

SFP 1-10/120AC - EMC filter surge protection device



2920670

<https://www.phoenixcontact.com/us/products/2920670>

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Device protection, according to type 3/class III, with mains interference filter to prevent high-frequency interference voltages, for 1-phase power supply networks with separate N and PE (3-conductor system: L1, N, PE), with remote indication contact.

Product description

Device protection with interference filter

Your advantages

- Optimized protective effect with combined protective circuit for absorbing transient overvoltages for attenuating high-frequency interference
- Symmetrical design of the protective circuit with surge protection components on the input and output sides of the filter
- Protection against excessive heating with thermal monitoring of the protective circuit
- Versatile in use with universal circuit design

Commercial data

| | |
|--------------------------------------|---------------------|
| Item number | 2920670 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | CL06 |
| Product key | CLC131 |
| Catalog page | Page 209 (C-4-2019) |
| GTIN | 4046356158480 |
| Weight per piece (including packing) | 614.3 g |
| Weight per piece (excluding packing) | 571.28 g |
| Customs tariff number | 85363010 |
| Country of origin | DE |

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Technical data

Notes

General

| | |
|------|---|
| Note | For IT systems: only install the device in 120 V IT systems with common HV/LV grounding system. |
|------|---|

Product properties

| | |
|--------------------------------|-----------------------------------|
| IEC power supply system | TN |
| | TT |
| | IT |
| Type | DIN rail module, one-piece |
| Product type | EMC filters |
| Product family | SFP |
| Number of positions | 2 |
| For country-specific use in | USA, CN, BR |
| Surge protection fault message | Optical, remote indicator contact |

Insulation characteristics

| | |
|-------------------------|-----|
| Overvoltage category | III |
| Pollution degree | 2 |
| IEC test classification | III |
| | T3 |
| EN type | T3 |
| Number of ports | Two |

Electrical properties

Indicator/remote signaling

| | |
|--------------------|--------------------------------|
| Connection name | Remote fault indicator contact |
| Switching function | Changeover contact |
| Operating voltage | 12 V AC ... 250 V AC |
| | 250 V DC (250 mA DC) |
| Operating current | 100 mA AC ... 1 A AC |
| | 1 A DC (48 V DC) |

Connection data

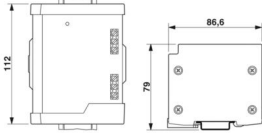
| | |
|----------------------------------|---|
| Connection method | Screw terminal blocks |
| Screw thread | M3 |
| Tightening torque | 0.5 Nm ... 0.6 Nm |
| | 4.5 lb _f -in. ... 5.5 lb _f -in. |
| Conductor cross section flexible | 2.5 mm ² ... 4 mm ² |
| Conductor cross section rigid | 2.5 mm ² ... 6 mm ² |
| Conductor cross section AWG | 14 ... 10 |

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Dimensions

| | |
|---------------------|--|
| Dimensional drawing |  |
| Width | 112 mm |
| Height | 86.6 mm |
| Depth | 79 mm |

Material specifications

| | |
|--|----------------------------|
| Color | black (RAL 9005) Silver |
| Flammability rating according to UL 94 | V-0 |
| Insulating material | ABS |
| Housing material | Aluminum |

Mechanical properties

Mechanical data

| | |
|-----------------|----|
| Open side panel | No |
|-----------------|----|

Protective circuit

| | |
|--|--|
| Mode of protection | L-N L-PE N-PE |
| Direction of action | L-N & L(N)-PE |
| Nominal voltage U_N | 120 V AC (TN) 120 V AC (TT - only in use with RCD) 120 V AC (IT) |
| Nominal frequency f_N | 50 Hz (60 Hz) |
| Maximum continuous voltage U_C | 150 V AC |
| Rated load current I_L | 10 A (60 °C) |
| Residual current I_{PE} | ≤ 0.6 mA |
| Standby power consumption P_C | ≤ 7.50 VA (at U_{REF}) ≤ 10.00 VA (at U_C) |
| Reference test voltage U_{REF} | 132.00 V AC |
| Nominal discharge current I_n (8/20) μ s | 3 kA |
| Combination wave U_{OC} | 6 kV (3 kA) |
| Voltage protection level U_p | ≤ 0.45 kV |
| TOV behavior at U_T (L-N) | 175 V AC (5 s / withstand mode) 240 V AC (5 s / safe failure mode) |

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| | |
|---|--|
| | 208 V AC (120 min / safe failure mode) |
| TOV behavior at U_T (L-PE) | 208 V AC (5 s / withstand mode) |
| | 175 V AC (120 min / withstand mode) |
| | 1332 V AC (200 ms / safe failure mode) |
| TOV behavior at U_T (N-PE) | 1200 V AC (200 ms / safe failure mode) |
| Response time t_A | ≤ 25 ns |
| Capacity (L-N) | 1 μ F ± 10 % |
| | 10 nF ± 10 % (X2-275 V) |
| Capacity (L-PE) | 2.2 nF ± 20 % (Y2-250 V) |
| Capacity (N-PE) | 2.2 nF ± 20 % (Y2-250 V) |
| Max. required back-up fuse | 20 A (MCB B/general purpose) |
| | 16 A (IT - MCB B/general purpose) |
| Input attenuation aE, sym. | 20 dB (≥ 100 kHz / 50 Ω) |
| Input attenuation aE, asym. | 30 dB (≥ 1 MHz / 50 Ω) |
| Short-circuit current rating I_{SCCR} | 5 kA AC (TN/TT) |
| | 1 kA AC (IT) |

Filter data

| | |
|----------------------|----------------|
| Discharge resistance | 820 k Ω |
|----------------------|----------------|

Environmental and real-life conditions

Ambient conditions

| | |
|---|------------------|
| Degree of protection | IP20 |
| Ambient temperature (operation) | -25 °C ... 70 °C |
| Ambient temperature (storage/transport) | -25 °C ... 70 °C |
| Permissible humidity (operation) | 5 % ... 95 % |

Approvals

UL specifications

| | |
|---|--------------|
| Maximum continuous operating voltage MCOV (L-N) | 150 V AC |
| Maximum continuous operating voltage MCOV (L-G) | 150 V AC |
| Maximum continuous operating voltage MCOV (N-G) | 150 V AC |
| Short-circuit current rating (SCCR) | 5 kA |
| Voltage protection rating VPR (L-N) | 500 V |
| Voltage protection rating VPR (L-G) | 500 V |
| Voltage protection rating VPR (N-G) | 500 V |
| Nominal discharge current I_n | 3 kA |
| Mode of protection | L-N |
| | L-G |
| | N-G |
| Power distribution system | Single phase |
| Nominal frequency | 50/60 Hz |
| SPD Type | 2CA |

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UL indicator/remote signaling

| | |
|----------------------|----------------------|
| Operating voltage | 12 V AC ... 250 V AC |
| DC operating voltage | 250 V DC (250 mA DC) |
| AC operating current | 100 mA AC ... 1 A AC |
| DC operating current | 1 A DC (48 V DC) |

UL connection data

| | |
|-----------------------------|---|
| Tightening torque | 5 lb _f -in. ... 7 lb _f -in. |
| Conductor cross section AWG | 12 ... 10 |

Standards and regulations

Air clearances and creepage distances

| | |
|--------------------------|--|
| Standards/regulations | DIN VDE 0110-1 / IEC 60664-1 / IEC 61643-1 |
| 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 | 27130806 |
| ECLASS-13.0 | 27171203 |

ETIM

| | |
|----------|----------|
| ETIM 9.0 | EC000942 |
|----------|----------|

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 39121600 |
|-------------|----------|

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Environmental product compliance

| | |
|------------|--|
| REACH SVHC | Lead 7439-92-1 |
| | Dechlorane Plus |
| | Hexahydromethylphthalic anhydride |
| China RoHS | Environmentally Friendly Use Period = 50 years |
| | For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads" |

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Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com