

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 4101958
(Norway)

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		UL IEC/EN 60255-6 IEC255-6 CE
Product Tradename		EMR6
Product Type		Asymmetry monitoring relay
Product Sub Type		None
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 monitoring Imbalance Phase imbalance monitoring Phase failure Phase sequence
Voltage measurement - min		300 V
Voltage measurement - max		500 V
General information		
Degree of protection		Enclosure: IP50 Terminals: IP20
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 Delay time running: Yellow, flashing light Status indication of Phase failure: F1 red, solid light and F2 red, flashing light Status indication of Relay energized: Yellow, solid light Status indication of Phase sequence fault: Red, flashing light (F1 and F2 alternating) Status indication of errors: Red LED Status indication of Imbalance: Red, solid light (F1 and F2) Status indication of Supply voltage: Green, solid light Status indication of energized output relay: Yellow LED
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		1 x (0.5-2.5) mm ² , (1 x (18-14) AWG), solid 2 x (0.5-1.5) mm ² , (2 x (18-16) AWG), flexible with ferrule
Screwdriver size		5.5 x 0.8 mm, Terminal screw
Tightening torque		0.8 Nm, Screw terminals Min. 0.5 Nm, Screw terminals
Timing cycle		
Delay time		On delay: None = 0 or adjustable from 0.1 to 30 s 0.2 s, Response delay time
Timing cycle		0.5 %, Time error within supply voltage 0.5 % Error within supply voltage (Measuring circuits) Adjustable from 0.1 – 30 s, Reset delay/Off-delay time 0.06 %/°C, Time error within temperature range
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		1.1 x Uc 0.85 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)		4 A at DC-12, 24 V 4 A at AC-12, 230 V 2 A at DC-13, 24 V 3 A at AC-15, 230 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 (ec1@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