

FLT-MB-T1-264/25-3+1-UT-R - Type 1+2+3 combined lightning current and surge arresters



1461304

<https://www.phoenixcontact.com/us/products/1461304>

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Compact, non-pluggable lightning current/surge arrester free of leakage current based on wear-free carbon spark gap technology for 3-phase power supply networks with separate N and PE (5-conductor system: L1, L2, L3, N, PE), suitable for use in the unmetered area, discharge capacity of up to 100 kA for lightning protection levels I and II, with remote signaling.

Your advantages

- Safe operation and maximum system availability, thanks to reliable protection in the event of lightning current and surge voltages using innovative high-performance spark gap technology
- Maximum performance in the smallest installation space for all common power supply systems
- Suitable for use in the unmetered area, thanks to a protective circuit free of leakage current, and to a mechanical visual status indicator
- Space-saving and inexpensive installation, thanks to the slim overall width
- Informed at all times about the function of the protective effect, thanks to clear green/red indicator and optional remote indication contact

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 1461304 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Product key | CL11D2 |
| GTIN | 4063151851767 |
| Weight per piece (including packing) | 604.7 g |
| Weight per piece (excluding packing) | 565 g |
| Country of origin | CN |

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Technical data

Product properties

| | |
|--------------------------------|-----------------------------------|
| Product type | Combination type |
| IEC test classification | I + II + III |
| | T1 + T2 + T3 |
| EN type | T1 + T2 + T3 |
| IEC power supply system | TN-S |
| | TT |
| Type | DIN rail module, one-piece |
| Number of positions | 4 |
| Surge protection fault message | Optical, remote indicator contact |
| Number of ports | One |

Insulation characteristics

| | |
|----------------------|------------------------|
| Overvoltage category | IV (main circuit) |
| | II (Auxiliary circuit) |
| Pollution degree | 2 |

Electrical properties

| | |
|-------------------------|---------------|
| Nominal frequency f_N | 50 Hz (60 Hz) |
|-------------------------|---------------|

Indicator/remote signaling

| | |
|--------------------|--------------------------------|
| Connection name | Remote fault indicator contact |
| Switching function | Changeover contact |
| Operating voltage | 12 V AC ... 250 V AC |
| | 125 V DC (200 mA DC) |
| Operating current | 10 mA AC ... 0.5 A AC |
| | 0.5 A DC (30 V DC) |

Connection data

| | |
|----------------------------------|---|
| Connection method | Screw connection |
| Screw thread | M5 |
| Tightening torque | 3 Nm (2,5 mm ² ... 16 mm ²) |
| | 4.5 Nm (25 mm ² ... 35 mm ²) |
| Stripping length | 18 mm |
| Conductor cross-section flexible | 2.5 mm ² ... 25 mm ² |
| Conductor cross-section rigid | 2.5 mm ² ... 35 mm ² |
| Conductor cross-section AWG | 13 ... 2 |
| Connection method | Fork-type cable lug |
| Conductor cross-section flexible | 2.5 mm ² ... 25 mm ² |

Remote fault indicator contact

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| | |
|----------------------------------|---|
| Connection method | Plug-in/screw connection via COMBICON |
| Screw thread | M2 |
| Tightening torque | 0.5 Nm ... 0.6 Nm |
| Stripping length | 7 mm |
| Conductor cross-section flexible | 0.2 mm ² ... 2.5 mm ² |
| Conductor cross-section rigid | 0.2 mm ² ... 2.5 mm ² |
| Conductor cross-section AWG | 24 ... 12 |

Dimensions

| | |
|---------------------|---------------------------------|
| Dimensional drawing | |
| Width | 72 mm |
| Height | 99.7 mm |
| Depth | 76.6 mm (incl. DIN rail 7.5 mm) |
| Horizontal pitch | 4 Div. |

Material specifications

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

Mechanical properties

Mechanical data

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

Protective circuit

| | |
|--|---------------------|
| Mode of protection | L-N |
| | L-PE |
| | 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 operating voltage U_C | 264 V AC |
| Rated load current I_L | 80 A (< 55 °C) |
| Protective conductor current I_{PE} | ≤ 0.01 mA |
| Nominal discharge current I_n (8/20) μs (L-N) | 25 kA |
| Nominal discharge current I_n (8/20) μs (L-PE) | 25 kA |

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| | |
|---|---|
| Nominal discharge current I_n (8/20) μ s (N-PE) | 100 kA |
| Combination wave U_{OC} | 6 kV |
| Impulse discharge current (10/350) μ s (L-N), charge | 12.5 As |
| Impulse discharge current (10/350) μ s (L-N), specific energy | 156 kJ/ Ω |
| Impulse discharge current (10/350) μ s (L-N), peak current value I_{imp} | 25 kA |
| Impulse discharge current (10/350) μ s (L-PE), charge | 12.5 As |
| Impulse discharge current (10/350) μ s (L-PE), specific energy | 156 kJ/ Ω |
| Impulse discharge current (10/350) μ s (L-PE), peak current value I_{imp} | 25 kA |
| Impulse discharge current (10/350) μ s (N-PE), charge | 50 As |
| Impulse discharge current (10/350) μ s (N-PE), specific energy | 2500 kJ/ Ω |
| Impulse discharge current (10/350) μ s (N-PE), peak current value I_{imp} | 100 kA |
| Total discharge current I_{Total} (10/350) μ s | 100 kA |
| Follow current quenching capacity I_{fi} (L-N) | 50 kA |
| Follow current interrupt rating I_{fi} (N-PE) | 100 A |
| Short-circuit current rating I_{SCCR} | 50 kA |
| Voltage protection level U_p (L-N) | ≤ 1.5 kV |
| Voltage protection level U_p (L-PE) | ≤ 2.5 kV |
| Voltage protection level U_p (N-PE) | ≤ 1.5 kV |
| Residual voltage U_{res} (L-N) | ≤ 1.5 kV (at I_n) ≤ 1.3 kV (at 12.5 kA) ≤ 1.1 kV (at 5 kA) ≤ 1 kV (at 2.5 kA) |
| Residual voltage U_{res} (L-PE) | ≤ 1.7 kV (at I_n) ≤ 1.5 kV (at 12.5 kA) ≤ 1.3 kV (at 5 kA) ≤ 1.2 kV (at 2.5 kA) |
| Residual voltage U_{res} (N-PE) | ≤ 1.5 kV (at I_n) ≤ 1.3 kV (at 50 kA) ≤ 1.1 kV (at 20 kA) ≤ 1 kV (at 10 kA) |
| TOV behavior at U_T (L-N) | 457 V AC (5 s / withstand mode) 457 V AC (120 min / withstand mode) |
| TOV behavior at U_T (N-PE) | 1200 V AC (200 ms / withstand mode) |
| Response time t_A | ≤ 100 ns |
| Max. backup fuse with V-type through wiring | 80 A (gG) |
| Max. backup fuse with branch wiring | 315 A (gG) |

Environmental and real-life conditions

Ambient conditions

| | |
|----------------------|------------------|
| Degree of protection | IP20 (Installed) |
|----------------------|------------------|

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| | |
|---|---|
| Ambient temperature (operation) | -40 °C ... 85 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Altitude | ≤ 2000 m (operating voltage remote contact ≤ 250 V) |
| | ≤ 5000 m (operating voltage remote contact ≤ 150 V) |
| Permissible humidity (operation) | 5 % ... 95 % |
| Shock (operation) | 2g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z) |
| Vibration (operation) | 0,5g (9 ... 200 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 |
|---------------|-----------------|

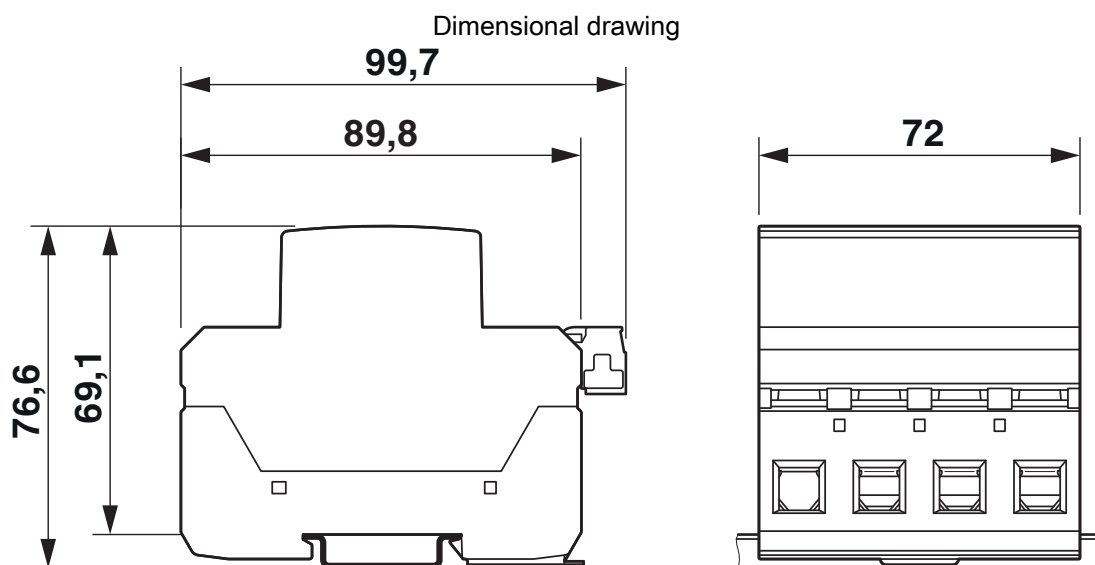
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Drawings



Schematic diagram

| Conductor cross section | Altitude | | | |
|-------------------------|----------|----------|----------|----------|
| | ≤ 2000 m | ≤ 3000 m | ≤ 4000 m | ≤ 5000 m |
| ≥ 10 mm ² | - | 1 mm | 2 mm | 3 mm |
| ≥ 10 mm ² | - | 1 mm | 2 mm | 3 mm |
| ≤ 10 mm ² | 1 mm | 2 mm | 2 mm | 3 mm |
| ≥ 16 mm ² | 2 mm | 3 mm | 4 mm | n/a |
| ≥ 25 mm ² | 3 mm | n/a | n/a | n/a |

Table 1: Minimum lateral distance to active and grounded conductive parts

Schematic diagram

| Altitude | ≤ 2000 m | > 2000 m ... ≤ 5000 m |
|--|---|---|
| Rated voltage | 12 V ... 250 V AC 12 V ... 30 V DC (10 mA ... 500 mA DC) 30 V DC ... 125 V DC (10 mA ... 200 mA DC) | 12 V ... 150 V AC 12 V ... 30 V DC (10 mA ... 500 mA DC) 30 V DC ... 125 V DC (10 mA ... 200 mA DC) |
| Insulation type between main and auxiliary circuit | Double / Reinforced insulation | Basic insulation |

Table 2: Technical data for remote fault indicator contact

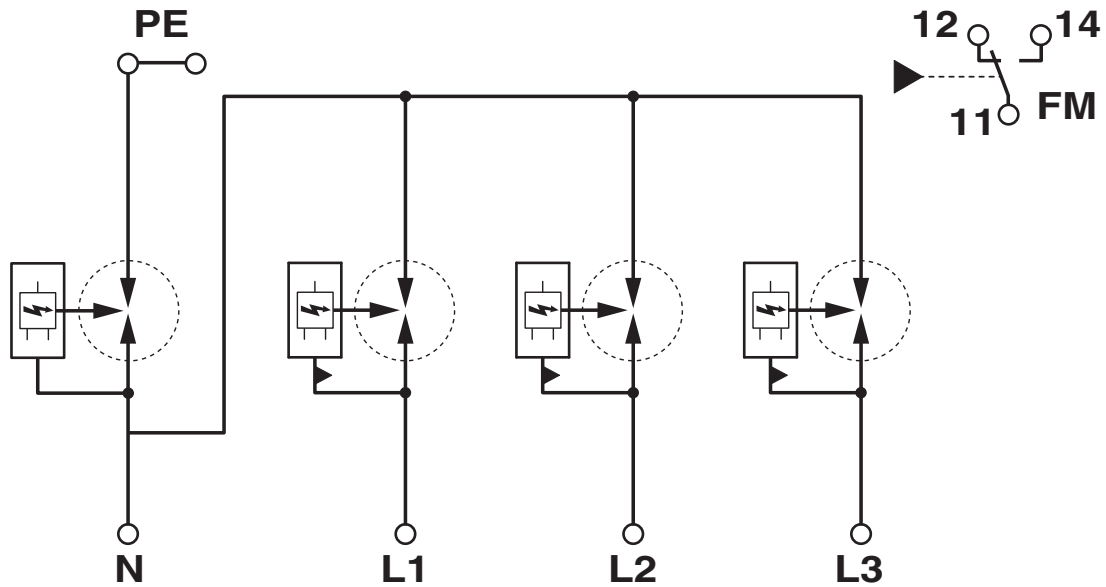
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Circuit diagram



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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1461304>



KEMA-KEUR

Approval ID: 71-136866



IECEE CB Scheme

Approval ID: NL-109225

CCA

Approval ID: NTR NL-8051

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27171201 |
| ECLASS-15.0 | 27171201 |

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | EC000381 |
|-----------|----------|

UNSPSC

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

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Environmental product compliance

EU RoHS

| | |
|---|--------------------|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |
|---|--------------------|

China RoHS

| | |
|--|--|
| Environment friendly use period (EFUP) | EFUP-E |
| | No hazardous substances above the limits |

EU REACH SVHC

| | |
|-------------------------------------|----------------------------|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

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