



I/O expansion, 24 V DC, 6DI, 4DO relays, easyLink

Part no. EASY410-DC-RE
Catalog No. 114293

EL-Nummer (Norway) 4560802

Delivery program

| | | | |
|---------------------------|--|--|---|
| Product range | | | Control relay easyRelay Multi-function-display MFD-Titan |
| Product range | | | Remote I/O systems Compact PLCs |
| Subrange | | | I/O expansions digital |
| Basic function | | | Expansions |
| Description | | | Can be used through easyLink |
| Function | | | Expansions EASY... |
| Accessories | | | I/O expansions, digital |
| Inputs | | | |
| Inputs expansion (number) | | | digital: 6 |
| Supply voltage | | | 24 V DC |
| For use with | | | easy700 easy800 EC4P MFD-CP8.. |

Technical data

General

| | | | |
|------------------------|--|----|-----------------------|
| Dimensions (W x H x D) | | mm | 71.5 x 90 x 58 (4 PE) |
| Weight | | kg | 0.2 |

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 | | % | 5 - 95 |
| Air pressure (operation) | | hPa | 795 - 1080 |

Ambient conditions, mechanical

| | | | |
|--|-------------|---------|------------------------|
| Protection type (IEC/EN 60529, EN50178, VBG 4) | | | IP20 |
| Vibrations (IEC/EN 60068-2-6) | | Hz | |
| Constant amplitude 0.15 mm | | Hz | 10 - 57 |
| Constant acceleration 2 g | | Hz | 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 | 1 |
| Mounting position | | | Vertical or horizontal |

Electromagnetic compatibility (EMC)

| | | | |
|---|--|----|---|
| Overvoltage category/pollution degree | | | II/2 |
| Electrostatic discharge (ESD) | | | |
| applied standard | | | IEC EN 61000-4-2, Level 3 |
| Air discharge | | kV | 8 |
| Contact discharge | | kV | 6 |
| Burst | | kV | according to IEC/EN 61000-4-4 Supply cables: 2 Signal cables: 2 |
| power pulses (Surge) | | | 2 kV (supply cables, symmetrical, EASY...AC) 0.5 kV (supply cables, symmetrical, easy-DC) according to IEC/EN 61000-4-5 |
| Immunity to line-conducted interference to (IEC/EN 61000-4-6) | | V | 10 |

Insulation resistance

| | | | |
|-----------------------|--|--|----------|
| Insulation resistance | | | EN 50178 |
|-----------------------|--|--|----------|

Power supply

| | | | |
|---------------------------|-------|----|-------------------------------|
| Rated operational voltage | U_e | V | 24 DC (-15/+20%) |
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| Permissible range | U_e | | 20.4 - 28.8 V DC |
| Residual ripple | | % | ≤ 5 |
| Input current | | | 140 mA at U_e |
| Voltage dips | | ms | ≤ 10 (IEC/EN 61131-2) |
| Heat dissipation | P | | 3.5 W |

Digital inputs 24 V DC

| | | | |
|---------------------------|-------|------|---|
| Number | | | 6 |
| Status Display | | | LCD-Display |
| Potential isolation | | | from the outputs: yes |
| Rated operational voltage | U_e | V DC | 24 |
| Input voltage | | V DC | < 5 (R1 - R6) at signal "0" > 15 (R1 - R6) at signal "1" |
| Input current on 1 signal | | | |
| Input current at signal 1 | | mA | 3.3 (R1 to R6 (R12)) |
| Deceleration time | | ms | 20 (from "0" to "1", debounce ON) Normally 0.25 (R1 - R6) (from "0" to "1", debounce OFF) 20 (from "1" to "0", debounce ON) |
| Cable length | | m | 100 (unshielded) |

Relay outputs

| | | | |
|--|------------|---------------|--|
| Number | | | 4 |
| Outputs in groups of | | | 1 |
| Parallel switching of outputs for increased output | | | Not permissible |
| Protection of an output relay | | | Miniature circuit-breaker B16 or fuse 8 A (slow) |
| Potential isolation | | | from power supply: yes From the inputs: yes in groups Safe isolation according to EN 50178: 300 V AC Basic isolation: 600 V AC |
| Lifespan, mechanical | Operations | $\times 10^6$ | 10 |
| Contacts | | | |
| Conventional thermal current (10 A UL) | | A | 8 |
| Recommended for load: 12 V AC/DC | | mA | > 500 |
| Short-circuit-proof $\cos \varphi = 1$, characteristic B16 at 600 A | | A | 16 |
| Short-circuit-proof $\cos \varphi = 0.5$ to 0.7, characteristic B16 at 900 A | | A | 16 |
| Rated impulse withstand voltage U_{imp} of contact coil | | kV | 6 |
| Rated operational voltage | U_e | V AC | 250 |
| Rated insulation voltage | U_i | V AC | 250 |
| Safe isolation according to EN 50178 | | V AC | 300 between coil and contact 300 between two contacts |
| Breaking capacity | | | |
| AC-15, 250 V AC, 3 A (600 Ops./h) | Operations | | 300000 |
| DC-13, L/R ≤ 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 | 10 |
| Uninterrupted current at 24 V DC | A | 8 |
| 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 | | | |
| Rated operational current for specified heat dissipation | I_n | A | 0 |
| Heat dissipation per pole, current-dependent | P_{vid} | W | 0 |
| Equipment heat dissipation, current-dependent | P_{vid} | W | 0 |
| Static heat dissipation, non-current-dependent | P_{vs} | W | 3.5 |
| Heat dissipation capacity | P_{diss} | W | 0 |
| 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])

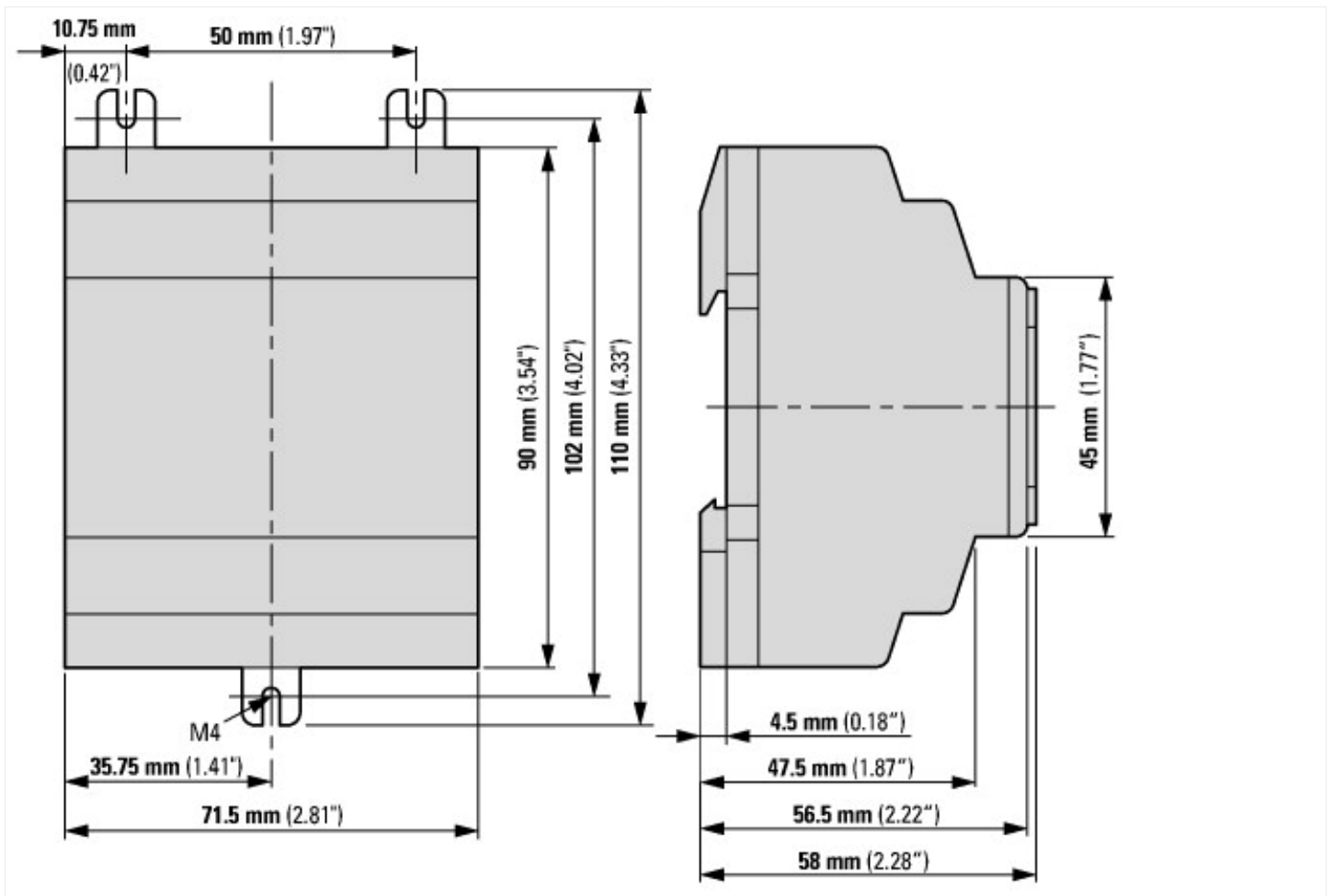
| | | |
|---|---|-------------|
| Supply voltage AC 50 Hz | V | 0 - 0 |
| Supply voltage AC 60 Hz | V | 0 - 0 |
| Supply voltage DC | V | 20.4 - 28.8 |
| Voltage type of supply voltage | | DC |
| Switching current | A | 8 |
| Number of analogue inputs | | 0 |
| Number of analogue outputs | | 0 |
| Number of digital inputs | | 6 |
| 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 | | 1 |
| 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 | | No |
| 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 | 71.5 |
| Height | mm | 90 |
| Depth | mm | 58 |

Approvals

| | | |
|-----------------------------|--|------------------------------|
| North America Certification | | Request filed for UL and CSA |
| Degree of Protection | | IEC: IP20, UL/CSA Type: - |

Dimensions



Assets (links)

Declaration of CE Conformity

00003063

Instruction Leaflets

IL05013014Z2018_02

Manuals

MN05013003Z_EN (English)

Additional product information (links)

Instruction leaflet "Multi-function display, easy control relays" IL05013014Z (AWA2528-2019)

Instruction leaflet "Multi-function display, easy control relays" IL05013014Z (AWA2528-2019) ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL05013014Z2018_02.pdf

Manual "easy500, easy700 control relays" MN05013003Z (AWB2528-1508)

Handbuch „Steuerrelais easy500, easy700“ MN05013003Z (AWB2528-1508) - Deutsch ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05013003Z_DE.pdf

Manual "easy500, easy700 control relays" MN05013003Z (AWB2528-1508) - English ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05013003Z_EN.pdf