I/O module - AXL F UTH8 1F - 2688417

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Axioline F, Temperature recording module, Analog inputs: 8 (8 inputs for thermocouples or linear voltage, plus 1 input -5 V to +5 V), connection method: 2-wire (shielded, twisted pair), transmission speed in the local bus: 100 Mbps, 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 signals from standard thermocouples in industrial applications.
The module supports various types of thermocouple conforming to DIN EN 60584-1 and DIN 46710 as well as linear voltages from -100 mV to +100 mV.
It also offers a voltage input from -5 V to +5 V.
Heating currents can be monitored here, for example, using a measuring transducer.
The four Pt 100 inputs (CJ1 ... CJ4) can each be used as a sensor input or as an external cold junction.

Why buy this product

- 8 analog input channels for the connection of thermocouples or linear voltages from -100 mV to +100 mV
- 1 analog input channel for the connection of voltages from -5 V to +5 V
- Connection of sensors in 2-wire technology
- Internal detection and compensation of cold junction temperature (can be parameterized)
- External connection of Pt 100 cold junction sensors possible
- Easy to use due to internal linearization of the sensor characteristic curves
- High level of accuracy (typically ±0.01 % sensor type K)
- High temperature stability (typically 5 ppm/K)
- High resistance to electromagnetic interference (Class A)
- "Channel Scout" function
- Device rating plate stored
- Installation monitoring with indication via diagnostic LED for each channel

RoHS

Key Commercial Data

Packing unit	1 STK
GTIN	4 046356 640923
GTIN	4046356640923

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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

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 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	144 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. 115 mA

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Axioline potentials

	max. 180 mA
Power consumption	typ. 0.55 W
	max. 0.9 W
Designation	Supply for analog modules (U_A)
Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current consumption	typ. 45.3 mA
	max. 70 mA
Power consumption	max. 1.68 W
	typ. 1.63 W (entire device)
	max. 2.58 W (entire device)
Type of protection	Surge protection of the supply voltage
	Polarity reversal protection of the supply voltage
	Transient protection

Analog inputs

Number of inputs	8 +1 (8 inputs for thermocouples or linear voltage, plus 1 input -5 V to +5 V)
Input name	Analog inputs
Description of the input	Inputs for thermocouples or linear voltage
Connection method	Spring-cage connection with direct connector-in method
Connection technology	2-wire (shielded, twisted pair)
Sensor types (RTD) that can be used	Pt 100 (4 external cold junctions, can also be used as a sensor input)
Sensor types that can be used (TC)	U, T, L, J, E, K, N, S, R, B, C, W, HK
Measuring principle	Sigma/Delta process
Measured value representation	16 bits (15 bits + sign bit)
Resolution A/D	24 bit
Type of protection	Short-circuit protection, overload protection of the inputs
	Transient protection of inputs
Input filter time	40 ms

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)/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.

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

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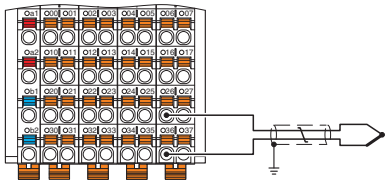
Environmental Product Compliance

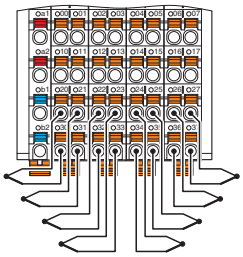
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

Drawings

Connection diagram

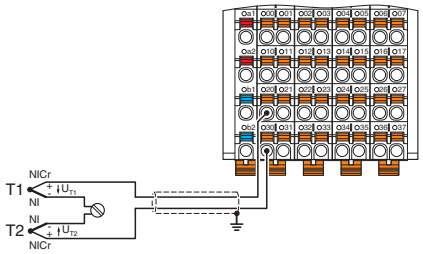


Connection diagram



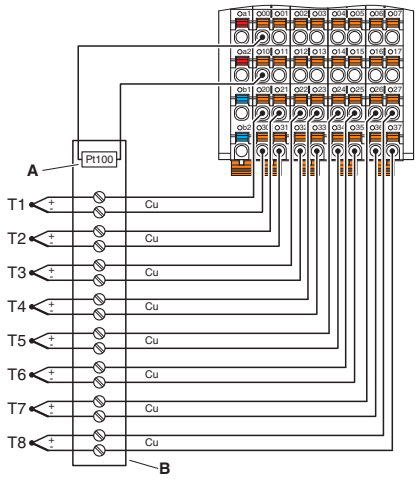
Connection example: absolute temperature measurement

Connection diagram



Differential temperature measurement

Connection diagram



Thermocouple detection with external cold junction compensation at channel 1

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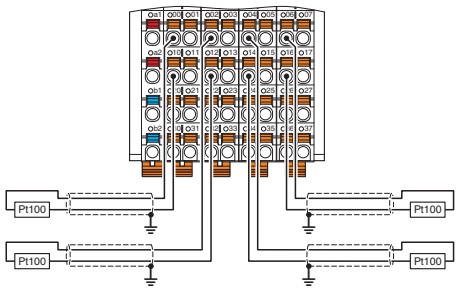
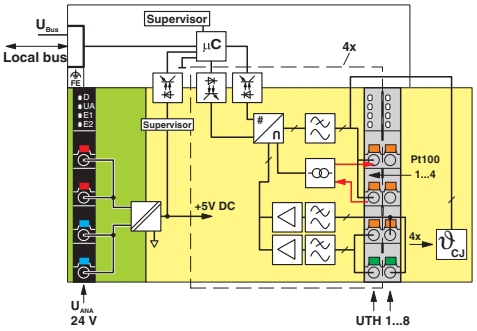
Connection diagram



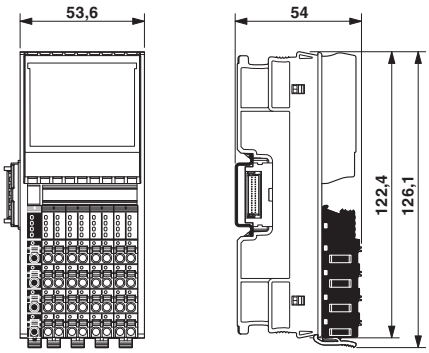
Pt 100 detection

Block diagram



Internal wiring of the terminal points

Dimensional drawing



Approvals

Approvals

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UL Listed / cUL Listed / EAC / 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

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Approvals

EAC		EAC-Zulassung

cULus Listed	

PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstr. 8
32825 Blomberg
Germany
Tel. +49 5235 300
Fax +49 5235 3 41200
http://www.phoenixcontact.com