

# AXL SE FSDO4/2 2A - Safety module



1090205

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Axioline Smart Elements, Digital output module, Functional safety, Failsafe over EtherCAT®, Safe digital outputs: 2 (2-channel assignment), 4 (1-channel assignment), 24 V DC, 2 A, connection technology: 2-conductor, degree of protection: IP20

## Your advantages

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



## Commercial data

Item number	1090205
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN03
Product key	DNA831
GTIN	4055626898834
Weight per piece (including packing)	48.43 g
Weight per piece (excluding packing)	36 g
Customs tariff number	85389091
Country of origin	DE

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## Technical data

### Dimensions

Dimensional drawing	
Width	14.9 mm
Height	62.2 mm
Depth	62 mm

### Notes

#### Note on application

Note on application	Only for industrial use
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### Material specifications

Color (Housing)	yellow (RAL 1018)
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### Interfaces

#### FSoE

Number of interfaces	1
Connection method	Card edge connector
Transmission speed	See system in which you use the Smart Element.

### System properties

#### Programming data

Input address area	6 Byte (FSoE)
Output address area	6 Byte (FSoE)

#### Fieldbus data telegram

Required configuration data	5 Byte
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### Output data

#### Digital:

Output name	Safe digital outputs
Output description	EN 61131-2
Connection method	Push-in connection
Connection technology	2-conductor
Number of outputs	2 (2-channel assignment)

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	4 (1-channel assignment)
Protective circuit	Short-circuit protection, overload protection of the outputs; electronic
Output voltage	24 V DC
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 k $\Omega$ (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 $\Omega$ ; at nominal voltage)
Nominal load, ohmic	48 W (12 $\Omega$ , at nominal voltage)
Switching frequency	1 Hz (0.2 Hz at > 1 A)
Reverse voltage resistance to short pulses	no
Behavior with overload	Switch-off of the relevant output, restart upon acknowledgment
Behavior with inductive overload	Output can be destroyed

## Product properties

Product type	I/O component
Product family	Axioline Smart Elements
Application	Functional safety Failsafe over EtherCAT®
Type	modular
Mounting position	any
Operating mode	FSoE

## 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
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## Potentials

Protection	external fusing via the system in which the Smart Element is used
Protective circuit	Surge protection of the supply voltage; electronic (35 V, 0.5 s) Polarity reversal protection of the supply voltage; via the system in which the Smart Element is used

## 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 ( $U_{SE}$ )

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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))
Power consumption	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 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section, flexible	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section AWG	24 ... 16
Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section, flexible, with ferrule, without plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
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

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Continuous shock in accordance with EN 60068-2-27/IEC 60068-2-27	10g
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## Standards and regulations

Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
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### Air clearances and creepage distances

Air clearances and creepage distances	IEC 60664-1
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## Mounting

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

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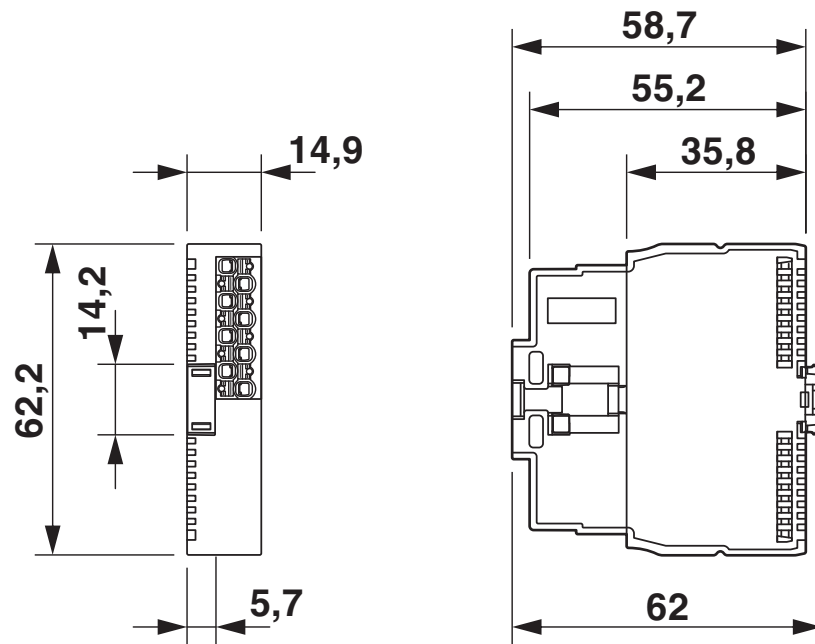
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## Drawings

Dimensional drawing



## Dimensions

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1090205>



**cULus Listed**

Approval ID: E238705



**Functional Safety**

Approval ID: 968/FSP 2625.00/23

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## Classifications

### ECLASS

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

### ETIM

ETIM 10.0	EC001599
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### UNSPSC

UNSPSC 21.0	32151600
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## 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	18039558-d47d-4a24-bf59-844d5a423746

### EF3.1 Climate Change

CO2e kg	11.412 kg CO2e
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