

AXL F AI4 I 1H - Analog module

2688491

<https://www.phoenixcontact.com/gb/products/2688491>



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 F, Analog input module, Analog inputs: 4, 0 mA ... 20 mA, 4 mA ... 20 mA, -20 mA ... 20 mA, connection technology: 2-, 3-, 4-conductor, transmission speed in the local bus: 100 Mbps, integrated sensor supply, 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 acquire analog current signals.

Your advantages

- 4 analog, bipolar input channels for the connection of current signals
- Connection of sensors in 2-, 3-, and 4-conductor technology
- Current ranges: 0 mA ... 20 mA, 4 mA ... 20 mA, ± 20 mA
- Simultaneous scanning of all channels by means of simultaneous sampling
- High crosstalk attenuation between the channels, thanks to separate signal paths
- Particularly robust against electromagnetic interference
- Device rating plate stored

Commercial data

Item number	2688491
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DRI241
Product key	DRI241
Catalog page	Page 82 (C-6-2019)
GTIN	4046356744225
Weight per piece (including packing)	195.9 g
Weight per piece (excluding packing)	195.9 g
Customs tariff number	85389091
Country of origin	DE

AXL F AI4 I 1H - Analog module

2688491

<https://www.phoenixcontact.com/gb/products/2688491>



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	8 Byte
Output address area	8 Byte
Required parameter data	7 Byte
Required configuration data	6 Byte

Input data

Analog: General

Input name	Analog inputs
Description of the input	Differential inputs, current
Number of inputs	4
A/D conversion time	31.25 µs
A/D converter resolution	16 bit
Connection method	Push-in connection
Connection technology	2-, 3-, 4-conductor
Note regarding the connection technology	shielded
Current input signal	0 mA ... 20 mA 4 mA ... 20 mA -20 mA ... 20 mA
Input resistance current input	104 Ω (typical)

AXL F AI4 I 1H - Analog module



2688491

<https://www.phoenixcontact.com/gb/products/2688491>

Data formats	IB IL, S7-compatible
Input filter	30 Hz, 12 kHz and mean-value generation (can be parameterized)
Limit frequency (3 dB)	30 Hz
	12 kHz
Measured value representation	16 bits (15 bits + sign bit)
Protective circuit	Transient protection of inputs; Suppressor diode
	Overload protection of the inputs; No; ± 5.2 V DC, maximum, $I_{\max} = 50$ mA

Product properties

Product type	I/O component
Product family	Axioline F
Type	block modular
Mounting position	any (no temperature derating)
Scope of delivery	including bus base module and Axioline F connectors
Special properties	integrated sensor supply

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	4.08 W
---	--------

Potentials

Power consumption	typ. 1.51 W (Device, total, plus the power consumption of the external sensors)
	max. 1.83 W (Device, total, plus the power consumption of the external sensors)

Potentials: Axioline F local bus supply (U_{Bus})

Supply voltage	5 V DC (via bus base module)
Current draw	max. 150 mA
	typ. 120 mA
Power consumption	max. 0.75 W
	typ. 0.6 W

Potentials: Supply for analog modules (U_A)

Supply voltage	24 V DC (I/O supply and sensor supply)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current draw	max. 245 mA ($I_{\text{IS}} = 4 \times 50$ mA (full load))
	max. 45 mA ($I_{\text{IS}} = 0$ mA)
	typ. 118 mA ($I_{\text{IS}} = 4 \times 20$ mA (nominal load))
	max. 125 mA ($I_{\text{IS}} = 4 \times 20$ mA (nominal load))
	typ. 238 mA ($I_{\text{IS}} = 4 \times 50$ mA (full load))
Power consumption	max. 5.88 W (Full load)

AXL F AI4 I 1H - Analog module



2688491

<https://www.phoenixcontact.com/gb/products/2688491>

Protective circuit	Surge protection; electronic (35 V, 0.5 s)
	Reverse polarity protection; up to HW 02: polarity protection diode from HW 03: parallel diode; with external 5 A fuse (for startup only)
	Transient protection; Suppressor diode

Supply:

Designation	Sensor supply U_{IS}
Supply voltage	24 V DC (from U_A)
Current consumption	max. 50 mA (per channel)

Electrical isolation/isolation of the voltage ranges

Test voltage: 5 V supply of the local bus (U_{BUS}) / 24 V supply (I/Os)	500 V AC, 50 Hz, 1 min.
Test voltage: 5 V supply of the local bus (U_{BUS})/analog inputs	500 V AC, 50 Hz, 1 min.
Test voltage: 5 V supply of the local bus (U_{BUS}) / functional ground	500 V AC, 50 Hz, 1 min.
Test voltage: 24 V supply (I/O)/analog inputs	500 V AC, 50 Hz, 1 min.
Test voltage: 24 V supply (I/O) / functional ground	500 V AC, 50 Hz, 1 min.
Test voltage: Analog inputs/functional ground	500 V AC, 50 Hz, 1 min.

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 ² ... 1.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 1.5 mm ²
Conductor cross section AWG	24 ... 16
Stripping length	8 mm

Axioline F connector

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 ² ... 1.5 mm ²
Conductor cross section, flexible	0.2 mm ² ... 1.5 mm ²
Conductor cross section AWG	24 ... 16
Stripping length	8 mm

Environmental and real-life conditions

Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Degree of protection	IP20

AXL F AI4 I 1H - Analog module



2688491

<https://www.phoenixcontact.com/gb/products/2688491>

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	DIN rail mounting
Mounting position	any (no temperature derating)

AXL F AI4 I 1H - Analog module

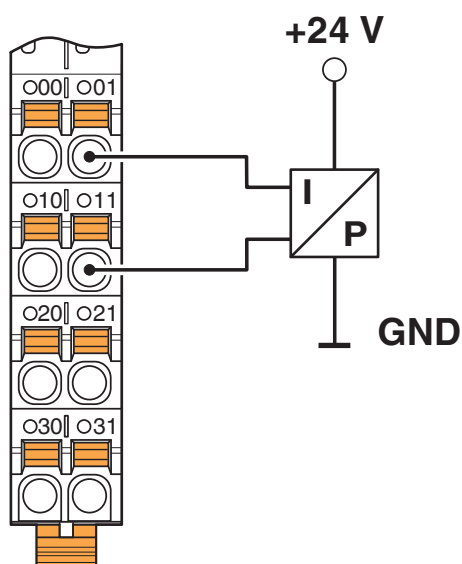
2688491

<https://www.phoenixcontact.com/gb/products/2688491>



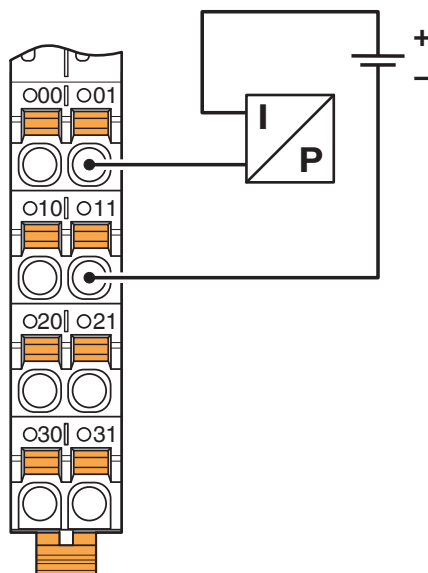
Drawings

Connection diagram



Passive pressure sensor at a differential current input

Connection diagram



Differential current input with passive 2-conductor transmitter (current loop)

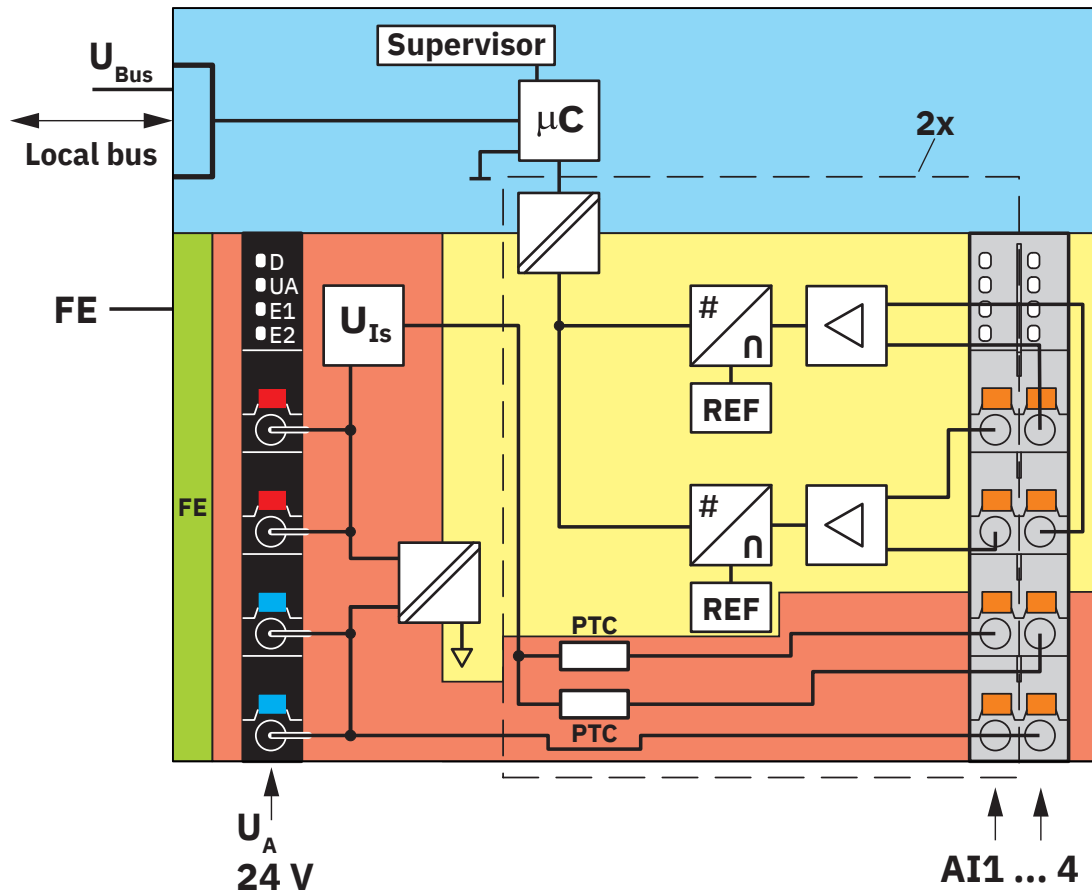
AXL F AI4 I 1H - Analog module

2688491

<https://www.phoenixcontact.com/gb/products/2688491>

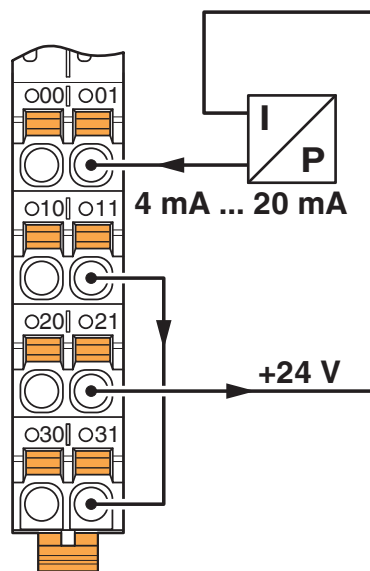


Block diagram



Internal wiring of the terminal points

Connection diagram



Differential current input with passive 2-conductor transmitter (current loop)

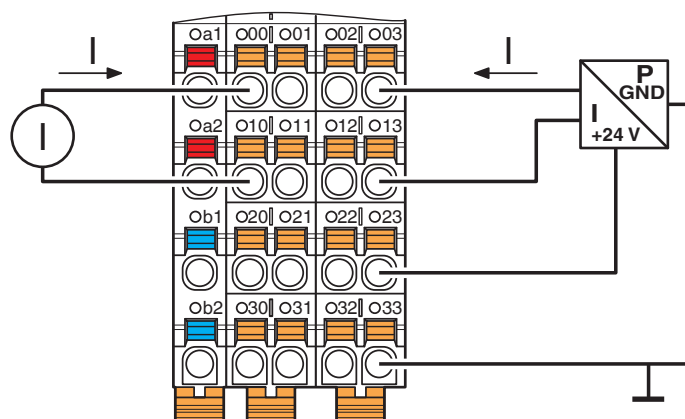
AXL F AI4 I 1H - Analog module

2688491

<https://www.phoenixcontact.com/gb/products/2688491>

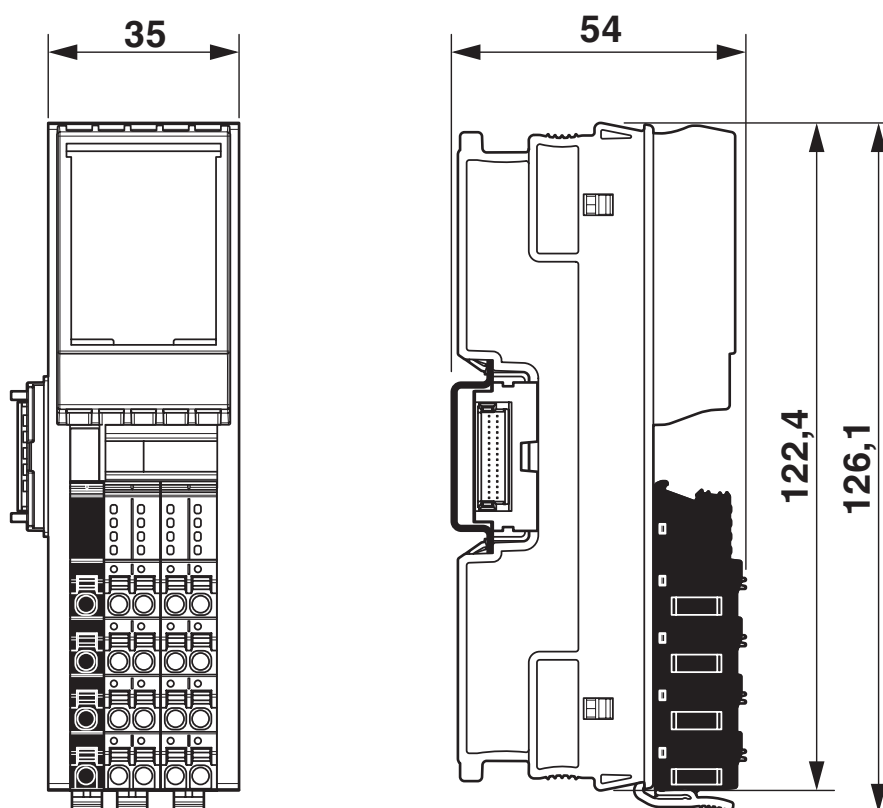


Connection diagram



Connection for current measurement

Dimensional drawing



AXL F AI4 I 1H - Analog module



2688491

<https://www.phoenixcontact.com/gb/products/2688491>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/gb/products/2688491>



DNV GL

Approval ID: TAA00000DF



LR

Approval ID: LR2001902TA-08



BV

Approval ID: 36433/B4 BV



PRS

Approval ID: TE/1020/880590/21



UL Listed

Approval ID: FILE E 238705



cUL Listed

Approval ID: FILE E 238705

BSH

Approval ID: 840



RINA

Approval ID: ELE008423XG

ABS

Approval ID: 23-2449604-PDA



EAC

Approval ID: TR_TS_D_01831-19

UAE-RoHS

Approval ID: 23-02-63242

AXL F AI4 I 1H - Analog module

2688491

<https://www.phoenixcontact.com/gb/products/2688491>



cULus Listed

AXL F AI4 I 1H - Analog module



2688491

<https://www.phoenixcontact.com/gb/products/2688491>

Classifications

ECLASS

ECLASS-11.0	27242601
ECLASS-12.0	27242601
ECLASS-13.0	27242601

ETIM

ETIM 9.0	EC001596
----------	----------

UNSPSC

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

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	49653ccf-3cd3-40a4-aef6-c62d1e5617d4
EF3.0 Climate Change	
CO2e kg	10.04 kg CO2e

AXL F AI4 I 1H - Analog module

2688491

<https://www.phoenixcontact.com/gb/products/2688491>



Accessories

AXL F BS H - Bus connector

2700992

<https://www.phoenixcontact.com/gb/products/2700992>

Axioline F bus base module for housing type H

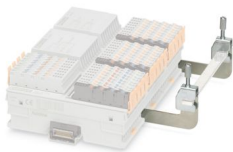


AXL SHIELD SET - Shield connection

2700518

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

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



AXL F AI4 I 1H - Analog module



2688491

<https://www.phoenixcontact.com/gb/products/2688491>

ZB 20,3 AXL UNPRINTED - Zack marker strip

0829579

<https://www.phoenixcontact.com/gb/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

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

0829580

<https://www.phoenixcontact.com/gb/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

AXL F AI4 I 1H - Analog module

2688491

<https://www.phoenixcontact.com/gb/products/2688491>



EMT (35X28)R - Insert label

0801602

<https://www.phoenixcontact.com/gb/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

Phoenix Contact 2024 © - all rights reserved

<https://www.phoenixcontact.com>

PHOENIX CONTACT Ltd

Halesfield 13, Telford

Shropshire, TF7 4PG

01952 681700

info@phoenixcontact.co.uk