

# CTM 1X2- 24DC


Order No.: 2838513



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LSA-PLUS plug (COMTRAB CTM) with protection for conductor pairs in floating signal circuits. Nominal voltage: 24 V DC



Commercial data	
GTIN (EAN)	 4 017918 819545
Note	Made-to-order
sales group	J460
Pack	10 pcs.
Customs tariff	85363010
Catalog page information	Page 114 (TT-2009)

### Product notes

WEEE/RoHS-compliant since:  
06/07/2006



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## Technical data

General	
Housing material	PA
Inflammability class acc. to UL 94	V0
Color	black

Standards for air and creepage distances	DIN VDE 0110-1
	IEC 60664-1: 1992-10
Surge voltage category	II
Pollution degree	2
Total surge current (8/20) $\mu$ s	10 kA
Total surge current (10/350) $\mu$ s	2.5 kA
Ambient temperature (operation)	-25 °C ... 75 °C
Mounting type	On CT-TERMIBLOCK and LSA-PLUS disconnect strip
Design	LSA-PLUS module
Number of positions	2
Degree of protection	IP20
Direction of action	Line-Line & Line-Earth Ground
Arrester can be tested with CHECKMASTER from software version:	From SW rev. 1.10
Width	9.50 mm
Height	53.50 mm
Length	21.00 mm

**Protective circuit**

IEC category	B2
	C1
	C2
	C3
	D1
VDE requirement class	B2
	C1
	C2
	C3
	D1
Nominal voltage $U_N$	24 V DC
Maximum continuous operating voltage $U_C$	$\pm$ 30 V DC
	21 V AC
Maximum continuous voltage $U_C$ (wire-wire)	$\pm$ 30 V DC
	21 V AC
Maximum continuous voltage $U_C$ (wire-ground)	72 V DC
Nominal current $I_N$	380 mA (25°C)

Operating effective current $I_c$ at $U_c$	$\leq 5 \mu A$
Ground conductor current $I_{PE}$	$\leq 2 \mu A$
Nominal discharge surge current $I_n$ (8/20) $\mu s$ (Core-Core)	5 kA
Nominal discharge surge current $I_n$ (8/20) $\mu s$ (Core-Earth)	5 kA
Total surge current (8/20) $\mu s$	10 kA
Max. discharge surge current $I_{max}$ (8/20) $\mu s$ maximum (Core-Earth)	10 kA (in total)
Nominal pulse current $I_{an}$ (10/1000) $\mu s$ (Core- Core)	100 A
Nominal pulse current $I_{an}$ (10/1000) $\mu s$ (Core- Earth)	100 A
Lightning test current (10/350) $\mu s$ , peak value $I_{imp}$	1 kA
Output voltage limitation at 1 kV/ $\mu s$ (Core-Core) spike	$\leq 70 V$
Output voltage limitation at 1 kV/ $\mu s$ (Core-Earth) spike	$\leq 700 V$
Output voltage limitation at 1 kV/ $\mu s$ (Core-Core) static	$\leq 70 V$
Output voltage limitation at 1 kV/ $\mu s$ (Core-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) $\mu s$ (conductor- conductor)	$\leq 25 V$
Residual voltage with $I_{an}$ (10/1000) $\mu s$ (conductor- ground)	$\leq 12 V$
Protection level $U_p$ (Core-Core)	$\leq 70 V$ (C2, 10 kV/5 kA, spike) $\leq 45 V$ (C2, 10 kV/5 kA, static) $\leq 45 V$ (C3, 7.5 kV/100 A, spike) $\leq 25 V$ (C3, 7.5 kV/100 A, static)
Protection level $U_p$ (Core-Earth)	$\leq 700 V$ (C2, 10 kV/5 kA, spike) $\leq 60 V$ (C2, 10 kV/5 kA, static) $\leq 700 V$ (C3, 7.5 kV/100 A, spike) $\leq 12 V$ (C3, 7.5 kV/100 A, static)
Response time $t_A$ (Core-Core)	$\leq 1 ns$
Response time $t_A$ (Core-Earth)	$\leq 100 ns$
Input attenuation $a_E$ , sym.	0.3 dB ( $\leq 600 kHz$ )

Cut-off frequency $f_g$ (3 dB), sym. in 100 Ohm system	2.7 MHz
Capacity (Core-Core)	1.2 nF ( $f=1$ MHz / $V_R=0$ V)
Resistance in series	3.3 $\Omega$ 10 %
	3.3 $\Omega$
Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)	C2 (4 kV/2 kA)
	C3 (100 A)
	B2 (4 kV / 100 A)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)	C2 (4 kV / 2 kA)
	C3 (100 A)
	B2 (4 kV / 100 A)
	D1 (1 kA)
Alternating current carrying capacity in acc. with IEC 61643-21 (Core-Earth)	5 A - 1 s

**Connection data**

Type of connection	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

**Connection, equipotential bonding**

Type of connection	Spring contact
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**Connection, protective circuit**

Standards/regulations	IEC 61643-21
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**Certificates / Approvals**



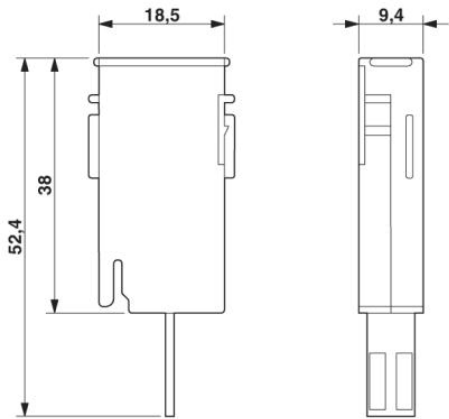
Certification GOST, UL

### Additional products

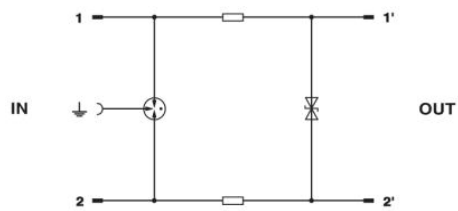
Item	Designation	Description
<b>Assembly</b>		
0441711	CT-TERMIBLOCK 10 DA	Screw termination block with disconnect contacts for accommodating protective plugs CT and CTM. Use in MCR and telecommunications systems. Design: 10 double wires
2839295	SSA 3-6	shield fast connections for conductor diameter 3 - 6 mm. Potential connection cable: 200 mm, black
2839512	SSA 5-10	Shield fast connection for conductor diameters 5 - 10 mm. Potential connection cable: 200 mm, black
<b>General</b>		
2765547	CT 1-10-ES	Ground rail for CTM protective plug when used in combination with LSA-PLUS disconnect strip. Version: 10 double conductors
2765372	CT 10-MB/ 3	Mounting clip, for holding 3 disconnect or ground wire strips. Version: 10 double conductors, dimensions: A 104.5 mm, B 65 mm.
2765385	CT 10-MB/10	Mounting clip, for holding 10 disconnect or ground wire strips. Version: 10 double conductors, dimensions: A 104.5 mm, dimensions B 245.5 mm
2765356	CT 10-TL	LSA-PLUS disconnect strip to hold the CTM and CT 10 protection modules. Version: 10 double conductors, dimension A: 124 mm.
2765518	CT-KDT	Cable bush for assembly troughs, for protection of the lines guided through the laminated frame
2838610	CTM 10-MAG	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
2838649	CTM EST	LSA-PLUS grounding plug (COMTRAB CTM) to short-circuit and ground potentials in CT-TERMIBLOCK... and disconnect strip CT 10...

## Diagrams/Drawings

### Dimensioned drawing



### Circuit diagram



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