

EASYE4 PROGRAMMABLE RELAYS
197211


Overview


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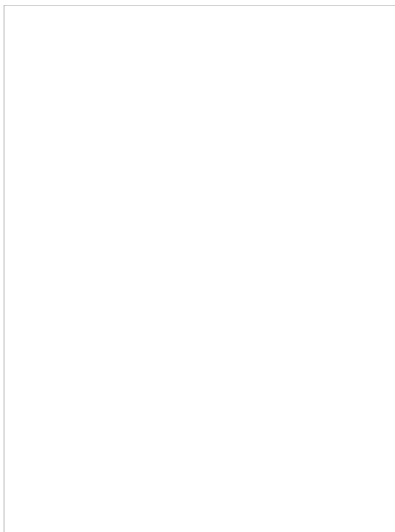


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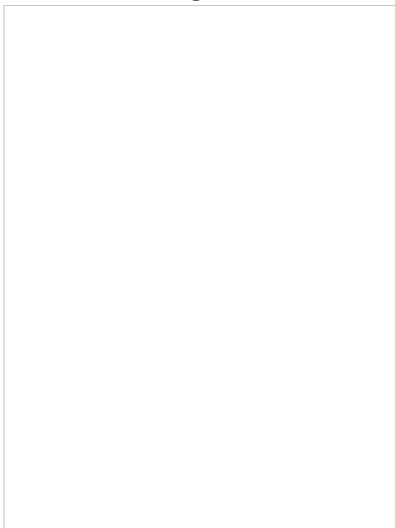






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197211

Eaton Moeller® series EASY Control relays easyE (Ethernet), 12/24 VDC, 24 V AC, Inputs Digital: 8, of analog: 4, screw terminal

How to buy

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-  Download brochure
-  Download easySoft
-  Watch tutorials

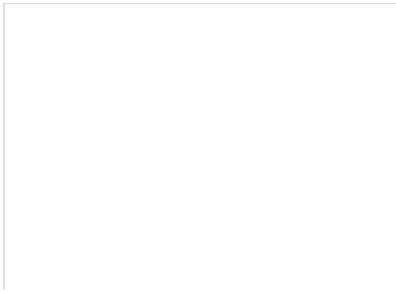


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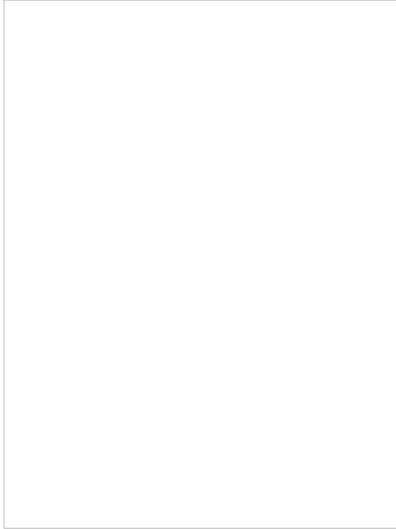


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197218

Eaton Moeller® series EASY I/O expansion,
For use with easyE4, 12/24 V DC, 24 V
AC, Inputs expansion (number) digital: 8,
screw terminal

197223

Eaton Moeller® series EASY I/O expansion,
For use with easyE4, 24 V DC, Inputs
expansion (number) analog: 4, screw
terminal EASY-E4-DC-6AE1

198513

Eaton XV-102 Touch display for easyE4, 24
V DC, 3.5z, TFTcolor, ethernet

197217

Eaton Moeller® series EASY I/O expansion,
For use with easyE4, 12/24 V DC,
AC, Inputs expansion (number) digital: 8,
screw terminal

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GENERAL SPECIFICATIONS

General specifications

>

PRODUCT NAME Eaton Moeller® series EASY Control relay**CATALOG NUMBER** 197211

Product specifications

>

MODEL CODE EASY-E4-UC-12RC1**EAN** 4015081939480**PRODUCT LENGTH/DEPTH** 58 mm**PRODUCT HEIGHT** 90 mm**PRODUCT WIDTH** 72 mm**PRODUCT WEIGHT** 0.25 kg

CERTIFICATIONS

IEC 60068-2-30
IEC 60068-2-6
IEC/EN 61000-4-2
CSA-C22.2 No. 61010
CULus per UL 61010
EN 61010
IEC/EN 61000-6-3
IEC/EN 61131-2
IEC/EN 61000-6-2
EN 50178
IEC 60068-2-27
UL Listed
UL Category Control No.: NRAQ, NRAQ7
UL File No.: E205091
DNV GL
CE
UL hazardous location class I
UL hazardous location division 2
UL hazardous location group A (acetylene)
UL hazardous location group B (hydrogen)
UL hazardous location group C (ethylene)
UL hazardous location group D (propane)

CATALOG NOTES

Accuracy of the real-time clock depending on ambient temperature fluctuations of up to ± 5 s/day (± 0.5 h/year) are possible.

PRODUCT SPECIFICATIONS

RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN) 0 A

10.11 SHORT-CIRCUIT RATING

Is the panel builder's responsibility.

Max. 300 V DC
12 V DC (digital inputs)

RATED OPERATIONAL VOLTAGE	<p>Max. 300 V AC 240 V AC 24 V AC (-15 %/+10 % - power supply) 24 V DC (digital inputs) 12/24 V DC (-15 %/+ 20 % - power supply) 10.2 - 28.8 V DC 24 V AC (digital inputs) 20.4 - 26.4 V AC</p>
10.4 CLEARANCES AND CREEPAGE DISTANCES	Meets the product standard's requirements.
CABLE TYPE	CAT5
MOUNTING METHOD	<p>Screw fixing using fixing brackets ZB4-101-GF1 (ac Front build in possible Rail mounting possible Top-hat rail fixing (according to IEC/EN 60715, 35 Wall mounting/direct mounting</p>
AIR PRESSURE	795 - 1080 hPa (operation)
10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES	Meets the product standard's requirements.
AMBIENT STORAGE TEMPERATURE - MIN	-40 °C
SURGE RATING	<p>1 kV, Supply cables, symmetrical, power pulses (S According to IEC/EN 61000-4-5, power pulses (Sur 2 kV, Supply cables, asymmetrical, power pulses (S</p>
FITTED WITH:	<p>Display Real time clock Relay output Keypad Timer</p>
VIBRATION RESISTANCE	<p>10 - 57 Hz, 0.15 mm constant amplitude According to IEC/EN 60068-2-6 57 - 150 Hz, 2 g constant acceleration</p>
MAKING/BREAKING CAPACITY	<p>28/28 VA (DC, at R 300) 3600/360 VA (AC, at B 300)</p>
EXPLOSION SAFETY CATEGORY FOR GAS	None
AMBIENT OPERATING TEMPERATURE - MAX	55 °C
SWITCHING CURRENT	8 A
SWITCHING FREQUENCY	<p>10 Hz, Relay outputs 2 Hz, Resistive load/lamp load, Relay outputs 0.5 Hz, Inductive load, Relay outputs</p>
FEATURES	<p>Expandable Display indication of 6 lines x 16 characters Networkable (Ethernet)</p>
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
NUMBER OF HW-INTERFACES (SERIAL TTY)	0
SUPPLY VOLTAGE AT AC, 60 HZ - MAX	26.4 VAC
10.6 INCORPORATION OF SWITCHING DEVICES AND	Does not apply. since the entire switchgear needs to

COMPONENTS	
CONVERSIONS	Each CPU cycle, Analog inputs
10.2.6 MECHANICAL IMPACT	Does not apply, since the entire switchgear needs to
10.3 DEGREE OF PROTECTION OF ASSEMBLIES	Meets the product standard's requirements.
VOLTAGE TYPE	AC/DC
CATEGORY (EN 954-1)	None
PRODUCT CATEGORY	Control relays easyE4
POTENTIAL ISOLATION	<p>Between Digital inputs 12 V DC and Outputs: yes</p> <p>Between Analog inputs and Outputs: yes</p> <p>Between Digital inputs 12 V DC and expansion dev</p> <p>Between Digital inputs 24 V DC and Outputs: yes</p> <p>Between Relay outputs and expansion devices: yes</p> <p>Between Digital inputs 24 V AC and Outputs: yes</p> <p>Between Relay outputs and Power supply: yes</p> <p>Between Digital inputs 24 V DC and expansion dev</p> <p>Between Digital inputs 24 V DC and Ethernet: yes</p> <p>Basic isolation: 600 V AC (Relay outputs)</p> <p>Between Analog inputs and expansion devices: yes</p> <p>Between Relay outputs: yes</p> <p>Between Relay outputs and Inputs: yes</p> <p>Between Digital inputs 12 V DC and Ethernet: yes</p> <p>Between Relay outputs and Ethernet: yes</p> <p>Safe isolation according to EN 50178: 300 V AC (R</p> <p>Between Digital inputs 24 V AC and expansion dev</p> <p>Between Digital inputs 24 V AC and Ethernet: yes</p>
RADIO INTERFERENCE CLASS	Class B (EN 61000-6-3)
RESIDUAL RIPPLE	≤ 5 %
INDICATION	<p>LCD-display used as status indication of Digital inp</p> <p>LCD-display used as status indication of Digital inp</p>
TERMINAL CAPACITY	<p>0.2 - 4 mm² (AWG 22 - 12), solid</p> <p>0.2 - 2.5 mm² (22 - 12 AWG), flexible with ferrule</p>
HEAT DISSIPATION CAPACITY PDISS	0 W
INCREMENTAL ENCODER	Cable length: ≤ 20 m (screened)
NUMBER OF HW-INTERFACES (RS-422)	0
INSULATION RESISTANCE	According to EN 50178, EN 61010-2-201, UL61010 NO. 61010-2-201
OUTPUT	<p>4 Relay Outputs</p> <p>> 500 mA (Relay outputs, Recommended for load:</p> <p>Relay outputs in groups of 1</p> <p>Voltage</p> <p>Current</p>
ELECTROMAGNETIC FIELDS	<p>10 V/m at 0.8 - 1.0 GHz (according to IEC EN 610</p> <p>1 V/m at 2.0 - 2.7 GHz (according to IEC EN 6100</p> <p>3 V/m at 1.4 - 2 GHz (according to IEC EN 61000-</p>
CONVENTIONAL THERMAL CURRENT I_{TH} OF AUXILIARY CONTACTS (1-POLE, OPEN)	8 A

PROTOCOL	TCP/IP MODBUS
10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH	Is the panel builder's responsibility.
OVERVOLTAGE CATEGORY	III
DEGREE OF PROTECTION	IP20
PARALLEL SWITCHING	Not permitted
FREQUENCY COUNTER	Pulse shape: Square (digital inputs 24 V DC) Cable length: ≤ 20 m (screened, Digital inputs 24 V DC) Number: 4 (I1, I2, I3, I4 - Digital inputs 24 V DC) Pulse pause ratio: 1:1 (Digital inputs 24 V DC) Counter frequency: 5 kHz (Digital inputs 24 V DC)
AMBIENT STORAGE TEMPERATURE - MAX	70 °C
INPUT VOLTAGE	At signal 1: ≥ 15 V (I1 - I8, sinusoidal, Digital inputs) Status 0: ≤ 8 V DC (I5 - I8, Digital inputs, 24 V DC) Status 1: ≥ 8 V DC (I5 - I8, Digital inputs, 24 V DC) Signal 0: ≤ 5 V DC (I1 - I4, Digital inputs, 12 V DC) Status 0: ≤ 15 V DC (I1 - I4, Digital inputs, 24 V DC) At signal 0: ≤ 5 V (I1 - I8, sinusoidal, Digital inputs) Status 1: ≥ 15 V DC (I1 - I4, Digital inputs, 24 V DC)
POLLUTION DEGREE	2
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	6 kV (contact-coil)
SIL (IEC 61508)	None
TIGHTENING TORQUE	0.6 Nm, Screw terminals
INPUT FREQUENCY	50/60 Hz (Digital inputs, at 24 V DC)
TYPE	easyE4 base device
10.2.2 CORROSION RESISTANCE	Meets the product standard's requirements.
SUPPLY FREQUENCY	50/60 Hz (± 5%)
10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION	Meets the product standard's requirements.
10.2.7 INSCRIPTIONS	Meets the product standard's requirements.
INCREMENTAL COUNTER	Number of counter inputs: 2 (I1 + I2, I3 + I4) Value range: -2147483648 to +2147483647 Pulse shape: Square Pulse pause ratio: 1:1 Signal offset: 90° Counter frequency: ≤ 5 kHz
ENVIRONMENTAL CONDITIONS	Clearance in air and creepage distances according to 61010-2-201, UL61010-2-201, CSA-C22.2 NO. 61 Condensation: prevent with appropriate measures
PROTECTION AGAINST POLARITY REVERSAL	Yes, for supply voltage (Siemens MPI optional)
SIGNAL RANGE	0 - 10 V DC, Analog inputs

SHOCK RESISTANCE	15 g, Mechanical, according to IEC/EN 60068-2-27 shock 11 ms, 18 Impacts
NUMBER OF INPUTS (ANALOG)	0 4
INPUT CURRENT	3.3 mA (I1 - I4, at 24 V DC, at signal 1) 2.2 mA (I5 - I8, at 24 V DC, at signal 1) 1 mA (Analog inputs) 200 mA
10.12 ELECTROMAGNETIC COMPATIBILITY	Is the panel builder's responsibility.
10.2.5 LIFTING	Does not apply, since the entire switchgear needs to
NUMBER OF HW-INTERFACES (RS-485)	0
NUMBER OF HW-INTERFACES (INDUSTRIAL ETHERNET)	1
INPUT	Voltage (DC)
FREQUENCY RATING	6.5 Hz
10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS	Is the panel builder's responsibility.
IMMUNITY TO LINE-CONDUCTED INTERFERENCE	10 V (according to IEC/EN 61000-4-6)
PROTECTION	Miniature circuit-breaker B16 or slow-blow 8 A fuse output relay
CONTACT DISCHARGE	6 kV
SUPPLY VOLTAGE AT DC - MIN	10.2 VDC
NUMBER OF HW-INTERFACES (WIRELESS)	0
LIFESPAN, ELECTRICAL	25,000 Operations (Filament bulb load at 1000 W, 25,000 Operations (Fluorescent lamp load 10 x 58 W uncompensated) 25,000 Operations (Fluorescent lamp load 10 x 58 W with upstream electrical device) 25,000 Operations (Filament bulb load at 500 W, 1 25,000 Operations (Fluorescent lamp load 1 x 58 W conventional, compensated)
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	3 W
DISPLAY TEMPERATURE - MIN	0 °C
INPUT IMPEDANCE	13.3 kΩ
10.9.3 IMPULSE WITHSTAND VOLTAGE	Is the panel builder's responsibility.
UTILIZATION CATEGORY	B 300 Light Pilot Duty, UL/CSA Control Circuit I R 300 Light Pilot Duty, UL/CSA Control Circuit I
NUMBER OF HW-INTERFACES (RS-232)	0
NUMBER OF INPUTS (DIGITAL)	4 8
RATED BREAKING CAPACITY	300000 Operations at AC-15, 250 V AC, 3 A (600

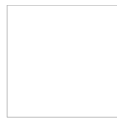
	200000 Operations at DC-13, 24 V DC, 1 A (500 C
CABLE LENGTH	100 m, unscreened, Digital inputs 24 V DC 100 m, unscreened, Digital inputs 24 V AC ≤ 30 m, screened, Analog inputs 100 m, unscreened, Digital inputs 12 V DC 40 m (max. per input), Digital inputs 24 V DC
10.5 PROTECTION AGAINST ELECTRIC SHOCK	Does not apply, since the entire switchgear needs to
SAFE ISOLATION	300 V AC, Between coil and contact, According to 300 V AC, Between two contacts, According to EN
VOLTAGE DIPS	≤ 1 ms from rated voltage (12 V DC) 10 ms
SUPPLY VOLTAGE AT DC - MAX	28.8 VDC
USED WITH	easyE4
MOUNTING POSITION	Vertical Horizontal
SOFTWARE	EASYSOFT-SWLIC/easySof7
10.13 MECHANICAL FUNCTION	The device meets the requirements, provided the inf instruction leaflet (IL) is observed.
10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL	Is the panel builder's responsibility.
DISPLAY TEMPERATURE - MAX	55 °C
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	0 W
SAFETY PERFORMANCE LEVEL (EN ISO 13849-1)	None
RESOLUTION	<ul style="list-style-type: none"> • 1 min (Range H:M) • 1 s (Range M:S) • 12 Bit (value 0 - 4095, Analog inputs) • 5 ms (Range S)
SHORT-CIRCUIT PROTECTION	≥ 1A (T), Fuse, Power supply
DROP AND TOPPLE	50 mm Drop height, Drop to IEC/EN 60068-2-31
SUPPLY VOLTAGE AT AC, 60 HZ - MIN	20.4 VAC
UNINTERRUPTED CURRENT	1 A DC, at R 300 (UL/CSA) 8 A DC, at 24 V DC (UL/CSA) 5 A AC, max. thermal continuous current $\cos \phi = 1$ 10 A AC, at 240 V AC (UL/CSA)
HEIGHT OF FALL (IEC/EN 60068-2-32) - MAX	0.3 m
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	4 W
NUMBER OF OUTPUTS (ANALOG)	0
AIR DISCHARGE	8 kV
NUMBER OF HW-INTERFACES (USB)	0

ACCURACY	± 2 s/day, Real-time clock to inputs (± 0.2 h/Year) ± 2 %, (I7, I8) ± 0.12 V, of actual value, within a specified range Inputs) ± 1 %, Repetition accuracy of timing relays (of value) ± 3 %, of actual value, two easy devices (Analog Input)
DISPLAY TYPE	Monochrome
DELAY TIME	0.015 ms typ., Digital inputs 12 V DC (I1 - I8), Debounce OFF 0.015 ms typ., Digital inputs 24 V DC (I1 - I8), Debounce OFF 0.015 ms typ., Digital inputs 24 V DC (I1 - I8), Debounce OFF 20 ms typ., Digital inputs 12 V DC (I1 - I8), Debounce ON 20 ms typ., Digital inputs 12 V DC (I1 - I8), Debounce ON 20 ms typ., Digital inputs 24 V DC (I1 - I8), Debounce ON 20 ms typ., Digital inputs 24 V DC (I1 - I8), Debounce ON 0.015 ms typ., Digital inputs 12 V DC (I1 - I8), Debounce OFF
DATA TRANSFER RATE	10/100 MBit/s
NUMBER OF OUTPUTS (DIGITAL)	4
POWER CONSUMPTION	3 W
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.
CONNECTION TYPE	Screw terminal Ethernet: RJ45 plug, 8-pole
LIFESPAN, MECHANICAL	10,000,000 Operations
NUMBER OF HW-INTERFACES (OTHER)	0
RELATIVE HUMIDITY	5 - 95 % (IEC 60068-2-30, IEC 60068-2-78)
SUPPLY VOLTAGE AT AC, 50 HZ - MIN	20.4 VAC
RAPID COUNTER INPUTS	10 kHz, Counter frequency -2147483648 - 2147483647 (value range) ≤ 20 m (cable length, screened) 1:1 (Pulse pause ratio) Square (pulse shape) Number: 4 (I1, I2, I3, I4 - Digital inputs 24 V DC)
10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS	Is the panel builder's responsibility.
SUPPLY VOLTAGE AT AC, 50 HZ - MAX	26.4 VAC
10.10 TEMPERATURE RISE	The panel builder is responsible for the temperature rise. Eaton will provide heat dissipation data for the device.
NUMBER OF HW-INTERFACES (PARALLEL)	0

NUMBER OF HW-INTERFACES (PARALLEL)	0
EXPLOSION SAFETY CATEGORY FOR DUST	None
SCREWDRIVER SIZE	3.5 x 0.8 mm, Terminal screw
BURSTIMPULSE	2 kV, Supply cable 2 kV, Signal cable According to IEC/EN 61000-4-4
BASE TYPE	Yes
NUMBER OF INTERFACES (PROFNET)	0
RATED INSULATION VOLTAGE (UI)	240 V



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mCAD model

Software, firmware, and applications



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