

# AXL F PSAI8 I XC 1F - Safety module



1369869

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Axioline F, Analog input module, Functional safety, PROFIsafe, Only for connection to Phoenix Contact or Siemens controllers in PROFINET systems, Safe analog inputs: 8 (1-channel assignment), 4 (2-channel assignment), 4 mA ... 20 mA, connection technology: 2-conductor (shielded, twisted pair), degree of protection: IP20

## Your advantages

- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SIL 3 in accordance with EN IEC 62061, SIL 3 in accordance with IEC 61508
- Safe analog value acquisition 4 ... 20 mA
- 8 safe inputs for 1-channel assignment
- 4 safe inputs for 2-channel assignment

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1369869       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Product key                          | DNA522        |
| GTIN                                 | 4063151727208 |
| Weight per piece (including packing) | 235 g         |
| Weight per piece (excluding packing) | 222 g         |
| Customs tariff number                | 85389099      |
| Country of origin                    | DE            |

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## Technical data

### Dimensions

|                    |                    |
|--------------------|--------------------|
| Width              | 53.6 mm            |
| Height             | 126.1 mm           |
| Depth              | 54 mm              |
| Note on dimensions | Housing dimensions |

### Notes

#### Note on application

|                     |                         |
|---------------------|-------------------------|
| Note on application | Only for industrial use |
|---------------------|-------------------------|

### System properties

#### Module

|                             |                           |
|-----------------------------|---------------------------|
| Input address area          | 22 Byte (PROFIsafe 2.6.1) |
| Output address area         | 5 Byte (PROFIsafe 2.6.1)  |
| Required configuration data | 31 Byte                   |

### Input data

#### Analog:

|                                |                                                                      |
|--------------------------------|----------------------------------------------------------------------|
| Input name                     | Safe analog inputs                                                   |
| Number of inputs               | 8 (1-channel assignment)                                             |
|                                | 4 (2-channel assignment)                                             |
| A/D converter resolution       | 16 bit                                                               |
| Connection method              | Push-in connection                                                   |
| Connection technology          | 2-conductor (shielded, twisted pair)                                 |
| Current input signal           | 4 mA ... 20 mA                                                       |
| Input resistance current input | typ. 104 $\Omega$                                                    |
| Data formats                   | Standardized representation                                          |
| Input filter                   | 30 Hz                                                                |
| Filtering                      | RFI filtering / passive TP 1st order                                 |
| Limit frequency (3 dB)         | 30 Hz                                                                |
| Measured value representation  | 16 bits                                                              |
| Protective circuit             | Transient protection of inputs; Suppressor diode                     |
|                                | Overload protection; No; $\pm 5.2$ V DC, maximum, $I_{\max} = 50$ mA |

### Product properties

|                |                   |
|----------------|-------------------|
| Product type   | I/O component     |
| Product family | Axioline F        |
| Application    | Functional safety |
|                | PROFIsafe         |

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|                   |                                                                                   |
|-------------------|-----------------------------------------------------------------------------------|
|                   | Only for connection to Phoenix Contact or Siemens controllers in PROFINET systems |
| Type              | modular                                                                           |
| Mounting position | any                                                                               |
| Operating mode    | PROFIsafe 2.6.1                                                                   |

## Insulation characteristics

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

## Electrical properties

|                                                 |       |
|-------------------------------------------------|-------|
| Maximum power dissipation for nominal condition | 1.8 W |
|-------------------------------------------------|-------|

### Potentials: Axioline F local bus supply ( $U_{BUS}$ )

|                |                                                                        |
|----------------|------------------------------------------------------------------------|
| Supply voltage | 5 V DC (via bus base module)                                           |
| Current draw   | max. 110 mA (at $U_{BUS}$ 5 V DC)<br>typ. 105 mA (at $U_{BUS}$ 5 V DC) |

### Potentials: I/O supply ( $U_A$ )

|                      |                                                                                                                                                        |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Supply voltage       | 24 V DC (Power connector)                                                                                                                              |
| Supply voltage range | 19.2 V DC ... 30 V DC (including all tolerances, including ripple)                                                                                     |
| Current draw         | max. 31 mA<br>typ. 25.5 mA (Power supply from $U_A$ with 30 V DC)                                                                                      |
| Protective circuit   | Surge protection; electronic (35 V, 0.5 s)<br>Reverse polarity protection (parallel)<br>Undervoltage detection; at 17 V<br>Surge voltage detection; No |

## Connection data

### Conductor connection

|                                   |                                                                                                      |
|-----------------------------------|------------------------------------------------------------------------------------------------------|
| Connection method                 | Push-in connection                                                                                   |
| 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                                                                                                 |
| Connection method                 | Push-in connection                                                                                   |
| Note on the connection method     | Note the specification in the section Conductor cross sections, and stripping and insertion lengths. |
| 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

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|                                               |                                                                                              |
|-----------------------------------------------|----------------------------------------------------------------------------------------------|
| Ambient temperature (operation)               | -35 °C ... 60 °C                                                                             |
| Degree of protection                          | IP20                                                                                         |
| Degree of protection at installation location | min. IP54                                                                                    |
| Note                                          | Recommendation Do not use the AXL F PSAI8 I 1F in an atmosphere that contains corrosive gas. |
| Air pressure (operation)                      | 70 kPa ... 108 kPa                                                                           |
| Air pressure (storage/transport)              | 66 kPa ... 108 kPa                                                                           |
| 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) |
|------------------|---------------------------------------|

### Air clearances and creepage distances

|                                       |             |
|---------------------------------------|-------------|
| Air clearances and creepage distances | IEC 60664-1 |
|---------------------------------------|-------------|

## Approvals

### ATEX

|                         |                                |
|-------------------------|--------------------------------|
| Identification          | ⊕ II 3 G Ex ec IIC T4 Gc       |
| Certificate             | UL 22 ATEX 2909X               |
| References to standards | EN IEC 60079-0, EN IEC 60079-7 |

### IECEx

|                         |                                        |
|-------------------------|----------------------------------------|
| Identification          | Ex ec IIC T4 Gc                        |
| Certificate             | IECEx ULD 22.0036X                     |
| References to standards | IEC 60079-0 Ed. 7, IEC 60079-7 Ed. 5.1 |

### UKEX

|                         |                                |
|-------------------------|--------------------------------|
| Identification          | ⊕ II 3 G Ex ec IIC T4 Gc       |
| Certificate             | UL23UKEX2855X                  |
| References to standards | EN IEC 60079-0, EN IEC 60079-7 |

### CCC / China-Ex

|                         |                                |
|-------------------------|--------------------------------|
| Identification          | Ex ec IIC T4 Gc                |
| Certificate             | 2023122310116913               |
| References to standards | EN IEC 60079-0, EN IEC 60079-7 |

### UL, USA/Canada

|                |         |
|----------------|---------|
| Identification | cULus   |
| Certificate    | E238705 |

### UL Ex, USA / Canada

|                         |                                                   |
|-------------------------|---------------------------------------------------|
| Identification          | Class I, Zone 2, AEx ec IIC T4, Ex ec IIC T4 Gc X |
|                         | Class I, Division 2, Groups A, B, C, D, T4        |
| Certificate             | E366272                                           |
| References to standards | UL 60079-0, Ed. 7 / CSA C22.2 NO. 60079-0, Ed. 4  |

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|  |                                                  |
|--|--------------------------------------------------|
|  | UL 60079-7, Ed. 5 / CSA C22.2 NO. 60079-7, Ed. 2 |
|--|--------------------------------------------------|

## Mounting

|                   |     |
|-------------------|-----|
| Mounting position | any |
|-------------------|-----|

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/pc/products/1369869>



**DNV GL**

Approval ID: TAA00000DF

**BSH**

Approval ID: 840

**PROFIsafe**

Approval ID: Z20361



**IECEx**

Approval ID: IECEx ULD 22.0036X



**ATEX**

Approval ID: UL 22 ATEX 2909X



**UKCA-EX**

Approval ID: UL23UKEX2855X

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## Classifications

### ECLASS

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

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC001596 |
|----------|----------|

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## Environmental product compliance

### EU RoHS

|                                         |                       |
|-----------------------------------------|-----------------------|
| Fulfills EU RoHS substance requirements | Yes                   |
| Exemption                               | 7(a), 7(c)-I, 7(c)-II |

### 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                                | 134aa207-08db-4104-9bfa-4a692313bbac |

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