



184761
EMR6-A300-C-1

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DELIVERY PROGRAM

Product range
EVR Measuring and monitoring relays

Basic function
Phase imbalance monitoring relays

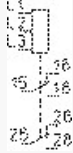
Power supply from the measuring circuit
On delay: None = 0 or adjustable from 0.1 to 30 s
Imbalance threshold values adjustable 2 - 25 % of mean value of phase voltages

Monitoring voltage per phase [U_N]
160 - 300 V AC, 50/60 Hz V AC

Monitoring of
Phase sequence
Phase failure
Imbalance

Adjustable threshold values
Imbalance

Contact sequence



Supply voltage
160 - 300 V AC, 50/60 Hz

Width
22.5 mm

TECHNICAL DATA

General

Standards
IEC/EN 60255-6, IEC255-6, UL, CE

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)
382977 h

Contacts

Rated impulse withstand voltage [U_{imp}]
4000 V AC

Overvoltage category/pollution degree
III/3

Power supply

Supply voltage
160 - 300 V AC, 50/60 Hz

Voltage tolerance
0.85 - 1.1 x U_c

Power consumption
15 VA

Rated frequency [f]
50 - 60 Hz

Duty factor
100 % DF

Timing cycle

Response delay time
0.2 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 Hz

Switching hysteresis
20 %

Hysteresis
Hysteresis, max.
20 %

Frequency
50 Hz

Temperature error
0.06 %/°C

Error within supply voltage
0.5 %

Status indication

Output relay energized
LED, yellow

Error
LED, red

Status indicator (LED)
Green, solid: Supply voltage
Yellow, solid: Relay energized
Yellow, flashing: Delay time running
Red, solid (F1 & F2): Imbalance
Red: F1 solid, F2 flashing: Phase failure
Red, flashing (F1 & F2 alternating): Phase sequence fault

Relay output contacts

Rated operational voltage [U_e]
500 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 x 10⁶

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) / 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
160 - 300 V

Rated control supply voltage U_s at AC 60HZ
160 - 300 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
No

Function over voltage detection
No

Phase imbalance monitoring
Yes

Voltage measurement range
160 - 300 V

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

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

