# AXL SE SSDO4/2 2A - Safety module

1190017

https://www.phoenixcontact.com/us/products/1190017

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CRA-READY



Axioline Smart Elements, Digital output module, Functional safety, SafetyBridge technology, Safe digital outputs: 2 (2-channel assignment), 4 (1-channel assignment), 24 V DC, 2 A, connection technology: 2-conductor, degree of protection: IP20; The product is being prepared for compliance with the Cyber Resilience Act (CRA).

## Product description

You can integrate Axioline Smart Elements into systems with the Smart Element interface. This Smart Element is a safe output module for use in a SafetyBridge system.

## Your advantages

- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SIL 3 in accordance with EN IEC 62061, SIL 3 in accordance with IEC 61508
- 4 safe outputs for 1-channel assignment
- 2 safe outputs for 2-channel assignment

ELEKTROGERÄTE RÜCKNAHME

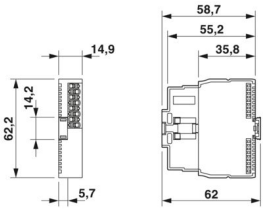
## Commercial data

| | |
|---|---|
| Item number | 1190017 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | DN03 |

| | |
|---|---|
| Product key | DNA831 |
| GTIN | 4063151238285 |
| Weight per piece (including packing) | 48.43 g |
| Weight per piece (excluding packing) | 36 g |
| Customs tariff number | 85389091 |
| Country of origin | DE |

## Technical data

### Dimensions

| | |
|---|---|
| Dimensional drawing |  |
| Width | 14.9 mm |
| Height | 62.2 mm |
| Depth | 62 mm |

### Notes

| | |
|---|---|
| Note on application | Only for industrial use |
| Note on application | As things stand now, we are preparing the product so that, as of December 11, 2027, it will comply with the requirements of the EU Cyber Resilience Act (CRA) based on the information currently available regarding the CRA. |

### Mounting

| | |
|---|---|
| Mounting type | Plug-in mounting (Smart Element slot) |
| Mounting position | any |

### Material specifications

| | |
|---|---|
| Color (Housing) | yellow (RAL 1018) |
| Material | PBT |
| Flammability rating according to UL 94 | V-0 |

### Interfaces

Smart Element interface

| | |
|---|---|
| Number of interfaces | 1 |
| Connection method | Card edge connector |

### System properties

Programming data

| | |
|---|---|
| Input address area | 5 Byte |
| Output address area | 6 Byte |

### Output data

Digital:

| | |
|---|---|
| Output name | Safe digital outputs |
| Design of digital output | Semiconductor |

| | |
|---|---|
| Output description | EN 61131-2 |
| Connection method | Push-in connection |
| Connection technology | 2-conductor |
| Number of outputs | 2 (2-channel assignment) |
| | 4 (1-channel assignment) |
| Protective circuit | Short-circuit protection, overload protection of the outputs; electronic |
| Output voltage | 24 V DC |
| Limitation of the voltage induced on circuit interruption | -15 V |
| Output current | max. 2 A (per output) |
| Maximum output current per channel | 2 A |
| Maximum output current per module | 4 A |
| Nominal output voltage | 24 V DC |
| Load min. | 1.5 kΩ (at nominal voltage) |
| Output voltage when switched off | < 5 V |
| Output current when switched off | < 2 mA |
| Nominal load, inductive | 48 VA (1 H; 12 Ω; at nominal voltage) |
| Nominal load, ohmic | 48 W (12 Ω, at nominal voltage) |
| Behavior with overload | Switch-off of the relevant output, restart upon acknowledgment |
| Behavior with inductive overload | Output can be destroyed |
| Switching frequency | 1 Hz (0.2 Hz at > 1 A) |
| Reverse voltage resistance to short pulses | no |

## Product properties

| | |
|---|---|
| Product type | I/O component |
| Product family | Axioline Smart Elements |
| Application | Functional safety |
| | SafetyBridge technology |
| Type | modular |
| Mounting position | any |
| Operating mode | SafetyBridge |
| Special properties | The product is being prepared for compliance with the Cyber Resilience Act (CRA) |

### Insulation characteristics

| | |
|---|---|
| Overvoltage category | II (IEC 60664-1) |
| Pollution degree | 2 (EN 60664-1) |

## Electrical properties

| | |
|---|---|
| Maximum power dissipation for nominal condition | typ. 871 mW |

### Potentials: Axioline F local bus supply ($U_{Bus}$)

| | |
|---|---|
| Supply voltage | 5 V DC (via bus base module) |
| Current draw | max. 120 mA (at $U_{Bus}$ 5 V DC) |
| | typ. 93 mA (at $U_{Bus}$ 5 V DC) |

Potentials: Communications power supply of the Smart Elements ($U_{SE}$)

| | |
|---|---|
| Supply voltage | using card edge connectors |

Potentials: I/O supply ($U_P$)

| | |
|---|---|
| Supply voltage | 24 V DC (using card edge connectors) |
| Supply voltage range | 19.2 V DC ... 30 V DC (including all tolerances, including ripple) |
| Current draw | max. 30 mA ((Supply from $U_P$ with 30 V DC, all outputs set, without supply to the actuators)) |
| | typ. 25 mA ((Supply from $U_P$ with 24 V DC, all outputs set, without supply to the actuators)) |
| Current consumption | min. 21 mA ((Supply from $U_P$ with 19.2 V DC, all outputs set, without supply to the actuators)) |
| Power consumption | max. 900 mW |
| | min. 403 mW |

## Connection data

Connection technology

| | |
|---|---|
| Connection name | I/O |
| Note on the connection method | Note the specification in the section Conductor cross-sections, and stripping and insertion lengths. |

I/O

| | |
|---|---|
| Connection method | Push-in connection |
| Note on the connection method | Note the specification in the section Conductor cross-sections, and stripping and insertion lengths. |
| Conductor cross-section, rigid | 0.25 mm² ... 1.5 mm² |
| Conductor cross-section, flexible | 0.25 mm² ... 1.5 mm² |
| Conductor cross-section AWG | 24 ... 16 |
| Stripping length | 8 mm |

## Environmental and real-life conditions

Ambient conditions

| | |
|---|---|
| Ambient temperature (operation) | -25 °C ... 60 °C |
| Degree of protection | IP20 |
| Degree of protection at installation location | min. IP54 |
| Air pressure (operation) | 70 kPa ... 108 kPa |
| Air pressure (storage/transport) | 66 kPa ... 108 kPa |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Permissible humidity (operation) | 5 % ... 95 % (non-condensing) |
| Permissible humidity (storage/transport) | 5 % ... 95 % (non-condensing) |

Mechanical test

| | |
|---|---|
| Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6 | 5g |
| Shock in accordance with EN 60068-2-27/IEC 60068-2-27 | 30g |

| | |
|---|---|
| Continuous shock in accordance with EN 60068-2-27/IEC 60068-2-27 | 10g |

## Standards and regulations

| | |
|---|---|
| Protection class | III (IEC 61140, EN 61140, VDE 0140-1) |

Air clearances and creepage distances

| | |
|---|---|
| Air clearances and creepage distances | IEC 60664-1 |

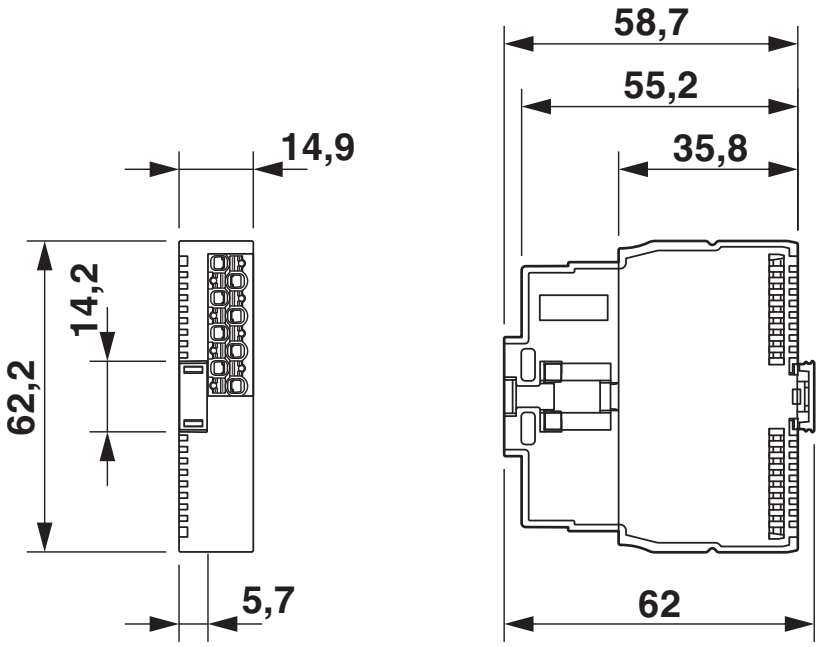
## Characteristics

Safety data: EN ISO 13849-1

| | |
|---|---|
| Performance level (PL) | d (1-channel assignment) |
| | e (2-channel assignment) |

## Drawings

Dimensional drawing




Dimensions

## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1190017

**cULus Listed**
Approval ID: E238705

**Functional Safety**
Approval ID: 968/FSP 2449.00/22

## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-13.0 | 27242604 |
| ECLASS-15.0 | 27242604 |
| ECLASS-15.0 ASSET | 27250101 |

### ETIM

| | |
|---|---|
| ETIM 10.0 | EC001599 |

### UNSPSC

| | |
|---|---|
| UNSPSC 21.0 | 32151600 |

## Environmental product compliance

EU RoHS

| | |
|---|---|
| Fulfills EU RoHS substance requirements | Yes |
| Exemption | 7(a), 7(c)-I |

China RoHS

| | |
|---|---|
| Environment friendly use period (EFUP) | EFUP-50 |
| | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

EU REACH SVHC

| | |
|---|---|
| REACH candidate substance (CAS No.) | Lead(CAS: 7439-92-1) |
| SCIP | 12d8c347-3b9a-4ce6-86ff-b94c62f62620 |

EF3.1 Climate Change

| | |
|---|---|
| CO2e kg | 11.412 kg CO2e |


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