

AXL F EX IS AI8 HART XC 1F - Analog module



1052432

<https://www.phoenixcontact.com/us/products/1052432>

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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, intrinsically safe, 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. As an intrinsic safety I/O module, this device allows direct connection from intrinsically safe field I/Os to the terminals of the module. 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
- Intrinsically safe analog inputs with connection to Zone 1, Zone 0 or Division 1
- 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	1052432
Packing unit	1 pc
Minimum order quantity	1 pc

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Sales key	DR02
Product key	DRI2E7
GTIN	4055626676715
Weight per piece (including packing)	398.7 g
Weight per piece (excluding packing)	380 g
Customs tariff number	85176200
Country of origin	US

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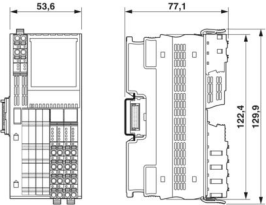


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Technical data

Dimensions

Dimensional drawing	
Width	53.6 mm
Height	129.9 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.

Material specifications

Color (Housing)	gray (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

Programming data (LocalbusSlave)	
Input address area	48 Byte
Output address area	0 Byte
Fieldbus data telegram (PROFIBUS)	
Required parameter data	27 Byte
Required configuration data	6 Byte

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Input data

Analog:

Input name	Active analog inputs
Description of the input	HART enabled, active analog input signals
Number of inputs	8 (HART)
A/D conversion time	500 µs
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)
A/D converter resolution	12 bit
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
	intrinsically safe
	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)

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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

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.

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)

Mechanical test

Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	5g
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	30g

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Continuous shock in accordance with EN 60068-2-27/IEC 60068-2-27	10g
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Standards and regulations

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

ATEX

Identification	II 3(1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIIC
Certificate	DEMKO 20 ATEX 2370X

IECEX

Identification	Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC
Certificate	IECEX UL 20.0044X

UKCA Ex (UKEX)

Identification	II 3(1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIIC
Certificate	UL22UKEX2508X

UL, USA/Canada

Identification	cULus
Certificate	E238705

UL Ex, USA / Canada

Identification	Class I, Division 2, Groups A, B, C, D, T4
	Intrinsically safe connections to: Class I, Groups A, B, C, D; Class II, Groups E, F, G; Class III; [Ex ia] Haz loc
	Class I, Zone 2, AEx ec [ia Ga] IIC T4 Gc
	[AEx ia Da] IIIC
	Ex ec [ia Ga] IIC T4 Gc
	[Ex ia Da] IIIC
Certificate	E196811

CCC / China-Ex

Identification	Ex ec [ia Ga] IIC T4 Gc
	[Ex ia Da] IIIC

Ex data

UL, USA / Canada	Ind. Cont. Eq. (E238705) also Listed Ind. Cont. Eq. for haz. loc. E196811 Install in: Class I, Div. 2, Groups A, B, C, D T4 Intrinsically safe outputs for: Class I, Groups A, B, C, D; Class II, Groups E, F, G; Class III; [Ex ia] Haz loc Class I, Zone 2, AEx ec [ia Ga] IIC T4 Gc [AEx ia Da] IIIC Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC
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Mounting

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

Ex data

Safety data

Max. output voltage U_o	24.8 V
Max. output current I_o	85.8 mA
Max. output power P_o	532 mW
Safety-related maximum voltage U_m	250 V
A, B / IIC: Max. external inductivity L_o / Max. external capacitance C_o	2.95 mH / 0.113 μ F
C/IIB, IIIC: Max. external inductivity L_o / Max. external capacitance C_o	18.95 mH / 0.86 μ F
D/IIA, E, F, G, Class III: Max. external inductivity L_o / Max. external capacitance C_o	30.95 mH / 3.05 μ F

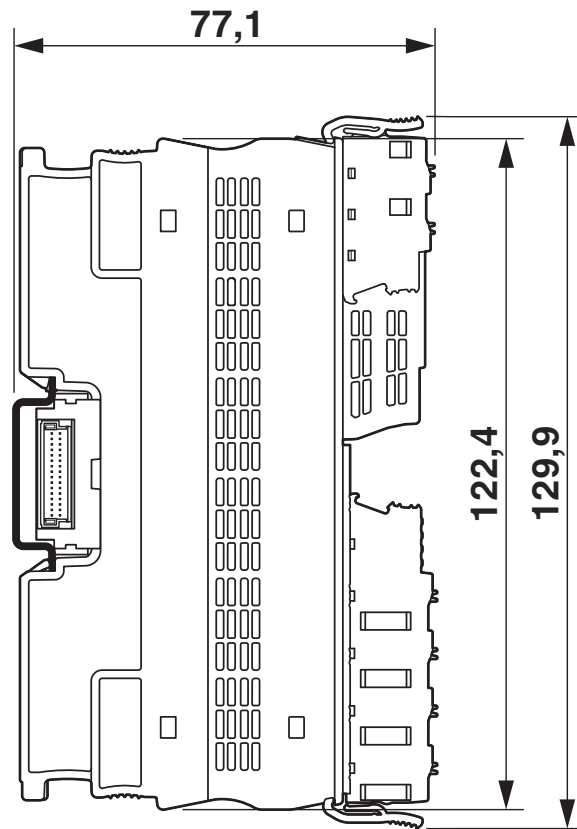
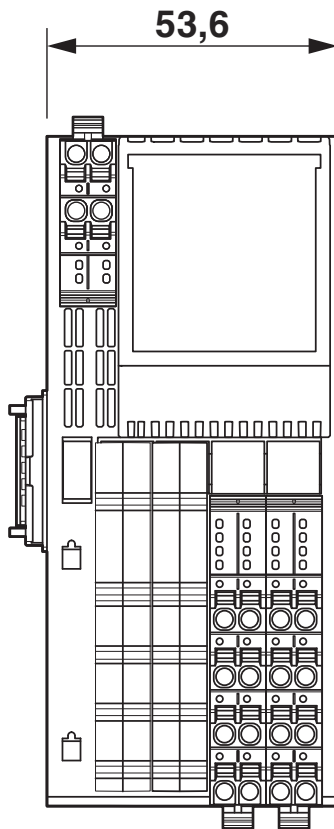
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Drawings

Dimensional drawing



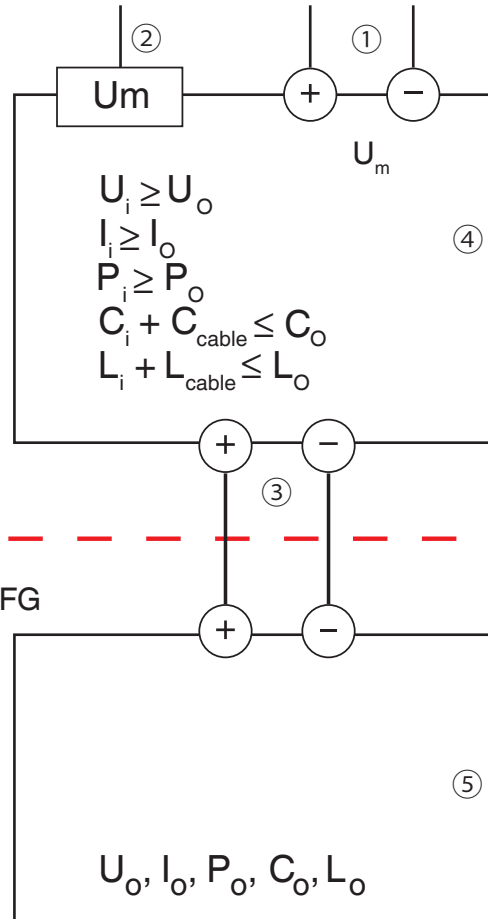
Dimensional drawing

Schematic diagram

Safe area

Class I, Division 2 , Groups ABCD, T4
 Class I, Zone 2, IIC, T4
 Zone 2, IIC, T4

Class I/II/III, Division 1, Groups ABCDEFG
 Class I, Zone 0, IIC
 Class II, Zone 20, IIIC
 Zone 0, IIC
 Zone 20, IIC



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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1052432>



cULus Listed

Approval ID: E238705



IECEX

Approval ID: IECEX UL 20.0044X



cUL Listed

Approval ID: FILE E196811



UL Listed

Approval ID: FILE E196811



ATEX

Approval ID: DEMKO 20 ATEX 2370X



CCC

Approval ID: 2021122316114727



UKCA-EX

Approval ID: UL22UKEX2508X

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Classifications

ECLASS

ECLASS-13.0	27242601
ECLASS-15.0	27242601

ETIM

ETIM 10.0	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)
SCIP	0f5c460a-add9-4fd4-9bc8-cffcdf461953

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