

I/O module - AXL AI 8 - 2688064

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Axioline 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 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 GRM
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

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Technical data

Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	5 % ... 95 % (according to DIN EN 61131-2)
Permissible humidity (storage/transport)	5 % ... 95 % (according to DIN EN 61131-2)
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 technology
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	1.5 mm ²
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	1.5 mm ²
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	16
Stripping length	8 mm

General

Weight	204 g
Note on weight specifications	with connectors and bus base module
Mounting type	DIN rail
Protection class	III, IEC 61140, EN 61140, VDE 0140-1
Test section	5 V communications power (logic), 24 V supply (I/O) 500 V AC 50 Hz 1 min
	5 V supply (logic)/functional earth ground 500 V AC 50 Hz 1 min
	24 V supply (I/O) / functional earth ground 500 V AC 50 Hz 1 min
Conformance 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 surge voltage (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
	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

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General

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 25g, 11 ms period, half-sine shock pulse
	Continuous shock according to EN 60068-2-27/IEC 60068-2-27 10g

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 of analog modules U_A	24 V DC
Current consumption from U_A	typ. 35 mA
	max. 45 mA

Analog inputs

Number of inputs	max. 8 (Differential inputs, voltage or current can be chosen separately)
Connection method	Push-in technology
	2-wire (shielded, twisted pair)
Input name	Analog inputs
A/D conversion time	2 μ s
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

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Analog inputs

Precision	0.1 % (of measuring range final value for active mean-value generation and 30 Hz filter)
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
Open circuit response	Going to 0 mA; open-circuit detection from 4 mA ... 20 mA
Number of inputs	8 (differential inputs, voltage)
Type of protection	Overload protection
Protective circuit/component	± 30 V DC, maximum
Open circuit response	Goes to 0 V

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

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Approvals

Approvals

UL Listed / cUL Listed / BSH / RINA / DNV / cULus Listed

Ex Approvals

Approvals submitted

Approval details


UL Listed 

cUL Listed 

BSH

RINA

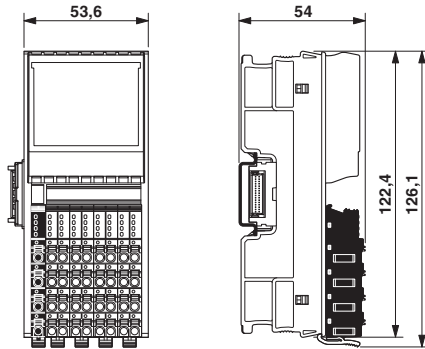
DNV

cULus Listed 

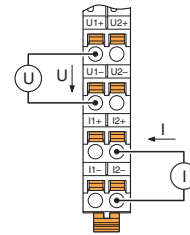
Drawings

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Dimensioned drawing

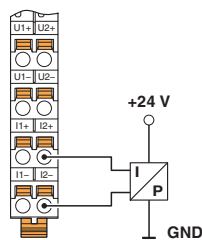


Connection diagram



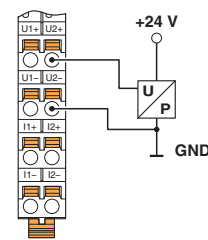
Connection for voltage and current measurement

Connection diagram



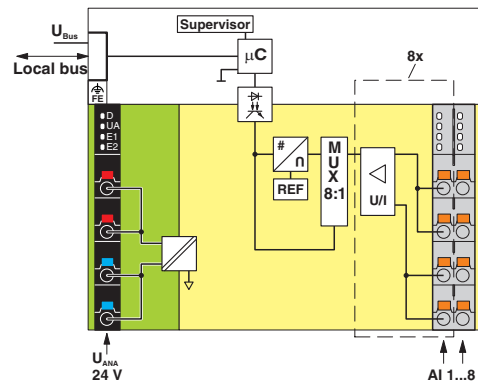
Passive pressure sensor at a differential current input

Connection diagram



Differential voltage input with active 3-wire transmitter

Block diagram



Internal wiring of the terminal points