

AXL F AO8 1F - Analog module



2688080

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Axioline F, 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 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 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-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, ± 20 mA
- Short-circuit-proof outputs
- Device rating plate stored
- Safe analog value processing with SAFE AI and other components

Commercial data

Item number	2688080
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	DRI242
Catalog page	Page 85 (C-6-2019)
GTIN	4046356501446
Weight per piece (including packing)	278.22 g
Weight per piece (excluding packing)	260 g
Customs tariff number	85389091
Country of origin	DE

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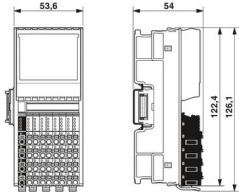
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Technical data

Dimensions

Dimensional drawing	
Width	53.6 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).

Interfaces

Axioline F local bus

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

System properties

Module

Input address area	16 Byte
Output address area	16 Byte
Required parameter data	27 Byte
Required configuration data	7 Byte

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	8
D/A conversion time	5 µs
D/A converter resolution	16 bit
Protective circuit	Short-circuit and overload protection; electronic Transient protection; Suppressor diode
Data formats	IB IL, S7-compatible
Representation of output values	16 bits (15 bits + sign)
Process data update	300 µs

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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
Permissible cable length	max. 250 m (Reference cable type LiYCY (TP) n*2*0.5 mm ²)

Product properties

Type	block modular
Product type	I/O component
Product family	Axioline F
Mounting position	any (observe 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

Potentials

Power consumption	typ. 1.725 W (To U_{Bus} and U_A , intrinsic power input, no load, output 0 V, up to HW 04)
	typ. 1.4 W (To U_{Bus} and U_A , intrinsic power input, no load, output 0 V, as of HW 05)
	max. 6.29 W (To U_{Bus} and U_A , 8 current channels, output 20 mA, up to HW 04)
	max. 5.88 W (To U_{Bus} and U_A , 8 current channels, output 20 mA, as of HW 05)

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

Supply voltage	5 V DC (via bus base module)
Current draw	max. 130 mA (up to HW 04)
	max. 50 mA (from HW 05)
	typ. 105 mA (up to HW 04)
	typ. 40 mA (from HW 05)
Power consumption	max. 0.65 W (up to HW 04)
	max. 0.25 W (from HW 05)
	typ. 0.525 W (up to HW 04)
	typ. 0.2 W (from HW 05)

Potentials: Supply for analog modules (U_A)

Supply voltage	24 V DC
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Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current draw	max. 235 mA (8 current channels, 20 mA output)
	typ. 110 mA (8 voltage channels, 10 V output)
Power consumption	max. 5.64 W (8 current channels, 20 mA output)
Protective circuit	Surge protection; electronic (35 V, 0.5 s)
	Reverse polarity protection; up to HW 03: polarity protection diode from HW 04: parallel diode; with external 5 A fuse (for startup only)
	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 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 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 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.

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 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
Degree of protection	IP20

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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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Mounting

Mounting type	DIN rail mounting
Mounting position	any (observe temperature derating)

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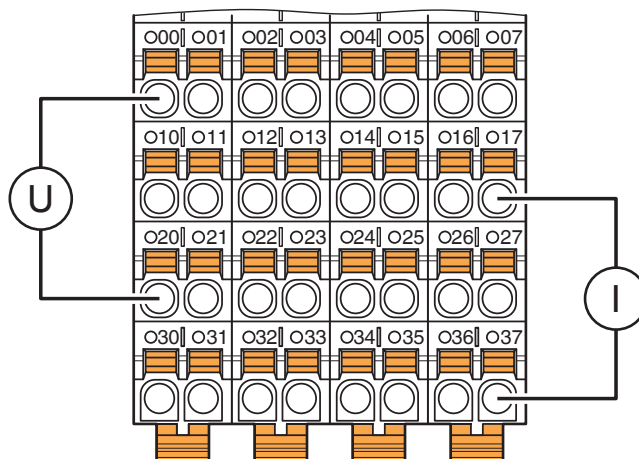
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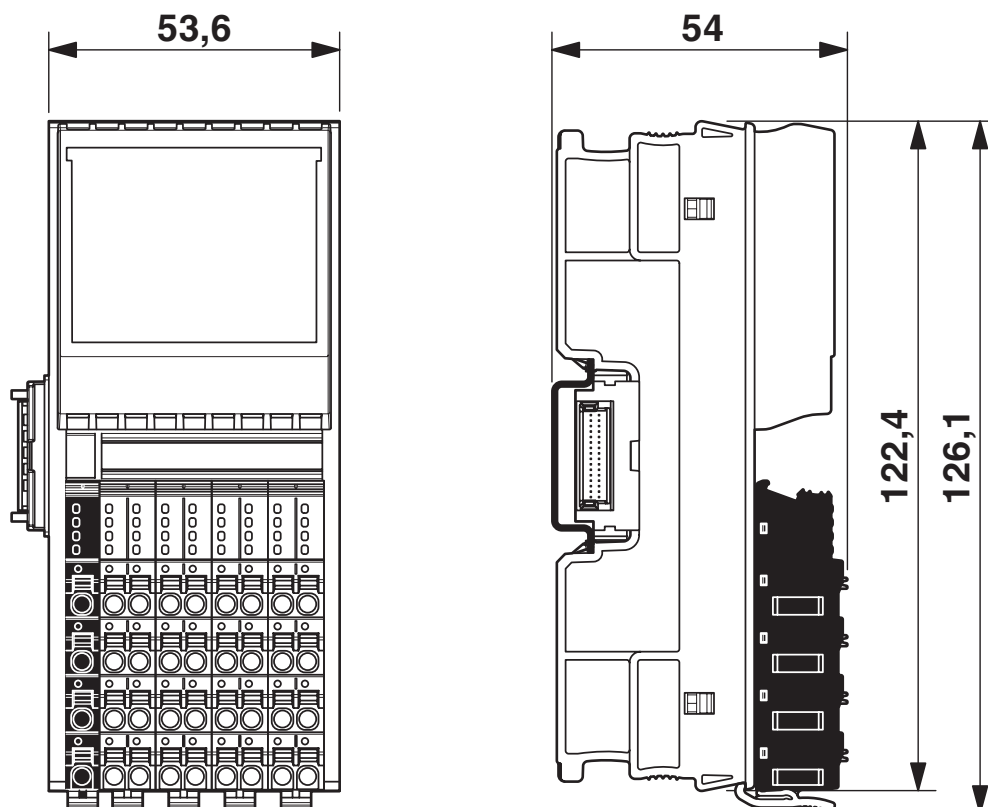
Drawings

Connection diagram



Connection for voltage and current output

Dimensional drawing



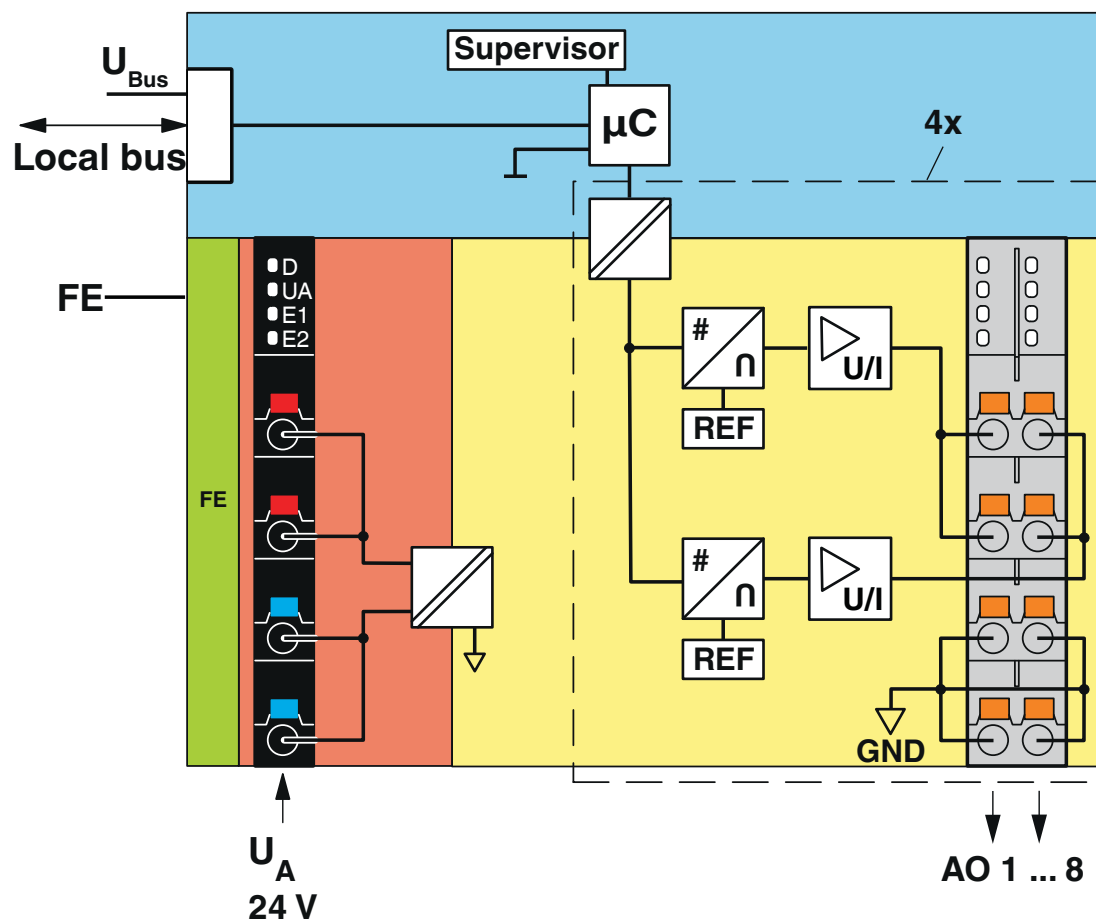
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Block diagram



Internal wiring of the terminal points

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Approvals

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DNV GL

Approval ID: TAA00000DF



LR

Approval ID: LR2001902TA-08



BV

Approval ID: 36433/B4 BV



PRS

Approval ID: TE/1020/880590/21



UL Listed

Approval ID: FILE E 238705



cUL Listed

Approval ID: FILE E 238705

BSH

Approval ID: 840



RINA

Approval ID: ELE008423XG

ABS

Approval ID: 23-2449604-PDA



Functional Safety

Approval ID: 968/EL 916.03/17



EAC

Approval ID: TR_TS_D_01831-19

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UAE-RoHS

Approval ID: 23-02-63242

cULus Listed

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Classifications

ECLASS

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

ETIM

ETIM 9.0	EC001596
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UNSPSC

UNSPSC 21.0	32151600
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Environmental product compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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