

Select your language

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

Worldwide English



EMR6-IM1-A-1 - Current monitoring relay, Current measuring range: 3 - 30 mA, 10 - 100 mA, 0.1 - 1 A, Supply voltage: 24 - 240 V AC, 50/60 Hz, 24 - 240 V DC



184780 EMR6-IM1-A-1

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



184780 EMR6-IM1-A-1

Current monitoring relay, Current measuring range: 3 - 30 mA, 10 - 100 mA, 0.1 - 1 A, Supply voltage: 24 - 240 V AC, 50/60 Hz, 24 - 240 V DC

Alternate Catalog No.

EMR6-IM1-A-1

EL-Nummer (Norway)

4101976

Current monitoring relays, Product range: EMR Measuring and monitoring relays, Monitoring of single-phase DC and AC networks, Switch-on delay: none = 0 or adjustable from 0.1 to 30 s, Extension of the measurement range possible with current transformers, Monitoring of: Overcurrent, Undercurrent, Current measuring range: \pm 3 - 30 mA, 10 - 100 mA, 0.1 - 1 A A, Supply voltage: 24 - 240 V AC, 50/60 Hz, 24 - 240 V DC, Mounting position: As required, Fixing: Snap fixing, top-hat rail IEC/EN 60715, Width: 22.5 mm, Standards: UL 508, CAN/CSA C22.2 No.14, GL, EAC, CCC, RMR/S

- [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

Current monitoring relays

Monitoring of single-phase DC and AC networks

Switch-on delay: none = 0 or adjustable from 0.1 to 30 s

Extension of the measurement range possible with current transformers

Monitoring of

Overcurrent

Undercurrent

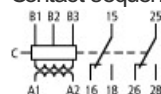
Current measuring range [\pm]

3 - 30 mA

10 - 100 mA

0.1 - 1 A A

Contact sequence



Supply voltage

24 - 240 V AC, 50/60 Hz

24 - 240 V DC

Width

22.5 mm

Technical data

Technical data

General

Standards

UL 508, CAN/CSA C22.2 No.14, GL, EAC, CCC, FMRS

Lifespan, mechanical [Operations]

30×10^6

Climatic proofing

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

Ambient temperatureOperationOperating ambient temperature min.

-25 °C

Ambient temperatureOperationOperating ambient temperature max.

+60 °C

Ambient temperatureStorage

- 40 - 85 °C

Mounting position

As required

Shock resistance

Class 2

Degree of protectionTerminals

IP20

Degree of protectionEnclosures

IP50

Terminal capacitiesSolid

1 x 0.5-2.5 (1 x 18-14 AWG) mm²

Terminal capacitiesFlexible with ferrule

2 x 0.5-1.5 (2 x 18-16 AWG) mm²

Standard screw driver

4 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)

395178 h

Contacts

Rated impulse withstand voltage [U_{imp}]

4000 V AC

Overvoltage category/pollution degree

III/3

Power supply

Supply voltage

24 - 240 V AC, 50/60 Hz

24 - 240 V DC

Voltage tolerance

0.85 - 1.1 x U_c

Power consumption

2.6 VA

Rated frequency [f]

50 - 60 Hz

Duty factor

100 % DF

Timing cycle

Response delay time

Adjustable from 0.1 - 30 s

Reset delay/Off-delay time

30 s

On-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

InputsB1-C

0.003 - 0.03 A

InputsB2-C

0.01 - 0.1 A

InputsB3-C

0.1 - 1 A

Hysteresis
3...30 %
Measuring cycle
80 ms
Temperature error
0.06 %/°C
Error within supply voltage
0.5 %
Status indication
Supply voltage
LED, green
Output relay energized
LED, yellow
Measured value
LED, red
Status indicator (LED)
Green, solid: Supply voltage
Other states depending on fault (see IL): Measured value
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]
 0.1×10^6
Short-circuit rating max. fuse [Fast/gL]
10 A
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

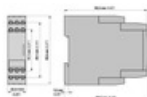
Relays (EG000019) / Current monitoring relay (EC001440)
Electric engineering, automation, process control engineering / Low-voltage switch technology / Monitoring equipment (low-voltage switch technology) / Current monitoring equipment (ecl@ss10.0.1-27-37-18-02 [AKF096014])
Type of electric connection
Screw connection
With detachable clamps
No
Single-phase under current possible
Yes
Three-phase under current possible
No
Single-phase over current possible

Yes
Three-phase over current possible
No
Single-phase hysteresis possible
No
Three-phase hysteresis possible
No
Contains function DC-voltage under current
Yes
Contains function DC-voltage over current
Yes
Function DC-current hysteresis
No
Rated control supply voltage U_s at AC 50HZ
24 - 240 V
Rated control supply voltage U_s at AC 60HZ
24 - 240 V
Rated control supply voltage U_s at DC
24 - 240 V
Voltage type for actuating
AC/DC
Current measurement range
0.01 - 1 A
Mn. adjustable delay-on energization time
0.1 s
Max. permitted delay-on energization time
30 s
Mn. adjustable off-delay time
0 s
Max. permitted off-delay time
0 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
External current transformer
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_r_t_v_i](#)
- File
- (Web)

edz files

- [DA-CE-ETN.EVR6-IM1-A-1](#)
- File
- (Web)

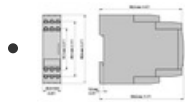
Step files

- [DA-CS-emr6_r_t_v_i](#)
- File
- (Web)

Additional product information

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

Product photo



[2430DIM-2](#)

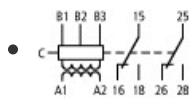
Photo



[2430PIC-4](#)

Photo

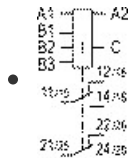
Wiring diagram



[240S024](#)

Line drawing

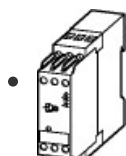
Current monitor



[2430SWM-1](#)

Line drawing

3D drawing



[240I012](#)

Line drawing

Phase imbalance monitoring relay

Instruction Leaflet

- [Current monitoring relay multifunctional \(IL121011ZU\)](#)
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