

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



Powering Business Worldwide™

Part no. EASY-E4-UC-16RE1

197218

EL Number (Norway)

4500551

Product name	Eaton Moeller® series EASY I/O expansion
Part no.	EASY-E4-UC-16RE1
EAN	4015080892793
Product Length/Depth	58 millimetre
Product height	90 millimetre
Product width	72 millimetre
Product weight	0.25 kilogram
Compliances	Contact Manufacturer
Certifications	IEC/EN 61000-6-2 IEC/EN 61000-6-3 IEC 60068-2-6 IEC/EN 61131-2 IEC 60068-2-30 IEC/EN 61000-4-2 CSA-C22.2 No. 61010 CULus per UL 61010 IEC 60068-2-27 EN 61010 EN 50178 UL File No.: E205091 UL Listed DNV GL UL Category Control No.: NRAQ, NRAQ7 CE UL hazardous location class I UL hazardous location division 2 UL hazardous location group A (acetylene) UL hazardous location group C (ethylene) UL hazardous location group B (hydrogen) UL hazardous location group D (propane)
Product Tradename	EASY
Product Type	I/O expansion
Product Sub Type	None
Catalog Notes	fitted with two controlled relays
Features	Expansion device Expandable
Fitted with:	Relay output
Indication	LCD-display base unit used as status indication of Digital inputs 12 V DC LCD-display base unit used as status indication of Digital inputs 24 V DC
Degree of protection	IP20
Input frequency	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 (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) 25,000 Operations (Fluorescent lamp load 10 x 58 W at 230/240 V AC, uncompensated) 25,000 Operations (Fluorescent lamp load 1 x 58 W at 230/240 V AC, conventional, compensated)
Lifespan, mechanical	10,000,000 Operations
Mounting method	Top-hat rail fixing (according to IEC/EN 60715, 35 mm) Wall mounting/direct mounting Screw fixing using fixing brackets ZB4-101-GF1 (accessories) Front build in possible Rail mounting possible
Overvoltage category	III
Pollution degree	2

Product category		Control relays easyE4
Protocol		MODBUS TCP/IP
Protection		B16 circuit breaker or 8 A (T) fuse, Protection of an Output relay
Rated impulse withstand voltage (Uimp)		6 kV (contact-coil)
Residual ripple		≤ 5 %
Software		EASYSOFT-SWLIC/easySoft7
Switching frequency		10 Hz, Relay outputs 0.5 Hz, Inductive load, Relay outputs 2 Hz, Resistive load/lamp load, Relay outputs
Type		easyE4 extension
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/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		Vertical Horizontal
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
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		According to IEC/EN 61000-4-4 2 kV, Supply cable 2 kV, Signal cable
Contact discharge		6 kV
Electromagnetic fields		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) 1 V/m at 2.0 - 2.7 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		1 kV, Supply cables, symmetrical, power pulses (Surge), EMC 2 kV, Supply cables, asymmetrical, power pulses (Surge), EMC According to IEC/EN 61000-4-5, power pulses (Surge), EMC
Voltage dips		≤ 1 ms from rated voltage (12 V DC) 10 ms
Terminal capacity		0.2 - 4 mm ² (AWG 22 - 12), solid 0.2 - 2.5 mm ² (22 - 12 AWG), flexible with ferrule
Screwdriver size		3.5 x 0.8 mm, Terminal screw
Tightening torque		0.6 Nm, Screw terminals
Conventional thermal current I _{th} of auxiliary contacts (1-pole, open)		8 A
Power consumption		3 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 (U _i)		240 V
Rated operational voltage		24 V AC (-15 %/+10 % - power supply) 10.2 - 28.8 V DC 24 V DC (digital inputs) Max. 300 V DC

		12 V DC (digital inputs) Max. 300 V AC 240 V AC 12/24 V DC (-15 %/+ 20 % - power supply) 20.4 - 26.4 V AC 24 V AC (digital inputs)
Supply frequency		50/60 Hz (± 5%)
Supply voltage at AC, 50 Hz - min		85 V AC
Supply voltage at AC, 50 Hz - max		264 V AC
Supply voltage at DC - min		10.2 V DC
Supply voltage at DC - max		28.8 V DC
Uninterrupted current		1 A DC, at R 300 (UL/CSA) 10 A AC, at 240 V AC (UL/CSA) 8 A DC, at 24 V DC (UL/CSA) 5 A AC, max. thermal continuous current $\cos \varphi = 1$ at B 300 (UL/CSA)
Short-circuit protection		≥ 1A (T), Fuse, Power supply
Connection type		Screw terminal
Cable length		100 m, unshielded, Digital inputs 12 V DC 100 m, unshielded, Digital inputs 24 V AC 100 m, unshielded, Digital inputs 24 V DC 40 m (max. per input), Digital inputs 24 V DC
Delay time		0.1 ms typ., Digital inputs 24 V DC (I1 - I8), Delay time from 0 to 1, Debounce OFF 20 ms, Digital Inputs 12 V DC, Delay time from 1 to 0, Debounce ON 0.2 ms typ., Digital inputs 24 V DC (I1 - I8), Delay time from 1 to 0, Debounce OFF 20 ms, Digital Inputs 12 V DC, Delay time from 0 to 1, Debounce ON 0.2 ms typ., Digital inputs 12 V DC (I1 - I8), Delay time from 1 to 0, Debounce OFF 0.15 ms typ., Digital inputs 12 V DC (I1 - I8), Delay time from 0 to 1, Debounce OFF
Input current		3.3 mA (I5 - I8, at 24 V DC, at signal 1) 200 mA
Input voltage		Condition 1: ≥ 15 V DC (I1 - I8, Digital inputs, 24 V DC) Signal 0: ≤ 5 V DC (I1 - I4, Digital inputs, 12 V DC) At signal 0: ≤ 5 V (I1 - I8, sinusoidal, Digital inputs, 24 V DC) At signal 1: ≥ 15 V (I1 - I8, sinusoidal, Digital inputs, 24 V DC) Signal 0: ≤ 5 V DC (I1 - I8, Digital inputs, 24 V DC) Status 0: ≤ 15 V DC (I1 - I4, Digital inputs, 24 V DC)
Making/breaking capacity		3600/360 VA (AC, at B 300) 28/28 VA (DC, at R 300)
Number of inputs (analog)		0
Number of inputs (digital)		8
Number of outputs (analog)		0
Number of outputs (digital)		8
Output		8 Relay Outputs Relay outputs in groups of 1 > 500 mA (Relay outputs, Recommended for load: 12 V AC/DC) Voltage Current
Parallel switching		Not permitted
Explosion safety category for gas		None
Potential isolation		Between Digital inputs 24 V DC and base unit: yes Between Digital inputs 24 V DC and Outputs: yes Between Digital inputs 24 V DC and expansion devices: yes Between Relay outputs and Inputs: yes Basic isolation: 600 V AC (Relay outputs) Safe isolation according to EN 50178: 300 V AC (Relay outputs) Between Digital inputs 24 V AC and base unit: yes Between Digital inputs 12 V DC and Outputs: yes Between Digital inputs 24 V AC and expansion devices: yes Between Digital inputs 12 V DC and expansion devices: yes Between Relay outputs and Power supply: yes Between Relay outputs and expansion devices: yes Between Digital inputs 12 V DC and base unit: yes Between Digital inputs 24 V AC and Outputs: yes Between Relay outputs: yes
Protection against polarity reversal		Yes, for supply voltage (Siemens MPI optional)
Explosion safety category for dust		None
Safe isolation		300 V AC, Between two contacts, According to EN 50178 300 V AC, Between coil and contact, According to EN 50178

Equipment heat dissipation, current-dependent Pvid		0 W
Heat dissipation capacity Pdis		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		3 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.
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.
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.

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])		
Supply voltage AC 50 Hz	V	85 - 264
Supply voltage AC 60 Hz	V	85 - 264
Supply voltage DC	V	10.2 - 28.8
Voltage type of supply voltage		AC/DC
Switching current	A	5
Number of analogue inputs		0
Number of analogue outputs		0
Number of digital inputs		8
Number of digital outputs		8
With relay output		Yes
Number of HW-interfaces industrial Ethernet		0
Number of interfaces PROFINET		0
Number of HW-interfaces RS-232		0
Number of HW-interfaces RS-422		0
Number of HW-interfaces RS-485		0
Number of HW-interfaces serial TTY		0
Number of HW-interfaces USB		0
Number of HW-interfaces parallel		0
Number of HW-interfaces Wireless		0
Number of HW-interfaces other		0
With optical interface		No
Supporting protocol for TCP/IP		Yes
Supporting protocol for PROFIBUS		No
Supporting protocol for CAN		No

Supporting protocol for INTERBUS			No
Supporting protocol for ASI			No
Supporting protocol for KNX			No
Supporting protocol for Modbus			Yes
Supporting protocol for Data-Highway			No
Supporting protocol for DeviceNet			No
Supporting protocol for SUCONET			No
Supporting protocol for LON			No
Supporting protocol for PROFINET IO			No
Supporting protocol for PROFINET CBA			No
Supporting protocol for SERCOS			No
Supporting protocol for Foundation Fieldbus			No
Supporting protocol for EtherNet/IP			No
Supporting protocol for AS-Interface Safety at Work			No
Supporting protocol for DeviceNet Safety			No
Supporting protocol for INTERBUS-Safety			No
Supporting protocol for PROFIsafe			No
Supporting protocol for SafetyBUS p			No
Supporting protocol for other bus systems			No
Radio standard Bluetooth			No
Radio standard Wi-Fi 802.11			No
Radio standard GPRS			No
Radio standard GSM			No
Radio standard UMTS			No
IO link master			No
Redundancy			No
With display			No
Degree of protection (IP)			IP20
Basic device			No
Expandable			Yes
Expansion device			Yes
With time switch clock			No
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