

I/O module - AXL F AO4 XC 1H - 2702153

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Axioline F XC, Analog output module, Analog outputs: 4, 0 V ... 5 V, -5 V ... 5 V, 0 V ... 10 V, -10 V ... 10 V, 0 mA ... 20 mA, 4 mA ... 20 mA, connection method: 2-conductor, transmission speed in the local bus: 100 Mbps, Extreme conditions version, degree of protection: IP20, including bus base module and Axioline F connectors

The figure shows the standard item

Product Description

The module is designed for use within an Axioline F station.
It is used to output analog voltage and current signals.

Your advantages

- ✓ 4 analog output channels for the connection of either voltage or current signals
- ✓ Bipolar voltage outputs, unipolar current outputs
- ✓ Connection of actuators in 2-conductor technology
- ✓ Voltage ranges: 0 V ... 10 V, ± 10 V, 0 V ... 5 V, ± 5 V
- ✓ Current ranges: 0 mA ... 20 mA, 4 mA ... 20 mA
- ✓ Short-circuit-proof outputs
- ✓ No derating in all ranges
- ✓ Short signal rise times
- ✓ Driving of high loads
- ✓ Device rating plate stored
- ✓ 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)
- ✓ Partially coated PCBs



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 991315
GTIN	4046356991315

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Weight per Piece (excluding packing)	200.000 g
Custom tariff number	85389091
Country of origin	Germany

Technical data

Dimensions

Width	35 mm
Height	126.1 mm
Depth	54 mm
Note on dimensions	The depth is valid when a TH 35-7,5 DIN rail is used (according to EN 60715).

Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C (Standard, applications with UL approval, use in zone 2 potentially explosive area)
	-40 °C ... 70 °C (Extended, see section "Tested successfully: use under extreme ambient conditions" in the data sheet.)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % ... 95 % (non-condensing)
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)
Degree of protection	IP20

Connection data

Designation	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 solid min.	0.2 mm ²
Conductor cross section solid max.	1.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	1.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	16
Stripping length	8 mm

General

Mounting type	DIN rail
Color	traffic grey A RAL 7042
Net weight	199 g
Note on weight specifications	with connectors and bus base module
Degree of pollution	2 (IEC 60664-1, EN 60664-1)

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Technical data

General

Mounting position	any (no temperature derating)
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Interfaces

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

Axioline potentials

Designation	Axioline F local bus supply (U_{Bus})
Supply voltage	5 V DC (via bus base module)
Current consumption	typ. 120 mA
	max. 150 mA
Power consumption	typ. 0.6 W
	max. 0.75 W
Designation	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 consumption	typ. 60 mA (4 voltage channels, 10 V output)
	max. 85 mA (4 voltage channels, 10 V output)
	max. 110 mA (4 current channels, 20 mA output, 500 Ω load)
	max. 125 mA (4 current channels, 24 mA output, 500 Ω load)
Power consumption	max. 3 W
Protective circuit	Surge protection electronic (35 V, 0.5 s)
	Reverse polarity protection Polarity protection diode
	Transient protection Suppressor diode

Analog outputs

Number of outputs	4
Connection method	Push-in connection
Connection technology	2-conductor
Note regarding the connection technology	shielded, twisted pair
Output name	Analog outputs
D/A converter resolution	16 bit
Type of protection	Short-circuit and overload protection
	Transient protection
Protective circuit/component	electronic
	Suppressor diode
Data formats	IB IL, S7-compatible

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Technical data

Analog outputs

Representation of output values	16 bits (15 bits + sign)
Process data update	140 μ s
Current output signal	0 mA ... 20 mA
	4 mA ... 20 mA
Load/output load current output	$\leq 500 \Omega$
Voltage output signal	0 V ... 5 V
	-5 V ... 5 V
	0 V ... 10 V
	-10 V ... 10 V
Load/output load voltage output	$\geq 1 \text{ k}\Omega$
Precision	typ. 0.1 % (of output range final value)

Electrical isolation

Test section	5 V supply of the local bus (U_{BUS}) / 24 V supply (I/Os) 500 V AC 50 Hz 1 min.
	5 V supply of the local bus (U_{BUS})/analog outputs 500 V AC 50 Hz 1 min.
	5 V supply of the local bus (U_{BUS}) / functional ground 500 V AC 50 Hz 1 min.
	24 V supply (I/O)/analog outputs 500 V AC 50 Hz 1 min.
	24 V supply (I/O) / functional ground 500 V AC 50 Hz 1 min.
	Analog outputs/functional ground 500 V AC 50 Hz 1 min.

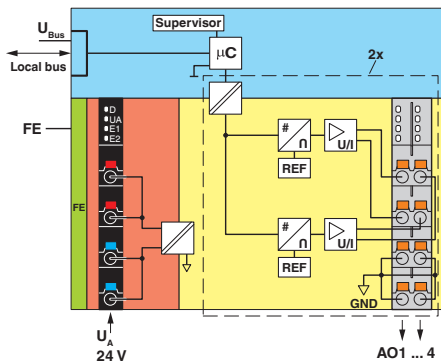
Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

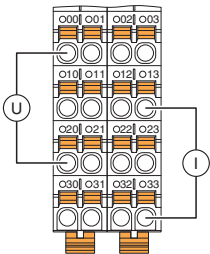
Drawings

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Block diagram



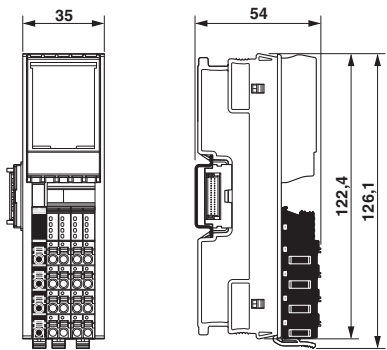
Connection diagram



Connection for voltage and current output

Internal wiring of the terminal points

Dimensional drawing



Classifications

eCl@ss

eCl@ss 10.0.1	27242601
eCl@ss 11.0	27242601
eCl@ss 5.1	27242600
eCl@ss 6.0	27242600
eCl@ss 7.0	27242601
eCl@ss 9.0	27242601

ETIM

ETIM 6.0	EC001596
ETIM 7.0	EC001596

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Classifications

UNSPSC

UNSPSC 13.2	32151602
UNSPSC 18.0	32151602
UNSPSC 19.0	32151602
UNSPSC 20.0	32151602
UNSPSC 21.0	32151602

Approvals

Approvals

Approvals

DNV GL / PRS / BV / LR / KR / NK / BSH / RINA / UL Listed / cUL Listed / cULus Listed

Ex Approvals

ATEX / cULus Listed / IECEx

Approval details

DNV GL		https://approvalfinder.dnvgl.com/	TAA00000DF
PRS		http://www.prs.pl/	TE/1117/880590/20
BV		http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials	36433/B2 BV
LR		http://www.lr.org/en	LR2001902TA
KR		http://www.krs.co.kr/eng/main/main.aspx	HMB17372-AC002

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Approvals

NK	ClassNK	http://www.classnk.or.jp/hp/en/	14A006
BSH			840
RINA		http://www.rina.org/en	ELE030120XG
UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
cULus Listed			

Accessories

Accessories

Device marking

Insert label - EMT (35X28)R - 0801602



Insert label, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, THERMOMARK ROLL X1, THERMOMARK ROLL 2.0, THERMOMARK ROLL, mounting type: snapped into marker carrier, lettering field size: 35 x 28 mm, Number of individual labels: 500

DIN rail connector

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Accessories

Bus connector - AXL F BS H - 2700992



Axioline F bus base module for housing type H

Shield connection

Shield connection - AXL SHIELD SET - 2700518



Axioline shield connection set (contains 2 shield bus holders and 2 SK 5 shield connection clamps)

Terminal marking

Zack marker strip - ZB 20,3 AXL UNPRINTED - 0829579



Zack marker strip for Axioline F (device labeling), in 2 x 20.3 mm pitch, unprinted, 25-section, for individual labeling with B-STIFT 0.8, X-PEN, or CMS-P1-PLOTTER

Zack Marker strip, flat - ZBF 10/5,8 AXL UNPRINTED - 0829580



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into flat marker groove, for terminal block width: 10.15 mm, lettering field size: 4 of 10.15 x 5 mm and 1 of 5.8 x 5 mm, Number of individual labels: 50