

# AXL SE DO16/1 - Digital module



1088129

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Axioline Smart Elements, Digital output module, Digital outputs: 16, 24 V DC, 500 mA, connection technology: 1-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

- 16 digital outputs
- 24 V DC, 500 mA
- Connection of actuators in 1-conductor technology
- Substitute value behavior of the outputs can be parameterized for the Smart Element
- Device rating plate stored

## Commercial data

Item number	1088129
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DRIB32
Product key	DRIB32
GTIN	4055626888101
Weight per piece (including packing)	38.9 g
Weight per piece (excluding packing)	35 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

Note on application	Only for industrial use
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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

#### Module

ID code (hex)	none
Process data channel	16 bit
Input address area	0 Byte
Output address area	2 Byte
Required parameter data	9 Byte
Required configuration data	6 Byte

### Output data

#### Digital:

Output name	Digital outputs
Connection method	Push-in connection
Connection technology	1-conductor
Number of outputs	16
Protective circuit	Short-circuit and overload protection; electronic
Output voltage	24 V

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Limitation of the voltage induced on circuit interruption	-32.8 V DC ... -15 V DC
Maximum output current per module	max. 6 A (Also make sure that the maximum permissible current of 6 A is not exceeded!)
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	12 VA (1.2 H, 48 $\Omega$ , with nominal voltage)
Nominal load, lamp	12 W (at nominal voltage)
Nominal load, ohmic	12 W (48 $\Omega$ , with nominal voltage)
Switching frequency	max. 1200 per second (With resistive load, at least 50 mA load current)
	max. 1 per second (with inductive load)
	max. 16 per second (with nominal lamp load)
Reverse voltage resistance to short pulses	limited protection up to 0.5 A for 1 s
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. 0.7 A
Output current with ground connection interrupt when switched off	< 1 mA

## Product properties

Product family	Axioline 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	1.2 W
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## Potentials: Communications power supply of the Smart Elements ( $U_{SE}$ )

Supply voltage	using card edge connectors
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## 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. 6 A
Current consumption	min. 40 mA (without connected peripherals)
Protective circuit	Surge protection; See the system in which the Smart Element is used.
	Reverse polarity protection; parallel diode

## Electrical isolation/isolation of the voltage ranges

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

## Connection data

### Connection technology

Connection name	I/O
Note on the connection method	<p>Please observe the information provided on conductor cross-sections in the "Axioline Smart Elements" user manual.</p> <p>With a small conductor cross-section and high current, the terminal point temperature can reach up to 45 K above the ambient temperature.</p> <p>When selecting the cables, observe the permissible operating temperature in accordance with IEC or UL.</p>

### Conductor connection

Connection method	Push-in connection
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, without plastic sleeve	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

### I/O

Connection method	Push-in connection
Note on the connection method	<p>Please observe the information provided on conductor cross-sections in the "Axioline Smart Elements" user manual.</p> <p>With a small conductor cross-section and high current, the terminal point temperature can reach up to 45 K above the ambient temperature.</p> <p>When selecting the cables, observe the permissible operating temperature in accordance with IEC or UL.</p>
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>
Stripping length	8 mm

## Environmental and real-life conditions

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
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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)

## 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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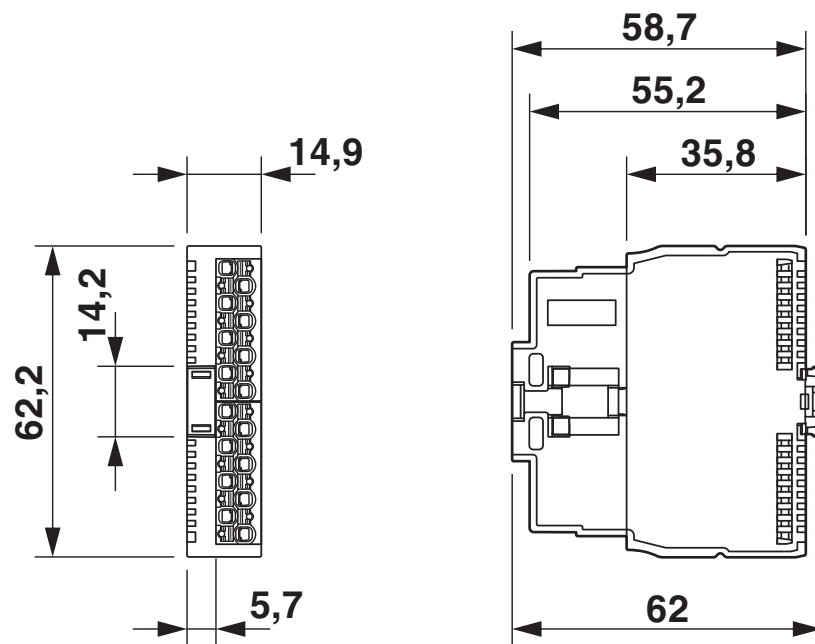
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## Drawings

Dimensional drawing



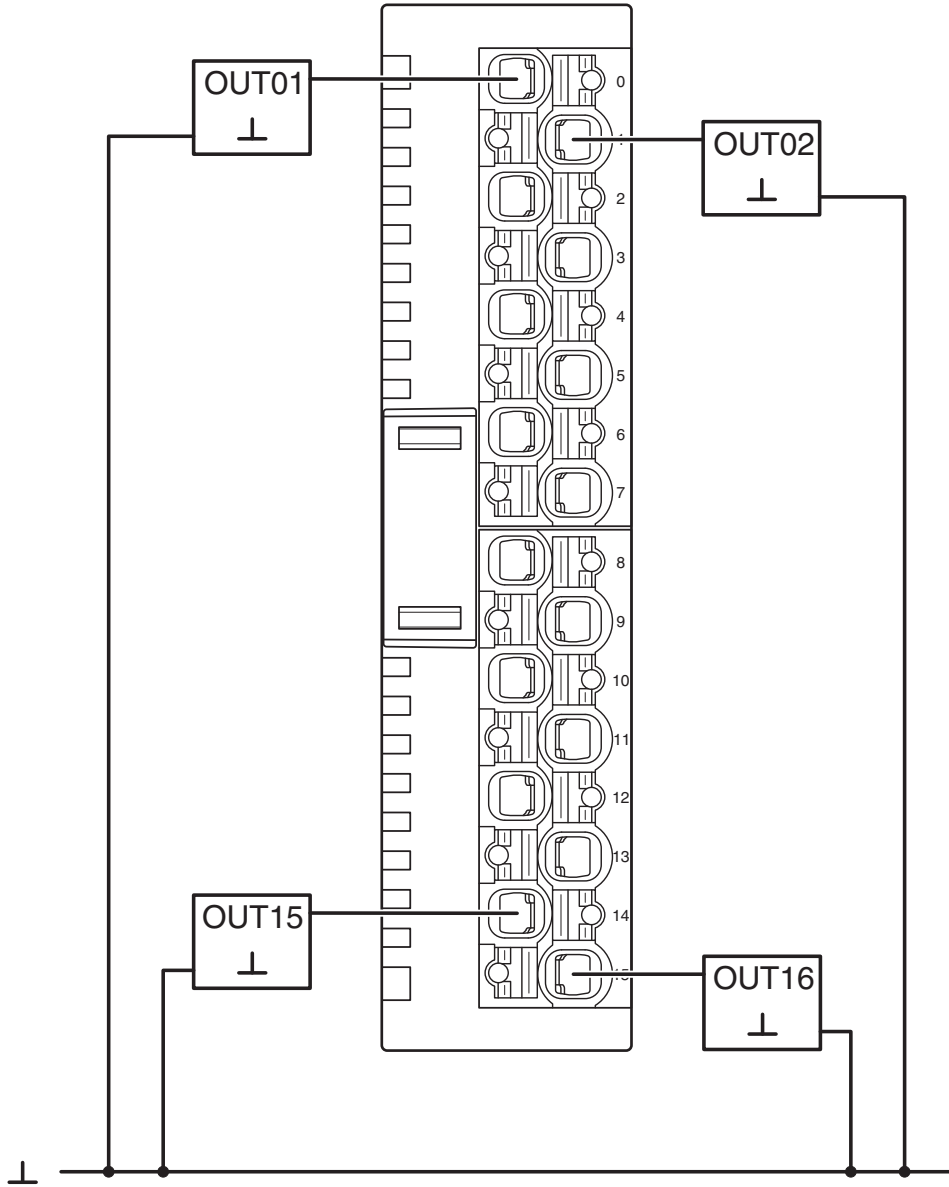
Dimensions (in mm)

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Connection diagram



Connection in 1-conductor technology

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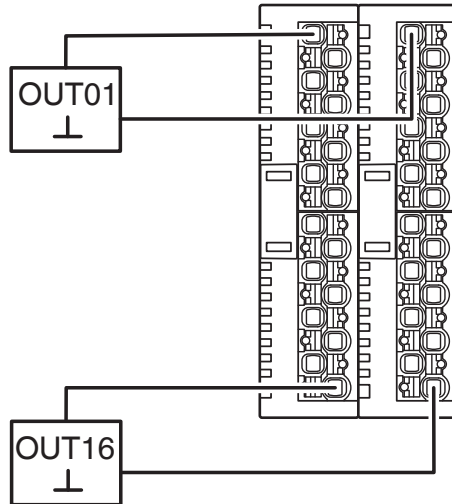
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Connection diagram

## AXL SE DO16/1 AXL SE PD16 GND

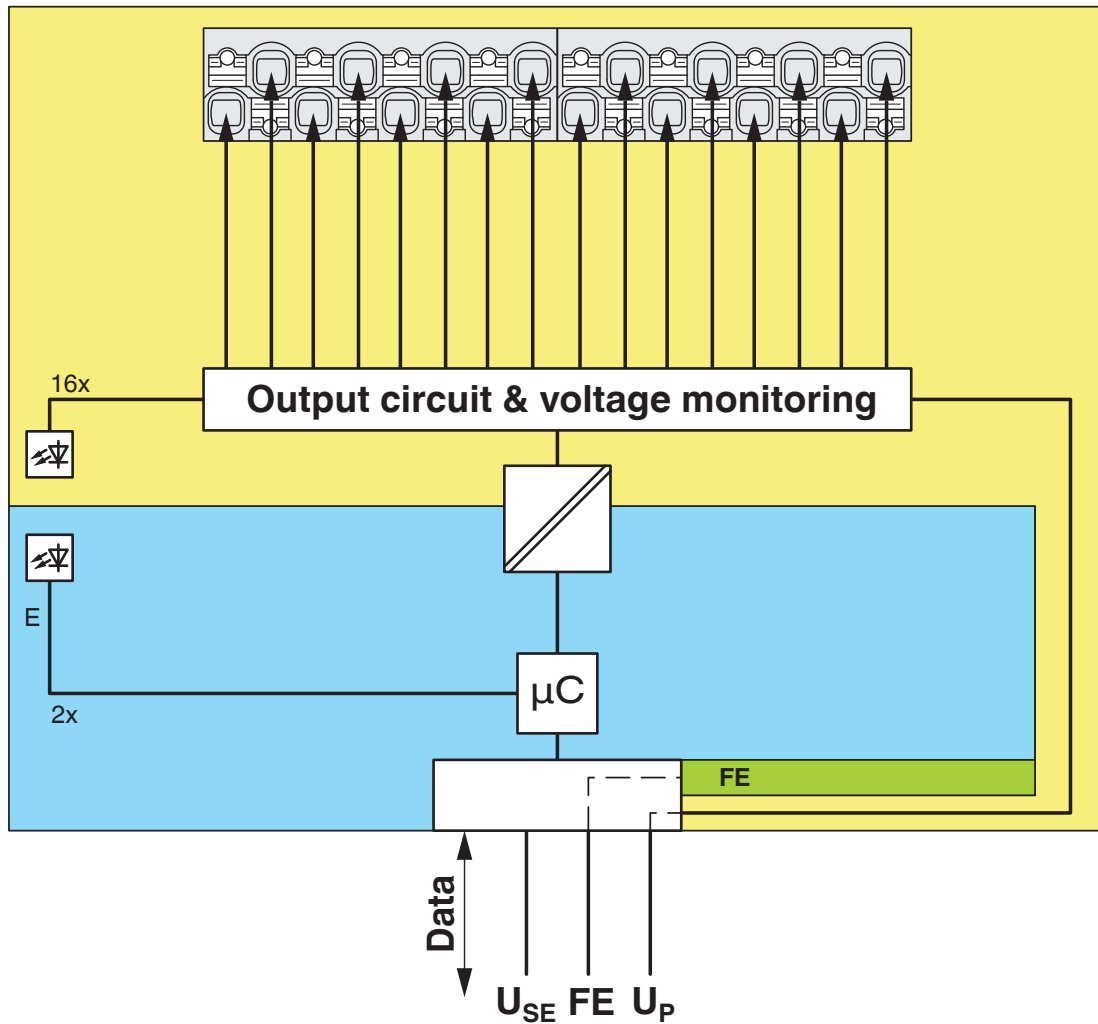


Connection in 2-conductor technology when using AXL SE PD ... (see data sheet)

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Block diagram



Internal wiring of the terminal points

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## Approvals

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### DNV

Approval ID: TAA00003B0



### LR

Approval ID: LR23402057TA



### RINA

Approval ID: ELE263623XG

### ABS

Approval ID: 24-2510075-PDA



### 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	1566ffa1-dd75-48e7-af6c-20ee81deec9e

### EF3.1 Climate Change

CO2e kg	1.732 kg CO2e
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PHOENIX CONTACT Ltd  
Halesfield 13, Telford  
Shropshire, TF7 4PG  
01952 681700  
[info@phoenixcontact.co.uk](mailto:info@phoenixcontact.co.uk)