

I/O module - AXL F RTD4 1H - 2688556

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Axioline F, Temperature recording module, Analog inputs: 4 (for resistance temperature detectors), connection method: 2, 3, 4-wire (shielded), 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 resistive temperature sensors.
The module supports all common platinum and nickel sensors according to DIN EN 60751 and SAMA. Cu10, Cu50, Cu53 sensors as well as various KTY8x sensor types are also supported.

Why buy this product

- ✓ 4 analog input channels for connecting resistance temperature detectors (RTDs)
- ✓ 500 Ω and 5 k Ω linear inputs
- ✓ Connection of sensors in 2, 3, and 4-wire technology
- ✓ Integrated, digital sensor linearization
- ✓ Standardized measured value representation directly in $^{\circ}\text{C}$, $^{\circ}\text{F}$ or Ω
- ✓ Measured value display in 16-bit format or floating point format
- ✓ Programmable filters
- ✓ Short-circuit protected inputs
- ✓ Device rating plate stored
- ✓ Temperature stability
- ✓ Very high level of noise immunity
- ✓ Low noise emission
- ✓ Installation monitoring by means of "Channel scout" function

RoHS

Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 744201
GTIN	4046356744201

Technical data

Dimensions

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Technical data

Dimensions

Caption	Dimensional drawing
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

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	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	max. 140 mA

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Technical data

Axioline potentials

Power consumption	max. 700 mW
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	max. 17 mA
Power consumption	max. 400 mW
	max. 1.1 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

Number of inputs	4 (for resistance temperature detectors)
Input name	Analog inputs
Description of the input	Inputs for resistive temperature sensors
Connection method	Spring-cage connection with direct connector-in method
Connection technology	2, 3, 4-wire (shielded)
Sensor types (RTD) that can be used	Pt, Ni, KTY, Cu sensors
Linear resistance measuring range	0 Ω ... 500 Ω
	0 k Ω ... 5 k Ω
Nominal value of the current sources	1 mA (Pt 100, Ni 100, R_{Lin} 500 Ω ; pulse current, the specification is valid during the sampling phase)
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
	Transient protection of sensor supplies
Data formats	IB IL, S7-compatible
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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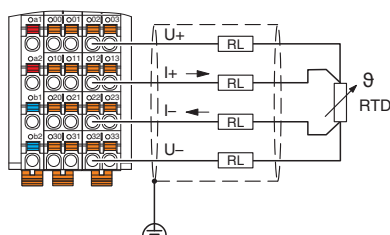
Technical data

Environmental Product Compliance

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

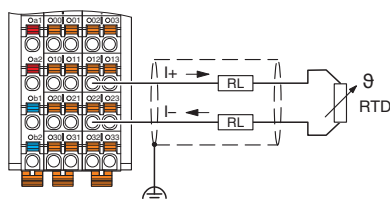
Drawings

Connection diagram



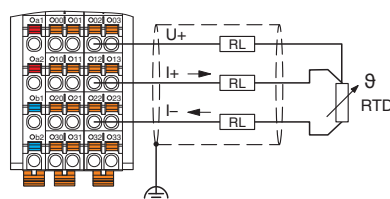
Connection example: 4-wire connection

Connection diagram



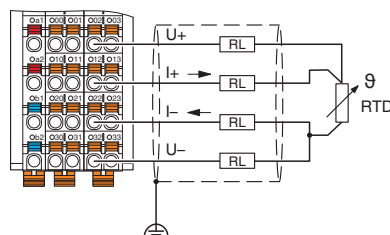
Connection example: 2-wire connection

Connection diagram



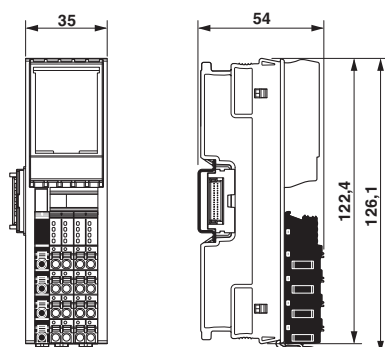
Connection example: 3-wire connection

Connection diagram



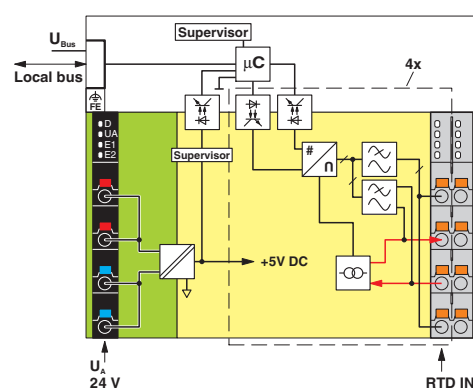
Connection example: 4-wire connection for 3-wire sensor with very long supply lines (> 100 m)

Dimensional drawing



Dimensional drawing

Block diagram



Internal wiring of the terminal points

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Approvals

Approvals

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UL Listed / cUL Listed / RINA / NK / BSH / DNV GL / ABS / 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
RINA		http://www.rina.org/en	ELE0078216XG
NK		http://www.classnk.or.jp/hp/en/	14A006
BSH		http://www.bsh.de/de/index.jsp	840
DNV GL		http://exchange.dnv.com/tari/	TAA00000DF
ABS		http://www.eagle.org/eagleExternalPortalWEB/	18-HG1767360-PDA
KR		http://www.krs.co.kr/eng/main/main.aspx	HMB17372-AC002
cULus Listed			

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