Control relays, easyE4 (expandable, Ethernet), 24 V DC, Inputs Digital: 8, of which can be used as analog: 4, screw terminal



EASY-E4-DC-12TCX1 Part no.

197214

EL Number (Norway)

4500549

Product name	Eaton Moeller® series EASY Control relay
Part no.	EASY-E4-DC-12TCX1
EAN	4015081939459
Product Length/Depth	58 millimetre
Product height	90 millimetre
Product width	72 millimetre
Product weight	0.2 kilogram
Certifications	IEC 60068-2-6
Genuncations	IEC/EN 61000-6-3 EN 61010 CULus per UL 61010 CSA-C22.2 No. 61010 IEC/EN 61131-2 IEC 60068-2-30 EN 50178 IEC 60068-2-27 IEC/EN 61000-4-2 IEC/EN 61000-6-2 UL File No.: E205091 DNV GL CE UL Listed UL Category Control No.: NRAQ, NRAQ7 UL hazardous location group A (acetylene) UL hazardous location group B (hydrogen) UL hazardous location group B (hydrogen) UL hazardous location group C (ethylene) UL hazardous location group D (propane)
Product Tradename	EASY
Product Type	Control relay
Product Sub Type	None
Catalog Notes	Accuracy of the real-time clock depending on ambient air temperature - fluctuations of up to \pm 5 s/day (\pm 0.5 h/year) are possible
Features	Expandable Parallel connection of transistor outputs with resistive load, inductive load with external suppressor circuit, combination within a group - Group 1: Q1 to Q4 Networkable (Ethernet)
Fitted with:	Timer Real time clock
Functions	Thermal cutout
Degree of protection	IP20
Duty factor	100 % (Inductive load to EN 60947-5-1, With external suppressor circuit) 100 % (Inductive load to EN 60947-5-1, Without external suppressor circuit, DC-13 T0.95 = 72 ms, R = 48 Ω , L = 1.15 H) 100 % (Inductive load to EN 60947-5-1, Without external suppressor circuit, T0.95 : 15 ms, R = 48 Ω , L = 0.24 H)
Frequency counter	Cable length: ≤ 20 m (screened, Digital inputs 24 V DC) 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)
Insulation resistance	According to EN 50178, EN 61010-2-201, UL61010-2-201, CSA-C22.2 NO. 61010-2-20
Mounting method	Top-hat rail fixing (according to IEC/EN 60715, 35 mm) Screw fixing using fixing brackets ZB4-101-GF1 (accessories) Rail mounting possible
	Front build in possible Wall mounting/direct mounting

	Depending on the suppressor circuit (Inductive load to EN 60947-5-1, With extern suppressor circuit, Max. switching frequency, max. duty factor)
Overvoltage category	III
Pollution degree	2
Product category	Control relays easyE4
Protocol	MODBUS TCP/IP
Residual current	0.1 mA (on signal "1" per channel)
Residual ripple	5 % (transistor outputs) ≤ 5 %
Resolution	1 min (Range H:M) 1 s (Range M:S) 12 Bit (value 0 - 4095, Analog inputs) 5 ms (Range S)
Software	EASYSOFT-SWLIC/easySoft7
Туре	easyE4 base device
Used with	easyE4
Voltage type	DC
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, 1 Impacts
Vibration resistance	57 - 150 Hz, 2 g constant acceleration 10 - 57 Hz, 0.15 mm constant amplitude According to IEC/EN 60068-2-6
	705 (00010 () ;)
Air pressure	795 - 1080 hPa (operation)
Ambient operating temperature - min	-25 °C
Ambient operating temperature - max	55 °C
Ambient storage temperature - min	-40 °C
Ambient storage temperature - max	70 °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)
Air discharge	8 kV
Burst impulse	2 kV, Signal cable 2 kV, Supply cable According to IEC/EN 61000-4-4
Contact discharge	6 kV
Electromagnetic fields	10 V/m at 0.8 - 1.0 GHz (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)
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	0.5 kV, Supply cables, symmetrical, power pulses (Surge), EMC 1 kV, Supply cables, asymmetrical, power pulses (Surge), EMC According to IEC/EN 61000-4-5, power pulses (Surge), EMC
Voltage dips	20 ms ≤ 10 ms, Bridging voltage dips
Terminal capacity	0.2 - 2.5 mm² (22 - 12 AWG), flexible with ferrule 0.2 - 4 mm² (AWG 22 - 12), solid
	3.5 x 0.8 mm, Terminal screw
Screwdriver size	
Screwdriver size Tightening torque	0.6 Nm, Screw terminals
	0.6 Nm, Screw terminals 3.4 W (at 24 V DC)
Tightening torque	
Tightening torque Heat dissipation	3.4 W (at 24 V DC)

Rated operational current (le)	Max. 0.5 A at signal "1" DC per channel
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)
Supply current	24/44 mA, Normally/max., On 1 signal, Transistor outputs 18/32 mA, Normally/max., On 0 signal, Transistor outputs
Supply voltage at AC, 50 Hz - min	0
Supply voltage at AC, 50 Hz - max	0
Supply voltage at DC - min	20.4
Supply voltage at DC - max	28.8
Short-circuit current	6.8 A, Transistor outputs
Short-circuit protection	≥ 1A (T), Fuse, Power supply Yes, electronic (Q1 - Q4), Transistor outputs
Short-circuit tripping current	$0.7 \le le \le 1.7$ per output, For Ra ≤ 10 mD, Depending on number of active channels and their load, Transistor outputs
Connection type	Ethernet: RJ45 plug, 8-pole Screw terminal
Data transfer rate	10/100 MBit/s
LED indicator	Status indication of Power/RUN
	Status indication of Ethernet: LED
Cable length	≤ 30 m, screened, Analog inputs 100 m, unscreened, Digital inputs 24 V DC
Cable type	CAT5
3200 1112	
Accuracy	\pm 2 %, (17, 18) \pm 0.12 V, of actual value, within a single device (Analog Inputs) \pm 1 %, Repetition accuracy of timing relays (of values) \pm 3 %, of actual value, two easy devices (Analog Inputs) \pm 2 s/day, Real-time clock to inputs (\pm 0.2 h/Year)
Conversions	Each CPU cycle, Analog inputs
Delay time	20 ms typ., Digital inputs 24 V DC (I1 - I8), Delay time from 1 to 0, Debounce ON 20 ms typ., Digital inputs 24 V DC (I1 - I8), Delay time from 0 to 1, Debounce ON 0.015 ms typ., Digital inputs 24 V DC (I1 - I8), Delay time from 1 to 0, Debounce OFF 0.015 ms typ., Digital inputs 24 V DC (I1 - I8), Delay time from 0 to 1, Debounce OFF
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
Incremental encoder	Cable length: ≤ 20 m (screened)
Input current	Voltage (DC) 1 mA (Analog inputs) 2.2 mA (15 - 18, at 24 V DC, at signal 1)
	3.3 mA (I1 - I4, at 24 V DC, at signal 1) 80 mA
Input impedance	13.3 kΩ
Input voltage	Status 0: ≤ 8 V DC (I5 - I8, Digital inputs, 24 V DC) Status 0: ≤ 15 V DC (I1 - I4, Digital inputs, 24 V DC) Status 1: ≥ 15 V DC (I1 - I4, Digital inputs, 24 V DC) Signal 0: ≤ 5 V DC (I1 - I8, Digital inputs, 24 V DC)
Lamp load	Max. 3 W (without Rv per channel)
Number of inputs (analog)	0
Number of inputs (digital)	8
Number of outputs (analog)	0
Number of outputs (digital)	4
Output	2 A, Max. total current, Outputs Parallel connection of max. 4 Transistor outputs 4 Transistor Outputs Voltage Current
Output voltage	U = U# - 1 V (signal 1 at $I# = 0.5 A$, transistor outputs) Max. 2.5 V (at status 0 per channel, transistor outputs)
Rapid counter inputs	Square (pulse shape) -2147483648 - 2147483647 (value range) 1:1 (Pulse pause ratio)

	10 kHz, Counter frequency
	Number: 4 (11, 12, 13, 14 - Digital inputs 24 V DC) ≤ 20 m (cable length, screened)
Signal range	0 - 10 V DC, Analog inputs
Utilization factor	0.25 (Inductive load to EN 60947-5-1, Without external suppressor circuit, DC-13, T0.95 = 72 ms, R = 48 Ω , L = 1.15 H) 0.25 (Inductive load to EN 60947-5-1, Without external suppressor circuit, T0.95 = ms, R = 48 Ω , L = 0.24 H) 1 (Inductive load to EN 60947-5-1, With external suppressor circuit)
Explosion safety category for gas	None
Potential isolation	Between Transistor outputs and expansion devices: yes 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 devices: yes 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: no 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: no Between Analog inputs and Ethernet: yes Between Digital inputs 24 V DC and Ethernet: yes Between Digital inputs 24 V DC and Ethernet: yes Between Digital inputs 24 V DC and Ethernet: yes Between Transistor outputs and Power supply: yes
Protection against polarity reversal	For transistor outputs (Caution: A short circuit will result if 0 V/earth is applied to the outputs in the event that the supply voltage is connected to the wrong poles Yes, for supply voltage (Siemens MPI optional)
Explosion safety category for dust	None
Equipment heat dissipation, current-dependent Pvid	0 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	2 W
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.
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.
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10.9.3 IMPUISE WITHSTAND VOITAGE	to the parter bander of toopensionity.
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Technical data ETIM 8.0

Programmable logic controllers PLC (EG000024) / Logic module (EC001417)

Electric engineering, automation, process control engineering / Control / Programmable logic control (SPS) / Logic module (ecl@ss10.0.1-27-24-22-16 [AKE539014])

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Basic device Yes Expandable Yes				
Expandable Yes				
				Yes
Expansion device No	•			
	Expansion device			No

With time switch clock		Yes
Rail mounting possible		Yes
Wall mounting/direct mounting		Yes
Front built-in possible		Yes
Rack-assembly possible		No
Suitable for safety functions		No
SIL according to IEC 61508		None
Performance level according to EN ISO 13849-1		None
Appendant operation agent (Ex ia)		No
Appendant operation agent (Ex ib)		No
Explosion safety category for gas		None
Explosion safety category for dust		None
Width	mm	72
Height	mm	90
Depth	mm	58