

## I/O module - AXL DO 32/1 - 2688051

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Axioline digital output module, 32 outputs, 24 V DC, 500 mA, single-wire connection method (including bus base module and connectors)

### Product description

The module is designed for use within an Axioline station. It is used to output digital signals. The outputs are protected against short circuit and overload.

### Why buy this product

- 32 digital outputs
- 24 V DC, 500 mA
- Connection of actuators in single-wire technology
- Minimum update time of < 100  $\mu$ s, bus synchronous
- Device rating plate stored
- Diagnostic and status indicators



### Key commercial data

Packing unit	1 pc
GTIN	 4 046356 501576
Weight per Piece (excluding packing)	240.0 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).

#### Ambient conditions

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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 % (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

### General

Weight	191 g
Note on weight specifications	with plugs 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)
	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 5 g
	Shock in acc. with EN 60068-2-27/IEC 60068-2-27 25 g, 11 ms period, half-sine shock pulse
	Continuous shock according to EN 60068-2-27/IEC 60068-2-27 10 g
Diagnostics messages	Short-circuit / overload of the digital outputs Yes

### Interfaces

Name	Axoline F local bus
Connection method	Bus base module
Transmission speed	100 MBit/s

### Axoline potentials

Communications power $U_{Bus}$	5 V DC (via bus base module)
Current consumption from $U_{Bus}$	max. 180 mA
Supply of digital output modules $U_o$	24 V DC

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## Technical data

### Axioline potentials

Current consumption from U <sub>0</sub>	8 A (external fuse)
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### Digital outputs

Output name	Digital outputs
Connection method	Direct plug-in method
	1-wire
Number of outputs	32
Protective circuit	Short-circuit protection, overload protection of the outputs Electronic
Output voltage	24 V
Nominal output voltage	24 V DC
Maximum output current per channel	500 mA
Maximum output current per module	8 A (external fuse)
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)

## Classifications

### eCl@ss

eCl@ss 4.0	27240404
eCl@ss 4.1	27240404
eCl@ss 5.0	27242204
eCl@ss 5.1	27242604
eCl@ss 6.0	27242604
eCl@ss 7.0	27242604
eCl@ss 8.0	27242604

### ETIM

ETIM 4.0	EC001601
ETIM 5.0	EC001601

### UNSPSC

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

## Approvals

### Approvals

# I/O module - AXL DO 32/1 - 2688051

## Approvals

Approvals

UL Listed / cUL Listed / BSH / RINA / DNV / cULus Listed

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Ex Approvals

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Approvals submitted

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## Approval details

UL Listed

cUL Listed

BSH

RINA

DNV

cULus Listed

## Accessories

Accessories

Connector set

Connector set - AXL CNS 4L-O/D/UO1/UO2/E1 - 2700983



Axioline F plug set (for e.g., AXL F DO32/1 1F)

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Controller board

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### Accessories

System connection - PLC-V8/FLK14/OUT - 2295554



V8-OUTPUT adapter for eight 6.2 mm PLC interfaces (1 PDT, etc./see "Supplementary Products"). 14-pos. flat-ribbon cable connection for the PLC system cabling, control logic: Plus switching

System connection - PLC-V8L/FLK14/OUT - 2299660



V8L-OUTPUT adapter for eight 14 mm PLC Interfaces (2 PDTs, etc./see "Supplementary Products"). 14-pos. flat-ribbon cable connection for the PLC system cabling, control logic: Plus switching

### Device marking

Insert label - EMT (35X46)R - 0801604



Insert label, Roll, white, Unlabeled, Can be labeled with: THERMOMARK ROLL, THERMOMARK X, THERMOMARK S1.1, Mounting type: snapped into marker carrier, Lettering field: 35 x 46 mm

### DIN rail connector

Bus connector - AXL F BS F - 2688129



Axoline F bus base module for housing type F

### Interface module

Interface module - VIP-2/SC/FLK20 - 2315049



VARIOFACE module, with screw connection and flat-ribbon cable connector, for mounting on NS 35 rails, with pin strip and short and long locking latches for socket strips, 20-pos.

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### Accessories

Interface module - VIP-2/SC/FLK20/LED - 2322074



VARIOFACE module, with screw connection and flat-ribbon cable connector, for mounting on NS 35 rails, with pin strip and short and long locking latches for socket strips, 20-pos., with LED

Interface module - VIP-2/PT/FLK20 - 2903790



VARIOFACE module, with push-in connections and flat-ribbon cable connector, for mounting on NS 35 rails, with pin strip and short and long locking latches for socket strips, 20-pos.

Interface module - VIP-2/PT/FLK20/LED - 2904251



VARIOFACE module, with push-in connection and flat-ribbon cable connector, for mounting on NS 35 rails, with pin strip and short and long locking latches for socket strips, 20-pos., with LED

Interface module - UM 25-FLK20/FRONT/Q - 2959515



VARIOFACE SLIM LINE, with screw connection and flat-ribbon cable connector, for assembly at a right angle on NS 35/7.5, 20 positions

### System cable

Round cable - VIP-CAB-FLK14/AXIO/0,14/0,5M - 2901604



System cable with a 14-pos. molded socket strip (90° outlet) and one open end with 8 wires for connection to AxioLine realtime I/O. At the open end, the wires are labeled 1 to 8 and are fitted with ferrules, cable length: 0.5 m.

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### Accessories

#### Round cable - VIP-CAB-FLK14/AXIO/0,14/1,0M - 2901605

System cable with a 14-pos. molded socket strip (90° outlet) and one open end with 8 wires for connection to Axioline realtime I/O. At the open end, the wires are labeled 1 to 8 and are fitted with ferrules, cable length: 1 m.



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#### Round cable - VIP-CAB-FLK14/AXIO/0,14/1,5M - 2901606

System cable with a 14-pos. molded socket strip (90° outlet) and one open end with 8 wires for connection to Axioline realtime I/O. At the open end, the wires are labeled 1 to 8 and are fitted with ferrules, cable length: 1.5 m.



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#### Round cable - VIP-CAB-FLK14/AXIO/0,14/2,0M - 2901607

System cable with a 14-pos. molded socket strip (90° outlet) and one open end with 8 wires for connection to Axioline realtime I/O. At the open end, the wires are labeled 1 to 8 and are fitted with ferrules, cable length: 2 m.



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#### Round cable - VIP-CAB-FLK14/AXIO/0,14/2,5M - 2901608

System cable with a 14-pos. molded socket strip (90° outlet) and one open end with 8 wires for connection to Axioline realtime I/O. At the open end, the wires are labeled 1 to 8 and are fitted with ferrules, cable length: 2.5 m.



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#### Round cable - VIP-CAB-FLK14/AXIO/0,14/3,0M - 2901609

System cable with a 14-pos. molded socket strip (90° outlet) and one open end with 8 wires for connection to Axioline realtime I/O. At the open end, the wires are labeled 1 to 8 and are fitted with ferrules, cable length: 3 m.



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### Accessories

Round cable - VIP-CAB-FLK14/AXIO/0,14/4,0M - 2901610



System cable with a 14-pos. molded socket strip (90° outlet) and one open end with 8 wires for connection to Axioline realtime I/O. At the open end, the wires are labeled 1 to 8 and are fitted with ferrules, cable length: 4 m.

Round cable - VIP-CAB-FLK14/AXIO/0,14/6,0M - 2901611



System cable with a 14-pos. molded socket strip (90° outlet) and one open end with 8 wires for connection to Axioline realtime I/O. At the open end, the wires are labeled 1 to 8 and are fitted with ferrules, cable length: 6 m.

### 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

Zack Marker strip, flat - ZBF 10/5,8 AXL UNPRINTED - 0829580

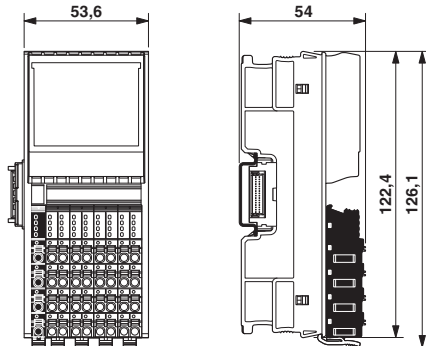


Zack marker strip, flat, in 10 mm pitch, unprinted, 10-section, for individual labeling with M-PEN 0,8, X-PEN, or CMS-P1-PLOTTER

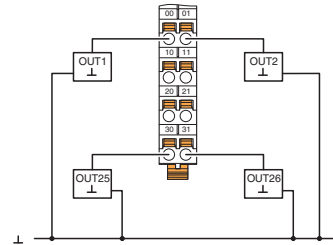
### Drawings

# I/O module - AXL DO 32/1 - 2688051

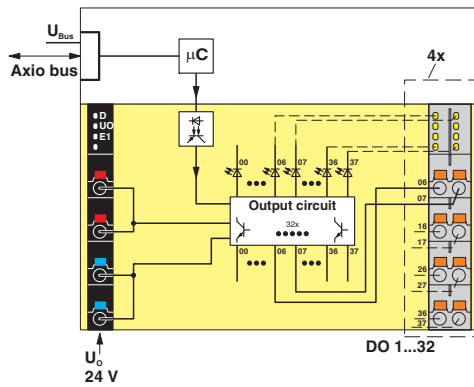
Dimensioned drawing



Connection diagram

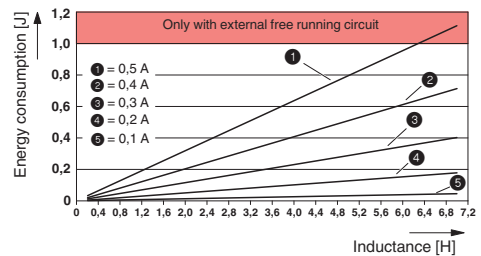


Block diagram



Internal wiring of the terminal points

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 8, 9 to 16, 17 to 24, 25 to 32) 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 -17 V when using an external freewheeling circuit. The external freewheeling circuit has no function in the event of a higher negative voltage.