

# EMD-SL-PH-690 - Monitoring relay



2905597

<https://www.phoenixcontact.com/us/products/2905597>

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Monitoring relay for monitoring the phase sequence, phase failure and asymmetry of 3-phase voltages at 208 V AC ... 690 V AC, 2 changeover contacts, with screw connection

## 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.

## Commercial data

Item number	2905597
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C440
Product key	CK4111
Catalog page	Page 253 (C-5-2019)
GTIN	4046356967198
Weight per piece (including packing)	154.9 g
Weight per piece (excluding packing)	154.3 g
Customs tariff number	85364900
Country of origin	AT

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## Technical data

### Product properties

Product type	Phase monitoring relay
Operating mode	100% operating factor
Mechanical service life	20x 10 <sup>6</sup> cycles

### Insulation characteristics

Overvoltage category	III
Pollution degree	3

### Electrical properties

Service life electrical	2x 10 <sup>5</sup> cycles
Mains type	3-phase
Rated insulation voltage	250 V (Output circuit)
Rated surge voltage	6 kV

### Supply

Supply voltage	±15 % (= measuring voltage)
Nominal power consumption	2 VA (1.2 W)

### Input data

Input name	Measuring input
Measured value	AC sine (48 Hz ... 63 Hz)
Nominal input voltage U <sub>N</sub>	690 V (3~ 208 V ... 690 V)
Input voltage range	177 V ... 794 V (3~)
Maximum input voltage	3~ 794 V
Frequency range	48 Hz ... 63 Hz
Setting range for response delay	0.1 s ... 10 s
Min setting range of the voltage threshold value	177 V AC
Max. setting range of the voltage threshold value	794 V AC
Function	Undervoltage
	Phase sequence
	Phase failure
Basic accuracy	≤ 3 % (of scale end value)
Setting accuracy	≤ 5 % (of scale end value)
Repeat accuracy	≤ 2 %
Asymmetry	25 %
Recovery time	> 500 ms

### Output data

#### Switching

Contact switching type	2 floating changeover contacts
Maximum switching voltage	400 V AC

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Interrupting rating (ohmic load) max.	1250 VA (5 A/250 V AC at +55 °C)
	150 VA (5 A/30 V DC at +55 °C)
	75 VA (2.5 A/30 V DC at +70 °C)
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	0.5 mm² ... 2.5 mm²
Conductor cross section AWG	20 ... 14

## Signaling

Status display	Yellow LED
Operating voltage display	Green LED
Error indication	Red LED

## Dimensions

Width	22.5 mm
Height	90 mm
Depth	113 mm

## Material specifications

Color	green (RAL 6021)
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 ... 70 °C (C300)
	-25 °C ... 55 °C (B300)
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
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### UL, USA/Canada

Identification	UL/C-UL Listed UL 508
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## EMC data

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Low Voltage Directive	Conformance with Low Voltage Directive
Noise immunity	EN 61326-1
Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61326-1

## Standards and regulations

Standards/regulations	IEC 60664-1
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## Mounting

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

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## Classifications

### ECLASS

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

### ETIM

ETIM 9.0	EC001441
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### UNSPSC

UNSPSC 21.0	39121100
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## Environmental product compliance

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

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