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

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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.

Product Features

- 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 pc
Weight per Piece (excluding packing)	240.0 g
Custom tariff number	85389091
Country of origin	Germany

Technical data

Dimensions

Width	53.6 mm
Height	126.1 mm
Depth	54 mm
Note on dimensions	The depth is valid when a TH 35-7.5 DIN rail is used (according to EN 60715).

Ambient conditions

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

Technical data

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 mm²
Conductor cross section solid max.	1.5 mm²
Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	1.5 mm²
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 MBit/s

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

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

Technical data

Analog inputs

Input name	Analog inputs
Number of inputs	max. 8 (Differential inputs, voltage or current can be chosen separately)
Connection method	Push-in connection
	2-wire (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
Voltage input signal	0 V ... 5 V
	-5 V ... 5 V
	0 V ... 10 V
	-10 V ... 10 V
Filtering	RFI filtering / passive TP 1st order
Input filter	30 Hz, 12 kHz and mean-value generation (can be parameterized)
Number of inputs	8 (Differential inputs, current)
Type of protection	Overload protection
Protective circuit/component	No; ±5.2 V DC, maximum, I_{max} = 50 mA
Number of inputs	8 (differential inputs, voltage)
Type of protection	Overload protection
Protective circuit/component	±30 V DC, maximum

Standards and Regulations

Conformity with EMC directives	Noise immunity test in accordance with EN 61000-6-2 Electrostatic discharge (ESD) EN 61000-4-2/IEC 61000-4-2 Criterion B, 6 kV contact discharge, 8 kV air discharge
	Noise immunity test in accordance with EN 61000-6-2 Electromagnetic fields EN 61000-4-3/IEC 61000-4-3 Criterion A; Field intensity: 10 V/m
	Noise immunity test in accordance with EN 61000-6-2 Fast transients (burst) EN 61000-4-4/IEC 61000-4-4 Criterion B, 2 kV
	Noise immunity test in accordance with EN 61000-6-2 Transient overvoltage (surge) EN 61000-4-5/IEC 61000-4-5 Criterion B, supply lines DC: ±0.5 kV/±0.5 kV (symmetrical/asymmetrical), ±1 kV to shielded I/O cables

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

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Standards and Regulations

	Noise immunity test in accordance with EN 61000-6-2 Conducted interference EN 61000-4-6/IEC 61000-4-6 Criterion A; Test voltage 10 V
	Noise emission test according to EN 61000-6-3 Radio interference properties EN 55022 Class B
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.
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

Classifications

eCl@ss

eCl@ss 4.0	27240405
eCl@ss 4.1	27240405
eCl@ss 5.0	27242201
eCl@ss 5.1	27242601
eCl@ss 6.0	27242601
eCl@ss 7.0	27242601
eCl@ss 8.0	27242601

ETIM

ETIM 3.0	EC001599
ETIM 4.0	EC001596
ETIM 5.0	EC001596

UNSPSC

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

Approvals

Approvals

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

Approvals

Approvals

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

Ex Approvals

Approvals submitted

Approval details

UL Listed

cUL Listed

BSH

RINA

DNV

EAC

LR

GL

BV

ABS

GL-SW

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

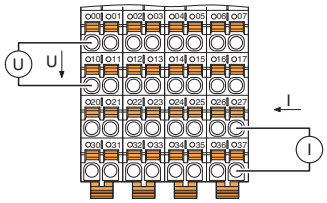
Approvals

cULus Listed

GL

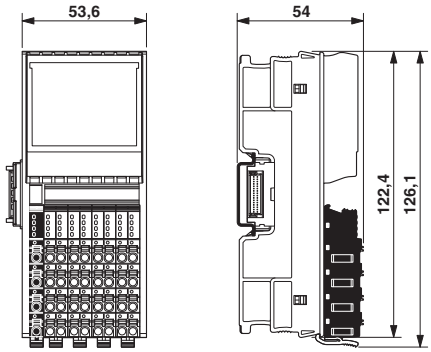
Drawings

Connection diagram

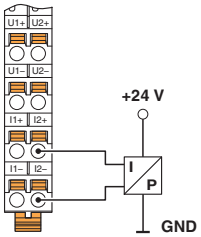


Connection for voltage and current measurement

Dimensional drawing

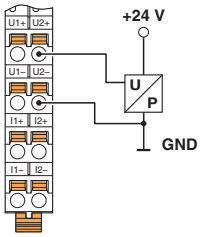


Connection diagram



Passive pressure sensor at a differential current input

Connection diagram



Differential voltage input with active 3-wire transmitter

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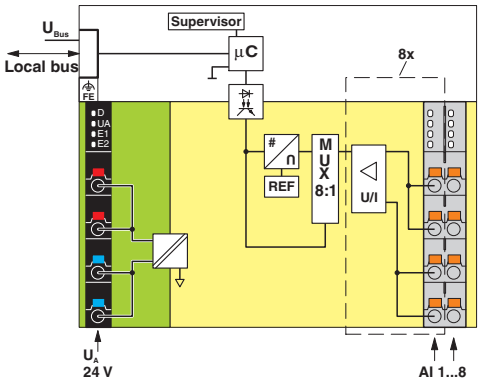
Block diagram



Internal wiring of the terminal points