

Specifications



Eaton 184778

Eaton Moeller® series EMR6 Phase monitoring relays, On- and Off-delayed, 400 V AC, 50/60 Hz

General specifications

PRODUCT NAME	Eaton Moeller® series EMR6 Phase monitoring relay
CATALOG NUMBER	184778
MODEL CODE	EMR6-W400-M-1
EAN	4015081788149
PRODUCT LENGTH/DEPTH	103.7 mm
PRODUCT HEIGHT	85.6 mm
PRODUCT WIDTH	22.5 mm
PRODUCT WEIGHT	0.16 kg
CERTIFICATIONS	CCC CSA GL UL IEC

Climatic environmental conditions

AMBIENT OPERATING TEMPERATURE - MAX	60 °C
AMBIENT STORAGE TEMPERATURE - MAX	85 °C
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
AMBIENT STORAGE TEMPERATURE - MIN	-40 °C
CLIMATIC PROOFING	Damp heat, cyclic, to IEC 60068-2-30

Features & functions

ELECTRIC CONNECTION TYPE	Screw connection
FEATURES	Imbalance threshold values adjustable 2 - 25 % of mean value of phase voltages
FUNCTIONS	On- and Off-delayed Under voltage detection Over voltage detection Phase failure detection
MONITORING FUNCTION	Phase sequence monitoring Phase failure Overvoltage Phase sequence (can be deactivated) Undervoltage
VOLTAGE MEASUREMENT - MAX	400 V
VOLTAGE MEASUREMENT - MIN	400 V

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

General information

DEGREE OF PROTECTION	Enclosure: IP50 Terminals: IP20
LED INDICATOR	Status indication of Phase failure: F1 red, solid light and F2 red, flashing light Status indication of Undervoltage: Red LED (F2 on) Status indication of Overvoltage: Red LED (F1 on) Status indication of Supply voltage: Yellow, solid light Status indication of Phase sequence fault: Red, flashing light (F1 and F2 alternating) Status indication of Delay time running: Yellow, flashing light (R/T) Status indication of Overvoltage: F1 red, solid light Status indication of Relay energized: Yellow, solid light (R/T) Status indication of Undervoltage: F2 red, solid light Status indication of Supply voltage: Yellow LED
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
SUITABLE FOR	Three-phase networks
TYPE	Phase monitoring relay
VOLTAGE TYPE	AC

Measuring circuits

HYSTERESIS	0 - 5 %
MEASURING CYCLE	100 ms
MONITORING VOLTAGE	400 V AC, 50/60 Hz (per phase)
TEMPERATURE ERROR	0.06 %/°C, Measuring circuits

Power supply

DUTY FACTOR	100 %, Power supply
POWER CONSUMPTION	18 VA
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX	400 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN	400 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	400 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	400 V
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX	0 V
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN	0 V
RATED FREQUENCY - MAX	60 Hz
RATED FREQUENCY - MIN	50 Hz
SUPPLY VOLTAGE	400 V AC, 50/60 Hz
VOLTAGE TOLERANCE	0.85 x Uc 1.1 x Uc

Relay output contacts

LIFESPAN, ELECTRICAL	100,000 Operation (at 230 V, AC-12, 4 A)
NUMBER OF CONTACTS (CHANGE-OVER CONTACTS)	2
NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS)	0
NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS)	0
RATED OPERATIONAL CURRENT (IE)	4 A at DC-12, 24 V 4 A at AC-12, 230 V 3 A at AC-15, 230 V 2 A at DC-13, 24 V
RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX	250 V

Timing cycle

DELAY TIME	Start-up delay fixed Ts = 250 ms Adjustable tripping delay Tv = 0 - 30 s
TIMING CYCLE	0.5 % Error within supply voltage (Measuring circuits) 0.5 %, Time error within supply voltage 0.06 %/°C, Time error within temperature range

Terminal capacities

CONNECTION TYPE	Snap fixing, top-hat rail IEC/EN 60715
SCREWDRIVER SIZE	5.5 x 0.8 mm, Terminal screw
TERMINAL CAPACITY	2 x (0.5-1.5) mm², (2 x (18-16) AWG), flexible with ferrule 1 x (0.5-2.5) mm², (1 x (18-14) AWG), solid
TIGHTENING TORQUE	0.8 Nm, Screw terminals Min. 0.6 Nm, Screw terminals

Resources

APPLICATION NOTES	easyE4 and EMR6 - the perfect match for safe motor control
BROCHURES	EMR6 - EMT6 - ETR4 brochure
CATALOGUES	eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf
DECLARATIONS OF CONFORMITY	eaton-phase-monitoring-relay-declaration-of-conformity-uk251043en.pdf eaton-asymmetry-monitoring-relay-declaration-of-conformity-eu251531en.pdf
DRAWINGS	eaton-current-monitors-emr6-phase-monitoring-relay-dimensions-002.tif
ECAD MODEL	ETN.184778.edz
INSTALLATION INSTRUCTIONS	eaton-single-function-3phase-relay-emr6-il121006zu.pdf
MCAD MODEL	eaton-phase-monitoring-relays-mcad-drawings-emr6-a-w-f.dwg DA-CS-emr6_a_w_f

WIRING DIAGRAMS

[eaton-phase-monitors-emr6-phase-monitoring-relay-wiring-diagram.bmp](#)

[eaton-phase-monitors-monitoring-wiring-diagram.eps](#)

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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