

Special function module - AXL SSI 1/AO 1 - 2688433

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Axioline 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 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 can be used to specify setpoints, e.g., for electrical and hydraulic drives.

Product Features

- ✓ 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



Key commercial data

Packing unit	1 pc
Weight per Piece (excluding packing)	200.0 GRM
Custom tariff number	85389091
Country of origin	Germany

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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 % (according to DIN EN 61131-2)
Permissible humidity (storage/transport)	5 % ... 95 % (according to DIN EN 61131-2)
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 technology
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	1.5 mm ²
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	1.5 mm ²
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	16
Stripping length	8 mm

General

Weight	135 g
Note on weight specifications	with connectors and bus base module
Mounting type	DIN rail
Protection class	III, IEC 61140, EN 61140, VDE 0140-1
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
Conformance with EMC directives	Noise immunity test in accordance with EN 61000-6-2 Electrostatic discharge (ESD) EN 61000-4-2/IEC 61000-4-2 Criterion B; 6 kV contact discharge, 8 kV air discharge
	Noise immunity test in accordance with EN 61000-6-2 Electromagnetic fields EN 61000-4-3/IEC 61000-4-3 Criterion A; Field intensity: 10 V/m

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Technical data

General

	Noise immunity test in accordance with EN 61000-6-2 Fast transients (burst) EN 61000-4-4/IEC 61000-4-4 Criterion B, 2 kV
	Noise immunity test in accordance with EN 61000-6-2 Transient surge voltage (surge) EN 61000-4-5/IEC 61000-4-5 Criterion B; supply lines DC: ± 0.5 kV/ ± 0.5 kV (symmetrical/asymmetrical); ± 1 kV to shielded I/O cables
	Noise immunity test in accordance with EN 61000-6-2 Conducted interference EN 61000-4-6/IEC 61000-4-6 Criterion A; Test voltage 10 V
	Noise emission test according to EN 61000-6-3 Radio interference properties EN 55022 Class B
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

Interfaces

Designation	Axioline F local bus
Connection method	Bus base module
Transmission speed	100 MBit/s

Axioline potentials

Communications power U_{Bus}	5 V DC (via bus base module)
Current consumption from U_{Bus}	max. 140 mA
Supply of digital input modules U_I	24 V DC
Current consumption from U_I	max. 60 mA (Supply of the SSI interface and the analog output (20 mA), without sensor supply)

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 technology
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
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

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Technical data

Encoder data

Type of protection	Surge protection
Protective circuit/component	Electronic (35 V, 0.5 s)

Analog outputs

Number of outputs	1
Connection method	Push-in 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
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)
	typ. 0.1 % (of output range final value)
Permissible cable length	max. 250 m

Classifications

eCl@ss

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

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Classifications

eCl@ss

eCl@ss 5.1	27242601
eCl@ss 6.0	27242601
eCl@ss 7.0	27242601
eCl@ss 8.0	27242605

ETIM

ETIM 3.0	EC001599
ETIM 4.0	EC001601
ETIM 5.0	EC001599

UNSPSC

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

Approvals

Approvals

Approvals

UL Listed / cUL Listed / cULus Listed

Ex Approvals

Approvals submitted

Approval details

UL Listed 

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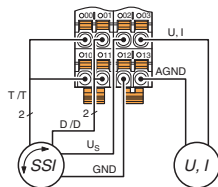
Approvals

cUL Listed 

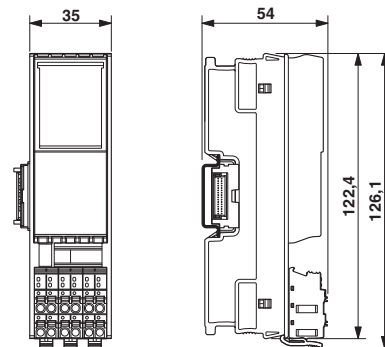
cULus Listed 

Drawings

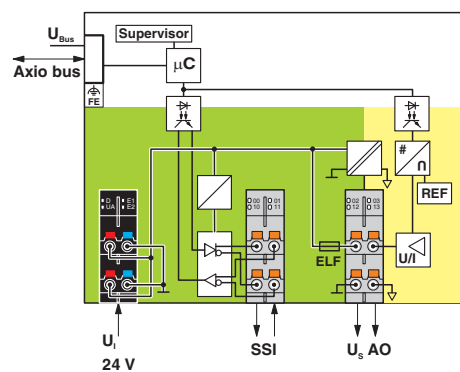
Connection diagram



Dimensioned drawing



Block diagram



Internal wiring of the terminal points

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