

## I/O module - AXL F DI32/1 2H - 2702052

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



Axioline F, Digital input module, Digital inputs: 32, 24 V DC, connection method: 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 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.

### Your advantages

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



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 932479
GTIN	4046356932479
Weight per Piece (excluding packing)	220.000 g
Custom tariff number	85389091
Country of origin	Germany

# I/O module - AXL F DI32/1 2H - 2702052

## Technical data

### Dimensions

Caption	Dimensions
Width	35 mm
Height	129.9 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

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
Color	traffic grey A RAL 7042
Net weight	159 g
Note on weight specifications	with connectors and bus base module
Degree of pollution	2 (IEC 60664-1, EN 60664-1)
Mounting position	any (no temperature derating)

### Interfaces

Designation	Axioline F local bus
-------------	----------------------

## I/O module - AXL F DI32/1 2H - 2702052

### Technical data

#### Interfaces

Number of interfaces	2
Connection method	Bus base module
Transmission speed	100 Mbps

#### Axioline potentials

Designation	Axioline F local bus supply ( $U_{Bus}$ )
Supply voltage	5 V DC (via bus base module)
Current consumption	max. 120 mA (HW 00)
	max. 60 mA (as of HW 01)
Power consumption	max. 600 mW (HW 00)
	max. 300 mW (as of HW 01)
Designation	Supply for digital input modules ( $U_i$ )
Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current consumption	max. 50 mA
Power consumption	max. 1.2 W
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. 8 A (polarity reversal protection up to 5 A)

#### Digital inputs

Input name	Digital inputs
Description of the input	EN 61131-2 types 1 and 3
Connection method	Push-in connection
Connection technology	1-conductor
Number of inputs	32
Protective circuit	Polarity reversal protection of the inputs parallel diode (30 V, 5 s)
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
Input voltage range "0" signal	-3 V DC ... 5 V DC
Input voltage range "1" signal	11 V DC ... 30 V DC

#### Electrical isolation

Test section	5 V supply of the local bus ( $U_{Bus}$ ) / 24 V supply (I/Os) 500 V AC 50 Hz 1 min.
--------------	--

## I/O module - AXL F DI32/1 2H - 2702052

### Technical data

#### Electrical isolation

	5 V supply of the local bus ( $U_{Bus}$ ) / functional ground 500 V AC 50 Hz 1 min.
	24 V supply (I/O) / functional ground 500 V AC 50 Hz 1 min.

#### 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, Field intensity: 10 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 B, 2 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 B, DC supply lines: $\pm 0.5$ kV/ $\pm 0.5$ 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
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
Overvoltage category	II (IEC 60664-1, EN 60664-1)

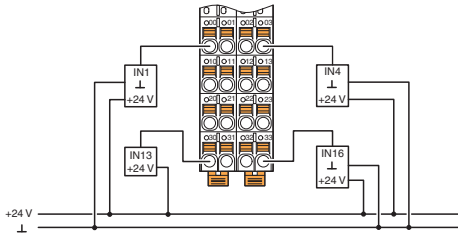
#### Environmental Product Compliance

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

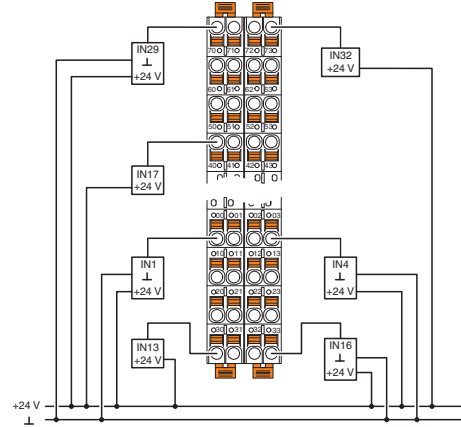
# I/O module - AXL F DI32/1 2H - 2702052

Connection diagram



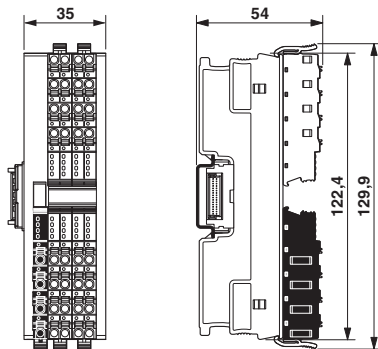
Connection in 1-conductor technology

Connection diagram



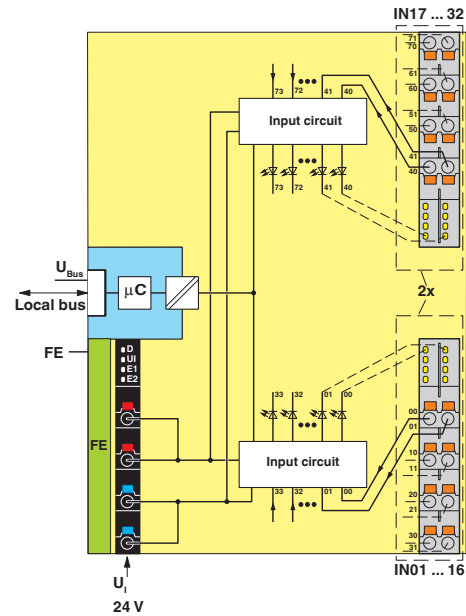
Connection in 1-conductor technology

Dimensional drawing



Dimensions

Block diagram



Internal wiring of the terminal points

## Classifications

eCI@ss

eCI@ss 10.0.1	27242604
---------------	----------

# I/O module - AXL F DI32/1 2H - 2702052

## Classifications

### eCl@ss

eCl@ss 11.0	27242604
eCl@ss 5.1	27242600
eCl@ss 6.0	27242600
eCl@ss 7.0	27242604
eCl@ss 9.0	27242604

### ETIM

ETIM 6.0	EC001599
ETIM 7.0	EC001599

### UNSPSC

UNSPSC 13.2	32151602
UNSPSC 18.0	32151602
UNSPSC 19.0	32151602
UNSPSC 20.0	32151602
UNSPSC 21.0	32151602

## Approvals

### Approvals

#### Approvals

KR / NK / ABS / BSH / RINA / LR / PRS / BV / DNV GL / UL Listed / cUL Listed / LR / NK / ABS / PRS / DNV GL / BV / RINA / BSH / KR / cULus Listed / cULus Listed

#### Ex Approvals

### Approval details










KR		<a href="http://www.krs.co.kr/eng/main/main.aspx">http://www.krs.co.kr/eng/main/main.aspx</a>	HMB17372-AC002
----	---	---	----------------

NK		<a href="http://www.classnk.or.jp/hp/en/">http://www.classnk.or.jp/hp/en/</a>	14A006
----	---	---	--------

ABS	<a href="http://www.eagle.org/eagleExternalPortalWEB/">http://www.eagle.org/eagleExternalPortalWEB/</a>	20-2059154-PDA
-----	---	----------------

# I/O module - AXL F DI32/1 2H - 2702052

## Approvals

BSH			840
RINA		<a href="http://www.rina.org/en">http://www.rina.org/en</a>	ELE030120XG
LR		<a href="http://www.lr.org/en">http://www.lr.org/en</a>	LR2001902TA
PRS		<a href="http://www.prs.pl/">http://www.prs.pl/</a>	TE/1117/880590/20
BV		<a href="http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials">http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials</a>	36433/B2 BV
DNV GL		<a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a>	TAA00000DF
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
LR		<a href="http://www.lr.org/en">http://www.lr.org/en</a>	LR2001902TA
NK		<a href="http://www.classnk.or.jp/hp/en/">http://www.classnk.or.jp/hp/en/</a>	14A006

ABS		<a href="http://www.eagle.org/eagleExternalPortalWEB/">http://www.eagle.org/eagleExternalPortalWEB/</a>	18-HG1767360-PDA
-----	--	---	------------------

# I/O module - AXL F DI32/1 2H - 2702052

## Approvals

PRS		<a href="http://www.prs.pl/">http://www.prs.pl/</a>	TE/1117/880590/20
-----	--	---	-------------------

DNV GL		<a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a>	TAA00000DF
--------	--	---	------------

BV		<a href="http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials">http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials</a>	36433/B2 BV
----	--	---	-------------

RINA		<a href="http://www.rina.org/en">http://www.rina.org/en</a>	ELE030120XG
------	--	---	-------------

BSH			840
-----	--	--	-----

KR		<a href="http://www.krs.co.kr/eng/main/main.aspx">http://www.krs.co.kr/eng/main/main.aspx</a>	HMB17372-AC002
----	--	---	----------------

cULus 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

DIN rail connector



## I/O module - AXL F DI32/1 2H - 2702052

### Accessories

Bus connector - AXL F BS H - 2700992



Axioline F bus base module for housing type H

---

### System cable

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



Round cable set; controller: Axioline Realtime I/O; connection 1: Single wires (8-position) (The wires are marked and fitted with ferrules); connection 2: IDC/FLK socket strip (1x 14-position, 90 °-out put); cable length: 0.5 m

---

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



Round cable set; controller: Axioline Realtime I/O; connection 1: Single wires (8-position) (The wires are marked and fitted with ferrules); connection 2: IDC/FLK socket strip (1x 14-position, 90 °-out put); cable length: 1 m

---

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



Round cable set; controller: Axioline Realtime I/O; connection 1: Single wires (8-position) (The wires are marked and fitted with ferrules); connection 2: IDC/FLK socket strip (1x 14-position, 90 °-out put); cable length: 1.5 m

---

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



Round cable set; controller: Axioline Realtime I/O; connection 1: Single wires (8-position) (The wires are marked and fitted with ferrules); connection 2: IDC/FLK socket strip (1x 14-position, 90 °-out put); cable length: 2 m

---

## I/O module - AXL F DI32/1 2H - 2702052

### Accessories

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



Round cable set; controller: Axioline Realtime I/O; connection 1: Single wires (8-position) (The wires are marked and fitted with ferrules); connection 2: IDC/FLK socket strip (1x 14-position, 90 °-out put); cable length: 2.5 m

---

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



Round cable set; controller: Axioline Realtime I/O; connection 1: Single wires (8-position) (The wires are marked and fitted with ferrules); connection 2: IDC/FLK socket strip (1x 14-position, 90 °-out put); cable length: 3 m

---

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



Round cable set; controller: Axioline Realtime I/O; connection 1: Single wires (8-position) (The wires are marked and fitted with ferrules); connection 2: IDC/FLK socket strip (1x 14-position, 90 °-out put); cable length: 4 m

---

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



Round cable set; controller: Axioline Realtime I/O; connection 1: Single wires (8-position) (The wires are marked and fitted with ferrules); connection 2: IDC/FLK socket strip (1x 14-position, 90 °-out put); 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

---

## I/O module - AXL F DI32/1 2H - 2702052

### Accessories

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



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: 10.15 mm, lettering field size: 4 of 10.15 x 5 mm and 1 of 5.8 x 5 mm, Number of individual labels: 50