

# Digital module - AXL F DI8/1 DO8/1 1H



2701916

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Axioline F, Digital I/O module, Digital inputs: 8, 24 V DC, connection technology: 1-conductor, Digital outputs: 8, 24 V DC, 500 mA, connection technology: 1-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 acquire and output digital signals. You can adjust the filter times of the inputs to increase noise immunity. Filter times of 100  $\mu$ s enable you to implement a counter function with a maximum input frequency of 5 kHz in the application. The outputs are protected against short circuit and overload.

## Your advantages

- 8 digital inputs in accordance with EN 61131-2 type 1 and type 3
- 24 V DC, 2.4 mA
- Connection of sensors in 1-conductor technology
- Filter times can be adjusted in three increments: < 100  $\mu$ s, 1000  $\mu$ s or 3000  $\mu$ s
- Maximum input frequency: 5 kHz
- 8 digital outputs
- 24 V DC, 500 mA
- Connection of actuators in 1-conductor technology
- Minimum update time of < 100  $\mu$ s
- Device rating plate stored

## Commercial Data

Item number	2701916
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	DRI233
Product Key	DRI233
Catalog Page	Page 80 (C-6-2019)
GTIN	4046356872935
Weight per Piece (including packing)	180.1 g
Weight per Piece (excluding packing)	133 g
Customs tariff number	85389091
Country of origin	DE

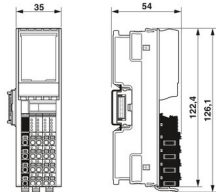
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## Technical Data

### 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

#### Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area
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### Material specifications

Color	traffic grey A 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

#### Module

ID code (hex)	none
Input address area	1 Byte
Output address area	1 Byte
Required parameter data	3 Byte
Required configuration data	7 Byte

### Input data

#### Digital

Input name	Digital inputs
Description of the input	EN 61131-2 types 1 and 3
Number of inputs	8

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Connection method	Push-in connection
Connection technology	1-conductor
Input voltage range "0" signal	-3 V DC ... 5 V DC
Input voltage range "1" signal	11 V DC ... 30 V DC
Nominal input voltage $U_{IN}$	24 V DC
Nominal input current at $U_{IN}$	2.4 mA
Input filter time	3000 $\mu$ s (Default)
	1000 $\mu$ s
	< 100 $\mu$ s
Protective circuit	Polarity reversal protection of the inputs; parallel diode (30 V, 5 s)

## Output data

### Digital

Output name	Digital outputs
Connection method	Push-in connection
Connection technology	1-conductor
Number of outputs	8
Protective circuit	Short-circuit protection, overload protection of the outputs; electronic
Output voltage	24 V DC
Maximum output current per module	4 A (provide external protection)
Nominal output voltage	24 V DC
Output voltage when switched off	max. 1 V
Output current when switched off	max. 300 $\mu$ A
Nominal load, inductive	max. 12 VA (1.2 H, 48 $\Omega$ , with nominal voltage)
Nominal load, lamp	max. 12 W (at nominal voltage)
Nominal load, ohmic	max. 12 W (48 $\Omega$ , with nominal voltage)
Switching frequency	max. 10000 per second (with at least 50 mA load current)
	max. 1 per second (with inductive load)
	max. 16 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

## Product properties

Type	block modular
Product type	I/O component
Mounting position	any (no temperature derating)
Scope of delivery	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

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## Potentials: Axioline F local bus supply ( $U_{BUS}$ )

Supply voltage	5 V DC (via bus base module)
Current draw	max. 120 mA (up to HW 01)
	max. 60 mA (from HW 02)
Power consumption	max. 600 mW (up to HW 01)
	max. 300 mW (from HW 02)

## Potentials: Supply for digital input and output modules ( $U_{IO}$ )

Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current draw	max. 4 A (provide external protection)
Power consumption	max. 96 W (of which 1.35 W internal losses)
Protective circuit	Surge protection; electronic (35 V, 0.5 s)
	Reverse polarity protection; parallel diode; with external 5 A fuse (only for commissioning)

## 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.

### Conductor connection

Connection method	Push-in connection
Conductor cross section solid	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

### 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
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)

## 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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## Classifications

### ECLASS

ECLASS-9.0	27242604
ECLASS-10.0.1	27242604
ECLASS-11.0	27242604

### ETIM

ETIM 8.0	EC001599
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### UNSPSC

UNSPSC 21.0	32151600
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