

## I/O module - AXL F AI8 1F - 2688064

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's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



Axioline F analog input module, 8 inputs: 0 - 10 V, ±10 V, 0 - 20 mA, 4 - 20 mA, ±20 mA, 2-wire connection method (including bus base module and connectors)

### Product Description

The module is designed for use within an Axioline F station. It is used to acquire analog voltage and current signals.

### Why buy this product

- ✓ 8 analog, bipolar input channels for the connection of either voltage or current signals
- ✓ Connection of sensors in 2-wire technology
- ✓ Voltage ranges: 0 V ... 10 V, ±10 V, 0 V ... 5 V, ±5 V
- ✓ Current ranges: 0 mA ... 20 mA, 4 mA ... 20 mA, ±20 mA
- ✓ Device rating plate stored
- ✓ Diagnostic and status indicators



### Key Commercial Data

Packing unit	1 STK
GTIN	
GTIN	4046356501460
Weight per Piece (excluding packing)	204.000 g
Weight per piece (including packing)	270.900 g
Custom tariff number	85389091
Country of origin	Germany
Sales Key	O1 - Automatisation Systems

### Technical data

#### Dimensions

Width	53.6 mm
Height	126.1 mm
Depth	54 mm

# I/O module - AXL F AI8 1F - 2688064

## Technical data

### Dimensions

Note on dimensions	The depth is valid when a TH 35-7.5 DIN rail is used (according to EN 60715).
--------------------	---

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % ... 95 % (non-condensing)
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)
Degree of protection	IP20

### Connection data

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

### General

Mounting type	DIN rail
Net weight	204 g
Note on weight specifications	with connectors and bus base module

### Interfaces

Designation	Axioline F local bus
Connection method	Bus base module
Transmission speed	100 Mbps

### Axioline potentials

Communications power $U_{BUS}$	5 V DC (via bus base module)
Current consumption from $U_{BUS}$	typ. 105 mA
	max. 130 mA
Supply for analog modules $U_A$	24 V DC
Current consumption from $U_A$	typ. 35 mA
	max. 45 mA

### Analog inputs

Description of the input	Differential inputs, voltage or current can be chosen separately
--------------------------	--

# I/O module - AXL F AI8 1F - 2688064

## Technical data

### Analog inputs

Input name	Analog inputs
Number of inputs	8
Connection method	Push-in connection
Connection technology	2-wire
Note regarding the connection technology	Shielded, twisted pair
A/D conversion time	2 µs
Resolution A/D	16 bit
Limit frequency (3 dB)	30 Hz
	12 kHz (in fast mode)
Type of protection	Transient protection of inputs
Protective circuit/component	Suppressor diode
Data formats	IB IL, S7-compatible
Measured value representation	16 bits (15 bits + sign bit)
Current input signal	0 mA ... 20 mA
	4 mA ... 20 mA
	-20 mA ... 20 mA
Input resistance current input	104 Ω (typical)
Voltage input signal	0 V ... 5 V
	-5 V ... 5 V
	0 V ... 10 V
	-10 V ... 10 V
Input resistance of voltage input	268 kΩ (typical)
Common mode voltage range signal - ground	-50 V DC ... 50 V DC
Filtering	RFI filtering / passive TP 1st order
Input filter	30 Hz, 12 kHz and mean-value generation (can be parameterized)

### Electrical isolation

Test section	Logic 500 V AC 50 Hz 1 min.
	Analog I/O 500 V AC 50 Hz 1 min.
	Functional earth ground 500 V AC 50 Hz 1 min.

### Standards and Regulations

Mechanical tests	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6 5g
	Shock in acc. with EN 60068-2-27/IEC 60068-2-27 30g
	Continuous shock according to EN 60068-2-27/IEC 60068-2-27 10g
Protection class	III, IEC 61140, EN 61140, VDE 0140-1

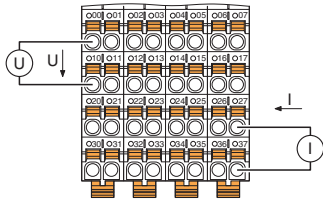
### Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

### Drawings

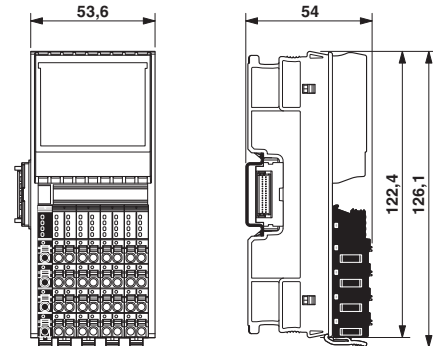
# I/O module - AXL F AI8 1F - 2688064

Connection diagram

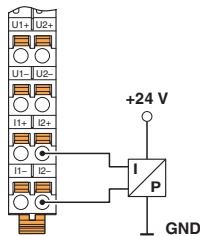


Connection for voltage and current measurement

Dimensional drawing

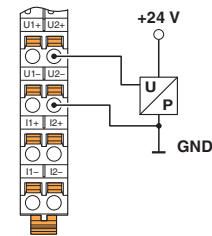


Connection diagram



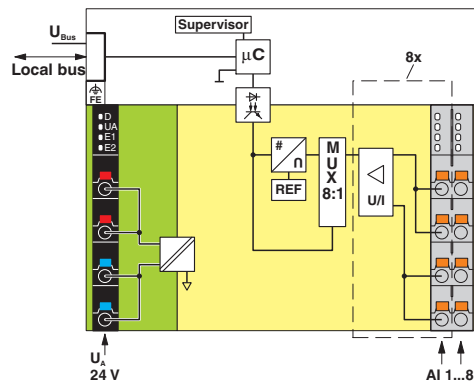
Passive pressure sensor at a differential current input

Connection diagram



Differential voltage input with active 3-wire transmitter

Block diagram



Internal wiring of the terminal points

## Classifications

eCI@ss

eCI@ss 4.0	27240405
eCI@ss 4.1	27240405
eCI@ss 5.0	27242201
eCI@ss 5.1	27242601

# I/O module - AXL F AI8 1F - 2688064

## Classifications

### eCl@ss

eCl@ss 6.0	27242601
eCl@ss 7.0	27242601
eCl@ss 8.0	27242601
eCl@ss 9.0	27242601

### ETIM

ETIM 3.0	EC001599
ETIM 4.0	EC001596
ETIM 5.0	EC001596
ETIM 6.0	EC001596

### UNSPSC

UNSPSC 6.01	43172015
UNSPSC 7.0901	43201404
UNSPSC 11	39121311
UNSPSC 12.01	39121311
UNSPSC 13.2	32151602

## Approvals

### Approvals

#### Approvals

UL Listed / cUL Listed / BSH / EAC / LR / BV / ABS / DNV GL / PRS / RINA / cULus Listed

#### Ex Approvals

### Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 238705
-----------	---	---	---------------

cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 238705
------------	---	---	---------------

BSH	<a href="http://www.bsh.de/de/index.jsp">http://www.bsh.de/de/index.jsp</a>	840
-----	---	-----

# I/O module - AXL F AI8 1F - 2688064

## Approvals

EAC			EAC-Zulassung
LR		<a href="http://www.lr.org/en">http://www.lr.org/en</a>	14-20019
BV		<a href="http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials">http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials</a>	36433/A2 BV
ABS		<a href="http://www.eagle.org/eagleExternalPortalWEB/">http://www.eagle.org/eagleExternalPortalWEB/</a>	16-HG1549537-PDA
DNV GL		<a href="http://exchange.dnv.com/tari/">http://exchange.dnv.com/tari/</a>	TAA00000DF
PRS		<a href="http://www.prs.pl/">http://www.prs.pl/</a>	TE/2106/880590/16
RINA		<a href="http://www.rina.org/en">http://www.rina.org/en</a>	ELE078216XG-001
cULus Listed			

## Accessories

### Accessories

#### Connector set

Connector set - AXL CNS 4L-O/D/UA/E1/E2 - 2700984



Axioline F connector set (for e.g., AXL F AI8 1F, AXL F AO8 1F)

## Device marking

## I/O module - AXL F AI8 1F - 2688064

### Accessories

Insert label - EMT (35X46)R - 0801604



Insert label, for the Axioline F series from Phoenix Contact, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, THERMOMARK S1.1, Mounting type: snapped into marker carrier, Lettering field: 35 x 46 mm

---

### DIN rail connector

Bus connector - AXL F BS F - 2688129



Axioline F bus base module for housing type F

---

### Mounting material

Shield connection - AXL SHIELD SET - 2700518



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

---

### Terminal marking

Zack marker strip - ZB 20,3 AXL UNPRINTED - 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

---

Zack Marker strip, flat - ZBF 10/5,8 AXL UNPRINTED - 0829580



Zack marker strip, flat, in 10 mm pitch, unprinted, 10-section, for individual labeling with M-PEN 0,8, X-PEN, or CMS-P1-PLOTTER

