

## Type 2 surge arrester - VAL-SEC-T2-2S-175-FM - 2905351

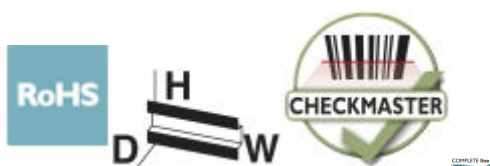
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Plug-in surge arrester, in accordance with Type 2/Class II, for 2-phase power supply networks with separate N and PE (4-conductor system: L1, L2, N, PE), with remote indication contact.

### 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

Packing unit	1 pc
GTIN	 4 046356 948241
GTIN	4046356948241

### Technical data

#### Dimensions

Height	97.9 mm
Width	37.3 mm
Depth	74.5 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	2 Div.

#### Ambient conditions

Degree of protection	IP20
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## Technical data

### 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-sine / 11 ms / 3x ±X, ±Y, ±Z)
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

### General

IEC test classification	II
	T2
EN type	T2
IEC power supply system	TN-S
	TT
Mode of protection	L-N
	L-PE
	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
Degree of pollution	2
Flammability rating according to UL 94	V-0
Type	DIN rail module, two-section, divisible
Number of positions	3
Surge protection fault message	Optical, remote indicator contact

### Protective circuit

Nominal voltage $U_N$	120/208 V AC (TN-S)
	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 <sup>2</sup> )
	63 A (TWIN ferrule 2 x 10 mm <sup>2</sup> )
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)

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### Protective circuit

	50 kA (in case of 200 A gG backup fuse)
Voltage protection level $U_p$ (L-N)	$\leq 0.85$ kV
Voltage protection level $U_p$ (L-PE)	$\leq 1.3$ kV
Voltage protection level $U_p$ (N-PE)	$\leq 0.95$ kV
Residual voltage $U_{res}$ (L-N)	$\leq 0.85$ kV (at $I_n$ )
	$\leq 0.75$ kV (at 10 kA)
	$\leq 0.65$ kV (at 5 kA)
	$\leq 0.63$ kV (at 4 kA)
	$\leq 0.57$ kV (at 2 kA)
Residual voltage $U_{res}$ (N-PE)	$\leq 0.4$ kV (at $I_n$ )
	$\leq 0.4$ kV (at 10 kA)
	$\leq 0.4$ kV (at 5 kA)
	$\leq 0.4$ kV (at 4 kA)
	$\leq 0.4$ kV (at 2 kA)
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)	$\leq 25$ ns
Response time $t_A$ (L-PE)	$\leq 100$ ns
Response time $t_A$ (N-PE)	$\leq 100$ ns
Max. backup fuse with V-type through wiring	40 A (gG / Biconnect M4 fork-type cable lug, 6 mm <sup>2</sup> )
	63 A (gG / TWIN ferrule 2x 10mm <sup>2</sup> )
Max. backup fuse with branch wiring	315 A (gG)

### Indicator/remote signaling

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

### Connection data

Connection method	Screw connection
Screw thread	M5

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### Connection data

Tightening torque	4.5 Nm
Stripping length	16 mm
Conductor cross section flexible	2.5 mm <sup>2</sup> ... 16 mm <sup>2</sup>
Conductor cross section solid	2.5 mm <sup>2</sup> ... 25 mm <sup>2</sup>
Conductor cross section AWG	12 ... 4
Connection method	Fork-type cable lug
Conductor cross section flexible	1.5 mm <sup>2</sup> ... 6 mm <sup>2</sup>

### 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
	L-N
	L-G
	N-G
Power distribution system	Wye
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 <sub>n</sub> (L-L)	20 kA
Nominal discharge current I <sub>n</sub> (L-N)	20 kA
Nominal discharge current I <sub>n</sub> (L-G)	20 kA
Nominal discharge current I <sub>n</sub> (N-G)	20 kA

### UL indicator/remote signaling

Operating voltage	125 V AC
Operating current	1 A AC
Tightening torque	2 lb <sub>F</sub> -in. ... 4 lb <sub>F</sub> -in.
Conductor cross section AWG	30 ... 14

### UL connection data

Conductor cross section AWG	14 ... 2 (solid)
	14 ... 4 (flexible)
Tightening torque	40 lb <sub>F</sub> -in. ... 50 lb <sub>F</sub> -in.

### Standards and Regulations

Standards/regulations	IEC 61643-11 2011
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## Technical data

### Standards and Regulations

	EN 61643-11 2012
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### Environmental Product Compliance

	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Approvals

### Approvals

#### Approvals


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

#### Ex Approvals


### Approval details


DNV GL		<a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a>	TAE000023D
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CCA			NTR-NL 7347
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UL Recognized		<a href="http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm</a>	FILE E 330181
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KEMA-KEUR		<a href="http://www.dekra-certification.com">http://www.dekra-certification.com</a>	2196453.01
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cUL Recognized		<a href="http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm</a>	FILE E 330181
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IECEE CB Scheme		<a href="http://www.iecee.org/">http://www.iecee.org/</a>	NL-34356
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### Approvals



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