1X2- 24DC - Surge protection plug

2838513

<https://www.phoenixcontact.com/us/products/2838513>

## 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
Wire pairs per module	1

### Insulation characteristics

Overvoltage category	II
Pollution degree	2

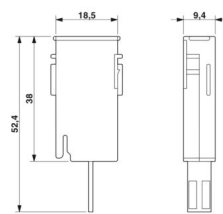
### Electrical properties

Nominal voltage $U_N$	24 V DC
-----------------------	---------

### Connection data

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

### Dimensions

Dimensional drawing	
Width	9.5 mm
Height	21 mm
Depth	53.5 mm

# CTM 1X2- 24DC - Surge protection plug



2838513

<https://www.phoenixcontact.com/us/products/2838513>

## Material specifications

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

## Mechanical properties

### Mechanical data

Open side panel	No
-----------------	----

## Protective circuit

Direction of action	Line-Line & Line-Earth Ground
Nominal voltage $U_N$	24 V DC
Maximum continuous operating 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
Protective conductor current $I_{PE}$	$\leq 2$ $\mu$ A
Nominal discharge current $I_n$ (8/20) $\mu$ s (line-line)	5 kA
Nominal discharge current $I_n$ (8/20) $\mu$ s (line-ground)	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-line)	100 A
Nominal pulse current $I_{an}$ (10/1000) $\mu$ s (line-earth)	100 A
Output voltage limitation at 1 kV/ $\mu$ s (line-line) spike	$\leq 70$ V
Output voltage limitation at 1 kV/ $\mu$ s (line-earth) spike	$\leq 700$ V
Output voltage limitation at 1 kV/ $\mu$ s (line-line) static	$\leq 70$ V
Output voltage limitation at 1 kV/ $\mu$ s (line-earth) static	$\leq 700$ V
Residual voltage at $I_n$ (conductor-conductor)	$\leq 45$ V
Residual voltage at $I_n$ (conductor-ground)	$\leq 60$ V
Residual voltage with $I_{an}$ (10/1000) $\mu$ s (line-line)	$\leq 25$ V
Residual voltage with $I_{an}$ (10/1000) $\mu$ s (line-earth)	$\leq 12$ V
Voltage protection level $U_p$ (line-line)	$\leq 70$ V (C2 - 10 kV / 5 kA)
	$\leq 45$ V (C3, 7.5 kV/100 A)
Voltage protection level $U_p$ (line-earth)	$\leq 700$ V (C2 - 10 kV / 5 kA)
	$\leq 700$ V (C3, 7.5 kV/100 A)
Voltage protection level $U_p$ static (line-line)	$\leq 45$ V (C2 - 10 kV / 5 kA)
	$\leq 25$ V (C3, 7.5 kV/100 A)
Voltage protection level $U_p$ static (line-earth)	$\leq 60$ V (C2 - 10 kV / 5 kA)
	$\leq 12$ V (C3, 7.5 kV/100 A)
Response time $t_A$ (line-line)	$\leq 1$ ns

# CTM 1X2- 24DC - Surge protection plug



2838513

<https://www.phoenixcontact.com/us/products/2838513>

Response time $t_A$ (line-earth)	$\leq 100$ ns
Input attenuation aE, sym.	0.3 dB ( $\leq 600$ kHz)
Cut-off frequency $f_g$ (3 dB), sym. in 100 $\Omega$ system	2.7 MHz
Capacity (Core-Core)	1.2 nF ( $f=1$ MHz / $V_R=0$ V)
Resistance per path	3.3 $\Omega$ 10 %
Surge protection fault message	none
Impulse durability (line-line)	C2 - 4 kV / 2 kA C3 - 100 A B2 - 4 kV / 100 A
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

### Ambient conditions

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

## Standards and regulations

VDE requirement class	B2
	C1
	C2
	C3
	D1

### Standards Information technology specification

Standards/regulations	IEC 61643-21 IEC 61643-21
-----------------------	------------------------------

### Air clearances and creepage distances

Standards/regulations	DIN VDE 0110-1 / IEC 60664-1
Standards/specifications	IEC 61643-21
Note	2000

## Mounting

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

# CTM 1X2- 24DC - Surge protection plug

2838513

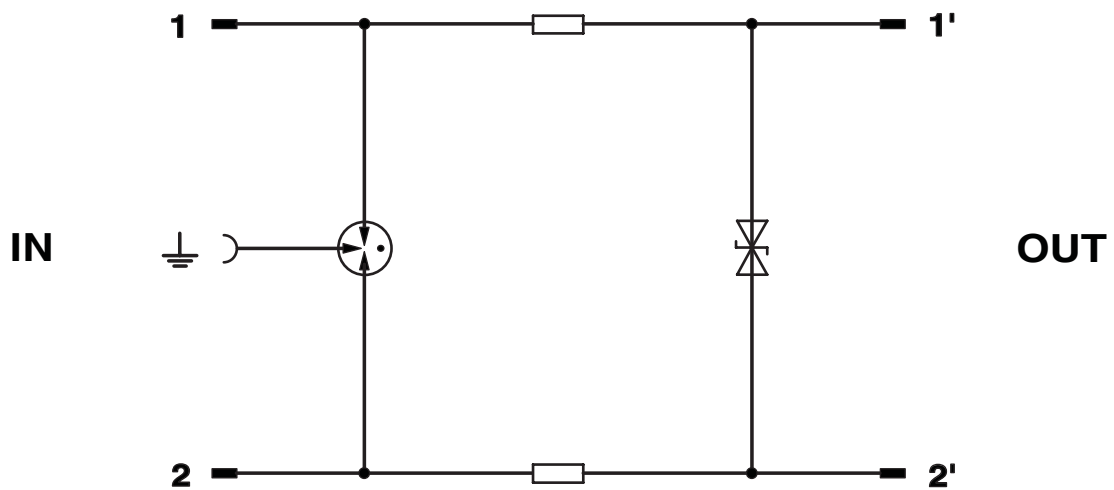
<https://www.phoenixcontact.com/us/products/2838513>

## Drawings

Dimensional drawing



Circuit diagram



# CTM 1X2- 24DC - Surge protection plug



2838513

<https://www.phoenixcontact.com/us/products/2838513>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2838513>



**UL Listed**

Approval ID: FILE E 138168

# CTM 1X2- 24DC - Surge protection plug



2838513

<https://www.phoenixcontact.com/us/products/2838513>

## Classifications

### ECLASS

ECLASS-13.0	27171501
ECLASS-15.0	27171501

### ETIM

ETIM 10.0	EC001466
-----------	----------

### UNSPSC

UNSPSC 21.0	39121600
-------------	----------

# CTM 1X2- 24DC - Surge protection plug



2838513

<https://www.phoenixcontact.com/us/products/2838513>

## 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	036fd3f2-d580-489a-b880-f2700503b4bd

### EF3.1 Climate Change

CO2e kg	1.542 kg CO2e
---------	---------------

Phoenix Contact 2026 © - all rights reserved  
<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)