

DATASHEET - EU5E-SWD-4D2R**SWD I/O module, 24 V DC, 4 digital inputs, 2 digital relay outputs 3 A****Part no. EU5E-SWD-4D2R****Catalog No. 116383****EL-Nummer (Norway) 4519780****EATON**

Powering Business Worldwide™

**Delivery program**

| | | | |
|----------------------------|--|--|---------------------------------------|
| Product range | | | SmartWire-DT slave |
| Basic function | | | Digital modules |
| Function | | | For connection of digital I/O signals |
| Inputs | | | |
| Digital | | | 4 |
| Outputs | | | |
| Relay | | | 2 |
| Connection to SmartWire-DT | | | yes |

Technical data**General**

| | | | |
|-------------------------|--|----|----------------------------------|
| Standards | | | IEC/EN 61131-2 |
| Approvals | | | |
| Approvals | | | UL CSA |
| shipping classification | | | DNV GL BV LRS |
| | | | |
| Dimensions (W x H x D) | | mm | 35 x 90 x 101 |
| Weight | | kg | 0.1 |
| Mounting | | | Top-hat rail IEC/EN 60715, 35 mm |
| Mounting position | | | As required |

24 V DC supply for output supply

| | | | |
|--------------|---|---|---|
| Power supply | | | |
| Power loss | P | W | 1 |

Climatic environmental conditions

| | | | |
|---|---|-----|--|
| Climatic proofing | | | Dry heat to IEC 60068-2-2 Damp heat as per EN 60068-2-3 |
| Air pressure (operation) | | hPa | 795 - 1080 |
| Ambient temperature | | | |
| Operation | θ | °C | -25 - +55 |
| Storage / Transport | θ | °C | -40 - +70 |
| Relative humidity | | | |
| Condensation | | | Take appropriate measures to prevent condensation |
| Relative humidity, non-condensing (IEC/EN 60068-2-30) | | % | 5 - 95 |

Ambient conditions, mechanical

| | | | |
|--|--|----|-----------|
| Protection type (IEC/EN 60529, EN50178, VBG 4) | | | IP20 |
| Vibrations (IEC/EN 61131-2:2008) | | | |
| Constant amplitude 3,5 mm | | Hz | 5 - 8.4 |
| Constant acceleration 1 g | | Hz | 8.4 - 150 |

| | | | |
|--|-------------|---------|-----|
| Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms | | Impacts | 9 |
| Drop to IEC/EN 60068-2-31 | Drop height | mm | 50 |
| Free fall, packaged (IEC/EN 60068-2-32) | | m | 0.3 |

Electromagnetic compatibility (EMC)

| | | | |
|---|--|-----|------------------|
| Overvoltage category | | | II |
| Pollution degree | | | 2 |
| Electrostatic discharge (IEC/EN 61131-2:2008) | | | |
| Air discharge (Level 3) | | kV | 8 |
| Contact discharge (Level 2) | | kV | 4 |
| Electromagnetic fields (IEC/EN 61131-2:2008) | | | |
| 80 - 1000 MHz | | V/m | 10 |
| 1.4 - 2 GHz | | V/m | 3 |
| 2 - 2.7 GHz | | V/m | 1 |
| Radio interference suppression (SmartWire-DT) | | | EN 55011 Class A |
| Burst (IEC/EN 61131-2:2008, Level 3) | | | |
| Supply cable | | kV | 2 |
| Signal lines | | kV | 1 |
| SmartWire-DT cables | | kV | 1 |
| Surge (IEC/EN 61131-2:2008, Level 1) | | | |
| Surge I/O cables | | kV | 1 |
| Radiated RFI (IEC/EN 61131-2:2008, Level 3) | | V | 10 |

SmartWire-DT network

| | | | |
|---------------------------------|-------|------|---|
| Station type | | | SmartWire-DT slave |
| Setting the baud rate | | | automatic |
| Baud rate (data transfer speed) | | kbps | maximum 250 |
| Status SmartWire-DT | | LED | Green |
| Connection | | | Plug, 8-pole Connection plug: external device plug SWD4-8SF2-5 |
| Current consumption | I_e | mA | 45 |

Connection supply and I/O

| | | | |
|-------------------------|--|-----------------|--------------------------|
| Terminal for I/O sensor | | | |
| Connection type | | | Push in terminals |
| Solid | | mm ² | 0.2 - 1.5 (AWG 24 - 16) |
| Flexible with ferrule | | mm ² | 0.25 - 1.5 (AWG 24 - 16) |
| | | | Minimum length 8 mm |

Digital inputs

| | | | |
|-----------------------|--|-----|--|
| Quantity | | | 4 |
| Input current | | mA | Normally 4 at 24 V DC |
| Limit value type 1 | | | Low < 5V DC; High > 15V DC |
| Input delay | | | High->Low < 0.2 ms Low->High < 0.2 ms |
| Status display inputs | | LED | yellow |

Relay outputs

| | | | |
|--|--|------|--------------------|
| Number | | | 2 |
| Contact type art | | | N/O contact |
| Operations | | | |
| Utilization category AC-1, 250 V, 4 A | | | $> 5 \times 10^4$ |
| Utilization category AC-15, 250 V, 3 A | | | $> 5 \times 10^4$ |
| Utilization category DC-13, 24 V, 1 A | | | $> 2 \times 10^5$ |
| Safe isolation according to EN 50178 | | V AC | 230 |
| Minimum load current | | mA | 100 mA , 12 V DC |
| Pick-up/drop-out time | | ms | 5/2.5 |
| Bounce duration | | ms | Normally 1.5 |
| Short-circuit protection | | | external 4 A gL/gG |
| Status display for relay outputs | | LED | yellow |

Potential isolation

| | | | |
|-------------------------|--|--|-----|
| Inputs for SmartWire-DT | | | Yes |
| Outputs to SmartWire-DT | | | Yes |
| Output to output | | | Yes |

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 |
| Degree of Protection | | | IP20 |
| 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) / Fieldbus, decentr. periphery - digital I/O module (EC001599) | | | |
| Electric engineering, automation, process control engineering / Control / Field bus, decentralized peripheral / Field bus, decentralized peripheral - digital I/O module (ecl@ss10.0.1-27-24-26-04 [BAA055014]) | | | |
| Supply voltage AC 50 Hz | | V | 0 - 0 |
| Supply voltage AC 60 Hz | | V | 0 - 0 |
| Supply voltage DC | | V | 0 - 28.8 |
| Voltage type of supply voltage | | | DC |
| Number of digital inputs | | | 4 |
| Number of digital outputs | | | 2 |
| Digital inputs configurable | | | No |
| Digital outputs configurable | | | No |
| Input current at signal 1 | | mA | 4 |
| Permitted voltage at input | | V | 20.4 - 28.8 |

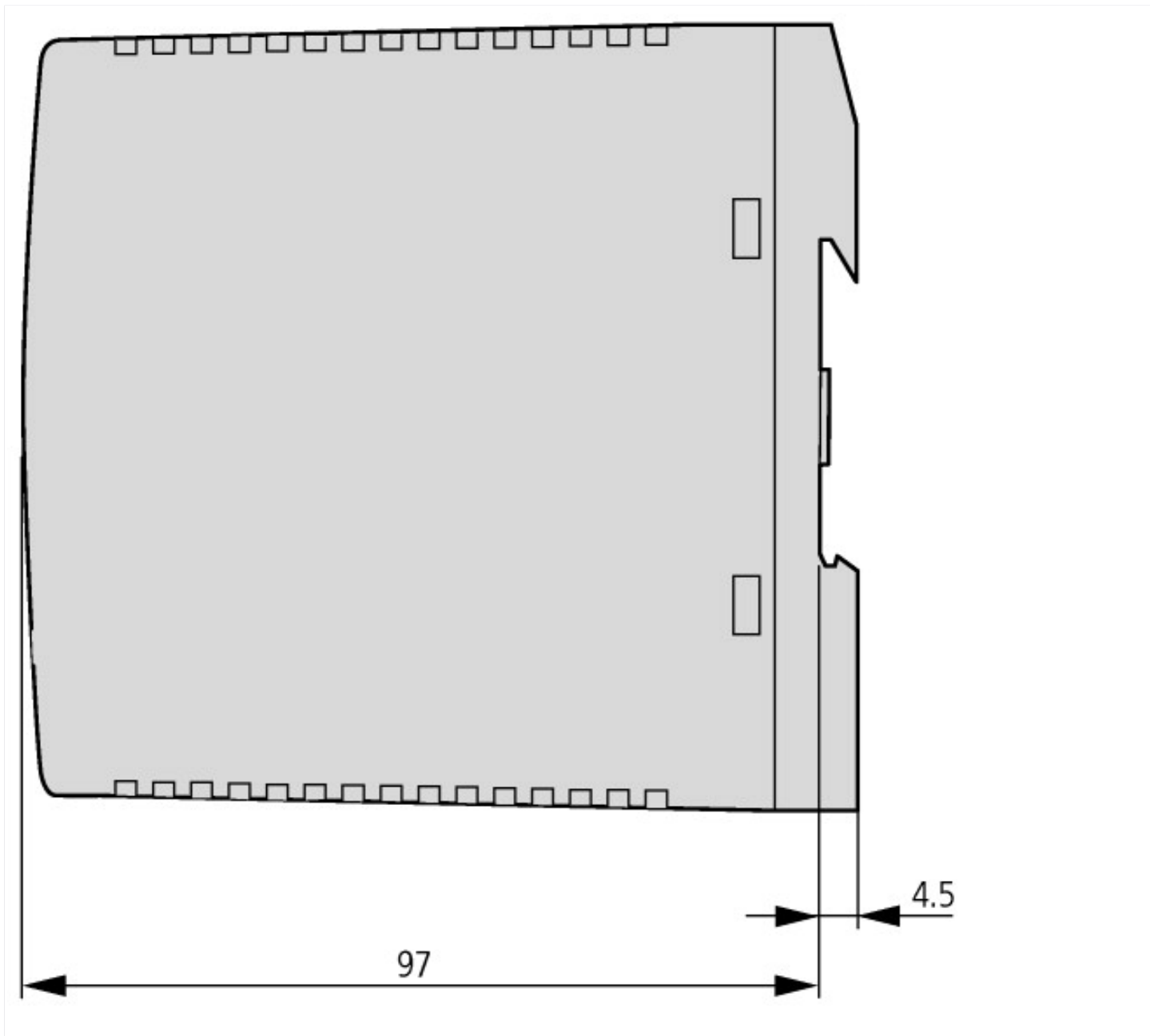
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|--|----|---------|
| Type of voltage (input voltage) | | DC |
| Type of digital output | | Relay |
| Output current | A | 3 |
| Permitted voltage at output | V | 0 - 250 |
| Type of output voltage | | AC |
| Short-circuit protection, outputs available | | 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 parallel | | 0 |
| Number of HW-interfaces Wireless | | 0 |
| Number of HW-interfaces USB | | 0 |
| Number of HW-interfaces other | | 0 |
| 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 | | Yes |
| 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 |
| System accessory | | Yes |
| Degree of protection (IP) | | IP20 |
| Type of electric connection | | Other |
| Time delay at signal exchange | ms | 0 - 0 |
| Fieldbus connection over separate bus coupler possible | | Yes |
| Rail mounting possible | | Yes |
| Wall mounting/direct mounting | | Yes |
| Front build in possible | | No |
| Rack-assembly possible | | No |
| Suitable for safety functions | | No |

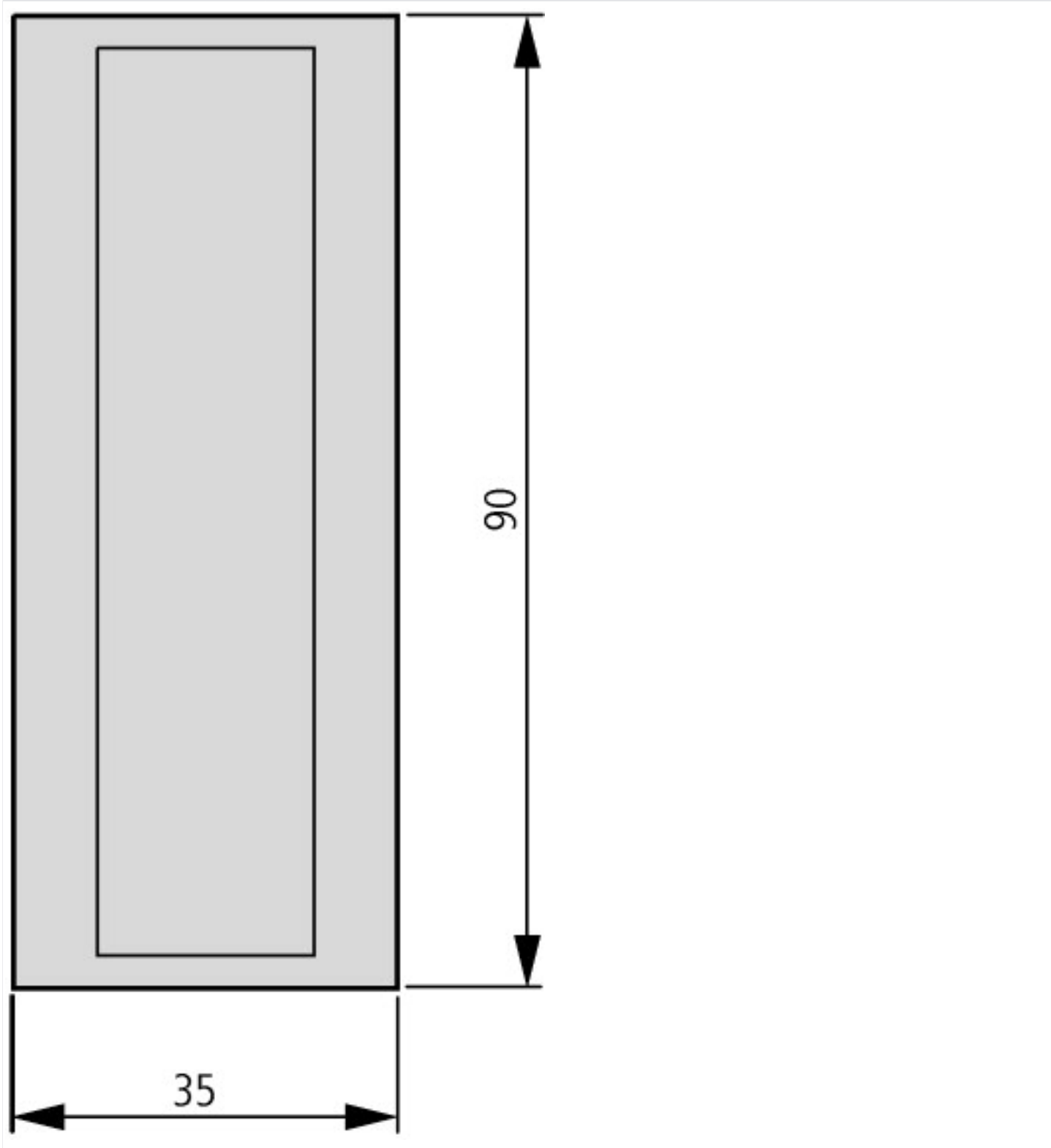
| | | | |
|---------------------------------------|--|----|------|
| Category according to EN 954-1 | | | None |
| SIL according to IEC 61508 | | | None |
| Performance level acc. EN ISO 13849-1 | | | None |
| Appendant operation agent (Ex ia) | | | No |
| Appendant operation agent (Ex ib) | | | No |
| Explosion safety category for gas | | | None |
| Explosion safety category for dust | | | None |
| Width | | mm | 35 |
| Height | | mm | 90 |
| Depth | | mm | 97 |

Approvals

| | | | |
|--------------------------------------|--|--|--------------------------|
| UL File No. | | | E29184 |
| UL Category Control No. | | | NKCR |
| CSA File No. | | | 2324643 |
| CSA Class No. | | | 3211-07 |
| North America Certification | | | UL listed, CSA certified |
| Specially designed for North America | | | No |

Dimensions







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