

AXL SE INC1 SYM - Function module



1088130

<https://www.phoenixcontact.com/us/products/1088130>

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Axioline Smart Elements, Function module, Position detection, Incremental encoder; Incremental encoder input: 1, symmetrical encoders in accordance with EIA-422; Digital inputs: 2, 24 V DC; degree of protection: IP20

Product description

You can integrate Axioline Smart Elements into systems with the Smart Element interface. This Smart Element detects the positions of incremental encoders.

Your advantages

- Acquisition of digital signals from symmetrical incremental encoders (A, /A, B, /B, Z, /Z)
- Measuring pulses of up to 1 MHz
- Evaluating linear or rotary axes
- Power supply for 5 V or 24 V encoder
- 1 input can be used for referencing
- Latch function for quick buffering of positions
- 32-bit register to output the measured increments
- Device rating plate stored

Commercial data

Item number	1088130
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR05
Product key	DRIB61
GTIN	4055626886183
Weight per piece (including packing)	37.7 g
Weight per piece (excluding packing)	35 g
Customs tariff number	85389091
Country of origin	DE

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Technical data

Dimensions

Dimensional drawing	
Width	14.9 mm
Height	62.2 mm
Depth	62 mm

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

Smart Element interface

Number of interfaces	1
Connection method	Card edge connector
Transmission speed	See system in which you use the Smart Element.
Start time until ready to operate	< 500 ms

System properties

Programming data (LocalbusSlave)

Process data channel	80 bit
Input address area	10 Byte
Output address area	10 Byte

Fieldbus data telegram

Required parameter data	19 Byte
Required configuration data	7 Byte

Input data

Digital:

Input name	Digital inputs
Description of the input	EN 61131-2, type 3

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Number of inputs	2 (DI Ref, DI L)
Connection method	Push-in connection
Connection technology	1-conductor
Input voltage range "0" signal	-3 V DC ... 5 V DC
Input voltage range "1" signal	11 V DC ... 30 V DC
Nominal input voltage U_{IN}	24 V DC
Nominal input current at U_{IN}	3 mA
Input frequency	max. 200 Hz (at latch input DI L)
Process data update	typ. 400 μ s
Protective circuit	Transient protection; Suppressor diode

Encoder

Number of inputs	1 (A, /A, B, /B, Z, /Z)
Input name	Incremental encoder input
Encoder signals	symmetrical encoders in accordance with EIA-422
Cable length	max. 30 m (Shielded cable)

Product properties

Product type	I/O component
Product family	Axiline Smart Elements
Type	modular
Mounting position	See the system in which the Smart Element is used.

Insulation characteristics

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

Electrical properties

Maximum power dissipation for nominal condition	1.8 W
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Encoder

Number	1 (+5 V)
Nominal output voltage	5 V DC
Voltage range	5 V DC ... 5.5 V DC
Current carrying capacity	max. 250 mA
Protective circuit	Short-circuit protection; Electrical and thermal Overload protection Transient protection; Suppressor diode
Number	1 (+24 V)
Nominal output voltage	24 V DC
Voltage range	19.2 V DC ... 30 V DC
Current carrying capacity	max. 500 mA
Protective circuit	Short-circuit protection; Electrical (from approx. 600 mA) Overload protection Transient protection; Suppressor diode

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Number	1 (A, /A, B, /B, Z, /Z)
Designation	Symmetrical incremental encoders
Signal voltage level	Differential signal (signal – inverted signal), in accordance with EIA-422
Common mode voltage range signal - ground	-20 V DC ... 20 V DC
Input frequency	max. 1 MHz

Potentials: Communications power supply of the Smart Elements (U_{SE})

Supply voltage	using card edge connectors
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Potentials: I/O supply (U_P)

Supply voltage	24 V DC (using card edge connectors)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current draw	max. 700 mA typ. 512 mA
Current consumption	min. 11 mA (without connected peripherals)
Protective circuit	Surge protection; See the system in which the Smart Element is used. Reverse polarity protection; Polarity protection diode
Protection	See the system in which the Smart Element is used.

Electrical isolation/isolation of the voltage ranges

Test voltage: Communications supply / 24 V supply (I/O)	500 V AC, 50 Hz, 1 min
Test voltage: Communications supply / functional ground	500 V AC, 50 Hz, 1 min
Test voltage: 24 V supply (I/O) / functional ground	500 V AC, 50 Hz, 1 min

Connection data

Connection technology

Connection name	I/O
Note on the connection method	Please observe the information provided on conductor cross-sections in the "AxioLine Smart Elements" user manual.

I/O

Connection method	Push-in connection
Note on the connection method	Please observe the information provided on conductor cross-sections in the "AxioLine Smart Elements" user manual.
Conductor cross-section, rigid	0.25 mm ² ... 1.5 mm ²
Conductor cross-section, flexible	0.25 mm ² ... 1.5 mm ²
Conductor cross-section AWG	24 ... 16
Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 1.5 mm ²
Conductor cross-section, flexible, with ferrule, without plastic sleeve	0.25 mm ² ... 1.5 mm ²
Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 1.5 mm ²
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	Plug-in mounting (Smart Element slot)
Mounting position	See the system in which the Smart Element is used.

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Drawings

Dimensional drawing



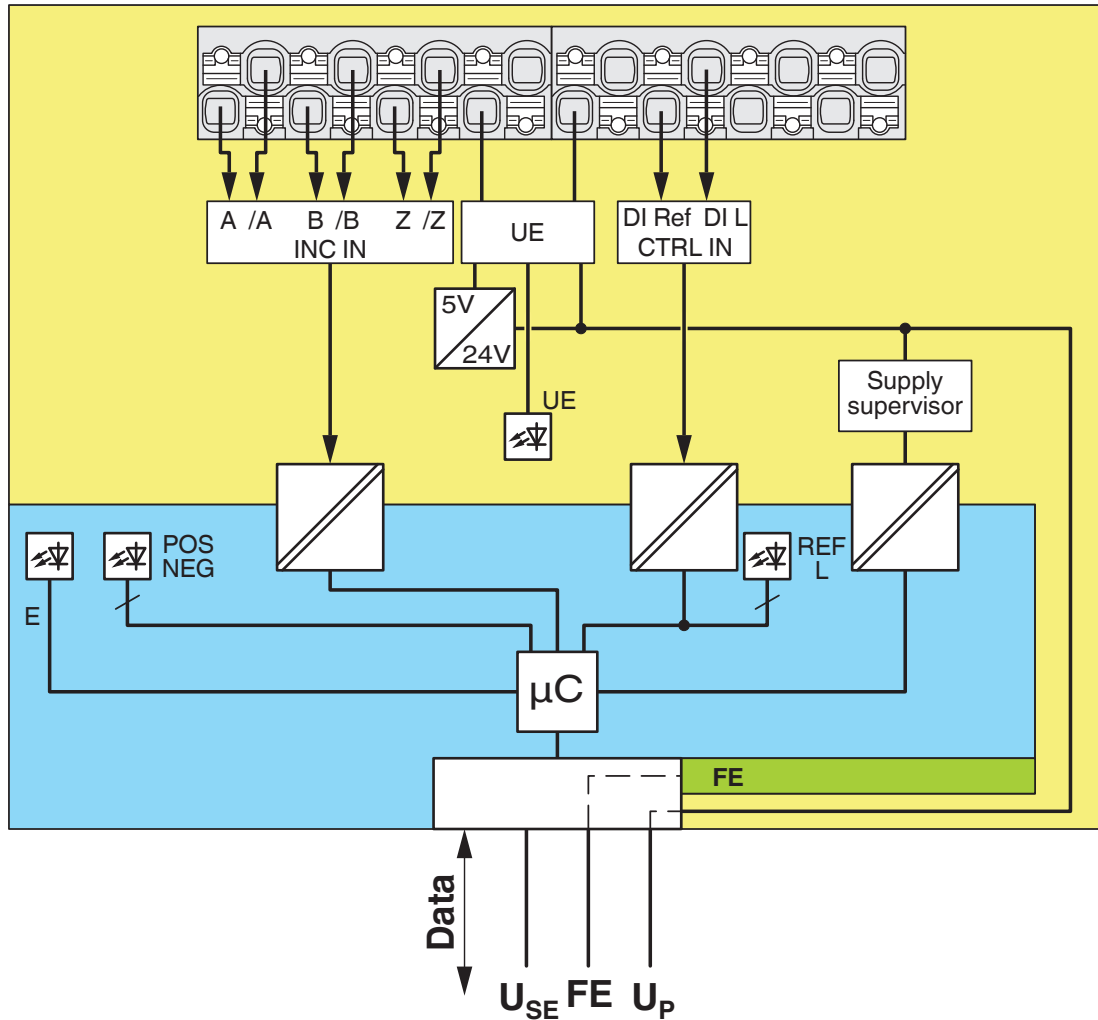
Dimensions

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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)
SCIP	c1cefc67-bf3c-4ac2-91fa-26cef19be2ca

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