

AXL SE DI16/1 NPN - Digital module



1105559

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Axioline Smart Elements, Digital input module, Digital inputs: 16 (NPN), 24 V DC, 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, NPN-wired
- 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	1105559
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR05
Product key	DRIB31
GTIN	4055626989006
Weight per piece (including packing)	36.6 g
Weight per piece (excluding packing)	35 g

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Customs tariff number	85389091
Country of origin	DE

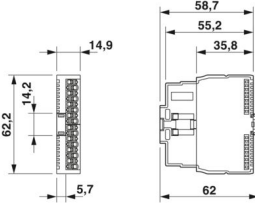
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Technical data

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)	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	16 bit
Input address area	2 Byte
Output address area	0 Byte

Fieldbus data telegram (PROFIBUS)

Required parameter data	1 Byte
Required configuration data	6 Byte

Input data

Digital:

Input name	Digital inputs
Description of the input	Based on EN 61131-2 type 3 for PNP inputs

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Number of inputs	16 (NPN)
Connection method	Push-in connection
Connection technology	1-conductor
Input voltage range "0" signal	19 V DC ... 30 V DC (At $U_p = 24$ V DC)
Input voltage range "1" signal	0 V DC ... 13 V DC (At $U_p = 24$ V DC)
Nominal input voltage U_{IN}	24 V DC
Nominal input current at U_{IN}	2.4 mA
Current flow	linear until nominal current is reached, then constantly approx. 2.4 mA
Input filter time	< 1 ms
Process data update	typ. 330 μ s
Protective circuit	Polarity reversal protection of the inputs; Diode

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.

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	1.3 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. 40 mA
Current consumption	min. 15 mA (without connected peripherals)
Protective circuit	Surge protection; See the system in which the Smart Element is used. Reverse polarity protection; Polarity protection diode
Protection	See the system in which the Smart Element is used.

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	
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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.

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 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

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
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)
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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.

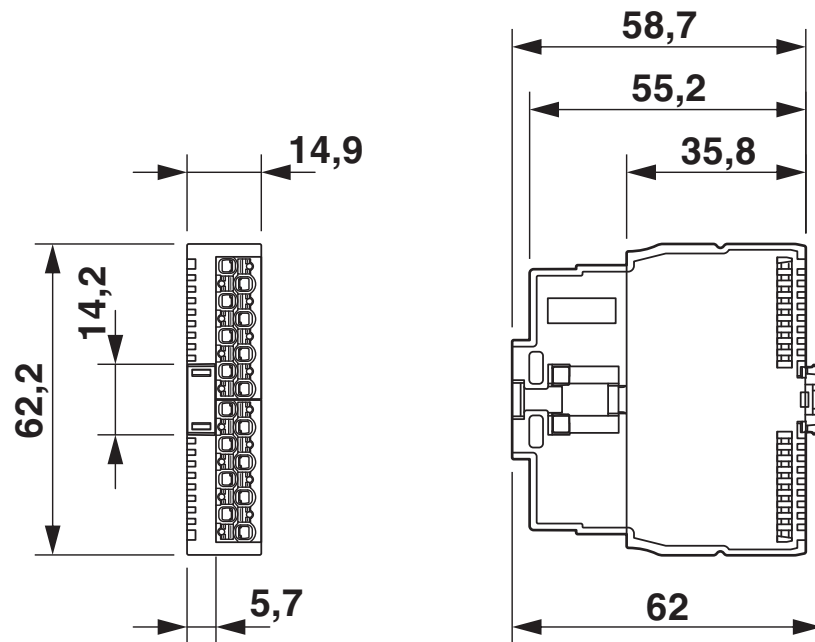
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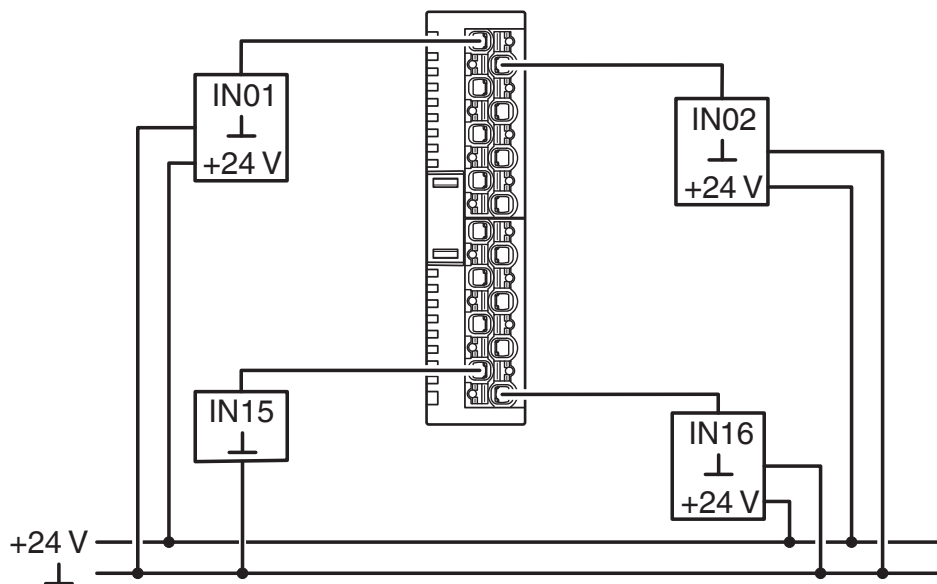
Drawings

Dimensional drawing



Dimensions

Connection diagram



Connection in 1-conductor technology

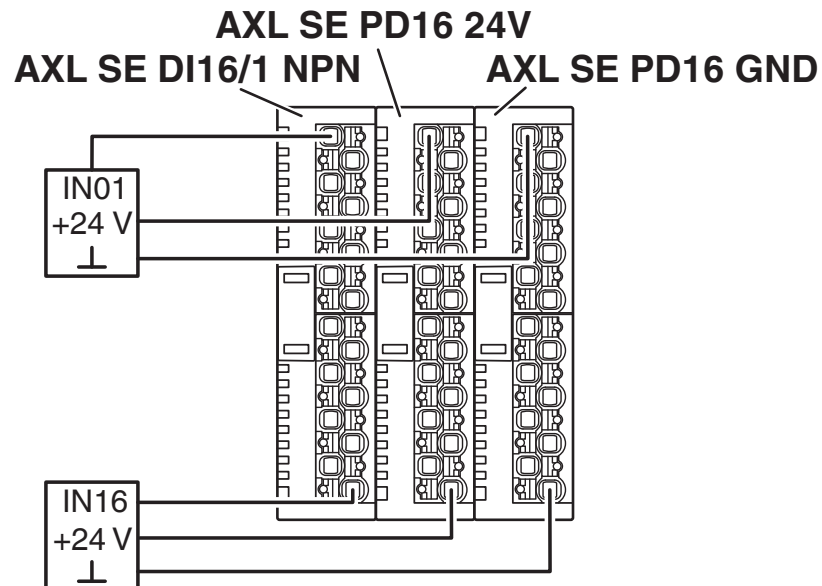
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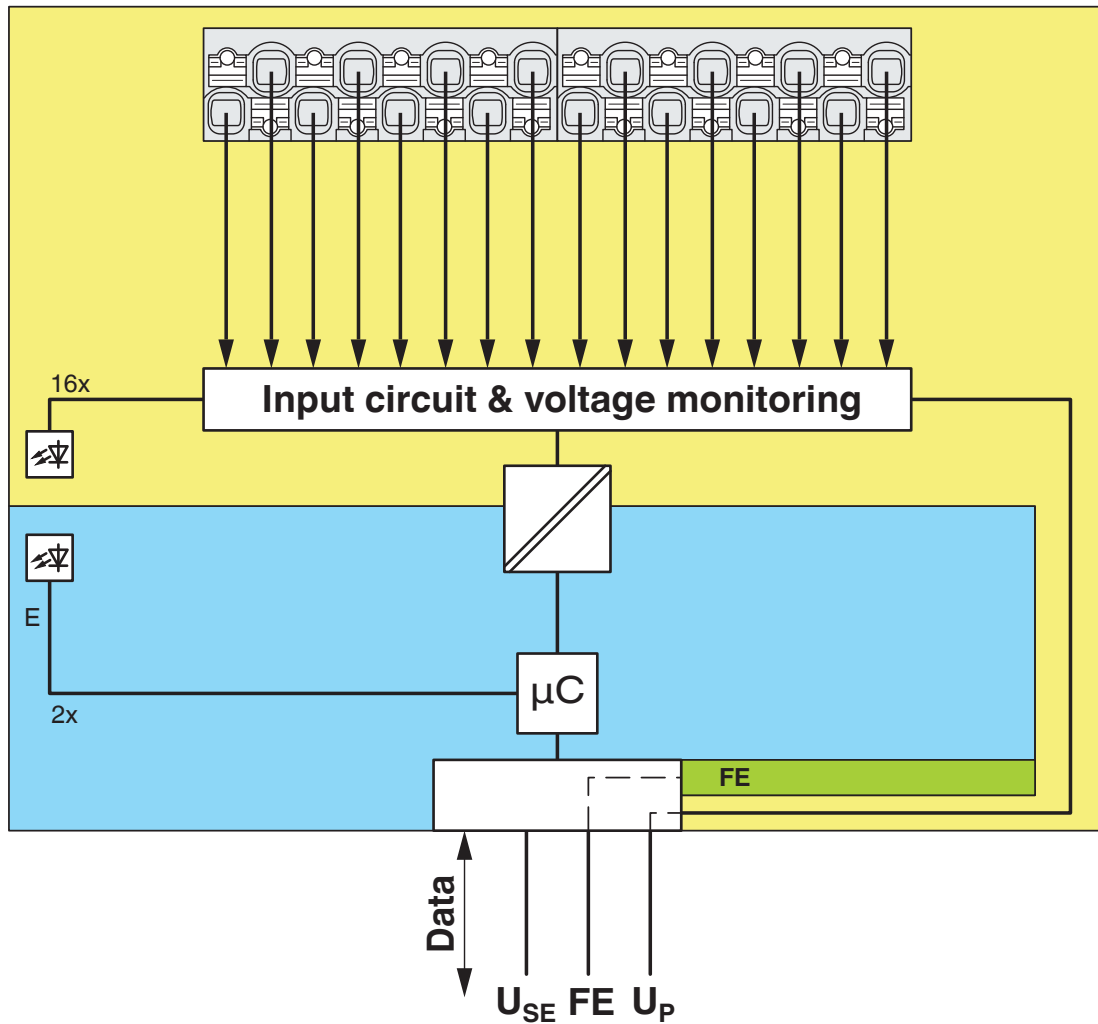


Connection diagram



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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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)
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