

# AXL F AO4 XC 1H - Analog module

2702153

<https://www.phoenixcontact.com/us/products/2702153>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



The figure shows the standard item

Axioline F, Analog output module, Analog outputs: 4, 0 V ... 5 V, -5 V ... 5 V, 0 V ... 10 V, -10 V ... 10 V, 0 mA ... 20 mA, 4 mA ... 20 mA, connection technology: 2-conductor, transmission speed in the local bus: 100 Mbps, Extreme conditions version, 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. It is used to output analog voltage and current signals.

## Your advantages

- 4 analog output channels for the connection of either voltage or current signals
- Bipolar voltage outputs, unipolar current outputs
- Connection of actuators in 2-conductor technology
- Voltage ranges: 0 V ... 10 V,  $\pm 10$  V, 0 V ... 5 V,  $\pm 5$  V
- Current ranges: 0 mA ... 20 mA, 4 mA ... 20 mA
- Short-circuit-proof outputs
- No derating in all ranges
- Short signal rise times
- Driving of high loads
- Device rating plate stored
- Can be used under extreme ambient conditions
- Extended temperature range of -40 °C ... +70 °C (see "Tested successfully: use under extreme ambient conditions" in the data sheet)
- Partially coated PCBs

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2702153       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | DR02          |
| Product key                          | DR1242        |
| GTIN                                 | 4046356991315 |
| Weight per piece (including packing) | 228 g         |
| Weight per piece (excluding packing) | 199 g         |
| Customs tariff number                | 85389091      |
| Country of origin                    | DE            |

# AXL F AO4 XC 1H - Analog module

2702153

<https://www.phoenixcontact.com/us/products/2702153>

## 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 |
|---------------------|-------------------------|

### Material specifications

|                 |                 |
|-----------------|-----------------|
| Color (Housing) | gray (RAL 7042) |
|-----------------|-----------------|

### 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  | 8 Byte |
| Output address area | 8 Byte |

#### Fieldbus data telegram (PROFIBUS)

|                             |         |
|-----------------------------|---------|
| Required parameter data     | 14 Byte |
| Required configuration data | 7 Byte  |

### Output data

#### Analog:

|                       |                    |
|-----------------------|--------------------|
| Output name           | Analog outputs     |
| Connection method     | Push-in connection |
| Connection technology | 2-conductor        |

# AXL F AO4 XC 1H - Analog module



2702153

<https://www.phoenixcontact.com/us/products/2702153>

|  |   |
|--|---|
| Note regarding the connection technology | shielded, twisted pair  |
| Number of outputs                        | 4   |
| D/A converter resolution                 | 16 bit  |
| Protective circuit                       | Short-circuit and overload protection; electronic<br>Transient protection; Suppressor diode |
| Data formats                             | IB IL, S7-compatible  |
| Representation of output values          | 16 bits (15 bits + sign)  |
| Process data update                      | 140 $\mu$ s   |
| Current output signal                    | 0 mA ... 20 mA<br>4 mA ... 20 mA  |
| Load/output load current output          | $\leq 500 \Omega$   |
| Voltage output signal                    | 0 V ... 5 V<br>-5 V ... 5 V<br>0 V ... 10 V<br>-10 V ... 10 V                               |
| Load/output load voltage output          | $\geq 1 \text{ k}\Omega$  |

## 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 |
| Special properties | Extreme conditions version                          |

## 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 | 3.4 W |
|---|-------|

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

|                |                              |
|----------------|------------------------------|
| Supply voltage | 5 V DC (via bus base module) |
| Current draw   | max. 150 mA<br>typ. 120 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)   |
| Current draw         | max. 125 mA (4 current channels, 24 mA output, 500 $\Omega$ load)<br>typ. 60 mA (4 voltage channels, 10 V output)<br>max. 85 mA (4 voltage channels, 10 V output)<br>max. 110 mA (4 current channels, 20 mA output, 500 $\Omega$ load) |
| Current consumption  | min. 40 mA (Internal current consumption, 4 voltage channels, output 0 V, load > 10 M $\Omega$ )   |

# AXL F AO4 XC 1H - Analog module



2702153

<https://www.phoenixcontact.com/us/products/2702153>

|                    |  |
|--------------------|--|
| Protective circuit | Surge protection; electronic (35 V, 0.5 s)             |
|                    | Reverse polarity protection; Polarity protection diode |
|                    | Transient protection; Suppressor diode                 |

## 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 ( $U_{BUS}$ )/analog outputs       | 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)/analog outputs                               | 500 V AC, 50 Hz, 1 min |
| Test voltage: 24 V supply (I/O) / functional ground                          | 500 V AC, 50 Hz, 1 min |
| Test voltage: Analog outputs/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. |

### 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

|  |   |
|--|---|
| Ambient temperature (operation)          | -25 °C ... 60 °C (Standard, applications with UL approval, use in zone 2 potentially explosive area)                    |
|  | -40 °C ... 70 °C (Extended, see section "Tested successfully: use under extreme ambient conditions" in the data sheet.) |
| 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

|  |     |
|--|-----|
| 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 |



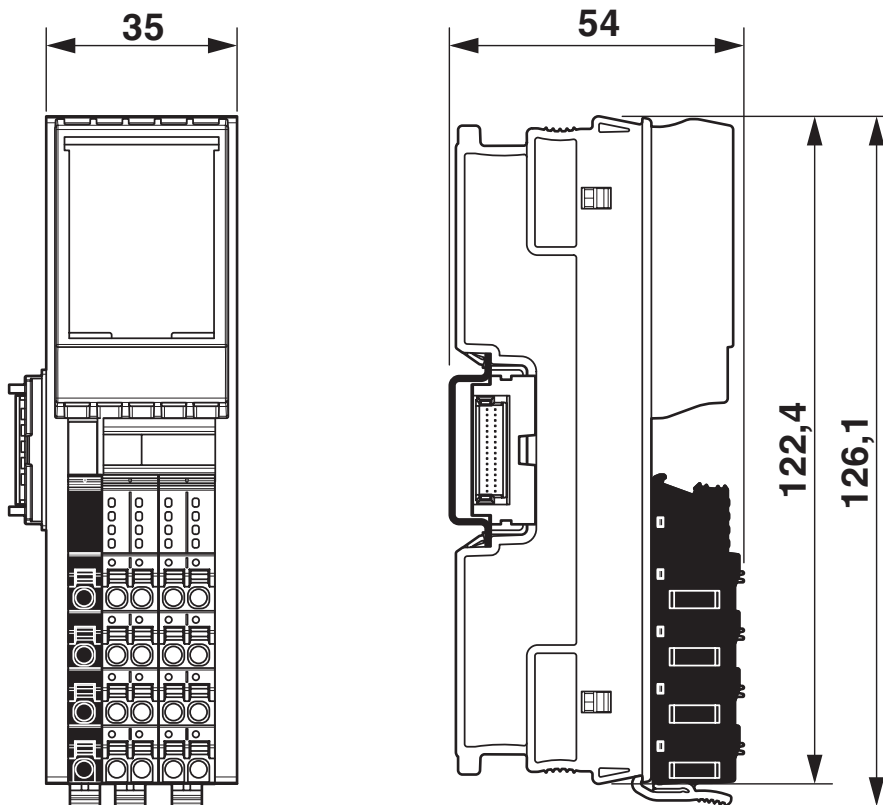
# AXL F AO4 XC 1H - Analog module

2702153

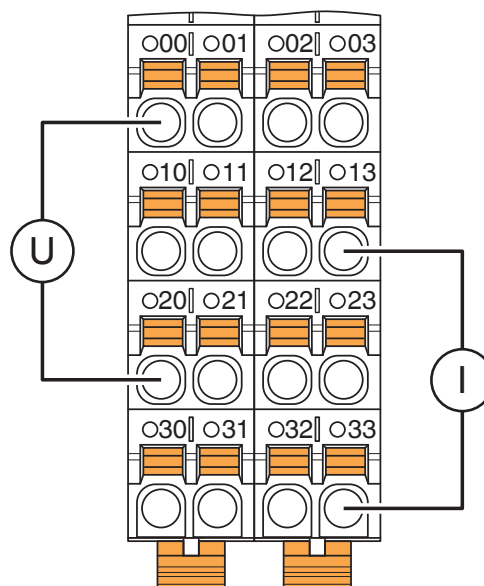
<https://www.phoenixcontact.com/us/products/2702153>

## Drawings

Dimensional drawing



Connection diagram



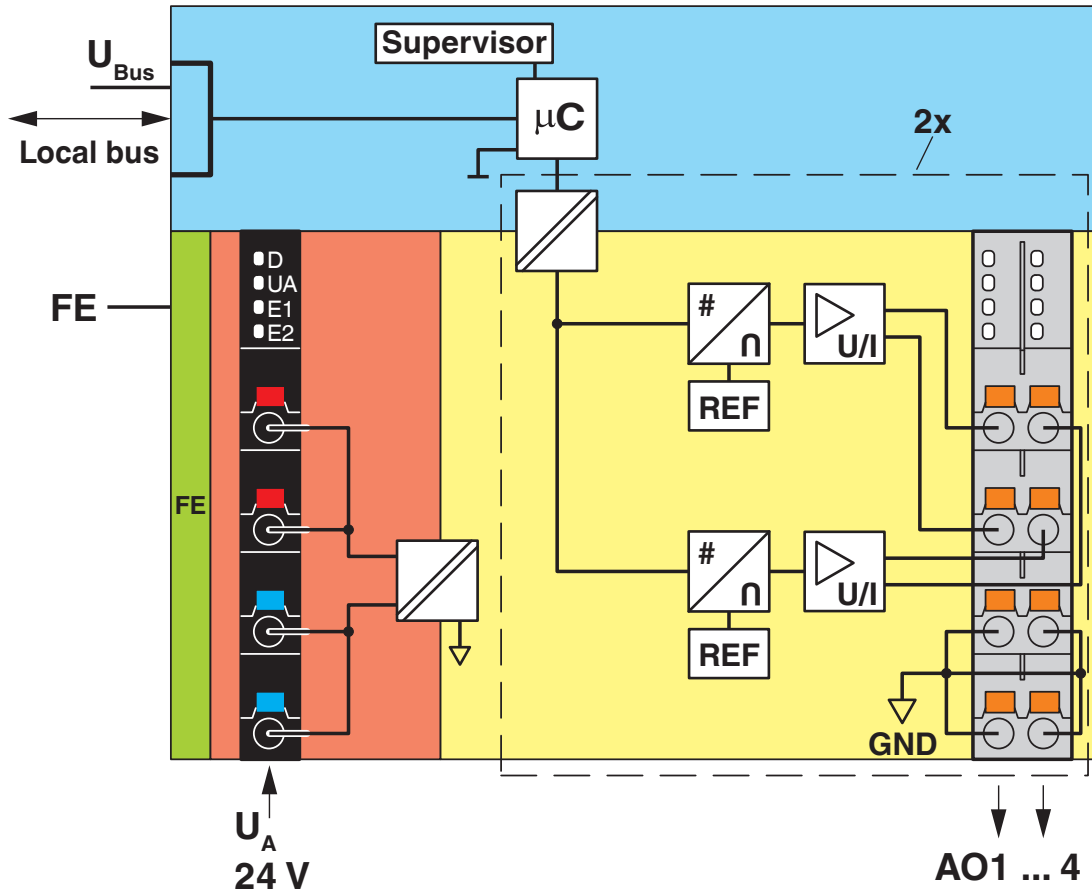
Connection for voltage and current output

# AXL F AO4 XC 1H - Analog module

2702153

<https://www.phoenixcontact.com/us/products/2702153>

Block diagram



Internal wiring of the terminal points

# AXL F AO4 XC 1H - Analog module



2702153

<https://www.phoenixcontact.com/us/products/2702153>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2702153>



**DNV GL**

Approval ID: TAA00000DF



**LR**

Approval ID: LR2480202TA-02



**PRS**

Approval ID: TE/1020/880590/21

**BSH**

Approval ID: 840



**RINA**

Approval ID: ELE008423XG001



**cULus Listed**

Approval ID: E238705



**IECEX**

Approval ID: IECEX ULD 20.0026X



**ATEX**

Approval ID: UL 20 ATEX 2441X



**cULus Listed**

Approval ID: E366272



**CCC**

Approval ID: 2021122309114456\_CN

# AXL F AO4 XC 1H - Analog module



2702153

<https://www.phoenixcontact.com/us/products/2702153>

## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27242601 |
| ECLASS-15.0 | 27242601 |

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | EC001596 |
|-----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 32151600 |
|-------------|----------|

# AXL F AO4 XC 1H - Analog module



2702153

<https://www.phoenixcontact.com/us/products/2702153>

## 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                                | 17ac71e9-107c-4d5d-9e1f-abe83ea192cf |

Phoenix Contact 2026 © - all rights reserved

<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)