

Specifications



Eaton 197216

Eaton Moeller® series EASY Control relays, easyE4 (expandable, Ethernet), 100 - 240 V AC, 110 - 220 V DC (cULus: 100 - 110 V DC), Inputs Digital: 8, screw terminal

General specifications

PRODUCT NAME	Eaton Moeller® series EASY Control relay
CATALOG NUMBER	197216
MODEL CODE	EASY-E4-AC-12RCX1
EAN	4015080892779
PRODUCT LENGTH/DEPTH	58 mm
PRODUCT HEIGHT	90 mm
PRODUCT WIDTH	72 mm
PRODUCT WEIGHT	0.25 kg
COMPLIANCES	Eaton supports the product until its end of life
CERTIFICATIONS	CULus per UL 61010 IEC 60068-2-30 IEC/EN 61000-4-2 IEC/EN 61131-2 EN 61010 IEC 60068-2-27 EN 50178 IEC 60068-2-6 IEC/EN 61000-6-2 CSA-C22.2 No. 61010 IEC 60664 IEC/EN 61000-6-3 UL Listed UL Category Control No.: NRAQ, NRAQ7 UL File No.: E205091 DNV GL CE UL hazardous location group A (acetylene) UL hazardous location group C (ethylene) UL hazardous location division 2 UL hazardous location group D (propane) UL hazardous location



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	class I UL hazardous location group B (hydrogen)
CATALOG NOTES	Accuracy of the real-time clock depending on ambient air temperature - fluctuations of up to ± 5 s/day (± 0.5 h/year) are possible

Ambient conditions, mechanical	
DROP AND TOPPLE	50 mm Drop height, Drop to IEC/EN 60068-2-31
HEIGHT OF FALL (IEC/EN 60068-2-32) - MAX	0.3 m
MOUNTING POSITION	Horizontal Vertical
SHOCK RESISTANCE	15 g, Mechanical, according to IEC/EN 60068-2-27, Half- sinusoidal shock 11 ms, 18 Impacts
VIBRATION RESISTANCE	According to IEC/EN 60068-2-6 10 - 57 Hz, 0.15 mm constant amplitude 57 - 150 Hz, 2 g constant acceleration

Climatic environmental conditions	
AIR PRESSURE	795 - 1080 hPa (operation)
AMBIENT OPERATING TEMPERATURE - MAX	55 °C
AMBIENT STORAGE TEMPERATURE - MAX	70 °C
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
AMBIENT STORAGE TEMPERATURE - MIN	-40 °C
ENVIRONMENTAL CONDITIONS	Clearance in air and creepage distances according to EN 50178, EN 61010-2-201, UL61010-2- 201, CSA-C22.2 NO. 61010- 2-201 Condensation: prevent with appropriate measures
RELATIVE HUMIDITY	5 - 95 % (IEC 60068-2-30, IEC 60068-2-78)

Cable	
CABLE LENGTH	100 m (max. permissible per input I7 to I8), Digital inputs 115/230 V AC 40 m (max. permissible per input I1 to I6), Digital inputs 115/230 V AC
CABLE TYPE	Ethernet: CAT5

Communication	
CONNECTION TYPE	Screw terminal Ethernet: RJ45 plug, 8-pole
DATA TRANSFER RATE	10/100 MBit/s
LED INDICATOR	Status indication of Ethernet: LED Status indication of Power/RUN

Design verification

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.
10.12 ELECTROMAGNETIC COMPATIBILITY	Is the panel builder's responsibility.
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 PROTECTION OF ASSEMBLIES	Meets the product standard's requirements.
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.

Electrical rating

CONVENTIONAL THERMAL CURRENT ITH OF AUXILIARY CONTACTS (1-POLE, OPEN)	8 A
INRUSH CURRENT	12.5 A (for 6 ms)
POWER CONSUMPTION	4 W
POWER LOSS	10 W
RATED BREAKING CAPACITY	300000 Operations at AC-15, 250 V AC, 3 A (600 Ops./h) 200000 Operations at DC-13, 24 V DC, 1 A (500 Ops./h)
RATED INSULATION VOLTAGE (UI)	240 V
RATED OPERATIONAL VOLTAGE	110/120 V DC (power supply) Max. 300 V DC Max. 300 V AC 100/110/115/120/230/240 AC (-15 %/+10 %) 85 - 264 V AC 240 V AC
SUPPLY FREQUENCY	50/60 Hz (± 5%)
SUPPLY VOLTAGE AT AC, 50 HZ - MAX	264 VAC
SUPPLY VOLTAGE AT AC, 50 HZ - MIN	85 VAC
SUPPLY VOLTAGE AT DC - MAX	264 VDC
SUPPLY VOLTAGE AT DC - MIN	85 VDC
UNINTERRUPTED CURRENT	8 A AC, at 240 V AC (UL/CSA) 1 A DC, at R 300 (UL/CSA) 8 A DC, at 24 V DC (UL/CSA) 5 A AC, max. thermal continuous current $\cos \phi = 1$ at B 300 (UL/CSA)

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.
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	4 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	0 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	0 A
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	4 W

Electro magnetic compatibility

AIR DISCHARGE	8 kV
BURST IMPULSE	2 kV, Supply cable According to IEC/EN 61000-4-4 2 kV, Signal cable
CONTACT DISCHARGE	6 kV
ELECTROMAGNETIC FIELDS	1 V/m at 2.0 - 2.7 GHz (according to IEC EN 61000-4-3) 10 V/m at 0.8 - 1.0 GHz (according to IEC EN 61000-4-3) 3 V/m at 1.4 - 2 GHz (according to IEC EN 61000-4-3)
IMMUNITY TO LINE-CONDUCTED INTERFERENCE	10 V (according to IEC/EN 61000-4-6)
RADIO INTERFERENCE CLASS	Class B (EN 61000-6-3)
SURGE RATING	According to IEC/EN 61000-4-5, power pulses (Surge), EMC 1 kV, Supply cables, symmetrical, power pulses (Surge), EMC 2 kV, Supply cables, asymmetrical, power pulses (Surge), EMC
VOLTAGE DIPS	10 ms

Features & functions

FEATURES	Expandable Networkable (Ethernet)
FITTED WITH:	Timer Real time clock Relay output
INDICATION	LCD-display used as status indication of Digital inputs 115/230 V AC

General information

DEGREE OF PROTECTION	IP20
DISPLAY TEMPERATURE - MAX	55 °C
DISPLAY TEMPERATURE - MIN	0 °C
INPUT FREQUENCY	50/60 Hz (Digital inputs, at 115/230 V AC) 50/60 Hz (Digital inputs, at 24 V DC)
INSULATION RESISTANCE	According to EN 50178, EN 61010-2-201, UL61010-2-201, CSA-C22.2 NO. 61010-2-201
LIFESPAN, ELECTRICAL	25,000 Operations (Fluorescent lamp load 1 x 58 W at 230/240 V AC, conventional, compensated) 25,000 Operations (Fluorescent lamp load 10 x 58 W at 230/240 V AC, uncompensated) 25,000 Operations (Filament bulb load at 500 W, 115/120 V AC) 25,000 Operations (Filament bulb load at 1000 W, 230/240 V AC) 25,000 Operations (Fluorescent lamp load 10 x 58 W at 230/240 V AC, with upstream electrical device)
LIFESPAN, MECHANICAL	1,000,000 Operations
MOUNTING METHOD	Front build in possible Top-hat rail fixing (according to IEC/EN 60715, 35 mm) Wall mounting/direct mounting Rail mounting possible Screw fixing using fixing brackets ZB4-101-GF1 (accessories)
OVERVOLTAGE CATEGORY	III
POLLUTION DEGREE	2
PRODUCT CATEGORY	Control relays easyE4
PROTECTION	B16 circuit breaker or 8 A (T) fuse, Protection of an Output relay
PROTOCOL	MODBUS TCP/IP

Input/Output

ACCURACY	± 1 %, Repetition accuracy of timing relays (of values) ± 2 s/day, Real-time clock to inputs (± 0.2 h/Year)
DELAY TIME	20 ms typ., Digital Inputs 100 - 240 V DC (I1 - I8), Delay time from 0 to 1, Debounce ON 20 ms, Digital inputs 115/230 V AC 50 Hz (I7, I8), Delay time from 1 to 0, Debounce OFF 20 ms typ., Digital Inputs 100 - 240 V DC (I1 - I8), Delay time from 1 to 0, Debounce ON 21 ms typ., Digital Inputs 100 - 240 V AC 60 Hz (I1 - I8), Delay time from 0 to 1, Debounce OFF 21 ms typ., Digital Inputs 100 - 240 V AC 60 Hz (I1 - I8), Delay time from 1 to 0, Debounce OFF 16⅔ ms, Digital inputs 115/230 V AC 60 Hz (I7, I8), Delay time from 1 to 0, Debounce OFF 0.03 ms typ., Digital Inputs 100 - 240 V DC (I1 - I8), Delay time from 0 to 1, Debounce OFF 0.03 ms typ., Digital Inputs 100 - 240 V DC (I1 - I8), Delay time from 1 to 0, Debounce OFF
INPUT CURRENT	6 x 0.5 mA (I1 - I6, at 230 V AC, 50 Hz, at signal 1) 2 x 4 mA (I7 - I8, at 115 V AC, 60 Hz, at signal 1) 6 x 0.25 mA (I1 - I6, at 115 V AC, 60 Hz, at signal 1) 2 x 6 mA (I7 - I8, at 230 V AC, 50 Hz, at signal 1) 6 x 0.25 mA (I1 - I8, at 115 V AC, 60 Hz, at signal 1)
INPUT VOLTAGE	Condition 0: 0 - 40 V AC, Digital inputs, 115/230 V AC) Condition 1: 79 - 264 V AC, Digital inputs, 115/230 V AC)
MAKING/BREAKING CAPACITY	28/28 VA (DC, at R 300) 3600/360 VA (AC, at B 300)
NUMBER OF INPUTS	0

RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	6 kV (contact-coil)
RESIDUAL RIPPLE	≤ 5 %
RESOLUTION	• 1 min (Range H:M) • 1 s (Range M:S) • 5 ms (Range S)
SOFTWARE	EASYSOFT-SWLIC/easySoft
SWITCHING FREQUENCY	10 Hz, Relay outputs 2 Hz, Resistive load/lamp load, Relay outputs 0.5 Hz, Inductive load, Relay outputs
TYPE	easyE4 base device
USED WITH	easyE4
UTILIZATION CATEGORY	B 300 Light Pilot Duty, UL/CSA Control Circuit Rating Codes AC R 300 Light Pilot Duty, UL/CSA Control Circuit Rating Codes DC
VOLTAGE TYPE	AC

(ANALOG)	
NUMBER OF INPUTS (DIGITAL)	8
NUMBER OF OUTPUTS (ANALOG)	0
NUMBER OF OUTPUTS (DIGITAL)	4
OUTPUT	Relay outputs in groups of 1 4 Relay Outputs > 500 mA (Relay outputs, Recommended for load: 12 V AC/DC) Voltage Current
PARALLEL SWITCHING	Not permitted

Safety

EXPLOSION SAFETY CATEGORY FOR DUST

None

EXPLOSION SAFETY CATEGORY FOR GAS

None

POTENTIAL ISOLATION

Between Relay outputs and Ethernet: yes
Between Digital inputs 115/230 V AC: no
Between Digital inputs 115/230 V AC and base unit: yes
Between Relay outputs and expansion devices: yes
Basic isolation: 600 V AC (Relay outputs)
Between Digital inputs 115/230 V AC and Outputs: yes
Between Relay outputs and Inputs: yes
Between Digital inputs 115/230 V AC and expansion devices: yes
Between Digital inputs 115/230 V AC and Memory card: no
Between Digital inputs 115/230 V AC and Ethernet: yes
Between Digital inputs 115/230 V AC and Power supply: no
Safe isolation according to EN 50178: 300 V AC (Relay outputs)
Between Relay outputs and Power supply: yes
Between Relay outputs: yes
Between Digital inputs 115/230 V AC and Interface: yes

PROTECTION AGAINST POLARITY REVERSAL

Yes, for supply voltage (Siemens MPI optional)

SAFE ISOLATION

300 V AC, Between coil and contact, According to EN 50178
300 V AC, Between two contacts, According to EN 50178

Short-circuit rating

SHORT-CIRCUIT PROTECTION

≥ 1A (T), Fuse, Power supply

Terminal capacities

SCREWDRIVER SIZE	3.5 x 0.8 mm, Terminal screw
TERMINAL CAPACITY	0.2 - 2.5 mm ² (22 - 12 AWG), flexible with ferrule 0.2 - 4 mm ² (AWG 22 - 12), solid
TIGHTENING TORQUE	0.6 Nm, Screw terminals

Resources

APPLICATION NOTES	eaton-easye4-aws-ap050027-en-us.pdf
CATALOGUES	eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf
CHARACTERISTIC CURVE	eaton-electrical-timers-easy-control-relays-characteristic-curve-002.eps
DECLARATIONS OF CONFORMITY	eaton-control-relay-declaration-of-conformity-eu250648en.pdf eaton-control-relay-declaration-of-conformity-uk251131en.pdf
DRAWINGS	2723DIM-100 eaton-logic-relays-easy-control-relays-dimensions.eps eaton-modular-plc-easy-control-relays-3d-drawing-002.eps
INSTALLATION INSTRUCTIONS	eaton-easye4-base-programmable-control-relays-il050020zu.pdf
INSTALLATION VIDEOS	Control relay easyE4: The new generation Video easy E4 control relay MN049001EN
MANUALS AND USER GUIDES	eaton-easye-easysoft-training-gh135-mn050014en-us.pdf eaton-easye-rtd-advanced-training-gh138-mn050015en-us.pdf
MCAD MODEL	eaton-logic-modules-mcad-drawings-uc-12rcx1.dwg DA-CS-uc_12rcx1
MULTIMEDIA	How to process ModbusRTU devices with the EASY-COM-RTU-M1 module on an easyE4? easyE4 SmartWire-DT module with Remote Touch Display and RMQ multi color indicator

[How to connect the Remote Touch Display EASY-RTD to the easyE4?](#)

[How to process SmartWire-DT modules using the EASY-COM-SWD-C1 module connected to an easyE4?](#)

[Handling of the data logger as a ring buffer with the easyE4 using the ST programming language.](#)

[How to connect the easyE4 to the touch panel XV-102 for easy? - 5 Steps](#)

PRODUCT NOTIFICATIONS [MZ049014EN](#)

SALES NOTES

[eaton-easy-remote-touch-display-flyer-fl048004en-en-us.pdf](#)

[eaton-control-relay-easye4-flyer-fl050007en-en-us.pdf](#)

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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