

Special function module - AXL F SSI1 AO1 1H - 2688433

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Axioline F special 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-wire connection method (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.

Why buy this product

- ✓ Permanent surge protection against 24 V DC for all interfaces
- ✓ Permanent short-circuit protection for all interfaces
- ✓ Device rating plate stored
- ✓ Diagnostic and status indicators
- ✓ 1 SSI interface
- ✓ Monitoring of the 24 V encoder supply
- ✓ Supports transmission speeds from 62.5 kHz to 2 MHz for SSI
- ✓ 8-bit to 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-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

RoHS

Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 644952

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GTIN	4046356644952
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
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
Net weight	135 g
Note on weight specifications	with connectors and bus base module

Interfaces

Designation	Axioline F local bus
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Technical data

Interfaces

No. of channels	2
Connection method	Bus base module
Transmission speed	100 Mbps

Axioline potentials

Designation	Supply of the Axioline F local bus (U_{Bus})
Supply voltage	5 V DC (via bus base module)
Current consumption	max. 140 mA
Power consumption	max. 0.7 W
Designation	Supply voltage input U_i
Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC including all tolerances, including ripple
Current consumption	max. 60 mA (Supply of the SSI interface and the analog output (20 mA), without sensor supply)
Power consumption	max. 1.4 W (Supply of the SSI interface and the analog output (20 mA), without sensor supply)
Type of protection	Surge protection of the supply voltage
	Polarity reversal protection of the supply voltage
	Transient protection

Encoder inputs

Input name	SSI interface
Description of the input	RS-422 interface according to SSI specification
Number of inputs	1
Connection method	Push-in connection
Encoder signals	Single-turn and multi-turn encoder, length measuring sticks
Input frequency	to 2 MHz (Can be parameterized: 67.5 kHz, 125 kHz (default), 250 kHz, 500 kHz, 1 MHz, 2 MHz)
Parity	Even, odd or no parity
Transmission frequency	2 MHz
Adjustable resolution	8 ... 56 bit
Encoder supply voltage	24 V DC ($U_i - 0.5$ V)

Encoder data

Nominal output voltage	24 V DC ($U_i - 0.5$ V)
Voltage range	19.5 V DC ... 30 V DC (including all tolerances, including ripple)
Current carrying capacity	max. 500 mA
Type of protection	Surge protection
	Short-circuit/overload protection
	Transient protection

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Technical data

Analog outputs

Number of outputs	1
Connection method	Push-in connection
Connection technology	2-wire (shielded, twisted pair)
Output name	Analog outputs
D/A conversion time	5 µs
D/A resolution	16 bit
Type of protection	Surge protection
	Short-circuit and overload protection
	Transient protection
Protective circuit/component	Electronic (35 V, permanent)
	Electronic
	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 kΩ
Precision	typ. 0.1 % (of output range final value)
Permissible cable length	max. 250 m

Electrical isolation

Test section	Logic 500 V AC 50 Hz 1 min.
	SSI I/O (24 V supply) 500 V AC 50 Hz 1 min.
	Functional earth ground 500 V AC 50 Hz 1 min.
	Analog I/O 500 V AC 50 Hz 1 min.

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

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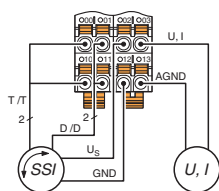
Technical data

Environmental Product Compliance

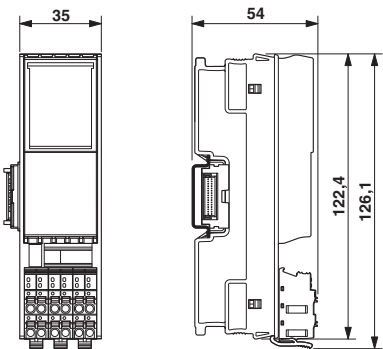
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

Drawings

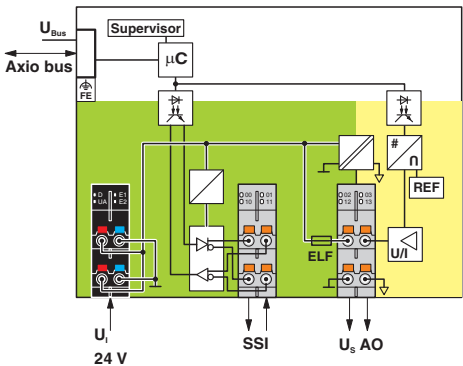
Connection diagram



Dimensional drawing



Block diagram



Internal wiring of the terminal points

Classifications

eCl@ss

eCl@ss 4.0	27240405
eCl@ss 4.1	27240405
eCl@ss 5.0	27242201
eCl@ss 5.1	27242601

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Classifications

eCl@ss

eCl@ss 6.0	27242601
eCl@ss 7.0	27242601
eCl@ss 8.0	27242605
eCl@ss 9.0	27242605

ETIM

ETIM 3.0	EC001599
ETIM 4.0	EC001601
ETIM 5.0	EC001601
ETIM 6.0	EC001601

UNSPSC

UNSPSC 6.01	43172015
UNSPSC 7.0901	43201404
UNSPSC 11	39121311
UNSPSC 12.01	39121311
UNSPSC 13.2	32151602

Approvals

Approvals

Approvals

UL Listed / cUL Listed / EAC / cULus Listed

Ex Approvals

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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Approvals

EAC		EAC-Zulassung
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cULus Listed	
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Accessories

Accessories

Device marking

Insert label - EMT (35X28)R - 0801602



Insert label, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMaster 300/600, THERMOMARK X1.2, THERMOMARK S1.1, mounting type: snapped into marker carrier, lettering field size: 35 x 28 mm

DIN rail connector

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 busbar holders and 2 SK 5 shield connection clamps)

Terminal marking

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Accessories

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, in 10 mm pitch, unprinted, 10-section, for individual labeling with M-PEN 0,8, X-PEN, or CMS-P1-PLOTTER