

# AXL F DO8/2 2A 1H - Digital module



2688381

<https://www.phoenixcontact.com/us/products/2688381>

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Axioline F, Digital output module, Digital outputs: 8, 24 V DC, 2 A, connection technology: 2-conductor, 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

- 8 digital outputs
- 24 V DC, 2 A
- Connection of actuators in 2-conductor technology
- Minimum update time of < 100  $\mu$ s
- Device rating plate stored

## Commercial data

Item number	2688381
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR02
Product key	DRI232
GTIN	4046356606479
Weight per piece (including packing)	183.633 g
Weight per piece (excluding packing)	183.633 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
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### Material specifications

Color (Housing)	gray (RAL 7042)
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### 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	0 Byte
Output address area	1 Byte

#### Fieldbus data telegram (PROFIBUS)

Required parameter data	1 Byte
Required configuration data	6 Byte

### Output data

#### Digital:

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

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2688381

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Number of outputs	8
Protective circuit	Short-circuit protection, overload protection of the outputs; electronic
Output voltage	24 V
Max. current carrying capacity per output	max. 2 A
Maximum output current per module	max. 16 A (Provide external protection; if the total current of 8 A is exceeded, connect the supply at the power connector parallel via both terminal points.)
Nominal output voltage	24 V DC
Load min.	10 kΩ
Output voltage when switched off	max. 1 V
Output current when switched off	max. 300 μA
Nominal load, inductive	max. 48 VA (1.2 H, 12 Ω, at nominal load)
Nominal load, lamp	max. 48 W (at nominal voltage)
Nominal load, ohmic	max. 48 W (12 Ω, at nominal load)
Switching frequency	max. 6000 per second (with nominal ohmic load, up to HW 02) max. 10000 per second (For min. 50 mA load current, from HW 03) max. 1 per second (with inductive load) max. 4 per second (with nominal lamp load)
Reverse voltage resistance to short pulses	limited protection up to 0.5 A for 1 s
Behavior with overload	Shutdown with automatic restart
Behavior with inductive overload	Output can be destroyed
Signal delay	max. 150 μs (When switching on, up to HW 02) max. 150 μs (When switching off, for min. 100 mA load current, up to HW 02) max. 100 μs (When switching on, from HW 03) max. 100 μs (When switching off, for min. 100 mA load current, from HW 03)
Overcurrent shut-down	as of 2.8 A
Output current with ground connection interrupt when switched off	< 1 mA

## 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

Maximum power dissipation for nominal condition	4.25 W
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## Potentials: Axioline F local bus supply ( $U_{BUS}$ )

Supply voltage	5 V DC (via bus base module)
Current draw	max. 150 mA (up to HW 02)
	max. 60 mA (from HW 03)

## Potentials: Supply for digital output modules ( $U_O$ )

Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current draw	max. 16 A (Provide external protection; if the total current of 8 A is exceeded, connect the supply at the power connector parallel via both terminal points.)
Current consumption	min. 12 mA (without actuators)
Protective circuit	Surge protection; electronic (35 V, 0.5 s)
	Reverse polarity protection; parallel diode; with external 5 A fuse (only for commissioning)
Protection	max. 16 A (polarity reversal protection up to 5 A)

## 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.

### 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	0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section, flexible	0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section AWG	20 ... 16
Stripping length	8 mm

## Environmental and real-life conditions

### Ambient conditions

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

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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
Continuous shock in accordance with EN 60068-2-27/IEC 60068-2-27	10g

## Standards and regulations

Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
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## Mounting

Mounting type	DIN rail mounting
Mounting position	any (no temperature derating)

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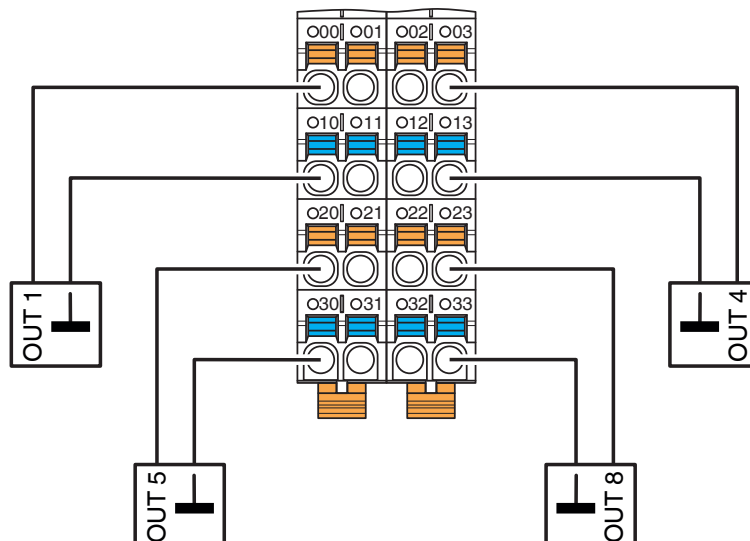
## Drawings

Dimensional drawing

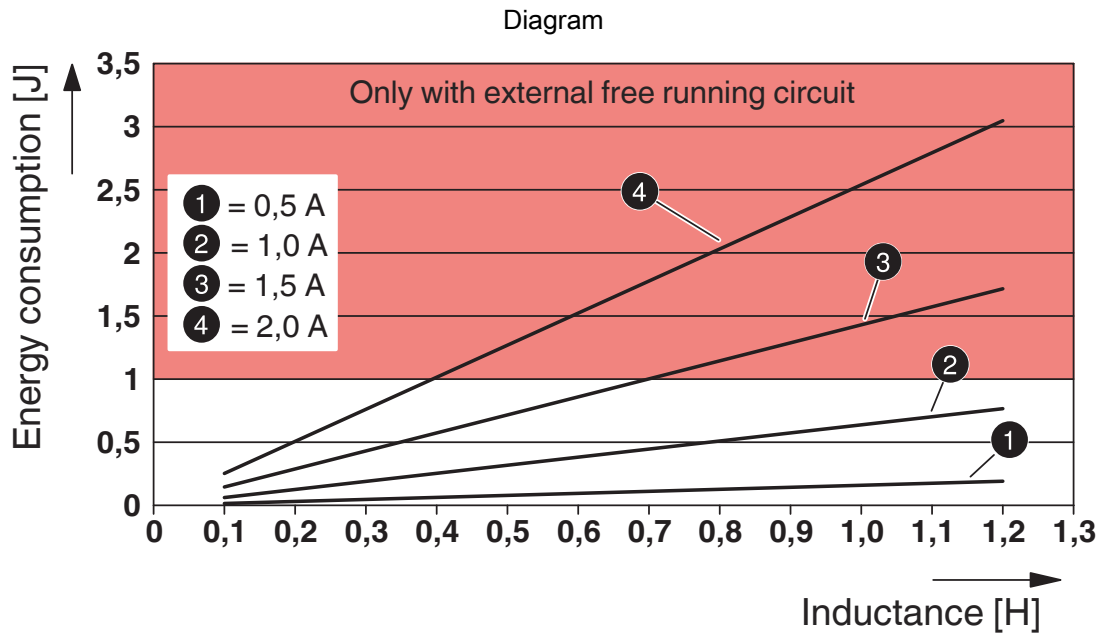


## Dimensions

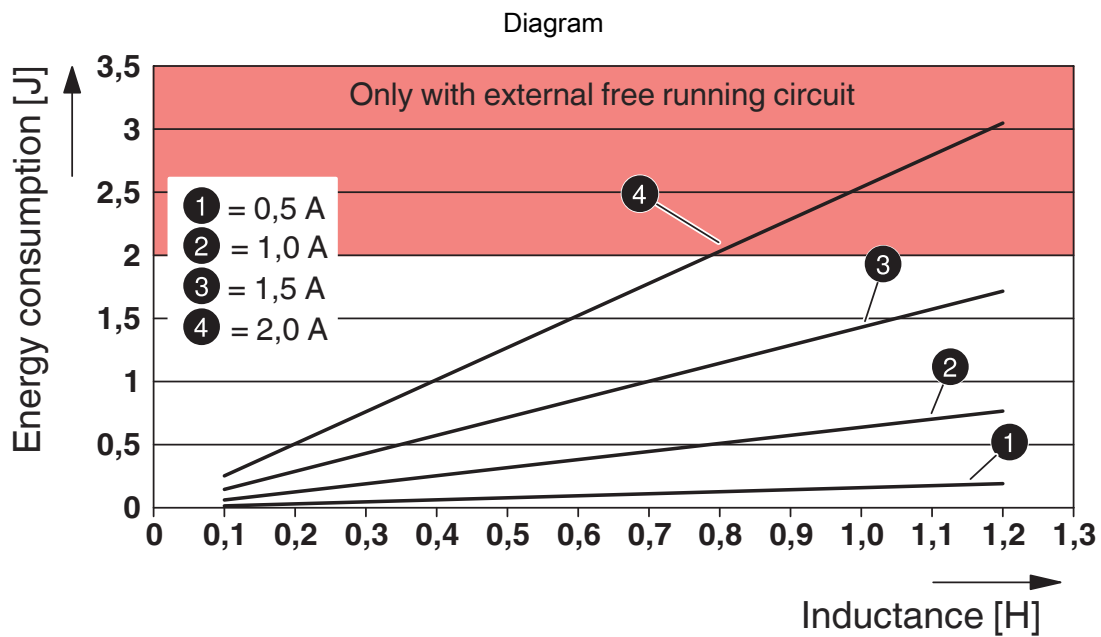
Connection diagram



## Connection example



Maximum energy consumption of the outputs when switching off inductive loads with 100 % simultaneity



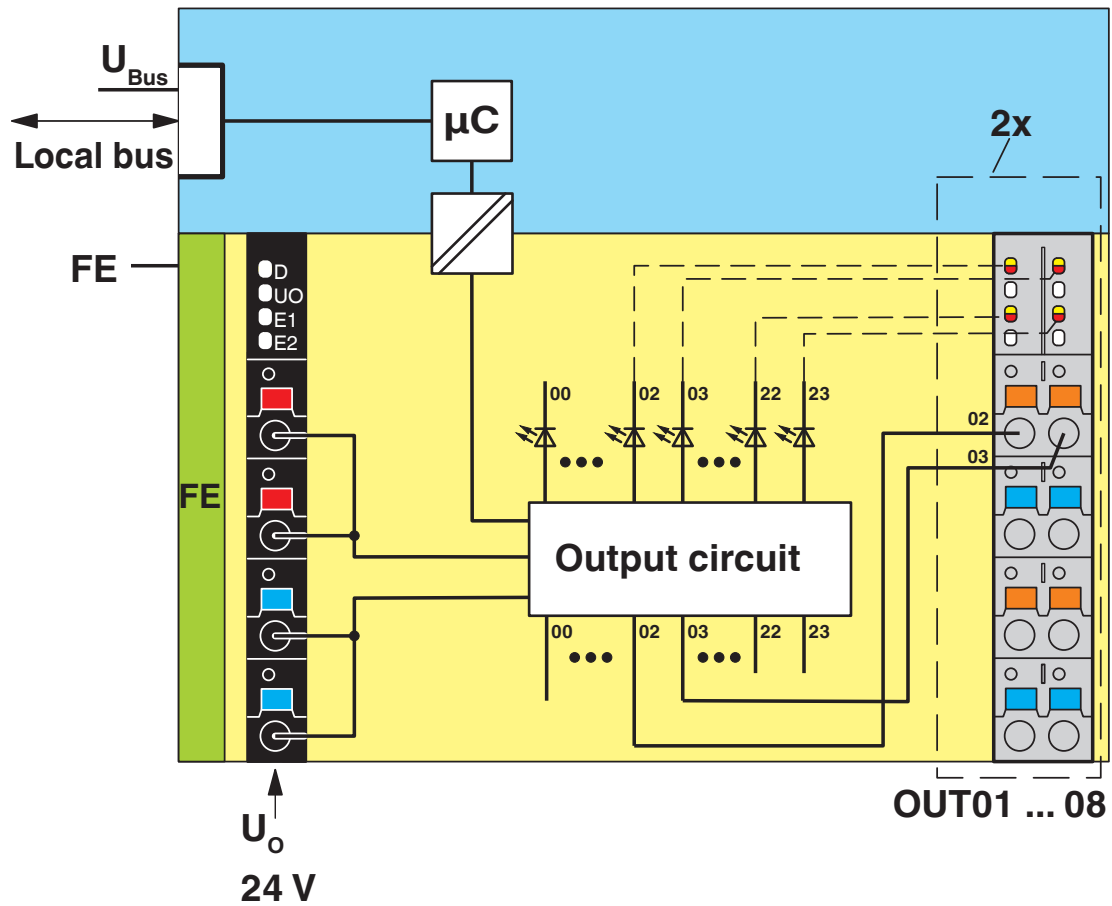
Maximum energy consumption of the outputs when switching off inductive loads with 50 % simultaneity

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Block diagram



Internal wiring of the terminal points

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## Approvals

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**DNV GL**

Approval ID: TAA00000DF



**PRS**

Approval ID: TE/1020/880590/21

**BSH**

Approval ID: 840



**RINA**

Approval ID: ELE008423XG001



**cULus Listed**

Approval ID: E238705

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## Classifications

### ECLASS

ECLASS-13.0	27242604
ECLASS-15.0	27242604

### ETIM

ETIM 10.0	EC001599
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### UNSPSC

UNSPSC 21.0	32151600
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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)
	6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol(CAS: 119-47-1)
SCIP	e093fb3f-57f4-4def-9fdc-14a53267e018

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