



I/O expansion, For use with easyE4, 24 V DC, Inputs expansion (number) digital: 4, screw terminal

Part no. **EASY-E4-DC-8TE1**
 Catalog No. **197219**
 EL-Nummer (Norway) **4500552**

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 24V DC Digital inputs: 4 Digital outputs: 4 transistor Screw terminals |
| Inputs | | |
| Inputs expansion (number) | | digital: 4 |
| Outputs | | |
| Transistor | | 4 |
| Additional features | | |
| Display | | with diagnostic LED |
| Software | | EASYSOFT-SWLIC/easySoft 7 |
| Supply voltage | | 24 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 61131-2 EN 61010 EN 50178 |
| Approvals | | |
| Approvals | | cULus |
| shipping classification | | DNV GL |
| Dimensions (W x H x D) | mm | 35.5 x 90 x 58 |
| Weight | kg | 0.081 |
| 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 | | | according to IEC EN 61000-4-2 |
| Air discharge | | kV | 8 |
| Contact discharge | | kV | 6 |
| Electromagnetic fields (RFI) to IEC EN 61000-4-3 | | V/m | 0.8 - 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 0.5 kV (supply cables, symmetrical) 1 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 | 24 DC (-15/+20%) |
| Permissible range | U_e | | 20.4 - 28.8 V DC |
| Residual ripple | | % | ≤ 5 |
| Siemens MPI, (optional) | | | yes |
| Input current | | | max. 40 mA at U_e |
| Voltage dips | | ms | ≤ 10 |
| Fuse | | A | ≥ 2.5A (T) |
| Heat dissipation at 24 V DC | | W | 1 |

Digital inputs 24 V DC

| | | | |
|---------------------------|-------|------|---|
| Number | | | 4 |
| Potential isolation | | | from power supply: no between inputs: no from the outputs: no to expansion devices: yes to base unit: yes |
| Rated operational voltage | U_e | V DC | 24 |
| Input voltage | | V DC | Signal 0: ≤ 5 (I1 - I4) Signal 1: ≥ 15 (I1 - I4) |
| Input current at signal 1 | | mA | 3.3 (I1 - I4) |
| Deceleration time | | ms | type 0.1 (0 -> 1) type 0.2 (1 -> 0) |
| Cable length | | m | 100 (unshielded) |

Transistor outputs

| | | | |
|---------------------------|-------|------|--|
| Number | | | 4 |
| Rated operational voltage | U_e | V DC | 24 |
| Permissible range | U_e | | 20.4 - 28.8 V DC |
| Residual ripple | | % | 5 |
| Siemens MPI, (optional) | | | Yes (Caution: A short circuit will occur if a supply voltage of the wrong polarity is applied to the outputs.) |

| | | | |
|--|-------|-----------|---|
| Potential isolation | | | from power supply: no between the inputs: no to the outputs: no to base unit: yes to expansion devices: yes |
| Rated operational current at signal „1“ DC per channel | I_e | A | Max. 0.5 |
| Residual current on 0 signal per channel | | mA | < 0.005 |
| Max. output voltage | | V | 1 (at status 0 per channel) $U = U_e - 1 \text{ V}$ (signal 1 at $I_e = 0.5 \text{ A}$) |
| Short-circuit protection | | | yes, electronic (Q1 - Q4) |
| Short-circuit tripping current for $R_a \leq 10 \text{ m}\Omega$ | | A | $0.7 \leq I_e \leq 1.7$ per output depending on number of active channels and their load |
| Total short-circuit current | | A | 6.8 |
| Thermal cutout | | | Yes |
| Max. operating frequency with constant resistive load | | Operation | abhängig von der Zykluszeit des Basisgeräts und bei Erweiterungsgeräten auch von deren Übertragungszeit |
| Parallel connection of outputs | | | |
| With resistive load, inductive load with external suppressor circuit, combination within a group | | | Group 1: Q1 to Q4 |
| Number of outputs | max. | | 4 |
| Max. total current | | A | 2 |
| Inductive load to EN 60947-5-1 | | | |
| Without external suppressor circuit | | | |
| DC-13, $T_{0.95} = 72 \text{ ms}$, $R = 48 \Omega$, $L = 1.15 \text{ H}$ | | | |
| Utilization factor | | g | 0.25 |
| Duty factor | | % DF | 100 |
| $T_{0.95} = 15 \text{ ms}$, $R = 48 \Omega$, $L = 0.24 \text{ H}$ | | | |
| Utilization factor | | g | 0.25 |
| Duty factor | | % DF | 100 |
| With external suppressor circuit | | | |
| Utilization factor | | g | 1 |
| Duty factor | | % DF | 100 |
| Max. switching frequency, max. duty factor | | Operation | Depending on the suppressor circuit |

Design verification as per IEC/EN 61439

| | | | |
|--|----------|----|-----|
| Technical data for design verification | | | |
| Static heat dissipation, non-current-dependent | P_{vs} | W | 1 |
| Operating ambient temperature min. | | °C | -25 |
| Operating ambient temperature max. | | °C | 55 |
| 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])

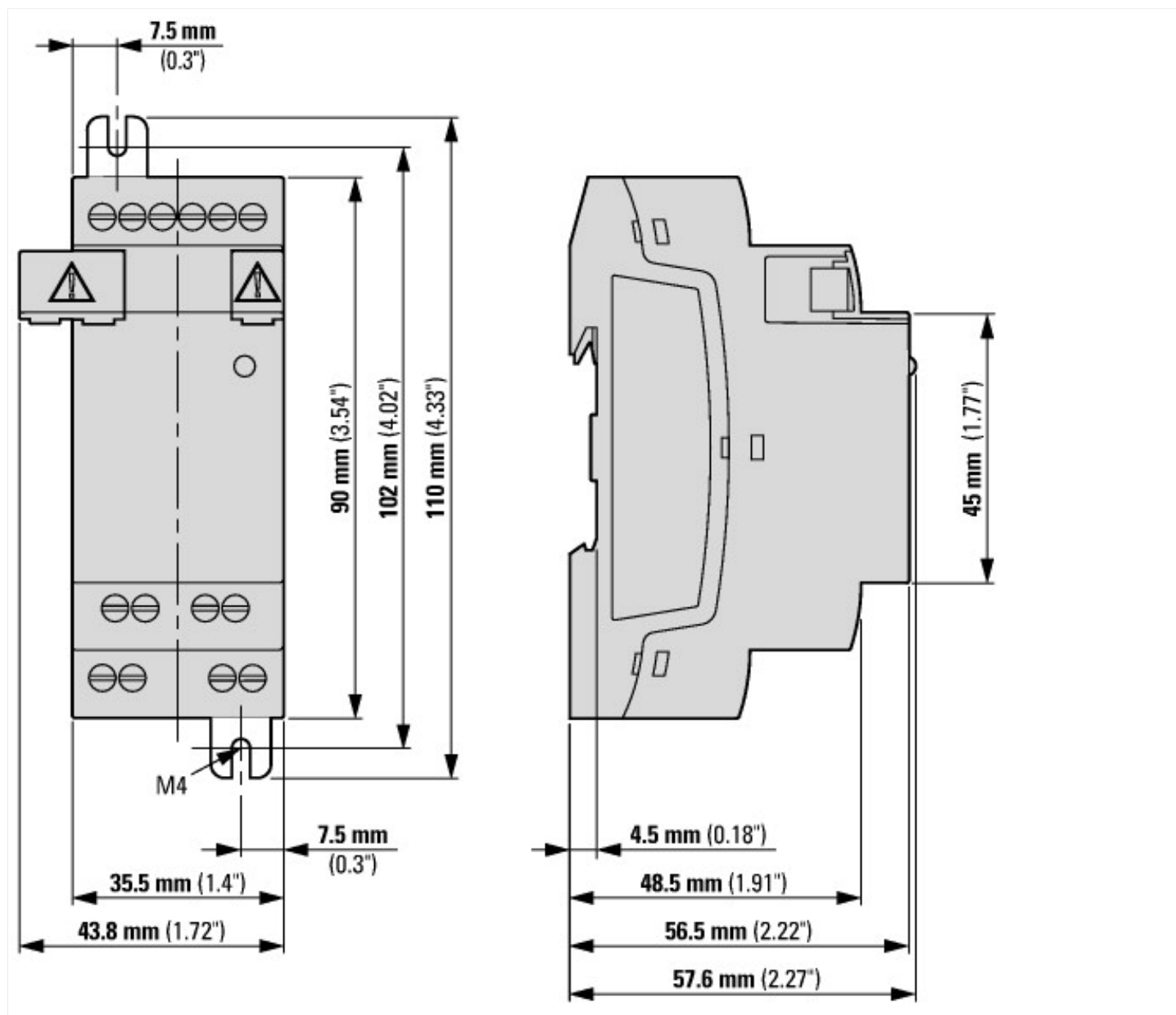
| | | |
|---|---|-------------|
| Supply voltage AC 50 Hz | V | 0 - 0 |
| Supply voltage AC 60 Hz | V | 0 - 0 |
| Supply voltage DC | V | 20.4 - 28.8 |
| Voltage type of supply voltage | | DC |
| Switching current | A | 0.5 |
| Number of analogue inputs | | 0 |
| Number of analogue outputs | | 0 |
| Number of digital inputs | | 4 |
| Number of digital outputs | | 4 |
| With relay output | | No |
| 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 | | | Yes |
| Rack-assembly possible | | | No |
| Suitable for safety functions | | | No |
| Category according to EN 954-1 | | | |
| 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

| | | | |
|----------------------|--|--|---------------------------|
| Degree of Protection | | | IEC: IP20, UL/CSA Type: - |
|----------------------|--|--|---------------------------|

Dimensions



Assets (links)

Declaration of CE Conformity

00003206

Instruction Leaflets

IL050021Z2019_02

Manuals

MN050009_DE (German)

MN050009_EN (English)

MN050009_IT (Italian)

MN050009_PL (Polish)

Additional product information (links)

assembly instructions easyE4 IL050021ZU

assembly instructions easyE4 IL050021ZU ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL050021ZU2019_02.pdf

easyE4 (MN050009) manual

easyE4 – Handbuch (MN050009) - Deutsch ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN050009_DE.pdf

easyE4 (MN050009) manual - English ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN050009_EN.pdf

Manuale easy E4 (MN050009) - italiano ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN050009_IT.pdf

instrukcja easyE4 (MN050009) - polski ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN050009_PL.pdf

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