

# Temperature 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 technology: 2-conductor (shielded, twisted pair), transmission speed in the local bus: 100 Mbps, 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 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.

## Your advantages

- 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-conductor 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
- Low tolerances (typically  $\pm 0.01\%$  for 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

## Commercial Data

Item number	2688417
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	DRI243
Product Key	DRI243
Catalog Page	Page 87 (C-6-2019)
GTIN	4046356640923
Weight per Piece (including packing)	271.3 g
Weight per Piece (excluding packing)	144 g
Customs tariff number	85389091
Country of origin	DE

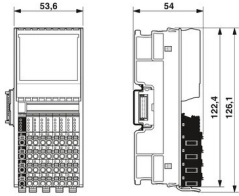
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## Technical Data

### Dimensions

Dimensional drawing	
Width	53.6 mm
Height	126.1 mm
Depth	54 mm
Note on dimensions	The depth applies when a TH 35-7.5 DIN rail is used (in accordance with EN 60715).

### Material specifications

Color	traffic grey A RAL 7042
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### Interfaces

#### Axioline F local bus

Number of interfaces	2
Connection method	Bus base module
Transmission speed	100 Mbps

### System properties

#### Module

Input address area	18 Byte
Output address area	18 Byte
Required parameter data	27 Byte (20 bytes for configuration with GSD AXL UTH 8 (packed))
Required configuration data	7 Byte

### Input data

#### Analog

Input name	Analog inputs
Description of the input	Inputs for thermocouples or linear voltage
Number of inputs	8 + 1 (8 inputs for thermocouples or linear voltage, plus 1 input - 5 V to +5 V)
Connection method	Push-in connection
Connection technology	2-conductor (shielded, twisted pair)
A/D converter resolution	24 bit
Sensor types (RTD) that can be used	Pt 100 (4 external cold junctions, can also be used as a sensor input)

# Temperature module - AXL F UTH8 1F



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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)
Input filter time	40 ms
	60 ms
	100 ms
	120 ms (adjustable)
Protective circuit	Short-circuit protection, overload protection of the inputs
	Transient protection of inputs

## Product properties

Type	block modular
Product type	I/O component
Mounting position	any (no temperature derating; Parameterize the mounting position using the object 0080 <sub>hex</sub> ParaTable!)
Scope of delivery	including bus base module and Axioline F connectors

## Insulation characteristics

Overvoltage category	II (IEC 60664-1, EN 60664-1)
Pollution degree	2 (IEC 60664-1, EN 60664-1)

## Electrical properties

### Potentials

Power consumption	typ. 1.63 W (entire device)
	max. 2.58 W (entire device)

### Potentials: Axioline F local bus supply ( $U_{Bus}$ )

Supply voltage	5 V DC (via bus base module)
Current draw	max. 180 mA
	typ. 115 mA
Power consumption	max. 0.9 W
	typ. 0.55 W

### Potentials: 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 draw	max. 70 mA
	typ. 45.3 mA
Power consumption	max. 1.68 W
Protective circuit	Surge protection; electronic (35 V, 0.5 s)
	Reverse polarity protection; Polarity protection diode
	Transient protection; Suppressor diode

## Connection data

Connection technology

# Temperature module - AXL F UTH8 1F



2688417

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Connection name	Axioline F connector
Note on the connection method	Please observe the information provided on conductor cross sections in the "Axioline F: system and installation" user manual.

## Conductor connection

Connection method	Push-in connection
Conductor cross section solid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 16
Stripping length	8 mm

## 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, rigid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section, flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 16
Stripping length	8 mm

## Environmental and real-life conditions

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Degree of protection	IP20
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)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % ... 95 % (non-condensing)

## Standards and regulations

Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
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## Mounting

Mounting type	DIN rail mounting
Mounting position	any (no temperature derating; Parameterize the mounting position using the object 0080 <sub>hex</sub> ParaTable!)

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## Classifications

### ECLASS

ECLASS-9.0	27242601
ECLASS-10.0.1	27242601
ECLASS-11.0	27242601
ECLASS-12.0	27242601

### ETIM

ETIM 8.0	EC001596
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### UNSPSC

UNSPSC 21.0	32151600
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