

AXL F SSI1 AO1 1H - Function module



2688433

<https://www.phoenixcontact.com/us/products/2688433>

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Axioline F function module, 1 SSI interface for absolute encoder, 1 analog output: 0 - 10 V, ± 10 V, 0 - 5 V, ± 5 V, 0 - 20 mA, 4 - 20 mA, ± 20 mA, 2-conductor connection technology (including bus base module and connectors)

Product description

The module is designed for use within an Axioline F station. It is used to acquire data from absolute encoders with SSI interface with a maximum resolution of up to 56 bits. The module supports encoders with gray and binary code. Transmission speeds of up to 2 MHz are supported. In addition, the module has an analog output which allows for specifying setpoints, e.g., for electrical and hydraulic drives.

Your advantages

- Permanent surge protection against 24 V DC for all interfaces
- Permanent short-circuit protection for all interfaces
- 1 SSI interface
- Monitoring of the 24 V encoder supply
- Supports transmission speeds from 62.5 kHz to 2 MHz for SSI
- 8 bit ... 56 bit resolution
- Supports Gray and binary code
- 1 analog, bipolar output channel 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
- Device rating plate stored

Commercial data

Item number	2688433
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR02
Product key	DRI261
GTIN	4046356644952
Weight per piece (including packing)	182.2 g
Weight per piece (excluding packing)	135 g
Customs tariff number	85389091
Country of origin	DE

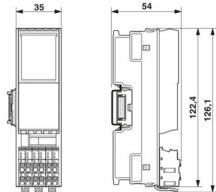
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Technical data

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
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Material specifications

Color (Housing)	gray (RAL 7042)
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Interfaces

Axioline F local bus

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

System properties

Programming data (LocalbusSlave)

Input address area	12 Byte
Output address area	12 Byte

Fieldbus data telegram

Required parameter data	29 Byte
Required configuration data	7 Byte

Input data

Encoder

Number of inputs	1
Input name	SSI interface
Description of the input	RS-422 interface in accordance with SSI specification

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Encoder signals	Single-turn and multi-turn encoder, length measuring sticks
Input frequency	to 2 MHz (Can be parameterized: 62.5 kHz, 125 kHz (default), 250 kHz, 500 kHz, 1 MHz, 2 MHz)
Parity	Even, odd or no parity
Transmission frequency	2.00 MHz
Adjustable resolution	8 ... 56 bit
Encoder supply voltage	24 V DC ($U_1 - 0.5$ V)

Output data

Analog:

Output name	Analog outputs
Connection method	Push-in connection
Connection technology	2-conductor (shielded, twisted pair)
Number of outputs	1
D/A conversion time	5 μ s
D/A converter resolution	16 bit
Protective circuit	Surge protection; Electronic (35 V, permanent) Short-circuit and overload protection; electronic Transient protection; Suppressor diode
Data formats	IB IL, S7-compatible, standardized representation
Measured value representation	16 bits
Representation of output values	16 bits (15 bits + sign)
Current output signal	0 mA ... 20 mA 4 mA ... 20 mA -20 mA ... 20 mA
Load/output load current output	max. 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

Product properties

Product type	I/O component
Product family	Axioline F
Type	block modular
Mounting position	any (no temperature derating)
Scope of supply	including bus base module and Axioline F connectors
Special properties	Analog output: 1

Insulation characteristics

Overvoltage category	II (IEC 60664-1, EN 60664-1)
Pollution degree	2 (IEC 60664-1, EN 60664-1)

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Electrical properties

Maximum power dissipation for nominal condition	2.15 W
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Encoder

Nominal output voltage	24 V DC ($U_1 - 0.5$ V)
Voltage range	19.5 V DC ... 30 V DC (including all tolerances, including ripple)
Current carrying capacity	max. 500 mA
Protective circuit	Surge protection; electronic (35 V, 0.5 s)
	Short-circuit/overload protection; electronic
	Transient protection; Shielding

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

Supply voltage	5 V DC (via bus base module)
Current draw	max. 140 mA

Potentials: Feed-in of supply voltage (U_1)

Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current draw	max. 60 mA (Supply of the SSI interface and the analog output (20 mA), without sensor supply)
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: Logic	500 V AC, 50 Hz, 1 min
Test voltage: SSI I/O (24 V supply)	500 V AC, 50 Hz, 1 min
Test voltage: Functional ground	500 V AC, 50 Hz, 1 min
Test voltage: Analog I/O	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.

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

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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)

Mechanical test

Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	5g
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	30g
Continuous shock in accordance with EN 60068-2-27/IEC 60068-2-27	10g

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 (no temperature derating)

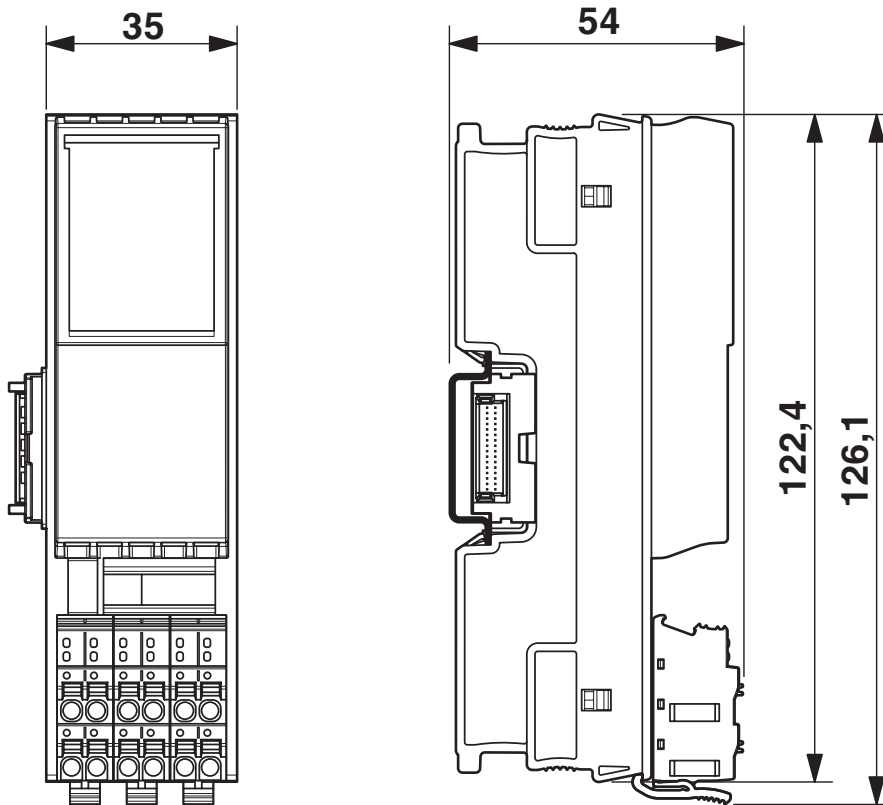
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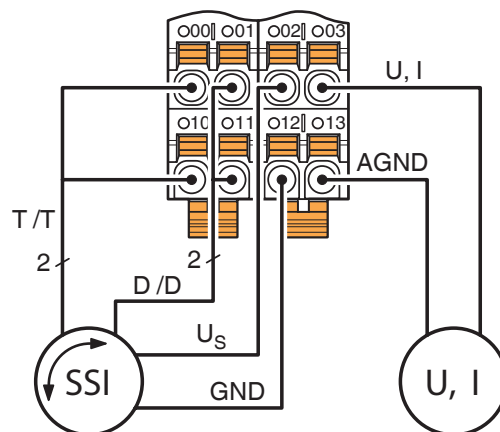
Drawings

Dimensional drawing



Dimensions (in mm)

Connection diagram



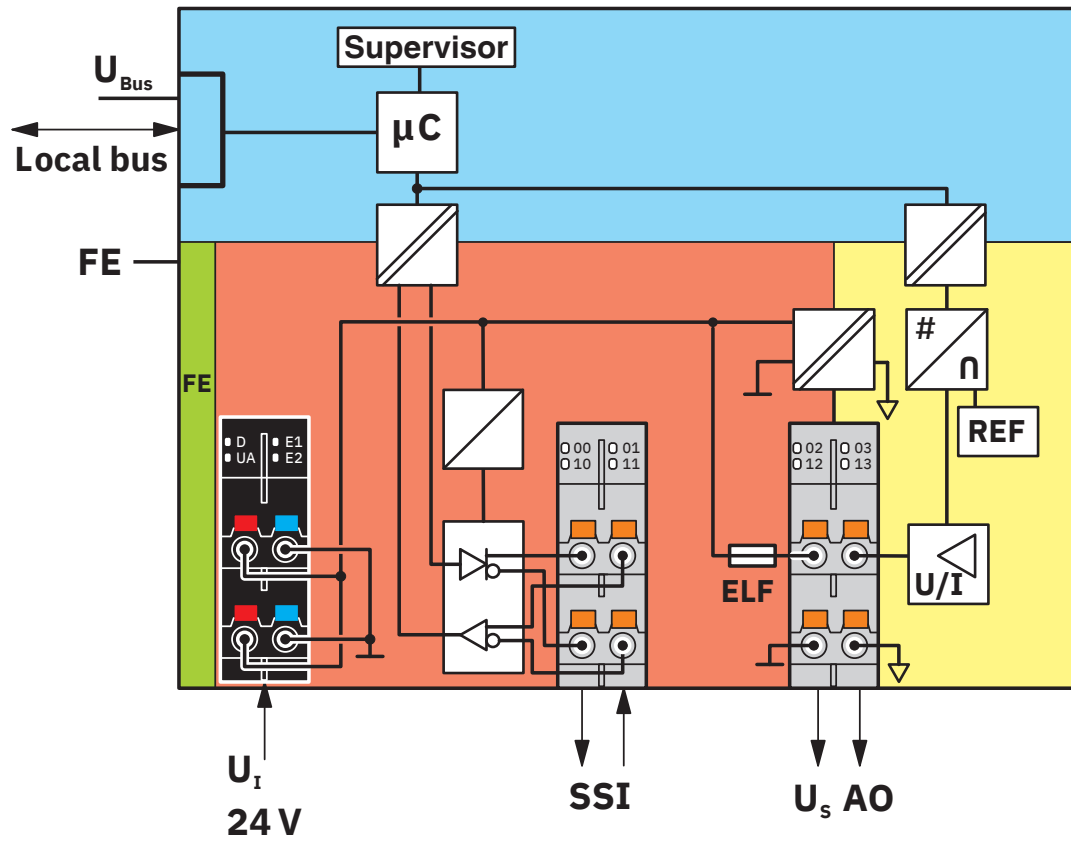
Example connection of an SSI sensor and an analog actuator for current or voltage

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Block diagram



Internal wiring of the terminal points

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Approvals

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cULus Listed

Approval ID: E238705

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Classifications

ECLASS

ECLASS-13.0	27242605
ECLASS-15.0	27242605

ETIM

ETIM 10.0	EC001601
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UNSPSC

UNSPSC 21.0	32151600
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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-50
	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)
	6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol(CAS: 119-47-1)
SCIP	a27cddd-6a84-45b2-8822-7a9bf5cd1847

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