AXL F SGI2 1H - Analog module

2702911

https://www.phoenixcontact.com/us/products/2702911

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Axioline F, Strain gauge capture module, 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. Used to evaluate strain gauges that may be located in weighing cells or load cells, for example. You can connect the strain gauges using 6- or 4-conductor technology.

Your advantages

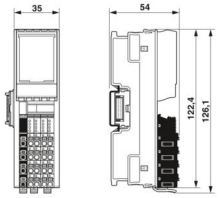
- 2 high-precision inputs for strain gauges
- Measuring ranges adjusted with nominal characteristic values upon delivery
- Manual entry of characteristic values
- Process data update can be parameterized in increments between 200 µs and 100 ms
- Path adjustment in the process environment
- 2-point adjustment
- Connection of strain gauges in 6- and 4-conductor technology
- Advanced wire-break detection
- Sensor supply of up to 115 mA (8 load cells with 350 Ω per channel)
- Per channel: low-resistance, floating N/O contact
- The channels are parameterized independently of one another via the bus system
- Tara device

Commercial data

Item number	2702911
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR02
Product key	DRI244
Catalog page	Page 95 (C-6-2019)
GTIN	4055626459288
Weight per piece (including packing)	186.2 g
Weight per piece (excluding packing)	181.5 g
Customs tariff number	85389091
Country of origin	DE

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).

Interfaces

Axioline F local bus

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

System properties

Module

ID code (hex)	none
Input address area	12 Byte
Output address area	12 Byte
Required parameter data	48 Byte
Required configuration data	7 Byte

Input data

Analog

Description of the input	Input channels for strain gauge
Number of inputs	2
Connection technology	6 or 4-wire, twisted pair shielded cable
Bridge difference U_d	Measuring range specified by selecting the characteristic
	-35 mV ... +35 mV
Bridge voltage U_0	5 V
Measured value representation	32 bits
Characteristics	can be parameterized: 350 µV/V ... 6500 µV/V

Contacts

Description	Floating N/O contact

Quantity	2 (K_{a1}-K_{b1}, K_{a2}-K_{b2})
Contact resistance	< 1 Ω (typical)
	< 3 Ω (maximum)
Typical response time	typ. 0.2 ms (opening)
	typ. 2 ms (close)

Output data

Analog

Output description	Jumper supply
Number of outputs	2
Impedance	> 43 Ω (per channel)
Output voltage	typ. 5 V
Output current	max. 115 mA (per channel)

Product properties

Product type	I/O component
Product family	Axioline F
Type	block modular
Mounting position	any (no temperature derating)
Scope of delivery	including bus base module and Axioline F connectors
Operating mode	Process data mode with 6 words

Electrical properties

Potentials

Power consumption	typ. 1.5 W (entire device)
	max. 3 W (entire device)

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

Supply voltage	5 V DC (via bus base module)
Current draw	max. 75 mA
	typ. 65 mA
Power consumption	max. 375 mW
	typ. 325 mW

Potentials: Supply for analog modules (U_A)

Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current draw	typ. 110 mA (with maximum load: 8 weighing cells with 350 Ω per channel)
	typ. 25 mA (with typical load: 1 weighing cell with 350 Ω, only one channel loaded)
	typ. 55 mA (with maximum load: 8 weighing cells with 350 Ω, only one channel loaded)
Power consumption	typ. 2.6 W (with maximum load: 8 weighing cells with 350 Ω per channel)

Protective circuit	Surge protection; Suppressor diode
	Reverse polarity protection; Polarity protection diode

Electrical isolation/isolation of the voltage ranges

Test voltage: Logic	500 V AC, 50 Hz, 1 min.
Test voltage: 24 V supply (I/O)	500 V AC, 50 Hz, 1 min.
Test voltage: Analog inputs	500 V AC, 50 Hz, 1 min.
Test voltage: N/O contact K_{a1} - K_{b1}	500 V AC, 50 Hz, 1 min.
Test voltage: N/O contact K_{a2} - K_{b2}	500 V AC, 50 Hz, 1 min.
Test voltage: 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.
	Applications with UL approval: only use copper conductors.

Conductor connection

Connection method	Push-in connection
Conductor cross section rigid	0.2 mm² ... 1.5 mm²
Conductor cross section flexible	0.2 mm² ... 1.5 mm²
Conductor cross section AWG	24 ... 16
Stripping length	8 mm

Axioline F connector

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Conductor cross section, flexible	0.2 mm² ... 1.5 mm²
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
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

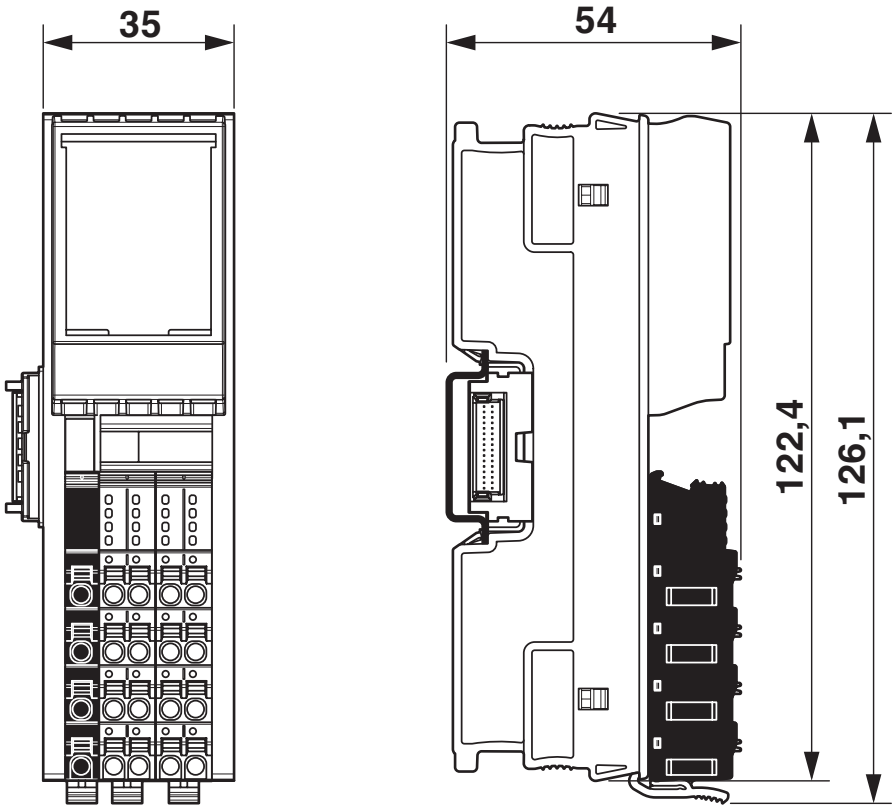
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)

Mounting

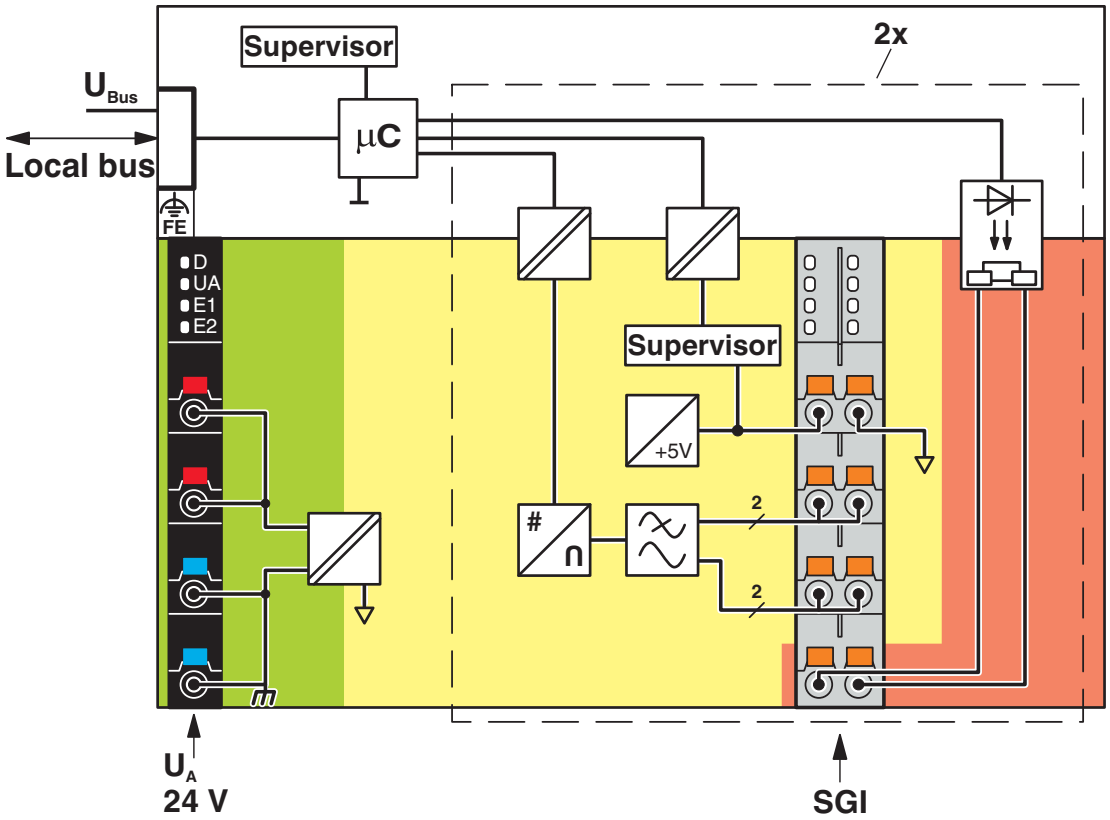
Mounting type	DIN rail mounting
Mounting position	any (no temperature derating)

Drawings

Dimensional drawing

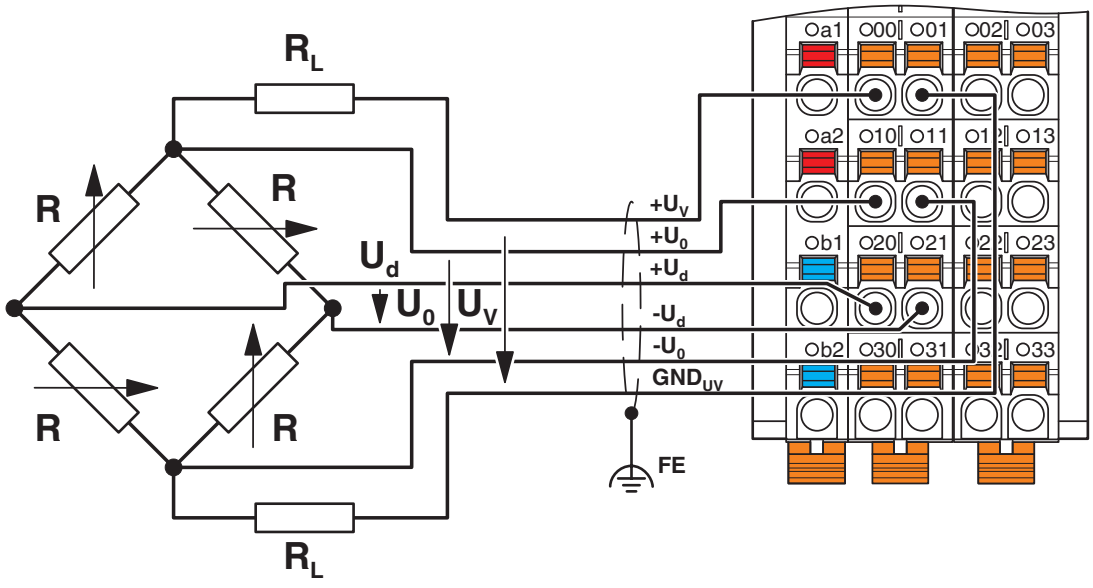


Block diagram

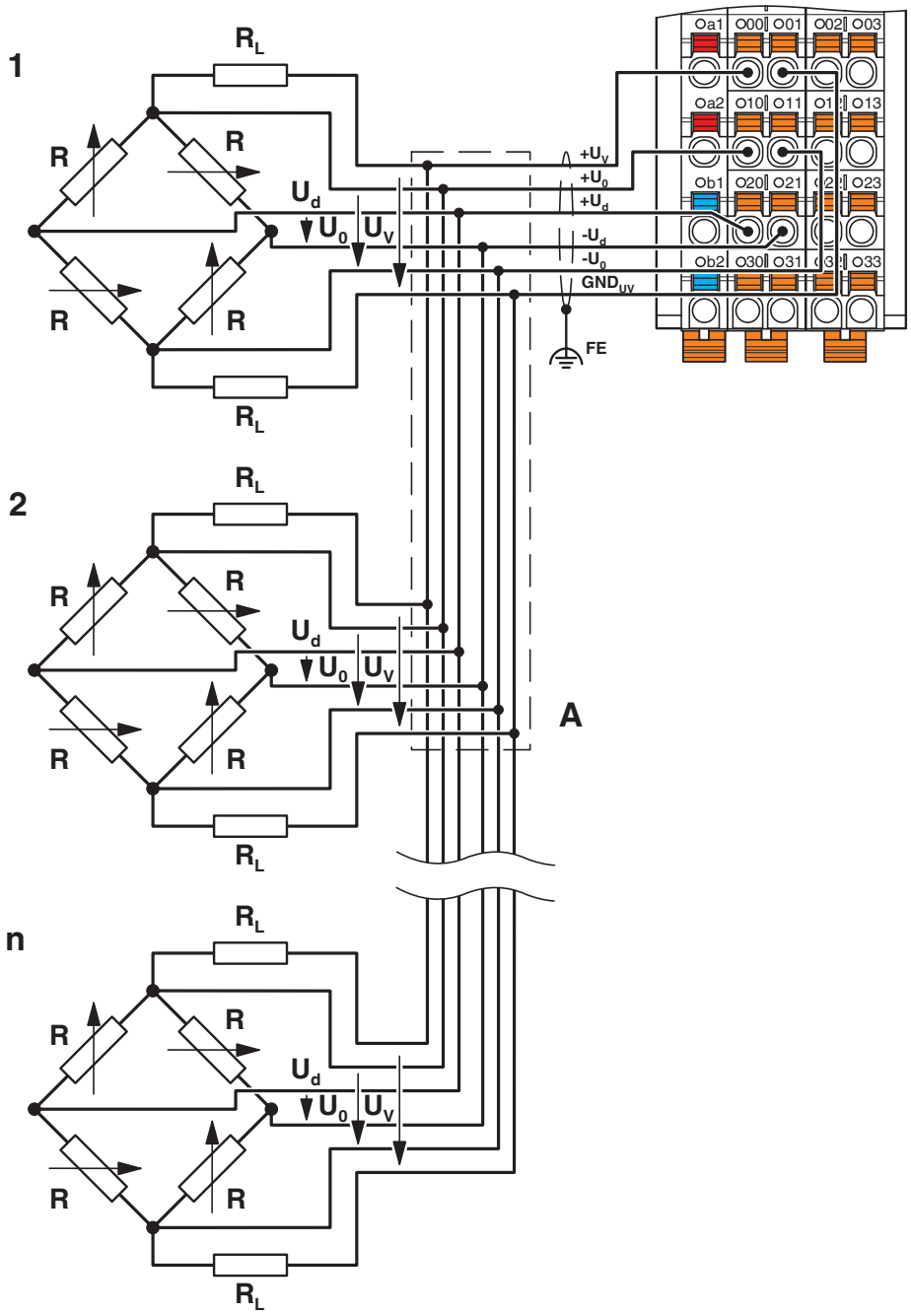


Internal wiring of the terminal points

Connection diagram



Connection diagram



Connection of several strain gauges in 6-conductor technology

Classifications

ECLASS

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

ETIM

ETIM 9.0	EC001596

UNSPSC

UNSPSC 21.0	32151600

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	15, 15(a), 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	08552bd1-fe4e-4dc3-840d-be3298024436

Accessories

AXL F BS H - Bus connector

2700992

https://www.phoenixcontact.com/us/products/2700992

Axioline F bus base module for housing type H



AXL SHIELD SET - Shield connection

2700518

https://www.phoenixcontact.com/us/products/2700518

Axioline shield connection set (contains 2 shield bus holders and 2 SK 5 shield connection clamps)



ZB 20,3 AXL UNPRINTED - Zack marker strip

0829579

https://www.phoenixcontact.com/us/products/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

ZBF 10/5,8 AXL UNPRINTED - Zack Marker strip, flat

0829580

https://www.phoenixcontact.com/us/products/0829580



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 10.15 mm, lettering field size: 4 x 10, 15 x 5 mm, 1 x 5.8 x 5 mm, Number of individual labels: 50

EMT (35X28)R - Insert label

0801602

https://www.phoenixcontact.com/us/products/0801602



Insert label, for marking the Axioline F series from Phoenix Contact, Roll, white, unlabeled, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: insert, lettering field size: 35 x 28 mm, Number of individual labels: 500

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