

# AXL SE DI16/1 NPN - Digital module



1105559

<https://www.phoenixcontact.com/us/products/1105559>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



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
Customs tariff number	85389091
Country of origin	DE

# AXL SE DI16/1 NPN - Digital module



1105559

<https://www.phoenixcontact.com/us/products/1105559>

## 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
---------------------	-------------------------

### 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	Based on EN 61131-2 type 3 for PNP inputs
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)

# AXL SE DI16/1 NPN - Digital module



1105559

<https://www.phoenixcontact.com/us/products/1105559>

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
Input filter time	< 1 ms
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
---	-------

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

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. 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

## 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.

### 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 <sup>2</sup> ... 1.5 mm <sup>2</sup>

# AXL SE DI16/1 NPN - Digital module



1105559

<https://www.phoenixcontact.com/us/products/1105559>

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)

## Standards and regulations

Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
------------------	---------------------------------------

## Mounting

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

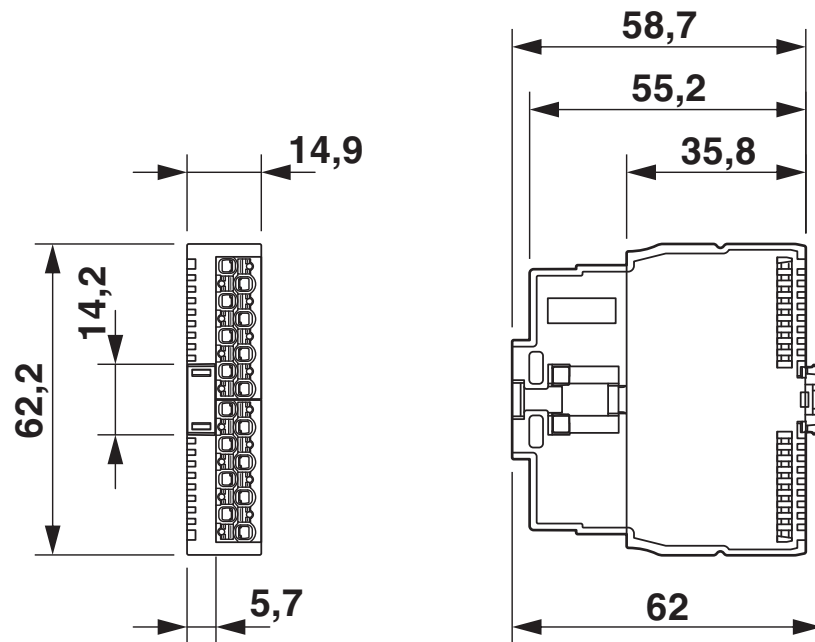
# AXL SE DI16/1 NPN - Digital module

1105559

<https://www.phoenixcontact.com/us/products/1105559>

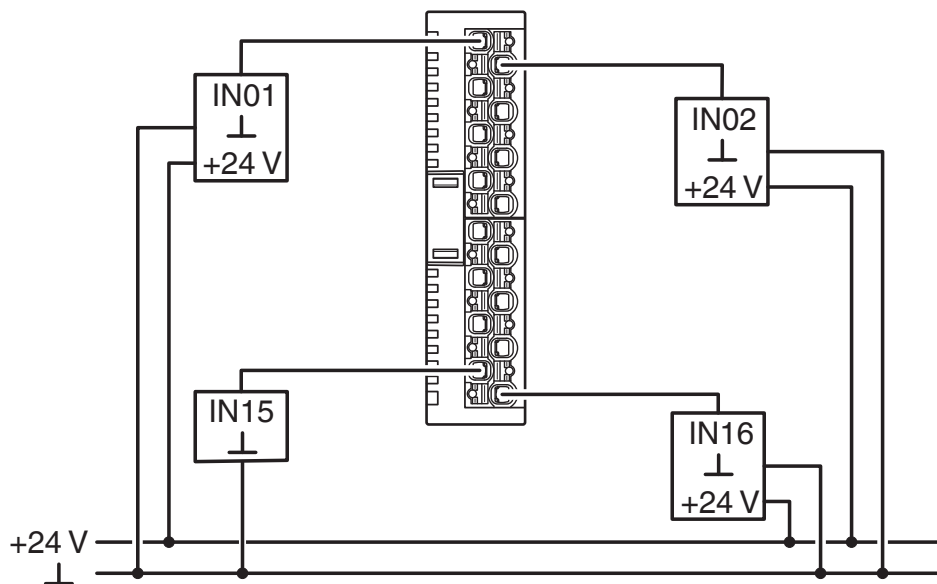
## Drawings

Dimensional drawing



## Dimensions

Connection diagram



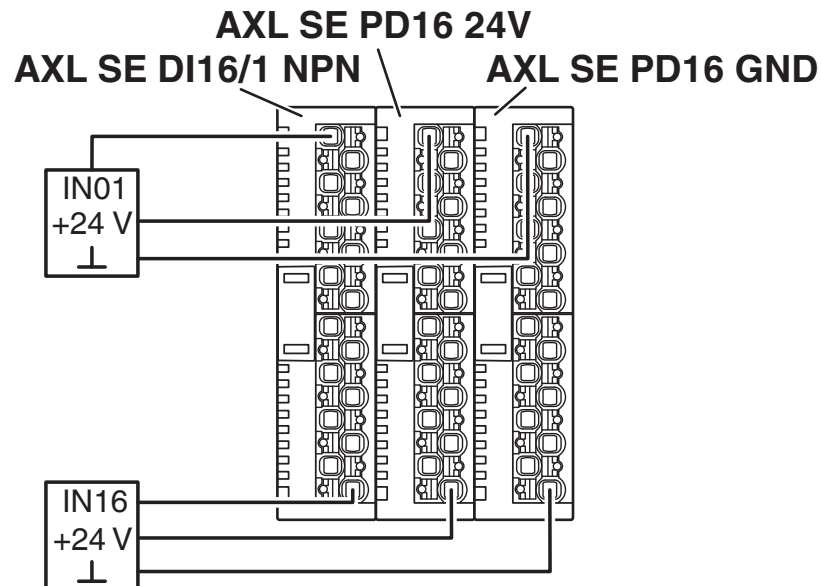
Connection in 1-conductor technology

# AXL SE DI16/1 NPN - Digital module

1105559

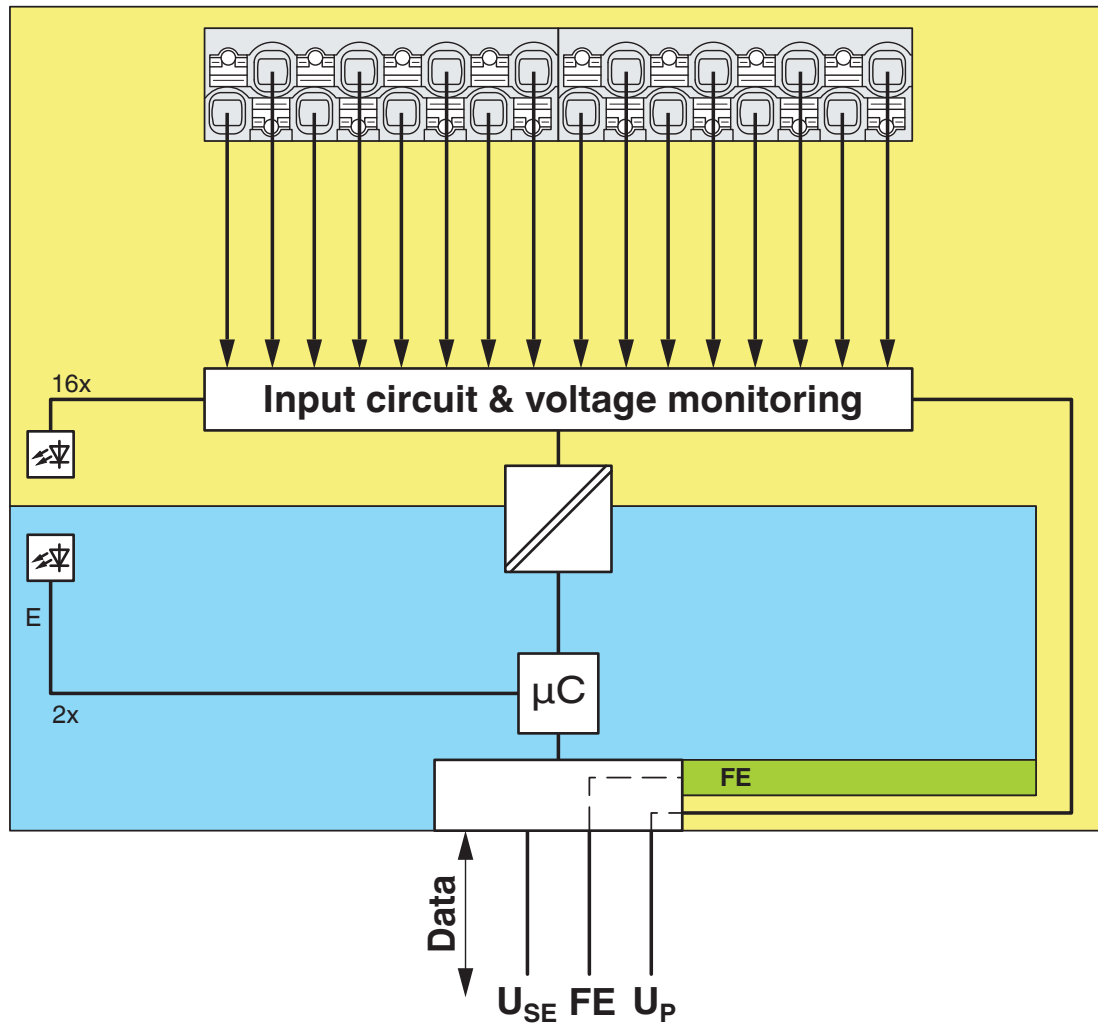
<https://www.phoenixcontact.com/us/products/1105559>

Connection diagram



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

Block diagram



Internal wiring of the terminal points

# AXL SE DI16/1 NPN - Digital module



1105559

<https://www.phoenixcontact.com/us/products/1105559>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1105559>



**cULus Listed**

Approval ID: E238705

# AXL SE DI16/1 NPN - Digital module



1105559

<https://www.phoenixcontact.com/us/products/1105559>

## Classifications

### ECLASS

ECLASS-13.0	27242604
ECLASS-15.0	27242604

### ETIM

ETIM 10.0	EC001599
-----------	----------

### UNSPSC

UNSPSC 21.0	32151600
-------------	----------

# AXL SE DI16/1 NPN - Digital module



1105559

<https://www.phoenixcontact.com/us/products/1105559>

## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	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)
-------------------------------------	----------------------

Phoenix Contact 2026 © - all rights reserved  
<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)