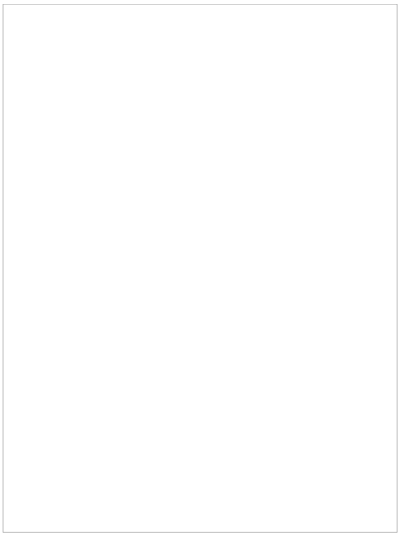
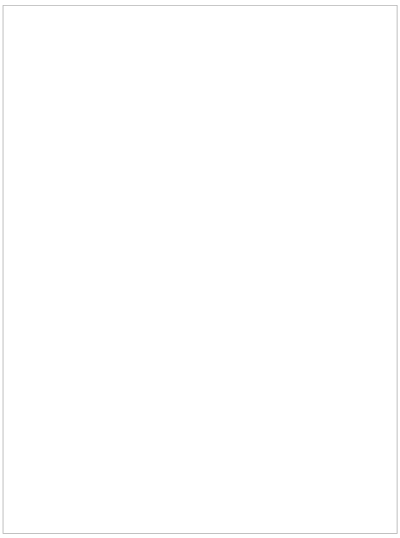
EASYE4 PROGRAMMABLE RELAYS
197214





197214

Eaton Moeller® series EASY Control relays, easyE
V DC, Inputs Digital: 8, of which can be used as ana

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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 For use with easyE4, 12/24 V D AC, Inputs expansion (number) screw terminal

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Product specifications >

GENERAL SPECIFICATIONS

PRODUCT NAME	Eaton Moeller® series EASY Control relay
CATALOG NUMBER	197214
MODEL CODE	EASY-E4-DC-12TCX1
EAN	4015081939459
PRODUCT LENGTH/DEPTH	58 mm
PRODUCT HEIGHT	90 mm
PRODUCT WIDTH	72 mm
PRODUCT WEIGHT	0.2 kg
CERTIFICATIONS	CULus per UL 61010 IEC/EN 61000-6-2 IEC 60068-2-30 CSA-C22.2 No. 61010 IEC/EN 61000-4-2 IEC 60068-2-27 IEC 60068-2-6 EN 50178 EN 61010 IEC/EN 61000-6-3 IEC/EN 61131-2 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 ambie fluctuations of up to ± 5 s/day (± 0.5 h/year) are poss

PRODUCT SPECIFICATIONS

RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	0 A
10.11 SHORT-CIRCUIT RATING	Is the panel builder's responsibility.
RATED OPERATIONAL VOLTAGE	24 V DC (transistor outputs) 20.4 - 28.8 V DC 24 V DC (digital inputs) 24 V DC (-15 %/+ 20 % - power supply) 20.4 - 28.8 V DC (Transistor outputs)
10.4 CLEARANCES AND CREEPAGE DISTANCES	Meets the product standard's requirements.

CABLE TYPE	CAT5
MOUNTING METHOD	Top-hat rail fixing (according to IEC/EN 60715, 35 Screw fixing using fixing brackets ZB4-101-GF1 (ac Rail mounting possible Front build in possible Wall mounting/direct mounting
LED INDICATOR	Status indication of Power/RUN Status indication of Ethernet: LED
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	0.5 kV, Supply cables, symmetrical, power pulses (1 kV, Supply cables, asymmetrical, power pulses (S According to IEC/EN 61000-4-5, power pulses (Sur
FITTED WITH:	Timer Real time clock
VIBRATION RESISTANCE	57 - 150 Hz, 2 g constant acceleration 10 - 57 Hz, 0.15 mm constant amplitude According to IEC/EN 60068-2-6
EXPLOSION SAFETY CATEGORY FOR GAS	None
AMBIENT OPERATING TEMPERATURE - MAX	55 °C
SWITCHING CURRENT	0.5 A
FEATURES	Expandable Parallel connection of transistor outputs with resistiv load with external suppressor circuit, combination w Group 1: Q1 to Q4 Networkable (Ethernet)
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
NUMBER OF HW-INTERFACES (SERIAL TTY)	0
SUPPLY VOLTAGE AT AC, 60 HZ - MAX	0 VAC
10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS	Does not apply, since the entire switchgear needs to
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.
OPERATING FREQUENCY	Dependent on the cycle- and transmission-time of th Dependent on the cycle time of the basic device Depending on the suppressor circuit (Inductive load With external suppressor circuit, Max. switching fre factor)
VOLTAGE TYPE	DC

CATEGORY (EN 954-1)	None
PRODUCT CATEGORY	Control relays easyE4
POTENTIAL ISOLATION	Between Transistor outputs and expansion devices: Between Analog inputs and expansion devices: yes Between Analog inputs and Power supply: no Between Analog inputs and Outputs: yes Between Digital inputs 24 V DC and expansion dev Between Transistor outputs: no Between Transistor outputs and control buttons: yes Between Transistor outputs and Ethernet: yes Between Digital inputs 24 V DC: no Between Analog inputs and Memory card: no Between Digital inputs 24 V DC and Power supply Between Transistor outputs and Memory card: yes Between Transistor outputs and Inputs: yes Between Digital inputs 24 V DC and Outputs: yes Between Digital inputs 24 V DC and Memory card: Between Analog inputs: no Between Analog inputs and Ethernet: yes Between Digital inputs 24 V DC and Ethernet: yes Between Transistor outputs and Power supply: yes
RADIO INTERFERENCE CLASS	Class B (EN 61000-6-3)
RESIDUAL RIPPLE	5 % (transistor outputs) ≤ 5 %
TERMINAL CAPACITY	0.2 - 2.5 mm² (22 - 12 AWG), flexible with ferrule 0.2 - 4 mm² (AWG 22 - 12), solid
HEAT DISSIPATION CAPACITY PDISS	0 W
INCREMENTAL ENCODER	Cable length: ≤ 20 m (screened)
UTILIZATION FACTOR	0.25 (Inductive load to EN 60947-5-1, Without exte circuit, DC-13, T0.95 = 72 ms, R = 48 Ω, L = 1.1 0.25 (Inductive load to EN 60947-5-1, Without exte circuit, T0.95 = 15 ms, R = 48 Ω, L = 0.24 H) 1 (Inductive load to EN 60947-5-1, With external su
NUMBER OF HW-INTERFACES (RS-422)	0
SHORT-CIRCUIT CURRENT	6.8 A, Transistor outputs
INSULATION RESISTANCE	According to EN 50178, EN 61010-2-201, UL6101 NO. 61010-2-201
POWER LOSS	2 W
OUTPUT	2 A, Max. total current, Outputs Parallel connection of max. 4 Transistor outputs 4 Transistor Outputs Voltage Current
ELECTROMAGNETIC FIELDS	10 V/m at 0.8 - 1.0 GHz (according to IEC EN 610 1 V/m at 2.0 - 2.7 GHz (according to IEC EN 6100 3 V/m at 1.4 - 2 GHz (according to IEC EN 61000-
CONVENTIONAL THERMAL CURRENT ITH OF AUXILIARY CONTACTS (1-POLE, OPEN)	0.5 A

INRUSH CURRENT	12.5 A (for 6 ms)
PROTOCOL	MODBUS TCP/IP
10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH	Is the panel builder's responsibility.
OVERVOLTAGE CATEGORY	III
DEGREE OF PROTECTION	IP20
FREQUENCY COUNTER	Cable length: ≤ 20 m (screened, Digital inputs 24 V Number: 4 (I1, I2, I3, I4 - Digital inputs 24 V DC) Pulse shape: Square (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	Status 0: ≤ 8 V DC (I5 - I8, Digital inputs, 24 V D Status 0: ≤ 15 V DC (I1 - I4, Digital inputs, 24 V I Status 1: ≥ 15 V DC (I1 - I4, Digital inputs, 24 V I Signal 0: ≤ 5 V DC (I1 - I8, Digital inputs, 24 V D
POLLUTION DEGREE	2
SIL (IEC 61508)	None
FUNCTIONS	Thermal cutout
TIGHTENING TORQUE	0.6 Nm, Screw terminals
TYPE	easyE4 base device
10.2.2 CORROSION RESISTANCE	Meets the product standard's requirements.
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	Pulse pause ratio: 1:1 Number of counter inputs: 2 (I1 + I2, I3 + I4) Pulse shape: Square Signal offset: 90° Value range: -2147483648 to +2147483647 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	For transistor outputs (Caution: A short circuit will applied to the outputs in the event that the supply v the wrong poles) 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	1 mA (Analog inputs) 2.2 mA (I5 - I8, at 24 V DC, at signal 1) 3.3 mA (I1 - I4, at 24 V DC, at signal 1) 80 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)
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)
CONTACT DISCHARGE	6 kV
SUPPLY VOLTAGE AT DC - MIN	20.4 VDC
NUMBER OF HW-INTERFACES (WIRELESS)	0
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	2 W
INPUT IMPEDANCE	13.3 kΩ
10.9.3 IMPULSE WITHSTAND VOLTAGE	Is the panel builder's responsibility.
NUMBER OF HW-INTERFACES (RS-232)	0
NUMBER OF INPUTS (DIGITAL)	8
CABLE LENGTH	≤ 30 m, screened, Analog inputs 100 m, unscreened, Digital inputs 24 V DC
10.5 PROTECTION AGAINST ELECTRIC SHOCK	Does not apply, since the entire switchgear needs to
VOLTAGE DIPS	20 ms ≤ 10 ms, Bridging voltage dips
SUPPLY VOLTAGE AT DC - MAX	28.8 VDC
USED WITH	easyE4
MOUNTING POSITION	Horizontal Vertical
SOFTWARE	EASYSOFT-SWLIC/easySoft7
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.
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	0 W

SAFETY PERFORMANCE LEVEL (EN ISO 13849-1)	None
RESOLUTION	• 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 Yes, electronic (Q1 - Q4), Transistor outputs
DROP AND TOPPLE	50 mm Drop height, Drop to IEC/EN 60068-2-31
SUPPLY VOLTAGE AT AC, 60 HZ - MIN	0 VAC
HEIGHT OF FALL (IEC/EN 60068-2-32) - MAX	0.3 m
RESIDUAL CURRENT	0.1 mA (on signal "1" per channel)
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	0 W
RATED OPERATIONAL CURRENT (IE)	Max. 0.5 A at signal „1” DC per channel
SHORT-CIRCUIT TRIPPING CURRENT	0.7 ≤ Ie ≤ 1.7 per output, For Ra ≤ 10 mΩ, Depend active channels and their load, Transistor outputs
NUMBER OF OUTPUTS (ANALOG)	0
LAMP LOAD	Max. 3 W (without Rv per channel)
AIR DISCHARGE	8 kV
OUTPUT VOLTAGE	U = U_e - 1 V (signal 1 at I_e = 0.5 A, transistor outp Max. 2.5 V (at status 0 per channel, transistor outpu
NUMBER OF HW-INTERFACES (USB)	0
HEAT DISSIPATION	3.4 W (at 24 V DC)
ACCURACY	± 2 %, (I7, I8) ± 0.12 V, of actual value, within a si Inputs) ± 1 %, Repetition accuracy of timing relays (of valu ± 3 %, of actual value, two easy devices (Analog Inp ± 2 s/day, Real-time clock to inputs (± 0.2 h/Year)
DELAY TIME	20 ms typ., Digital inputs 24 V DC (I1 - I8), Delay Debounce ON 20 ms typ., Digital inputs 24 V DC (I1 - I8), Delay Debounce ON 0.015 ms typ., Digital inputs 24 V DC (I1 - I8), De Debounce OFF 0.015 ms typ., Digital inputs 24 V DC (I1 - I8), De Debounce OFF
DATA TRANSFER RATE	10/100 MBit/s
NUMBER OF OUTPUTS (DIGITAL)	4
POWER CONSUMPTION	2 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	Ethernet: RJ45 plug, 8-pole Screw terminal
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	0 VAC
RAPID COUNTER INPUTS	Square (pulse shape) -2147483648 - 2147483647 (value range) 1:1 (Pulse pause ratio) 10 kHz, Counter frequency Number: 4 (I1, I2, I3, I4 - Digital inputs 24 V DC) ≤ 20 m (cable length, screened)
10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS	Is the panel builder's responsibility.
SUPPLY VOLTAGE AT AC, 50 HZ - MAX	0 VAC
10.10 TEMPERATURE RISE	The panel builder is responsible for the temperature Eaton will provide heat dissipation data for the devi
NUMBER OF HW-INTERFACES (PARALLEL)	0
EXPLOSION SAFETY CATEGORY FOR DUST	None
SCREWDRIVER SIZE	3.5 x 0.8 mm, Terminal screw
SUPPLY CURRENT	24/44 mA, Normally/max., On 1 signal, Transistor 18/32 mA, Normally/max., On 0 signal, Transistor
BURST IMPULSE	2 kV, Signal cable 2 kV, Supply cable According to IEC/EN 61000-4-4
DUTY FACTOR	100 % (Inductive load to EN 60947-5-1, With exter circuit) 100 % (Inductive load to EN 60947-5-1, Without ex circuit, DC-13, T0.95 = 72 ms, R = 48 Ω, L = 1.1 100 % (Inductive load to EN 60947-5-1, Without ex circuit, T0.95 = 15 ms, R = 48 Ω, L = 0.24 H)
BASE TYPE	Yes
NUMBER OF INTERFACES (PROFINET)	0

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