

# AXL SE INC1 ASYM - Special function module



1182185

<https://www.phoenixcontact.com/us/products/1182185>

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Axioline Smart Elements, Position detection module, Incremental encoder input: 1, Asymmetrical encoder, Digital inputs: 2, 24 V DC, degree of protection: IP20

## Product description

You can integrate Axioline Smart Elements into systems with the Smart Element interface. This Smart Element detects the positions of incremental encoders.

## Your advantages

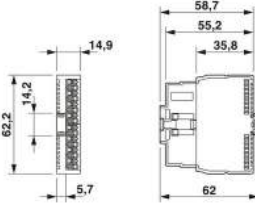
- Acquisition of digital signals from asymmetrical incremental encoders (A, B, Z)
- Acquisition of pulses of up to 300 kHz
- Evaluating linear or rotary axes
- Power supply for 5 V or 24 V encoder
- 1 input can be used for referencing
- Latch function for quick buffering of positions
- 32-bit register to output the measured increments
- Device rating plate stored

## Commercial data

Item number	1182185
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR05
Product key	DRIB61
GTIN	4063151218379
Weight per piece (including packing)	38.44 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

#### Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area
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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	80 bit
Input address area	10 Byte
Output address area	10 Byte
Required parameter data	19 Byte
Required configuration data	7 Byte

### Input data

#### Digital

Input name	Digital inputs
Description of the input	EN 61131-2, type 3
Number of inputs	2 (DI Ref, DI L)
Connection method	Push-in connection
Connection technology	1-conductor

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Input voltage range "0" signal	-3 V DC ... 5 V DC
Input voltage range "1" signal	11 V DC ... 30 V DC
Nominal input voltage $U_{IN}$	24 V DC
Nominal input current at $U_{IN}$	3 mA
Protective circuit	Transient protection; Suppressor diode

## Encoder

Number of inputs	1 (A, B, Z)
Input name	Incremental encoder input
Encoder signals	Asymmetrical encoder
Cable length	< 30 m (Shielded cable)

## Product properties

Type	modular
Product type	I/O component
Product family	Axioline Smart Elements
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

### Encoder

Number	1 (+5 V)
Nominal output voltage	5 V DC
Voltage range	5 V DC ... 5.5 V DC
Current carrying capacity	max. 300 mA
Protective circuit	Short-circuit protection; Electrical and thermal
	Overload protection
	Transient protection; Suppressor diode
Number	1 (+24 V)
Nominal output voltage	24 V DC
Voltage range	19.2 V DC ... 30 V DC
Current carrying capacity	max. 500 mA
Protective circuit	Short-circuit protection; Electrical (from approx. 600 mA)
	Overload protection
	Transient protection; Suppressor diode
Number	1 (A, B, Z)
Designation	Asymmetrical incremental encoder
Input frequency	max. 300 kHz

### 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. 700 mA
	typ. 512 mA
Current consumption	min. 11 mA (without connected peripherals)
Power consumption	max. 21 W (of which 1.55 W internal losses)
	min. 264 mW
Protective circuit	Surge protection; See the system in which the Smart Element is used.
	Reverse polarity protection; Polarity protection diode

## 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 <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	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>
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
Degree of protection	IP20
Air pressure (operation)	70 kPa ... 106 kPa (up to 3000 m above sea level)

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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.

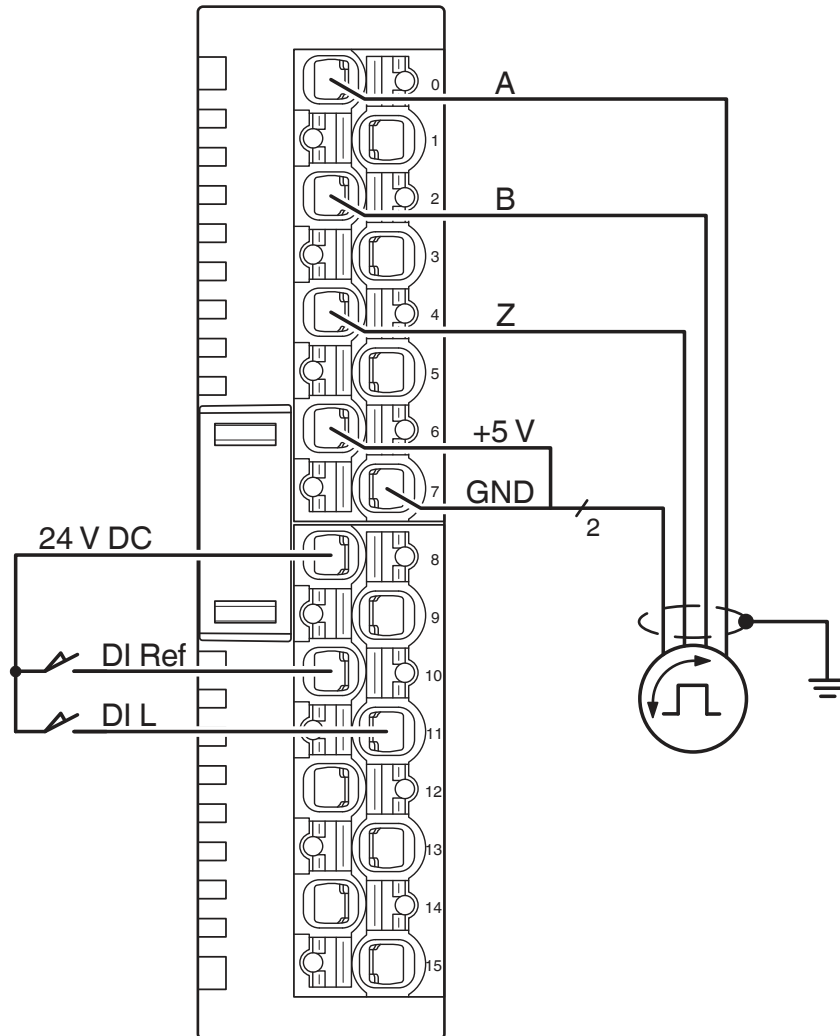
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## Drawings

Connection diagram



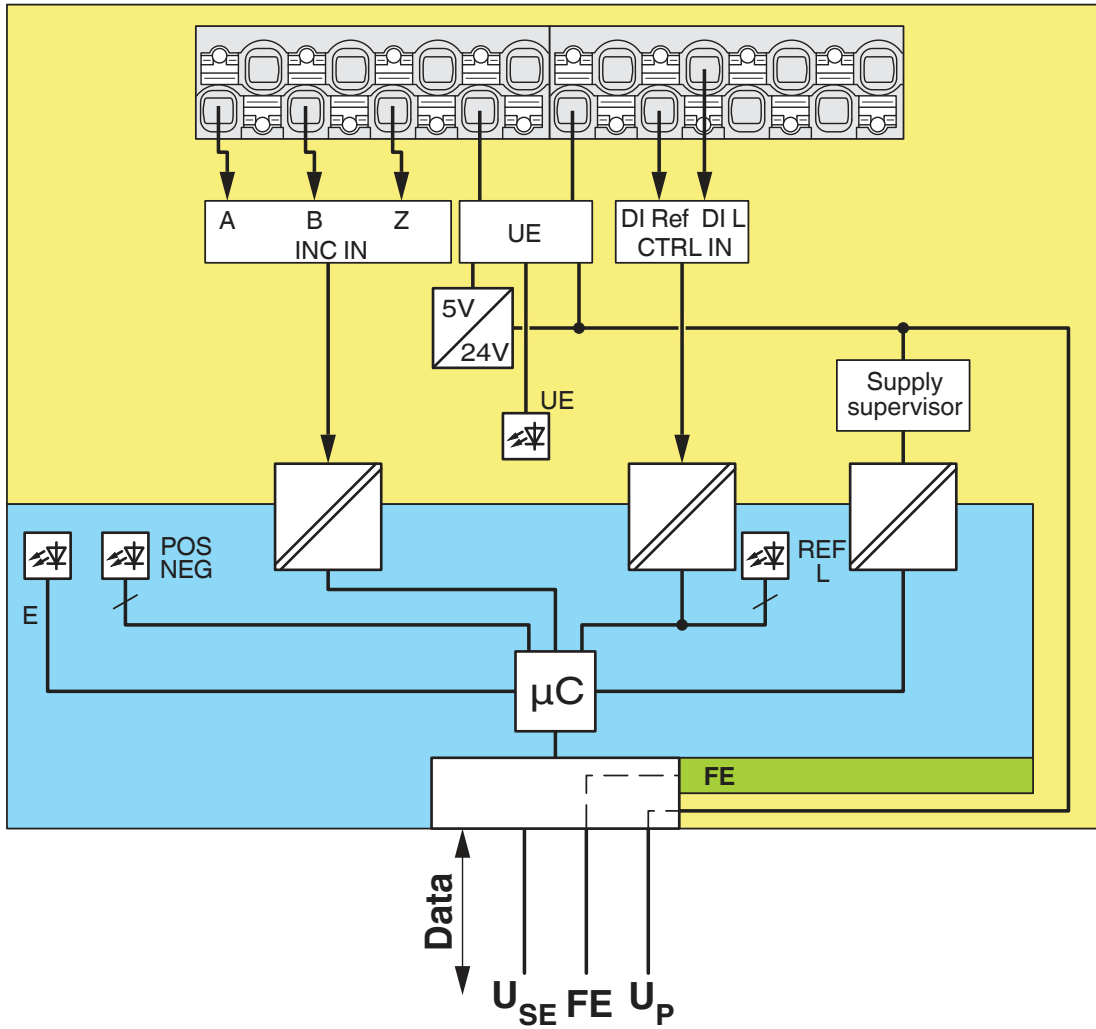
Connection example

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Block diagram



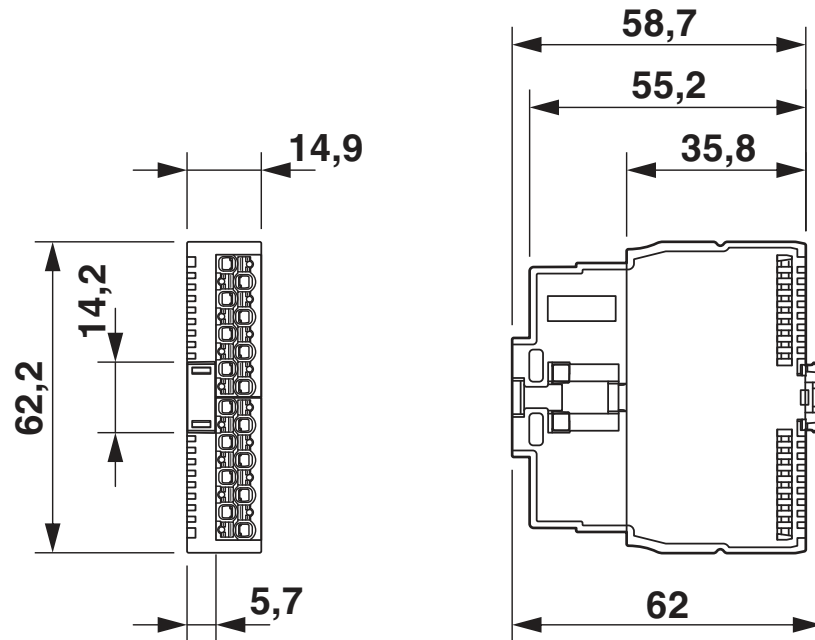
Internal wiring of the terminal points

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Dimensional drawing



Dimensions



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1182185>



**UL Listed**

Approval ID: FILE E 238705

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## Classifications

### ECLASS

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

### ETIM

ETIM 8.0	EC001599
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### UNSPSC

UNSPSC 21.0	32151600
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## Environmental product compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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## Mandatory accessories

### AXL F BP SE4 - Module carrier

1088135

<https://www.phoenixcontact.com/us/products/1088135>

Axioline F, Backplane, 4 slots for Axioline Smart Elements, transmission speed in the local bus: 100 Mbps, degree of protection: IP20



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### AXL F BP SE6 - Module carrier

1088136

<https://www.phoenixcontact.com/us/products/1088136>

Axioline F, Backplane, 6 slots for Axioline Smart Elements, transmission speed in the local bus: 100 Mbps, degree of protection: IP20



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## Accessories

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## SZS 0,4X2,5 VDE - Screwdriver

1205037

<https://www.phoenixcontact.com/us/products/1205037>



Screwdriver, slot-headed, VDE insulated, size: 0.4 x 2.5 x 80 mm, 2-component grip, with non-slip grip

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## CRIMPFOX 6 - Crimping pliers

1212034

<https://www.phoenixcontact.com/us/products/1212034>



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm<sup>2</sup> ... 6.0 mm<sup>2</sup>, lateral entry, trapezoidal crimp

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## CRIMPFOX DUO 10 - Crimping pliers

1031721

<https://www.phoenixcontact.com/us/products/1031721>



Crimping pliers, contact connection type: Insulated and uninsulated ferrules, standards/specifications: DIN 46228-1, DIN 46228-4, UL 486F, form A, E, F, min. cross section: 0.14 mm<sup>2</sup>, max. cross section: 10 mm<sup>2</sup>, for TWIN ferrules up to 2 x 4 mm<sup>2</sup>, automatic cross section adjustment, rotating die, lateral and frontal insertion, compression: Trapezoidal crimp, black/green

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## CRIMPFOX 10T-F - Crimping pliers

1134913

<https://www.phoenixcontact.com/us/products/1134913>



Crimping pliers, contact connection type: Insulated and uninsulated ferrules, standards/specifications: DIN 46228-1, DIN 46228-4, min. cross section: 0.14 mm<sup>2</sup>, max. cross section: 10 mm<sup>2</sup>, For TWIN ferrules up to 2 x 4 mm<sup>2</sup>, automatic cross section adjustment, frontal insertion, compression: Trapezoidal crimp, black

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## MM-TML (EX4,2)R C1 TR/BK - Label

0803979

<https://www.phoenixcontact.com/us/products/0803979>



Label, Roll, transparent/black, unlabeled, can be labeled with: THERMOFOX, THERMOMARK GO, THERMOMARK GO.K, mounting type: adhesive, lettering field size: continuous x 3.2 mm

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## SK 5,0 WH:REEL - Marker strip

0805221

<https://www.phoenixcontact.com/us/products/0805221>



Marker strip, Roll, white, unlabeled, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: adhesive, lettering field size: continuous x 5 mm, Number of individual labels: 90000

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## UM6M-TM (5X12) - Marker for terminal blocks

0830928

<https://www.phoenixcontact.com/us/products/0830928>



Marker for terminal blocks, Strip, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snapped, for terminal block width: 5 mm, lettering field size: 5 x 12 mm, Number of individual labels: 24

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## UCT6M-TM 5 - Marker for terminal blocks

0830756

<https://www.phoenixcontact.com/us/products/0830756>



Marker for terminal blocks, for marking ABB terminal blocks from the SNK series, Sheet, white, unlabeled, can be labeled with: THERMOMARK CARD, THERMOMARK CARD 2.0, THERMOMARK PRIME, BLUEMARK ID, BLUEMARK ID COLOR, TOPMARK LASER, TOPMARK NEO, mounting type: snapped, for terminal block width: 5.2 mm, lettering field size: 4.17 x 11.3 mm

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