

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

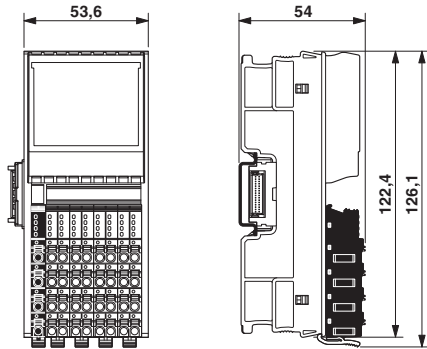
DNV

cULus Listed 

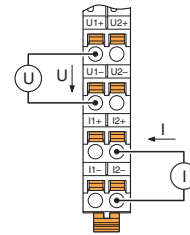
Drawings

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Dimensioned drawing

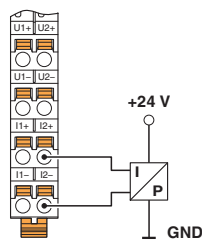


Connection diagram



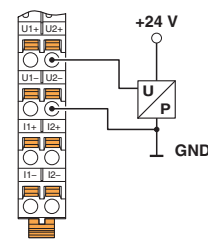
Connection for voltage and current measurement

Connection diagram



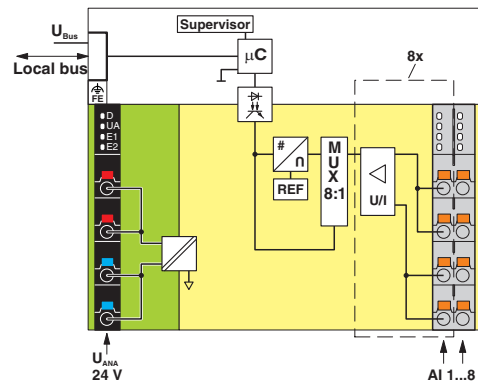
Passive pressure sensor at a differential current input

Connection diagram



Differential voltage input with active 3-wire transmitter

Block diagram



Internal wiring of the terminal points



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Как с нами связаться

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