DATASHEET - EMR6-A500-D-1

Phase imbalance monitoring relays, 300 - 500 V AC, 50/60 Hz

Part no. EMR6-A500-D-1
184762

EL Number (Norway) 4101958

Powering Business Worldwide™

General specifications

Product name	Eaton Moeller® series EMR6 Asymmetry monitoring relay
Part no.	EMR6-A500-D-1
EAN	4015081787982
Product Length/Depth	103.7 millimetre
Product height	85.6 millimetre
Product width	22.5 millimetre
Product weight	0.16 kilogram
Certifications	CE IEC/EN 60255-6 IEC255-6 UL
Product Tradename	EMR6
Product Type	Asymmetry monitoring relay
Product Sub Type	None
Catalog Notes	Measurement range: 50 Hz Frequency Power supply from the measuring circuit

Features & Functions

Electric connection type	Screw connection
Features	Imbalance threshold values adjustable 2 - 25 % of mean value of phase voltages
Functions	Phase failure detection
Monitoring function	Phase sequence Phase failure Phase imbalance monitoring Imbalance Phase sequence monitoring
Voltage measurement - min	300 V
Voltage measurement - max	500 V

General information

Degree of protection	Terminals: IP20 Enclosure: IP50
Lifespan, mechanical	30,000,000 Operations
Mounting position	As required
Overvoltage category	III
Pollution degree	3
Product category	EMR Measuring and monitoring relays
Rated impulse withstand voltage (Uimp)	4000 V AC
Shock resistance	Class 2
LED indicator	Status indication of energized output relay: Yellow LED Status indication of Supply voltage: Green, solid light Status indication of Imbalance: Red, solid light (F1 and F2) Status indication of errors: Red LED Status indication of Phase sequence fault: Red, flashing light (F1 and F2 alternating) Status indication of Relay energized: Yellow, solid light Status indication of Phase failure: F1 red, solid light and F2 red, flashing light Status indication of Delay time running: Yellow, flashing light
Type	Phase imbalance monitoring relay
Voltage type	AC

Climatic environmental conditions

Ambient operating temperature - min	-25 °C
Ambient operating temperature - max	60 °C
Ambient storage temperature - min	-40 °C
Ambient storage temperature - max	85 °C
Climatic proofing	Damp heat, cyclic, to IEC 60068-2-30

Electro magnetic compatibility	
Air discharge	Air/contact discharge, according to IEC/EN 61000-4-2, level 3
Burst impulse	According to IEC/EN 61000-4-4, level 3
Electromagnetic compatibility	According to IEC/EN 60947-6-2
Immunity to line-conducted interference	Level 3 (according to IEC/EN 61000-4-6)
Immunity to radiation	Level 3 (according to IEC/EN 61000-4-3)
Surge rating	According to IEC/EN 61000-4-5 Level 4
Terminal capacities	
Connection type	Snap fixing, top-hat rail IEC/EN 60715
Terminal capacity	2 x (0.5-1.5) mm^2, (2 x (18-16) AWG), flexible with ferrule 1 x (0.5-2.5) mm^2, (1 x (18-14) AWG), solid
Screwdriver size	5.5 x 0.8 mm, Terminal screw
Tightening torque	Min. 0.5 Nm, Screw terminals 0.8 Nm, Screw terminals
Timing cycle	
Delay time	0.2 s, Response delay time On delay: None = 0 or adjustable from 0.1 to 30 s
Timing cycle	0.06 %/°C, Time error within temperature range Adjustable from 0.1 – 30 s, Reset delay/Off-delay time 0.5 % Error within supply voltage (Measuring circuits) 0.5 %, Time error within supply voltage
Power supply	
Duty factor	100 %, Power supply
Power consumption	15 VA
Rated control supply voltage (Us) at AC, 50 Hz - min	300 V
Rated control supply voltage (Us) at AC, 50 Hz - max	500 V
Rated control supply voltage (Us) at AC, 60 Hz - min	300 V
Rated control supply voltage (Us) at AC, 60 Hz - max	500 V
Rated control supply voltage (Us) at DC - min	0 V
Rated control supply voltage (Us) at DC - max	0 V
Rated frequency - min	50 Hz
Rated frequency - max	60 Hz
Supply voltage	300 - 500 V AC, 50/60 Hz
Voltage tolerance	0.85 x Uc 1.1 x Uc
Measuring circuits	
Hysteresis	20 %
Monitoring voltage	300 - 500 V AC, 50/60 Hz (per phase)
Switching hysteresis of Sn	20 %
Temperature error	0.06 %/°C, Measuring circuits
Threshold value	Imbalance, Adjustable
Relay output contacts	
Number of contacts (change-over contacts)	2
Number of contacts (normally closed contacts)	0
Number of contacts (normally open contacts)	0
Lifespan, electrical	300,000 Operation (at 230 V, AC-12, 4 A)
Rated operational current (Ie)	3 A at AC-15, 230 V 2 A at DC-13, 24 V 4 A at AC-12, 230 V 4 A at DC-12, 24 V
Rated operational voltage (Ue) at AC - max	500 V
Short-circuit protection rating	Max. 10 A Fast/gL, Fuse, Relay output contacts

Technical data ETIM 9.0

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@ss13-27-37-18-03 [AKF097019])	
Type of electric connection	Screw connection
With detachable clamps	No

External power supply required			No
Voltage type (supply voltage)			AC
Supply voltage AC 50 Hz		V	300 - 500
Supply voltage AC 60 Hz		V	300 - 500
Supply voltage DC		V	
Phase sequence monitoring			Yes
Phase failure detection			Yes
Function under voltage detection			No
Function over voltage detection			No
Phase imbalance monitoring			Yes
Voltage measuring range		V	300 - 500
Min. adjustable delay-on energization time		s	0.1
Max. permitted delay-on energization time		s	30
Min. adjustable off-delay time		s	0
Max. permitted off-delay time		s	0
Number of contacts as normally closed contact			0
Number of contacts as normally open contact			0
Number of contacts as change-over contact			2
Voltage type (operating voltage)			AC
Operating voltage AC 50 Hz		V	300 - 500
Operating voltage AC 60 Hz		V	300 - 500
Operating voltage DC		V	
Rated switch current		A	4
Width		mm	22.5
Height		mm	85.6
Depth		mm	103.7