

I/O module - AXL F AO8 XC 1F - 2701237

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Axioline F XC, Analog output module, Analog outputs: 8, 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 method: 2-wire, 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

- 8 analog, bipolar output channels for the connection of either voltage or current signals
- Connection of actuators in 2-wire 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, ±20 mA
- Short-circuit-proof outputs
- 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 729857
GTIN	4046356729857

Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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Dimensions

Width	53.6 mm
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Dimensions

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)
	-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

General

Mounting type	DIN rail
Color	traffic grey A RAL 7042
Net weight	260 g
Note on weight specifications	with connectors and bus base module
Mounting position	any (no temperature derating)

Interfaces

Designation	Axiline F local bus
No. of channels	2
Connection method	Bus base module
Transmission speed	100 Mbps

Axiline potentials

Designation	Axiline F local bus supply (U_{Bus})
Supply voltage	5 V DC (via bus base module)
Current consumption	typ. 105 mA
	max. 130 mA
Power consumption	typ. 0.525 W
	max. 0.65 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. 110 mA (8 voltage channels, 10 V output)
	max. 235 mA (8 current channels, 20 mA output)
Power consumption	max. 5.64 W (8 current channels, 20 mA output)
Protective circuit	Surge protection electronic (35 V, 0.5 s)

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Axioline potentials

	Reverse polarity protection up to HW 01: polarity protection diodes of HW 02: parallel diode; with external 5 A fuse (for startup only)
	Transient protection Suppressor diode
Power consumption	typ. 1.725 W (to U_{BUS} and U_A ; power input; no load, output 0 V)
	max. 6.29 W (to U_{BUS} and U_A ; 8 current channels, output 20 mA)

Analog outputs

Number of outputs	8
Connection method	Push-in connection
Connection technology	2-wire
Note regarding the connection technology	shielded, twisted pair
Output name	Analog outputs
D/A conversion time	5 μ s
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
Representation of output values	16 bits (15 bits + sign)
Process data update	300 μ s
Current output signal	0 mA ... 20 mA
	4 mA ... 20 mA
	-20 mA ... 20 mA
Load/output load current output	to 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 k Ω
Precision	typ. 0.1 % (of output range final value)
Permissible cable length	max. 250 m (Reference cable type LiYCY (TP) n*2*0.5 mm ²)

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 (logic)/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.

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Standards and Regulations

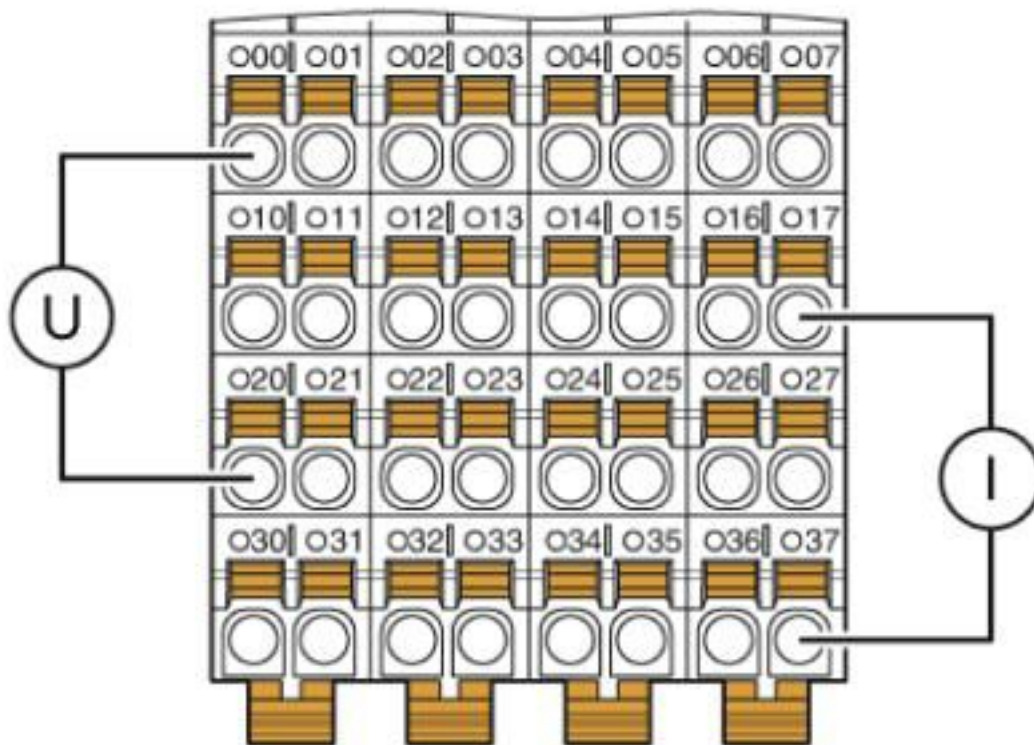
Mechanical tests	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6 5g
	Shock in acc. with EN 60068-2-27/IEC 60068-2-27 30g
	Continuous shock according to EN 60068-2-27/IEC 60068-2-27 10g
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)

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

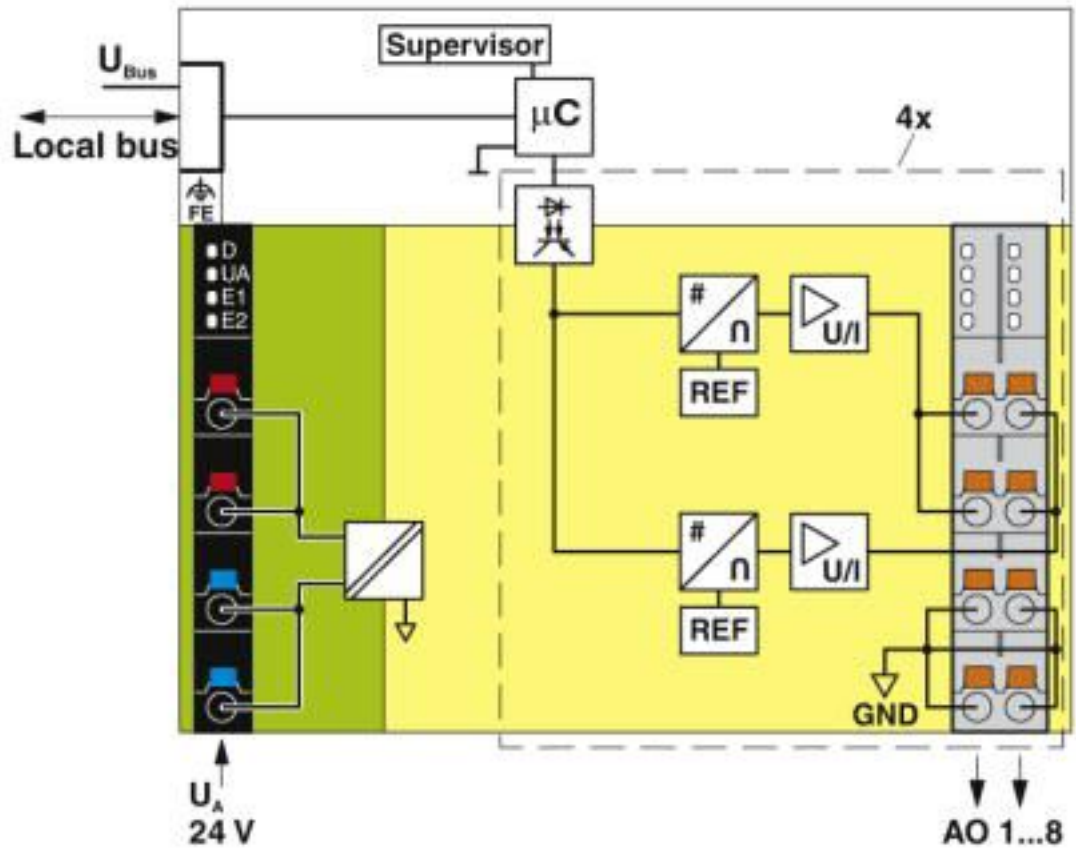
Connection diagram



Connection for voltage and current output

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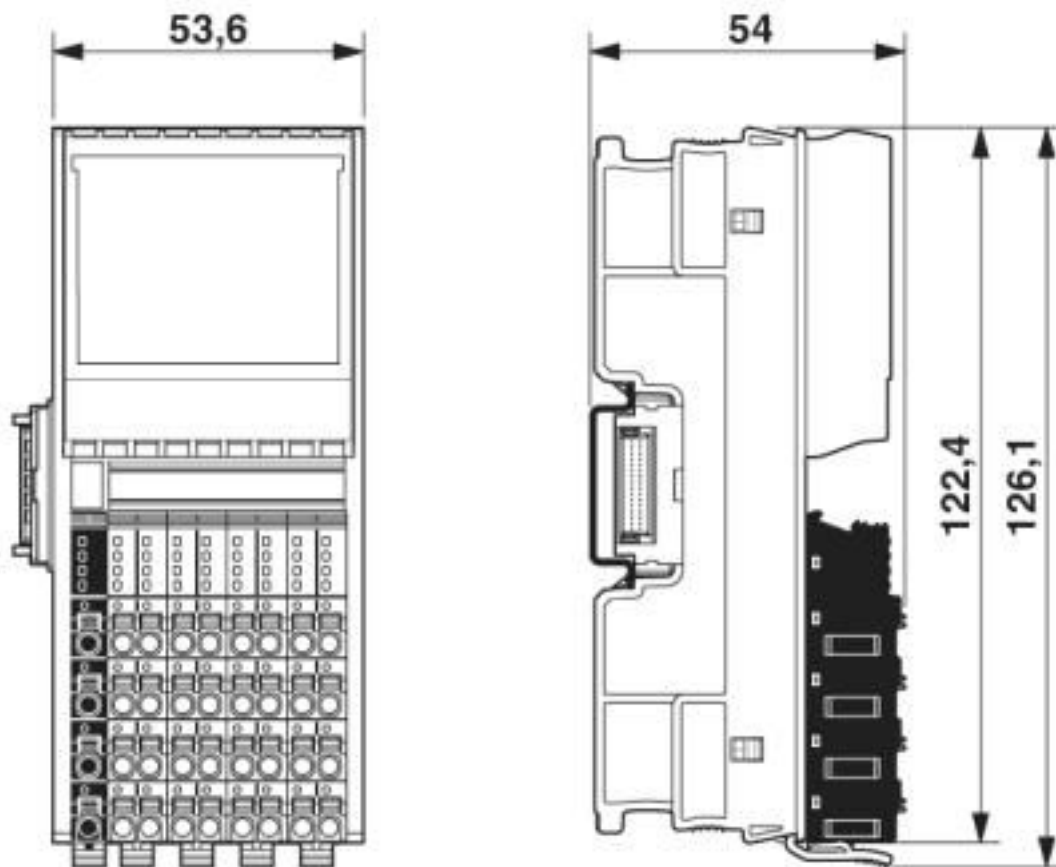
Block diagram



Internal wiring of the terminal points

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Dimensional drawing



Classifications

eCl@ss

eCl@ss 10.0.1	27242601
eCl@ss 4.0	27240400
eCl@ss 4.1	27240400
eCl@ss 5.0	27242200
eCl@ss 5.1	27242600
eCl@ss 6.0	27242600
eCl@ss 7.0	27242601
eCl@ss 8.0	27242601
eCl@ss 9.0	27242601

ETIM

ETIM 3.0	EC001599
ETIM 4.0	EC001435
ETIM 5.0	EC001596
ETIM 6.0	EC001596
ETIM 7.0	EC001596

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Classifications

UNSPSC

UNSPSC 6.01	43172015
UNSPSC 7.0901	43201404
UNSPSC 11	39121311
UNSPSC 12.01	39121311
UNSPSC 13.2	32151602
UNSPSC 18.0	32151602
UNSPSC 19.0	32151602
UNSPSC 20.0	32151602
UNSPSC 21.0	32151602

Approvals

Approvals

Approvals

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

Ex Approvals

Approval details

PRS		http://www.prs.pl/	TE/2239/880590/19
BV		http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials	36433/B1 BV
LR		http://www.lr.org/en	LR2001902TA
KR		http://www.krs.co.kr/eng/main/main.aspx	HMB17372-AC002
NK		http://www.classnk.or.jp/hp/en/	14A006

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Approvals

BSH			840
DNV GL		https://approvalfinder.dnvgl.com/	TAA00000DF
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 (35X46)R - 0801604



Insert label, for the Axioline F series from Phoenix Contact, 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 46 mm, Number of individual labels: 500

DIN rail connector

Bus connector - AXL F BS F - 2688129



Axioline F bus base module for housing type F

Shield connection

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Accessories

Shield connection - AXL SHIELD SET - 2700518



Axiole 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 Axiole 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

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