

VAL-EV-T1/T2 264/12.5/3+1-R - Lightning/surge arrester type 1/2



1180150

<https://www.phoenixcontact.com/us/products/1180150>

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CHARX protect advanced: Plug-in lightning surge/surge protective device, in accordance with Type 1/2 / Class I/II, for 3-phase power supply networks with separate N and PE (5-conductor system: L1, L2, L3, N, PE), with remote indication contact. Specifically designed for use in e-mobility.

Your advantages

- Uninterrupted continuation of the charging process with a protected power supply
- Additional protection for the connected electric vehicle
- High system availability, thanks to a high-performance protective circuit
- Easy insulation measurement and simple replacement during servicing with consistently pluggable protective devices
- No mismatching of plugs, thanks to mechanical coding

Commercial data

Item number	1180150
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	CL1151
GTIN	4063151215330
Weight per piece (including packing)	672.5 g
Weight per piece (excluding packing)	643.8 g
Country of origin	DE

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Technical data

Product properties

IEC test classification	I / II
	I
	T1 / T2
EN type	T1 / T2
IEC power supply system	TN-S
	TT
Type	DIN rail module, two-section, divisible
Product type	Arrester combination
Product family	VALVETRAB MS
Number of positions	4
Surge protection fault message	Optical, remote indicator contact

Insulation characteristics

Overvoltage category	III
Pollution degree	2

Electrical properties

Nominal frequency f_N	50 Hz (60 Hz)
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Indicator/remote signaling

Connection name	Remote fault indicator contact
Switching function	Changeover contact
Operating voltage	5 V AC ... 250 V AC
	30 V DC
Operating current	5 mA AC ... 1.5 A AC
	1 A DC

Connection data

Connection method	Screw connection
Screw thread	M5
Tightening torque	3 Nm (1.5 mm ² ... 16 mm ²)
	4.5 Nm (25 mm ² ... 35 mm ²)
Stripping length	16 mm
Conductor cross section flexible	1.5 mm ² ... 25 mm ²
Conductor cross section rigid	1.5 mm ² ... 35 mm ²
Conductor cross section AWG	15 ... 2
Connection method	Fork-type cable lug
Conductor cross section flexible	1.5 mm ² ... 16 mm ²

Remote fault indicator contact

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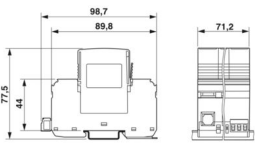


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Connection method	Plug-in/screw connection via COMBICON
Screw thread	M2
Tightening torque	0.25 Nm
Stripping length	7 mm
Conductor cross section flexible	0.14 mm ² ... 1.5 mm ²
Conductor cross section rigid	0.14 mm ² ... 1.5 mm ²
Conductor cross section AWG	28 ... 16

Dimensions

Dimensional drawing	
Width	71.2 mm
Height	98.7 mm
Depth	77.5 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	4 Div.

Material specifications

Color	light grey (RAL 7035)
Flammability rating according to UL 94	V-0
CTI value of material	600
Insulating material	PA 6.6/PBT
Material group	I
Housing material	PA 6.6 PBT

Mechanical properties

Mechanical data

Open side panel	No
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Protective circuit

Mode of protection	L-N
	L-PE
	N-PE
Direction of action	3L-N & N-PE
Nominal voltage U_N	240/415 V AC (TN-S)
	240/415 V AC (TT)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous voltage U_C	264 V AC
Rated load current I_L	80 A

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Residual current I_{PE}	$\leq 5 \mu A$
Standby power consumption P_C	$\leq 810.00 \text{ mVA}$
Nominal discharge current I_n (8/20) μs (L-N)	12.5 kA
Nominal discharge current I_n (8/20) μs (L-PE)	12.5 kA
Nominal discharge current I_n (8/20) μs (N-PE)	50 kA
Maximum discharge current I_{max} (8/20) μs	50 kA
Impulse discharge current (10/350) μs (L-N), charge	6.25 As
Impulse discharge current (10/350) μs (L-N), specific energy	39 kJ/ Ω
Impulse discharge current (10/350) μs (L-N), peak current value I_{imp}	12.5 kA
Impulse discharge current (10/350) μs (L-PE), charge	6.25 As
Impulse discharge current (10/350) μs (L-PE), specific energy	39 kJ/ Ω
Impulse discharge current (10/350) μs (L-PE), peak current value I_{imp}	12.5 kA
Impulse discharge current (10/350) μs (N-PE), charge	25 As
Impulse discharge current (10/350) μs (N-PE), specific energy	625 kJ/ Ω
Impulse discharge current (10/350) μs (N-PE), peak current value I_{imp}	50 kA
Total discharge current I_{total} (8/20) μs	50 kA
Total discharge current I_{total} (10/350) μs	50 kA
Follow current interrupt rating I_{fi} (N-PE)	100 A
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p (L-N)	$\leq 1.2 \text{ kV}$ $\leq 1.6 \text{ kV}$ (30 kA - 8/20 μs)
Voltage protection level U_p (L-PE)	$\leq 2 \text{ kV}$
Voltage protection level U_p (N-PE)	$\leq 1.7 \text{ kV}$
Residual voltage U_{res} (L-N)	$\leq 1.2 \text{ kV}$ (at I_n) $\leq 1.1 \text{ kV}$ (at 10 kA) $\leq 1 \text{ kV}$ (at 5 kA) $\leq 0.9 \text{ kV}$ (at 3 kA)
Residual voltage U_{res} (L-PE)	$\leq 2 \text{ kV}$ (at I_n) $\leq 1.5 \text{ kV}$ (at 10 kA) $\leq 1.2 \text{ kV}$ (at 5 kA) $\leq 1.1 \text{ kV}$ (at 3 kA)
Residual voltage U_{res} (N-PE)	$\leq 0.6 \text{ kV}$ (at I_n) $\leq 0.5 \text{ kV}$ (at 10 kA) $\leq 0.5 \text{ kV}$ (at 5 kA) $\leq 0.4 \text{ kV}$ (at 3 kA)
TOV behavior at U_T (L-N)	415 V AC (5 s / withstand mode) 457 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)	$\leq 25 \text{ ns}$
Response time t_A (L-PE)	$\leq 100 \text{ ns}$

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Response time t_A (N-PE)	≤ 100 ns
Max. backup fuse with V-type through wiring	80 A (gG - 16 mm ²)
Max. backup fuse with branch wiring	160 A (gG)

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20 (only when all terminal points are used)
Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	≤ 2000 m (amsl)
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	30g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z)
Vibration (operation)	7.5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

Standards and regulations

Standards/specifications	IEC 61643-11
Note	2011
Standards/specifications	EN 61643-11
Note	2012

Mounting

Mounting type	DIN rail: 35 mm
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Classifications

ECLASS

ECLASS-11.0	27130802
ECLASS-13.0	27171201

ETIM

ETIM 9.0	EC000381
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UNSPSC

UNSPSC 21.0	39121600
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Environmental product compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

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