chanhvinh.com

AXL F AI2 AO2 1H - Analog module

2702072

https://www.phoenixcontact.com/pc/products/2702072

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 F, Analog I/O module, Analog inputs: 2, 0 V ... 5 V, -5 V ... 5 V, 0 V ... 10 V, -10 V ... 10 V, 0 mA ... 20 mA, 4 mA ... 20 mA, -20 mA ... 20 mA, connection technology: 2-conductor, Analog outputs: 2, 0 V ... 5 V, -5 V ... 5 V, 0 V ... 10 V, -10 V ... 10 V, 0 mA ... 20 mA, 4 mA ... 20 mA, -20 mA ... 20 mA, connection technology: 2-conductor, 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 and output analog voltage and current signals.

Your advantages

- 2 analog differential input channels
- Connection of sensors in 2-conductor technology
- Current ranges: 0 mA ... 20 mA, 4 mA ... 20 mA, ±20 mA
- Voltage ranges: 0 V ... 10 V, ±10 V, 0 V ... 5 V, ±5 V
- 2 analog outputs
- Connection of actuators in 2-conductor technology
- Current ranges: 0 mA ... 20 mA, 4 mA ... 20 mA, ±20 mA
- Voltage ranges: 0 V ... 10 V, ±10 V, 0 V ... 5 V, ±5 V
- Process data update < 150 µs
- Device rating plate stored

Commercial data

Item number	2702072
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	DRI245
Catalog page	Page 84 (C-6-2019)
GTIN	4046356933124
Weight per piece (including packing)	196 g
Weight per piece (excluding packing)	190 g
Customs tariff number	85389091
Country of origin	DE

chanhvinh.com

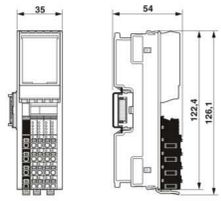
AXL F AI2 AO2 1H - Analog module

2702072

https://www.phoenixcontact.com/pc/products/2702072

Technical data

Dimensions

Dimensional drawing	
Width	35 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).

Notes

Note on application

Note on application	Only for industrial use

Interfaces

Axioline F local bus

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

System properties

Module

Input address area	4 Byte
Output address area	4 Byte
Required parameter data	11 Byte
Required configuration data	7 Byte

Input data

Analog: General

Input name	Analog inputs
Description of the input	Differential inputs, voltage or current can be chosen separately
Number of inputs	2
A/D conversion time	2 µs
A/D converter resolution	16 bit
Connection method	Push-in connection
Connection technology	2-conductor

chanhvinh.com

AXL F AI2 AO2 1H - Analog module

2702072

https://www.phoenixcontact.com/pc/products/2702072

Note regarding the connection technology	shielded, twisted pair
Current input signal	0 mA ... 20 mA
	4 mA ... 20 mA
	-20 mA ... 20 mA
Input resistance current input	104 Ω (typical)
Voltage input signal	0 V ... 5 V
	-5 V ... 5 V
	0 V ... 10 V
	-10 V ... 10 V
Input resistance of voltage input	268 kΩ (typical)
Data formats	IB IL, S7-compatible, standardized representation
Input filter	30 Hz, 12 kHz and mean value generation (can be parameterized)
Limit frequency (3 dB)	30 Hz
	12 kHz
Common mode voltage range signal - ground	-50 V DC ... 50 V DC
Measured value representation	16 bits (15 bits + sign bit)
Protective circuit	Transient protection of inputs; Suppressor diode
	Overload protection of the current inputs; No; ±5.2 V DC, maximum, I_{max} = 50 mA
	Overload protection of the voltage inputs; ±30 V DC, maximum

Output data

Analog:

Output name	Analog outputs
Connection method	Push-in connection
Connection technology	2-conductor
Note regarding the connection technology	shielded, twisted pair
Number of outputs	2
D/A converter resolution	16 bit
Protective circuit	Short-circuit and overload protection; electronic
	Transient protection; Suppressor diode
Data formats	IB IL, S7-compatible, standardized representation
Representation of output values	16 bits (15 bits + sign)
Process data update	150 µs
Current output signal	0 mA ... 20 mA
	4 mA ... 20 mA
	-20 mA ... 20 mA
Load/output load current output	≤ 500 Ω
Voltage output signal	0 V ... 5 V
	-5 V ... 5 V
	0 V ... 10 V
	-10 V ... 10 V
Load/output load voltage output	≥ 2 kΩ

chanhvinh.com

AXL F AI2 AO2 1H - Analog module

2702072

https://www.phoenixcontact.com/pc/products/2702072

Product properties

Product type	I/O component
Product family	Axioline F
Type	block modular
Mounting position	any (no temperature derating)
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

Maximum power dissipation for nominal condition	2.75 W

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

Supply voltage	5 V DC (via bus base module)
Current draw	max. 150 mA
	typ. 120 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. 80 mA (2 current channels, 24 mA output, 500 Ω load)
	typ. 40 mA
	max. 60 mA (2 voltage channels, 10 V output, 2 kΩ load)
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, 50 Hz, 1 min
Test voltage: 5 V supply of the local bus (U_{Bus}) / analog inputs and outputs	500 V AC, 50 Hz, 1 min
Test voltage: 5 V supply of the local bus (U_{Bus}) / functional ground	500 V AC, 50 Hz, 1 min
Test voltage: 24 V supply (I/O) / analog inputs and outputs	500 V AC, 50 Hz, 1 min
Test voltage: 24 V supply (I/O) / functional ground	500 V AC, 50 Hz, 1 min
Test voltage: Analog inputs and outputs/functional ground	500 V AC, 50 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.

chanhvinh.com

AXL F AI2 AO2 1H - Analog module

2702072

https://www.phoenixcontact.com/pc/products/2702072

Conductor connection

Connection method	Push-in connection
Conductor cross section rigid	0.2 mm² ... 1.5 mm²
Conductor cross section flexible	0.2 mm² ... 1.5 mm²
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 mm² ... 1.5 mm²
Conductor cross section, flexible	0.2 mm² ... 1.5 mm²
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)

Mounting

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

chanhvinh.com

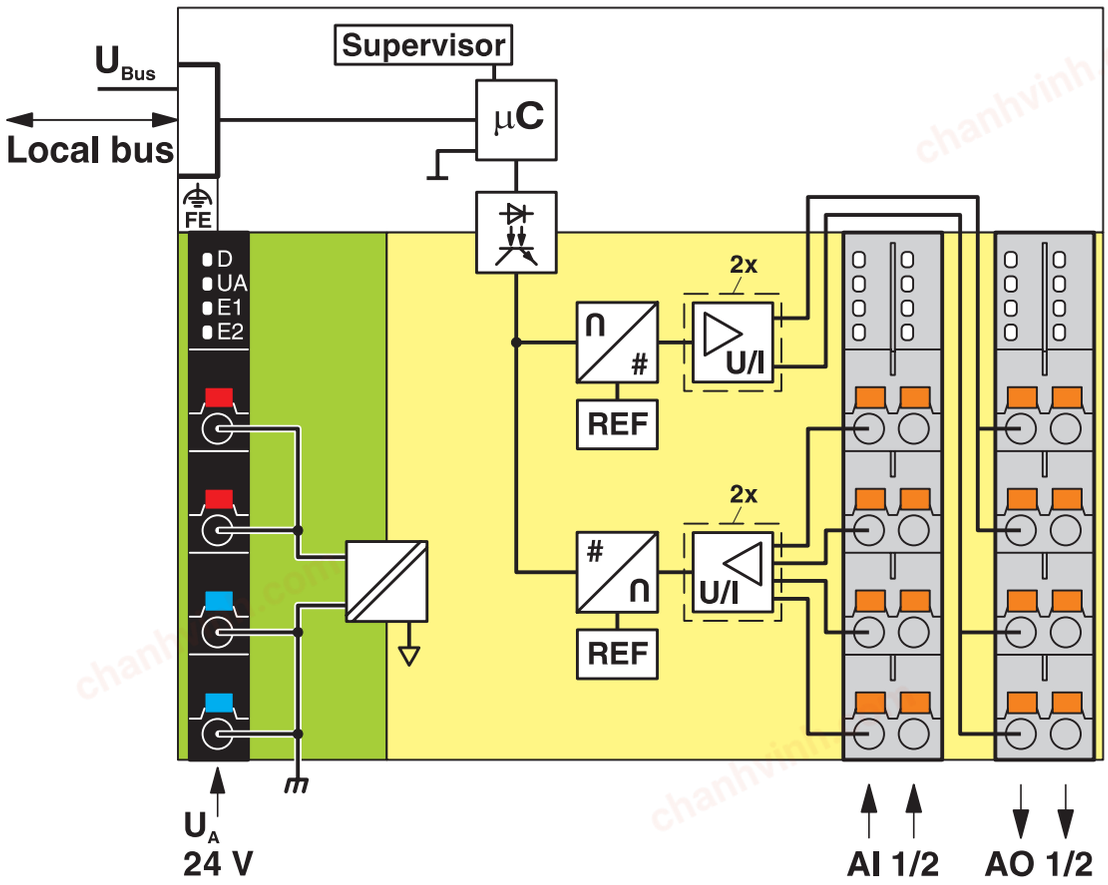
AXL F AI2 AO2 1H - Analog module

2702072

https://www.phoenixcontact.com/pc/products/2702072

Drawings

Block diagram



Internal wiring of the terminal points

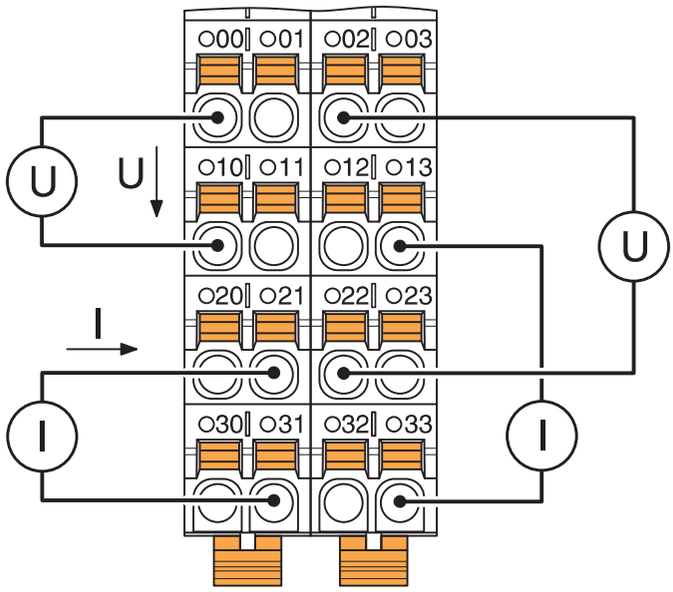
chanhvinh.com

AXL F AI2 AO2 1H - Analog module

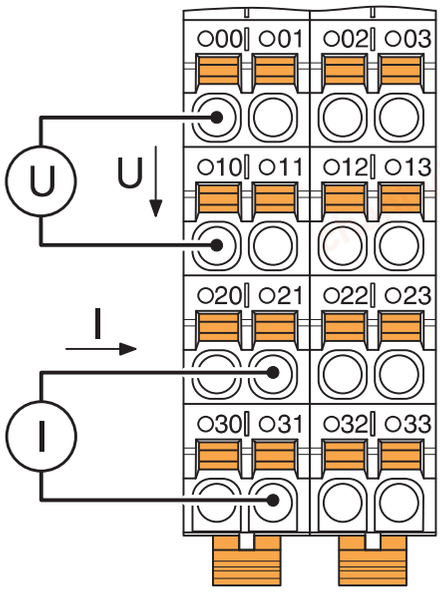
2702072

https://www.phoenixcontact.com/pc/products/2702072

Connection diagram



Connection diagram



Connection for voltage and current measurement

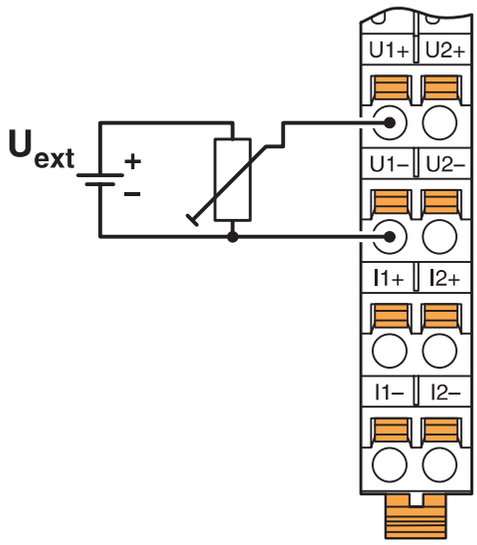
chanhvinh.com

AXL F AI2 AO2 1H - Analog module

2702072

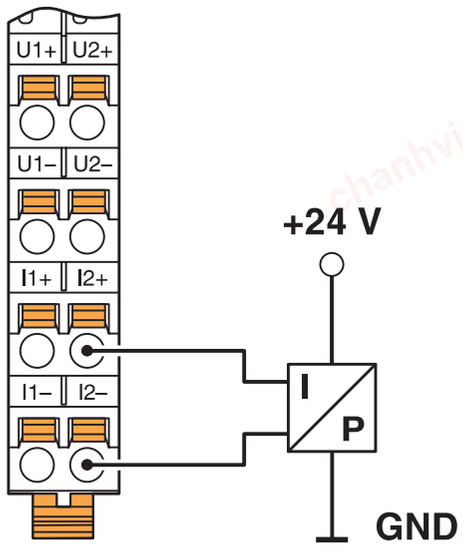
https://www.phoenixcontact.com/pc/products/2702072

Connection diagram



Connection of potentiometric position sensors

Connection diagram



Passive pressure sensor at a differential current input

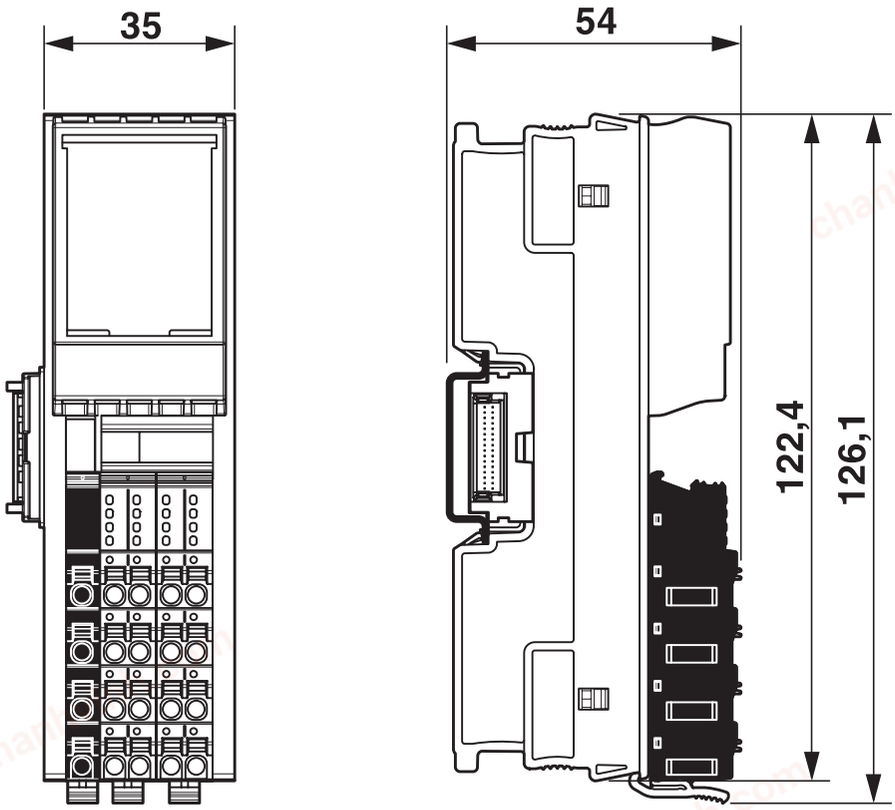
chanhvinh.com

AXL F AI2 AO2 1H - Analog module

2702072

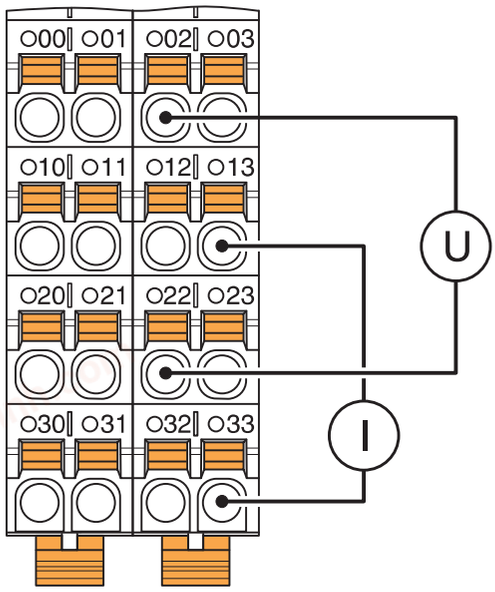
https://www.phoenixcontact.com/pc/products/2702072

Dimensional drawing



Dimensional drawing

Connection diagram



Connection for voltage and current output

chanhvinh.com

AXL F AI2 AO2 1H - Analog module

2702072

https://www.phoenixcontact.com/pc/products/2702072

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/pc/products/2702072

DNV GL
Approval ID: TAA00000DF

LR
Approval ID: LR2480202TA

NK
Approval ID: 14A006

BV
Approval ID: 36433/B4 BV

PRS
Approval ID: TE/1020/880590/21

BSH
Approval ID: 840

RINA
Approval ID: ELE008423XG

ABS
Approval ID: 23-2449604-PDA

UAE-RoHS
Approval ID: 23-02-63243

cULus Listed
Approval ID: E238705

chanhvinh.com

AXL F AI2 AO2 1H - Analog module

2702072

https://www.phoenixcontact.com/pc/products/2702072

Classifications

ECLASS

ECLASS-11.0	27242601
ECLASS-12.0	27242601
ECLASS-13.0	27242601

ETIM

ETIM 9.0	EC001596

UNSPSC

UNSPSC 21.0	32151600

chanhvinh.com

AXL F AI2 AO2 1H - Analog module

2702072

https://www.phoenixcontact.com/pc/products/2702072

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-E
	No hazardous substances above the limits

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	bb9d699e-7c8f-40f8-83cc-8b60bd21d354

Phoenix Contact 2025 © - all rights reserved
https://www.phoenixcontact.com

PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstraße 8
D-32825 Blomberg
+49 (0) 5235-3 00
info@phoenixcontact.com