

Bus coupler - AXL P BK PN AF - 2316390

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Axioline P bus coupler for PROFINET. Connects to PROFIBUS PA power supplies and Axioline P I/O modules along the AXIOLINE P local bus. (includes power supply connector and bus base module)


Product Description

The bus coupler is the link between a PROFINET network and the Axioline P system.

This system allows up to eight redundant PROFIBUS PA segments and up to 63 Axioline P I/O modules that may be connected to an existing PROFINET system using the bus coupler.



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 368382
GTIN	4055626368382
Weight per Piece (excluding packing)	200.000 g
Custom tariff number	85176200
Country of origin	United States

Technical data

Note

Utilization restriction	Use in potentially explosive areas is not permitted in China.
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Dimensions

Width	45 mm
Height	126.93 mm
Depth	75 mm
Note on dimensions	The depth is valid when a TH 35-7,5 DIN rail is used (according to EN 60715).

Bus coupler - AXL P BK PN AF - 2316390

Technical data

Ambient conditions

Ambient temperature (operation)	-40 °C ... 70 °C (Mounting position: wall mounting on horizontal DIN rail)
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 2000 m above sea level)
Air pressure (storage/transport)	70 kPa ... 106 kPa (up to 2000 m above sea level)
Maximum altitude	2000 m
Degree of protection	IP20
	IP20

Connection data

Designation	Power supply
Connection method	Push-in connection
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 mounting
Color	gray
Net weight	321.5 g
Note on weight specifications	with bus base module
Degree of pollution	2
Mounting position	any
Maximum altitude	2000 m

Interfaces

Designation	Axoline P local bus
Connection method	Connection for bus base module
Transmission speed	100 Mbps
Designation	PROFINET
Number	2
Connection method	RJ45 socket, auto negotiation and auto crossing
Transmission speed	100 Mbps (Full duplex)
Transmission physics	Ethernet in RJ45 twisted pair

Bus coupler - AXL P BK PN AF - 2316390

Technical data

Network/bus system

Amount of process data	max.
	max. (Input)
	max. (Output)
Number of supported devices	max. 8 (per redundant PROFIBUS PA segments)

Axioline potentials

Designation	Supply of the bus coupler
Supply voltage	24 V DC (U_L)
Supply voltage range	19.2 V DC ... 30 V DC
Current consumption	125 mA (24 V DC)
	4.15 A (19.2 V DC)
Designation	Supply of the Axioline P local bus U_{Bus}
Supply voltage	5 V DC (via bus base module)
Power supply unit	2 A
Current consumption	3 A (via bus base module)
Protective circuit	Surge protection of the supply voltage electronic
	Polarity reversal protection of the supply voltage electronic

Standards and Regulations

Immunity to ESD	Immunity test in accordance with EN 61000-6-2/IEC 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	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Electromagnetic fields EN 61000-4-3/IEC 61000-4-3 Criterion A, Field intensity: 10 V/m
Immunity to burst	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Fast transients (burst) EN 61000-4-4/IEC 61000-4-4 Criterion B, 2 kV
Immunity to surge	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Transient overvoltage (surge) EN 61000-4-5/IEC 61000-4-5 Criterion B, DC supply lines: ± 0.5 kV/ ± 0.5 kV (symmetrical/asymmetrical), fieldbus cable shield: ± 1 kV
Immunity to conducted interference	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Conducted interference EN 61000-4-6/IEC 61000-4-6 Criterion A, Test voltage 10 V
Interference emission	Noise emission test in accordance with EN 61000-6-4/IEC 61000-6-4 Radio interference properties according to EN 55011/EN 55032 Class A
Mechanical tests	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6 2g
	Shock in acc. with EN 60068-2-27/IEC 60068-2-27 15g
ATEX	# II 3 G Ex ec IIC T4 Gc IBExU 18ATEXB018X
IECEX	Ex ec IIC T4 Gc IECEX IBE 18.0023X
UL, USA / Canada	Class I, Div. 2, Groups A, B, C, D T4 Class I, Zone 2, IIC T4
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)

Bus coupler - AXL P BK PN AF - 2316390

Technical data

Standards and Regulations

Overvoltage category	II
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25;
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

I/O module - AXL P DI16 NAM 1F - 1052416

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Axioline P, Digital input module, Digital inputs: 16 (NAMUR), 8 V DC, connection technology: 2-conductor, transmission speed in the local bus: 100 Mbps, degree of protection: IP20

Product Description

The module is an Axioline P I/O module for use in the Axioline P modular I/O system.

It is used to acquire digital signals.

The module is a modular I/O device that can be affixed to the Axioline P local bus, to communicate I/O data up to the Axioline P bus coupler, which forms the head of the station.

The digital input module with NAMUR capabilities collects digital input signals and supports NAMUR proximity and close contact switches and makes this information available to the bus coupler through the Axioline P local bus.


The module is fully hot-swappable on the Axioline P local bus, which also provides power to the module.

Your advantages

- ✓ 16 NAMUR digital input signals for NAMUR proximity sensors according to EN 60947-5-6
- ✓ Open circuit contacts
- ✓ Switch contacts with resistance circuit in accordance with IEC/EN 60947-5-6
- ✓ Connection of sensors in 2-conductor technology
- ✓ Can be used under extreme ambient conditions
- ✓ Temperature range of -40 °C ... +70 °C
- ✓ Hot-swappable



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 676623
GTIN	4055626676623
Weight per Piece (excluding packing)	380.000 g
Custom tariff number	85176200
Country of origin	United States

I/O module - AXL P DI16 NAM 1F - 1052416

Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
	Use in potentially explosive areas is not permitted in China.

Dimensions

Width	53.6 mm
Height	126.1 mm
Depth	77.14 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)	-40 °C ... 70 °C (Standard)
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 2000 m above sea level)
Air pressure (storage/transport)	70 kPa ... 106 kPa (up to 2000 m above sea level)
Maximum altitude	2000 m
Degree of protection	IP20
	IP20

Connection data

Designation	Axioline P connector
Connection method	Push-in connection
Note on the connection method	Please observe the information provided on conductor cross sections in the "Axioline P: 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	379.2 g
Note on weight specifications	with bus base module

I/O module - AXL P DI16 NAM 1F - 1052416

Technical data

General

Degree of pollution	2
Mounting position	any (no temperature derating)
Maximum altitude	2000 m

Interfaces

Designation	Axiline P local bus
Connection method	Connection for bus base module
Transmission speed	100 Mbps

Axiline potentials

Designation	Supply of the logic voltage U_L
Supply voltage range	19.2 V DC ... 30 V DC (via bus base module (U_L) at AXL P BK...)
Designation	Supply of the Axiline P local bus U_{Bus}
Supply voltage	5 V DC (via bus base module)
Current consumption	max. 135 mA

Digital inputs

Input name	Digital inputs
Description of the input	NAMUR enabled digital input signals
Connection method	Push-in connection
Connection technology	2-conductor
Number of inputs	16 (NAMUR)
Protective circuit	Polarity reversal protection of the inputs
Nominal input voltage U_{IN}	8.2 V DC

Electrical isolation

Test section	5 V supply of the local bus (U_{Bus}) / functional ground 500 V AC 62 Hz 1 min.
	24 V supply (I/O) / functional ground 500 V AC 62 Hz 1 min.
	Field to functional earth 500 V AC 62 Hz 1 min.
	Field to 5 V and 24 V supplies 1500 V AC 62 Hz 1 min.

Standards and Regulations

Immunity to EF	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Electromagnetic fields EN 61000-4-3/IEC 61000-4-3 Criterion A, Field intensity: 10 V/m
Immunity to burst	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Fast transients (burst) EN 61000-4-4/IEC 61000-4-4 Criterion B, 2 kV
Immunity to surge	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Transient overvoltage (surge) EN 61000-4-5/IEC 61000-4-5 Criterion A, supply lines DC: ± 0.5 kV/ ± 0.5 kV (symmetrical/asymmetrical), ± 1 kV to shielded I/O cables

I/O module - AXL P DI16 NAM 1F - 1052416

Technical data

Standards and Regulations

Immunity to conducted interference	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Conducted interference EN 61000-4-6/IEC 61000-4-6 Criterion A, Test voltage 10 V
Interference emission	Noise emission test in accordance with EN 61000-6-4/IEC 61000-6-4 Class A
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
ATEX	DEMKO 20 ATEX 2334X II 3G Ex ec IIC T4 Gc
IECEX	IECEX UL 20.0002X Ex ec IIC T4 Gc
UL, USA / Canada	Class I, Div. 2, Groups A, B, C, D T4 Class I, Zone 2, IIC T4
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
Overvoltage category	II

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25;
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

I/O module - AXL P EX IS DI16 NAM 1F - 1052417

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Axioline P EX, Digital input module, Digital inputs: 16 (NAMUR), 8 V DC, connection technology: 2-conductor, Intrinsically safe, transmission speed in the local bus: 100 Mbps, degree of protection: IP20

Product Description

The module is an Axioline P I/O module for use in the Axioline P modular I/O system.

It is used to acquire digital signals.

The module is a modular I/O device that can be affixed to the Axioline P local bus, to communicate I/O data up to the Axioline P bus coupler, which forms the head of the station.

As an intrinsic safety I/O module, this device allows direct connection from intrinsically safe field I/O to the terminals of the module.

The digital input module with NAMUR capabilities collects digital input signals and supports NAMUR proximity and close contact switches and makes this information available to the bus coupler through the Axioline P local bus.


The module is fully hot-swappable on the Axioline P local bus, which also provides power to the module.

Your advantages

- ✓ 16 NAMUR digital input signals for NAMUR proximity sensors according to EN 60947-5-6
- ✓ Open circuit contacts
- ✓ Switch contacts with resistance circuit in accordance with IEC/EN 60947-5-6
- ✓ Connection of sensors in 2-conductor technology
- ✓ Intrinsically safe digital inputs with connection to Zone 1, Zone 0 or Division 1
- ✓ Can be used under extreme ambient conditions
- ✓ Temperature range of -40 °C ... +70 °C
- ✓ Hot-swappable



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 676241
GTIN	4055626676241
Weight per Piece (excluding packing)	400.000 g
Custom tariff number	85176200

I/O module - AXL P EX IS DI16 NAM 1F - 1052417

Country of origin	United States
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Technical data

Note

Utilization restriction	Use in potentially explosive areas is not permitted in China.
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Dimensions

Width	53.6 mm
Height	126.1 mm
Depth	77.14 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)	-40 °C ... 70 °C (Standard)
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 2000 m above sea level)
Air pressure (storage/transport)	70 kPa ... 106 kPa (up to 2000 m above sea level)
Maximum altitude	2000 m
Degree of protection	IP20
	IP20

Connection data

Designation	Axioline P connector
Connection method	Push-in connection
Note on the connection method	Please observe the information provided on conductor cross sections in the "Axioline P: 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	400 g
Note on weight specifications	with connectors and bus base module

I/O module - AXL P EX IS DI16 NAM 1F - 1052417

Technical data

General

Degree of pollution	2
Mounting position	any (no temperature derating)
Maximum altitude	2000 m

Interfaces

Designation	Axiline P local bus
Connection method	Connection for bus base module
Transmission speed	100 Mbps

Axiline potentials

Designation	Supply of the logic voltage U_L
Supply voltage range	19.2 V DC ... 30 V DC (via bus base module (U_L) at AXL P BK...)
Designation	Supply of the Axiline P local bus U_{Bus}
Supply voltage	5 V DC (via bus base module)
Current consumption	max. 135 mA

Digital inputs

Input name	Digital inputs
Description of the input	NAMUR enabled digital input signals
Connection method	Push-in connection
Connection technology	2-conductor
Number of inputs	16 (NAMUR)
Protective circuit	Polarity reversal protection of the inputs
Nominal input voltage U_{IN}	8.2 V DC

Electrical isolation

Test section	5 V supply of the local bus (U_{Bus}) / functional ground 500 V AC 62 Hz 1 min.
	24 V supply (I/O) / functional ground 500 V AC 62 Hz 1 min.
	Field to functional earth 500 V AC 62 Hz 1 min.
	Field to 5 V and 24 V supplies 1500 V AC 62 Hz 1 min.

Standards and Regulations

Immunity to EF	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Electromagnetic fields EN 61000-4-3/IEC 61000-4-3 Criterion A, Field intensity: 10 V/m
Immunity to burst	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Fast transients (burst) EN 61000-4-4/IEC 61000-4-4 Criterion B, 2 kV
Immunity to surge	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Transient overvoltage (surge) EN 61000-4-5/IEC 61000-4-5 Criterion A, supply lines DC: ± 0.5 kV/ ± 0.5 kV (symmetrical/asymmetrical), ± 1 kV to shielded I/O cables

I/O module - AXL P EX IS DI16 NAM 1F - 1052417

Technical data

Standards and Regulations

Immunity to conducted interference	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Conducted interference EN 61000-4-6/IEC 61000-4-6 Criterion A, Test voltage 10 V
Interference emission	Noise emission test in accordance with EN 61000-6-4/IEC 61000-6-4 Class A
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
Max. output voltage U_o	10.6 V
Max. output current I_o	11 mA
Max. output power P_o	30 mW
Group	A, B / IIC
Max. external capacitance C_o	2.3 μ F
Additional text	(A, B, or IIC)
Group	C/IIB, IIIC
Max. external capacitance C_o	16 μ F
Additional text	(C, IIB, or IIIC)
Group	D/IIA, E, F, G, Class III
Max. external capacitance C_o	71.8 μ F
Additional text	(D, E, F, G, Class III, or IIA)
Group	A, B / IIC
Max. external inductivity L_o	100 mH
Additional text	(A, B, or IIC)
Group	C/IIB, IIIC
Max. external inductivity L_o	100 mH
Additional text	(C, IIB, or IIIC)
Group	D/IIA, E, F, G, Class III
Max. external inductivity L_o	100 mH
Additional text	(D, E, F, G, Class III, or IIA)
ATEX	DEMKO 20 ATEX 2370X II 3(1)G Ex ec [ia Ga] IIC T4 Gc II (1)D [Ex ia Da] IIIC
IECEX	IECEX UL 20.0044X Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC
UL, USA / Canada	Ind. Cont. Eq. (E238705) also Listed Ind. Cont. Eq. for haz. loc. E196811 Install in: Class I, Div. 2, Groups A, B, C, D T4 Intrinsically safe outputs for: Class I, Groups A, B, C, D; Class II, Groups E, F, G; Class III; [Ex ia] Haz loc Class I, Zone 2, AEx ec [ia Ga] IIC T4 Gc [AEx ia Da] IIIC

I/O module - AXL P EX IS DI16 NAM 1F - 1052417

Technical data

Standards and Regulations

	Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC
Safety-related maximum voltage U_m	250 V
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
Overvoltage category	II

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25;
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Bus connector - AXL P BS F2 - 1052428


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Axioline P bus base module for housing type F2



Key Commercial Data

Packing unit	1 pc
GTIN	 4 0 5 5 6 2 6 6 7 6 2 5 8
GTIN	4055626676258
Weight per Piece (excluding packing)	140.000 g
Custom tariff number	85366990
Country of origin	United States

Technical data

Dimensions

Height	36.98 mm
Depth	21.65 mm
Width	59.34 mm

General

Weight	20 g
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I/O module - AXL P AI8 HART 1F - 1052429

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Axioline P, Analog input module, Active analog inputs: 8, 4 mA ... 20 mA, connection technology: 2-conductor, transmission speed in the local bus: 100 Mbps, HART functionality, degree of protection: IP20

Product Description

The module is an Axioline P I/O module for use in the Axioline P modular I/O system.

The module is a modular I/O device that can be affixed to the Axioline P local bus, to communicate I/O data up to the Axioline P bus coupler, which forms the head of the station.

The analog input I/O module with HART capabilities collects analog input and HART data from the field I/O terminals and makes this information available to the bus coupler through the Axioline P local bus.

The active analog input module allows the connection of up to eight HART enabled, passive analog input signals.


The module is fully hot-swappable on the Axioline P local bus, which also provides power to the module.

Your advantages

- ✓ Active analog input module
- ✓ Sources power for up to 8 HART enabled, passive analog input signals
- ✓ Connection of sensors in 2-conductor technology
- ✓ Current range: 4 mA ... 20 mA
- ✓ Can be used under extreme ambient conditions
- ✓ Temperature range of -40 °C ... +70 °C
- ✓ Hot-swappable



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 676432
GTIN	4055626676432
Weight per Piece (excluding packing)	360.000 g
Custom tariff number	85176200
Country of origin	United States

I/O module - AXL P AI8 HART 1F - 1052429

Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
	Use in potentially explosive areas is not permitted in China.

Dimensions

Width	53.6 mm
Height	126.1 mm
Depth	77.14 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)	-40 °C ... 70 °C (Standard)
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 2000 m above sea level)
Air pressure (storage/transport)	70 kPa ... 106 kPa (up to 2000 m above sea level)
Maximum altitude	2000 m
Degree of protection	IP20
	IP20

Connection data

Designation	Axioline P connector
Connection method	Push-in connection
Note on the connection method	Please observe the information provided on conductor cross sections in the "Axioline P: 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	352.9 g
Note on weight specifications	with connectors and bus base module

I/O module - AXL P AI8 HART 1F - 1052429

Technical data

General

Degree of pollution	2
Mounting position	any (no temperature derating)
Maximum altitude	2000 m

Interfaces

Designation	Axioline P local bus
Connection method	Bus base module
Transmission speed	100 Mbps

Axioline potentials

Designation	Supply of the logic voltage U_L
Supply voltage range	19.2 V DC ... 30 V DC (via bus base module (U_L) at AXL P BK...)
Designation	Supply of the Axioline P local bus U_{Bus}
Supply voltage	5 V DC (via bus base module)
Current consumption	max. 135 mA

Analog inputs

Description of the input	HART enabled, passive analog input signals
Input name	Active analog inputs
Number of inputs	8 (HART)
Connection method	Push-in connection
Connection technology	2-conductor
Note regarding the connection technology	shielded, twisted pair
Type of protection	Polarity reversal protection of the inputs
Current input signal	4 mA ... 20 mA
Precision	0.1 % (of measuring range final value for active mean-value generation and 30 Hz filter)

Electrical isolation

Test section	5 V supply of the local bus (U_{Bus}) / functional ground 500 V AC 62 Hz 1 min.
	24 V supply (I/O) / functional ground 500 V AC 62 Hz 1 min.
	Field to functional earth 500 V AC 62 Hz 1 min.
	Field to 5 V and 24 V supplies 1500 V AC 62 Hz 1 min.

Standards and Regulations

Immunity to EF	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Electromagnetic fields EN 61000-4-3/IEC 61000-4-3 Criterion A, Field intensity: 10 V/m
Immunity to burst	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Fast transients (burst) EN 61000-4-4/IEC 61000-4-4 Criterion B, 2 kV

I/O module - AXL P AI8 HART 1F - 1052429

Technical data

Standards and Regulations

Immunity to surge	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Transient overvoltage (surge) EN 61000-4-5/IEC 61000-4-5 Criterion A, supply lines DC: ± 0.5 kV/ ± 0.5 kV (symmetrical/asymmetrical), ± 1 kV to shielded I/O cables
Immunity to conducted interference	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Conducted interference EN 61000-4-6/IEC 61000-4-6 Criterion A, Test voltage 10 V
Interference emission	Noise emission test in accordance with EN 61000-6-4/IEC 61000-6-4 Class A
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
ATEX	DEMKO 20 ATEX 2334X II 3G Ex ec IIC T4 Gc
IECEX	IECEX UL 20.0002X Ex ec IIC T4 Gc
UL, USA / Canada	Class I, Div. 2, Groups A, B, C, D T4 Class I, Zone 2, IIC T4
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
Overvoltage category	II

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25;
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Bus connector - AXL P BS G1 - 1052430


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Axioline P bus base module for housing type G1



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 676630
GTIN	4055626676630
Weight per Piece (excluding packing)	20.000 g
Custom tariff number	85366990
Country of origin	United States

Technical data

Dimensions

Height	126.1 mm
Depth	77.14 mm
Width	53.6 mm

General

Weight	18 g
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I/O module - AXL P EX IS AI8 HART 1F - 1052431

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Axioline P EX, Analog input module, Active analog inputs: 8, 4 mA ... 20 mA, connection technology: 2-conductor, transmission speed in the local bus: 100 Mbps, HART functionality, Intrinsically safe, degree of protection: IP20

Product Description

The module is an Axioline P I/O module for use in the Axioline P modular I/O system.

The module is a modular I/O device that can be affixed to the Axioline P local bus, to communicate I/O data up to the Axioline P bus coupler, which forms the head of the station.

As an intrinsic safety I/O module, this device allows direct connection from intrinsically safe field I/O to the terminals of the module.

The analog input I/O module with HART capabilities collects analog input and HART data from the field I/O terminals and makes this information available to the bus coupler through the Axioline P local bus.

The active analog input module allows the connection of up to eight HART enabled, passive analog input signals.


The module is fully hot-swappable on the Axioline P local bus, which also provides power to the module.

Your advantages

- ✓ Active analog input module
- ✓ Sources power for up to 8 HART enabled, passive analog input signals
- ✓ Connection of sensors in 2-conductor technology
- ✓ Current range: 4 mA ... 20 mA
- ✓ Intrinsically safe analog inputs with connection to Zone 1, Zone 0 or Division 1
- ✓ Can be used under extreme ambient conditions
- ✓ Temperature range of -40 °C ... +70 °C
- ✓ Hot-swappable



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 675947
GTIN	4055626675947
Weight per Piece (excluding packing)	380.000 g
Custom tariff number	85176200

I/O module - AXL P EX IS AI8 HART 1F - 1052431

Country of origin	United States
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Technical data

Note

Utilization restriction	Use in potentially explosive areas is not permitted in China.
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Dimensions

Width	53.6 mm
Height	126.1 mm
Depth	77.14 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)	-40 °C ... 70 °C (Standard)
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 2000 m above sea level)
Air pressure (storage/transport)	70 kPa ... 106 kPa (up to 2000 m above sea level)
Maximum altitude	2000 m
Degree of protection	IP20
	IP20

Connection data

Designation	Axioline P connector
Connection method	Push-in connection
Note on the connection method	Please observe the information provided on conductor cross sections in the "Axioline P: 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	382.5 g
Note on weight specifications	with connectors and bus base module

I/O module - AXL P EX IS AI8 HART 1F - 1052431

Technical data

General

Degree of pollution	2
Mounting position	any (no temperature derating)
Maximum altitude	2000 m

Interfaces

Designation	Axioline P local bus
Connection method	Connection for bus base module
Transmission speed	100 Mbps

Axioline potentials

Designation	Supply of the logic voltage U_L
Supply voltage range	19.2 V DC ... 30 V DC (via bus base module (U_L) at AXL P BK...)
Designation	Supply of the Axioline P local bus U_{Bus}
Supply voltage	5 V DC (via bus base module)
Current consumption	max. 135 mA

Electrical isolation

Test section	5 V supply of the local bus (U_{Bus}) / functional ground 500 V AC 62 Hz 1 min.
	24 V supply (I/O) / functional ground 500 V AC 62 Hz 1 min.
	Field to functional earth 500 V AC 62 Hz 1 min.
	Field to 5 V and 24 V supplies 1500 V AC 62 Hz 1 min.

Standards and Regulations

Immunity to EF	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Electromagnetic fields EN 61000-4-3/IEC 61000-4-3 Criterion A, Field intensity: 10 V/m
Immunity to burst	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Fast transients (burst) EN 61000-4-4/IEC 61000-4-4 Criterion B, 2 kV
Immunity to surge	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Transient overvoltage (surge) EN 61000-4-5/IEC 61000-4-5 Criterion A, supply lines DC: ± 0.5 kV/ ± 0.5 kV (symmetrical/asymmetrical), ± 1 kV to shielded I/O cables
Immunity to conducted interference	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Conducted interference EN 61000-4-6/IEC 61000-4-6 Criterion A, Test voltage 10 V
Interference emission	Noise emission test in accordance with EN 61000-6-4/IEC 61000-6-4 Class A
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
Max. output voltage U_o	24.8 V
Max. output current I_o	85.8 mA

I/O module - AXL P EX IS AI8 HART 1F - 1052431

Technical data

Standards and Regulations

Max. output power P_o	532 mW
Group	A, B / IIC
Max. external capacitance C_o	0.113 μ F
Additional text	(A, B, or IIC)
Group	C/IIB, IIIC
Max. external capacitance C_o	0.86 μ F
Additional text	(C, IIB, or IIIC)
Group	D/IIA, E, F, G, Class III
Max. external capacitance C_o	3.05 μ F
Additional text	(D, E, F, G, Class III, or IIA)
Group	A, B / IIC
Max. external inductivity L_o	2.95 mH
Additional text	(A, B, or IIC)
Group	C/IIB, IIIC
Max. external inductivity L_o	18.95 mH
Additional text	(C, IIB, or IIIC)
Group	D/IIA, E, F, G, Class III
Max. external inductivity L_o	30.95 mH
Additional text	(D, E, F, G, Class III, or IIA)
ATEX	DEMKO 20 ATEX 2370X II 3(1)G Ex ec [ia Ga] IIC T4 Gc II (1)D [Ex ia Da] IIIC
IECEX	IECEX UL 20.0044X Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC
UL, USA / Canada	Ind. Cont. Eq. (E238705) also Listed Ind. Cont. Eq. for haz. loc. E196811 Install in: Class I, Div. 2, Groups A, B, C, D T4 Intrinsically safe outputs for: Class I, Groups A, B, C, D; Class II, Groups E, F, G; Class III; [Ex ia] Haz loc Class I, Zone 2, AEx ec [ia Ga] IIC T4 Gc [AEx ia Da] IIIC Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC
Safety-related maximum voltage U_m	250 V
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
Overvoltage category	II

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25;

I/O module - AXL P EX IS AI8 HART 1F - 1052431

Technical data

Environmental Product Compliance

	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"
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I/O module - AXL P EX IS DO4 SD 24-48 1F - 1087077

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Axioline P EX, Digital output module, Digital outputs: 4, 24 V DC, 48 mA, connection technology: 2-conductor, Solenoid drive, Intrinsically safe, transmission speed in the local bus: 100 Mbps, degree of protection: IP20, including bus base module and connectors

Product Description

The module is an Axioline P I/O module for use in the Axioline P modular I/O system.

The module is a modular I/O device that can be affixed to the Axioline P local bus, to communicate I/O data up to the Axioline P bus coupler, which forms the head of the station.

As an intrinsic safety I/O module, this device allows direct connection from intrinsically safe field I/O to the terminals of the module.

The module is fully hot-swappable on the Axioline P local bus, which also provides power to the module.


The module digital output characteristics of 24 V DC and 48 mA allow the connection of up to four solenoid driven, digital output signals.

Your advantages

- ✓ Four 24 V DC - 48 mA digital output-powered control signals for solenoid drives
- ✓ Intrinsically safe analog inputs with connection to Zone 1, Zone 0 or Division 1
- ✓ Temperature range of -40 °C ... +70 °C



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 882192
GTIN	4055626882192
Weight per Piece (excluding packing)	380.000 g
Custom tariff number	85389099

Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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I/O module - AXL P EX IS DO4 SD 24-48 1F - 1087077

Technical data

Note

	Use in potentially explosive areas is not permitted in China.
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Dimensions

Width	53.6 mm
Height	126.1 mm
Depth	77.14 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)	-40 °C ... 70 °C (Standard)
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 2000 m above sea level)
Air pressure (storage/transport)	70 kPa ... 106 kPa (up to 2000 m above sea level)
Maximum altitude	2000 m
Degree of protection	IP20
	IP20

Connection data

Designation	Axioline P connector
Connection method	Push-in connection
Note on the connection method	Please observe the information provided on conductor cross sections in the "Axioline P: 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	266.4 g
Note on weight specifications	with connectors and bus base module
Degree of pollution	2
Mounting position	any (no temperature derating)

I/O module - AXL P EX IS DO4 SD 24-48 1F - 1087077

Technical data

General

Maximum altitude	2000 m
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Interfaces

Designation	Axioline P local bus
Connection method	Connection for bus base module
Transmission speed	100 Mbps

Axioline potentials

Designation	Supply of the logic voltage U_L
Supply voltage range	19.2 V DC ... 30 V DC (via bus base module (U_L) at AXL P BK...)
Designation	Supply of the Axioline P local bus U_{BUS}
Supply voltage	5 V DC (via bus base module)
Current consumption	max. 135 mA

Digital outputs

Output name	Digital outputs
Number of outputs	4
Connection method	Push-in connection
Connection technology	2-conductor
Protective circuit	Polarity reversal protection of the outputs
Output voltage	24 V
Nominal output voltage	24 V DC
Output current per channel	48 mA

Electrical isolation

Test section	5 V supply of the local bus (U_{BUS}) / functional ground 500 V AC 62 Hz 1 min.
	24 V supply (I/O) / functional ground 500 V AC 62 Hz 1 min.
	Field to functional earth 500 V AC 62 Hz 1 min.
	Field to 5 V and 24 V supplies 1500 V AC 62 Hz 1 min.

Standards and Regulations

Immunity to EF	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Electromagnetic fields EN 61000-4-3/IEC 61000-4-3 Criterion A, Field intensity: 10 V/m
Immunity to burst	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Fast transients (burst) EN 61000-4-4/IEC 61000-4-4 Criterion B, 2 kV
Immunity to surge	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Transient overvoltage (surge) EN 61000-4-5/IEC 61000-4-5 Criterion A, supply lines DC: ± 0.5 kV/ ± 0.5 kV (symmetrical/asymmetrical), ± 1 kV to shielded I/O cables
Immunity to conducted interference	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Conducted interference EN 61000-4-6/IEC 61000-4-6 Criterion A, Test voltage 10 V

I/O module - AXL P EX IS DO4 SD 24-48 1F - 1087077

Technical data

Standards and Regulations

Interference emission	Noise emission test in accordance with EN 61000-6-4/IEC 61000-6-4 Class A
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
Max. output voltage U_o	27.3 V
Max. output current I_o	99 mA
Max. output power P_o	676 mW
Group	A, B / IIC
Max. external capacitance C_o	0.088 μ F
Additional text	(A, B, or IIC)
Group	C/IIB, IIIC
Max. external capacitance C_o	0.683 μ F
Additional text	(C, IIB, or IIIC)
Group	D/IIA, E, F, G, Class III
Max. external capacitance C_o	2.28 μ F
Additional text	(D, E, F, G, Class III, or IIA)
Group	A, B / IIC
Max. external inductivity L_o	1.189 mH
Additional text	(A, B, or IIC)
Group	C/IIB, IIIC
Max. external inductivity L_o	12.9 mH
Additional text	(C, IIB, or IIIC)
Group	D/IIA, E, F, G, Class III
Max. external inductivity L_o	27.41 mH
Additional text	(D, E, F, G, Class III, or IIA)
ATEX	DEMKO 20 ATEX 2370X II 3(1)G Ex ec [ia Ga] IIC T4 Gc II (1)D [Ex ia Da] IIIC
IECEX	IECEX UL 20.0044X Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC
UL, USA / Canada	Ind. Cont. Eq. (E238705) also Listed Ind. Cont. Eq. for haz. loc. E196811 Install in: Class I, Div. 2, Groups A, B, C, D T4 Intrinsically safe outputs for: Class I, Groups A, B, C, D; Class II, Groups E, F, G; Class III; [Ex ia] Haz loc Class I, Zone 2, AEx ec [ia Ga] IIC T4 Gc [AEx ia Da] IIIC Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC

I/O module - AXL P EX IS DO4 SD 24-48 1F - 1087077

Technical data

Standards and Regulations

Safety-related maximum voltage U_m	250 V
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
Overvoltage category	II

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25;
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

I/O module - AXL P EX IS DO4 SD 21-60 1F - 1087078

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Axioline P EX, Digital output module, Digital outputs: 4, 21 V, 60 mA, connection technology: 2-conductor, Solenoid drive, transmission speed in the local bus: 100 Mbps, degree of protection: IP20, including bus base module and connectors

Product Description

The module is an Axioline P I/O module for use in the Axioline P modular I/O system.

The module is a modular I/O device that can be affixed to the Axioline P local bus, to communicate I/O data up to the Axioline P bus coupler, which forms the head of the station.

As an intrinsic safety I/O module, this device allows direct connection from intrinsically safe field I/O to the terminals of the module.

The module is fully hot-swappable on the Axioline P local bus, which also provides power to the module.

The module digital output characteristics of 21 V DC and 60 mA allow the connection of up to four solenoid driven, digital output signals.

Your advantages




✓ Intrinsically safe analog inputs with connection to Zone 1, Zone 0 or Division 1



✓ Temperature range of -40 °C ... +70 °C



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 882062
GTIN	4055626882062
Weight per Piece (excluding packing)	400.000 g
Custom tariff number	85389099
Country of origin	United States

Technical data

Note

I/O module - AXL P EX IS DO4 SD 21-60 1F - 1087078

Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
	Use in potentially explosive areas is not permitted in China.

Dimensions

Width	53.6 mm
Height	126.1 mm
Depth	77.14 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)	-40 °C ... 70 °C (Standard)
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 2000 m above sea level)
Air pressure (storage/transport)	70 kPa ... 106 kPa (up to 2000 m above sea level)
Maximum altitude	2000 m
Degree of protection	IP20
	IP20

Connection data

Designation	Axioline P connector
Connection method	Push-in connection
Note on the connection method	Please observe the information provided on conductor cross sections in the "Axioline P: 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	263.5 g
Note on weight specifications	with connectors and bus base module

I/O module - AXL P EX IS DO4 SD 21-60 1F - 1087078

Technical data

General

Degree of pollution	2
Mounting position	any (no temperature derating)
Maximum altitude	2000 m

Interfaces

Designation	Axioline P local bus
Connection method	Connection for bus base module
Transmission speed	100 Mbps

Axioline potentials

Designation	Supply of the logic voltage U_L
Supply voltage range	19.2 V DC ... 30 V DC (via bus base module (U_L) at AXL P BK...)
Designation	Supply of the Axioline P local bus U_{Bus}
Supply voltage	5 V DC (via bus base module)
Current consumption	max. 135 mA

Digital outputs

Output name	Digital outputs
Number of outputs	4
Connection method	Push-in connection
Connection technology	2-conductor
Protective circuit	Polarity reversal protection of the outputs
Output voltage	21 V
Nominal output voltage	21 V
Output current per channel	60 mA

Electrical isolation

Test section	5 V supply of the local bus (U_{Bus}) / functional ground 500 V AC 62 Hz 1 min.
	24 V supply (I/O) / functional ground 500 V AC 62 Hz 1 min.
	Field to functional earth 500 V AC 62 Hz 1 min.
	Field to 5 V and 24 V supplies 1500 V AC 62 Hz 1 min.

Standards and Regulations

Immunity to EF	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Electromagnetic fields EN 61000-4-3/IEC 61000-4-3 Criterion A, Field intensity: 10 V/m
Immunity to burst	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Fast transients (burst) EN 61000-4-4/IEC 61000-4-4 Criterion B, 2 kV
Immunity to surge	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Transient overvoltage (surge) EN 61000-4-5/IEC 61000-4-5 Criterion A, supply lines

I/O module - AXL P EX IS DO4 SD 21-60 1F - 1087078

Technical data

Standards and Regulations

	DC: ± 0.5 kV/ ± 0.5 kV (symmetrical/asymmetrical), ± 1 kV to shielded I/O cables
Immunity to conducted interference	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Conducted interference EN 61000-4-6/IEC 61000-4-6 Criterion A, Test voltage 10 V
Interference emission	Noise emission test in accordance with EN 61000-6-4/IEC 61000-6-4 Class A
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
Max. output voltage U_o	24.8 V
Max. output current I_o	180 mA
Max. output power P_o	1116 mW
Group	C/IIB, IIIC
Max. external capacitance C_o	0.86 μ F
Group	D/IIA, E, F, G, Class III
Max. external capacitance C_o	3.05 μ F
Group	C/IIB, IIIC
Max. external inductivity L_o	2.779 mH
Group	D/IIA, E, F, G, Class III
Max. external inductivity L_o	7.168 mH
ATEX	DEMKO 20 ATEX 2370X II 3(1)G Ex ec [ia IIB Ga] IIC T4 Gc II (1)D [Ex ia Da] IIIC
IECEX	IECEX UL 20.0044X Ex ec [ia IIB Ga] IIC T4 Gc [Ex ia Da] IIIC
UL, USA / Canada	Ind. Cont. Eq. (E238705) also Listed Ind. Cont. Eq. for haz. loc. E196811 Install in: Class I, Div. 2, Groups A, B, C, D T4 Intrinsically safe outputs for: Class I, Groups C, D; Class II, Groups E, F, G; Class III; [Ex ia] Haz loc Class I, Zone 2, AEx ec [ia IIB Ga] IIC T4 Gc [AEx ia Da] IIIC Ex ec [ia IIB Ga] IIC T4 Gc [Ex ia Da] IIIC
Safety-related maximum voltage U_m	250 V
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
Overvoltage category	II

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25;

I/O module - AXL P EX IS DO4 SD 21-60 1F - 1087078

Technical data

Environmental Product Compliance

	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"
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I/O module - AXL P AO4 HART 1F - 1087079

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Axioline P, Analog output module, Analog outputs: 4 (HART), 0 mA ... 20 mA, 4 mA ... 20 mA, connection technology: 2-conductor, transmission speed in the local bus: 100 Mbps, HART functionality, degree of protection: IP20, including bus base module and connectors

Product Description

The module is an Axioline P I/O module for use in the Axioline P modular I/O system.

The module is a modular I/O device that can be affixed to the Axioline P local bus, to communicate I/O data up to the Axioline P bus coupler, which forms the head of the station.

The module is fully hot-swappable on the Axioline P local bus, which also provides power to the module.

The module allows the connection of up to four HART devices.


The analog input I/O module with HART capabilities collects analog input and HART data from the field I/O terminals and makes this information available to the bus coupler through the Axioline P local bus.

Your advantages

- ✓ 4 analog output-powered control signals for HART
- ✓ Current range: 4 mA ... 20 mA and 0 mA...20 mA
- ✓ Cyclic access to PV, SV, TV, QV, and Loop Current
- ✓ Temperature range of -40 °C ... +70 °C
- ✓ Hot-swappable



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 882468
GTIN	4055626882468
Weight per Piece (excluding packing)	360.000 g
Custom tariff number	85389091
Country of origin	United States

I/O module - AXL P AO4 HART 1F - 1087079

Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
	Use in potentially explosive areas is not permitted in China.

Dimensions

Width	53.6 mm
Height	126.1 mm
Depth	77.14 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)	-40 °C ... 70 °C (Standard)
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 2000 m above sea level)
Air pressure (storage/transport)	70 kPa ... 106 kPa (up to 2000 m above sea level)
Maximum altitude	2000 m
Degree of protection	IP20
	IP20

Connection data

Designation	Axioline P connector
Connection method	Push-in connection
Note on the connection method	Please observe the information provided on conductor cross sections in the "Axioline P: 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	353 g
Note on weight specifications	with connectors and bus base module

I/O module - AXL P AO4 HART 1F - 1087079

Technical data

General

Degree of pollution	2
Mounting position	any (no temperature derating)
Maximum altitude	2000 m

Interfaces

Designation	Axioline P local bus
Connection method	Bus base module
Transmission speed	100 Mbps

Axioline potentials

Designation	Supply of the logic voltage U_L
Supply voltage range	19.2 V DC ... 30 V DC (via bus base module (U_L) at AXL P BK...)
Designation	Supply of the Axioline P local bus U_{Bus}
Supply voltage	5 V DC (via bus base module)
Current consumption	max. 135 mA

Analog outputs

Number of outputs	4 (HART)
Connection method	Push-in connection
Connection technology	2-conductor
Note regarding the connection technology	shielded, twisted pair
Output name	Analog outputs
Current output signal	0 mA ... 20 mA
	4 mA ... 20 mA

Electrical isolation

Test section	5 V supply of the local bus (U_{Bus}) / functional ground 500 V AC 62 Hz 1 min.
	24 V supply (I/O) / functional ground 500 V AC 62 Hz 1 min.
	Field to functional earth 500 V AC 62 Hz 1 min.
	Field to 5 V and 24 V supplies 1500 V AC 62 Hz 1 min.

Standards and Regulations

Immunity to EF	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Electromagnetic fields EN 61000-4-3/IEC 61000-4-3 Criterion A, Field intensity: 10 V/m
Immunity to burst	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Fast transients (burst) EN 61000-4-4/IEC 61000-4-4 Criterion B, 2 kV
Immunity to surge	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Transient overvoltage (surge) EN 61000-4-5/IEC 61000-4-5 Criterion A, supply lines DC: ± 0.5 kV/ ± 0.5 kV (symmetrical/asymmetrical), ± 1 kV to shielded I/O cables

I/O module - AXL P AO4 HART 1F - 1087079

Technical data

Standards and Regulations

Immunity to conducted interference	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Conducted interference EN 61000-4-6/IEC 61000-4-6 Criterion A, Test voltage 10 V
Interference emission	Noise emission test in accordance with EN 61000-6-4/IEC 61000-6-4 Class A
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
ATEX	DEMKO 20 ATEX 2334X II 3G Ex ec IIC T4 Gc
IECEX	IECEX UL 20.0002X Ex ec IIC T4 Gc
UL, USA / Canada	Class I, Div. 2, Groups A, B, C, D T4
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
Overvoltage category	II

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25;
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Bus coupler - AXL P BK PN - 1132800

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Axioline P bus coupler for PROFINET. Connects to Axioline P I/O modules along the AXIOLINE P local bus. (includes power supply connector and bus base module)

Product Description

The bus coupler is the link between a PROFINET network and the Axioline P system. Up to 63 Axioline P I/O modules can be connected to an existing PROFINET system using the bus coupler.



Key Commercial Data

Packing unit	1 pc
GTIN	 4 063151 062903
GTIN	4063151062903
Weight per Piece (excluding packing)	320.000 g
Custom tariff number	85176200
Country of origin	United States

Technical data

Note

Utilization restriction	Use in potentially explosive areas is not permitted in China.
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Dimensions

Width	45 mm
Height	126.93 mm
Depth	75 mm
Note on dimensions	The depth is valid when a TH 35-7,5 DIN rail is used (according to EN 60715).

Bus coupler - AXL P BK PN - 1132800

Technical data

Ambient conditions

Ambient temperature (operation)	-40 °C ... 70 °C (Mounting position: wall mounting on horizontal DIN rail)
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 2000 m above sea level)
Air pressure (storage/transport)	70 kPa ... 106 kPa (up to 2000 m above sea level)
Maximum altitude	2000 m
Degree of protection	IP20
	IP20

Connection data

Designation	Power supply
Connection method	Push-in connection
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 mounting
Color	gray
Net weight	321.7 g
Note on weight specifications	with bus base module
Degree of pollution	2
Mounting position	any
Maximum altitude	2000 m

Interfaces

Designation	Axoline P local bus
Connection method	Connection for bus base module
Transmission speed	100 Mbps
Designation	PROFINET
Number	2
Connection method	RJ45 socket, auto negotiation and auto crossing
Transmission speed	100 Mbps (Full duplex)
Transmission physics	Ethernet in RJ45 twisted pair

Bus coupler - AXL P BK PN - 1132800

Technical data

Network/bus system

Amount of process data	max.
	max. (Input)
	max. (Output)
Number of supported devices	max. 63 (per station)

Axioline potentials

Designation	Supply of the bus coupler
Supply voltage	24 V DC (U_L)
Supply voltage range	19.2 V DC ... 30 V DC
Current consumption	125 mA (24 V DC)
	4.15 A (19.2 V DC)
Designation	Supply of the Axioline P local bus U_{Bus}
Supply voltage	5 V DC (via bus base module)
Current consumption	3 A (via bus base module)
Protective circuit	Surge protection of the supply voltage electronic
	Polarity reversal protection of the supply voltage electronic

Standards and Regulations

Mechanical tests	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6 2g
	Shock in acc. with EN 60068-2-27/IEC 60068-2-27 15g
ATEX	# II 3 G Ex ec IIC T4 Gc IBExU 18ATEXB018X
IECEX	Ex ec IIC T4 Gc IECEX IBE 18.0023X
UL, USA / Canada	Class I, Div. 2, Groups A, B, C, D T4 Class I, Zone 2, IIC T4
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
Overvoltage category	II

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25;
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Base module - AXL P FBPS BASE - 2316393

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Axioline P base for PROFIBUS PA power supply plugs. Provides Fieldbus power supply redundancy when two plugs are installed.

Product Description

The AXL P FBPS BASE is a modular, single-channel, PROFIBUS PA power supply base with PROFIBUS PA trunk and power connectors.



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 368375
GTIN	4055626368375
Weight per Piece (excluding packing)	200.000 g
Custom tariff number	85366990
Country of origin	United States

Technical data

Note

Utilization restriction	Use in potentially explosive areas is not permitted in China.
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Dimensions

Width	35 mm
Height	130 mm
Depth	125 mm

Ambient conditions

Ambient temperature (operation)	-40 °C ... 70 °C (Mounting position: wall mounting on horizontal DIN rail)
Ambient temperature (storage/transport)	-40 °C ... 85 °C

Base module - AXL P FBPS BASE - 2316393

Technical data

Ambient conditions

Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % ... 95 %
Altitude	2000 m (above sea level)
Degree of protection	IP20

General

Mounting type	DIN rail mounting
Weight	142 g (with bus base module)
Net weight	198.2 g
Color	gray
Degree of pollution	2
Overvoltage category	II

Power supply

Supply voltage range	18.5 V DC ... 30.5 V DC
Max. current consumption	950 mA (18.5 V DC, 500 mA load)
Typical current consumption	750 mA ()
Conductor cross section flexible max.	1.50 mm ²
Conductor cross section flexible min.	0.20 mm ²
Conductor cross section solid max.	1.50 mm ²
Conductor cross section solid min.	0.20 mm ²
Conductor cross section AWG max.	16
Conductor cross section AWG min.	24

Interfaces

Interface 1	Axioline P local bus
Connection method	Bus base module
Interface 2	PROFIBUS PA
Interface	PROFIBUS
Connection method	Push-in / plug connection
Number of bus devices	256
Termination resistor	100 Ω

Standards and Regulations

Designation	Standards/regulations
Standards/regulations	Ring wave noise immunity in acc. with IEC 61000-4-12
Designation	PROFIBUS standardization
Standards/regulations	IEC 61158-2
Shock	15g

Base module - AXL P FBPS BASE - 2316393

Technical data

Standards and Regulations

Vibration (operation)	2g
ATEX	# II 3 G Ex ec IIC T4 Gc IBE _U 18ATEXB018X
IECEX	Ex ec IIC T4 Gc IECEX IBE 18.0023X
UL, USA / Canada	Class I, Div. 2, Groups A, B, C, D T4 Class I, Zone 2, IIC T4

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"

Power module - AXL P FBPS 28DC/0.5A - 2316394

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Axioline P redundant power supply plug for the PROFIBUS PA power supply base. Provides 500 mA @ 28 V DC to Fieldbus couplers along the trunk.

Product Description

The AXL P FBPS 28DC/0.5A is a redundant, 500 mA PROFIBUS PA power supply plug with integrated PROFIBUS PA diagnostics and load sharing capabilities.



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 368368
GTIN	4055626368368
Weight per Piece (excluding packing)	120.000 g
Custom tariff number	85366990
Country of origin	United States

Technical data

Note

Utilization restriction	Use in potentially explosive areas is not permitted in China.
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Dimensions

Height	92 mm
Depth	97 mm
Width	17 mm

Ambient conditions

Degree of protection	IP20
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Power module - AXL P FBPS 28DC/0.5A - 2316394

Technical data

Standards and Regulations

Standards/specifications	Ring wave noise immunity in acc. with IEC 61000-4-12
	PROFIBUS standardization IEC 61158-2
Shock	15g
Vibration (operation)	2g
ATEX	# II 3 G Ex ec IIC T4 Gc IBE _{ExU} 18ATEXB018X
IECEX	Ex ec IIC T4 Gc IECEX IBE 18.0023X
UL, USA / Canada	Class I, Div. 2, Groups A, B, C, D T4 Class I, Zone 2, IIC T4

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25;
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Termination block - AXL P TERM PAIR - 2316402

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Axioline P terminator pair

Product Description

The terminator pair is necessary for the Axioline P system to run, as its function is to terminate the communication on the backplane at each end of the station.



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 368313
GTIN	4055626368313
Weight per Piece (excluding packing)	20.000 g
Custom tariff number	85489090
Country of origin	United States

Technical data

Dimensions

Width	11.55 mm
Height	58.5 mm

Ambient conditions

Ambient temperature (operation)	-40 °C ... 70 °C (Mounting position: wall mounting on horizontal DIN rail)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % ... 95 %
Altitude	2000 m (above sea level)

Termination block - AXL P TERM PAIR - 2316402

Technical data

Ambient conditions

Degree of protection	IP20
	IP20

General

Net weight	23.2 g
Color	black

Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"