

AXL P EX IS AI8 HART 1F - Analog module



1052431

<https://www.phoenixcontact.com/us/products/1052431>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



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

Product description

The module is an Axioline P I/O module for use in the Axioline P modular I/O system. The module is a modular I/O device that can be affixed to the Axioline P local bus, to communicate I/O data up to the Axioline P 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 bus coupler through the Axioline P local bus. The active analog input module allows the connection of up to eight HART enabled, passive analog input signals. The module is fully hot-swappable and may be removed while under power.

Your advantages

- Active analog input module
- Sources power for up to 8 HART enabled, passive analog input signals
- Connection of sensors in 2-conductor technology
- 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
- Temperature range: -40 °C ... +70 °C
- Hot-swappable

Commercial data

Item number	1052431
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR06
Product key	DRIP41
GTIN	4055626675947
Weight per piece (including packing)	383.3 g
Weight per piece (excluding packing)	261 g
Customs tariff number	85176200
Country of origin	US

AXL P EX IS AI8 HART 1F - Analog module

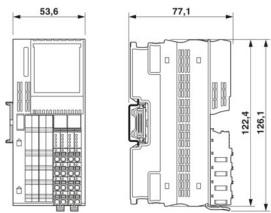


1052431

<https://www.phoenixcontact.com/us/products/1052431>

Technical data

Dimensions

Dimensional drawing	
Width	53.6 mm
Height	126.1 mm
Depth	77.14 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 P 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

Input data

Analog:	
Input name	Active analog inputs
Description of the input	HART enabled, active analog input signals
Number of inputs	8 (HART)

AXL P EX IS AI8 HART 1F - Analog module



1052431

<https://www.phoenixcontact.com/us/products/1052431>

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 P
Type	block modular
Mounting position	any (no temperature derating)
Scope of supply	including bus base module and Axioline P connectors
Special properties	HART functionality
	intrinsically safe

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	3.27 W
---	--------

Potentials: Supply voltage (U_L)

Supply voltage	24 V DC (via bus base module)
Supply voltage range	19.2 V DC ... 30 V DC
Current draw	max. 260 mA (via bus base module)
	typ. 191 mA (via bus base module)
Protective circuit	Surge protection; electronic (35 V, 0.5 s)
	Reverse polarity protection; Polarity protection diode
	Transient protection; Suppressor diode

Potentials: Axioline P local bus supply (U_{Bus})

Supply voltage	5 V DC (via bus base module)
Current draw	max. 135 mA
	typ. 110 mA

Electrical isolation/isolation of the voltage ranges

AXL P EX IS AI8 HART 1F - Analog module



1052431

<https://www.phoenixcontact.com/us/products/1052431>

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 P connector
Note on the connection method	Please observe the information provided on conductor cross-sections in the "Axioline P: 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 P connector

Connection method	Push-in connection
Note on the connection method	Please observe the information provided on conductor cross-sections in the "Axioline P: 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)	-40 °C ... 70 °C
Degree of protection	IP20
Air pressure (operation)	70 kPa ... 106 kPa (up to 2000 m above sea level)
Air pressure (storage/transport)	70 kPa ... 106 kPa (up to 2000 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)
------------------	---------------------------------------

Approvals

ATEX

AXL P EX IS AI8 HART 1F - Analog module



1052431

<https://www.phoenixcontact.com/us/products/1052431>

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
------------------	---

Mounting

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

Ex data

Safety data

Max. output voltage U_o	24.8 V
---------------------------	--------

AXL P EX IS AI8 HART 1F - Analog module



1052431

<https://www.phoenixcontact.com/us/products/1052431>

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

AXL P EX IS AI8 HART 1F - Analog module

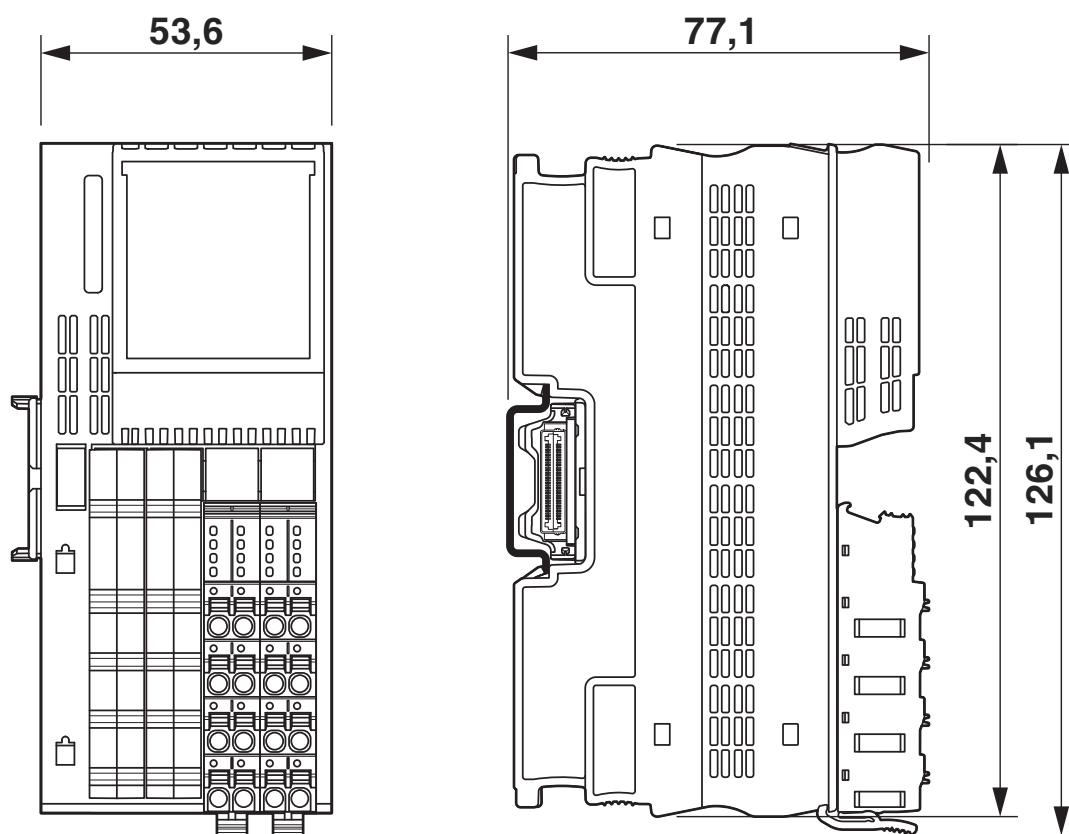


1052431

<https://www.phoenixcontact.com/us/products/1052431>

Drawings

Dimensional drawing



Dimensional drawing

AXL P EX IS AI8 HART 1F - Analog module



1052431

<https://www.phoenixcontact.com/us/products/1052431>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1052431>



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

AXL P EX IS AI8 HART 1F - Analog module



1052431

<https://www.phoenixcontact.com/us/products/1052431>

Classifications

ECLASS

ECLASS-13.0	27242601
ECLASS-15.0	27242601

ETIM

ETIM 9.0	EC001596
----------	----------

UNSPSC

UNSPSC 21.0	32151600
-------------	----------

AXL P EX IS AI8 HART 1F - Analog module



1052431

<https://www.phoenixcontact.com/us/products/1052431>

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	79cf53fa-2533-4add-9437-780c6ba56594

Phoenix Contact 2025 © - all rights reserved

<https://www.phoenixcontact.com>

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