

# Monitoring relay - EMD-FL-3V-400 - 2866064

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Monitoring relay for monitoring 3-phase voltages of 280...520 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 via potentiometer on the front
- Variable supply voltage range
- Adjustable asymmetry
- Adjustable response delay



## Key Commercial Data

Packing unit	1 STK
GTIN	 4 017918 975029
GTIN	4017918975029

## Technical data

### Note

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

Width	22.5 mm
Height	90 mm

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## Technical data

### Dimensions

Depth	113 mm
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### 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 ~ 400/230 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	280 V AC ... 480 V AC
Max. setting range of the voltage threshold value	320 V AC ... 520 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	230 V AC
	24 V DC
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
Overvoltage category	III, basic insulation (as per EN 50178)
Housing insulation material	Polyamide PA, self-extinguishing

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## Technical data

### General

Color	green
Rated insulation voltage	300 V (acc. to EN 50178)
Conformance	CE-compliant
UL, USA/Canada	UL/C-UL listed UL 508

### 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

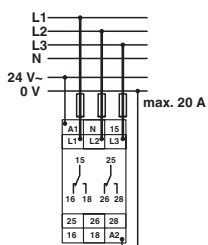
Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2
Low Voltage Directive	Conformance with Low Voltage Directive
Conformance	CE-compliant
UL, USA/Canada	UL/C-UL listed UL 508

### Environmental Product Compliance

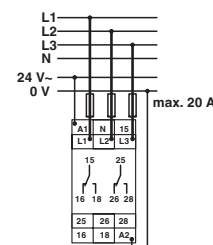
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

## Drawings

Connection diagram



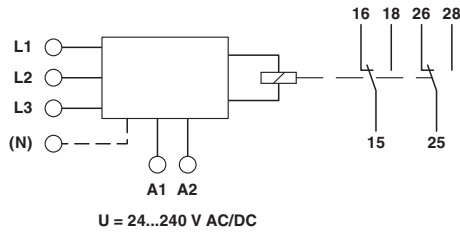
Application drawing



Connection example

# Monitoring relay - EMD-FL-3V-400 - 2866064

Block diagram



## Approvals

### Approvals

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#### Approvals

UL Listed / cUL Listed / EAC / cULus Listed

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#### Ex Approvals

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### Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 172140
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cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 172140
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EAC			RU C- DE.A*30.B.01082
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cULus Listed			
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