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EMR6-R400-A-1 - Insulation monitoring relays, 0 - 400 V AC, 1 - 100 kΩ



184773 EMR6-R400-A-1

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



184773 EMR6-R400-A-1

Insulation monitoring relays, 0 - 400 V AC, 1 - 100 kΩ

Alternate Catalog No.

EMR6-R400-A-1

EL-Nummer (Norway)

4101969

Insulation monitoring relays, Product range: EMR Measuring and monitoring relays, Status indication via LEDs, Open-circuit principle, Test or reset with button on device or with control input, Configurable fault memory/memory function, Configurable non-volatile fault memory, Monitoring of: Insulation resistance in non-earthed AC supply systems (two-phase, three-phase, four-phase systems), adjustable sensitivity range: 1 - 100 kΩ, Supply voltage: 24 - 240 V AC, 50/60 Hz, 24 - 240 V DC, Rated operating voltage for the supply system being monitored: 0 - 400 V AC, Mounting position: As required, Fixing: Snap fixing, top-hat rail IEC/EN 60715, Width: 22.5 mm, Standards: IEC/EN 60255-6,

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

Delivery program

Product range

EMR Measuring and monitoring relays

Basic function

Insulation monitoring relays

Status indication via LEDs

Open-circuit principle

Test or reset with button on device or with control input

Configurable fault memory/memory function

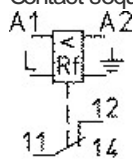
Configurable non-volatile fault memory

Monitoring of

Insulation resistance in non-earthed AC supply systems (two-phase, three-phase, four-phase systems) adjustable sensitivity range

1 - 100 kΩ

Contact sequence



Supply voltage

24 - 240 V AC, 50/60 Hz

24 - 240 V DC

Rated operating voltage for the supply system being monitored

0 - 400 V AC

Width
22.5 mm

Technical data

General

Standards

IEC/EN 60255-6,

Lifespan, mechanical [Operations]

30 x 10⁶

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) mm²

Terminal capacities Flexible with ferrule

2 x 0.5-1.5 (2 x 18-16 AWG) mm²

Standard screw driver

5.5 x 0.8 mm

Tightening torque

0.5 - 0.8 Nm

Fixing

Snap fixing, top-hat rail IEC/EN 60715

MTBF (mean time between failures)

481300 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

3.5 VA

Rated frequency [f]

50 - 60 Hz

Duty factor

100 % DF

Measuring circuits

Hysteresis Hysteresis, max.

25 %

Cable length for cancellation- and test button

10 m

Status indication

Supply voltage

LED, green

Fault at L+

LED, red

Fault at L-

LED, red

Status indicator (LED)

Green, solid: Supply voltage

Other states depending on fault (see IL): Measured value
Relay output contacts
Rated operational current [I_e]AC-12 at 230 V [I_e]
5 A
Rated operational current [I_e]AC-15 with 230 V [I_e]
3 A
Rated operational current [I_e]DC-13 at 24 V [I_e]
2.5 A
Lifespan, electrical (AC-12/230 V/4 A) [Operations]Lifespan, electrical [Operations]
 0.1×10^6
Short-circuit ratingmax. fuse [Fast/gL]
5 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) / Insulation and earth fault monitoring relay (EC001444)
Electric engineering, automation, process control engineering / Low-voltage switch technology / Monitoring equipment
(low-voltage switch technology) / Insulation-/earth connection monitoring equipment (ecl@ss10.0.1-27-37-18-07
[AKF101014])
Type of electric connection
Screw connection
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
With detachable clamps
No
Function
For AC-current system
Rated voltage
0 - 400 V
Rated frequency
15 - 400 Hz
Line capacity
10 μ F
Response value impedance 1
1 - 100 kOhm
Response value impedance 2
0 - 0 kOhm
Indication of insulation value
No
Error registration possible
Yes
Number of contacts as normally closed contact
0
Number of contacts as normally open contact

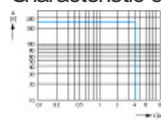
0
Number of contacts as change-over contact
1
Width
22.5 mm
Height
85.6 mm
Depth
104.6 mm

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

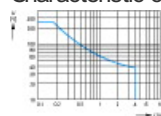
Characteristics

Characteristic curve



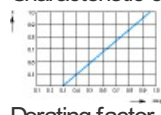
AC load (resistive)

Characteristic curve



DC load (resistive)

Characteristic curve



Derating factor F with inductive AC load

Characteristic curve

Dimensions

CAD data

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

DWG files

- [DA-CD-err6_r_t_v_i](#)
File
(Web)

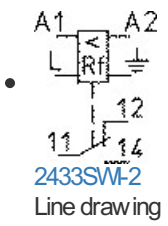
edz files

- [DA-CE-ETN.EVR6-R400-A-1](#)
File
(Web)

Step files

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

Wiring diagram



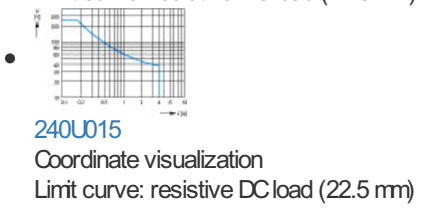
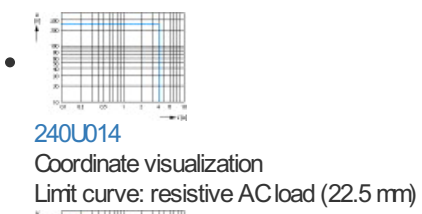
Product photo



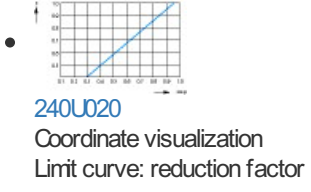
Dimensions single product

- [240X003](#)
Line drawing
Measuring and monitoring relay

Characteristic curve



- [240U017](#)
Coordinate visualization
Limit curve 22.5 mm series: contact lifespan



Instruction Leaflet

- [Insulation monitoring relays \(IL121009ZU\)](#)
Asset
(PDF, multilingual)

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