

## I/O module - AXL F DO16/1 1H - 2688349

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Axioline F, Digital output module, Digital outputs: 16, 24 V DC, 500 mA, connection method: 1-wire, 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. It is used to output digital signals. The outputs are protected against short circuit and overload.

### Your advantages

- ✓ 16 digital outputs
- ✓ 24 V DC, 500 mA
- ✓ Connection of actuators in single-wire technology
- ✓ Minimum update time of < 100 µs
- ✓ Device rating plate stored

### Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 606530
GTIN	4046356606530
Weight per Piece (excluding packing)	134.000 g
Custom tariff number	85389091
Country of origin	Germany

### Technical data

#### Dimensions

Width	35 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).

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## Technical data

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
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.
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 flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	1.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	16
Stripping length	8 mm

### General

Mounting type	DIN rail
Net weight	134 g
Note on weight specifications	with connectors and bus base module
Diagnostics messages	I/O supply failure can be parameterized via PDI object FF8F <sub>hex</sub>
	Short-circuit / overload of the digital outputs Yes

### Interfaces

Designation	Axioline F local bus
No. of channels	2
Connection method	Bus base module
Transmission speed	100 Mbps

### Axioline potentials

Designation	Axioline F local bus supply (U <sub>Bus</sub> )
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	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current consumption	max. 8 A (provide external protection)

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## Technical data

### Axioline potentials

Power consumption	max. 240 W (Of which 560 mW with internal losses)
Type of protection	Surge protection of the supply voltage
	Polarity reversal protection of the supply voltage
Protection	max. 8 A (polarity reversal protection up to 5 A)

### Digital outputs

Output name	Digital outputs
Connection method	Push-in connection
Connection technology	1-wire
Number of outputs	16
Type of protection	Short-circuit protection, overload protection of the outputs
Output voltage	24 V
Nominal output voltage	24 V DC
Maximum output current per channel	500 mA
Maximum output current per module	8 A (provide external protection)
Nominal load, inductive	max. 12 VA (1.2 H, 48 Ω, with nominal voltage)
Nominal load, lamp	max. 12 W (at nominal voltage)
Nominal load, ohmic	max. 12 W (48 Ω, with nominal voltage)

### Electrical isolation

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.

### Standards and Regulations

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
Protection class	III, IEC 61140, EN 61140, VDE 0140-1

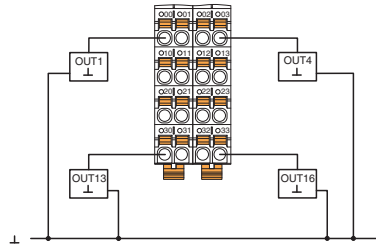
### Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

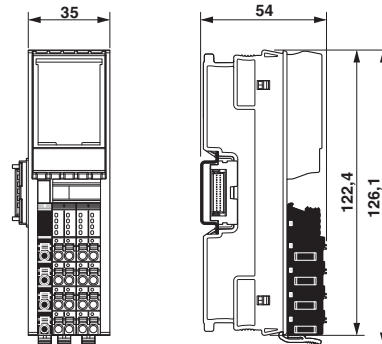
## Drawings

# I/O module - AXL F DO16/1 1H - 2688349

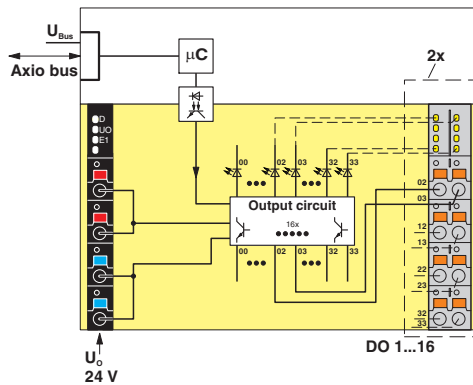
Connection diagram



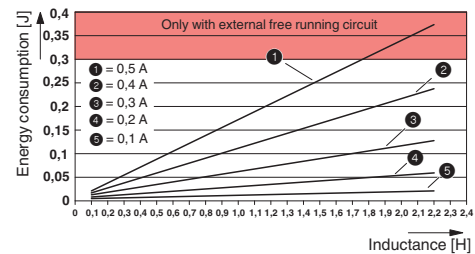
Dimensional drawing



Block diagram



Diagram



Maximum energy consumption of the outputs when switching off inductive loads

The diagram shows the maximum amount of energy that may be fed back into the corresponding output groups (outputs 1 to 4, 5 to 8, 9 to 12, 13 to 16) for each switch off procedure when switching off an inductive load without external freewheeling circuit.

The current data refers to the ohmic DC voltage component of the inductive load.

Note: Restrict freewheeling voltage to a maximum of -15 V when using an external freewheeling circuit. The external freewheeling circuit has no function in the event of a higher negative voltage.

Internal wiring of the terminal points

## Classifications

### eCI@ss

eCI@ss 4.0	27240404
eCI@ss 4.1	27240404
eCI@ss 5.0	27242204
eCI@ss 5.1	27242600
eCI@ss 6.0	27242600
eCI@ss 7.0	27242604
eCI@ss 8.0	27242604
eCI@ss 9.0	27242604

### ETIM

ETIM 3.0	EC001599
ETIM 4.0	EC001599

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## Classifications

### ETIM

ETIM 5.0	EC001599
ETIM 6.0	EC001599

### UNSPSC

UNSPSC 6.01	43172015
UNSPSC 7.0901	43201404
UNSPSC 11	39121311
UNSPSC 12.01	39121311
UNSPSC 13.2	32151602

## Approvals

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DNV GL / KR / NK / ABS / RINA / UL Listed / cUL Listed / EAC / UL Listed / cUL Listed / NK / ABS / DNV GL / RINA / KR / BSH / EAC / cULus Listed

#### Ex Approvals


### Approval details


DNV GL	<a href="http://exchange.dnv.com/tari/">http://exchange.dnv.com/tari/</a>	TAA00000DF
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KR		<a href="http://www.krs.co.kr/eng/main/main.aspx">http://www.krs.co.kr/eng/main/main.aspx</a>	HMB17372-AC002
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NK		<a href="http://www.classnk.or.jp/hp/en/">http://www.classnk.or.jp/hp/en/</a>	14A006
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ABS	<a href="http://www.eagle.org/eagleExternalPortalWEB/">http://www.eagle.org/eagleExternalPortalWEB/</a>	18-HG1767360-PDA
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RINA		<a href="http://www.rina.org/en">http://www.rina.org/en</a>	ELE256518XG
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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
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## Approvals

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
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EAC			EAC-Zulassung
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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
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NK		<a href="http://www.classnk.or.jp/hp/en/">http://www.classnk.or.jp/hp/en/</a>	14A006
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DNV GL		<a href="http://exchange.dnv.com/tari/">http://exchange.dnv.com/tari/</a>	TAA00000DF
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RINA		<a href="http://www.rina.org/en">http://www.rina.org/en</a>	ELE256518XG
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KR		<a href="http://www.krs.co.kr/eng/main/main.aspx">http://www.krs.co.kr/eng/main/main.aspx</a>	HMB17372-AC002
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BSH		<a href="http://www.bsh.de/de/index.jsp">http://www.bsh.de/de/index.jsp</a>	840
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EAC			EAC-Zulassung
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cULus Listed			
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### Accessories

#### Accessories

##### Connector set

Connector set - AXL CNS 2L-O/D/UO/E1 - 2700986



Axioline F connector set (for e.g., AXL F DO16/1 1H)

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### Device marking

Insert label - EMT (35X28)R - 0801602



Insert label, 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 28 mm

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### DIN rail connector

Bus connector - AXL F BS H - 2700992



Axioline F bus base module for housing type H

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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 10/5,8 AXL UNPRINTED - 0829580



Zack marker strip, flat, in 10 mm pitch, unprinted, 10-section, for individual labeling with M-PEN 0,8, X-PEN, or CMS-P1-PLOTTER

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### Accessories

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