

AXL F AO4 HART XC 1F - Analog module



1087080

<https://www.phoenixcontact.com/us/products/1087080>

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Axioline F, Analog output module, Analog outputs: 4 (HART), 0 mA ... 20 mA, 4 mA ... 20 mA, connection technology: 2-conductor, transmission speed in the local bus: 100 Mbps, Extreme conditions version, 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 module allows the connection of up to four HART devices. The analog output I/O module with HART capabilities manages analog output and HART data to and from the field I/O terminals and makes this information available to the controller / bus coupler through the Axioline F local bus.

Your advantages

- 4 analog output-powered control signals for HART
- Current range: 4 mA ... 20 mA and 0 mA ... 20 mA
- Cyclic access to PV, SV, TV, QV, and Loop Current
- 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	1087080
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR02
Product key	DRI242
GTIN	4055626882246
Weight per piece (including packing)	354 g
Weight per piece (excluding packing)	226 g
Customs tariff number	85176200
Country of origin	US

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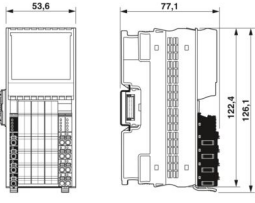


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Technical data

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	32 Byte (Firmware 1.00) 40 Byte (Firmware 1.02 or later)
Output address area	8 Byte
Required parameter data	16 Byte
Required configuration data	7 Byte

Output data

Analog:

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Output name	Analog outputs
Connection method	Push-in connection
Connection technology	2-conductor
Note regarding the connection technology	shielded, twisted pair
Number of outputs	4 (HART)
D/A converter resolution	12 bit
Protective circuit	Short-circuit and overload protection; electronic
Data formats	Inline, S7-compatible, standard formatting
Representation of output values	16 bits (15 bits + sign)
Process data update	1.9 ms (Analog output latency)
	400 ms (HART latency per channel)
Current output signal	0 mA ... 20 mA
	4 mA ... 20 mA
Load/output load current output	≤ 620 Ω (at 20 mA)
	≤ 470 Ω (at 23.5157 mA)

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

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	1.98 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. 150 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

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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 outputs	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 outputs	1500 V AC, 60 Hz, 1 min
Test voltage: Analog outputs/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)

Standards and regulations

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

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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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Mounting

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

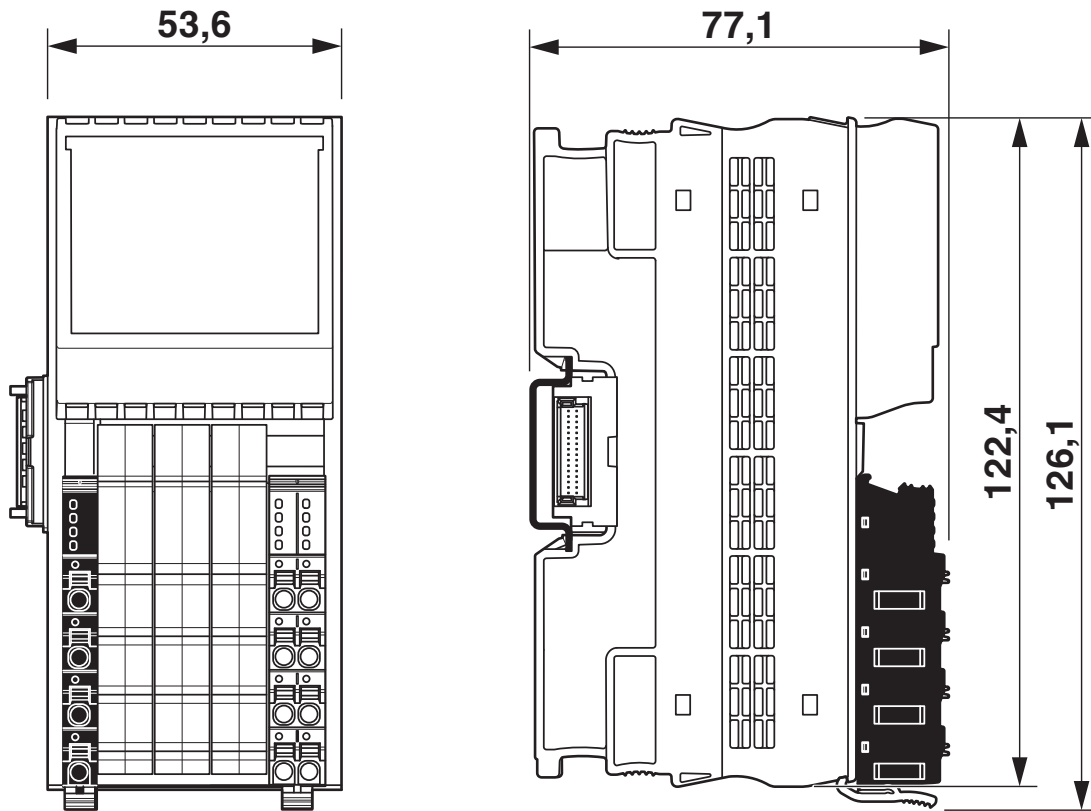
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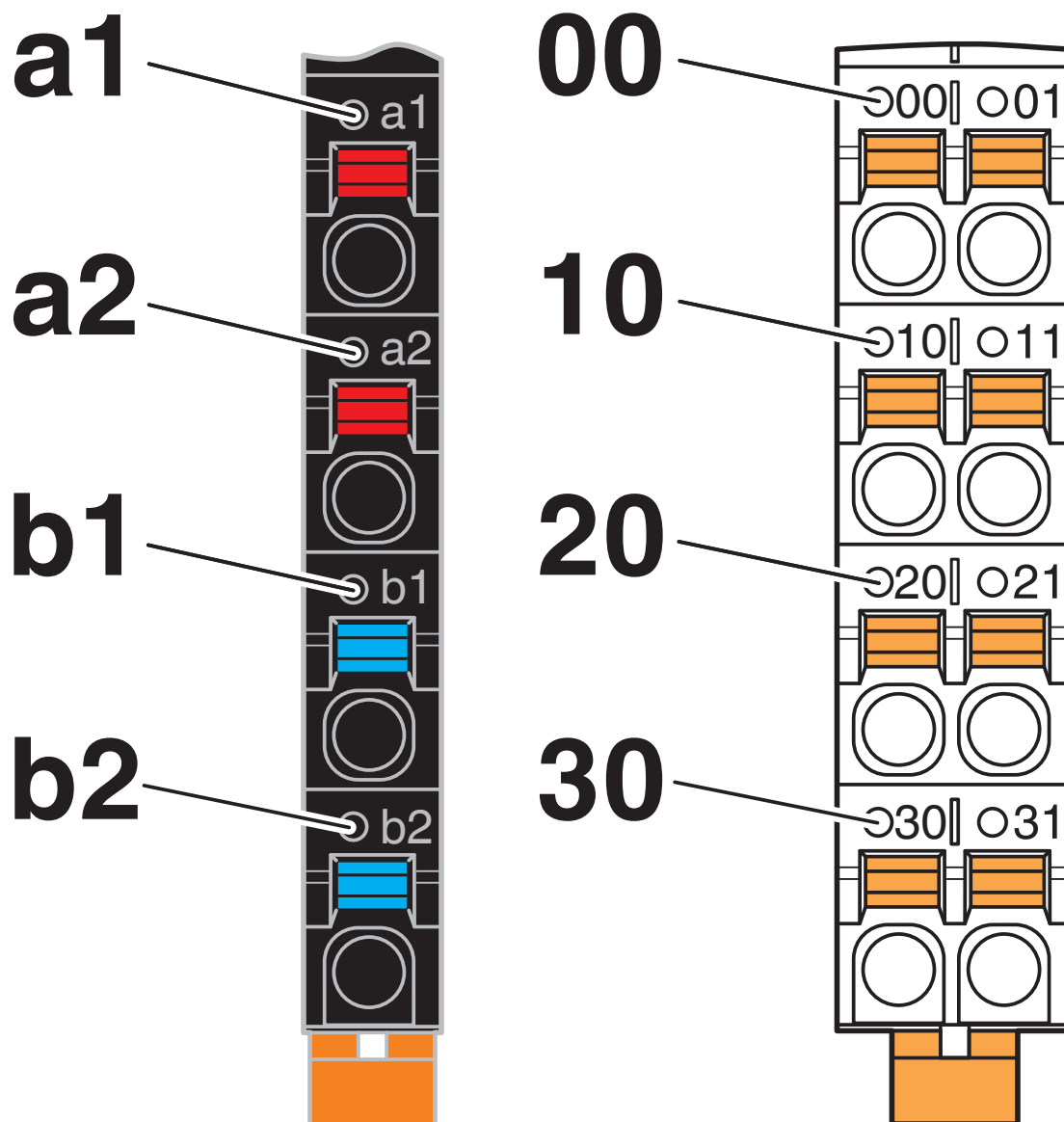
Drawings

Dimensional drawing



Dimensional drawing

Connection diagram



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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 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)
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Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com