

AXL F AI8 HART XC 1F - Analog module



1052434

<https://www.phoenixcontact.com/us/products/1052434>

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Axioline F, Analog input module, Active analog inputs: 8 (HART), 4 mA ... 20 mA, connection technology: 2-conductor, transmission speed in the local bus: 100 Mbps, Extreme conditions version, HART functionality, HART functionality, degree of protection: IP20, including bus base module and Axioline F connectors

Product description

The module is an Axioline F I/O module for use in the Axioline F modular I/O system. The module is a modular I/O device that can be affixed to the Axioline F local bus, to communicate I/O data up to the Axioline F controller or bus coupler, which forms the head of the station. The analog input I/O module with HART capabilities collects analog input and HART data from the field I/O terminals and makes this information available to the controller / bus coupler through the Axioline F local bus. The active analog input module allows the connection of up to eight HART enabled, passive analog input signals.

Your advantages

- Active analog input module
- Sources power for up to 8 HART enabled, passive analog input signals
- Cyclic access to PV, SV, TV, QV, and Loop Current
- Current range: 4 mA ... 20 mA
- Can be used under extreme ambient conditions
- Extended temperature range of -40 °C ... +70 °C (see "Tested successfully: use under extreme ambient conditions" in the data sheet)

Commercial data

Item number	1052434
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR02
Product key	DRI241
GTIN	4055626676265
Weight per piece (including packing)	366.5 g
Weight per piece (excluding packing)	355 g
Customs tariff number	85176200
Country of origin	US

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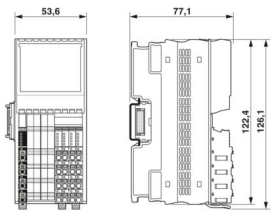


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Technical data

Dimensions

Dimensional drawing	
Width	53.6 mm
Height	126.1 mm
Depth	77.1 mm
Note on dimensions	The depth applies when a TH 35-7.5 DIN rail is used (in accordance with EN 60715).

Notes

Note on application	
Note on application	Only for industrial use
Utilization restriction	
EMC note	EMC: class A product, see manufacturer's declaration in the download area
Utilization restriction	
CCCex note	Use in potentially explosive areas is not permitted in China.

Interfaces

Axioline F local bus	
Number of interfaces	2
Connection method	Bus base module
Transmission speed	100 Mbps

System properties

Module	
Input address area	48 Byte
Output address area	0 Byte
Required parameter data	27 Byte
Required configuration data	6 Byte

Input data

Analog:	
Input name	Active analog inputs

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Description of the input	HART enabled, active analog input signals
Number of inputs	8 (HART)
A/D conversion time	500 µs
A/D converter resolution	12 bit
Connection method	Push-in connection
Connection technology	2-conductor
Note regarding the connection technology	shielded, twisted pair
Current input signal	4 mA ... 20 mA
Input resistance current input	100 Ω (typical)
Data formats	Inline, S7-compatible, standard formatting
Input filter	25 Hz
Filtering	RFI filtering / passive TP 2nd order
Limit frequency (3 dB)	15 Hz
Measured value representation	16 bits (15 bits + sign bit)
Protective circuit	Polarity reversal protection of the inputs

Product properties

Product type	I/O component
Product family	Axioline F
Type	block modular
Mounting position	any (no temperature derating)
Scope of supply	including bus base module and Axioline F connectors
Special properties	Extreme conditions version
	HART functionality
	HART functionality

Insulation characteristics

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

Electrical properties

Maximum power dissipation for nominal condition	2.51 W
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Potentials: Axioline F local bus supply (U_{BUS})

Supply voltage	5 V DC (via bus base module)
Current draw	max. 60 mA
	typ. 40 mA

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. 240 mA
Protective circuit	Surge protection; electronic (35 V, 0.5 s)
	Reverse polarity protection; Polarity protection diode
	Transient protection; Suppressor diode

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Electrical isolation/isolation of the voltage ranges

Test voltage: 5 V supply of the local bus (U_{BUS}) / 24 V supply (I/Os)	500 V AC, 60 Hz, 1 min
Test voltage: 5 V supply of the local bus (U_{BUS}) / functional ground	500 V AC, 60 Hz, 1 min
Test voltage: 5 V supply of the local bus (U_{BUS}) / analog inputs	1500 V AC, 60 Hz, 1 min
Test voltage: 24 V supply (I/O) / functional ground	500 V AC, 60 Hz, 1 min
Test voltage: 24 V supply (I/O) / analog inputs	1500 V AC, 60 Hz, 1 min
Test voltage: Analog inputs / functional ground	500 V AC, 60 Hz, 1 min

Connection data

Connection technology

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 rigid	0.2 mm ² ... 1.5 mm ²
Conductor cross-section flexible	0.2 mm ² ... 1.5 mm ²
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 ² ... 1.5 mm ²
Conductor cross-section, flexible	0.2 mm ² ... 1.5 mm ²
Conductor cross-section AWG	24 ... 16
Stripping length	8 mm

Environmental and real-life conditions

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.)
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

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

ATEX

Identification	II 3G Ex ec IIC T4 Gc
Certificate	DEMKO 20 ATEX 2334X

IECEX

Identification	Ex ec IIC T4 Gc
Certificate	IECEX UL 20.0002X

UKCA Ex (UKEX)

Identification	II 3G Ex ec IIC T4 Gc
Certificate	PxCAI22UKEx1052427X

UL, USA/Canada

Identification	cULus
Certificate	E238705

UL Ex, USA / Canada

Identification	Class I, Division 2, Groups A, B, C, D, T4
	Class I, Zone 2, IIC T4
Certificate	E196811

CCC / China-Ex

Identification	Ex ec IIC T4 Gc
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Ex data

UL, USA / Canada	Class I, Div. 2, Groups A, B, C, D T4
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Mounting

Mounting type	DIN rail mounting
Mounting position	any (no temperature derating)

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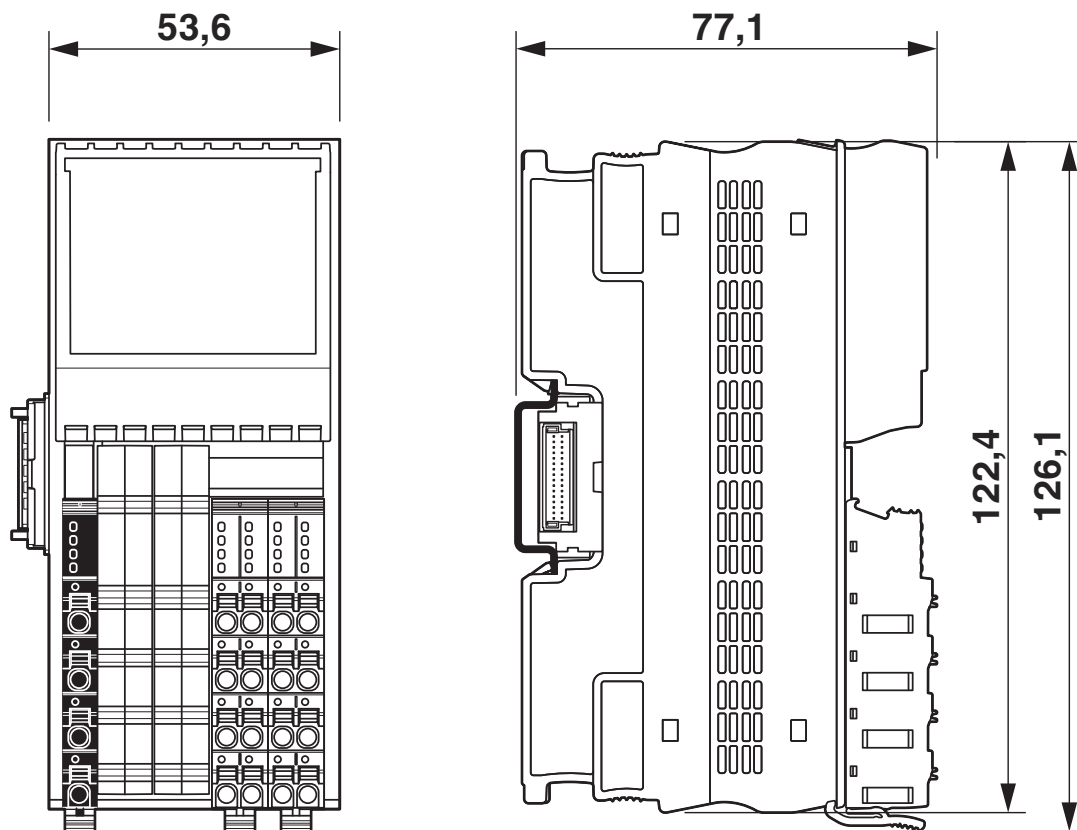
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Drawings

Dimensional drawing



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Approvals

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cULus Listed

Approval ID: E238705



IECEx

Approval ID: IECEx UL 20.0002X



cUL Listed

Approval ID: E196811



UL Listed

Approval ID: E196811



ATEX

Approval ID: DEMKO 20 ATEX 2334X

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Classifications

ECLASS

ECLASS-13.0	27242601
ECLASS-15.0	27242601

ETIM

ETIM 9.0	EC001596
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UNSPSC

UNSPSC 21.0	32151600
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Environmental product compliance

EU RoHS	
Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I
China RoHS	
Environment friendly use period (EFUP)	EFUP-25
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.
EU REACH SVHC	
REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)

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