



I/O expansion, For use with easyE4, 100 - 240 V AC, 110 - 220 V DC (cULus: 100-110 V DC), Inputs/Outputs expansion (number) digital: 4, Push-In



Part no. **EASY-E4-AC-8RE1P**  
**197514**

| General specifications                 |   |
|--|---|
| Product name                           | Eaton Moeller® series EASY I/O expansion  |
| Part no.                               | EASY-E4-AC-8RE1P  |
| EAN                                    | 4015081940929   |
| Product Length/Depth                   | 58 millimetre   |
| Product height                         | 90 millimetre   |
| Product width                          | 36 millimetre   |
| Product weight                         | 0.125 kilogram  |
| Compliances                            | CE  |
| Certifications                         | UL File No.: E205091<br>IEC/EN 61000-6-3<br>EN 50178<br>UL Listed<br>CE<br>UL Category Control No.: NRAQ, NRAQ7<br>IEC/EN 61000-6-2<br>DNV GL<br>IEC/EN 61000-4-2<br>IEC/EN 61131-2<br>EN 61010<br>IEC 60068-2-30<br>IEC 60068-2-6<br>IEC 60068-2-27<br>UL hazardous location group B (hydrogen)<br>UL hazardous location group A (acetylene)<br>UL hazardous location group C (ethylene)<br>UL hazardous location class I<br>UL hazardous location division 2<br>UL hazardous location group D (propane) |
| Product Tradename                      | EASY  |
| Product Type                           | I/O expansion   |
| Product Sub Type                       | None  |
| Features & Functions                   |   |
| Fitted with:                           | Relay output  |
| General information                    |   |
| Degree of protection                   | IP20  |
| Input frequency                        | 50/60 Hz (Digital inputs, at 115/230 V AC)<br>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)<br>25,000 Operations (Fluorescent lamp load 10 x 58 W at 230/240 V AC, with upstream electrical device)<br>25,000 Operations (Fluorescent lamp load 10 x 58 W at 230/240 V AC, uncompensated)<br>25,000 Operations (Filament bulb load at 500 W, 115/120 V AC)<br>25,000 Operations (Filament bulb load at 1000 W, 230/240 V AC)  |
| Lifespan, mechanical                   | 1,000,000 Operations  |
| Mounting method                        | Rail mounting possible  |
| Overvoltage category                   | III   |
| Pollution degree                       | 2   |
| Product category                       | Control relays easyE4   |
| Protocol                               | MODBUS<br>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 % (transistor outputs)<br>≤ 5 %   |
| Software                               | EASYSOFT-SWLIC/easySoft7  |
| Switching frequency                    | 0.5 Hz, Inductive load, Relay outputs   |

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|   |  | 10 Hz, Relay outputs<br>2 Hz, Resistive load/lamp load, Relay outputs  |
| Type  |  | easyE4 extension   |
| Used with   |  | easyE4   |
| Utilization category  |  | B 300 Light Pilot Duty, UL/CSA Control Circuit Rating Codes AC<br>R 300 Light Pilot Duty, UL/CSA Control Circuit Rating Codes DC   |
| Voltage type  |  | AC   |
| <b>Ambient conditions, mechanical</b>   |  |  |
| 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<br>Vertical   |
| Shock resistance  |  | 15 g, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 11 ms, 18 Impacts  |
| Vibration resistance  |  | 57 - 150 Hz, 2 g constant acceleration<br>10 - 57 Hz, 0.15 mm constant amplitude<br>According to IEC/EN 60068-2-6  |
| <b>Climatic environmental conditions</b>  |  |  |
| 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  |  | Condensation: prevent with appropriate measures<br>Clearance in air and creepage distances according to EN 50178, EN 61010-2-201, UL61010-2-201, CSA-C22.2 NO. 61010-2-201 |
| Relative humidity   |  | 5 - 95 % (IEC 60068-2-30, IEC 60068-2-78)  |
| <b>Electro magnetic compatibility</b>   |  |  |
| Air discharge   |  | 8 kV   |
| Burst impulse   |  | 2 kV, Signal cable<br>2 kV, Supply cable<br>According to IEC/EN 61000-4-4  |
| Contact discharge   |  | 6 kV   |
| Electromagnetic fields  |  | 1 V/m at 2 - 2.7 GHz (according to IEC EN 61000-4-3)<br>10 V/m at 0.08 - 1.0 GHz (according to IEC EN 61000-4-3)<br>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  |  | 1 kV, Supply cables, symmetrical, power pulses (Surge), EMC<br>2 kV, Supply cables, asymmetrical, power pulses (Surge), EMC<br>According to IEC/EN 61000-4-5 Level 4       |
| Voltage dips  |  | 10 ms  |
| <b>Terminal capacities</b>  |  |  |
| Terminal capacity   |  | 0.2 - 2.5 mm <sup>2</sup> (22 - 12 AWG), flexible with ferrule   |
| <b>Electrical rating</b>  |  |  |
| Conventional thermal current I <sub>th</sub> of auxiliary contacts (1-pole, open) |  | 5 A  |
| Power consumption   |  | 3 W  |
| Rated breaking capacity   |  | 200000 Operations at DC-13, 24 V DC, 1 A (500 Ops./h)<br>300000 Operations at AC-15, 250 V AC, 3 A (600 Ops./h)  |
| Rated insulation voltage (U <sub>i</sub> )  |  | 240 V  |
| Rated operational voltage   |  | Max. 300 V AC<br>Max. 300 V DC<br>85 - 264 V AC<br>100/110/115/120/230/240 AC (-15 %/+10 %)  |
| 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  |  | 85 V DC  |
| Supply voltage at DC - max  |  | 264 V DC   |
| Uninterrupted current   |  | 1 A DC, at R 300 (UL/CSA)<br>10 A AC, at 240 V AC (UL/CSA)<br>8 A DC, at 24 V DC (UL/CSA)<br>5 A AC, max. thermal continuous current cos φ = 1 at B 300 (UL/CSA)           |

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| <b>Short-circuit rating</b>  |  |  |
| Short-circuit protection   |  | ≥ 1A (T), Fuse, Power supply   |
| <b>Communication</b>   |  |  |
| Connection type  |  | Push in terminals  |
| <b>Cable</b>   |  |  |
| Cable length   |  | 40 m (max. permissible per input R1 to R12), Digital inputs 115/230 V AC   |
| <b>Input/Output</b>  |  |  |
| Delay time   |  | 0.5 ms typ., Digital Inputs 100 - 240 V DC (I1 - I4), Delay time from 1 to 0, Debounce OFF<br>0.5 ms typ., Digital Inputs 100 - 240 V DC (I1 - I4), Delay time from 0 to 1, Debounce OFF<br>21 ms typ., Digital Inputs 100 - 240 V AC 60 Hz (I1 - I4), Delay time from 1 to 0, Debounce OFF<br>25 ms typ., Digital Inputs 100 - 240 V AC 50 Hz (I1 - I4), Delay time from 1 to 0, Debounce OFF<br>25 ms typ., Digital Inputs 100 - 240 V AC 50 Hz (I1 - I4), Delay time from 0 to 1, Debounce OFF<br>21 ms typ., Digital Inputs 100 - 240 V AC 60 Hz (I1 - I4), Delay time from 0 to 1, Debounce OFF |
| Input current  |  | 4 x 0.2 mA (I9 - I12, at 115 V AC, 60 Hz, at signal 1)   |
| Input voltage  |  | Condition 1: 79 - 264 V AC, Digital inputs, 115/230 V AC)<br>Condition 0: 0 - 40 V AC, Digital inputs, 115/230 V AC)   |
| Making/breaking capacity   |  | 28/28 VA (DC, at R 300)<br>3600/360 VA (AC, at B 300)  |
| Number of inputs (analog)  |  | 0  |
| Number of inputs (digital)   |  | 4  |
| Number of outputs (analog)   |  | 0  |
| Number of outputs (digital)  |  | 4  |
| Output   |  | Voltage<br>Relay outputs in groups of 1<br>> 500 mA (Relay outputs, Recommended for load: 12 V AC/DC)<br>Current<br>4 Relay Outputs  |
| Parallel switching   |  | Not permitted  |
| <b>Safety</b>  |  |  |
| Explosion safety category for gas  |  | None   |
| Potential isolation  |  | Basic isolation: 600 V AC (Relay outputs)<br>Between Analog inputs and Digital inputs: no<br>Between Relay outputs: yes  |
| Protection against polarity reversal   |  | Yes  |
| Explosion safety category for dust   |  | None   |
| Safe isolation   |  | 300 V AC, Between coil and contact, According to EN 50178<br>300 V AC, Between two contacts, According to EN 50178   |
| <b>Design verification</b>   |  |  |
| Equipment heat dissipation, current-dependent Pvid                               |  | 1 W  |
| Heat dissipation capacity Pdis   |  | 0 W  |
| Heat dissipation per pole, current-dependent Pvid                                |  | 0 W  |
| 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.   |

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| 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 9.0

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|---|---|----------|
| Programmable logic controllers PLC (EG000024) / Logic module (EC001417)   |   |          |
| Electric engineering, automation, process control engineering / Control, Process Control System (PCS) / Programmable logic control (SPS) / Logic module (ec@ss13-27-24-22-16 [AKE539019]) |   |          |
| Supply voltage AC 50 Hz   | V | 85 - 264 |
| Supply voltage AC 60 Hz   | V | 85 - 264 |
| Supply voltage DC   | V | 85 - 264 |
| Voltage type (supply voltage)   |   | AC       |
| Switching current   | A | 5        |
| Power consumption   | W | 3        |
| Number of analogue inputs   |   | 0        |
| Number of analogue outputs  |   | 0        |
| Number of digital inputs  |   | 4        |
| Number of digital outputs   |   | 4        |
| 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 EtherCAT  |   | 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       |

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| Supporting protocol for SafetyBUS p                                |  |    | No   |
| Supporting protocol for other bus systems                          |  |    | No   |
| Radio standard Bluetooth   |  |    | No   |
| Radio standard WLAN 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   |  |    | No   |
| Expansion device   |  |    | No   |
| With time switch clock   |  |    | No   |
| Rail mounting possible   |  |    | Yes  |
| Wall mounting/direct mounting                                      |  |    | No   |
| Front built-in possible  |  |    | No   |
| 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 |
| Certified for UL hazardous location class I                        |  |    | Yes  |
| Certified for UL hazardous location class II                       |  |    | No   |
| Certified for UL hazardous location class III                      |  |    | No   |
| Certified for UL hazardous location division 1                     |  |    | No   |
| Certified for UL hazardous location division 2                     |  |    | Yes  |
| Certified for UL hazardous location group A (acetylene)            |  |    | Yes  |
| Certified for UL hazardous location group B (hydrogen)             |  |    | No   |
| Certified for UL hazardous location group C (ethylene)             |  |    | Yes  |
| Certified for UL hazardous location group D (propane)              |  |    | Yes  |
| Certified for UL hazardous location group E (metal dusts)          |  |    | No   |
| Certified for UL hazardous location group F (carbonaceous dusts)   |  |    | No   |
| Certified for UL hazardous location group G (non-conductive dusts) |  |    | No   |
| Width  |  | mm | 36   |
| Height   |  | mm | 90   |
| Depth  |  | mm | 58   |