

I/O module - AXL F RTD8 S 1F - 2702120

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Axioline F, Temperature recording module, Analog inputs: 8 (for resistance temperature detectors), connection method: 2, 4-wire (shielded), transmission speed in the local bus: 100 Mbps, measuring dynamics up to 8 Hz, degree of protection: IP20, 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 sensors in accordance with DIN EN 60751 and SAMA, as well as nickel sensors in accordance with DIN 43760. Cu10, Cu50, and Cu53 sensors are also supported.

Your advantages

- ✓ 8 analog input channels for the connection of resistance temperature detectors (RTD)
- ✓ Linear inputs 500 Ω
- ✓ Connection of sensors with 2- and 4-wire technology
- ✓ Integrated, digital sensor linearization
- ✓ Standardized measured value representation directly in °C, °F or Ω
- ✓ Measured value display in 16-bit format or floating point format
- ✓ 8 Hz measuring dynamics per channel
- ✓ Programmable filters
- ✓ Short-circuit protected inputs
- ✓ Device rating plate stored
- ✓ Diagnostic and status indicators
- ✓ Temperature stability
- ✓ Very high level of noise immunity
- ✓ Low noise emission
- ✓ Installation monitoring by means of "Channel scout" function



Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4046356977852

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Technical data

Dimensions

Caption	Dimensional drawing
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	Axiline F connector
Connection method	Push-in connection
Note on the connection method	Please observe the information provided on conductor cross sections in the "Axiline 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	241.3 g
Note on weight specifications	with connectors and bus base module

Interfaces

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

Axiline potentials

Designation	Axiline F local bus supply (U _{Bus})
Supply voltage	5 V DC (via bus base module)

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Axioline potentials

Current consumption	typ. 115 mA
	max. 180 mA
Power consumption	typ. 0.58 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. 15 mA
	max. 25 mA
Power consumption	max. 0.6 W
	typ. 0.94 W (at U _{BUS} and U _A)
	max. 1.5 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	8 (for resistance temperature detectors)
Input name	Analog inputs
Description of the input	Inputs for resistive temperature sensors
Connection method	Push-in connection
Connection technology	2, 4-wire (shielded)
Sensor types (RTD) that can be used	Pt, Ni, Cu sensors
Linear resistance measuring range	0 Ω ... 500 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	8 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

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Standards and Regulations

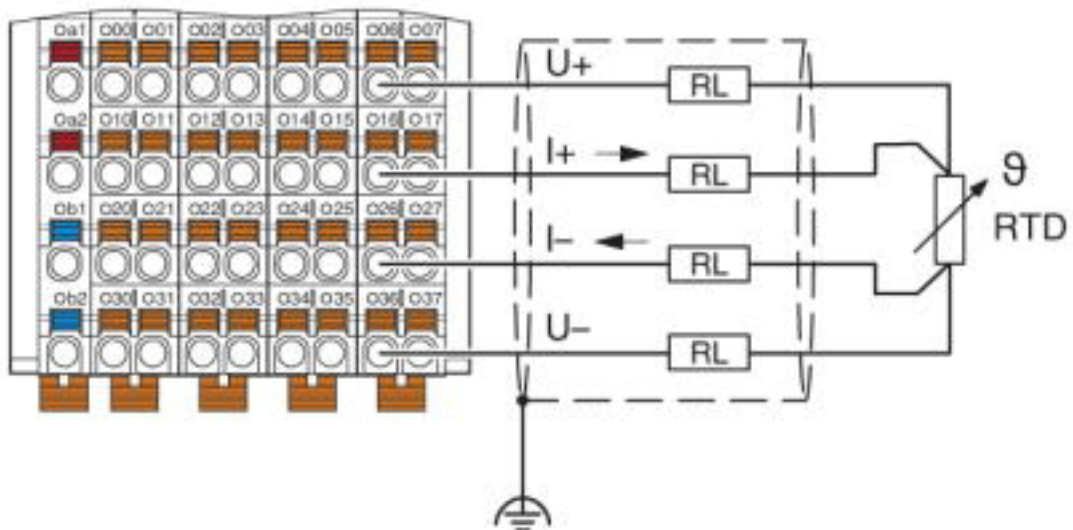
	Continuous shock according to EN 60068-2-27/IEC 60068-2-27 10g
Protection class	III, IEC 61140, EN 61140, VDE 0140-1

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

Drawings

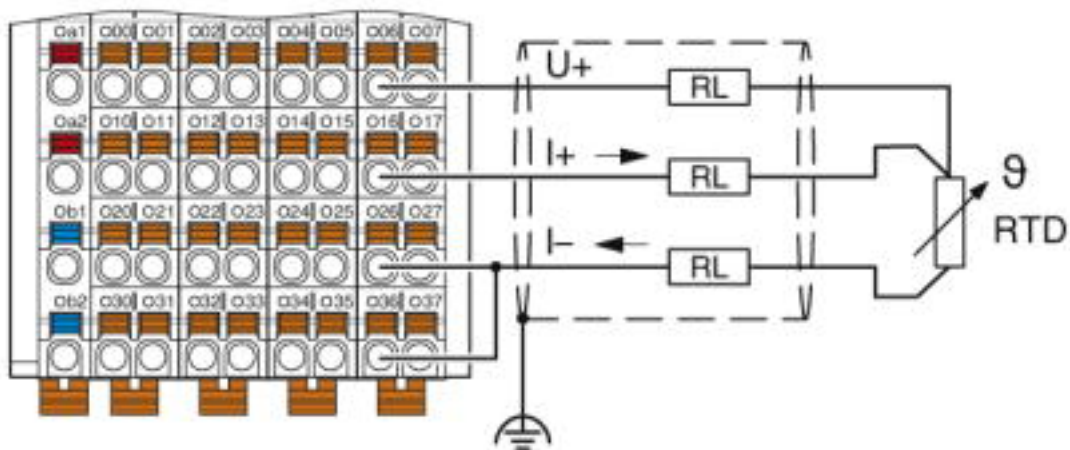
Connection diagram



Connection example: 4-wire connection

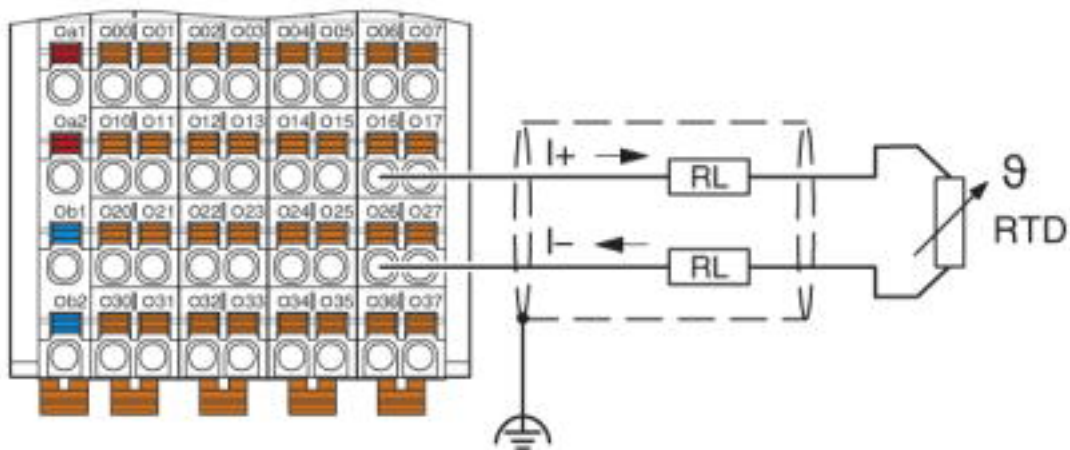
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Connection diagram



Connection example: 3-wire connection with external bridge

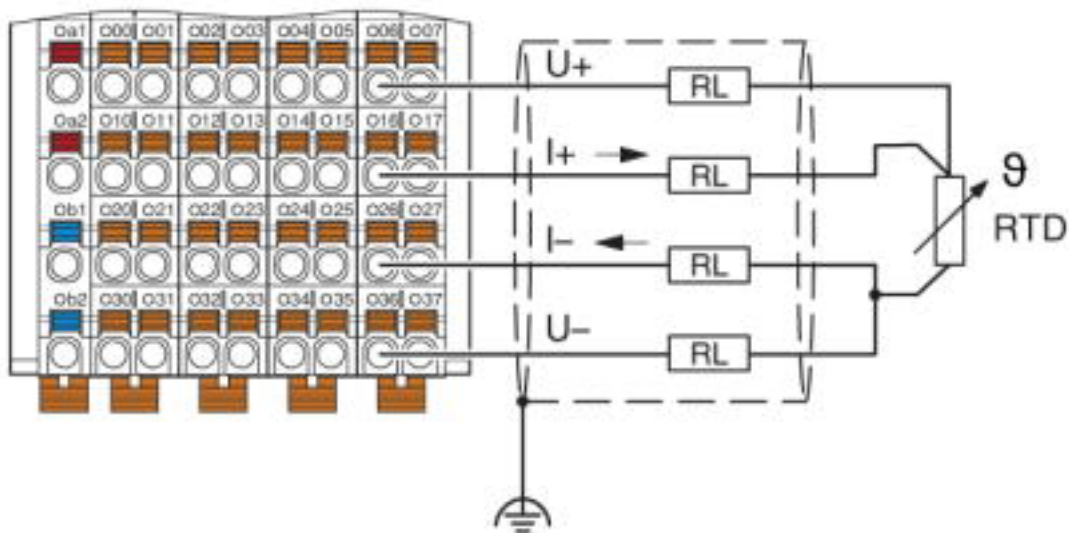
Connection diagram



Connection example: 2-wire connection

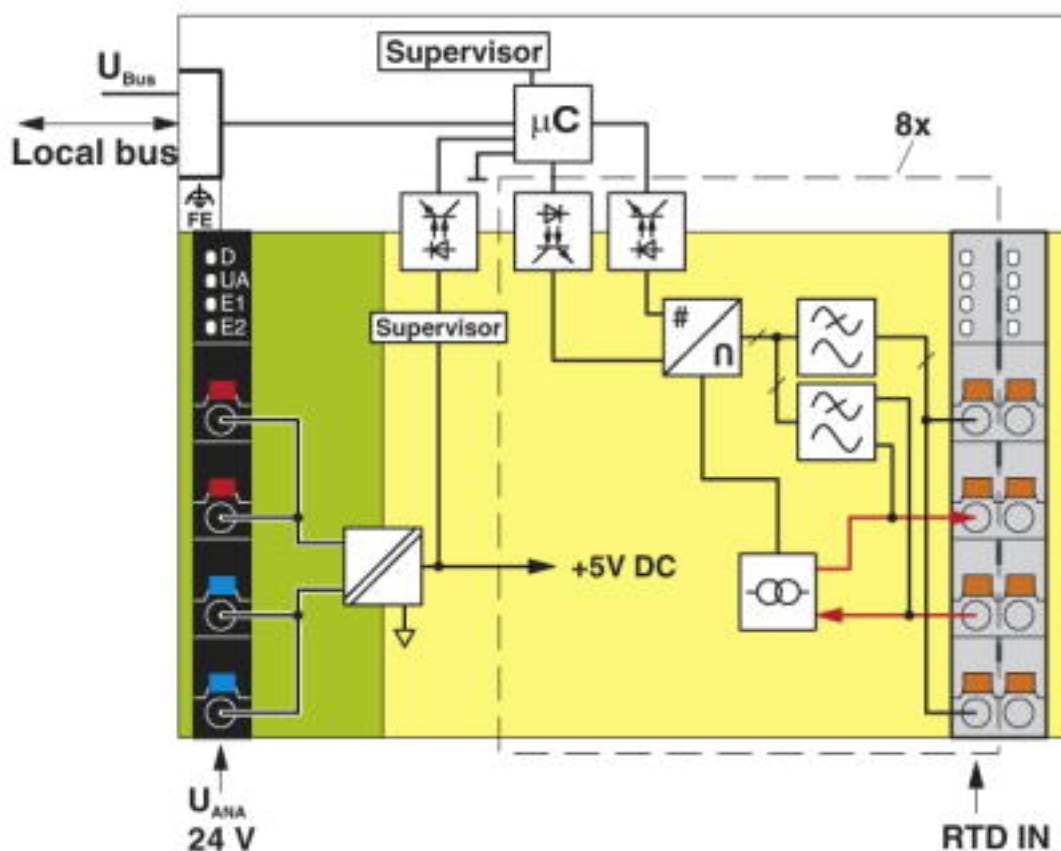
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Connection diagram



Connection example: 4-wire connection for 3-wire sensor with long supply lines

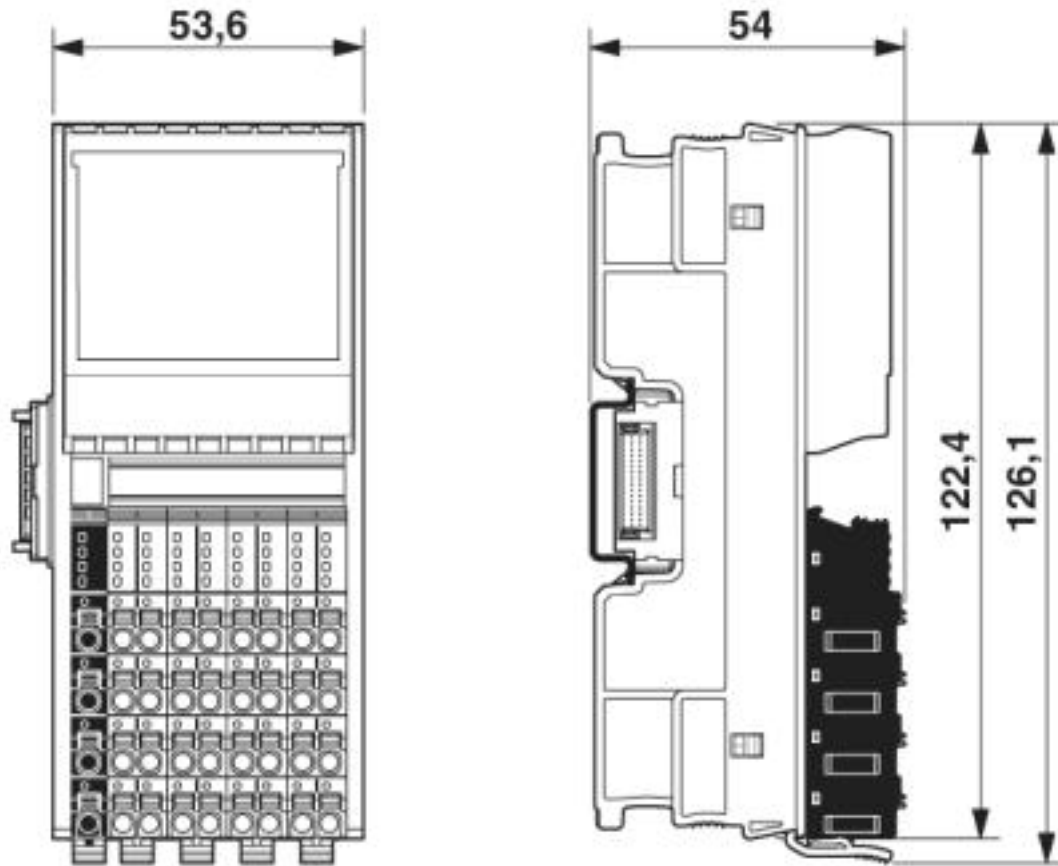
Block diagram



Internal wiring of the terminal points

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Dimensional drawing



Dimensional drawing

Approvals

Approvals

Approvals

UL Listed / cUL Listed / cULus Listed

Ex Approvals

Approval details

UL Listed



<http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm>

FILE E 238705

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Approvals

cUL Listed



<http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm> FILE E 238705

cULus Listed



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