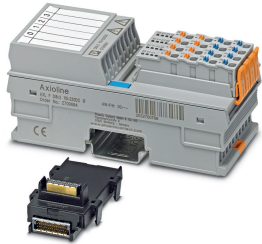


I/O module - AXL F DI8/2 24DC 1F - 2702783

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The figure shows the AXL F DI8/2 100/220DC 1F

Axioline F, Digital input module, Digital inputs: 8, 24 V DC, connection method: 2-conductor, corresponds to standard IEC 61850-3, 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 DC voltage signals in the low-voltage range. You can use low-voltage and extra-low voltage modules directly next to each other within an Axioline F station.

Your advantages

- ✓ 8 digital inputs according to EN 61131-2 type 1
- ✓ Connection of sensors in 2-conductor technology
- ✓ 24 V DC, 2.5 mA
- ✓ Filter time of < 1 ms
- ✓ Inputs are reverse polarity protected
- ✓ Safe isolation according to EN 61010-2-201/IEC 61010-2-201
- ✓ Device rating plate stored
- ✓ Diagnostic and status indicators
- ✓ Meets the requirements of IEC 61850-3 and IEEE 1613



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 320540
GTIN	4055626320540
Weight per Piece (excluding packing)	220.000 g
Custom tariff number	85389091
Country of origin	Germany

I/O module - AXL F DI8/2 24DC 1F - 2702783

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

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 ²
Conductor cross section solid max.	1.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	1.5 mm ²
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	221.4 g
Note on weight specifications	with connectors and bus base module
Degree of pollution	2
Mounting position	any (no temperature derating) Nominal mounting position: wall mounting on horizontal DIN rail

Interfaces

Designation	Axioline F local bus
Number	2

I/O module - AXL F DI8/2 24DC 1F - 2702783

Technical data

Interfaces

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
Power consumption	max. 600 mW
Designation	Supply for digital input modules (U_i)
Protection	max. 8 A (for startup only)

Digital inputs

Input name	Digital inputs
Description of the input	EN 61131-2 type 1
Connection method	Push-in connection
Connection technology	2-conductor
Number of inputs	8
Protective circuit	Polarity reversal protection of the inputs
Nominal input voltage U_{IN}	24 V DC
Nominal input current at U_{IN}	2.5 mA
Input filter time	< 1 ms
Input voltage	24 V DC (Nominal voltage)
	max. 100 V DC
Input voltage range "0" signal	-5 V DC ... 5 V DC
Input voltage range "1" signal	14.5 V DC ... 100 V DC
Input voltage range	-100 V DC ... 100 V DC

Electrical isolation

Test section	I/Os / logic 4 kV Rated surge voltage (safe isolation according to EN 61010-2-201/IEC 61010-2-201)
	I/Os / logic 5 kV Pulse test voltage according to EN 61850/IEC 61850
	I/O/functional ground 4 kV Rated surge voltage (safe isolation according to EN 61010-2-201/IEC 61010-2-201)
	I/O/functional ground 5 kV Pulse test voltage according to EN 61850/IEC 61850
	I/O / I/O (adjacent connectors) 2.5 kV Pulse test voltage according to EN 61850/IEC 61850
	Logic/functional ground 1 kV Pulse test voltage according to EN 61850/IEC 61850

Standards and Regulations

I/O module - AXL F DI8/2 24DC 1F - 2702783

Technical data

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 A; 8 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, 20 V/m up to 1 GHz, 10 V/m up to 3 GHz
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 A, 4 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 A, ±2 kV (symmetrical), ±4 kV (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
Developed according to standard	IEC 61850-3 Electrostatic discharge (ESD) EN 61000-4-2/IEC 61000-4-2 Criterion A; 8 kV contact discharge; 8 kV air discharge
	IEC 61850-3 Electromagnetic fields EN 61000-4-3/IEC 61000-4-3 Criterion A, 20 V/m up to 1 GHz, 10 V/m up to 3 GHz
	IEC 61850-3 Fast transients (burst) EN 61000-4-4/IEC 61000-4-4 Criterion A, 4 kV
	IEC 61850-3 Transient overvoltage (surge) EN 61000-4-5/IEC 61000-4-5 Criterion A, ±2 kV (symmetrical), ±4 kV (asymmetrical)
	IEC 61850-3 Conducted interference EN 61000-4-6/IEC 61000-4-6 Criterion A, Test voltage 10 V
	IEC 61850-3 Immunity to magnetic fields, EN 61000-4-8/IEC 61000-4-8 300 A/m continuous, 1000 A/m for 1 s
	IEC 61850-3 Immunity to attenuated oscillating magnetic fields, EN 61000-4-10/IEC 61000-4-10 100 A/m
	IEC 61850-3 Immunity to conducted common-mode interference, EN 61000-4-16/IEC 61000-4-16 30 V continuous, 300 V for 1 s
	IEC 61850-3 Attenuated oscillating waves, EN 61000-4-18/IEC 61000-4-18 1 kV symmetrical, 2.5 kV asymmetrical
	IEC 61850-3 Radio interference properties EN 55022 Class B
Overvoltage category	III (EN 61010-2-201/IEC 61010-2-201)

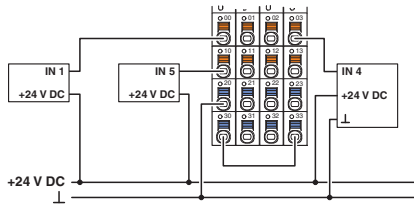
Environmental Product Compliance

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"

I/O module - AXL F DI8/2 24DC 1F - 2702783

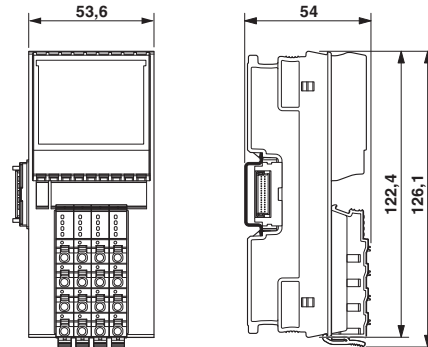
Drawings

Connection diagram

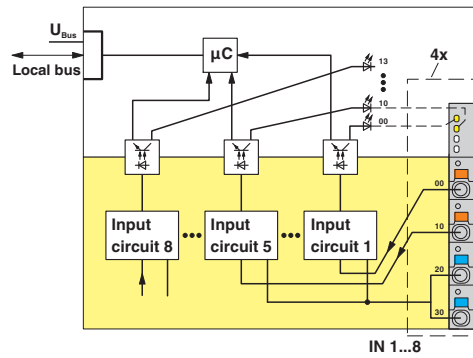


Connection of sensors when using external busbars

Dimensional drawing



Block diagram



Internal wiring of the terminal points

Classifications

eCl@ss

eCl@ss 10.0.1	27242604
eCl@ss 11.0	27242604
eCl@ss 5.1	27242604
eCl@ss 6.0	27242600
eCl@ss 7.0	27242604
eCl@ss 8.0	27242604
eCl@ss 9.0	27242604

I/O module - AXL F DI8/2 24DC 1F - 2702783

Classifications

ETIM

ETIM 5.0	EC001599
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

UL Listed / cUL Listed / cULus Listed

Ex Approvals

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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cUL Listed		http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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cULus Listed			
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Accessories

Accessories

I/O module - AXL F DI8/2 24DC 1F - 2702783

Accessories

Device marking

Insert label - EMT (35X46)R - 0801604



Insert label, for the Axioline F series from Phoenix Contact, 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 46 mm, Number of individual labels: 500

DIN rail connector

Bus connector - AXL F BS F - 2688129



Axioline F bus base module for housing type F

Surge protection for measurement and control technology

Surge protection device - TTC-6P-2X1-24DC-PT-I - 2906816



Surge protection, consisting of protective plug and base element, with integrated status indicator for two signal wires with common reference potential, e.g., Digital IN/OUT.

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 DI8/2 24DC 1F - 2702783

Accessories

Zack Marker strip, flat - ZBF 7,5:UNBEDRUCKT - 0809942



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: 7.5 mm, lettering field size: 5.15 x 7.4 mm, Number of individual labels: 10