

# AXL F IMPULSE2 XC 1H - Special function module



2702655

<https://www.phoenixcontact.com/us/products/2702655>

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Axioline F XC, Function module, 2 digital pulse interfaces for evaluating magnetostrictive position sensors with start/stop interface, Transmission speed in the local bus 100 MBit/s, Degree of protection IP20, including bus base module and Axioline F connectors

## Product description

The module is designed for use within an Axioline F station. It is used to evaluate magnetostrictive position sensors with start/stop interface. The module determines the position by measuring the runtime of one or more mechanical waves in the connected magnetostrictive position sensors. Using the known propagation velocity of these mechanical waves, the module calculates the position of the magnets on the magnetostrictive position sensors. The positions are determined asynchronously to the Axioline F local bus.

## Your advantages

- 2 channels for magnetostrictive position sensors with start/stop interface
- 5 stop events per channel
- Automatic parameter upload
- 4 digital inputs
- Device rating plate stored
- Diagnostic and status indicators
- Can be used under extreme ambient conditions
- Extended temperature range of -40 °C ... +70 °C (see "Tested successfully: use under extreme ambient conditions" in the data sheet)
- Partially coated PCBs

## Commercial data

Item number	2702655
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR02
Product key	DRI261
Catalog page	Page 94 (C-6-2019)
GTIN	4055626269511
Weight per piece (including packing)	189.2 g
Weight per piece (excluding packing)	134 g
Customs tariff number	85389091
Country of origin	DE

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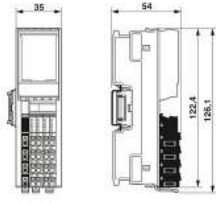


2702655

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## Technical data

### Dimensions

Dimensional drawing	
Width	35 mm
Height	126.1 mm
Depth	54 mm
Note on dimensions	The depth applies when a TH 35-7.5 DIN rail is used (in accordance with EN 60715).

### Interfaces

#### Axioline F local bus

Number of interfaces	2
Connection method	Bus base module
Transmission speed	100 Mbps

### System properties

#### Module

Input address area	46 Byte
Output address area	46 Byte
Required parameter data	1 Byte
Required configuration data	7 Byte

### Input data

#### Digital

Input name	Digital inputs
Description of the input	EN 61131-2 types 1 and 3
Number of inputs	4
Connection method	Push-in connection
Connection technology	1-conductor
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 $U_{IN}$	2.4 mA
Input filter time	250 $\mu$ s 1000 $\mu$ s 3000 $\mu$ s

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2702655

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Protective circuit	Polarity reversal protection of the inputs; parallel diode (30 V, 5 s)
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## Product properties

Type	block modular
Product type	I/O component
Product family	Axioline F

## Electrical properties

### Encoder

Number	2
Nominal output voltage	24 V DC ( $U_1 - 0.5$ V)
Voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current carrying capacity	typ. 500 mA
Protective circuit	Surge protection; electronic (35 V, 0.5 s) Short-circuit protection; electronic Transient protection; Shielding

### Potentials: Axioline F local bus supply ( $U_{BUS}$ )

Supply voltage	5 V DC (via bus base module)
Current draw	max. 150 mA
Power consumption	max. 0.75 W

### Potentials: Feed-in of supply voltage ( $U_1$ )

Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC including all tolerances, including ripple
Current draw	max. 30 mA (Supply of pulse interface, without encoder supply)
Power consumption	max. 0.72 W (Supply of pulse interface, without encoder supply)
Protective circuit	Surge protection; electronic (35 V, 0.5 s) Reverse polarity protection; Polarity protection diode Transient protection; Suppressor diode

## Connection data

### Connection technology

Connection name	Axioline F connector
Note on the connection method	Please observe the information provided on conductor cross sections in the "Axioline F: system and installation" user manual.

### Conductor connection

Connection method	Push-in connection
Conductor cross section rigid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 16
Stripping length	8 mm

### Axioline F connector

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Connection method	Push-in connection
Note on the connection method	Please observe the information provided on conductor cross sections in the "AxioLine F: system and installation" user manual.
Conductor cross section, rigid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section, flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 16
Stripping length	8 mm

## Environmental and real-life conditions

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C (Standard) -40 °C ... 70 °C (Extended, see section "Tested successfully: use under extreme ambient conditions" in the data sheet.)
Degree of protection	IP20 (per manufacturer's declaration)
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	DIN rail mounting
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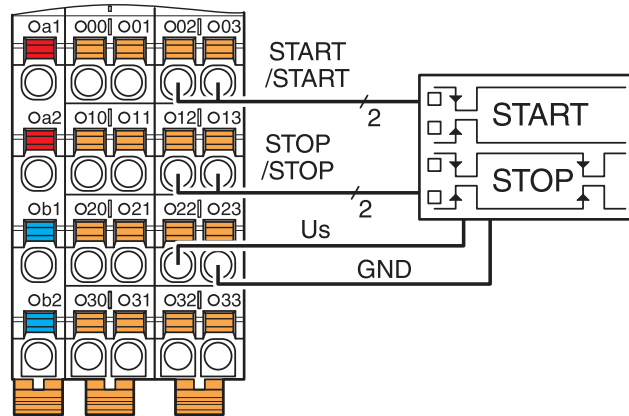


2702655

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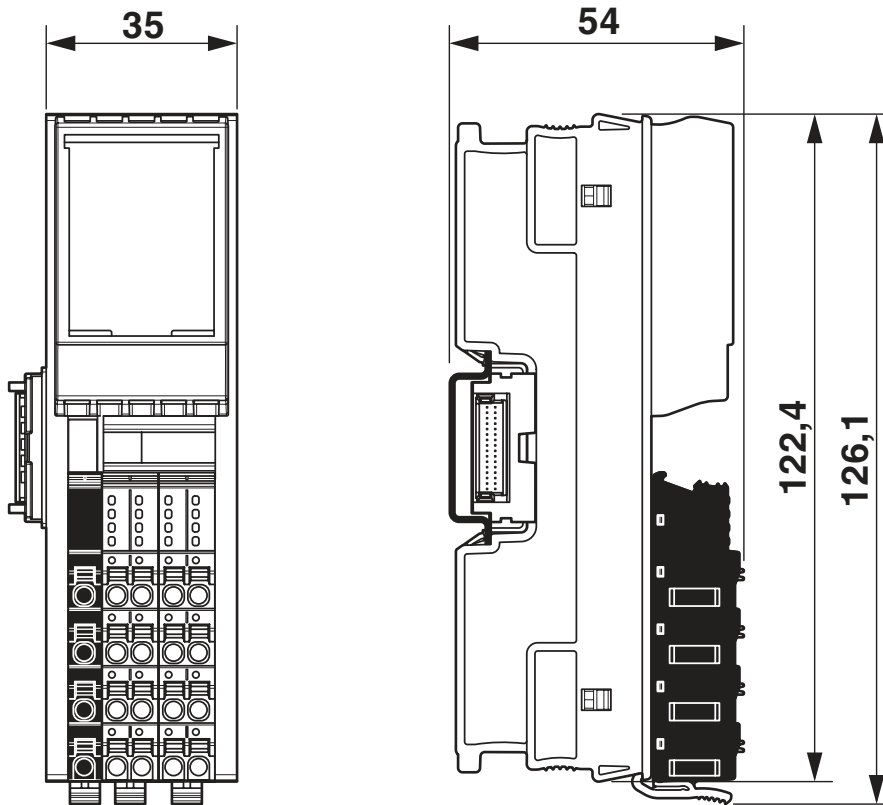
## Drawings

Connection diagram



Example connection of a magnetostrictive position sensor

Dimensional drawing



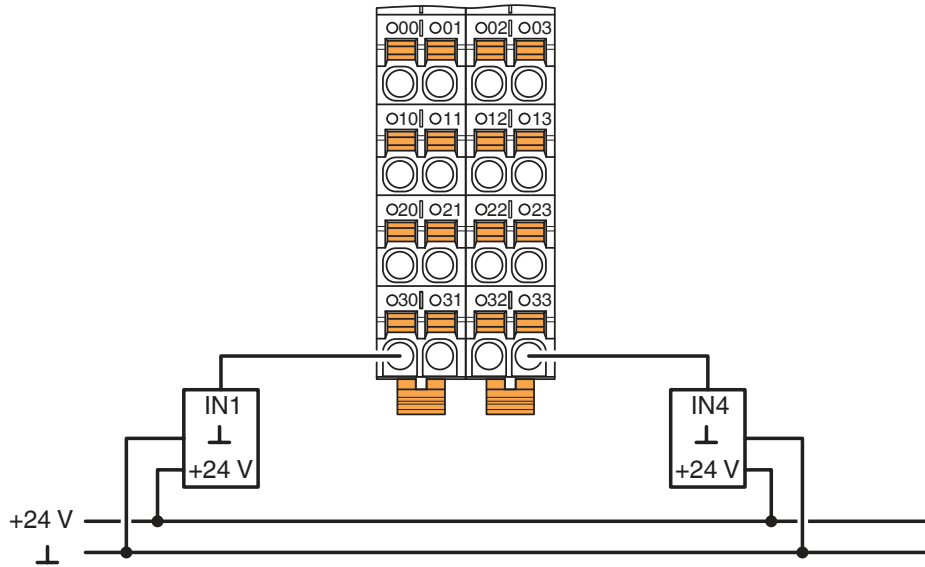
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Connection diagram



Example of a connection of sensors when using external busbars

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## Approvals

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**cUL Listed**

Approval ID: FILE E 238705



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**UAE-RoHS**

Approval ID: 23-02-63243

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## Classifications

### ECLASS

ECLASS-11.0	27242605
ECLASS-12.0	27242605
ECLASS-13.0	27242605

### ETIM

ETIM 8.0	EC001601
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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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## Accessories

### AXL F BS H - Bus connector

2700992

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Axioline F bus base module for housing type H



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### AXL SHIELD SET - Shield connection

2700518

<https://www.phoenixcontact.com/us/products/2700518>

Axioline shield connection set (contains 2 shield bus holders and 2 SK 5 shield connection clamps)



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## ZB 20,3 AXL UNPRINTED - Zack marker strip

0829579

<https://www.phoenixcontact.com/us/products/0829579>



Zack marker strip for Axioline F (device labeling), in 2 x 20.3 mm pitch, unprinted, 25-section, for individual labeling with B-STIFT 0.8, X-PEN, or CMS-P1-PLOTTER

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## ZBF 10/5,8 AXL UNPRINTED - Zack Marker strip, flat

0829580

<https://www.phoenixcontact.com/us/products/0829580>



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 10.15 mm, lettering field size: 4 x 10, 15 x 5 mm, 1 x 5.8 x 5 mm, Number of individual labels: 50

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## EMT (35X28)R - Insert label

0801602

<https://www.phoenixcontact.com/us/products/0801602>



Insert label, for marking the Axioline F series from Phoenix Contact, 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: insert, lettering field size: 35 x 28 mm, Number of individual labels: 500

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