

I/O module - AXL F RTD8 XC 1F - 2701235

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Axioline F XC, Temperature recording module, Analog inputs: 8 (for resistance temperature detectors), connection method: 2, 3, 4-wire (shielded), transmission speed in the local bus: 100 Mbps, Extreme conditions version, degree of protection: IP20, including bus base module and Axioline F connectors

The figure shows the standard item

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, Cu53 sensors as well as various KTY8x sensor types are also supported.

Your advantages

- ✓ 8 analog input channels for the connection of resistance temperature detectors (RTD)
- ✓ 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
- ✓ Diagnostic and status indicators
- ✓ Can be used under extreme ambient conditions
- ✓ Extended temperature range of -40°C ... $+70^{\circ}\text{C}$ (see "Tested successfully: use under extreme ambient conditions" in the data sheet)
- ✓ Partially coated PCBs
- ✓ 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
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GTIN	
GTIN	4046356730471

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 (Standard)
	-40 °C ... 70 °C (Extended, see section "Tested successfully: use under extreme ambient conditions" in the data sheet.)
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

General

Mounting type	DIN rail
Net weight	215 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
	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)

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Technical data

Axialine potentials

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, 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

	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50

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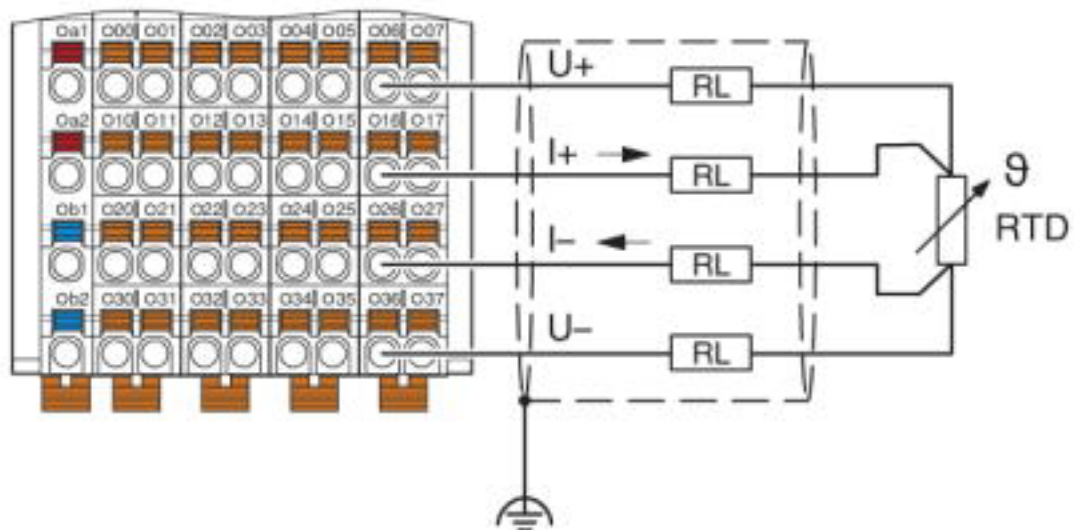
Technical data

Environmental Product Compliance

	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"
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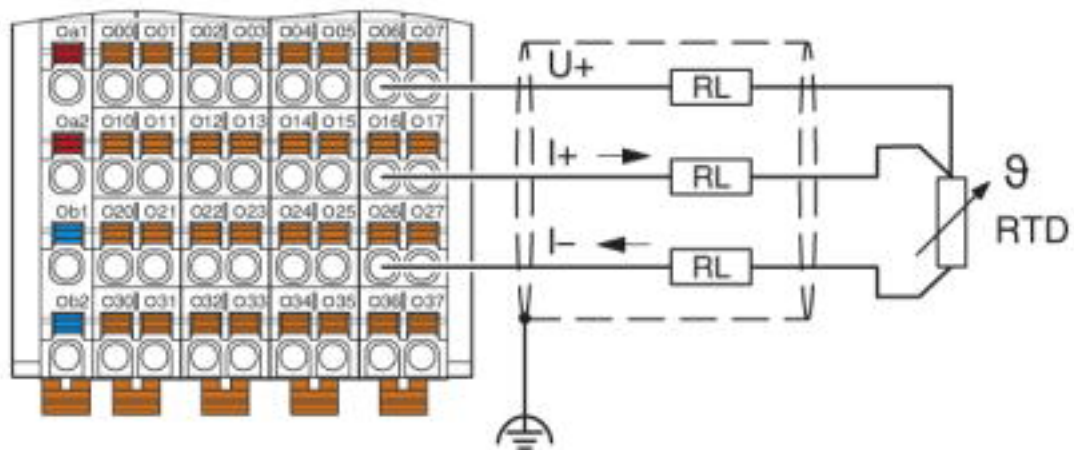
Drawings

Connection diagram



Connection example: 4-wire connection

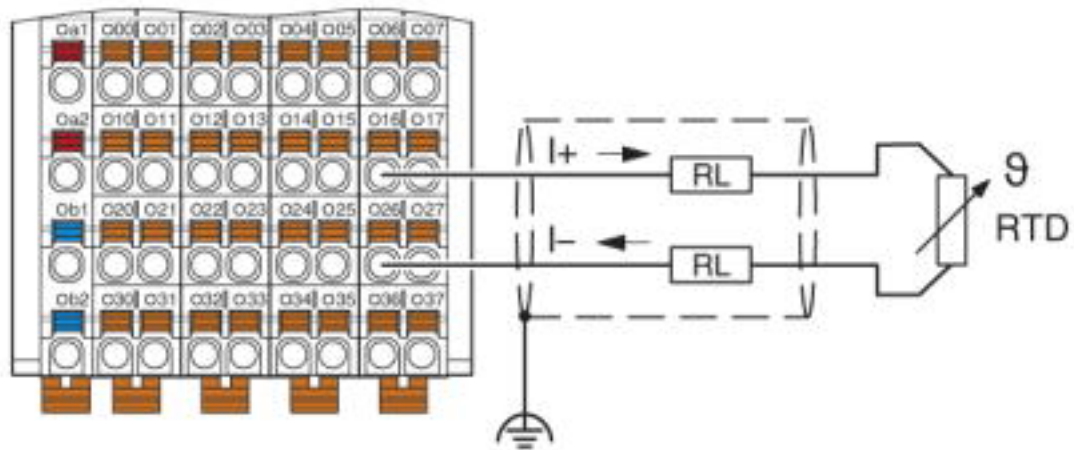
Connection diagram



Connection example: 3-wire connection

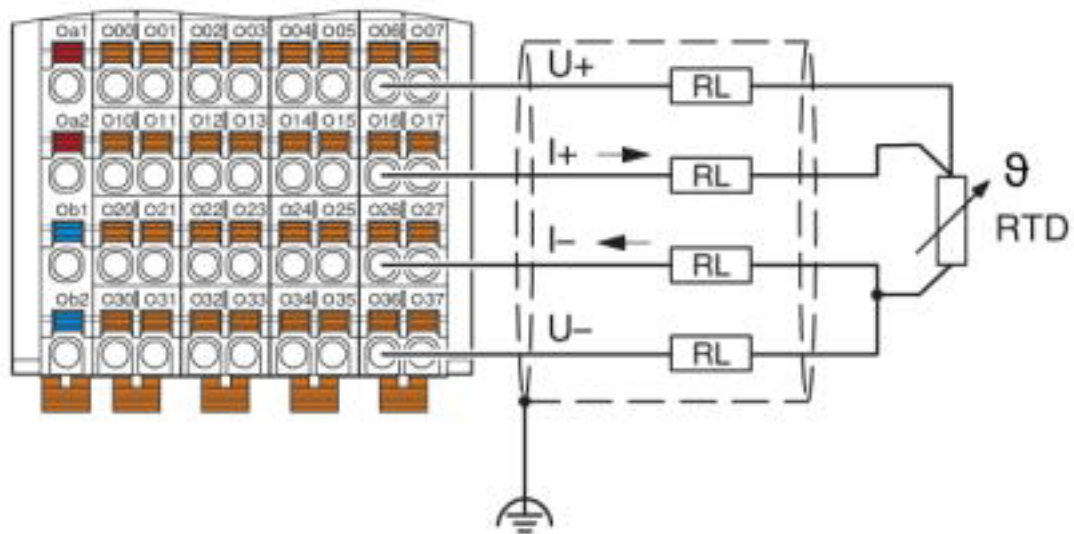
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Connection diagram



Connection example: 2-wire connection

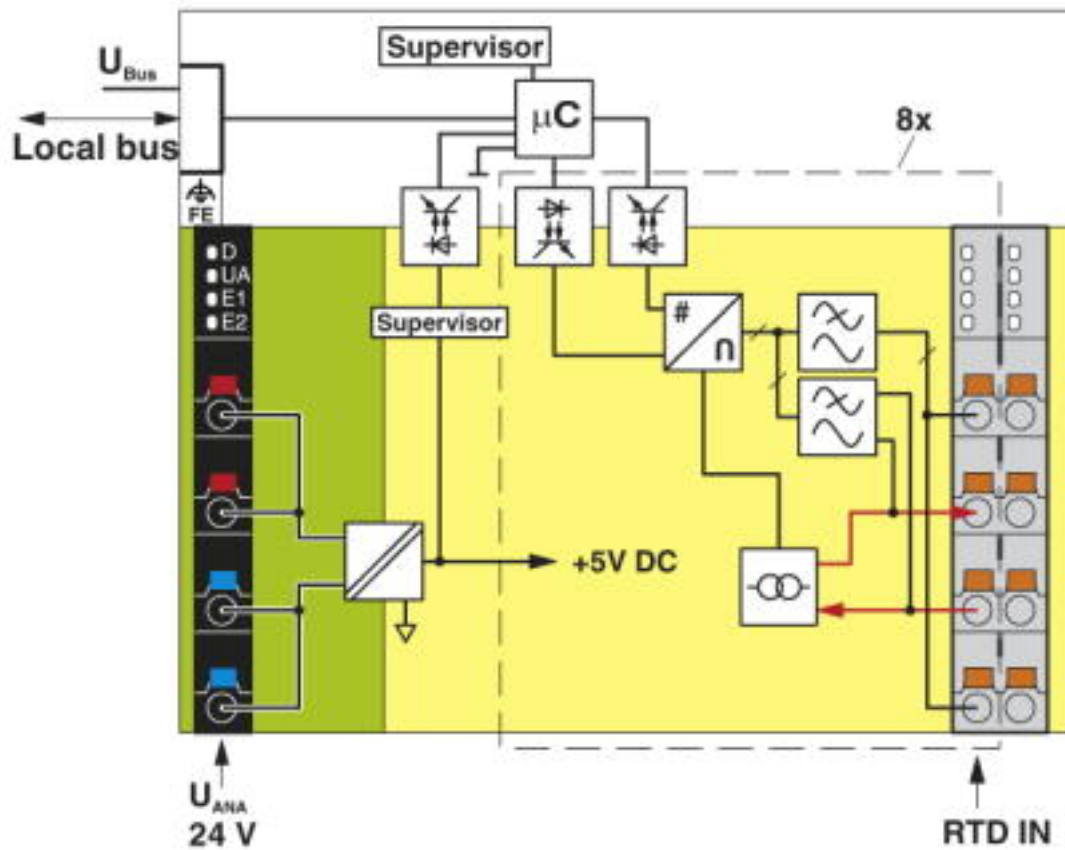
Connection diagram



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

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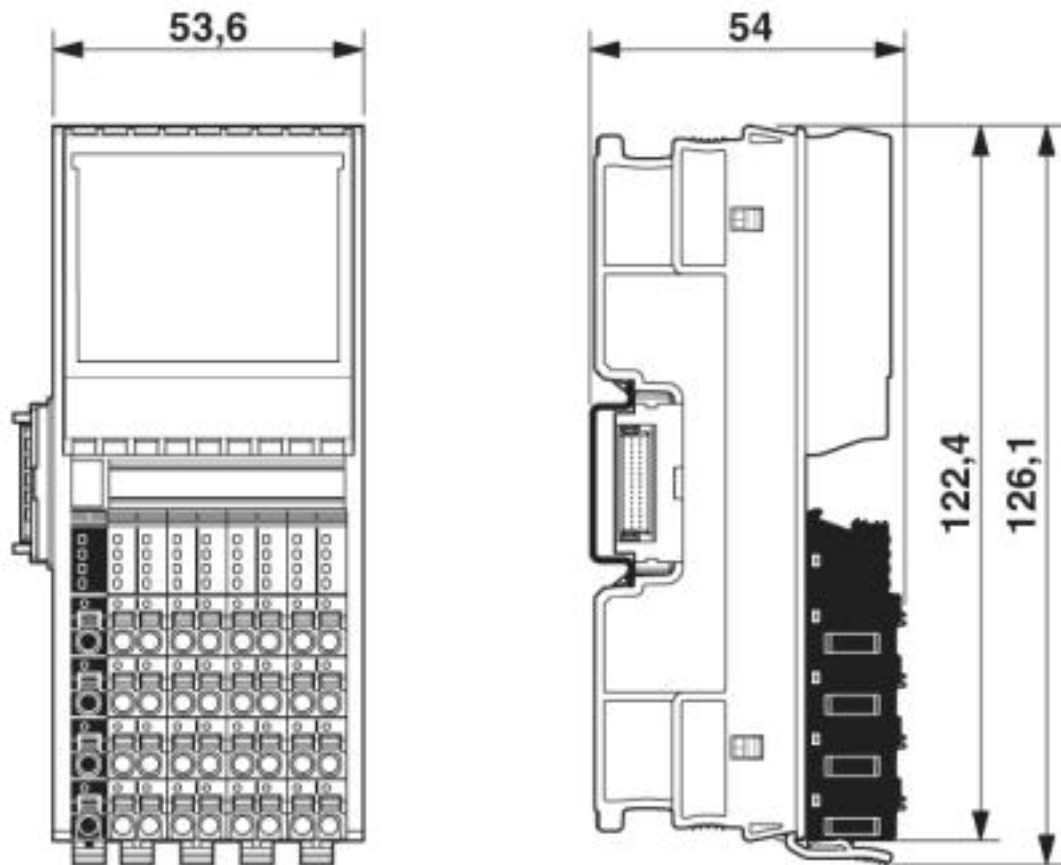
Block diagram



Internal wiring of the terminal points

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Dimensional drawing



Dimensional drawing

Approvals

Approvals

Approvals

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

Ex Approvals

Approval details

DNV GL



<https://approvalfinder.dnvgl.com/>

TAA00000DF

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Approvals

PRS		http://www.prs.pl/	TE/2239/880590/19
BV		http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials	36433/B0 BV
LR		http://www.lr.org/en	14-20019
KR		http://www.krs.co.kr/eng/main/main.aspx	HMB17372-AC002
NK		http://www.classnk.or.jp/hp/en/	14A006
ABS		http://www.eagle.org/eagleExternalPortalWEB/	18-HG1767360-PDA
BSH		http://www.bsh.de/de/index.jsp	840
RINA		http://www.rina.org/en	ELE256518XG
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
cULus Listed			

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