

# AXL SE DO4/2 2A EF - Digital module



1181790

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Axioline Smart Elements, Digital output module, Digital outputs: 4, 24 V DC, 2 A, connection technology: 2-conductor, degree of protection: IP20

## Product description

You can integrate Axioline Smart Elements into systems with the Smart Element interface. This Smart Element emits digital signals.

## Your advantages

- 4 digital outputs
- 24 V DC, 2 A
- Connection of actuators in 2-conductor technology
- Substitute value behavior of the outputs can be parameterized for the Smart Element
- Feed-in of the I/O supply on the Smart Element
- Single-channel diagnostics
- Mapping of the channel status in the input process data
- Device rating plate stored

## Commercial data

Item number	1181790
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR05
Product key	DRIB32
GTIN	4063151359430
Weight per piece (including packing)	38.1 g
Weight per piece (excluding packing)	38.2 g
Customs tariff number	85389091
Country of origin	DE

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1181790

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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)	gray (RAL 7042)
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### Interfaces

#### Smart Element interface

Number of interfaces	1
Connection method	Card edge connector
Transmission speed	See system in which you use the Smart Element.
Start time until ready to operate	< 500 ms

### System properties

#### Programming data (LocalbusSlave)

Process data channel	8 bit
Input address area	1 Byte
Output address area	1 Byte

#### Fieldbus data telegram

Required parameter data	3 Byte
Required configuration data	7 Byte

### Output data

#### Digital:

Output name	Digital outputs
Connection method	Push-in connection

1181790

<https://www.phoenixcontact.com/us/products/1181790>

Connection technology	2-conductor
Number of outputs	4
Protective circuit	Short-circuit and overload protection; electronic
Output voltage	24 V DC
Max. current carrying capacity per output	max. 2 A (Observe the derating.)
Maximum output current per module	max. 8 A (provide external fuse protection; observe the derating.)
Nominal output voltage	24 V DC
Load min.	10 k $\Omega$
Output voltage when switched off	max. 1 V
Output current when switched off	max. 300 $\mu$ A
Nominal load, inductive	48 VA (1.2 H, 12 $\Omega$ , at 24 V DC)
Nominal load, lamp	24 W (at 24 V DC)
Nominal load, ohmic	48 W (12 $\Omega$ , in the supply voltage range)
Switching frequency	max. 1200 per second (With resistive load, at least 50 mA load current)
	max. 1 per second (with inductive load)
	max. 4 per second (with nominal lamp load)
Behavior with overload	Shutdown with automatic restart
Behavior with inductive overload	Output can be destroyed
Signal delay	max. 100 $\mu$ s (when switched on)
	max. 100 $\mu$ s (when switched off, with at least 50 mA load current)
Overcurrent shut-down	min. 2.8 A
Output current with ground connection interrupt when switched off	< 1 mA

## Product properties

Product type	I/O component
Product family	Axiline Smart Elements
Type	modular
Mounting position	See the system in which the Smart Element is used.

## Insulation characteristics

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

## Electrical properties

Maximum power dissipation for nominal condition	2.05 W
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## Potentials: I/O supply ( $U_0$ )

Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current draw	max. 8 A (provide external protection)
Current consumption	min. 12 mA (without actuators)
Protective circuit	Surge protection; electronic (35 V, 0.5 s)
	Reverse polarity protection; parallel diode
Protection	max. 8 A (polarity reversal protection up to 5 A)

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1181790

<https://www.phoenixcontact.com/us/products/1181790>

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

Supply voltage	using card edge connectors
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Electrical isolation/isolation of the voltage ranges

Test voltage: Communications power supply / 24 V supply $U_O$ (I/O)	500 V AC, 50 Hz, 1 min
Test voltage: Communications power supply / 24 V supply $U_P$	500 V AC, 50 Hz, 1 min
Test voltage: Communications supply / functional ground	500 V AC, 50 Hz, 1 min
Test voltage: 24 V supply $U_O$ (I/O) / 24 V supply $U_P$	500 V AC, 50 Hz, 1 min
Test voltage: 24 V supply $U_O$ (I/O) / functional ground	500 V AC, 50 Hz, 1 min
Test voltage: 24 V supply $U_P$ / functional ground	500 V AC, 50 Hz, 1 min

## Connection data

Connection technology

Connection name	I/O
Note on the connection method	Please observe the information provided on conductor cross-sections in the "Axoline Smart Elements" user manual.

I/O

Connection method	Push-in connection
Note on the connection method	Please observe the information provided on conductor cross-sections in the "Axoline Smart Elements" user manual.
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
Air pressure (operation)	70 kPa ... 106 kPa (up to 3000 m above sea level)
Air pressure (storage/transport)	70 kPa ... 106 kPa (up to 3000 m above sea level)
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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## Mounting

Mounting type	Plug-in mounting (Smart Element slot)
Mounting position	See the system in which the Smart Element is used.

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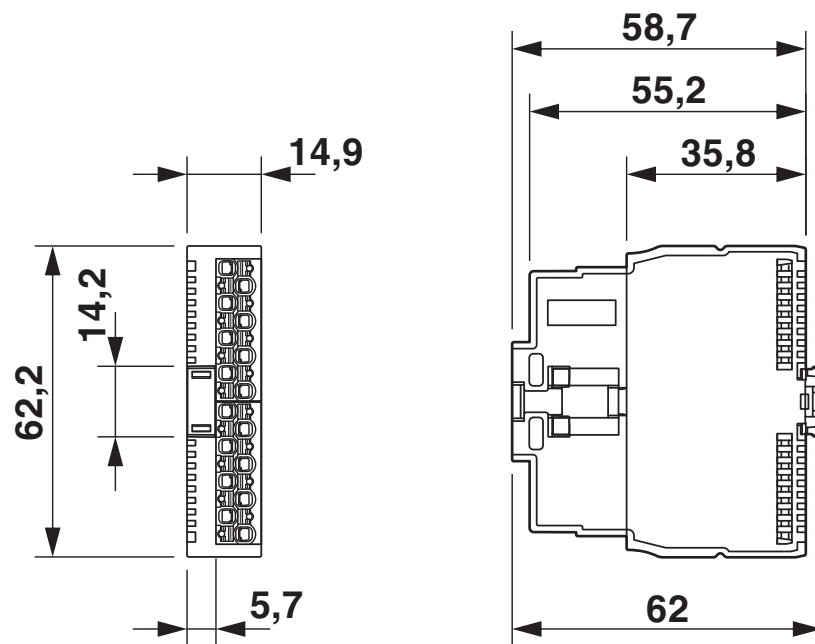
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## Drawings

Dimensional drawing



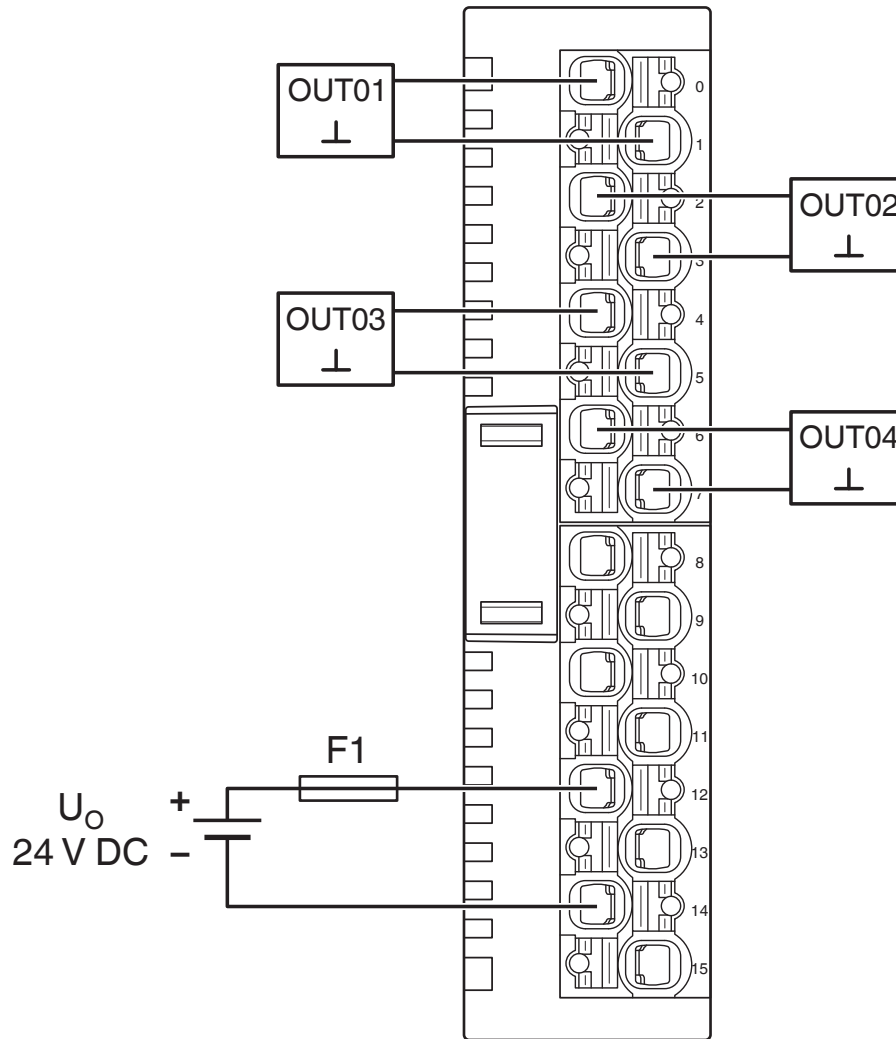
Dimensions (in mm)

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Connection diagram



Connection in 2-conductor technology

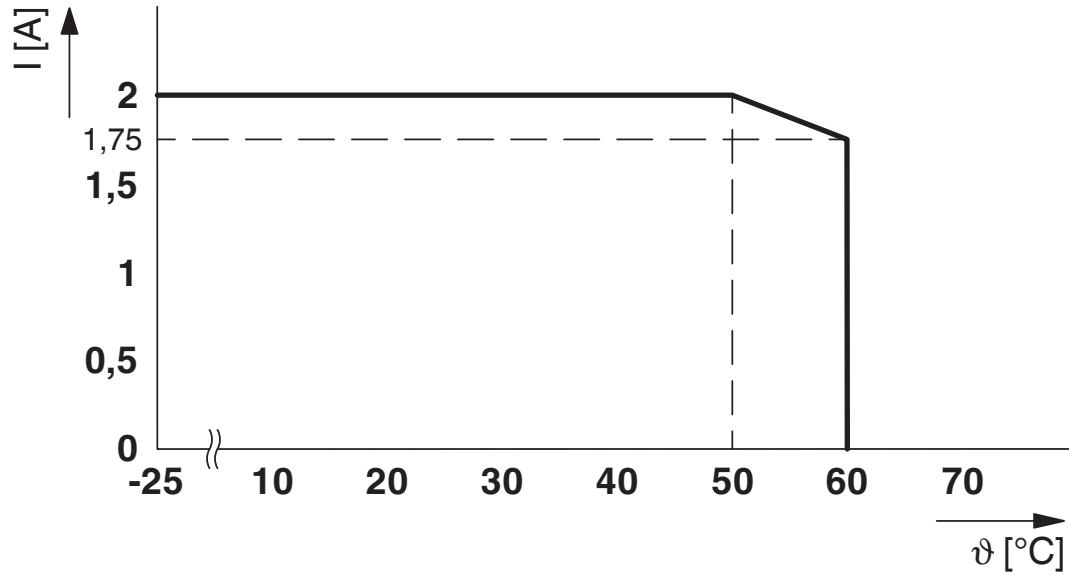
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Diagram

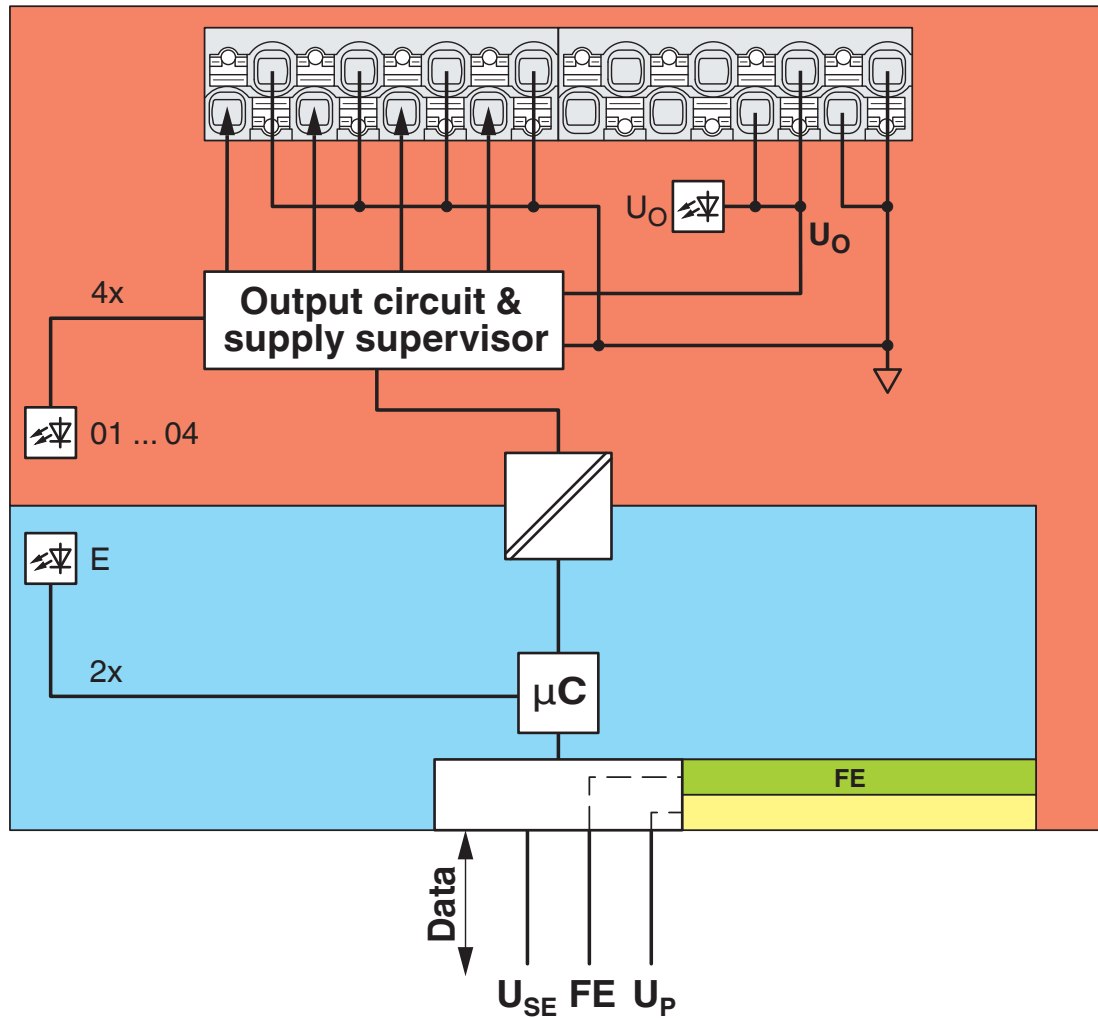


Derating at 100 % simultaneity

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Block diagram



Internal wiring of the terminal points

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## Approvals

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**cULus Listed**

Approval ID: E238705

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## Classifications

### ECLASS

ECLASS-13.0	27242604
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	4108ee54-b82c-43ac-8372-2a6c8e6c42ee

### EF3.1 Climate Change

CO2e kg	4.062 kg CO2e
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