

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



Powering Business Worldwide™

Part no.	EMR6-R400-A-1
Catalog No.	184773
Alternate Catalog No.	EMR6-R400-A-1
EL-Nummer (Norway)	4101969

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
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	mm	22.5

Technical data

General

Standards		IEC/EN 60255-6,
Lifespan, mechanical	Operations $\times 10^6$	30
Climatic proofing		Damp heat, cyclical to IEC 60068-2-30: 24 h cycle, 55° C, 93% relative humidity, 96 h
Ambient temperature		
Operation	°C	
Operating ambient temperature min.	°C	-25
Operating ambient temperature max.	°C	+ 60
Storage	°C	- 40 - 85
Mounting position		As required
Shock resistance		Class 2
Degree of protection		
Terminals		IP20
Enclosures		IP50
Terminal capacities	mm ²	
Solid	mm ²	1 x 0.5-2.5 (1 x 18-14 AWG)
Flexible with ferrule	mm ²	2 x 0.5-1.5 (2 x 18-16 AWG)
Standard screwdriver	mm	5.5 x 0.8
Tightening torque	Nm	0.5 - 0.8
Fixing		Snap fixing, top-hat rail IEC/EN 60715
MTBF (mean time between failures)		481300 h

Contacts

Rated impulse withstand voltage	U _{imp}	V AC	4000
Oversupply category/pollution degree			III/3

Power supply

Supply voltage		24 - 240 V AC, 50/60 Hz 24 - 240 V DC
Voltage tolerance	$\times U_c$	0.85 - 1.1
Power consumption	VA	3.5
Rated frequency	f	50 - 60
Duty factor	% DF	100

Measuring circuits

Hysteresis	%	
Hysteresis, max.	%	25
Cable length for cancellation- and test button	m	10
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	A	
AC-12 at 230 V	I _e	A	5
AC-15 with 230 V	I _e	A	3
DC-13 at 24 V	I _e	A	2.5
Lifespan, electrical (AC-12/230 V/4 A)	Operations	$\times 10^6$	
Lifespan, electrical	Operations	$\times 10^6$	0.1
Short-circuit rating			
max. fuse	Fast/gL	A	5

Electromagnetic compatibility (EMC)

Electromagnetic compatibility			IEC/EN 60947-6-2
ESD	Air/contact discharge	kV	IEC/EN 61000-4-2 level 3
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

Technical data for design verification			
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	60

Technical data ETIM 8.0

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 Us at AC 50HZ	V	24 - 240	
Rated control supply voltage Us at AC 60HZ	V	24 - 240	
Rated control supply voltage Us at DC	V	24 - 240	
Voltage type for actuating			AC/DC
With detachable clamps			No
Function			For AC-current system
Rated voltage	V	0 - 400	
Rated frequency	Hz	15 - 60	
Line capacity	µF	10	
Response value impedance 1	kOhm	1 - 100	
Response value impedance 2	kOhm	0 - 0	
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	mm	22.5	
Height	mm	85.6	
Depth	mm	103.7	

