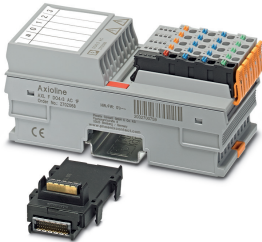


## I/O module - AXL F DO4/3 AC 1F - 2702068

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Axioline F, Digital output module, Digital outputs: 4 (Triac outputs with zero voltage switch), 230 V AC, 2 A AC, connection method: 3-conductor, transmission speed in the local bus: 100 Mbps, degree of protection: IP20, including bus base module and Axioline F connectors

### Your advantages

- ✓ 4 digital outputs
- ✓ Connection of actuators in 2- and 3-conductor technology
- ✓ Device rating plate stored
- ✓ Diagnostic and status indicators



### Key Commercial Data

|                                      |                                                                                                         |
|--------------------------------------|---------------------------------------------------------------------------------------------------------|
| Packing unit                         | 1 pc                                                                                                    |
| GTIN                                 | <br>4 046356 933087 |
| GTIN                                 | 4046356933087                                                                                           |
| Weight per Piece (excluding packing) | 240.000 g                                                                                               |
| Custom tariff number                 | 85389091                                                                                                |
| Country of origin                    | Germany                                                                                                 |

### Technical data

#### Dimensions

|                    |                                                                               |
|--------------------|-------------------------------------------------------------------------------|
| Width              | 53.6 mm                                                                       |
| Height             | 126.1 mm                                                                      |
| Depth              | 54 mm                                                                         |
| Note on dimensions | The depth is valid when a TH 35-7,5 DIN rail is used (according to EN 60715). |

# I/O module - AXL F DO4/3 AC 1F - 2702068

## Technical data

### Ambient conditions

|                                          |                                                                                                                          |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Ambient temperature (operation)          | -25 °C ... 60 °C (max. 2 A/channel for wall mounting on horizontal DIN rail; max. 1 A/channel for any mounting position) |
|                                          | -25 °C ... 50 °C (max. 2 A/channel for any mounting position)                                                            |
| Ambient temperature (storage/transport)  | -40 °C ... 85 °C                                                                                                         |
| Permissible humidity (operation)         | 5 % ... 95 % (non-condensing)                                                                                            |
| Permissible humidity (storage/transport) | 5 % ... 95 % (non-condensing)                                                                                            |
| 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 connection                                                                                                                                                                                                                                                                                                         |
| Note on the connection method         | Please observe the information provided on conductor cross sections in the "Axioline F: system and installation" user manual. When selecting the cables, please note that in the case of a small conductor cross section and high current, the terminal point temperature may be up to 30 K above the ambient temperature. |
| Conductor cross section solid min.    | 0.5 mm <sup>2</sup>                                                                                                                                                                                                                                                                                                        |
| Conductor cross section solid max.    | 1.5 mm <sup>2</sup>                                                                                                                                                                                                                                                                                                        |
| Conductor cross section flexible min. | 0.5 mm <sup>2</sup>                                                                                                                                                                                                                                                                                                        |
| Conductor cross section flexible max. | 1.5 mm <sup>2</sup>                                                                                                                                                                                                                                                                                                        |
| Conductor cross section AWG min.      | 20                                                                                                                                                                                                                                                                                                                         |
| Conductor cross section AWG max.      | 16                                                                                                                                                                                                                                                                                                                         |
| Stripping length                      | 8 mm                                                                                                                                                                                                                                                                                                                       |

### General

|                               |                                                |
|-------------------------------|------------------------------------------------|
| Mounting type                 | DIN rail                                       |
| Color                         | traffic grey A RAL 7042                        |
| Net weight                    | 239 g                                          |
| Note on weight specifications | with connectors and bus base module            |
| Mounting position             | any (observe temperature and current derating) |

### Interfaces

|                    |                      |
|--------------------|----------------------|
| Designation        | Axioline F local bus |
| Number             | 2                    |
| Connection method  | Bus base module      |
| Transmission speed | 100 Mbps             |

### Axioline potentials

|             |                                                 |
|-------------|-------------------------------------------------|
| Designation | Axioline F local bus supply (U <sub>Bus</sub> ) |
|-------------|-------------------------------------------------|

# I/O module - AXL F DO4/3 AC 1F - 2702068

## Technical data

### Axioline potentials

|                      |                                                                                 |
|----------------------|---------------------------------------------------------------------------------|
| Supply voltage       | 5 V DC (via bus base module)                                                    |
| Current consumption  | max. 120 mA                                                                     |
| Power consumption    | max. 600 mW                                                                     |
| Designation          | Supply for digital output modules (U <sub>O</sub> )                             |
| Supply voltage       | 230 V AC                                                                        |
| Supply voltage range | 12 V AC ... 253 V AC (including all tolerances, including ripple, 50 ... 60 Hz) |
| Current consumption  | max. 8 A (provide external protection)                                          |
| Power consumption    | max. 2024 VA (of which 8 VA internal losses)                                    |
| Protective circuit   | Surge protection Varistor 275 V                                                 |
| Protection           | max. 8 A                                                                        |

### Digital outputs

|                                            |                                                                                         |
|--------------------------------------------|-----------------------------------------------------------------------------------------|
| Output name                                | Digital outputs                                                                         |
| Connection method                          | Push-in connection                                                                      |
| Connection technology                      | 3-conductor                                                                             |
| Number of outputs                          | 4 (Triac outputs with zero voltage switch)                                              |
| Protective circuit                         | External protection required I <sup>2</sup> t-value (a half-wave): 340 A <sup>2</sup> s |
| Output voltage                             | 230 V AC                                                                                |
| Nominal output voltage                     | 230 V AC                                                                                |
| Nominal load, ohmic                        | max. 460 W (at nominal voltage)                                                         |
| Switching frequency                        | max. 100 per second (with ohmic load)                                                   |
| Load min.                                  | 5.1 kΩ (at 230 V)                                                                       |
| Output voltage when switched off           | see diagram                                                                             |
| Behavior with overload                     | Output may be damaged                                                                   |
| Reverse voltage resistance to short pulses | Reverse voltage proof                                                                   |

### Electrical isolation

|              |                                                                                                             |
|--------------|-------------------------------------------------------------------------------------------------------------|
| Test section | I/Os / logic 4 kV Rated surge voltage (safe isolation according to EN 61010-2-201/IEC 61010-2-201)          |
|              | I/Os / logic 5 kV Pulse test voltage according to EN 61850/IEC 61850                                        |
|              | I/O/functional ground 4 kV Rated surge voltage (safe isolation according to EN 61010-2-201/IEC 61010-2-201) |
|              | I/O/functional ground 5 kV Pulse test voltage according to EN 61850/IEC 61850                               |
|              | I/O area AC / PE 4 kV Rated surge voltage (basic insulation according to EN 61010-2-201/IEC 61010-2-201)    |

## Standards and Regulations

# I/O module - AXL F DO4/3 AC 1F - 2702068

## Technical data

### Standards and Regulations

|                                    |                                                                                                                                                                                                      |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Immunity to ESD                    | 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                                 |
| Immunity to EF                     | Noise immunity test in accordance with EN 61000-6-2 Electromagnetic fields EN 61000-4-3/IEC 61000-4-3 Criterion A, 20 V/m                                                                            |
| Immunity to burst                  | Noise immunity test in accordance with EN 61000-6-2 Fast transients (burst) EN 61000-4-4/IEC 61000-4-4 Criterion A, 2.5 kV, criterion B, 4 kV                                                        |
| Immunity to surge                  | Noise immunity test in accordance with EN 61000-6-2 Transient overvoltage (surge) EN 61000-4-5/IEC 61000-4-5 Criterion A, AC and OUT supply lines: $\pm 2$ kV/ $\pm 4$ kV (symmetrical/asymmetrical) |
| Immunity to conducted interference | 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                                                                 |
| Interference emission              | Noise emission test according to EN 61000-6-3 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 30g                                                                                                                                                  |
|                                    | Continuous shock according to EN 60068-2-27/IEC 60068-2-27 10g                                                                                                                                       |
| Developed according to standard    | IEC 61850-3 Immunity to magnetic fields, EN 61000-4-8/IEC 61000-4-8 300 A/m continuous, 1000 A/m for 1 s                                                                                             |
|                                    | IEC 61850-3 Immunity to attenuated oscillating magnetic fields, EN 61000-4-10/IEC 61000-4-10 100 A/m                                                                                                 |
|                                    | IEC 61850-3 Immunity to conducted common-mode interference, EN 61000-4-16/IEC 61000-4-16 30 V continuous, 300 V for 1 s                                                                              |
|                                    | IEC 61850-3 Attenuated oscillating waves, EN 61000-4-18/IEC 61000-4-18 1 kV symmetrical, 2.5 kV asymmetrical                                                                                         |

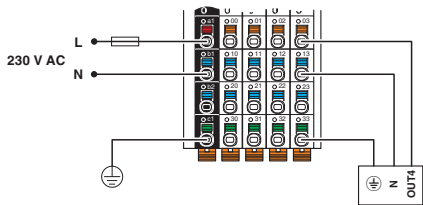
### Environmental Product Compliance

|            |                                                                                                     |
|------------|-----------------------------------------------------------------------------------------------------|
| REACH SVHC | Lead 7439-92-1                                                                                      |
| China RoHS | Environmentally Friendly Use Period = 50 years                                                      |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

## Drawings

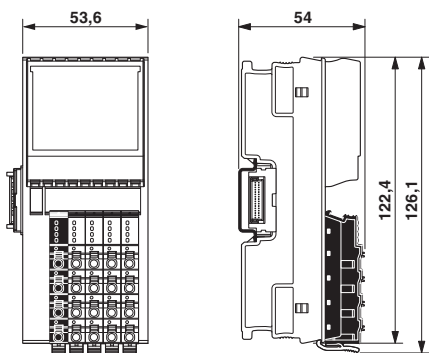
I/O module - AXL F DO4/3 AC 1F - 2702068

Connection diagram

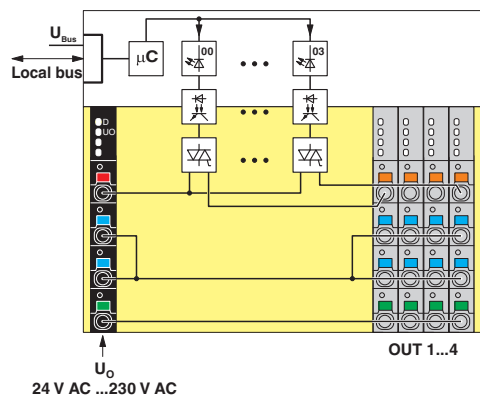


Connection in 3-conductor technology

Dimensional drawing



Block diagram



Internal wiring of the terminal points

Classifications

eCI@ss

|               |          |
|---------------|----------|
| eCI@ss 10.0.1 | 27242604 |
| eCI@ss 11.0   | 27242604 |
| eCI@ss 5.1    | 27242600 |
| eCI@ss 6.0    | 27242600 |
| eCI@ss 7.0    | 27242604 |
| eCI@ss 9.0    | 27242604 |

ETIM

|          |          |
|----------|----------|
| ETIM 6.0 | EC001599 |
| ETIM 7.0 | EC001599 |

## I/O module - AXL F DO4/3 AC 1F - 2702068

### Classifications

#### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 13.2 | 32151602 |
| UNSPSC 18.0 | 32151602 |
| UNSPSC 19.0 | 32151602 |
| UNSPSC 20.0 | 32151602 |
| UNSPSC 21.0 | 32151602 |

### Approvals

#### Approvals

##### Approvals

UL Listed / cUL Listed / cULus Listed

##### Ex Approvals

#### Approval details

|           |                                                                                     |                                                                                                                                                       |               |
|-----------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| UL Listed |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 238705 |
|-----------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|

|            |                                                                                     |                                                                                                                                                       |               |
|------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| cUL Listed |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 238705 |
|------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|

|              |                                                                                     |  |  |
|--------------|-------------------------------------------------------------------------------------|--|--|
| cULus Listed |  |  |  |
|--------------|-------------------------------------------------------------------------------------|--|--|

### Accessories

#### Accessories

#### Device marking

## I/O module - AXL F DO4/3 AC 1F - 2702068

### Accessories

Insert label - EMT (35X46)R - 0801604



Insert label, for the Axioline F series from Phoenix Contact, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, THERMOMARK ROLL X1, THERMOMARK ROLL 2.0, THERMOMARK ROLL, mounting type: snapped into marker carrier, lettering field size: 35 x 46 mm, Number of individual labels: 500

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### DIN rail connector

Bus connector - AXL F BS F - 2688129



Axioline F bus base module for housing type F

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### Terminal marking

Zack marker strip - ZB 20,3 AXL UNPRINTED - 0829579



Zack marker strip for Axioline F (device labeling), in 2 x 20.3 mm pitch, unprinted, 25-section, for individual labeling with B-STIFT 0.8, X-PEN, or CMS-P1-PLOTTER

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Zack Marker strip, flat - ZBF 7,5:UNBEDRUCKT - 0809942



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into flat marker groove, for terminal block width: 7.5 mm, lettering field size: 5.15 x 7.4 mm, Number of individual labels: 10