

AXL SE DI16/1 - Digital module

1088127

<https://www.phoenixcontact.com/us/products/1088127>



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Axioline Smart Elements, Digital input module, Digital inputs: 16, 24 V DC, connection technology: 1-conductor, 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 detects digital signals.

Your advantages

- 16 digital inputs in accordance with EN 61131-2 type 1 and type 3
- Nominal voltage: 24 V DC
- Nominal current: 2.4 mA
- Connection of sensors in 1-conductor technology
- Filter time of < 1 ms
- Device rating plate stored

Commercial data

Item number	1088127
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR05
Product key	DRIB31
GTIN	4055626886374
Weight per piece (including packing)	37.5 g
Weight per piece (excluding packing)	35 g
Customs tariff number	85389091
Country of origin	DE

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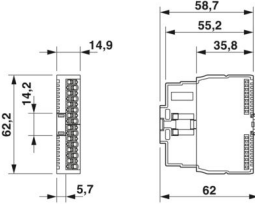
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Technical data

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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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	2 Byte
Output address area	0 Byte
Required parameter data	1 Byte
Required configuration data	6 Byte

Input data

Digital:

Input name	Digital inputs
Description of the input	EN 61131-2 types 1 and 3
Number of inputs	16
Connection method	Push-in connection
Connection technology	1-conductor
Input voltage range "0" signal	-3 V DC ... 5 V DC

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Input voltage range "1" signal	11 V DC ... 30 V DC
Nominal input voltage U_{IN}	24 V DC
Nominal input current at U_{IN}	2.4 mA
Input filter time	< 1 ms
Protective circuit	Polarity reversal protection of the inputs; Diode

Output data

Digital:

Output name	Digital outputs
Connection method	Push-in connection
Connection technology	1-conductor
Number of outputs	max. 16
Protective circuit	Short-circuit protection; electronic
Output voltage	24 V
Nominal output voltage	24 V DC
Load min.	10 k Ω
Output voltage when switched off	max. 1 V
Output current when switched off	max. 300 μ A
Nominal load, inductive	12 VA (1.2 H, 48 Ω , with nominal voltage)
Switching frequency	max. 1200 per second (With resistive load, at least 50 mA load current)
Behavior with overload	Shutdown with automatic restart
Signal delay	max. 100 μ s (when switched on) max. 100 μ 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 type	I/O component
Product family	Axioline Smart Elements
Type	modular
Mounting position	See the system in which the Smart Element is used.

Data management status

Article revision	03
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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	1.4 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. 17 mA
Current consumption	min. 14 mA (without connected peripherals)
Protective circuit	Surge protection; See the system in which the Smart Element is used. Reverse polarity protection; Polarity protection 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	Please observe the information provided on conductor cross sections in the "Axioline Smart Elements" user manual.

Conductor connection

Connection method	Push-in connection
Conductor cross section rigid	0.25 mm ² ... 1.5 mm ²
Conductor cross section flexible	0.25 mm ² ... 1.5 mm ²
Conductor cross section AWG	24 ... 16
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 1.5 mm ²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 1.5 mm ²
Stripping length	8 mm

I/O

Connection method	Push-in connection
Note on the connection method	Please observe the information provided on conductor cross sections in the "Axioline Smart Elements" user manual.
Conductor cross section, rigid	0.25 mm ² ... 1.5 mm ²
Conductor cross section, flexible	0.25 mm ² ... 1.5 mm ²
Conductor cross section AWG	24 ... 16
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 1.5 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 1.5 mm ²
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	Smart Element slot
Mounting position	See the system in which the Smart Element is used.

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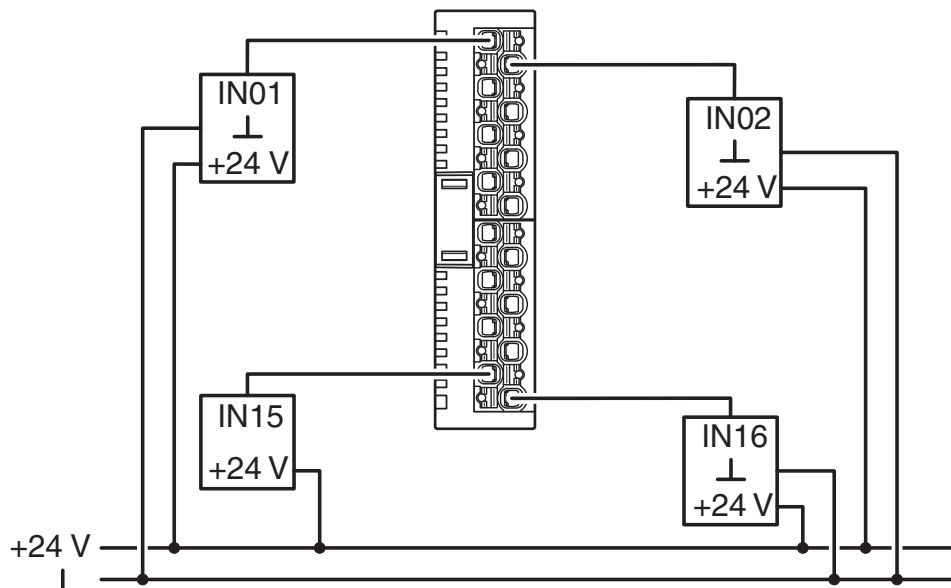
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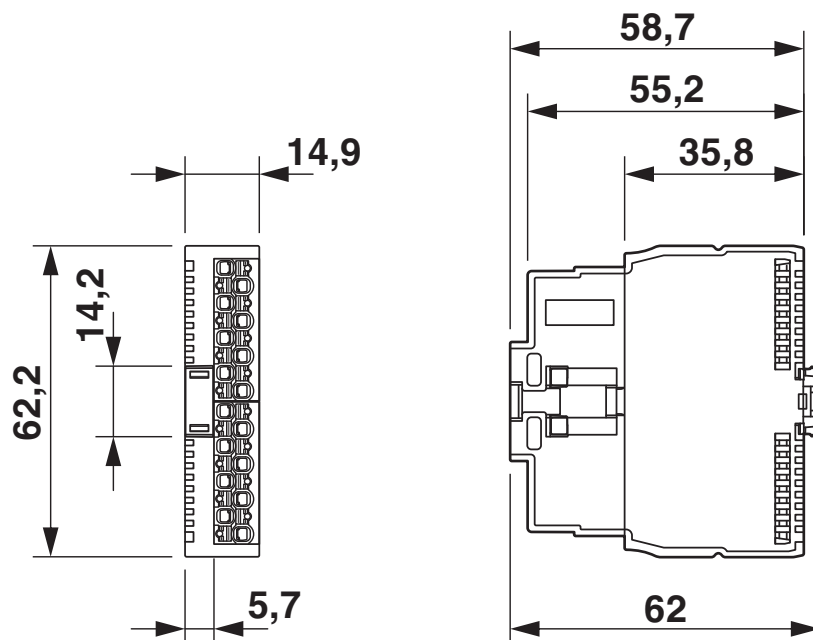
Drawings

Connection diagram



Connection in 1-conductor technology

Dimensional drawing



Dimensions

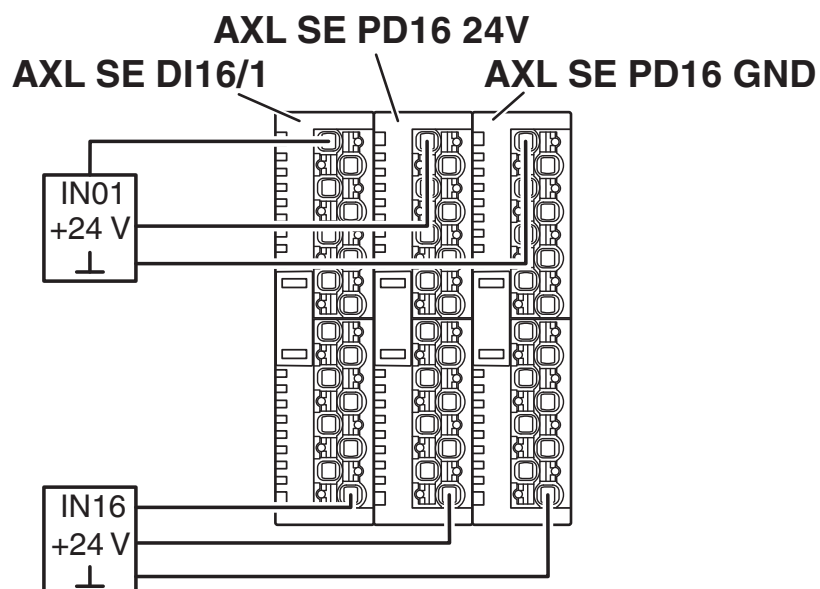
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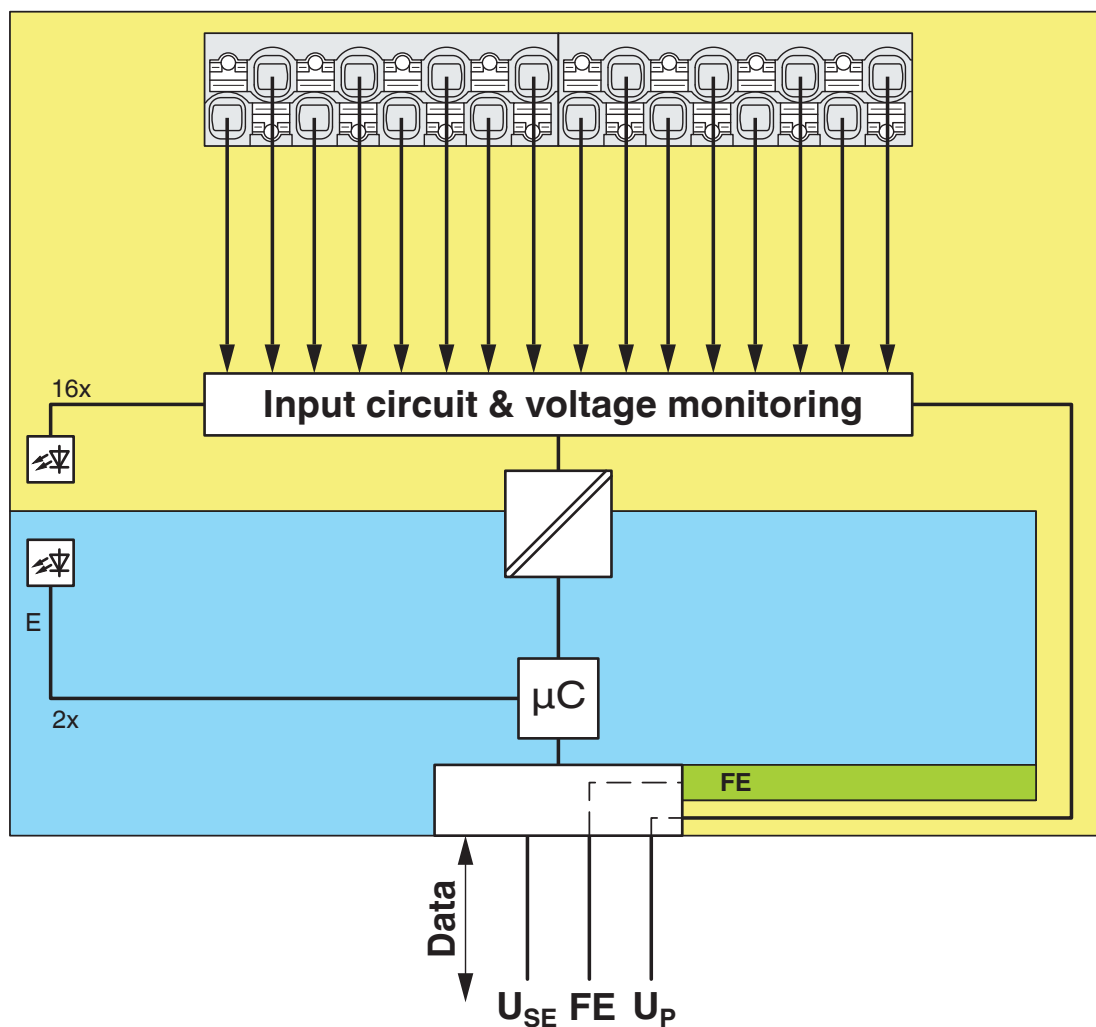


Connection diagram



Connection in 3-conductor technology when using AXL SE PD ... (see data sheet)

Block diagram



Internal wiring of the terminal points

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Approvals

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**UL Listed**
Approval ID: E238705

**cUL Listed**
Approval ID: E238705

DNV
Approval ID: TAA00003B0

**LR**
Approval ID: LR23402057TA

**RINA**
Approval ID: ELE263623XG

ABS
Approval ID: 24-2510075-PDA

cULus Listed

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Classifications

ECLASS

ECLASS-11.0	27242604
ECLASS-12.0	27242604
ECLASS-13.0	27242604

ETIM

ETIM 9.0	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	79c16621-7b64-4b6d-8442-afffe19844d2
EF3.0 Climate Change	
CO2e kg	1.417 kg CO2e