

# AXL F CNT2 1H - Function module



1028066

<https://www.phoenixcontact.com/us/products/1028066>

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Axioline F, Function module, Counter inputs: 2, Digital inputs: 6, 24 V DC, Digital outputs: 4, 24 V DC, 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. This counter module acquires and processes fast pulse sequences from sensors. The module has two counter channels. For each channel, the module has one counter input (source), one control input (gate), one counting direction input (direction), and two parameterizable outputs. You can operate the module in four operating modes: event counting, frequency measurement, time measurement, speed measurement.

## Your advantages

- 2 counter inputs
- Maximum input frequency: 200 kHz
- 32-bit counter (up and down)
- Control of 2 outputs per channel depending on comparative values
- Counter control using a hardware or software gate
- Single or periodic count
- Device rating plate stored

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1028066       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | DR02          |
| Product key                          | DRI263        |
| GTIN                                 | 4055626524252 |
| Weight per piece (including packing) | 188 g         |
| Weight per piece (excluding packing) | 135 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 |
|---------------------|-------------------------|

### 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          | 28 Byte |
| Output address area         | 28 Byte |
| Required parameter data     | 80 Byte |
| Required configuration data | 7 Byte  |

### Input data

#### Digital:

|                                |                     |
|--------------------------------|---------------------|
| Input name                     | Digital inputs      |
| Description of the input       | EN 61131-2 type 1   |
| Number of inputs               | 6                   |
| Connection method              | Push-in connection  |
| Input voltage range "0" signal | -3 V DC ... 5 V DC  |
| Input voltage range "1" signal | 15 V DC ... 30 V DC |

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|                                |               |
|--------------------------------|---------------|
| Nominal input voltage $U_{IN}$ | 24 V DC       |
| Input filter time              | < 2.5 $\mu$ s |

## Counter:

|                                |                     |
|--------------------------------|---------------------|
| Input name                     | Counter inputs      |
| Description of the input       | EN 61131-2 type 1   |
| Connection method              | Push-in connection  |
| Number of inputs               | 2                   |
| Input voltage                  | 24 V DC             |
| Input voltage range "0" signal | -3 V DC ... 5 V DC  |
| Input voltage range "1" signal | 15 V DC ... 30 V DC |
| Input frequency                | max. 200 kHz        |
| Resolution                     | 32 bits             |

## Output data

### Digital:

|                        |                                                                                                                                                            |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Output name            | Digital outputs                                                                                                                                            |
| Output description     | Push-pull outputs, driver power = 500 mA against GND (high-side switch, PNP), reduced driver power = 100 mA against nominal voltage (low-side switch, NPN) |
| Connection method      | Push-in connection                                                                                                                                         |
| Number of outputs      | 4                                                                                                                                                          |
| Protective circuit     | Short-circuit protection; electronic<br>Overload protection; electronic                                                                                    |
| Output voltage         | 24 V DC                                                                                                                                                    |
| Output current         | max. 500 mA (Per channel, high side)<br>max. 100 mA (Per channel, low side)                                                                                |
| Nominal output voltage | 24 V DC                                                                                                                                                    |
| Output voltage range   | 19.2 V DC ... 30 V DC                                                                                                                                      |
| Nominal load, ohmic    | For applications with UL approval, only connect ohmic loads or general loads.                                                                              |

## 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 |

### Insulation characteristics

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

## Electrical properties

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

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|                |                              |
|----------------|------------------------------|
| Supply voltage | 5 V DC (via bus base module) |
| Current draw   | max. 100 mA                  |
|                | typ. 90 mA                   |

## Potentials: Supply voltage feed-in ( $U_{IO}$ )

|                      |                                                                    |
|----------------------|--------------------------------------------------------------------|
| Supply voltage       | 24 V DC                                                            |
| Supply voltage range | 19.2 V DC ... 30 V DC (including all tolerances, including ripple) |
| Current draw         | max. 4 A                                                           |
| Protective circuit   | Surge protection; electronic (35 V, 0.5 s)                         |
|                      | Reverse polarity protection; electronic                            |

## Supply: Sensor supply ( $U_S$ )

|                      |                                       |
|----------------------|---------------------------------------|
| Designation          | Sensor supply ( $U_{S1}$ , $U_{S2}$ ) |
| Supply voltage       | 24 V DC (from $U_{IO}$ )              |
| Supply voltage range | 19.2 V DC ... 30 V DC                 |

## Electrical isolation/isolation of the voltage ranges

|                                                                              |                        |
|------------------------------------------------------------------------------|------------------------|
| Test voltage: 5 V supply of the local bus ( $U_{BUS}$ ) / 24 V supply (I/Os) | 500 V AC, 50 Hz, 1 min |
| Test voltage: 5 V supply of the local bus ( $U_{BUS}$ ) / 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               | 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. |

### 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                                        |

### 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. |
| 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)          | -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) |

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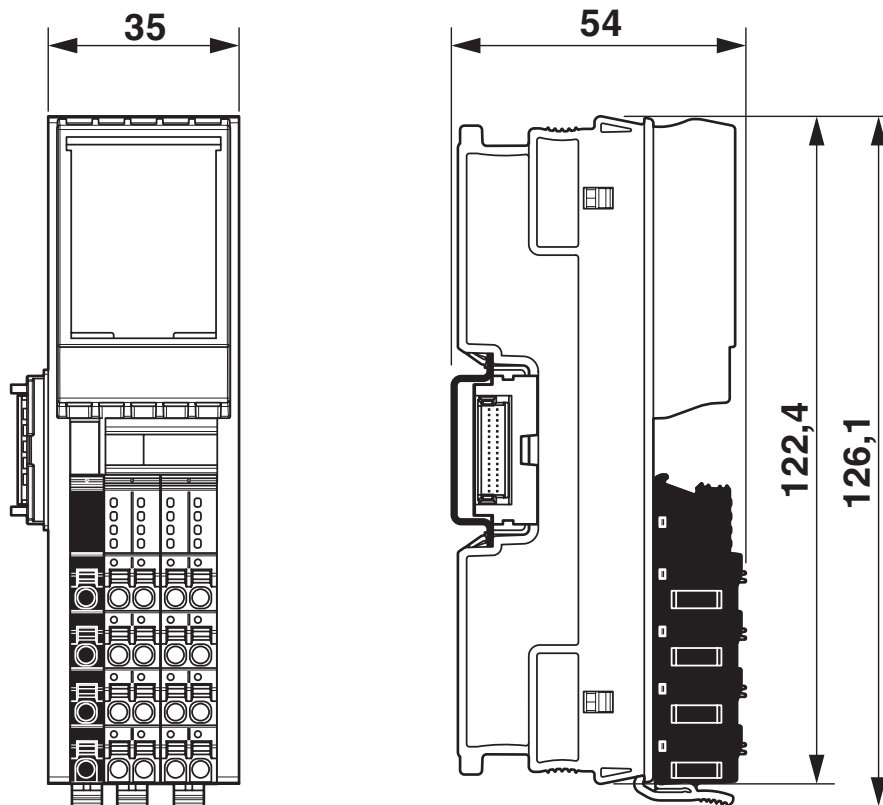
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## Drawings

Dimensional drawing



Dimensional drawing

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## Approvals

 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1028066>



**cULus Listed**

Approval ID: E238705

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27242605 |
| ECLASS-15.0 | 27242605 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC001601 |
|----------|----------|

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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)                                                                                                                                                                                                              |

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