

Type 2 surge arrester - VAL-SEC-T2-1S-175-FM - 2905348

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Plug-in surge arrester, in accordance with Type 2/Class II, for 1-phase power supply networks with separate N and PE (3-conductor system: L1, N, PE), with remote indication contact.

Why buy this product

- ✓ Varistor arrester free of leakage current
- ✓ High-performance gas-filled surge arrester for N/PE protection
- ✓ Extremely narrow design, just 12 mm per position
- ✓ High continuous voltage of 350 V AC for 230/400 V AC networks with high voltage fluctuations
- ✓ Pluggable
- ✓ Low voltage protection level of 1.5 kV
- ✓ Optical, mechanical status indicator
- ✓ With floating remote indication contact as an option
- ✓ Plugs can be checked with CHECKMASTER 2



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 948036
Weight per Piece (excluding packing)	213.2 g
Custom tariff number	85363030
Country of origin	Germany

Technical data

Dimensions

Height	97.9 mm
Width	25.4 mm
Depth	74.5 mm
Horizontal pitch	1.4 Div.

Ambient conditions

Degree of protection	IP20
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Ambient conditions

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

General

Standards/specifications	IEC 61643-11 2011
	EN 61643-11 2012
IEC test classification	II
	T2
EN type	T2
IEC power supply system	TT
	TN-S
Number of ports	One
SPD design	Combination type
Mode of protection	L-N
	N-PE
Mounting type	DIN rail: 35 mm
Color	light grey RAL 7035
	traffic grey A RAL 7042
Housing material	PA 6.6-FR 20% GF
	PBT-FR
Pollution degree	2
Inflammability class according to UL 94	V-0
Type	DIN rail module, two-section, divisible
Number of positions	2
Surge protection fault message	Optical, remote indicator contact

Protective circuit

Nominal voltage U_N	120 V AC (TN-S)
	120 V AC (TT)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous operating voltage U_C (L-N)	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)
	63 A (TWIN ferrule 2 x 10 mm ²)
Residual current I_{PE}	≤ 1 µA
Nominal discharge current I_n (8/20) µs (L-N)	20 kA
Nominal discharge current I_n (8/20) µs (N-PE)	20 kA

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Protective circuit

Maximum discharge current $I_{\max}$ (8/20) μs (L-N)	40 kA
Maximum discharge current $I_{\max}$ (8/20) μs (N-PE)	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)
	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 (N-PE)	≤ 0.95 kV
Residual voltage U_{res} (L-N)	≤ 0.85 kV (at I_n)
	≤ 0.75 kV (at 10 kA)
	≤ 0.65 kV (at 5 kA)
	≤ 0.63 kV (at 4 kA)
	≤ 0.57 kV (at 2 kA)
Residual voltage U_{res} (N-PE)	≤ 0.4 kV (at I_n)
	≤ 0.4 kV (at 10 kA)
	≤ 0.4 kV (at 5 kA)
	≤ 0.4 kV (at 4 kA)
	≤ 0.4 kV (at 2 kA)
Front of wave sparkover voltage at 6 kV (1.2/50) μs (N-PE)	≤ 0.95 kV
TOV behavior at U_T (L-N)	240 V AC (5 s / withstand mode)
	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 (N-PE)	≤ 100 ns
Max. backup fuse with branch wiring	315 A AC (gG)
Max. backup fuse with V-type through wiring	40 A AC (gG / Biconnect M4 fork-type cable lug, 6 mm ²)
	63 A AC (gG / TWIN ferrule 2x 10mm ²)

Indicator/remote signaling

Connection name	Remote fault indicator contact
Switching function	PDT contact
Operating voltage	5 V AC ... 250 V AC
	125 V AC (UL)
	125 V DC (200 mA DC)
Operating current	5 mA AC ... 1 A AC
	1 A AC (UL)
	1 A DC (30 V DC)
Connection method	Pluggable screw connection
Screw thread	M2
Tightening torque	0.25 Nm
	2 lb _f -in. ... 4 lb _f -in. (UL)

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Indicator/remote signaling

Stripping length	7 mm
Conductor cross section flexible min.	0.14 mm ²
Conductor cross section flexible max.	1.5 mm ²
Conductor cross section solid min.	0.14 mm ²
Conductor cross section solid max.	1.5 mm ²
AWG conductor cross section	28 ... 16
	30 ... 14 (UL)

Connection data

Connection method	Screw connection
Conductor cross section flexible min.	2.5 mm ²
Conductor cross section flexible max.	16 mm ²
Conductor cross section solid min.	2.5 mm ²
Conductor cross section solid max.	25 mm ²
AWG conductor cross section	12 ... 4
	14 ... 2 (Solid - UL)
	14 ... 4 (Stranded - UL)
Screw thread	M5
Tightening torque	4.5 Nm
	40 lb _F -in. ... 50 lb _F -in. (UL)
Stripping length	16 mm

UL specifications

UL class	Type 4 SPD for Type 2 applications
Maximum continuous operating voltage MCOV (L-N)	175 V AC
Maximum continuous operating voltage MCOV (L-G)	325 V AC
Maximum continuous operating voltage MCOV (N-G)	150 V AC
Nom. voltage	120 V AC
Mode of protection	L-N
	L-G
	N-G
Power distribution system	1
Nominal frequency	50/60 Hz
Voltage protection rating VPR (L-N)	0.7 kV
Voltage protection rating VPR (L-G)	1.2 kV
Voltage protection rating VPR (N-G)	0.9 kV
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
Follow current (N-G)	200 A (150 V AC)

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Classifications

eCl@ss

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

ETIM

ETIM 5.0	EC000941
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Approvals

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UL Recognized / KEMA-KEUR / cUL Recognized / CCA / IECCEB Scheme / GL / EAC / cULus Recognized

Ex Approvals

Approvals submitted

Approval details

UL Recognized 

KEMA-KEUR 

cUL Recognized 

CCA

IECCEB Scheme 

GL

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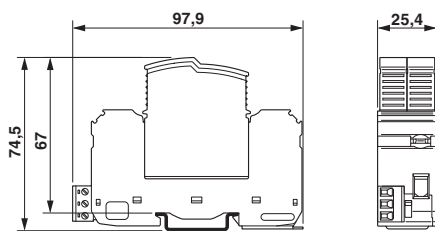
Approvals

EAC

cULus Recognized 

Drawings

Dimensional drawing



Circuit diagram

