

# 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  $\mu$ s 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  $\Omega$  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
GTIN	4055626459288
Weight per piece (including packing)	181.5 g
Weight per piece (excluding packing)	181.5 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 (PROFIBUS)

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

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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 $\mu$ V/V ... 6500 $\mu$ V/V

## Contacts

Description	Floating N/O contact
Quantity	2 ( $K_{a1}$ - $K_{b1}$ , $K_{a2}$ - $K_{b2}$ )
Contact resistance	< 1 $\Omega$ (typical) < 3 $\Omega$ (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 $\Omega$ (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 supply	including bus base module and Axioline F connectors
Operating mode	Process data mode with 6 words

### 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	1.85 W
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### 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

### 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)

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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)
Current consumption	typ. 15 mA (with no load, no weighing cell)
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 <sub>a1</sub> - K <sub>b1</sub>	500 V AC, 50 Hz, 1 min
Test voltage: N/O contact K <sub>a2</sub> - K <sub>b2</sub>	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.

### 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.
	Applications with UL approval: only use copper conductors.
Conductor cross-section, rigid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section, flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
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)

### Mechanical test

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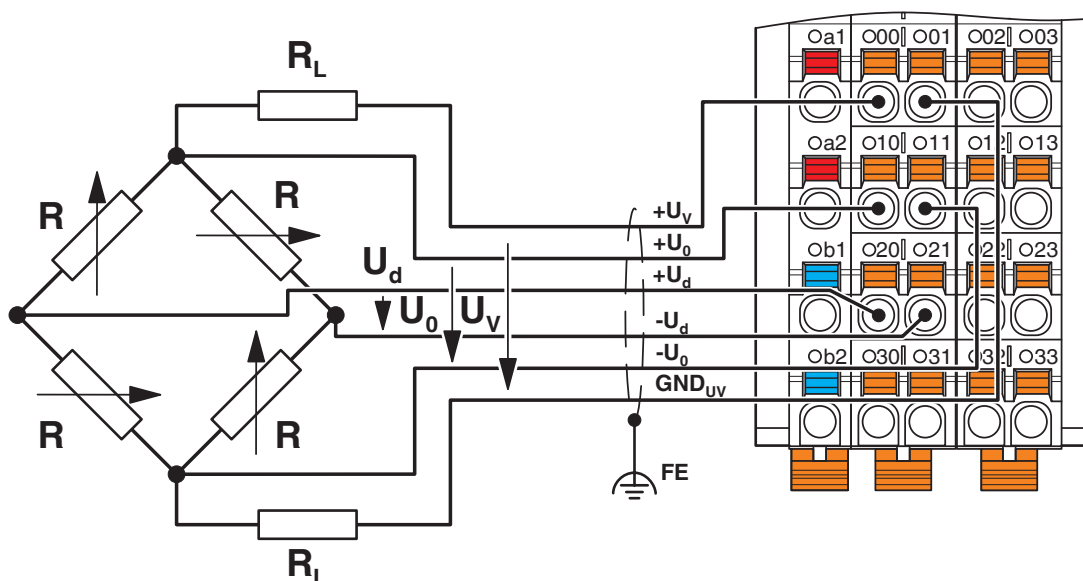
<https://www.phoenixcontact.com/us/products/2702911>

## Drawings

Dimensional drawing



Connection diagram

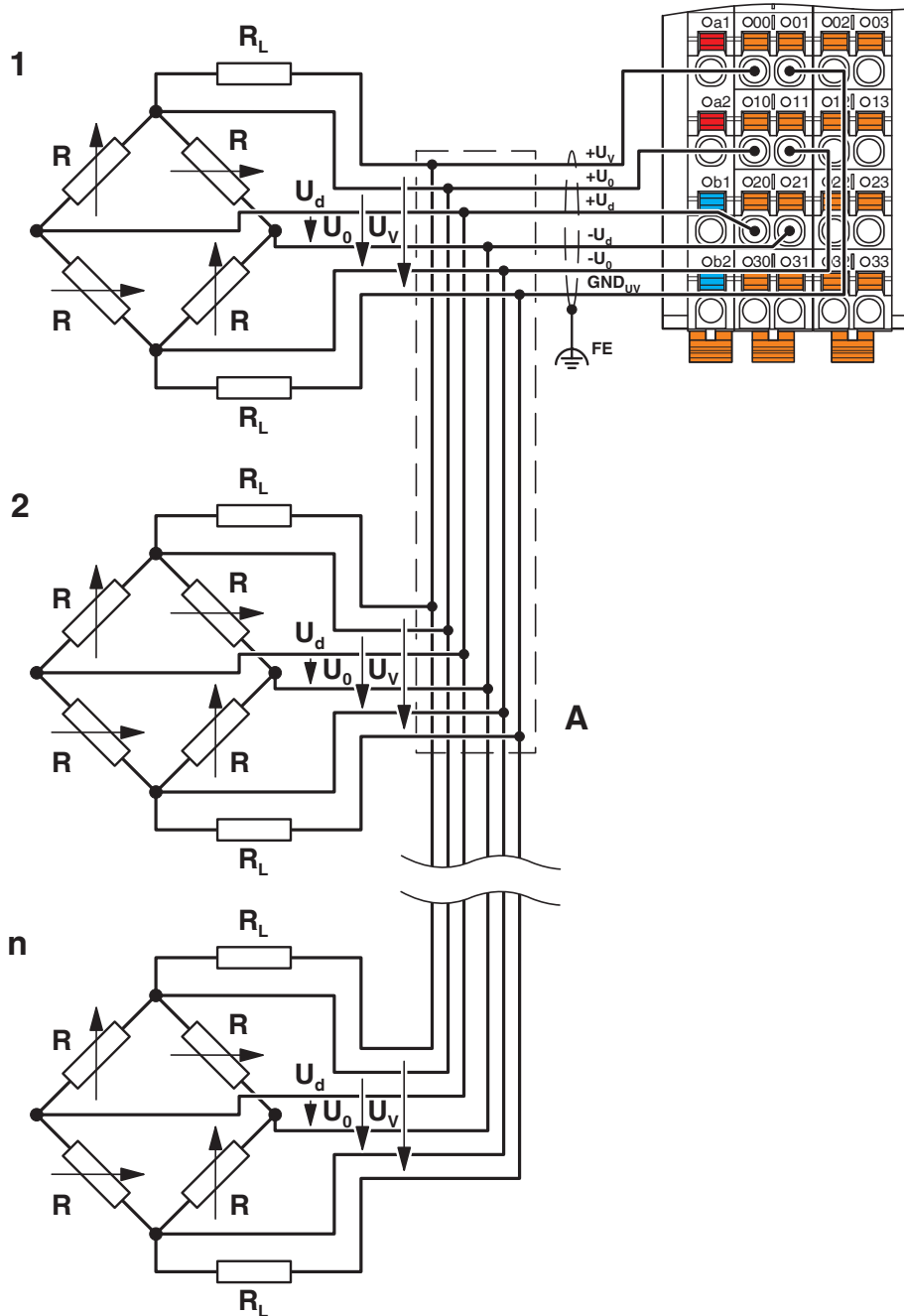


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Connection diagram



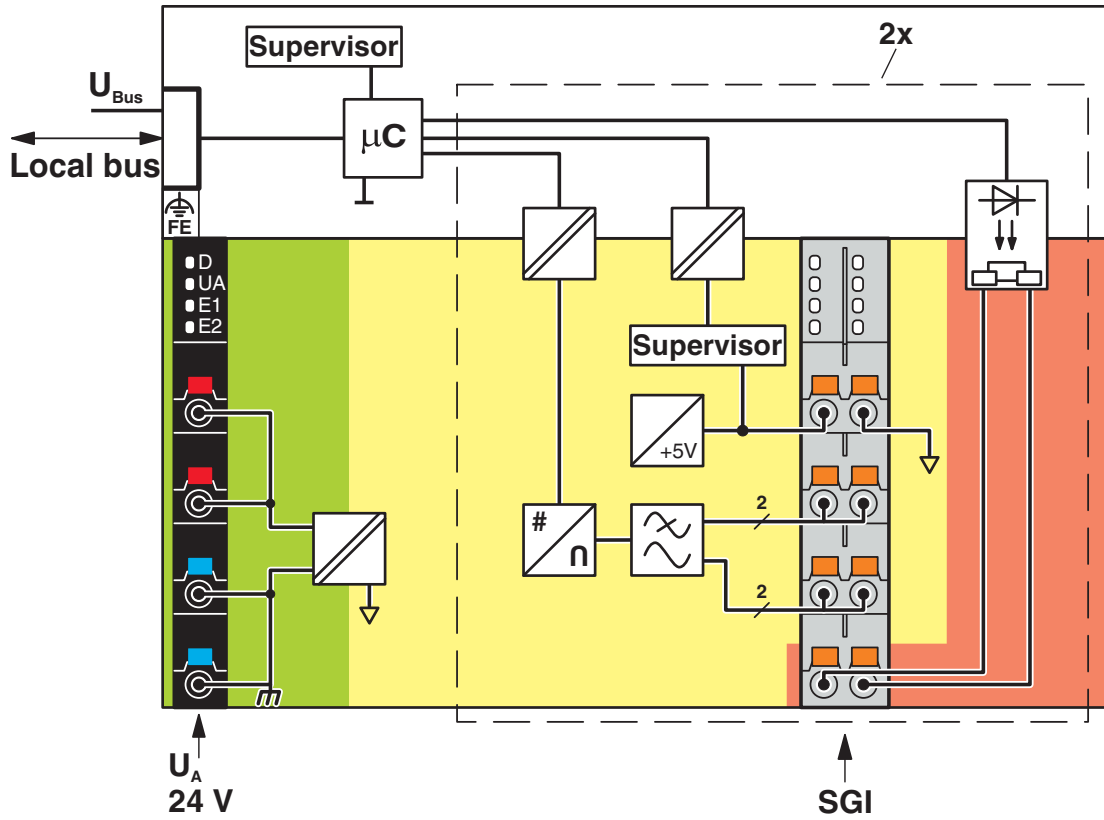
Connection of several strain gauges in 6-conductor technology

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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	27242601
ECLASS-15.0	27242601

### ETIM

ETIM 10.0	EC001596
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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	08552bd1-fe4e-4dc3-840d-be3298024436

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