



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



Part no. **EASY-E4-AC-8RE1**
 Catalog No. **197221**

Delivery program

| | | |
|----------------------------|--|--|
| Product range | | Control relays easyE4 |
| Subrange | | easyE4 digital input/output enhancements |
| Basic function | | easyE4 extensions |
| Description | | Input/output extension for easyE4 control relay Expandable with the easyE4 series of digital input/output expansions with easy-E4-CONNECT1 connector (Item Y7-197225) Rated operating voltage 100 to 240V AC or 100 to 240V DC For cULus, 100–110 VDC applies to all VDC specifications. 4 digital inputs with 100–240 VAC or 100–240 VDC 4 relay outputs for 12–250 VAC or 12–220 VDC Screw terminals |
| Inputs | | |
| Inputs expansion (number) | | digital: 4 |
| Additional features | | |
| Display | | with diagnostic LED |
| Software | | EASYSOFT-SWLIC/easySoft 7 |
| Supply voltage | | 100 - 240 V AC, 100 - 240 V DC (cULus: 100 - 110 V DC) |
| For use with | | easyE4 |

Technical data

General

| | | |
|-------------------------|----|---|
| Standards | | EN 61000-6-2 EN 61000-6-3 IEC 60068-2-6 IEC 60068-2-27 IEC 60068-2-30 IEC/EN 61131-2 EN 61010 EN 50178 |
| Approvals | | |
| Approvals certificate | | cULus CE |
| shipping classification | | DNV GL |
| | | |
| Dimensions (W x H x D) | mm | 35.5 x 90 x 58 |
| Weight | kg | 0.129 |
| Mounting | | Top-hat rail IEC/EN 60715, 35 mm or screw fixing using fixing brackets ZB4-101-GF1 (accessories) |
| Connection type | | screw terminal |

Terminal capacities

| | | |
|---|-----------------|-----------|
| Screw terminals | | |
| Solid | mm ² | 0.2 - 4 |
| flexible | mm ² | 0.2 - 2.5 |
| Solid or flexible conductor, with ferrule | mm ² | 0,2 - 2,5 |
| Solid or stranded | AWG | 22 - 12 |
| Standard screwdriver | mm | 0.8 x 3.5 |
| Tightening torque | Nm | 0.5 - 0.7 |
| Stripping length | mm | 6.5 |

Climatic environmental conditions

| | | |
|-------------------------------|----|---|
| Operating ambient temperature | °C | -25 to 55, cold as per IEC 60068-2-1, heat as per IEC 60068-2-2 |
|-------------------------------|----|---|

| | | | |
|--|----------------|---------|---|
| Condensation | | | Take appropriate measures to prevent condensation |
| Storage | θ | °C | -40 - +70 |
| relative humidity | | % | in accordance with IEC 60068-2-30, IEC 60068-2-78 5 - 95 |
| Air pressure (operation) | | hPa | 795 - 1080 |
| Ambient conditions, mechanical | | | |
| Protection type (IEC/EN 60529, EN50178, VBG 4) | | | IP20 |
| Vibrations | | Hz | In accordance with IEC 60068-2-6 constant amplitude 0.15 mm: 10 - 57 constant acceleration 2 g: 57 - 150 |
| Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms | | Impacts | 18 |
| Drop to IEC/EN 60068-2-31 | Drop height | mm | 50 |
| Free fall, packaged (IEC/EN 60068-2-32) | | m | 0.3 |
| Mounting position | | | Vertical or horizontal |
| Electromagnetic compatibility (EMC) | | | |
| Overvoltage category/pollution degree | | | III/2 |
| Electrostatic discharge (ESD) | | | |
| applied standard | | | nach IEC/EN 61000-4-2 |
| Air discharge | | kV | 8 |
| Contact discharge | | kV | 6 |
| Electromagnetic fields (RFI) to IEC EN 61000-4-3 | | V/m | 0.08 - 1.0 GHz: 10 1.4 - 2 GHz: 3 2.0 - 2.7 GHz: 1 |
| Radio interference suppression | | | EN 61000-6-3 Class B |
| Burst | | kV | according to IEC/EN 61000-4-4 Supply cables: 2 Signal cables: 2 |
| power pulses (Surge) | | | according to IEC/EN 61000-4-5 1 kV (supply cables, symmetrical) 2 kV (supply cables, asymmetrical) |
| Immunity to line-conducted interference to (IEC/EN 61000-4-6) | | V | 10 |
| Insulation resistance | | | |
| Clearance in air and creepage distances | | | nach EN 50178, EN 61010-2-201, UL61010-2-201, CSA-C22.2 NO. 61010-2-201 |
| Insulation resistance | | | in accordance with EN 50178, EN 61010-2-201, UL61010-2-201, CSA-C22.2 NO. 61010-2-201 |
| Power supply | | | |
| Rated operational voltage | U _e | V | 100 - 240V DC (-15/+10%) 100 - 240 DC (cULus: 100 - 110 DC) (-15/+10%) |
| Permissible range | U _e | | 85 - 264 V AC 85 - 264 V DC (cULus: 85 - 120 V DC) |
| Residual ripple | | % | ≤ 5 |
| Protection against polarity reversal | | | yes |
| Frequency | | Hz | 50/60 (± 5%) |
| Voltage dips | | ms | ≤ 20 ms at 100V AC 10 ms at 100V DC |
| Fuse | | A | ≥ 1A (T) |
| Digital inputs 115/230 V AC | | | |
| Number | | | 4 |
| Potential isolation | | | from power supply: no between inputs: no from the outputs: yes to the base unit: yes to the expansion units: yes |
| Rated operational voltage | U _e | V | 100 - 240 V AC 100 - 240 V DC (cULus: 100 - 110 V DC) |
| Input voltage | U _e | V | Condition 0: 0 - 40V AC/DC Condition 1: 79–264 V AC/DC (cULus: 79–264 V AC/79–120 V DC) |
| Rated frequency | | Hz | 50/60 |
| Input current at signal 1 | | mA | I1 - I4: 4 x 0.25 (at 115 V AC, 60 Hz) I1 - I4: 4 x 0.5 (at 230V AC, 50 Hz) I1–I4: 4 x 0.25 (at 115 VDC) I1 - I4: 4 x 0.5 (at 230V DC) |
| Deceleration time | | ms | type 25/21 (0 - > 1/1 -> 0, 50/60Hz) for AC type 0.5 (0 - > 1/1 -> 0) in DC |
| Cable length | | m | 40 (unshielded) |

Relay outputs

| | | | |
|---|------------|---------------|--|
| Number | | | 4 |
| Outputs in groups of | | | 1 |
| Parallel switching of outputs for increased output | | | Not permitted |
| Protection of an output relay | | | B16 circuit breaker or 8 A (T) fuse |
| Potential isolation | | | Safe isolation according to EN 50178: 300 V AC Basic isolation: 600 V AC from power supply: yes From the inputs: yes between outputs: yes to expansion devices: yes |
| Contacts | | | |
| Conventional thermal current (10 A UL) | | A | 5 |
| Recommended for load: 12 V AC/DC | | mA | > 500 |
| Rated impulse withstand voltage U_{imp} of contact coil | | kV | 6 |
| Rated operational voltage | U_e | V AC | 240 |
| Rated insulation voltage | U_i | V AC | 240 |
| Safe isolation according to EN 50178 | | V AC | 300 between coil and contact 300 between two contacts |
| Making capacity | | | |
| AC—15, 250 V AC, 3 A (600 ops./h) | Operations | | 300000 |
| DC-13, L/R \leq 150 ms, 24 V DC, 1 A (500 S/h) | Operations | | 200000 |
| Breaking capacity | | | |
| AC-15, 250 V AC, 3 A (600 Ops./h) | Operations | | 300000 |
| DC-13, L/R \leq 150 ms, 24 V DC, 1 A (500 S/h) | Operations | | 200000 |
| Filament bulb load | | | |
| 1000 W at 230/240 V AC | Operations | | 25000 |
| 500 W at 115/120 V AC | Operations | | 25000 |
| Fluorescent lamp load | | | |
| Fluorescent lamp load 10 x 58 W at 230/240 V AC | | | |
| With upstream electrical device | Operations | | 25000 |
| Uncompensated | Operations | | 25000 |
| Fluorescent lamp load 1 x 58 W at 230/240 V AC, conventional, compensated | Operations | | 25000 |
| Switching frequency | | | |
| Mechanical operations | | $\times 10^6$ | 10 |
| Switching frequency | | Hz | 10 |
| Resistive load/lamp load | | Hz | 2 |
| Inductive load | | Hz | 0.5 |
| UL/CSA | | | |
| Uninterrupted current at 240 V AC | | A | 5 |
| Uninterrupted current at 24 V DC | | A | 5 |
| AC | | | |
| Control Circuit Rating Codes (utilization category) | | | B 300 Light Pilot Duty |
| Max. rated operational voltage | | V AC | 300 |
| max. thermal continuous current $\cos \varphi = 1$ at B 300 | | A | 5 |
| max. make/break $\cos \varphi \neq$ capacity 1 at B 300 | | VA | 3600/360 |
| DC | | | |
| Control Circuit Rating Codes (utilization category) | | | R 300 Light Pilot Duty |
| Max. rated operational voltage | | V DC | 300 |
| Max. thermal uninterrupted current at R 300 | | A | 1 |
| Max. make/break capacity at R 300 | | VA | 28/28 |

Design verification as per IEC/EN 61439

| | | | |
|--|----------|----|-----|
| Technical data for design verification | | | |
| Static heat dissipation, non-current-dependent | P_{Vs} | W | 8 |
| Operating ambient temperature min. | | °C | -25 |
| Operating ambient temperature max. | | °C | 55 |

| | | |
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| IEC/EN 61439 design verification | | |
| 10.2 Strength of materials and parts | | |
| 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 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric 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 Insulation properties | | |
| 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 7.0

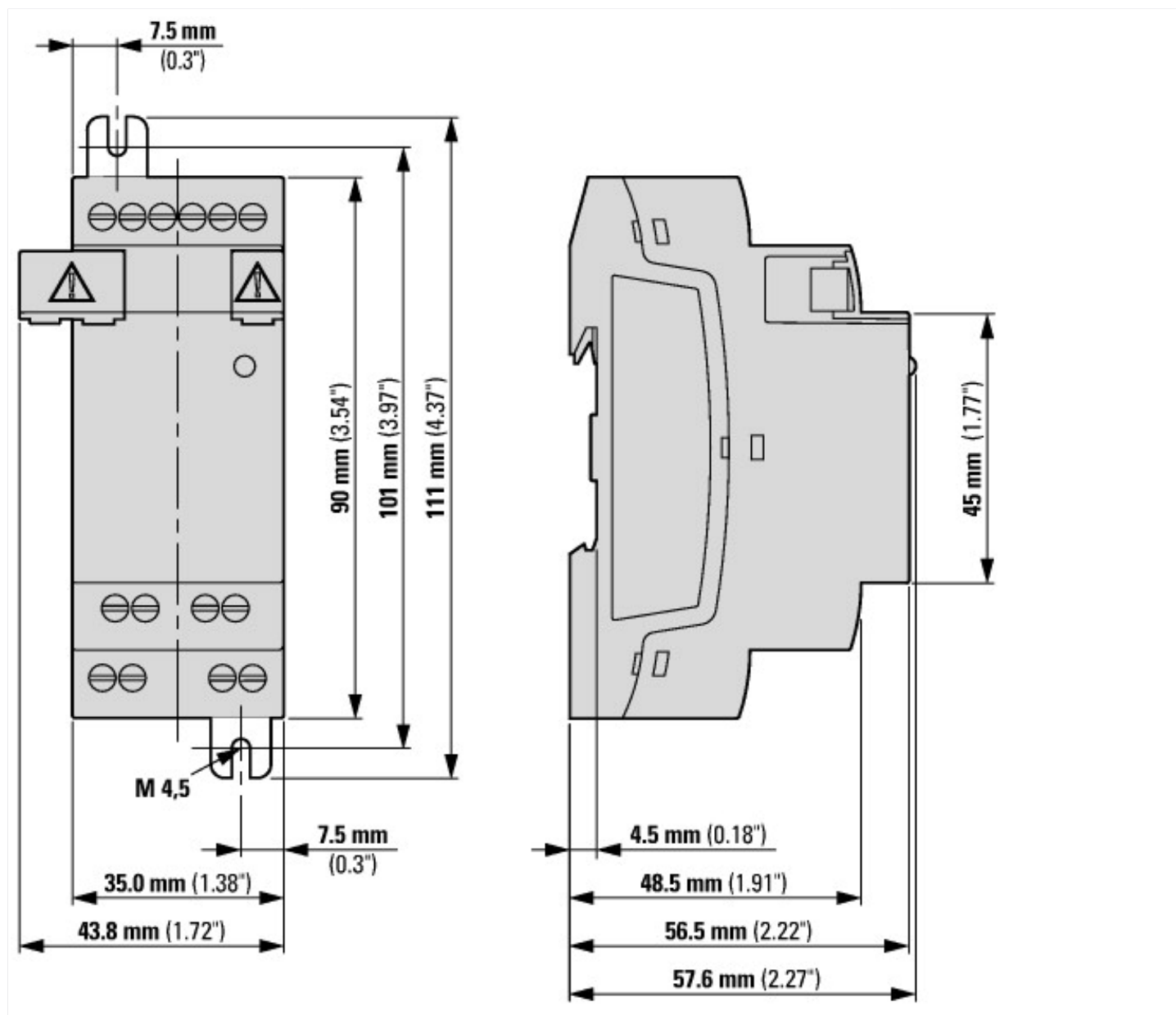
| | | |
|--|---|----------|
| PLC's (EG000024) / Logic module (EC001417) | | |
| Electric engineering, automation, process control engineering / Control / Programmable logic control (SPS) / Logic module (ecl@ss10.0.1-27-24-22-16 [AKE539014]) | | |
| Supply voltage AC 50 Hz | V | 85 - 264 |
| Supply voltage AC 60 Hz | V | 85 - 264 |
| Supply voltage DC | V | 85 - 264 |
| 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 | | 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 | | 2 |
| With optical interface | | No |
| Supporting protocol for TCP/IP | | No |
| 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 | | No |
| 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 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 | | Yes |
| Expansion device | | Yes |
| With timer | | No |
| Rail mounting possible | | Yes |
| Wall mounting/direct mounting | | Yes |
| Front build in possible | | No |
| Rack-assembly possible | | No |
| Suitable for safety functions | | No |
| Category according to EN 954-1 | | None |
| SIL according to IEC 61508 | | None |
| Performance level acc. 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 | 35.5 |
| Height | mm | 90 |
| Depth | mm | 58 |

Approvals

| | | |
|-----------------------------|--|---------------------------|
| UL File No. | | E205091 |
| UL Category Control No. | | NRAQ/7 |
| North America Certification | | UL listed |
| Degree of Protection | | IEC: IP20, UL/CSA Type: - |

Dimensions



Additional product information (links)

assembly instructions easyE4 IL050021ZU

assembly instructions easyE4 IL050021ZU https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/IL050021ZU.pdf

easyE4 (MN050009) manual

easyE4 – Handbuch (MN050009) - Deutsch https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN050009_DE.pdf

easyE4 (MN050009) manual - English https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN050009_EN.pdf

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instrukcja easyE4 (MN050009) - polski https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN050009_PL.pdf

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Product overview (WEB) <http://www.eaton.eu/easyE4>