# EMD-BL-V-230-PT - Monitoring relay

2903524

https://www.phoenixcontact.com/us/products/2903524

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Monitoring relay for monitoring 1-phase voltages of 24 V AC/DC or 230 V AC, undervoltage or window, 1 changeover contact, with Push-in connection

## Product description

Safety and system availability requirements are constantly on the increase – across all industries. Processes are becoming more and more complex, not only in machine building and the chemical industry but also in building technology. The demands placed on energy technology are also constantly on the rise.
It is only by continuously monitoring key network and system parameters that error-free and therefore cost-effective operation can be achieved. Electronic monitoring relays from the EMD series are available for a wide range of monitoring tasks so that the consequences of errors can be avoided or kept within limits.
The operating states are signaled via color LEDs and any errors that occur can be sent to a controller via a floating contact or can shut down a section of the system. All device versions are equipped with response delays so that measured values outside the set monitoring range can be briefly tolerated.

## Commercial data

| | |
|---|---|
| Item number | 2903524 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | C440 |
| Product key | DK6481 |
| GTIN | 4046356747288 |
| Weight per piece (including packing) | 73 g |
| Weight per piece (excluding packing) | 71.5 g |
| Customs tariff number | 85364900 |
| Country of origin | AT |

# Technical data

## Product properties

| | |
|---|---|
| Product type | Voltage monitoring relay |
| Operating mode | 100% operating factor |
| Mechanical service life | 15x $10^6$ cycles |

### Insulation characteristics

| | |
|---|---|
| Insulation | Basic insulation |
| Overvoltage category | III |
| Pollution degree | 2 |

## Electrical properties

| | |
|---|---|
| Service life electrical | 1x $10^5$ cycles |
| Mains type | 1-phase |
| Rated insulation voltage | 300 V (Supply circuit) |
| | 250 V (Output circuit) |
| Rated surge voltage | 4 kV |

### Supply

| | |
|---|---|
| Supply voltage | -25 % ... +20 % (= measuring voltage) |
| Supply voltage range | -25 % ... +20 % (= measuring voltage) |
| Type of supply voltage | AC/DC |
| Nominal power consumption | 10 VA (At 230 V AC (0.6 W)) |
| | 1.3 VA (At 24 V AC (0.8 W)) |
| | 0.6 W (at 24 V DC) |

## Input data

| | |
|---|---|
| Input name | Measuring input |
| Measured value | DC, AC sine (48 Hz ... 63 Hz) |
| Input voltage range | 0 V DC ... 24 V DC (Connection terminal blocks: U1 and GND) |
| | 0 V AC ... 24 V AC (Connection terminal blocks: U2 and GND) |
| | 0 V AC ... 230 V AC (Connection terminal blocks: U3 and GND) |
| Frequency range | 48 Hz ... 63 Hz |
| Maximum temperature coefficient | ≤ 0.05 % |
| Setting range for response delay | 0.1 s ... 10 s |
| Min. setting range | 75 % ... 115 % (From $U_N$) |
| Max. setting range | 80 % ... 120 % (From $U_N$) |
| Function | Undervoltage |
| | Window |
| Basic accuracy | ≤ 5 % (of scale end value) |
| Setting accuracy | ± 5 % (of scale end value) |
| Repeat accuracy | ≤ 2 % |
| Recovery time | > 500 ms |

## Output data

Switching

| | |
|---|---|
| Contact switching type | 1 floating changeover contact |
| Maximum switching voltage | 250 V AC (in acc. with IEC 60664-1) |
| Interrupting rating (ohmic load) max. | 1250 VA (5 A / 250 V AC) |
| Output fuse | 5 A (fast-blow) |

## Connection data

| | |
|---|---|
| Connection method | Push-in connection |
| Stripping length | 8 mm |
| Conductor cross-section rigid | 0.14 mm² ... 2.5 mm² |
| Conductor cross-section flexible | 0.14 mm² ... 2.5 mm² |
| Conductor cross-section AWG | 26 ... 14 |

## Signaling

| | |
|---|---|
| Status display | LED (yellow) |
| Operating voltage display | Green LED |
| Error indication | Red LED |

## Dimensions

| | |
|---|---|
| Width | 17.5 mm |
| Height | 89.5 mm |
| Depth | 65.5 mm |

## Material specifications

| | |
|---|---|
| Color | gray (RAL 7042) |
| Housing insulation material | Polyamide PA 6.6, self-extinguishing |

## Environmental and real-life conditions

Ambient conditions

| | |
|---|---|
| Degree of protection (Housing) | IP40 (Housing) |
| Degree of protection (Connection terminal blocks) | IP20 (Connection terminal blocks) |
| Ambient temperature (operation) | -25 °C ... 55 °C |
| Ambient temperature (storage/transport) | -25 °C ... 70 °C |
| Climatic class | 3K3 (in acc. with EN 60721) |
| Permissible humidity (operation) | 15 % ... 85 % |

## Approvals

CE

| | |
|---|---|
| Certificate | CE-compliant |

UL, USA/Canada

| | |
|---|---|
| Identification | UL/C-UL Listed UL 508 |

## EMC data

| | |
|---|---|
| Electromagnetic compatibility | Conformance with EMC directive |
| Low Voltage Directive | Conformance with Low Voltage Directive |
| Noise immunity | EN 61000-6-2 |

Noise emission

| | |
|---|---|
| Standards/regulations | EN 61000-6-3 |

## Standards and regulations

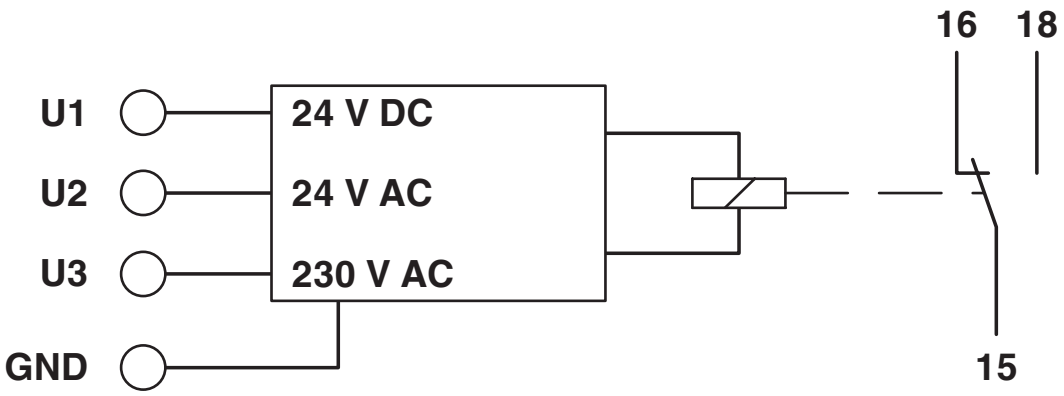
| | |
|---|---|
| Standards/regulations | DIN EN 60947-5-1 |

## Mounting

| | |
|---|---|
| Mounting type | DIN rail mounting |
| Assembly note | on standard DIN rail NS 35 in accordance with EN 60715 |
| Mounting position | any |

## Drawings

Block diagram



## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2903524

**UL Listed**
Approval ID: FILE E 172140

**cUL Listed**
Approval ID: FILE E 172140

## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-13.0 | 27371801 |
| ECLASS-15.0 | 27371801 |

### ETIM

| | |
|---|---|
| ETIM 10.0 | EC001438 |

### UNSPSC

| | |
|---|---|
| UNSPSC 21.0 | 41113600 |

## 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% |

EF3.1 Climate Change

| | |
|---|---|
| CO2e kg | 11.273 kg CO2e |


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