

Select your language

- German
- English
- Spanish
- French
- Dutch
- Italian
- Polish
- Czech
- Russian
- Norwegian Bokmål

Worldwide English



EMR6-W380-L-1 - Phase monitoring relays, On- and Off-delayed, 380 V AC, 50/60 Hz



184777 EMR6-W380-L-1

[Overview](#) [Specifications](#) [Resources](#)



# 184777 EMR6-W380-L-1

Phase monitoring relays, On- and Off-delayed, 380 V AC, 50/60 Hz

Alternate Catalog No.

EMR6-W380-L-1

EL-Nummer (Norway)

4101973

Phase monitoring relays, Product range: EMR Measuring and monitoring relays, On- and Off-delayed, Power supply from the measuring circuit, On-delay/off-delay: none = 0 or adjustable between 0.1 - 30 s, Imbalance threshold values adjustable 2 - 25 % of mean value of phase voltages, Three-phase networks, Monitoring voltage per phase:  $U_N = 380 \text{ V AC, 50/60 Hz V AC}$ , Monitoring of: Phase sequence (can be deactivated), Phase failure, Overvoltage, Undervoltage, Supply voltage: 380 V, 50/60 Hz, Mounting position: As required, Fixing: Snap fixing, top-hat rail IEC/EN 60715, Width: 22.5 mm, Standards: IEC, UL, CSA, CCC, GL

- Delivery program
- Technical data
- Design verification as per IEC/EN 61439
- Technical data ETIM 7.0
- Approvals
- Dimensions

## Delivery program

Product range

EMR Measuring and monitoring relays

Basic function

Phase monitoring relays

Function

On- and Off-delayed

Power supply from the measuring circuit

On-delay/off-delay: none = 0 or adjustable between 0.1 - 30 s

Imbalance threshold values adjustable 2 - 25 % of mean value of phase voltages

Three-phase networks

Monitoring voltage per phase [ $U_N$ ]

380 V AC, 50/60 Hz V AC

Monitoring of

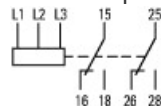
Phase sequence (can be deactivated)

Phase failure

Overvoltage

Undervoltage

Contact sequence



Supply voltage

380 V, 50/60 Hz

Width

22.5 mm

## Technical data

General

Standards

IEC, UL, CSA, CCC, GL

Lifespan, mechanical [Operations]

30 x 10<sup>6</sup>

Climatic proofing

Damp heat, cyclical to IEC 60068-2-30: 24 h cycle, 55° C, 93% relative humidity, 96 h

Ambient temperature Operation Operating ambient temperature min.

-25 °C

Ambient temperature Operation Operating ambient temperature max.

+60 °C

Ambient temperature Storage

- 40 - 85 °C

Mounting position

As required

Shock resistance

Class 2

Degree of protection Terminals

IP20

Degree of protection Enclosures

IP50

Terminal capacities Solid

1 x 0.5-2.5 (1 x 18-14 AWG) mm<sup>2</sup>

Terminal capacities Flexible with ferrule

2 x 0.5-1.5 (2 x 18-16 AWG) mm<sup>2</sup>

Standard screw driver

5.5 x 0.8 mm

Tightening torque

0.6 - 0.8 Nm

Fixing

Snap fixing, top-hat rail IEC/EN 60715

MTBF (mean time between failures)

382977 h

Contacts

Rated impulse withstand voltage [U<sub>imp</sub>]

4000 V AC

Overvoltage category/pollution degree

III/3

Power supply

Supply voltage

380 V, 50/60 Hz

Voltage tolerance

0.85 - 1.1 x U<sub>c</sub>

Power consumption

18 VA

Rated frequency [f]

50 - 60 Hz

Duty factor

100 % DF

Timing cycle

Response delay time

0.25 s

Reset delay/Off-delay time

Adjustable from 0.1 – 30 s

Time error within supply voltage

0.5 %

Time error within temperature range

0.06 %/°C

Measuring circuits

Frequency

50/60 ± 10 % Hz

Hysteresis

0..5 %

Frequency

50/60 ± 10 % Hz

Measuring cycle  
50 ms  
Temperature error  
0.06 %/°C  
Error within supply voltage  
0.5 %  
Status indication  
Supply voltage  
LED yellow  
Overvoltage  
LED red: F1 on  
Undervoltage  
LED red: F2 on  
Status indicator (LED)  
Yellow, solid: Supply voltage  
Yellow, solid (RT): Relay energized  
Yellow, flashing (RT): Delay time running  
Red, solid (F1): Overvoltage  
Red, solid (F2): Undervoltage  
Red: F1 solid, F2 flashing: Phase failure  
Red, flashing (F1 & F2 alternating): Phase sequence fault  
Relay output contacts  
Rated operational voltage [ $U_e$ ]  
250 V AC  
Rated operational current [ $I_e$ ] AC-12 at 230 V [ $I_e$ ]  
4 A  
Rated operational current [ $I_e$ ] AC-15 with 230 V [ $I_e$ ]  
3 A  
Rated operational current [ $I_e$ ] DC-12 at 24 V [ $I_e$ ]  
4 A  
Rated operational current [ $I_e$ ] DC-13 at 24 V [ $I_e$ ]  
2 A  
Minimum switching capacity  
10 mA / 24 V  
Lifespan, electrical (AC-12/230 V/4 A) [Operations] Lifespan, electrical [Operations]  
 $0.1 \times 10^6$   
Electromagnetic compatibility (EMC)  
Electromagnetic compatibility  
IEC/EN 60947-6-2  
ESD [Air/contact discharge]  
IEC/EN 61000-4-2 level 3 kV  
HF-immunity to radiation  
IEC/EN 61000-4-3 level 3  
Burst  
IEC/EN 61000-4-4 level 3  
Surge  
IEC/EN 61000-4-5 Level 4  
HF-immunity to line-conducted interference  
IEC/EN 61000-4-6 level 3

## Design verification as per IEC/EN 61439

Operating ambient temperature min.  
-25 °C  
Operating ambient temperature max.  
+60 °C

## Technical data ETIM 7.0

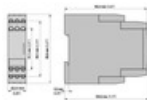
Relays (EG000019) / Phase monitoring relay (EC001441)  
Electric engineering, automation, process control engineering / Low-voltage switch technology / Monitoring equipment (low-voltage switch technology) / Asymmetry monitoring equipment (ecl@ss10.0.1-27-37-18-03 [AKF097014])  
Type of electric connection  
Screw connection  
With detachable clamps  
No  
Rated control supply voltage  $U_s$  at AC 50HZ  
380 - 380 V  
Rated control supply voltage  $U_s$  at AC 60HZ  
380 - 380 V

Rated control supply voltage  $U_s$  at DC  
0 - 0 V  
Voltage type for actuating  
AC  
Phase sequence monitoring  
Yes  
Phase failure detection  
Yes  
Function under voltage detection  
Yes  
Function over voltage detection  
Yes  
Phase imbalance monitoring  
No  
Voltage measurement range  
380 - 380 V  
Mn. adjustable delay-on energization time  
0.1 s  
Max. permitted delay-on energization time  
30 s  
Mn. adjustable off-delay time  
0.1 s  
Max. permitted off-delay time  
30 s  
Number of contacts as normally closed contact  
0  
Number of contacts as normally open contact  
0  
Number of contacts as change-over contact  
2  
Width  
22.5 mm  
Height  
85.6 mm  
Depth  
104.6 mm

## Approvals

Product Standards  
IEC 255-6; UL 508; CSA-22.2 No. 14-05; CE marking  
UL File No.  
E29184  
UL Category Control No.  
NKCR, NKCR7  
CSA File No.  
UL report valid  
CSA Class No.  
3211-03  
North America Certification  
UL listed, certified by UL for use in Canada

## Dimensions



## CAD data

- [Product-specific CAD data](#)  
(Web)
- [3D Preview](#)  
(Web)

## DWG files

- [DA-CD-emr6\\_a\\_w\\_f](#)  
File

(Web)

## edz files

- [DA-CE-ETN.EMR6-W380-L-1](#)  
File  
(Web)


## Step files

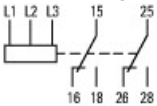
- [DA-CS-emr6\\_a\\_w\\_f](#)  
File  
(Web)

## Additional product information

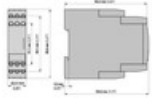
- [Phase monitoring relays](#)  
(Web)

## Wiring diagram

-   
[2431SW-10](#)  
Line drawing

-   
[2431SW-4](#)  
Line drawing  
Current monitor

## Product photo

-   
[2430DIM-4](#)  
Photo

-   
[2431PIC-101](#)  
Photo

## Instruction Leaflet

- [Single-function three-phase monitoring relays \(IL121006ZU\)](#)  
Asset  
(PDF, multilingual)

## Download-Center

- [Download-Center \(this item\)](#)  
Eaton EMEA Download-Center - download data for this item
- [Download-Center](#)  
Eaton EMEA Download-Center

 [Generate data sheet in PDF format](#)

 [Generate data sheet in Excel format](#)

 Write a comment

[Imprint](#) [Privacy Policy](#) [Legal Disclaimer](#) [Terms and Conditions](#)

© 2021 by Eaton Industries GmbH

