

I/O module - AXL F AI4 I 1H - 2688491

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Axioline F, Analog input module, Analog inputs: 4, 0 mA ... 20 mA, 4 mA ... 20 mA, -20 mA ... 20 mA, connection method: 2, 3, 4-wire, transmission speed in the local bus: 100 Mbps, integrated sensor supply, 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.

Why buy this product

- ✓ 4 analog, bipolar input channels for the connection of current signals
- ✓ Connection of sensors in 2, 3, and 4-wire 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
- ✓ Diagnostic and status indicators



Key Commercial Data

Packing unit	1 STK
GTIN	
GTIN	4046356744225

Technical data

Dimensions

Width	35 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 % (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 the 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 ²
Conductor cross section solid max.	1.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	1.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	16
Stripping length	8 mm

General

Mounting type	DIN rail
Net weight	195.9 g
Note on weight specifications	with connectors and bus base module

Interfaces

Designation	Axioline F local bus
No. of channels	2
Connection method	Bus base module
Transmission speed	100 Mbps

Axioline potentials

Designation	Axioline F local bus supply (U _{Bus})
Supply voltage	5 V DC (via bus base module)
Current consumption	typ. 120 mA
	max. 150 mA
Designation	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 consumption	typ. 38 mA (I _{IS} = 0 mA)
	typ. 118 mA (I _{IS} = 4 x 20 mA (nominal load))
	max. 125 mA (I _{IS} = 4 x 20 mA (nominal load))

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Axioline potentials

	typ. 238 mA ($I_{IS} = 4 \times 50 \text{ mA}$ (full load))
	max. 245 mA ($I_{IS} = 4 \times 50 \text{ mA}$ (full load))
Power consumption	typ. 1.5 W (at U_{BUS} and U_A)
	max. 1.83 W (at U_{BUS} and U_A)
Type of protection	Surge protection of the supply voltage
	Polarity reversal protection of the supply voltage
	Transient protection

Analog inputs

Description of the input	Differential inputs, current
Input name	Analog inputs
Number of inputs	4
Connection method	Push-in connection
Connection technology	2, 3, 4-wire
A/D conversion time	31.25 μs
Resolution A/D	16 bit
Limit frequency (3 dB)	30 Hz
	12 kHz
Type of protection	Transient protection of inputs
	Overload protection of the current inputs
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)
Input filter	30 Hz, 12 kHz and mean-value generation (can be parameterized)

Electrical isolation

Test section	5 V communications power (logic), 24 V supply (I/O) 500 V AC 50 Hz 1 min.
	5 V supply (logic)/analog inputs 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)/analog inputs 500 V AC 50 Hz 1 min.
	24 V supply (I/O) / functional earth ground 500 V AC 50 Hz 1 min.
	Analog inputs/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

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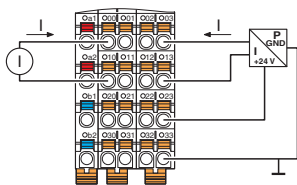
Technical data

Environmental Product Compliance

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

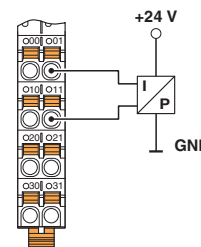
Drawings

Connection diagram



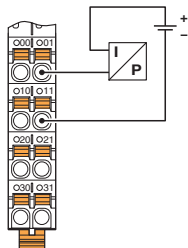
Connection for current measurement

Connection diagram



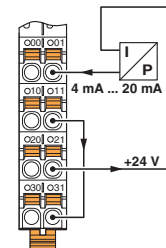
Passive pressure sensor at a differential current input

Connection diagram



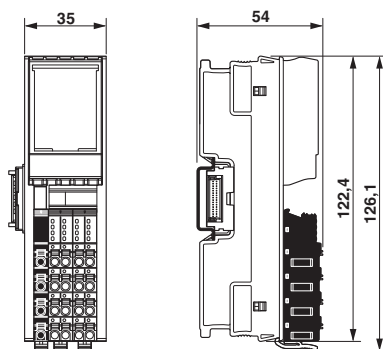
Differential current input with passive 2-wire transmitter (current loop)

Connection diagram

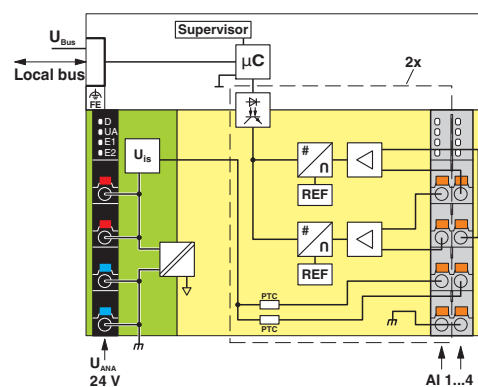


Differential current input with passive 2-wire transmitter (current loop)

Dimensional drawing



Block diagram



Approvals

Approvals

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Approvals

Approvals

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

Ex Approvals


Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
BSH		http://www.bsh.de/de/index.jsp	840
EAC			EAC-Zulassung
LR		http://www.lr.org/en	14-20019
BV		http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials	36433/A2 BV
ABS		http://www.eagle.org/eagleExternalPortalWEB/	17-HG1669996-PDA
DNV GL		http://exchange.dnv.com/tari/	TAA00000DF
PRS		http://www.prs.pl/	TE/2106/880590/16
RINA		http://www.rina.org/en	ELE0078216XG

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Approvals

KR		http://www.krs.co.kr/eng/main/main.aspx	HMB17372-AC002
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cULus Listed			
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