

## I/O module - AXL DI 32/1 - 2688035

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Axioline digital input module, 32 inputs, 24 V DC, single-wire connection method (including bus base module and connectors)

### Product description

The module is designed for use within an Axioline F station.

It is used to acquire digital signals.

The filter times of the inputs can be adjusted to increase noise immunity.

Filter times of 100 µs enable the user to implement a counter function with a maximum input frequency of 5 kHz in the application.

### Product Features

- ✓ 32 digital inputs according to EN 61131-2 type 1 and type 3
- ✓ 24 V DC, 2.4 mA
- ✓ Connection of sensors in single-wire technology
- ✓ Minimum update time of < 100 µs
- ✓ Filter times can be adjusted in three increments: < 100 µs, 1000 µs or 3000 µs
- ✓ Maximum input frequency: 5 kHz
- ✓ Device rating plate stored
- ✓ Diagnostic and status indicators



### Key commercial data

|                                      |           |
|--------------------------------------|-----------|
| Packing unit                         | 1 pc      |
| Weight per Piece (excluding packing) | 220.0 GRM |
| Custom tariff number                 | 85389091  |
| Country of origin                    | Germany   |

### Technical data

#### Dimensions

|        |          |
|--------|----------|
| Width  | 53.6 mm  |
| Height | 126.1 mm |
| Depth  | 54 mm    |

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## Technical data

### Dimensions

|                    |                                                                               |
|--------------------|-------------------------------------------------------------------------------|
| 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 <sup>2</sup>  |
| Conductor cross section solid max.     | 1.5 mm <sup>2</sup>  |
| Conductor cross section stranded min.  | 0.2 mm <sup>2</sup>  |
| Conductor cross section stranded max.  | 1.5 mm <sup>2</sup>  |
| Conductor cross section AWG/kcmil min. | 24                   |
| Conductor cross section AWG/kcmil max  | 16                   |
| Stripping length                       | 8 mm                 |

### General

|                                 |                                                                                                                                                                                         |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Weight                          | 167 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                    | 5 V communications power (logic), 24 V supply (I/O) 500 V AC 50 Hz 1 min                                                                                                                |
|                                 | 5 V supply (logic)/functional earth ground 500 V AC 50 Hz 1 min                                                                                                                         |
|                                 | 24 V supply (I/O) / functional earth ground 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                                              |
|                                 | 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; DC supply lines: ±0.5 kV/±0.5 kV (symmetrical/asymmetrical) |

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## Technical data

### General

|                      |                                                                                                                                      |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------|
|                      | 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 25g, 11 ms period, half-sine shock pulse                                             |
|                      | Continuous shock according to EN 60068-2-27/IEC 60068-2-27 10g                                                                       |
| Diagnostics messages | I/O supply failure Yes                                                                                                               |

### Interfaces

|                    |                     |
|--------------------|---------------------|
| Designation        | Axiline F local bus |
| Connection method  | Bus base module     |
| Transmission speed | 100 MBit/s          |

### Axiline potentials

|                                       |                              |
|---------------------------------------|------------------------------|
| Communications power $U_{Bus}$        | 5 V DC (via bus base module) |
| Current consumption from $U_{Bus}$    | max. 120 mA                  |
| Supply of digital input modules $U_i$ | 24 V DC                      |
| Current consumption from $U_i$        | max. 50 mA                   |

### Digital inputs

|                                   |                                                                       |
|-----------------------------------|-----------------------------------------------------------------------|
| Input name                        | Digital inputs                                                        |
| Description of the input          | EN 61131-2 types 1 and 3                                              |
| Connection method                 | Push-in technology                                                    |
|                                   | 1-wire                                                                |
| Number of inputs                  | 32                                                                    |
| Protective circuit                | Polarity reversal protection of the inputs Parallel diode (30 V, 5 s) |
| Input filter time                 | 3000 $\mu$ s (default)                                                |
| Input voltage range "0" signal    | -3 V DC ... 5 V DC                                                    |
| Input voltage range "1" signal    | 11 V DC ... 30 V DC                                                   |
| Nominal input current at $U_{IN}$ | 2.4 mA                                                                |

## Classifications

### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27240404 |
| eCl@ss 4.1 | 27240404 |
| eCl@ss 5.0 | 27242204 |
| eCl@ss 5.1 | 27242604 |

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### Classifications

#### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 6.0 | 27242604 |
| eCl@ss 7.0 | 27242604 |
| eCl@ss 8.0 | 27242604 |

#### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC001599 |
| ETIM 4.0 | EC001599 |
| 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 / BSH / RINA / DNV / cULus Listed

##### Ex Approvals

##### Approvals submitted

### Approval details

|                                                                                               |
|-----------------------------------------------------------------------------------------------|
| UL Listed  |
|-----------------------------------------------------------------------------------------------|

|                                                                                                |
|------------------------------------------------------------------------------------------------|
| cUL Listed  |
|------------------------------------------------------------------------------------------------|

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## Approvals

BSH

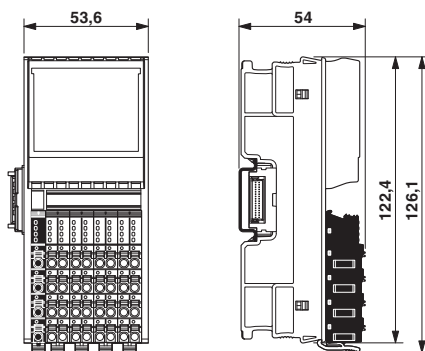
RINA

DNV

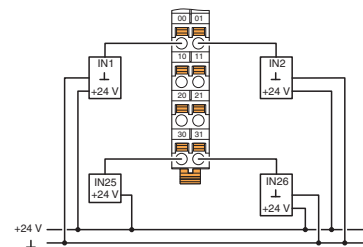
cULus Listed 

## Drawings

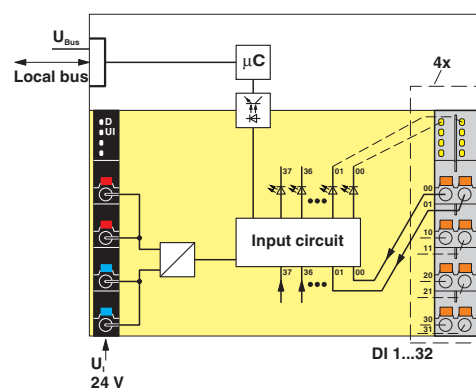
Dimensioned drawing



Connection diagram



Block diagram



Internal wiring of the terminal points





**Стандарт  
Электрон  
Связь**

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