



I/O expansion, 24 V DC, 1DI, 2AI-(Pt100/V/mA), 2DO-Trans, 1AO, easyLink



Part no. EASY406-DC-ME
Catalog No. 114295

EL-Nummer (Norway) 4560804

Delivery program

| | | |
|---------------------------|--|---|
| Product range | | Control relay easyRelay Multi-function-display MFD-Titan |
| Product range | | Remote I/O systems Compact PLCs |
| Subrange | | I/O expansions analog |
| Basic function | | Expansions |
| Description | | Can be used through easyLink |
| Function | | Expansions EASY... |
| Accessories | | I/O expansions, analog |
| Inputs | | |
| Inputs expansion (number) | | digital: 1; analog: 2 (0-10V:2 or 0-20mA:2 or Pt100:2) |
| Analog | | 2 |
| Outputs | | |
| Transistor | | 2 |
| Supply voltage | | 24 V DC |

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%) |
| Rated operational voltage | U_e | V | 24 DC (-15/+20%) |
| Permissible range | U_e | | 20.4 - 28.8 V DC |
| Input current | | | 40 mA at U_e 2 A at U_e with load |
| Heat dissipation | P | | 1 W |

Analog inputs

| | | | |
|---------------------------------|--|------------|--|
| Number | | | 2 |
| Potential isolation | | | to interface/memory card: no |
| Input type | | | DC voltage |
| Signal range | | | 0 - 10 V DC or 0 - 20 mA or Pt100 (-50...+200°C) |
| Resolution | | | 10 Bit (value 0 - 1023) |
| Input impedance | | k Ω | 11.2 |
| Accuracy of actual value | | | |
| two devices from series | | % | ± 3 |
| Within a single device | | % | $< \pm 3$ % |
| Conversion time, analog/digital | | ms | 800 |
| Input current | | mA | < 1 |
| Cable length | | m | ≤ 10 , screened |

Analog outputs

| | | | |
|---------------------------------------|--|----|--|
| Number | | | 1 |
| Potential isolation | | | to easyLink: yes |
| Output type | | | DC voltage |
| Signal range | | | 0-10 V DC |
| Max. output current | | A | 0.01 |
| Load resistance | | | 1 k Ω |
| Overload and short-circuit protection | | | Yes |
| Resolution | | | 0.01 V analog 10 Bit (value 0 - 1023) digital |
| Accuracy | | | |
| -25 °C - 55 °C | | % | 2 |
| 25°C | | % | 1 |
| Conversion time, analog/digital | | ms | 200 |

Transistor outputs

| | | | |
|---|-------|----------------|--|
| Number | | | 2 |
| Rated operational voltage | U_e | V DC | 24 |
| Permissible range | U_e | | 20.4 - 28.8 V DC |
| Residual ripple | | % | 5 |
| Supply current | | mA | Norm./max. 24V/2A at signal 0 12/22 at signal 1 |
| Protection against polarity reversal | | | yes (Caution: A short circuit will result if 0 V or earth is applied to the outputs in the event that the supply voltage is connected to the wrong poles.) |
| Potential isolation | | | to the memory card: yes |
| Rated operational current at signal „1“ DC per channel | I_e | A | 1 |
| Lamp load without R_v per channel | | W | 5 |
| Residual current on 0 signal per channel | | mA | < 0.1 |
| Max. output voltage | | V | 2.5 (signal 0 at external load < 10 M Ω) $U = U_e - 1$ V (signal 1 at $I_e = 0.5$ A) |
| Short-circuit protection | | | Yes, thermal (evaluation through diagnostics input R16) |
| Short-circuit tripping current for $R_a \leq 10$ m Ω | | A | $1.4 \leq I_e \leq 4$ |
| Total short-circuit current | | A | 8 |
| Peak short-circuit current | | A | 16 |
| Thermal cutout | | | Yes |
| Max. operating frequency with constant resistive load | | Operation h | 40000 |

| | | | |
|--|------|---|--|
| Parallel connection of outputs | | | |
| With resistive load, inductive load with external suppressor circuit, combination within a group | | | Q1 and Q2 |
| Number of outputs | max. | | 2 |
| Max. total current | | A | 2 (Caution! Outputs must be actuated simultaneously and for the same length of time.) |
| Output status indication | | | LCD display (if provided) |
| Supply voltage U_{Aux} | | | |
| Protection against polarity reversal | | | yes (Caution: A short circuit will result if 0 V or earth is applied to the outputs in the event that the supply voltage is connected to the wrong poles.) |

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 | 1 |
| 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 | 0.5 |
| Number of analogue inputs | | | 2 |

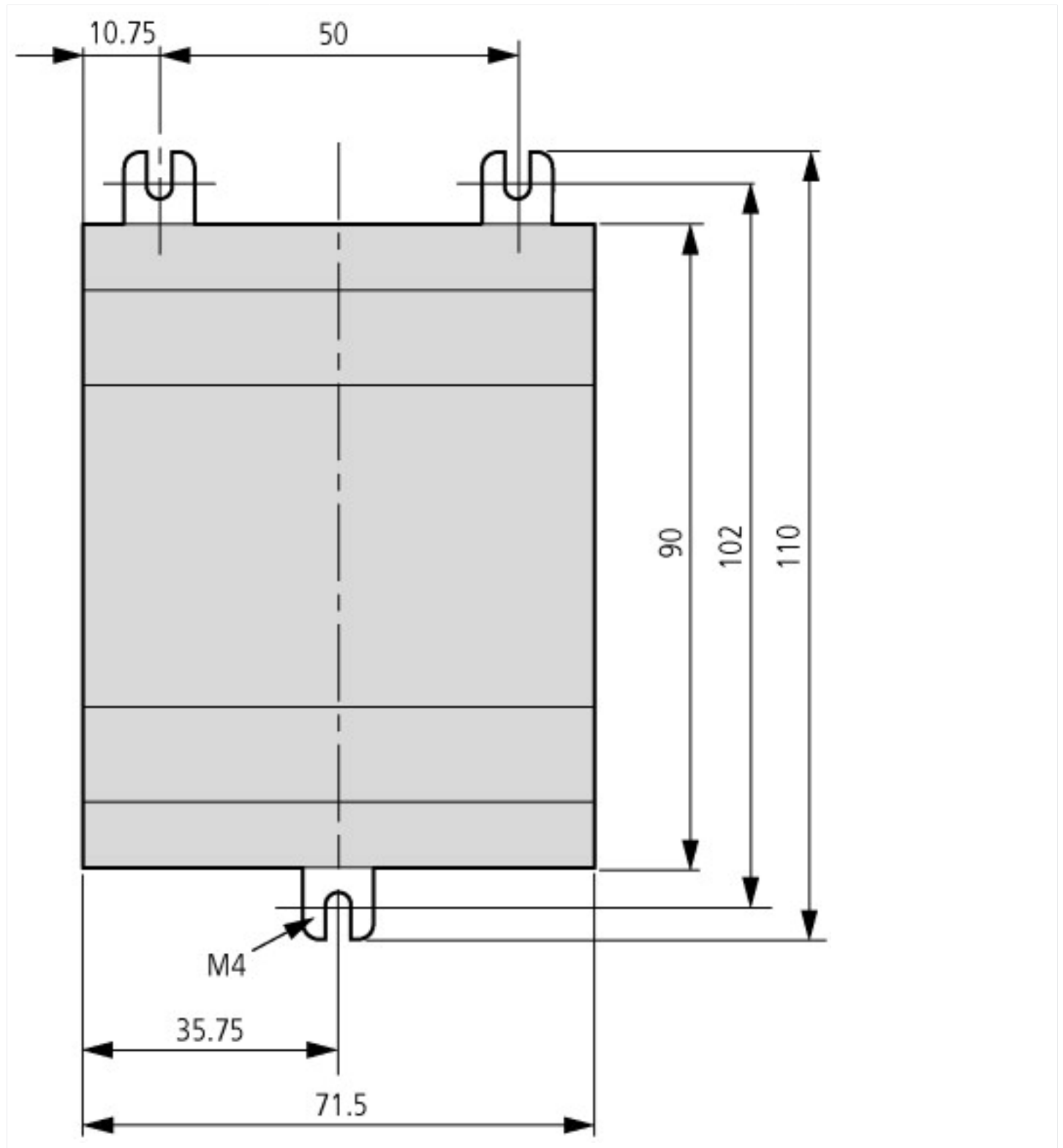
| | | | |
|---|--|--|------|
| Number of analogue outputs | | | 1 |
| Number of digital inputs | | | 1 |
| Number of digital outputs | | | 3 |
| With relay output | | | No |
| Number of HW-interfaces industrial Ethernet | | | 0 |
| Number of interfaces PROFINET | | | 0 |
| Number of HW-interfaces RS-232 | | | 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 | | | 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 |

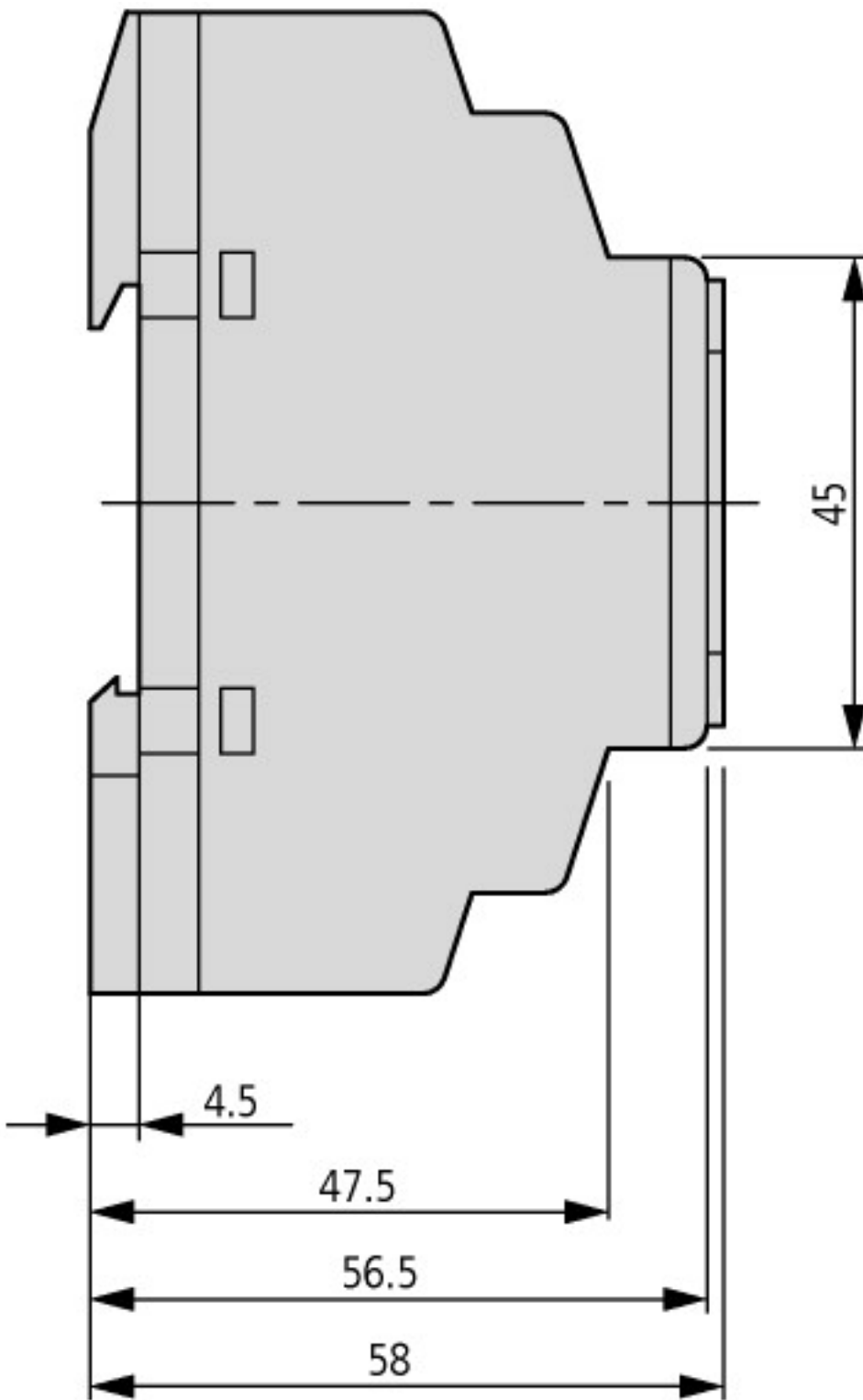
| | | | |
|---------------------------------------|--|----|------|
| Category according to EN 954-1 | | | None |
| SIL according to IEC 61508 | | | None |
| Performance level acc. EN ISO 13849-1 | | | None |
| Appendant operation agent (Ex ia) | | | No |
| Appendant operation agent (Ex ib) | | | No |
| Explosion safety category for gas | | | None |
| Explosion safety category for dust | | | None |
| Width | | mm | 71.5 |
| Height | | mm | 90 |
| Depth | | mm | 58 |

Approvals

| | | | |
|-----------------------------|--|--|---|
| Product Standards | | | IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking |
| UL File No. | | | E135462 |
| UL Category Control No. | | | NRAQ, NRAQ7 |
| CSA File No. | | | 165628 |
| CSA Class No. | | | 2252-01 + 2258-02 |
| North America Certification | | | Request filed for UL and CSA |
| Degree of Protection | | | IEC: IP20, UL/CSA Type: - |

Dimensions





Assets (links)

Declaration of CE Conformity

00002536

Instruction Leaflets

IL05013022Z2018_02

Additional product information (links)

IL05013022Z (AWA2525-2477) analog I/O expansion devices for easy800, EC4P, MFD-CP8, EC4E

IL05013022Z (AWA2525-2477) analog I/O expansion devices for easy800, EC4P, MFD-CP8, EC4E

ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL05013022Z2018_02.pdf