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## Monitoring relay - EMD-FL-3V-230 - 2885773

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Monitoring relay for monitoring 3-phase voltages of 160 ... 300 V AC, undervoltage, window, phase sequence, phase failure, asymmetry, wide-range power supply unit, 2 PDTs

### 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.

### Why buy this product

- Adjustable asymmetry
- Variable supply voltage range
- Adjustable response delay
- Adjustable via potentiometer on the front



### Key Commercial Data

|              |                     |
|--------------|---------------------|
| Packing unit | 1 STK               |
| GTIN         | <br>4 046356 100786 |

### Technical data

#### Note

|                         |                                                                           |
|-------------------------|---------------------------------------------------------------------------|
| Utilization restriction | EMC: class A product, see manufacturer's declaration in the download area |
|-------------------------|---------------------------------------------------------------------------|

#### Dimensions

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

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## Technical data

### Ambient conditions

|                                         |                                          |
|-----------------------------------------|------------------------------------------|
| Ambient temperature (operation)         | -25 °C ... 55 °C                         |
|                                         | -25 °C ... 40 °C (corresponds to UL 508) |
| Ambient temperature (storage/transport) | -25 °C ... 70 °C                         |

### Input data

|                                                   |                                                                |
|---------------------------------------------------|----------------------------------------------------------------|
| Nominal input voltage $U_N$                       | 3 N ~ 230/132 V                                                |
| Maximum temperature coefficient                   | < 0.1 %/K                                                      |
| Function                                          | Undervoltage, window, asymmetry, phase sequence, phase failure |
| Min. setting range                                | -30 % ... 20 % (From $U_N$ )                                   |
| Max. setting range                                | -20 % ... 30 % (From $U_N$ )                                   |
| Min setting range of the voltage threshold value  | 161 V AC ... 276 V AC                                          |
| Max. setting range of the voltage threshold value | 184 V AC ... 299 V AC                                          |
| Setting range for response delay                  | 0.1 s ... 10 s                                                 |
| Basic accuracy                                    | ± 5 % (of scale end value)                                     |
| Setting accuracy                                  | ≤ 5 % (of scale end value)                                     |
| Repeat accuracy                                   | ≤ 2 %                                                          |
| Asymmetry                                         | 5 % ... 25 % / OFF                                             |
| Recovery time                                     | 500 ms                                                         |

### Contact side

|                                       |                                                            |
|---------------------------------------|------------------------------------------------------------|
| Contact type                          | 2 floating PDT 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)                                            |

### Power supply

|                      |                                      |
|----------------------|--------------------------------------|
| Supply voltage range | 24 V AC ... 240 V AC -15 % ... +10 % |
|                      | 24 V DC ... 240 V DC -20 % ... +25 % |

### General

|                               |                                                        |
|-------------------------------|--------------------------------------------------------|
| Mechanical service life       | Approx. $2 \times 10^7$ cycles                         |
| Operating mode                | 100% operating factor                                  |
| Mounting position             | any                                                    |
| Assembly instructions         | on standard DIN rail NS 35 in accordance with EN 60715 |
| Electromagnetic compatibility | Conformance with EMC Directive 2004/108/EC             |
| Overvoltage category          | III, basic insulation (as per EN 50178)                |
| Housing insulation material   | Polyamide PA, self-extinguishing                       |
| Color                         | green                                                  |
| Rated insulation voltage      | 300 V (According to EN 50178)                          |
| Conformance                   | CE-compliant                                           |
| UL, USA / Canada              | UL/C-UL listed UL 508                                  |

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## Technical data

### Connection data

|                                       |                      |
|---------------------------------------|----------------------|
| Conductor cross section flexible min. | 0.25 mm <sup>2</sup> |
| Conductor cross section flexible max. | 2.5 mm <sup>2</sup>  |
| Conductor cross section solid min.    | 0.5 mm <sup>2</sup>  |
| Conductor cross section solid max.    | 2.5 mm <sup>2</sup>  |
| Conductor cross section AWG min.      | 20                   |
| Conductor cross section AWG max.      | 14                   |
| Stripping length                      | 8 mm                 |
| Connection method                     | Screw connection     |

### Standards and Regulations

|                               |                                            |
|-------------------------------|--------------------------------------------|
| Electromagnetic compatibility | Conformance with EMC Directive 2004/108/EC |
| Noise emission                | EN 61000-6-4                               |
| Noise immunity                | EN 61000-6-2                               |
| Low Voltage Directive         | Conformance with LV directive 2006/95/EC   |
| Conformance                   | CE-compliant                               |
| UL, USA / Canada              | UL/C-UL listed UL 508                      |

## Classifications

### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27371105 |
| eCl@ss 4.1 | 27371105 |
| eCl@ss 5.0 | 27371801 |
| eCl@ss 5.1 | 27371801 |
| eCl@ss 6.0 | 27371801 |
| eCl@ss 7.0 | 27371801 |
| eCl@ss 8.0 | 27371801 |

### ETIM

|          |          |
|----------|----------|
| ETIM 2.0 | EC001438 |
| ETIM 3.0 | EC001438 |
| ETIM 4.0 | EC001438 |
| ETIM 5.0 | EC001438 |

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30211916 |
| UNSPSC 7.0901 | 39121535 |
| UNSPSC 11     | 39121535 |
| UNSPSC 12.01  | 39121535 |
| UNSPSC 13.2   | 39121535 |

## Monitoring relay - EMD-FL-3V-230 - 2885773

### Approvals

#### Approvals

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#### Approvals

UL Listed / cUL Listed / EAC / EAC / cULus Listed

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#### Ex Approvals

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#### Approvals submitted

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#### Approval details

UL Listed 

cUL Listed 

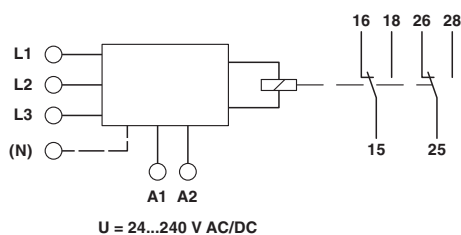
EAC

EAC

cULus Listed 

### Drawings

Block diagram



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