Eaton 031885

Eaton Moeller® series ETR4 Timing relay, star-delta, 50 ms, 1W, 3-60s, 400VAC

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PRODUCT NAME	Eaton Moeller® series ETR4 Timing relay
CATALOG NUMBER	031885
PRODUCT LENGTH/DEPTH	103 mm
PRODUCT HEIGHT	83 mm
PRODUCT WIDTH	23 mm
PRODUCT WEIGHT	0.117 kg
CERTIFICATIONS	VDE 0435 IEC/EN 61000-4-2 Standard IEC/EN 61812 IEC/EN 61000-4-3

Powering Business Worldwide

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TYPE	Timer relay
CONTACT RATING	Min. load at contact voltage/current: 12 V/100 mA
AIR DISCHARGE	8 kV
10.10 TEMPERATURE RISE	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 SHORT-CIRCUIT RATING	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.12 ELECTROMAGNETIC COMPATIBILITY	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.13 MECHANICAL FUNCTION	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.
10.2.2 CORROSION RESISTANCE	Meets the product standard's requirements.
10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES	Meets the product standard's requirements.
10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT	Meets the product standard's requirements.
10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS	Meets the product standard's requirements.
10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION	Meets the product standard's requirements.
10.2.5 LIFTING	Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 MECHANICAL IMPACT	Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 INSCRIPTIONS	Meets the product standard's requirements.
10.3 DEGREE OF	Does not apply, since the

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CHARACTERISTIC CURVE	eaton-timers-diagram-etr4-timing-relay-characteristic-curve-009.eps
DECLARATIONS OF CONFORMITY	eaton-timing-relay-declaration-of-conformity-uk250986en.pdf
□□□	eaton-timers-star-delta-etr4-timing-relay-wiring-diagram.eps
□□□□	EMR6 - EMT6 - ETR4 brochure
□□	eaton-timers-contactor-etr4-timing-relay-dimensions.eps eaton-electronic-timers-relay-etr4-timing-relay-dimensions.eps eaton-electronic-timers-relay-etr4-timing-relay-3d-drawing-003.eps

PROTECTION OF ASSEMBLIES	entire switchgear needs to be evaluated.
10.4 CLEARANCES AND CREEPAGE DISTANCES	Meets the product standard's requirements.
10.5 PROTECTION AGAINST ELECTRIC SHOCK	Does not apply, since the entire switchgear needs to be evaluated.
10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS	Does not apply, since the entire switchgear needs to be evaluated.
10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS	Is the panel builder's responsibility.
10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS	Is the panel builder's responsibility.
10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH	Is the panel builder's responsibility.
10.9.3 IMPULSE WITHSTAND VOLTAGE	Is the panel builder's responsibility.
10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL	Is the panel builder's responsibility.
ELECTRIC CONNECTION TYPE	Screw connection
OPERATING FREQUENCY	4000 Operations/h
POLLUTION DEGREE	2
POWER CONSUMPTION	0.5 VA at AC (Pick-up power) 0.5 VA at AC (Sealing power)
BURST IMPULSE	According to IEC/EN 61000-4-4 2 kV, Supply cable 1 kV, Signal cable
CLIMATIC PROOFING	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	6000 V AC
RATED OPERATIONAL CURRENT (IE)	3 A at AC-14, 440 V 1.5 A at DC-11, 24 V 3 A at AC-15, 220 V 230 V 240 V 3 A at AC-15, 380 V 400 V 415 V 1.2 A at DC-11, L/R max. 50 ms 3 A at AC-14, 380 V 400 V 415 V
AMBIENT OPERATING	60 °C

TEMPERATURE - MAX	
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX	45 °C
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN	25 °C
AMBIENT STORAGE TEMPERATURE - MAX	85 °C
AMBIENT STORAGE TEMPERATURE - MIN	45 °C
CONTACT CHANGEOVER TIME	50 ms
CONVENTIONAL THERMAL CURRENT ITH OF AUXILIARY CONTACTS (1-POLE, OPEN)	6 A
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	0 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	1.4 W
NOMINAL CURRENT	3 A
DEGREE OF PROTECTION	Terminals: IP20 IP20
FUNCTIONS	Fixed timing function Star-delta Star-delta switching
MAINS VOLTAGE TOLERANCE	400 V AC (at 50/60 Hz)
VOLTAGE TYPE	AC
MOUNTING POSITION	As required
SHOCK RESISTANCE	4 g, Make contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 20 ms
CONTACT DISCHARGE	6 kV
OVERVOLTAGE CATEGORY	III
SHORT-CIRCUIT PROTECTION RATING	Max. 6 A gG/gL, Fuse, Short-circuit rating without welding, Contacts Max. 6 A gG/gL, fuse, Without welding, Contacts
DUTY FACTOR	100 %
COMMAND TIME	50 ms, AC

SURGE RATING	According to IEC/EN 61000-4-5, power pulses (Surge), EMC 2 kV, symmetrical, power pulses (Surge), EMC 4 kV, asymmetrical, power pulses (Surge), EMC
ELECTROMAGNETIC FIELDS	10 V/m at 80 - 1000 MHz (according to IEC EN 61000-4-3) 1 V/m at 2.0 - 2.7 GHz (according to IEC EN 61000-4-3) 3 V/m at 1.4 - 2 GHz (according to IEC EN 61000-4-3)
PICK-UP VOLTAGE	0.85 - 1.1 V AC x Uc
IMMUNITY TO LINE-CONDUCTED INTERFERENCE	10 V (according to IEC/EN 61000-4-6)
RADIO INTERFERENCE CLASS	Class B (EN 55011, radiated) Class B (EN 55011, conducted)
SUITABLE FOR	DIN rail (top hat rail) mounting
VOLTAGE TOLERANCE	1.1 x Uc, AC operated max. 0.85 x Uc, AC operated min.
SAFE ISOLATION	250 V AC, Between coil and auxiliary contacts, According to EN 61140 250 V AC, Between auxiliary contacts, According to EN 61140
LIFESPAN, MECHANICAL	30,000,000 Operations (DC operated) 30,000,000 Operations (AC operated)
RECOVERY TIME	70 ms (after 100 % time delay)
REPETITION ACCURACY	≤ 0.5 % (deviation)
NUMBER OF CONTACTS (CHANGE-OVER CONTACTS)	1
NUMBER OF OUTPUTS (DELAYED, CHANGE-OVER CONTACT)	0
NUMBER OF OUTPUTS (DELAYED, NORMALLY CLOSED CONTACT)	0
NUMBER OF OUTPUTS (DELAYED, NORMALLY	1

OPEN CONTACT)	
NUMBER OF OUTPUTS (UNDELAYED, CHANGE-OVER CONTACT)	0
NUMBER OF OUTPUTS (UNDELAYED, NORMALLY CLOSED CONTACT)	0
NUMBER OF OUTPUTS (UNDELAYED, NORMALLY OPEN CONTACT)	1
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	63 Hz
RATED FREQUENCY - MIN	47 Hz
RATED INSULATION VOLTAGE (UI)	600 V
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	6 A
RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX	440 V
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	0.5 W
TIME RANGE - MAX	60 s
TIME RANGE - MIN	3 s
PRODUCT CATEGORY	ETR4 timing relays
TERMINAL CAPACITY	1 x (0.5 - 2.5) mm², solid 2 x (0.5 - 1.5) mm², solid 1 x (20 - 14) AWG, solid or stranded

	2 x (0.5 - 1.5) mm², flexible with ferrule 1 x (0.5 - 2.5) mm², flexible with ferrule
RATED BREAKING CAPACITY	3 A at AC-15 (cos ϕ = 0.3 220 V) 1.1 x I_e (DC-11 L/R - 40 ms) 3 A at AC-14 (cos ϕ = 0.3 440 V)
RATED MAKING CAPACITY	1.1 x I_e (DC-11 L/R - 40 ms) 50 A (AC-15 cos ϕ = 0.3 220 V) 48 A (AC-14 cos ϕ = 0.3 400 V)
VOLTAGE TYPE OF OPERATING VOLTAGE	AC
OPERATING VOLTAGE AT AC, 50 HZ - MIN	400 V
OPERATING VOLTAGE AT AC, 50 HZ - MAX	400 V
OPERATING VOLTAGE AT AC, 60 HZ - MIN	400 V
OPERATING VOLTAGE AT AC, 60 HZ - MAX	400 V

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:
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