# EMD-SL-PH-400 - Monitoring relay

2866077

https://www.phoenixcontact.com/in/products/2866077

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Monitoring relay for monitoring phase sequence, phase failure and asymmetry, 342…457 V AC, supply from the measurement voltage, 2 changeover contacts

## Product Description

Increasingly higher demands are being placed on safety and system availability - across all sectors. Processes are becoming more and more complex, not only in mechanical engineering and the chemical industry, but also in plant and automation technology. Demands on power engineering are also increasing constantly.
Error-free and therefore cost-effective operation can only be achieved through continuous monitoring of important network and system parameters. Electronic monitoring relays in the EMD series are available for a wide range of monitoring tasks to avoid the consequences of errors or to keep them within limits.
The operating states are indicated using colored LEDs, errors that may occur can be sent to a control system via a floating contact or can shut down a part of the system. Some device versions are equipped with startup and response delays in order to briefly tolerate measured values outside the set monitoring range.

## Your advantages

- Variable supply voltage range

## Commercial Data

| | |
|---|---|
| Item number | 2866077 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales Key | CK4 |
| Product Key | CK4111 |
| Catalog Page | Page 253 (C-5-2019) |
| GTIN | 4017918952679 |
| Weight per Piece (including packing) | 148.98 g |
| Weight per Piece (excluding packing) | 149 g |
| Customs tariff number | 85364900 |
| Country of origin | AT |

# Technical Data

## Product properties

| | |
|---|---|
| Product type | Phase monitoring relay |
| Operating mode | 100% operating factor |
| Mechanical service life | approx. 2x $10^7$ cycles |

Insulation characteristics

| | |
|---|---|
| Insulation | Basic insulation |

Insulation characteristics

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

## Electrical properties

| | |
|---|---|
| Service life electrical | 2x $10^5$ cycles at ohmic load, 1000 VA |
| Maximum power dissipation for nominal condition | 1 W |
| Mains type | 3-phase |
| Rated insulation voltage | 300 V |
| Rated surge voltage | 4 kV |

Supply

| | |
|---|---|
| Supply voltage | From the measured voltage |
| Nominal power consumption | 9 VA |

## Input data

| | |
|---|---|
| Input name | Measuring input |
| Measured value | AC sine (48 Hz ... 63 Hz) |
| Nominal input voltage $U_N$ | 400 V (3 N ~ 400/230 V) |
| Maximum input voltage | 3 N ~ 457/264 V |
| Input resistance of voltage input | 15 kΩ |
| Frequency range | 48 Hz ... 63 Hz |
| Setting range for response delay | ≤ 350 ms (fixed setting) |
| Setting range for starting delay | ≤ 500 ms (fixed setting) |
| Min setting range of the voltage threshold value | 342 V AC |
| Max. setting range of the voltage threshold value | 457 V AC |
| Function | Phase sequence |
| | Phase failure |
| | Asymmetry |
| Asymmetry | Fixed, approx. 30 % |
| Recovery time | < 100 ms |

## Output data

Switching

| | |
|---|---|
| Contact type | 2 floating changeover contacts |
| Maximum switching voltage | 250 V AC (in acc. with IEC 60664-1) |
| Interrupting rating (ohmic load) max. | 750 VA (3 A/250 V AC, module aligned, ≤ 5 mm spacing) |
| | 1250 VA (5 A/250 V AC, module not aligned, ≥ 5 mm spacing) |
| Output fuse | 5 A (fast-blow) |

## Connection data

| | |
|---|---|
| Connection method | Screw connection |
| Stripping length | 8 mm |
| Conductor cross section rigid | 0.5 mm² ... 2.5 mm² |
| Conductor cross section flexible | 0.25 mm² ... 2.5 mm² |
| Conductor cross section AWG | 20 ... 14 |

## Dimensions

| | |
|---|---|
| Width | 22.5 mm |
| Height | 90 mm |
| Depth | 113 mm |

## Material specifications

| | |
|---|---|
| Housing insulation material | Polyamide PA, 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 |
| | -25 °C ... 40 °C (corresponds to UL 508) |
| 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

| | |
|---|---|
| Low Voltage Directive | Conformance with Low Voltage Directive |
| Noise immunity | EN 61000-6-2 |
| Electromagnetic compatibility | Conformance with EMC directive |
| Noise emission | EN 61000-6-3 |

## Standards and regulations

| | |
|---|---|
| Standards/regulations | EN 50178 |

## Mounting

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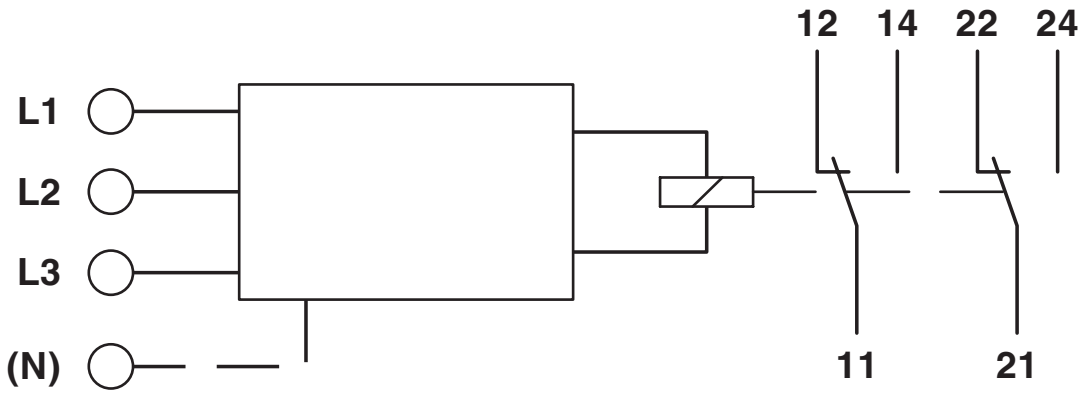
|---|---|
| Mounting type | DIN rail mounting |
| Assembly instructions | on standard DIN rail NS 35 in accordance with EN 60715 |
| Mounting position | any |

## Drawings

Block diagram



## Approvals

**EAC**
Approval ID: TR_TS_D_00573_c

**EAC**
Approval ID: RU*C-DE.*08.B.00010

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

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

## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-11.0 | 27371803 |
| ECLASS-12.0 | 27371803 |
| ECLASS-13.0 | 27371803 |

### ETIM

| | |
|---|---|
| ETIM 8.0 | EC001441 |

### UNSPSC

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|---|---|
| UNSPSC 21.0 | 39121100 |

## Environmental Product Compliance

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



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