

Type 2 surge arrester - VAL-SEC-T2-3S-175-FM - 2905354

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Plug-in surge arrester, in accordance with Type 2/Class II, for 3-phase power supply networks with separate N and PE (5-conductor system: L1, L2, L3, N, PE), with remote indication contact.

Your advantages

- ✓ Varistor arrester with a low leakage current
- ✓ High-performance gas-filled surge arrester for N/PE protection
- ✓ Extremely narrow design, just 12 mm per position
- ✓ High continuous voltage of 175 V AC for 120/208 V AC networks with high voltage fluctuations
- ✓ Pluggable
- ✓ Low voltage protection level of 0.85 kV
- ✓ Optical, mechanical status indicator
- ✓ With floating remote indication contact
- ✓ Plugs can be checked with CHECKMASTER 2



Key commercial data

package_quantity	1
GTIN	4046356948029

Technical data

Dimensions

Height	97.9 mm
Width	49.2 mm
Depth	74.5 mm
Horizontal pitch	2.7 Div.

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	≤ 2000 m (amsl (above mean sea level))
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	30g (half sinus / 11 ms / 3x ±X, ±Y, ±Z)

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Technical data

Ambient conditions

Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)
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General

IEC test classification	II
IEC test classification	T2
EN type	T2
IEC power supply system	TN-S
IEC power supply system	TT
Mode of protection	L-N
Mode of protection	L-PE
Mode of protection	N-PE
Mounting type	DIN rail: 35 mm
Color	light grey RAL 7035
Color	traffic grey A RAL 7042
Housing material	PA 6.6-FR 20% GF
Housing material	PBT-FR
Degree of pollution	2
Flammability rating according to UL 94	V-0
Design	DIN rail module, two-section, divisible
Number of positions	4
Surge protection fault message	Optical, remote indicator contact

Protective circuit

Nominal voltage U_N	120/208 V AC (TN-S)
Nominal voltage U_N	120/208 V AC (TT)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous operating voltage U_C (L-N)	175 V AC
Maximum continuous operating voltage U_C (L-PE)	175 V AC
Maximum continuous voltage U_C (N-PE)	150 V AC
Rated load current I_L	40 A (Biconnect M4 fork-type cable lug 6 mm ²)
Rated load current I_L	63 A (TWIN ferrule 2 x 10 mm ²)
Residual current I_{PE}	≤ 1 μA
Nominal discharge current I_n (8/20) μs	20 kA
Maximum discharge current I_{max} (8/20) μs	40 kA
Follow current interrupt rating I_{fi} (N-PE)	100 A (150 V AC)
Short-circuit current rating I_{SCCR}	25 kA (in case of 315 A gG backup fuse)
Short-circuit current rating I_{SCCR}	50 kA (in case of 200 A gG backup fuse)
Voltage protection level U_p (L-N)	≤ 0.85 kV
Voltage protection level U_p (L-PE)	≤ 1.3 kV
Voltage protection level U_p (N-PE)	≤ 0.95 kV
Residual voltage U_{res} (L-N)	≤ 0.85 kV (at I_n)

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Protective circuit

Residual voltage U_{res} (L-N)	≤ 0.75 kV (at 10 kA)
Residual voltage U_{res} (L-N)	≤ 0.65 kV (at 5 kA)
Residual voltage U_{res} (L-N)	≤ 0.63 kV (at 4 kA)
Residual voltage U_{res} (L-N)	≤ 0.57 kV (at 2 kA)
Residual voltage U_{res} (N-PE)	≤ 0.4 kV (at I_n)
Residual voltage U_{res} (N-PE)	≤ 0.4 kV (at 10 kA)
Residual voltage U_{res} (N-PE)	≤ 0.4 kV (at 5 kA)
Residual voltage U_{res} (N-PE)	≤ 0.4 kV (at 4 kA)
Residual voltage U_{res} (N-PE)	≤ 0.4 kV (at 2 kA)
TOV behavior at U_T (L-N)	240 V AC (5 s / withstand mode)
TOV behavior at U_T (L-N)	240 V AC (120 min / safe failure mode)
TOV behavior at U_T (N-PE)	1200 V AC (200 ms / withstand mode)
Response time t_A (L-N)	≤ 25 ns
Response time t_A (L-PE)	≤ 100 ns
Response time t_A (N-PE)	≤ 100 ns
Max. backup fuse with branch wiring	315 A (gG)
Max. backup fuse with V-type through wiring	40 A (gG / Biconnect M4 fork-type cable lug, 6 mm ²)
Max. backup fuse with V-type through wiring	63 A (gG / TWIN ferrule 2x 10mm ²)

Indicator/remote signaling

Switching function	PDT contact
Operating voltage	5 V AC ... 250 V AC
Operating voltage	125 V DC (200 mA DC)
Operating current	5 mA AC ... 1 A AC
Operating current	1 A DC (30 V DC)
Connection method	Pluggable screw connection
Screw thread	M2
Tightening torque	0.25 Nm
Stripping length	7 mm
Conductor cross section flexible	0.14 mm ² ... 1.5 mm ²
Conductor cross section solid	0.14 mm ² ... 1.5 mm ²
Conductor cross section AWG	28 ... 16

Connection data

Connection method	Screw connection
Screw thread	M5
Tightening torque	4.5 Nm
Stripping length	16 mm
Conductor cross section flexible	2.5 mm ² ... 16 mm ²
Conductor cross section solid	2.5 mm ² ... 25 mm ²
Conductor cross section AWG	12 ... 4

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UL specifications

SPD Type	4CA
Maximum continuous operating voltage MCOV (L-L)	350 V AC
Maximum continuous operating voltage MCOV (L-N)	175 V AC
Maximum continuous operating voltage MCOV (L-G)	175 V AC
Maximum continuous operating voltage MCOV (N-G)	150 V AC
Nom. voltage	120/208 V AC
Mode of protection	L-L
Mode of protection	L-N
Mode of protection	L-G
Mode of protection	N-G
Power distribution system	3Y
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (L-L)	2010 V
Measured limiting voltage MLV (L-N)	1510 V
Measured limiting voltage MLV (L-G)	1630 V
Measured limiting voltage MLV (N-G)	560 V
Nominal discharge current I_n (L-L)	20 kA
Nominal discharge current I_n (L-N)	20 kA
Nominal discharge current I_n (L-G)	20 kA
Nominal discharge current I_n (N-G)	20 kA

UL indicator/remote signaling

Operating voltage	125 V AC
Operating current	1 A AC
Tightening torque	2 lb _F -in. ... 4 lb _F -in.
Conductor cross section AWG	30 ... 14

UL connection data

Conductor cross section AWG	14 ... 2 (solid)
Conductor cross section AWG	14 ... 4 (stranded)
Tightening torque	40 lb _F -in. ... 50 lb _F -in.

Standards and Regulations

Standards/regulations	IEC 61643-11 2011
Standards/regulations	EN 61643-11 2012

Classifications

eCl@ss

eCl@ss 5.1	27130801
eCl@ss 6.0	27130805
eCl@ss 8.0	27130805
eCl@ss 9.0	27130805

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Classifications

ETIM

ETIM 5.0	EC000941
ETIM 6.0	EC000941

UNSPSC

UNSPSC 13.2	39121620
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Approvals

UL Recognized / KEMA-KEUR / cUL Recognized / CCA / IEC EE CB Scheme / GL / EAC / cULus Recognized /

Approval details

UL Recognized 
KEMA-KEUR 
cUL Recognized 
CCA
IECEE CB Scheme 
GL 
EAC 
cULus Recognized 

Accessories

End block

CLIPFIX 35 - 3022218



Marker pen

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Accessories

X-PEN 0,35 - 0811228



Device marking

EML (20XE)R - 0803452



EML (20XE)R YE - 0803453



ZBN 18:UNBEDRUCKT - 2809128



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Labeled device marker

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Accessories

ZBN 18,LGS:L1-N,ERDE - 2749576



ZBN 18,LGS:ERDE - 2749589



Terminal marking

ZBFM 5/WH:UNBEDRUCKT - 0803595



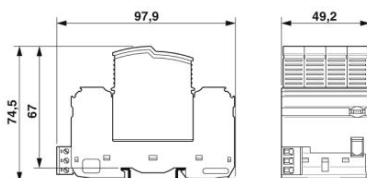
Accessories

ZBN 18:SO/CMS - 0800763



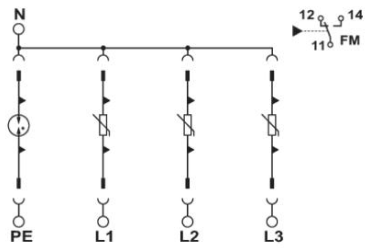
Drawings

Dimensional drawing



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Circuit diagram



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