

Axioline P system and installation

User manual

UM EN AXL P system

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UM EN AXL P system, Revision A

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This user manual is valid for Axioline P products

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1 For your safety

Read this user manual carefully and keep it for future reference.

1.1 Labeling of warning notes



This symbol indicates hazards that could lead to personal injury.

There are three signal words indicating the severity of a potential injury.

DANGER

Indicates a hazard with a high risk level. If this hazardous situation is not avoided, it will result in death or serious injury.

WARNING

Indicates a hazard with a medium risk level. If this hazardous situation is not avoided, it could result in death or serious injury.

CAUTION

Indicates a hazard with a low risk level. If this hazardous situation is not avoided, it could result in minor or moderate injury.



This symbol together with the **NOTE** signal word alerts the reader to a situation which may cause damage or malfunction to the device, hardware/software, or surrounding property.



Here you will find additional information or detailed sources of information.

1.2 Qualification of users

The use of products described in this user manual is oriented exclusively to:

- Qualified electricians or persons instructed by them. The users must be familiar with the relevant safety concepts of automation technology as well as applicable standards and other regulations.
- Qualified application programmers and software engineers. The users must be familiar with the relevant safety concepts of automation technology as well as applicable standards and other regulations.

1.3 Intended use

This document provides information regarding the Axioline P system and how it interconnects between different modules and higher-level systems.

1.4 Product changes

Changes or modifications to hardware and software of the device are not permitted.

Incorrect operation or modifications to the device can endanger your safety or damage the device. Do not repair the device yourself. If the device is defective, please contact Phoenix Contact.

2 Documentation landscape for Axioline P

2.1 Available documents

The documentation for the Axioline P product group is modular, providing you with the optimum information to meet your requirements.



In the following table, the term “module” is used for the bus coupler and I/O module.

Table 2-1 Axioline P documentation

Document	Contents
UM ... AXL P SYS	System manual for Axioline P products
UM ... AXL P diagnostics	Lists all error messages for the system and provides remedial measures.
Package slips	<p>A packing slip is provided with the module upon delivery. It contains key information for the electrical installation of a module or group of modules. This includes, for example:</p> <ul style="list-style-type: none"> – Short description – Safety notes – Mounting and removal – Terminal point assignment
Data sheets	<p>The data sheet for each module contains the complete information needed for use. This includes at the very least:</p> <ul style="list-style-type: none"> – Function description – Accessories – Technical data – Connection assignment or terminal point assignment – Local diagnostic and status indicators – Connection examples
Generate product PDF	<p>By clicking the “Generate product PDF” button on the Internet, you can access up-to-date information on the product (see Section “Documentation on the Internet” on page 13).</p> <p>This includes at the very least:</p> <ul style="list-style-type: none"> – Short description – Technical data – Drawings – Approvals

3 Axioline P product group

3.1 What is Axioline P?

Axioline P is a highly-available, modular I/O platform designed to meet the demands of the process industry. The portfolio is intended for hardened process applications where reliable up-time is critical while allowing signal connectivity in both Ex and non-Ex areas.

The attributes of Axioline P that position itself uniquely in the Axioline product group are:

- Hardened by design
- PROFINET S2 interface
- Wide temperature range
- Global approvals
- Hot-swap capability for I/O modules
- Live expansion or extension of a running system
- Direct migration of PROFIBUS PA networks to PROFINET
- I/O modules for connecting HART and NAMUR signals

Axioline P components are used for the transmission of process signals to a higher-level controller.

3.2 Features

Axioline P is hardened

Axioline P is designed with harsh environments in focus. The system operates reliably in wide-temperature environments, including hazardous areas, for maximum availability.

- Vibration and shock resistant
- High noise immunity even in electromagnetically strongly contaminated environments.
- Wide temperature range

Axioline P keeps continuous-process applications a priority

Axioline P has the necessary characteristics required by process applications.

A system consists of a bus coupler, fieldbus power supplies, bus base modules, I/O modules, and a terminator pair.

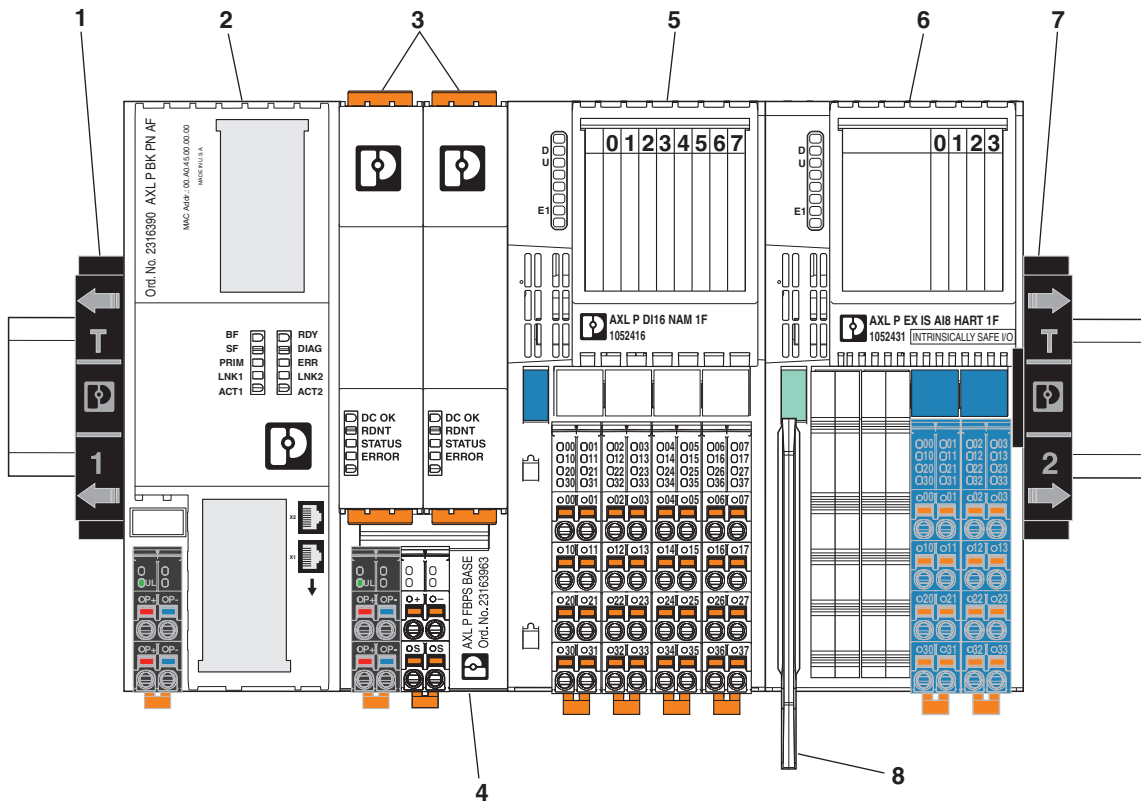
- I/O modules and PROFIBUS PA power supplies are hot swappable without affecting communication.
- Live expansion of running system.

3.3 Structure of an Axioline P station


An Axioline P station consists of individual modules snapped onto DIN rail (NS 35). A bus coupler forms the head of the station with modules mounted alongside.

Bus base modules are used for the connection of the individual modules to one another and to the head station. The bus base modules are snapped onto the DIN rail side-by-side and thus form the Axioline P local bus. The selected bus coupler determines which individual modules may be connected to the Axioline P station, as certain bus couplers function with a limited range of Axioline P modules.

Figure 3-1 Basic Axioline P station



- | | |
|--|--|
| 1 Terminator 1 (part of AXL P TERM PAIR) | 5 AXL P DI16 NAM 1F |
| 2 AXL P BK PN AF | 6 AXL P EX IS AI8 HART 1F |
| 3 AXL P FBPS 28DC/0.5A | 7 Terminator 2 (part of AXL P TERM PAIR) |
| 4 AXL P FBPS BASE | 8 AXL F/P IO EX PP |

 Refer to the module-specific documentation for detailed information, including connection and configuration.

3.4 Product description

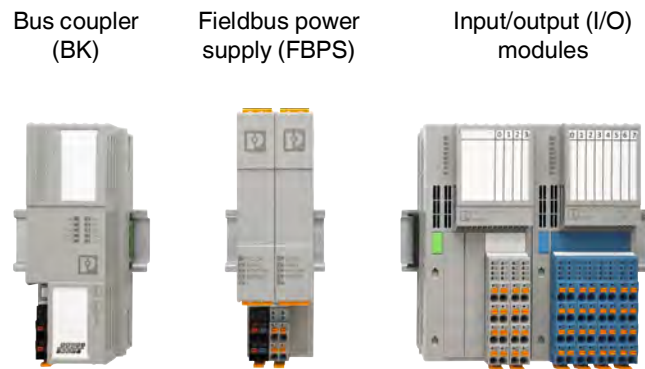
The Axioline P platform consists of two system groups, Axioline P I/O-only systems and the Advanced Functionality (AF) PROFINET I/O system.

The Axioline P I/O-only systems consist of the PROFINET I/O bus coupler and the Modbus TCP bus coupler.

The Advanced Functionality (AF) PROFINET I/O system implies the addition of PROFIBUS PA to the Axioline P PROFINET I/O system. Any Axioline P I/O module may be used with all Axioline P bus couplers, but the FBPS segment modules that bring entire PROFIBUS PA networks onto PROFINET may be used only with the AF bus coupler.

The Axioline P modules can be categorized into bus couplers (BK), fieldbus power supply (FBPS), and input/output (I/O) modules.

Figure 3-2 Axioline P components



Axioline P modules with various functions are available within the Axioline P product group.

Axioline P backplane

The Axioline backplanes are described in detail in [Section “Bus base modules” on page 27](#).

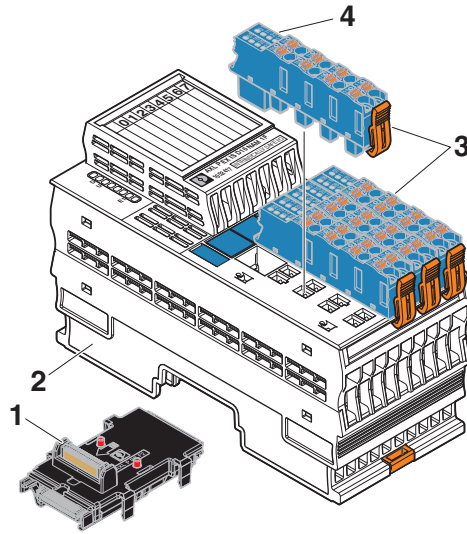
Axioline P modules

The Axioline P modules consist of an electronics module, one or several connectors, and a bus base module.

The electronics module can be changed without having to remove a wire from the connector.

The bus base modules are snapped onto the DIN rail side by side and thus form the Axioline P local bus that connects the modules to one another.

Figure 3-3 Components of an Axioline P I/O module




Key:

- 1 Bus base module
- 2 Electronics module
- 3 I/O connector
- 4 Diagnostic and status indicators

Versions

Modules are available for the following automation tasks:

- Bus couplers to integrate the Axioline P station into various networks (PROFINET, Modbus TCP, etc.).
- Input and output modules for digital and analog signals.
- Fieldbus power supply modules for PROFIBUS PA.
- ... (This product range is growing continuously.)

 The instructions given in this user manual and in the module-specific documentation must be followed during installation and startup.

Specifically observe: [Section “Mounting and removing modules” on page 31](#).

Mounting location

The Axioline P modules meet IP20 degree of protection and can be used in closed control cabinets or control boxes (junction boxes) with IP54 degree of protection according to EN 60529 or higher.

The compact design means that the Axioline P modules can be installed in standard junction boxes. Please observe the mounting distances when selecting the housing (refer to [“Dimensions” on page 26](#)).

Mounting

Each Axioline P module consists of a bus base module and an electronics module. Snap the bus base modules onto the DIN rail without the need for tools and arrange the modules side by side. The local bus is created automatically when the bus base modules are installed next to one another.

Then, snap the electronics modules onto the DIN rail over the bus base modules (refer to [“Mounting and removing modules” on page 31](#)).

Removal	Only a standard tool is necessary for removing the electronics module (e.g., a bladed screwdriver with a blade width of 2.5 mm) (refer to “Removing modules” on page 35).
Bus connection (network)	The Axioline P station is integrated in the network using a bus coupler.
Axioline P local bus	<p>There is an interface to the Axioline P local bus on the bottom of the modules. Bus base modules are used to carry the communications power and the bus signals from the bus coupler through the Axioline P station. The bus base module is supplied as standard with each module.</p> <p>The maximum number of Axioline P modules within a station is 63. The actual number of modules within an Axioline P station may be limited by the supplied logic current, the current consumption of the connected modules, and the system limits of the bus coupler. (see “Mounting and removing modules” on page 31).</p>
Connectors	Axioline P modules have connectors for connecting the power supply and the I/O. The connectors have spring-cage terminal blocks. Suitable conductors can be connected with Push-in technology (see “Conductor cross sections and stripping/insertion lengths” on page 39).
Connecting the supply voltage	The communications power for the Axioline P station is supplied at the bus coupler. The voltage for the module’s I/O is supplied through the Axioline P local bus (see “Power supply” on page 43).
I/O connection	Sensors and actuators are connected using connectors (see “Conductor cross sections and stripping/insertion lengths” on page 39).
FE connection	On the bottom of each module, there is at least one FE spring (metal contact) which establishes the connection to functional ground when the module is snapped onto a grounded DIN rail.
DTM/GSDML Composer	For information on the Axioline P DTM and GSDML Composer tool, refer to “Software support” on page 57 and the corresponding documentation.
Web-based management	By means of the web-based management integrated into some of the bus couplers, you have the option to display static and dynamic information of the Axioline P system using a standard browser. The status and diagnostic functions can be displayed on a graphical user interface by means of read access via a device network connection. In addition, specific bus coupler properties can be configured via web-based management.
Diagnostics	<p>The Axioline P system provides comprehensive diagnostics:</p> <ul style="list-style-type: none"> – Remote diagnostics – Process diagnostics (e.g., cycle time monitoring) – Communication diagnostics – Module diagnostics (status of Axioline P module) – I/O diagnostics (status of sensors/actuators) <p>For the diagnostic options of a specific module, please refer to the module-specific data sheets.</p>
Reset button	The reset button provided on the bus couplers can only be operated with a pointed object (e.g., a pen) to protect against accidental activation. If the reset button is actuated during operation, the bus coupler is restarted. Using the reset button, the bus coupler can also be reset to the default settings.



For more detailed information on the reset button, please refer to the module-specific documentation.

Electrical data

The removable U_L connector (black) connects to an external 24 V DC power source.

Table 3-1 Voltage ranges for Axioline P

Order no.	Nominal voltage	Permissible voltage range
AXL P FBPS BASE	24 V DC	18.5 ... 30.5 V DC
AXL P BK...	24 V DC	19.2 ... 30 V DC

Each Axioline P module includes a metal contact to the DIN rail. The DIN rail must be grounded to ground the module.

All removable connectors use push-in technology for conductor connection.

3.4.1 Axioline P bus coupler

The bus coupler links the Axioline P station with an Ethernet-based protocol or network, such as PROFINET or Modbus TCP.

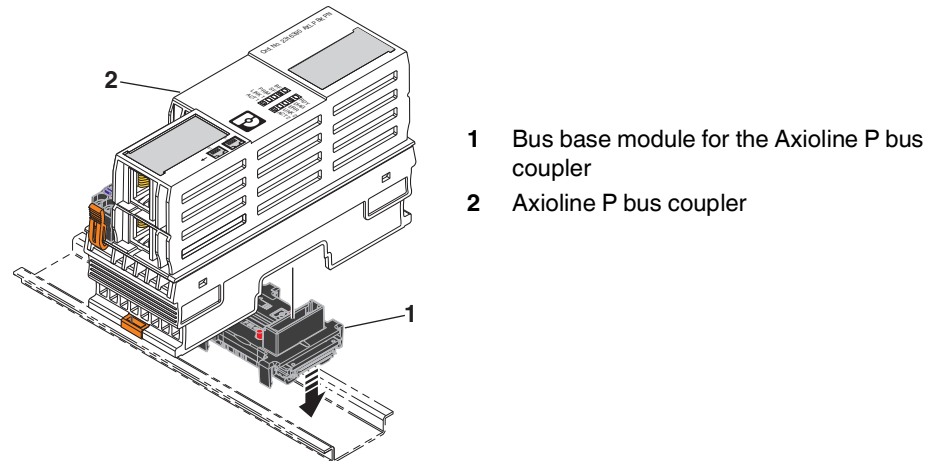
There are three bus couplers in the Axioline P platform. Each bus coupler has 24 V DC terminals used for supplying power to the bus coupler as well as the connected I/O modules. They have two Ethernet ports, used for connection to the PROFINET or Modbus TCP network.

All Axioline P bus couplers support hot-swap technology, wide temperature ranges, and global approvals.

Table 3-2 Bus coupler order numbers

Bus system/network	Type description	Order no.
PROFINET	AXL P BK PN AF	2316390
PROFINET	AXL P BK PN	1132800
Ethernet (Modbus TCP)	AXL P BK ETH	1213488

Figure 3-4 Axioline P bus coupler



- 1 Bus base module for the Axioline P bus coupler
- 2 Axioline P bus coupler

The following features are specific to one or more of the PROFINET bus couplers:

- PROFINET S2 system redundancy.
- Simple device replacement.
- Hot-expansion, allowing the system to be expanded or modified while under power.
- Hot-swappable modules.
- DTM environment.
- Web-based management.
- PROFIBUS PA device connection.

The following features are specific to the Modbus TCP bus coupler:

- Bus coupler hardware redundancy
- Plug and play technology
- Web-based management

AXL P BK PN AF

The AXL P BK PN AF bus coupler acts as the head module and PROFINET interfacing coupler for the Axioline Advanced functionality system. It connects both I/O modules and Fieldbus power supplies to the PROFINET network.

AXL P BK PN

The AXL P BK PN bus coupler acts as the head module and PROFINET-interfacing coupler for the I/O-only system. It connects I/O modules to the PROFINET network. The bus coupler contains a web-based manager used to access system information and diagnostics.

AXL P BK ETH

The AXL P BK ETH bus coupler acts as the head module and Modbus TCP interfacing coupler for the I/O-only system. It connects I/O modules to the Modbus TCP network. The bus coupler contains a web-based manager used to access system information and diagnostics.

3.4.2 Axioline P fieldbus power supply (FBPS) segment

The AXL P FBPS BASE module and AXL P FBPS 28DC/0.5A plug creates a single PROFIBUS PA segment. A single AXL P FBPS... plug can be used in a simplex configuration or a second plug added for fieldbus power supply redundancy. When the second AXL P FBPS 28DC/0.5A plug is added, the system will automatically assign primary and backup power supplies. The AXL P FBPS... plugs provide load sharing when used in a redundant configuration.

The FBPS segment provides 500 mA power to a PROFIBUS PA trunk connection, capable of bringing up to 32 PROFIBUS PA devices onto this single PROFIBUS PA segment.

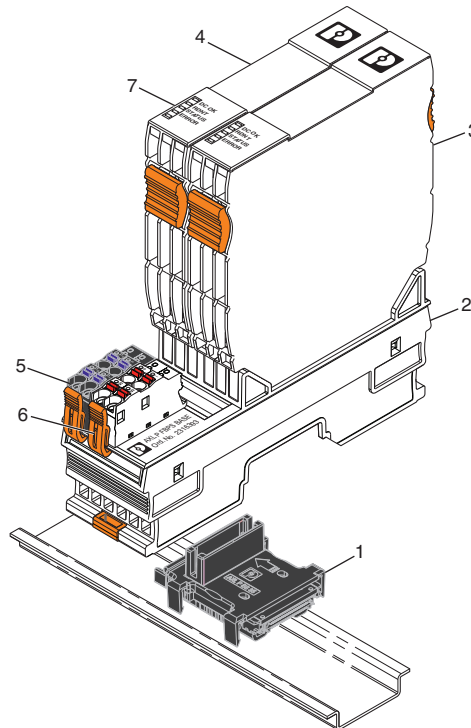
Up to eight FBPS segments can be connected to one AXL P BK PN AF, allowing for a total of 256 total PROFIBUS PA devices on a single PROFINET node.

Diagnostics for segment health are accessible via NE107 alarming through PROFINET or FDT/DTM. The FBPS segment has terminals for both 24 V DC power and the fieldbus trunk connection.

Table 3-3 FBPS segment order numbers

Bus system/network	Type description	Order no.
Axioline P/PROFIBUS PA	AXL P FBPS BASE	2316393
Axioline P/PROFIBUS PA	AXL P FBPS 28DC/0.5A	2316394

Figure 3-5 Axioline P FBPS segment



- 1 Bus base module
- 2 AXL P FBPS BASE
- 3 AXL P FBPS 28DC/0.5A
- 4 AXL P FBPS 28DC/0.5A
- 5 U_L connector
- 6 Fieldbus trunk connector
- 7 LED status indicators

3.4.3 AXL P I/O modules

The Axioline P I/O modules are unique in their design for the Axioline P platform. The I/O modules provide both analog and digital inputs and outputs, but they are also designed to connect to HART sensors, solenoid driven output signals, and NAMUR digital input sensors.

These I/O modules offer connections into intrinsically safe environments. The AXL P EX IS... in the product name descriptor indicates the ability to connect to intrinsically safe I/O, reaching into hazardous zones 1 and 0. This can be visibly identified on the I/O module by the blue terminal block connectors.

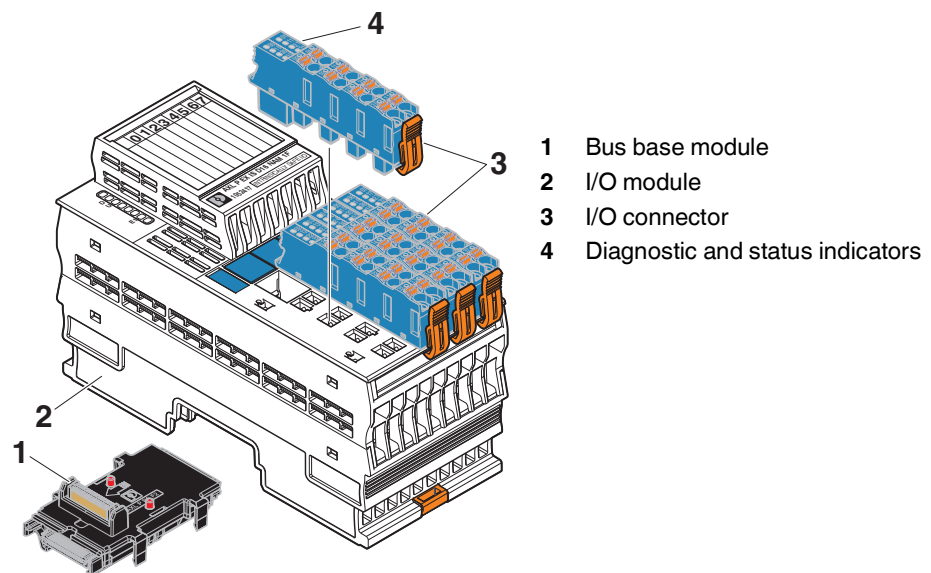
All AXL P EX IS... I/O modules are fully hot-swappable on the Axioline P system, even while the system is under power. The station also may be expanded while under power, adding further I/O modules without losing data from the other modules already configured and providing cyclic data to the controller.

The Axioline P I/O modules are powered with 24 V DC by the AXL P local bus. See bus coupler data sheet for more detail.

Table 3-4 I/O module order numbers

Bus system/network	Type description	Order no.
Axioline P	AXL P DI16 NAM 1F	1052416
Axioline P	AXL P EX IS DI16 NAM 1F	1052417
Axioline P	AXL P AI8 HART 1F	1052429
Axioline P	AXL P EX IS AI8 HART 1F	1052431
Axioline P	AXL P EX IS DO4 SD 24-48 1F	1087077
Axioline P	AXL P EX IS DO4 SD 21-60 1F	1087078
Axioline P	AXL P AO4 HART 1F	1087079
Axioline P	AXL P EX IS AO4 HART 1F	1087082

Figure 3-6 I/O modules



AXL P ... DI16 NAM 1F

The AXL P DI16 NAM 1F and AXL P EX IS DI16 NAM 1F are digital input modules with connection to NAMUR sensors. These modules provide 16 channels to bring digital input values to the cyclic data exchange on the network, from two-wire connection directly to the terminals on the I/O module.

Alarms are available for configuration that provide diagnostic information about the status of the I/O module and the digital input signals from NAMUR sensors.

AXL P ... AI8 HART 1F

The AXL P AI8 HART 1F and AXL P EX IS AI8 HART 1F are analog input modules with connection to HART sensors. These modules provide eight channels to bring 4-20 mA signals and HART process variables to the cyclic data exchange on the network. Further information from connected HART sensors may be achieved through acyclic access, through the AXL P...AI8 HART 1F modules.

These eight-channel I/O modules are current sourcing inputs, meaning each channel sources the loop power necessary for the HART sensor. Passive, or two-wire HART sensors may be connected directly to the terminals on the I/O module.

Alarms are available for configuration that provide diagnostic information about the status of the I/O module and connected analog input or HART sensors.

AXL P EX IS DO4 SD ... 1F

The AXL P EX IS DO4 SD 24-48 1F and AXL P EX IS DO4 SD 21-60 1F are digital output modules that allow the connection of up to four solenoid driven, digital output signals. These modules provide four channels to bring digital output values to the cyclic data exchange on the network, from two-wire connection directly to the terminals on the I/O module.

There are two different variants of the AXL P EX IS DO4 SD... 1F module, a 24 V - 48 mA and a 21 V - 60 mA variant. These ranges cover the most widely used solenoid valves.

Alarms are available for configuration that provide diagnostic information about the status of the I/O module and the digital output signals controlling the solenoid valves.

AXL P ... AO4 HART 1F

The AXL P AO4 HART 1F and AXL P EX IS AO4 HART 1F are analog output modules with connection to HART sensors. These modules provide 4 channels to cyclically write 0/4-20 mA signals and read HART process variables, making all of this output and input data available on the network. Further information from connected HART sensors may be achieved through acyclic access, through the AXL P...AO4 HART 1F modules.

These four-channel I/O modules are current sourcing outputs, meaning each channel sources the loop power necessary for the HART sensor. Two-wire HART sensors may be connected directly to the terminals on the I/O module.

Alarms are available for configuration that provide diagnostic information about the status of the I/O module and connected analog output or HART sensors.

3.5 Approvals

For the latest approvals for a module, please visit phoenixcontact.net/products.



Observe any notes and restrictions on the approvals in the module-specific package slip or in the module-specific documentation.

Searching for approvals of a product

When searching for the approvals of a specific product, please proceed as follows:

1. Enter the order designation, a part of it, or the order number in the search window.

Figure 3-7 Searching for order number 1052417



2. Select the product.
3. Switch to the "Approvals" tab.

The current approvals of the product are listed.

Figure 3-8 Current approvals of product 1052417

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



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

[Generate product PDF](#)

■ Available

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Approval details

<http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm> FILE E 238705
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<http://iecex.com> IECEX UL 20.0044X
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Searching for all products that have a specific approval

When searching for products that have a specific approval, e.g., GL or ATEX-approved products, proceed as follows:

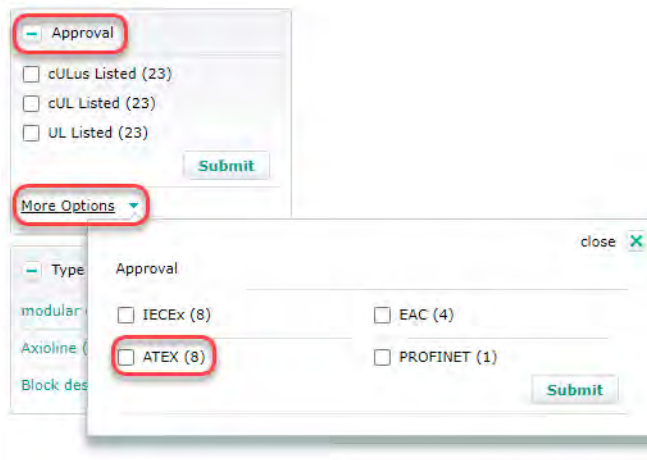
1. For example, enter “AXL” in the search window.

Figure 3-9 Searching for AXL P



2. UL approvals are listed directly; for other approvals, open “Approval, More Options”.
3. Activate the check box of the required approval and confirm the selection with “Submit”.

Figure 3-10 Selecting ATEX approval



This results in a list of all modules that have the selected approval.

3.6 Intrinsically safe modules for the Ex area (Ex i)

3.6.1 Modules for different zones in potentially explosive areas

A large selection of standard I/O modules are available for use in zone 2 potentially explosive areas that have received approval for this zone.

Furthermore, intrinsically safe, blue Axioline P I/O modules are available. These can be installed in non-potentially explosive areas or potentially explosive areas of zone 2. These modules can be used to input or output signals present in Zone 1 or Zone 0.

Figure 3-11 Use of Axioline P modules in potentially explosive areas

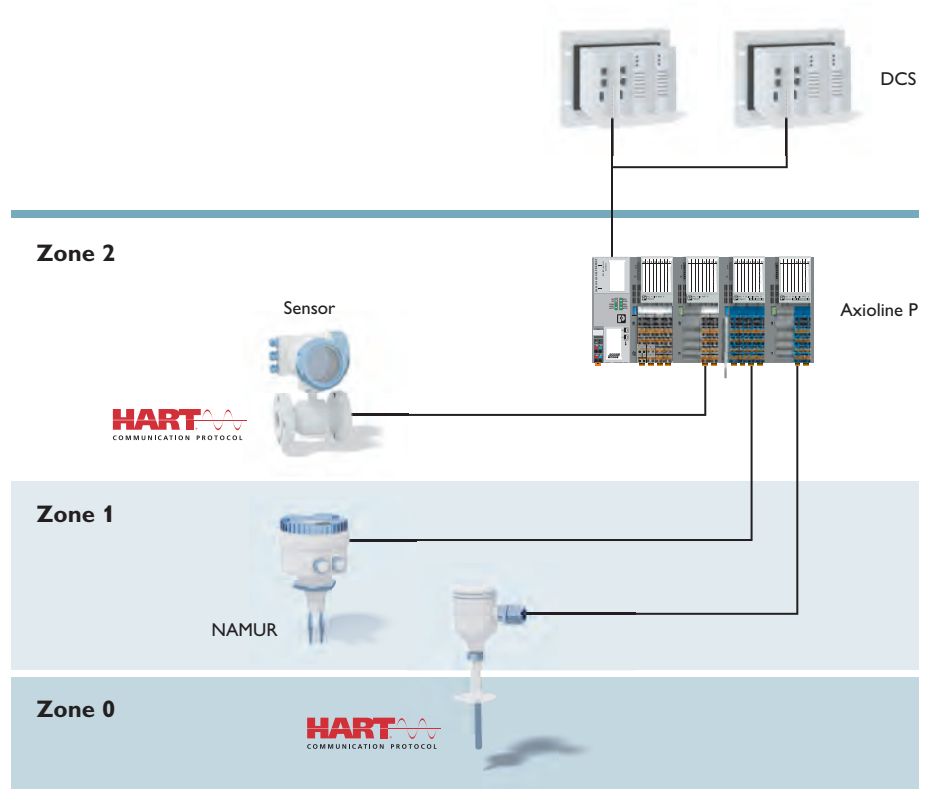


Table 3-5 Modules for use in potentially explosive areas

Axioline P modules	ATEX approval for Zone 2	Installation in Zone 2	Use of sensors/actuators in zone		
			2	1	0
Bus coupler, non-intrinsically safe I/O modules	Yes	Yes	Yes	No	No
Intrinsically safe I/O modules (AXL P EX IS...)	Yes	Yes	Yes	Yes	Yes
FBPS segment (through use of any intrinsically safe fieldbus device coupler)	Yes	Yes	Yes	Yes	Yes

3.6.2 Intrinsic safety

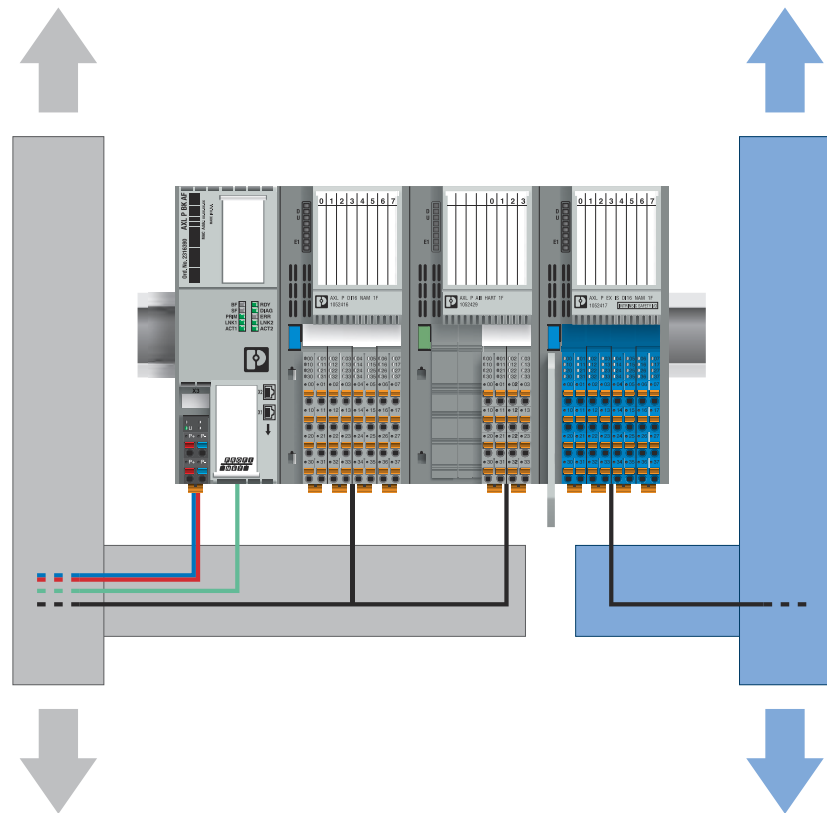
Intrinsically safe modules may be connected to any Axioline P station.

Install the AXL F/P IO EX PP (Order No.: 1100201) partition plate between the non-intrinsically safe and intrinsically safe section of the station.

Install the AXL P EX IS... modules so they are intrinsically safe. The AXL P EX IS... modules have intrinsically safe I/O terminal points. Connect intrinsically safe sensors for use in zone 1, zone 0, or division 1 to these terminal points.

Figure 4-6 shows a typical installation for separating connections to non-intrinsically safe and intrinsically safe Axioline P modules.

Figure 3-12 Separation of non-intrinsically safe and intrinsically safe Axioline P modules



AXL P EX IS... modules

The following Axioline P I/O... modules are available to create an intrinsically safe Axioline P I/O system.

Table 3-6 Modules for creating an area with intrinsically safe Axioline P modules

Order No.	Type	Description	Note
Intrinsically safe Axioline P modules			
1052417	AXL P EX IS DI16 NAM 1F	Axioline P intrinsically safe digital input module, 16 configurable NAMUR inputs	
1052431	AXL P EX IS AI8 HART 1F	Axioline P intrinsically safe analog input module, 8 configurable HART inputs	
1087077	AXL P EX IS DO4 SD 24-48 1F	Axioline P intrinsically safe digital output module, 4 configurable outputs, 24 V DC, 48 mA	
1087078	AXL P EX IS DO4 SD 21-60 1F	Axioline P intrinsically safe digital output module, 4 configurable outputs, 21 V DC, 60 mA	
1087082	AXL P EX IS AO4 HART 1F	Axioline P intrinsically safe analog output module, 4 configurable HART outputs	
Partition plate			
1100201	AXL F/P IO EX PP	Axioline F/P partition plate for use as an isolator between non-intrinsically safe Axioline P modules or bus couplers	The partition plate must always be used whenever AXL P EX IS... I/O modules are used.



Install the intrinsically safe I/O modules behind all standard I/O modules at the end of the Axioline P station.

For more detailed information on these modules, please refer to the module-specific data sheets. These are available at phoenixcontact.net/products.

4 Housings

4.1 Versions

Various housing versions are used.

Figure 4-1 Housing versions

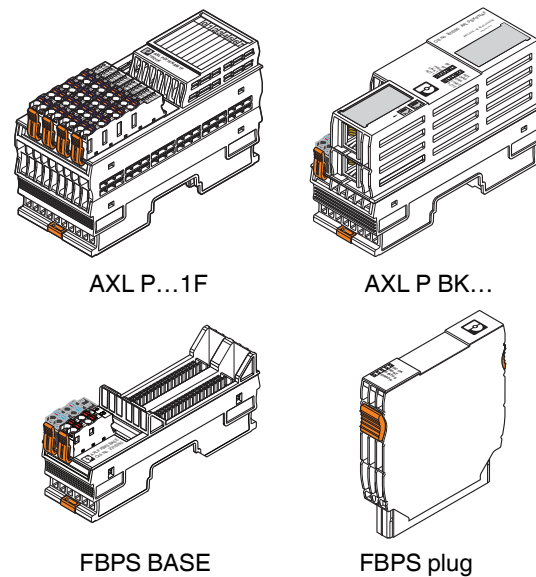


Table 4-1 Housing versions

Type	Function	Examples	Dimensions
AXL P BK...	Ethernet bus coupler	AXL P BK PN AF	Figure 4-2
FBPS BASE	Fieldbus power supply base	AXL P FBPS BASE	Figure 4-3
FBPS plug	Fieldbus power supply plug	AXL P FBPS 28DC/0.5A	Figure 4-3
AXL P...1F	I/O module	AXL P DI16 NAM 1F AXL P EX IS DI16 NAM 1F AXL P AI8 HART 1F AXL P EX IS AI8 HART 1F AXL P EX IS DO4 SD 24-48 1F AXL P EX IS DO4 SD 21-60 1F AXL P AO4 HART 1F AXL P EX IS AO4 HART 1F	Figure 4-4

Housings are traffic gray (RAL 7042).

4.2 Dimensions

Figure 4-2 AXL P BK... dimensions

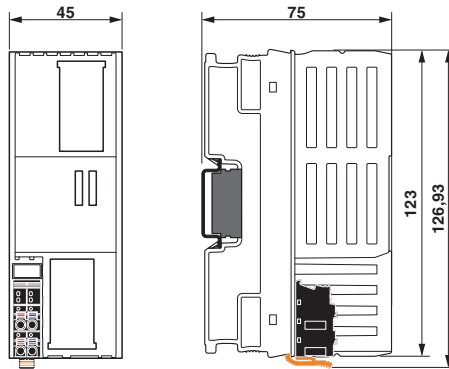


Figure 4-3 AXL P FBPS BASE and AXL P FBPS ... dimensions

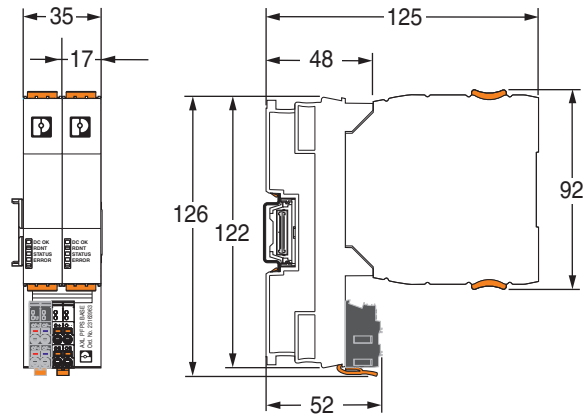
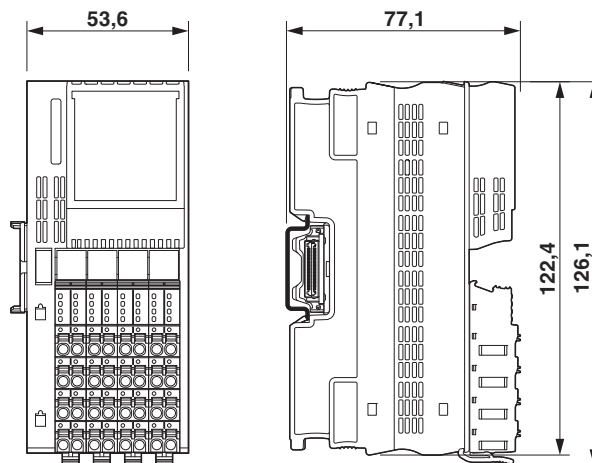


Figure 4-4 AXL P I/O module dimensions



4.3 Bus base modules

Bus base modules connect the various Axioline P modules together, providing a communication method and distributing power. This is referred to as the local bus.

NOTE: Ensure that the bus base module is correct for the different modules. They are not all interchangeable.

Figure 4-5 Bus base modules

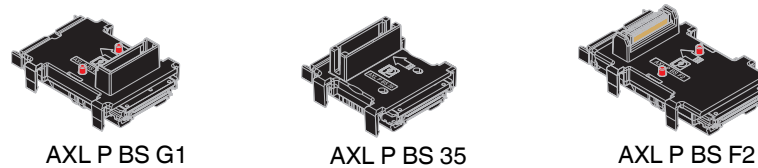
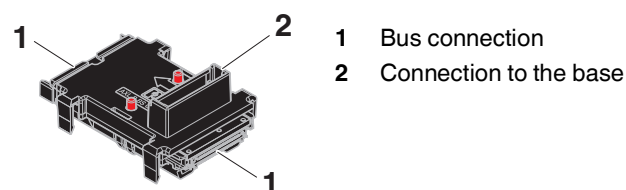


Table 4-2 Bus base modules from Figure 4-5

Descriptor	Order No.	Use with
AXL P BS G1	1052430	AXL P BK PN AF AXL P BK PN AXL P BK ETH
AXL P BS 35	2316396	AXL P FBPS BASE
AXL P BS F2	1052428	AXL P DI16 NAM 1F AXL P EX IS DI16 NAM 1F AXL P AI8 HART 1F AXL P EX IS AI8 HART 1F AXL P EX IS DO4 SD 24-48 1F AXL P EX IS DO4 SD 21-60 1F AXL P AO4 HART 1F AXL P EX IS AO4 HART 1F

General design

Figure 4-6 Bus base module (AXL P BS G1 shown)



4.4 Connectors

Axioline P connectors accept cables up to 1.5 mm² and require a stripping length of 8 mm.

Figure 4-7 Connectors

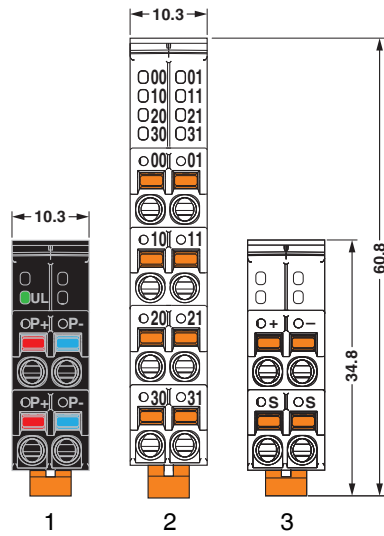

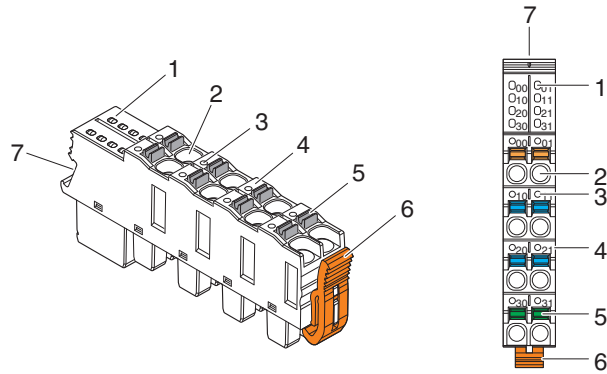


Table 4-3 Connectors: Versions and dimensions

No.	Color	Use	Examples of use
24 V range			
1	Black RAL 9005	Supply voltage	AXL P BK... AXL P FBPS BASE
2	Traffic gray A RAL 7042	I/O connection	AXL P DI... AXL P AI... AXL P AO...
2	Sky blue RAL 5015	I/O connection (intrinsically safe module)	AXL P EX IS...
3	Traffic gray A RAL 7042	Fieldbus power supply trunk	AXL P FBPS BASE

 Modules are supplied with the appropriate bus base module and connectors. Bus base modules are also available as replacement items.

General design



- | | | | |
|---|----------------------|---|--|
| 1 | LEDs | 5 | Spring lever |
| 2 | Terminal point | 6 | Locking latch |
| 3 | Touch connection | 7 | Connector label (zack marker strip ZBF 10/5,8 AXL or ZBF 5 |
| 4 | Terminal point label | | |

Figure 4-8 Connector design

4.5 Colors and markings

The housings currently use RAL 7042.

All connectors for voltage supply are completely black (RAL 9005).

The bottom parts of the I/O connectors are black (RAL 9005) while the upper parts match the color of the housing (RAL 7042).

Function identification

The module functions are color coded.

Figure 4-9 Color coding of the module functions

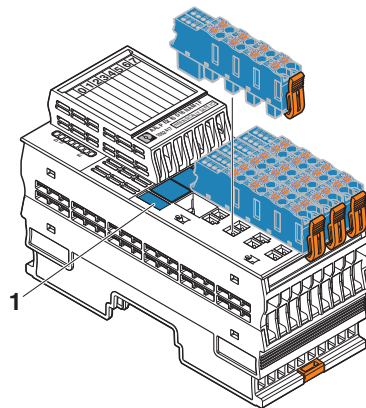


Table 4-4 Color coding of the module function

Color	Similar RAL color	Function
Light blue	RAL 5012	Digital input
Flame red	RAL 3000	Digital output
Signal violet	RAL 4008	Digital input and output
Pale green	RAL 6021	Analog input, temperature measurement
Zinc yellow	RAL 1018	Analog output
Pastel orange	RAL 2003	Open- and closed-loop control, communication, position detection
Pure white	RAL 9010	Bus coupler, controller, boost

Connections

Apart from the Axioline P connectors, all connections are consecutively numbered, e.g., X1, X2 for Ethernet connections.

Indication elements

Diagnostic and status indicators are marked with the function, e.g., UL, P+, P-, 00, 01, ... (see [Figure 4-10](#)).

Terminal points

The terminal points are consecutively numbered, e.g., 00, 01, ... (see [Figure 4-10](#)). The associated colored spring lever indicates the function (signal, potential) (see [Figure 4-10](#)).

Figure 4-10 Marking of terminal points and LEDs

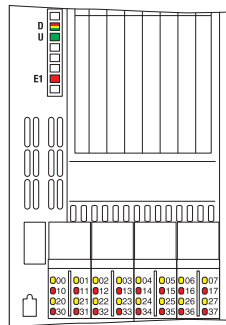


Table 4-5 Color coding of the terminal point function

Color	Function of the terminal points
Orange	Signal
Red	24 V DC
Blue	GND





For the marking and function identification of a module, please refer to the module-specification data sheet.

5 Mounting and removing modules

5.1 Safety notes for mounting/removal


5.1.1 General safety notes

 **NOTE: Electrostatic discharge**
The module contains components that can be damaged or destroyed by electrostatic discharge. When handling the module, observe the necessary safety precautions against electrostatic discharge (ESD), in accordance with EN 61340-5-1 and IEC 61340-5-1.

 **NOTE:** Electrical damage due to inadequate external protection

Fuse does not trip in the event of an error.

Provide external fuses for the 24 V area of each module. The power supply unit must be able to supply four times the nominal current of the external fuse to ensure that it trips in the event of an error.

 **NOTE:**
Before working on the module, disconnect the module from the field devices and power.

For the FBPS module, this means switching off the I/O supply voltage at the relevant module. The communication power that is supplied at the bus coupler is still available. For a bus coupler this means disconnect the communications power supply at the bus coupler.

Do not tilt the modules when removing or installing modules onto the DIN rail. Tilting the modules may damage the contacts.

5.2 Basic information about mounting


Axioline P modules meet IP20 protection and can be used in closed control cabinets or in control boxes (terminal boxes) with IP54 protection according to EN 60529 or higher.

The compact design means that most of the Axioline P modules can be installed in standard terminal boxes. Please observe the mounting distances when selecting the housing (see [“Clearance dimensions” on page 37](#)).

All Axioline P modules are mounted on 35 mm DIN rails. The preferred height of the DIN rail is 7.5 mm (corresponds to TH 35-7.5 according to EN 60715).

Mount the modules vertically on the DIN rail. This way, the module does not need to be tilted and it provides easy installation and removal, even in confined spaces.

The distance between the DIN rail fasteners must not exceed 200 mm. This distance is necessary for the stability of the rail when mounting and removing modules.

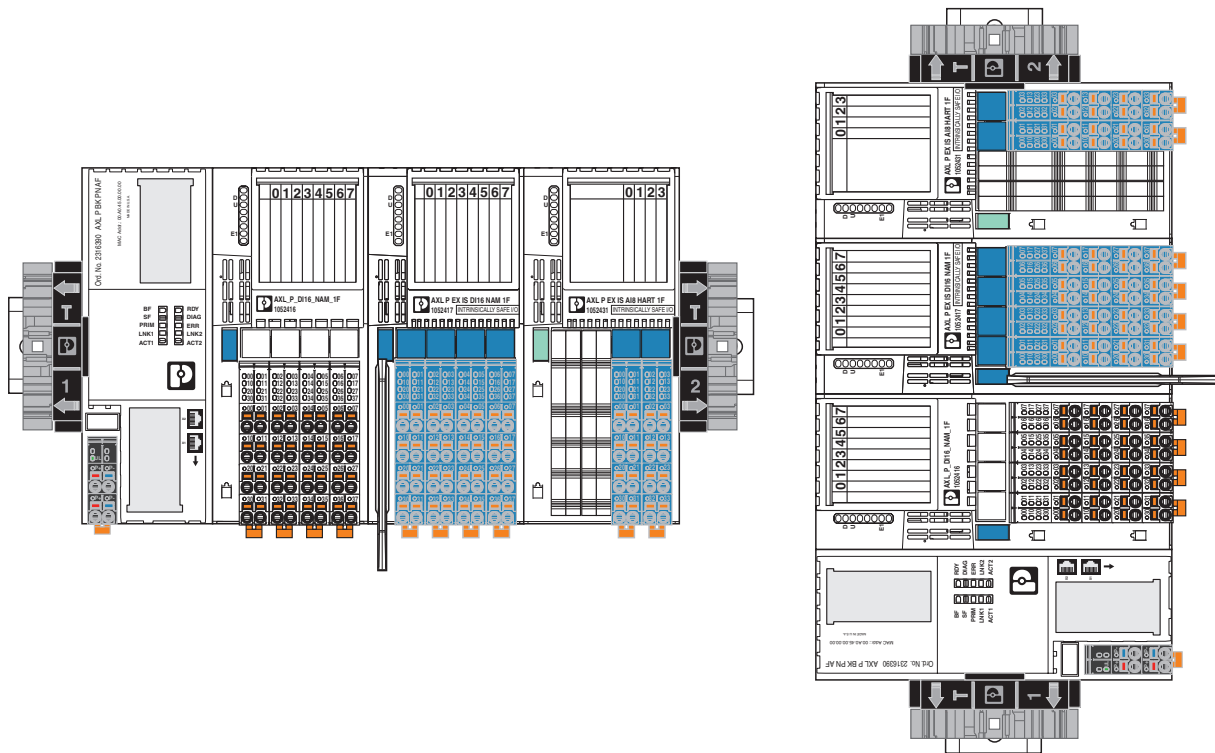
 **NOTE:**
To attach the DIN rail, mounting hardware is limited to a maximum installation height of 3 mm. If the mounting hardware is too high, the bus base modules will not correctly snap onto the DIN rail.

Mounting position

Wall mounting on a horizontal DIN rail is the preferred mounting position. This position provides optimum air flow for the modules.

Other mounting positions are possible. However, temperature derating may be required. Observe the ambient temperatures provided in the module-specific documentation.

Figure 5-1 Mounting positions for an Axioline P station



End brackets

Install end brackets on both sides of the Axioline P station. The end brackets ensure that the Axioline P station is correctly mounted. End brackets secure the station on both sides and keep it from moving from side to side on the DIN rail.

Always attach the left end bracket of the station when beginning to mount the station. This ensures the following:

- It prevents the station from slipping on the DIN rail.
- The space for the end bracket is secured.
- There is a counter pressure for the insertion force that occurs when the bus base modules are installed next to the bus coupler.

Table 5-1 Recommended end brackets

Mounting position	Conditions	End bracket
Horizontal	Normal	CLIPFIX 35, CLIPFIX 35-5
	High shock and vibration load	E/AL-NS 35
Other	Normal	E/AL-NS 35
	High shock and vibration load	E/AL-NS 35

Tools

No tools are required for mounting the modules.

A bladed screwdriver with a blade width of 2.5 mm is necessary to remove the modules.

Order of the modules

The modules may be connected on the DIN rail, either to the left or right of the bus coupler. The bus coupler must always be at the end of the station, and never placed in between modules. If using FBPS segments and I/O modules, the FBPS segments must be placed in between the bus coupler and I/O modules. To ensure functionality, mount the modules side by side without any gaps.

If the shield connection kit is to be used, installing the modules immediately next to each other is recommended for optimum use of the busbar for shield connection.

Maximum number of modules

The maximum number of Axioline P modules within a station is **63**.

The actual number of modules within an Axioline P station may be limited by the supplied logic current, the current consumption of the connected modules, and the system limits of the bus coupler.

Power supply/current consumption

The bus coupler provides the power supply for the local bus. In the module-specific documentation, this current value is specified as "Supply of the Axioline P local bus (U_{bus})" and Axioline P extension module supply voltage (U_L).

The total current consumption of all Axioline P modules arranged in the station must not exceed this maximum current. The current consumption values are specified for each module in the module-specific data sheet as "Current consumption from Axioline P local bus U_{bus} " and "Current consumption from Axioline P extension module supply voltage U_L ".



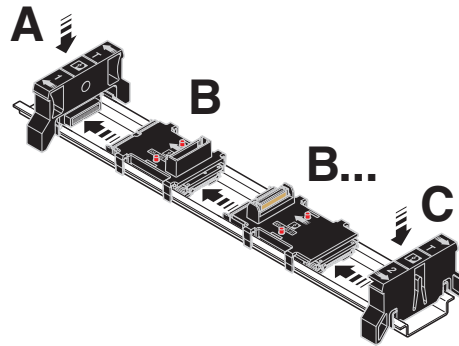
NOTE:

Observe the current consumption of each device when configuring an Axioline P station. It is specified in every module-specific data sheet and may vary based on the configuration.

5.3 Mounting modules

Install all the bus base modules for each module in the station.

Figure 5-2 Bus base terminal installation



1. Connect the bus base modules together.
2. Install AXL SHIELD SET, if applicable.
3. Place the first module on the first bus base module perpendicularly to the bus base module. Press it in until you hear it click into place.

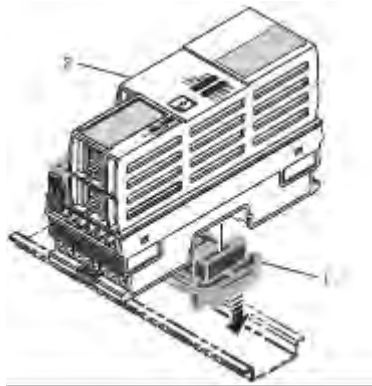


Figure 5-3 Module installation

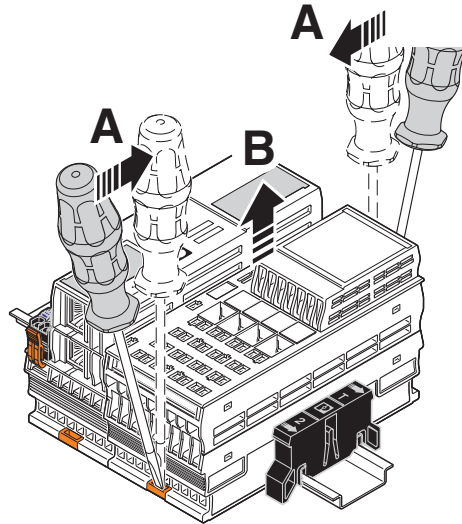
! **NOTE:** Do not tilt or angle the module when installing or removing. Damage may occur to the contacts.

5.4 Removing modules

A bladed screwdriver with a blade with of 2.5 mm is necessary to remove the modules.

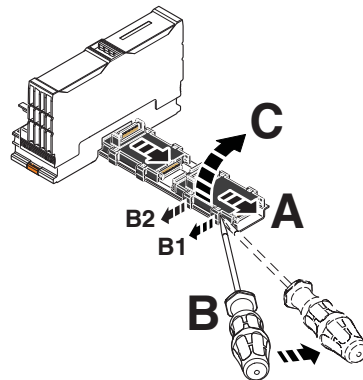
1. Remove any connectors or network cables, if directly connected, to the module.
2. Insert a suitable tool, such as a screwdriver, first in the upper and then in the lower latch mechanism and release the latch. The latches will remain in the open position.

Figure 5-4 Module removal (I/O module shown)



3. Pull the module straight away (perpendicular) off the DIN rail and bus base module.

Figure 5-5 Bus base terminal removal



4. Slide any existing modules and associated bus base terminals to the right.

NOTE:

Large Axioline P stations may require removing additional modules and bus base modules starting at the end to access the desired module.

5. Slide the target bus base module approximately 5 mm to the right to disconnect it.
6. Maintain light pressure on the bus base module housing while using a screwdriver to lightly pry off latch B1. The pressure applied will disengage the latch. Repeat the process with latch B2.

i The bus base modules utilize a fiberglass-filled nylon to allow features such as hot swapping of modules. The fiberglass-filled nylon creates a stronger yet less flexible component compared to an AXL F BS... bus base module. Be sure to lift latches B1 and B2 from underneath the DIN rail edge.

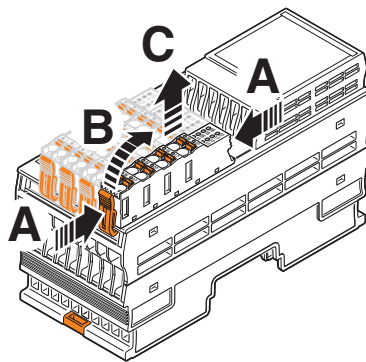
7. Swivel the bus base module upwards and remove it (C).
8. Push the rest of the station back to the left until the bus base modules interconnect again.
9. Reinstall any modules previously removed, reconnect, and reapply power to operate station.

5.5 Connectors

Removing a connector

Release the locking latch (A), tilt the connector slightly upwards (B), and remove it from the module.

Figure 5-6 Removing a connector



Inserting a connector

Place the connector over its position and press firmly. Ensure that it engages with a click.

5.6 Clearance dimensions

The space required for cable routing depends on the number of cables to be installed and must be left free at the top and/or at the bottom of the module. If the distances are too small, the minimum bend radius of the cables and access during installation cannot be guaranteed.

For the distances of the upper and lower cable ducts or the cable routing to the modules, refer to [Figure 5-7](#) for typical clearance locations.

Figure 5-7 Clearance for AXL P BK... modules

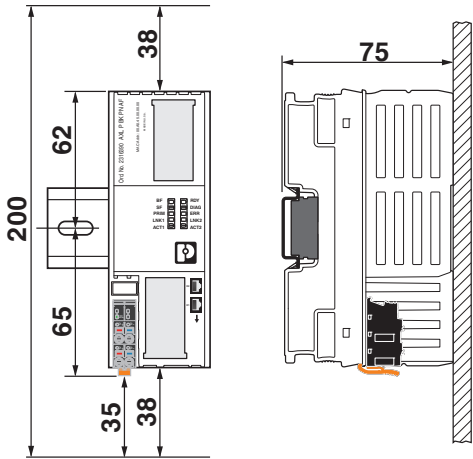


Figure 5-8 Clearance for AXL P...1F input/output modules

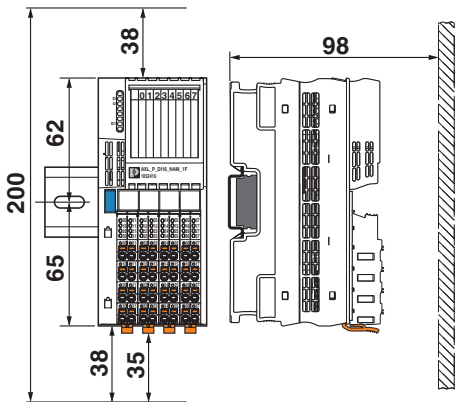


Figure 5-9 Clearance for assembled AXL P FBPS BASE module with installed AXL P FBPS 28DC/0.5A plugs

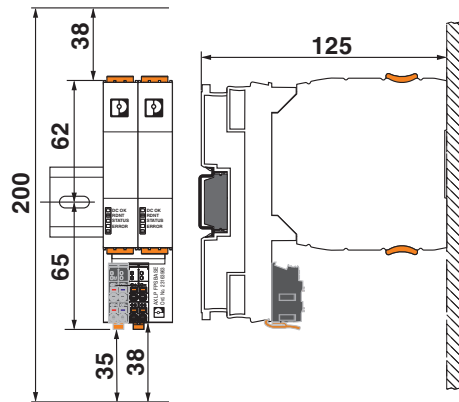


Table 5-2 Clearances


Housing type	Housing height	Distance between DIN rail and housing cover	Image
AXL P BK...	75 mm	75 mm	Figure 5-7
AXL P...1F	75 mm	98 mm	Figure 5-8
AXL P FBPS BASE with installed AXL P FBPS... plug	125 mm	125 mm	Figure 5-9

6 Connections

All electrical connections are plug-in.

The network cables on the bus coupler are connected via the RJ45 connectors.


The cables for the I/O devices and supply voltages are connected via Axioline P connectors. Each terminal point, both for the periphery of the I/O modules (I/O connectors) as well as the communications power, sensor, and actuator supply (power connectors), has a maximum current of 8 A.

 The current can be reduced when used in applications in which a UL approval is required. Observe any specifications in the module-specific package slip and the rating on the modules.

When using Axioline P modules you can use shielded and unshielded, solid and stranded cables, with or without ferrules.


Please observe the following when wiring:

- Twist stranded cable ends.
- Make sure to install the conductor in the middle of the wiring space, especially with small cross sections.

 If using ferrules, use those which correspond to the specifications in [Table 6-1](#) and [Table 6-2](#).

Make sure the ferrules are properly crimped.

6.1 Conductor cross sections and stripping/insertion lengths

 For electrical and/or thermal reasons, it may not be possible to use the minimum conductor cross sections specified here for certain modules.

Therefore, always observe the information in the module-specific documentation.

Table 6-1 Permissible conductor cross sections for push-in connection without using the spring lever

Conductor type	Cross section (mm ²)	Cross section (AWG)
Solid	0.5 ... 1.5	
Stranded with ferrule without insulating collar (A...)		
– Sleeve length = 10 mm	0.25 ... 1.5	24 ... 16
Stranded with ferrule with insulating collar (Al...)		
– Sleeve length = 8 mm	0.25 ... 1.0	24 ... 16
– Sleeve length = 10 mm	0.25 ... 1.5	24 ... 16


 Stranded cables without ferrules are only suitable for push-in connection technology when using the spring lever.

Table 6-2 Permissible conductor cross sections for push-in connection when using the spring lever

Conductor type	Cross section (mm ²)	Cross section (AWG)
Solid	0.2 ... 1.5	
Stranded with ferrule	0.2 ... 1.5	24 ... 16
Stranded with ferrule with insulating collar	0.25 ... 1.0	24 ... 16
	0.25 ... 1.5	24 ... 16

NOTE:
 Make sure that the stripping length of a conductor without ferrule or the insertion length of a conductor with ferrule corresponds to the specifications in order to ensure secure hold and correct function.
 The crimping form must be trapezoidal. The relevant tools can be found in the Phoenix Contact product range.
 For crimping, we recommend pliers for trapezoidal crimp CRIMPFOX 6 or CRIMPFOX 6T.

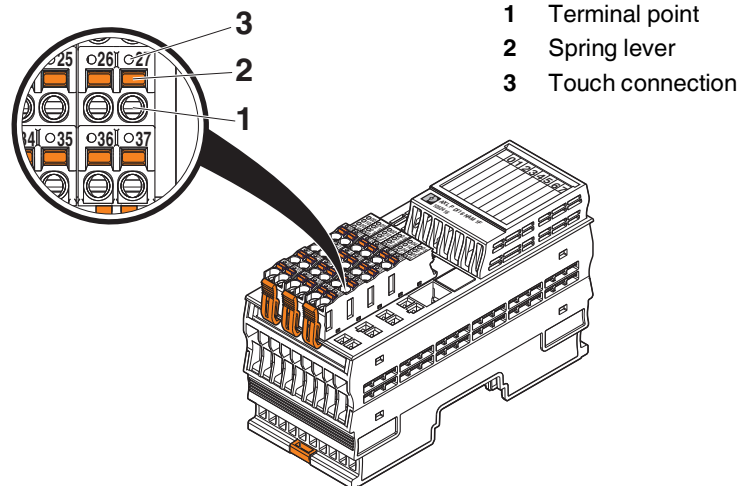
NOTE:
 TWIN ferrules are not permitted in the Axioline P system.

6.2 Terminal point, associated spring lever and touch connection

When using the screwdriver, pay attention to the position of the spring lever to the assigned terminal point.

When testing the signal with a measuring probe, pay attention to the position of the touch connection to the assigned terminal point.

Figure 6-1 Terminal point with associated spring lever and touch connection



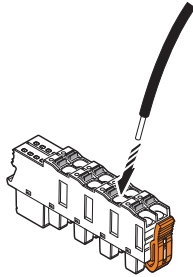
6.3 Cables

6.3.1 Unshielded

When wiring, proceed as follows:

1. Strip 8 mm off the cable.

Figure 6-2 Connecting a solid unshielded cable



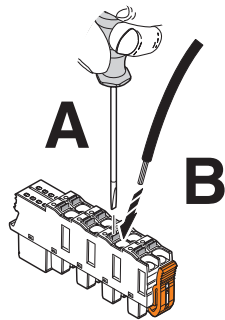
2. Attach the cables:

- When using solid cables from 0.5 mm² onwards or cables with ferrules:
 - a) Insert the cable into the terminal point. It is clamped into place automatically.
- When inserting a stranded cable:
 - a) Open the spring by pressing the screwdriver onto the spring lever (A).

i Use a screwdriver blade width of 2.5 mm. Phoenix Contact recommends the SZS 0,4x2,5 screwdriver.

- b) Insert the cable in the terminal point (B).
- c) Remove the screwdriver to release the spring and secure the cable.

Figure 6-3 Connecting a stranded cable



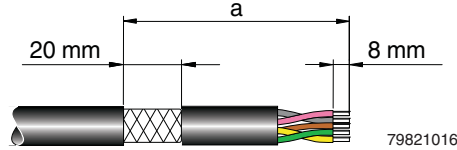
After installation, it is advised that the cables are marked, as well as the module and connectors.

6.3.2 Shielded

When wiring, proceed as follows:

1. Strip 20 mm off the outer sheath of the cable at the required distance from the end of the cable. The necessary distance depends on the distance to the busbar.

Figure 6-4 Connecting a shielded cable



2. Strip 8 mm off the conductor wires.
3. If present, remove the protective foil.
4. Lay the cable with the braided shield under a shield terminal and tighten it with a screw. Electromagnetic interference (EMI) is then routed via a busbar to the support brackets which are connected to the grounded DIN rail.



NOTE:

The busbar is only for shielding the modules, not for strain relief of the connected cables.

Make sure the shield is as close as possible to the signal terminal points.

When using twisted-pair cables, keep the cable twisted until just before the terminal point.

5. Inserting the cable:
 - a) Open the spring by pressing the screwdriver onto the spring lever (A).



Use a screwdriver blade width of 2.5 mm. Phoenix Contact recommends the SZS 0,4x2,5 screwdriver.

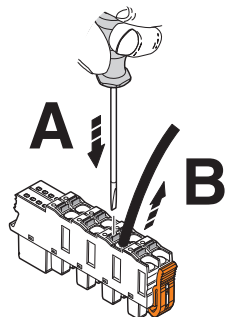
- b) Insert the cable in the terminal point (B).
- c) Remove the screwdriver to release the spring and secure the cable.

6.3.3 Disconnecting conductors

To remove a cable from a terminal point:

1. Press the spring lever with a suitable tool, such as a bladed screwdriver with a blade width of 2.5 mm, to release the clamp.

Figure 6-5 Conductor removal



2. Remove the conductor.

6.4 Power supply

Choose a power supply unit that is suitable for the currents in the application. Consider the bus configuration and the maximum currents.

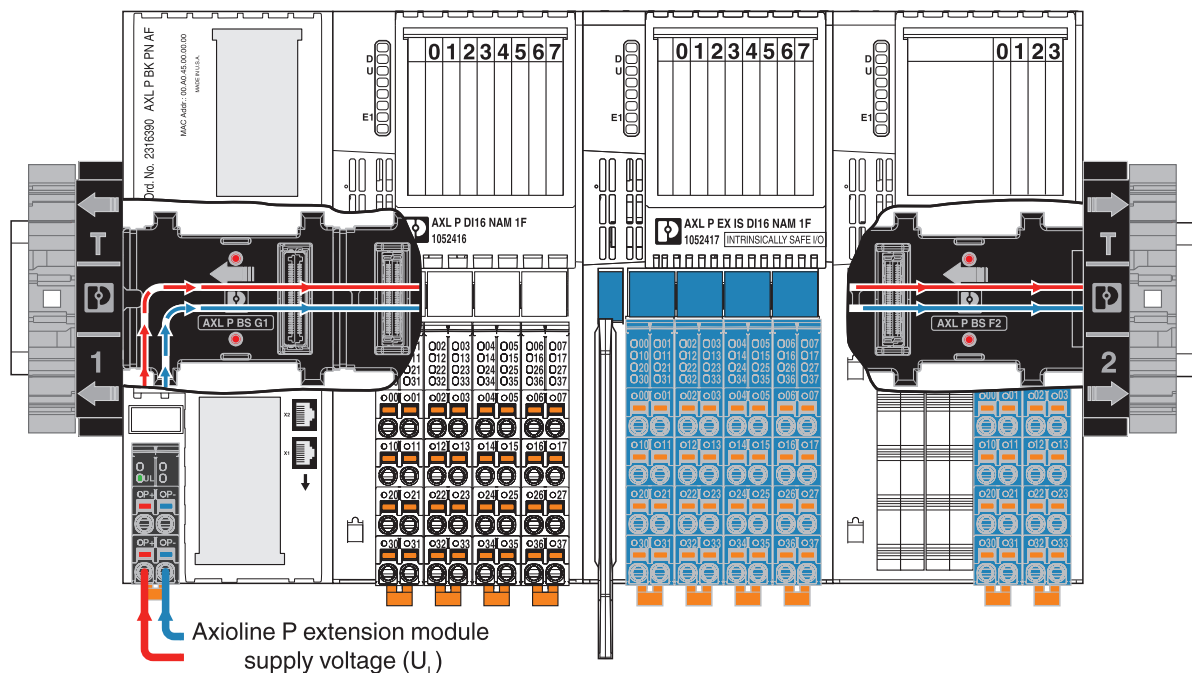
WARNING: Only use power supply units that ensure safe isolation according to EN 50178 and EN 61010-2-201. They prevent short circuits between the primary and secondary circuit.

6.4.1 Supply at the bus coupler

Communication power (U_L) is supplied at the bus coupler. It supplies the module electronics (logic) of the bus coupler and supply power for the I/O modules. Additionally, it generates the communication power for the local bus (U_{Bus}), which supplies the connected modules with logic current.

If communication power U_L is switched off, the local bus will shut down.

Figure 6-6 I/O module supply voltage U_L



6.4.2 Supply at the input/output modules

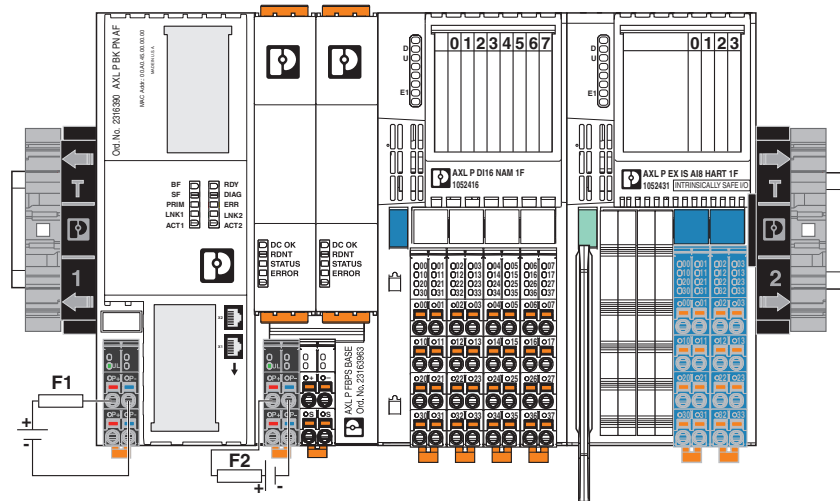
An external power supply powers the AXL P BK.... This supply voltage (U_L) provides power to the Axioline P I/O modules via the bus base modules (Axioline P extension module supply voltage). The FBPS segments are not powered by the U_L bus, but directly by an external power supply.

6.4.3 Jumpers in the power connectors, potential forwarding, and fusing

Terminal points P+ and P+, as well as P- and P- are jumpered in the power connector. It is possible to use one of the terminal points for supply and the second terminal point for forwarding a potential respectively.

! **NOTE: Module damage when overloaded**
 Note that the maximum current carrying capacity of a terminal point of 8 A must not be exceeded. Protect the supply accordingly.

Figure 6-7 Jumpering the power connector and potential forwarding



F1, F2 protecting the supply voltage using suitable fuses.

6.5 Network

The network cable is connected to a bus coupler. Refer to the module-specific documentation for details.

6.6 Sensors and actuators

Sensor and actuator wire diagrams may be found in the module-specific data sheets.

7 Grounding and shielding


7.1 Grounding concept

Within an Axioline P station, a distinction is made between functional earth ground (FE) and protective earth ground (PE).

Protective earth grounding (PE)

Protective earth grounding protects people and machines against hazardous voltages. To avoid these dangers, correct grounding, with consideration of local conditions, is vital.

Functional earth grounding (FE)

 Functional earth ground is only used to discharge interference. It does not provide shock protection for people.

Functional earth grounding is used to improve immunity to interference. All devices must be grounded so that any possible interference from connectors for data transmission is shielded and discharged to ground.

7.1.1 Protective earth ground (PE)

Protective earth ground is a low-impedance current path that minimizes the risk to a user in the event of an error (including a high voltage and/or current error between an electrical circuit and ground).

According to the electrical design, the Axioline P low-voltage modules correspond to protection class 2 devices and therefore do not require grounding. However, IP20 protection is not sufficient for protection class 2, which means that the modules only become real protection class 2 devices when used with a control cabinet or an installation box.

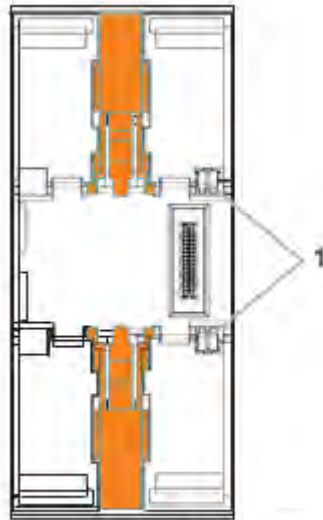
7.1.2 Functional earth ground (FE)

Functional earth ground is a low-impedance current path between circuits and ground. It is not designed as a safety measure but rather for the improvement of immunity to interference.

Functional earth ground is used in the 24 V area (protective extra low voltage). To ensure reliable functional earth grounding, please observe the following:

- The modules have at least one FE spring (metal clip, 1 in Figure 7-1) at the bottom. This spring establishes an electrical connection to the DIN rail when the module is mounted. The bus coupler has one FE spring, the I/O modules have one or two FE springs. Use grounding terminal blocks to connect the DIN rail to protective earth ground. The modules are then also grounded when they are snapped onto the DIN rail.

Figure 7-1 FE spring



- When using modules for surge protection (TRABTECH), connect their functional earth ground directly to the grounded DIN rail.
Do not connect the functional earth ground of the modules for surge protection to an Axioline P module (for example, to an FE contact of an Axioline P connector).
This ensures that interference is discharged before it enters the Axioline P module.
Only then is good electromagnetic compatibility ensured.

7.2 Shielding concept

Shielding is used to reduce the effects of interference on the system.

7.2.1 Shielding with Axioline P

In the Axioline P system, shielded cables are used with the following modules:

- Network cables
- Connecting cables
- Fieldbus (PROFIBUS PA) cables

Observe the following points when shielding:

- Connect the shield to a module before the signal connection.
- Ensure a large surface connection of the shield.
- Make sure there is good contact between the shield and shield bus (synonyms: neutral busbar, busbar).
- Do not damage or squeeze the wires.
- When connecting the shielding, observe the specifications for wiring.
- Make sure the shield is as close as possible to the signal terminal point.

7.2.2 Shielding when connecting analog sensors and actuators

Always connect analog sensors and actuators with shielded, twisted-pair cables.

- Connect the shield via a shield bus. (See Figure 7-9).

i When connecting the cables, observe the information in the module-specific data sheet.

- As a rule, shielding must only be connected directly to the PE potential on one side. This is to prevent any occurrence of equipotential bonding currents via the shielding (see Figure 7-9 and Figure 7-10).
- If necessary, integrate the shielding concept for analog I/O cables in the system concept. For example, it is advisable to use a central FE shield connection at the control cabinet entry (see Figure 7-10).

i For connecting the shield, Phoenix Contact recommends the AXL SHIELD SET Axio-line P shield connection set or the shield connection clamp products from the “Marking systems, tools, and mounting material” catalog.

7.2.3 Axio-line P shield connection set

The shield connection set AXL SHIELD SET (Order No. 2700518) consists of two busbar holders and two SK 5 shield connection clamps. This shield connection set can be used to connect cable shields in an Axio-line P station in the vicinity of the modules.

Figure 7-2 AXL SHIELD SET components

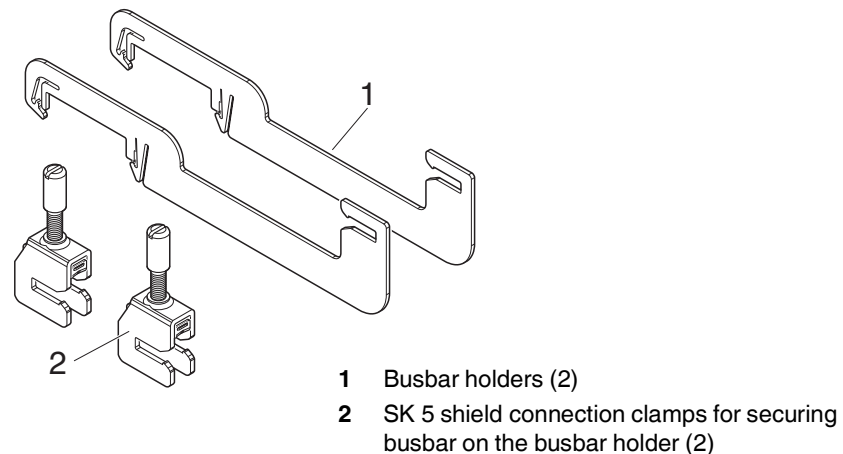
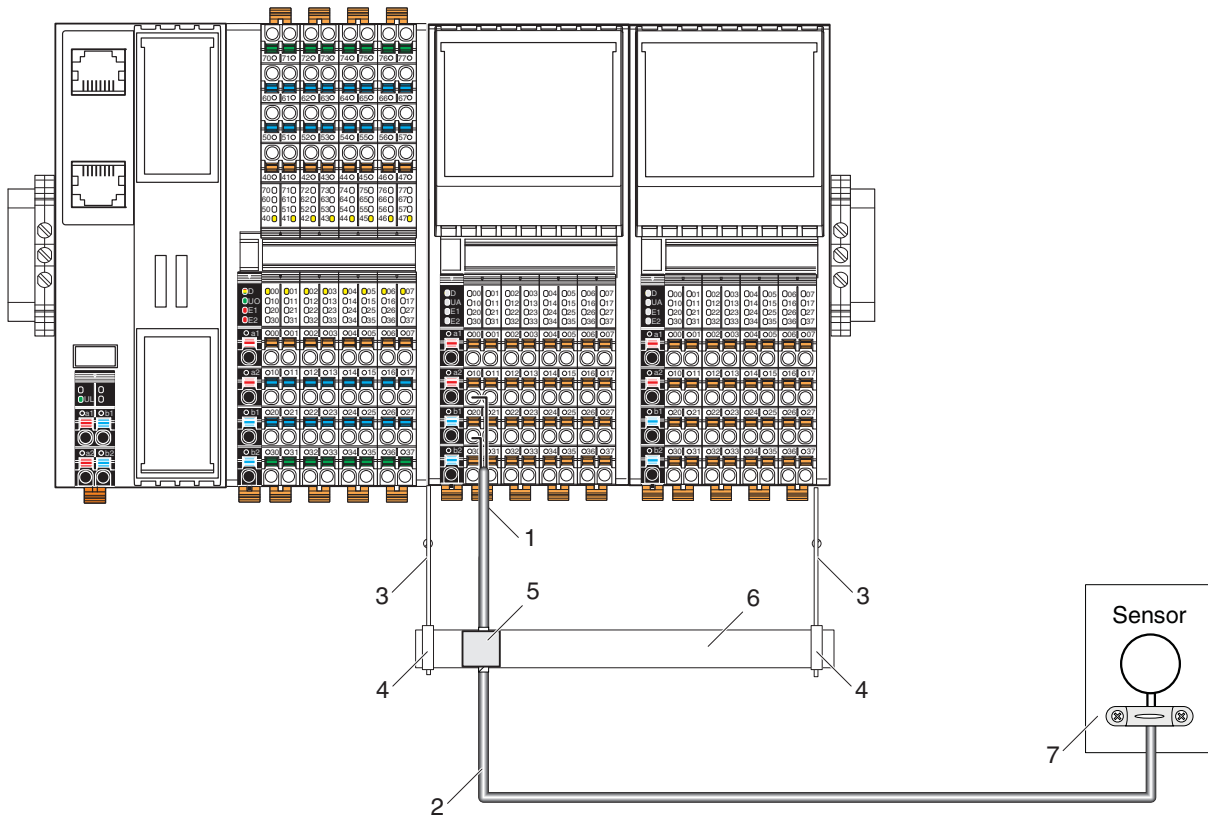


Figure 7-3 Typical installation of AXL SHIELD SET



- 1 Input cable from sensor
- 2 Use appropriate shielded cables
- 3 Busbar holder
- 4 SK5 clamps
- 5 Shield connection clamp
- 6 Busbar
- 7 Sensor

Contact is made with the shield on the busbar using the shield connection clamps, available as accessories. Select the shield connection clamp according to the cable cross section and type (SK or SKS).

Installation

Mount the busbar holders (3) after mounting the bus base modules and before installing the modules. Polished surfaces indicate the positions of the busbar holders on the bus base modules.

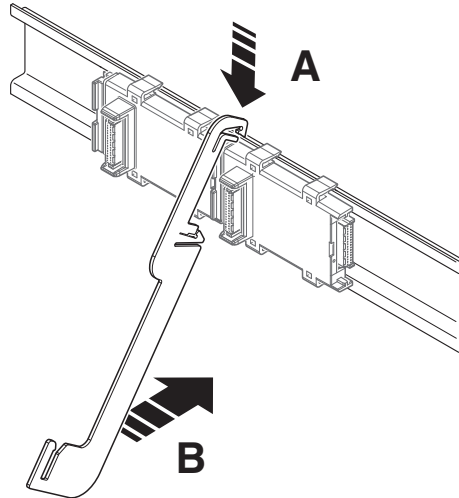
i The maximum distance between two adjacent busbar holders should not exceed 215 mm.

If the busbar is secured using more than two bus holders, distribute the holders equally across the width of the busbar.

If using a busbar holder at the end of an Axioline P station, mount the busbar holder after the last module. In this case, it is not positioned above a bus base module. Secure the busbar holder using an end bracket.

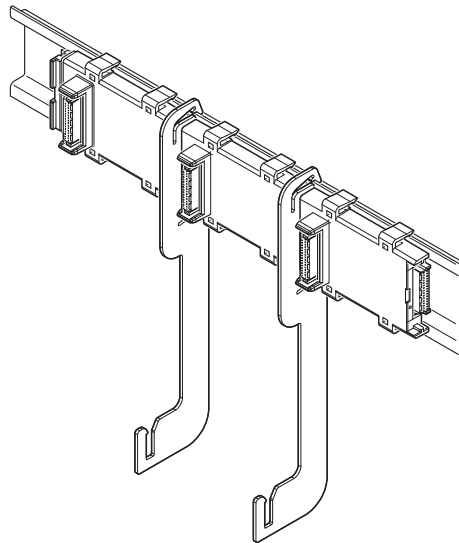
1. Hook the busbar holder onto the DIN rail (A).

Figure 7-4 Busbar holder



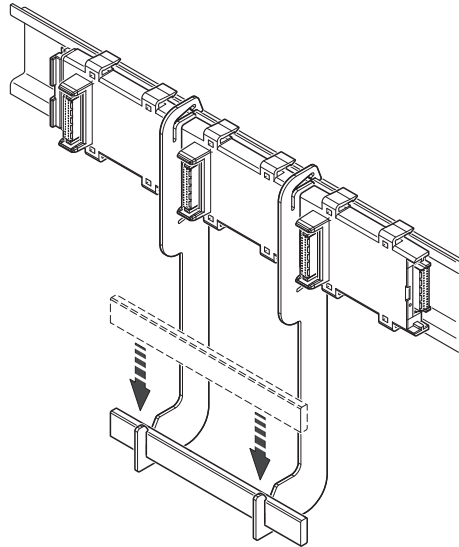
2. Rotate the busbar holder (B) and snap it into place on the DIN rail.
3. Repeat steps 1 and 2 for remaining busbar holders.

Figure 7-5 Installed busbar holders



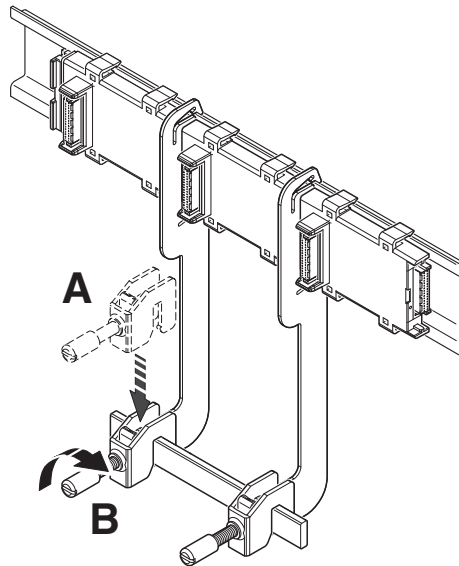
4. Place the busbar into the busbar holders.

Figure 7-6 Busbar position



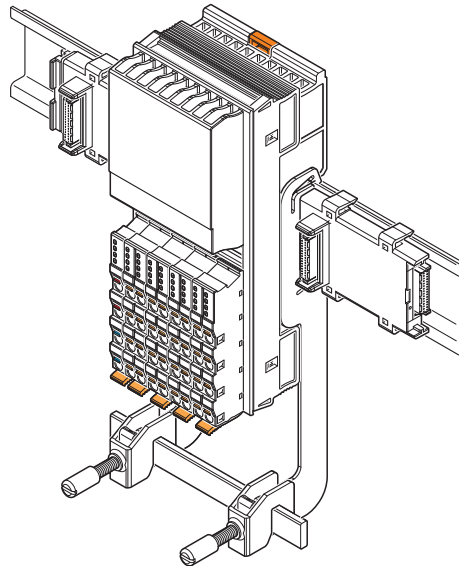
5. Secure the busbar using the SK5 clamps provided.

Figure 7-7 SK5 clamp installation



6. Install the housing on the DIN rail.

Figure 7-8 Installed housing

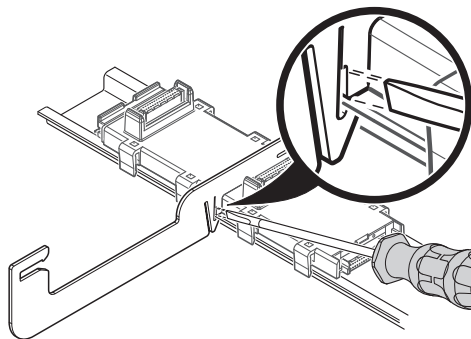


Busbar holder removal

Use a screwdriver with a blade width of 4 mm.

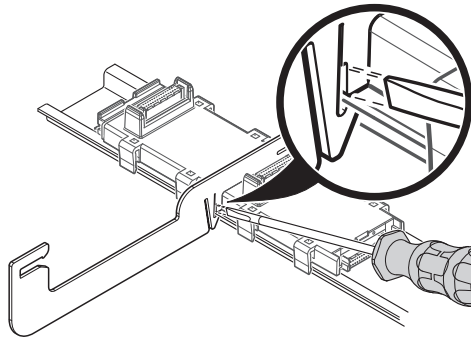
1. Remove the adjacent modules, both left and right, of each busbar holder.
2. Insert the screwdriver in the release slot.

Figure 7-9 Release slot



3. Turn the screwdriver to release the locking clip from the DIN rail.

Figure 7-10 Release clip removal



i The locking clip may deform from contact with the screwdriver. It may be bent back into shape prior to reassembly.

7.2.4 Connecting the shielding to the busbar

Maintain the cable insulation as much as possible.

Choose the correct connection clamp size to attach the shields to the busbar.

Only one end of a shield may connect to a ground (FE).

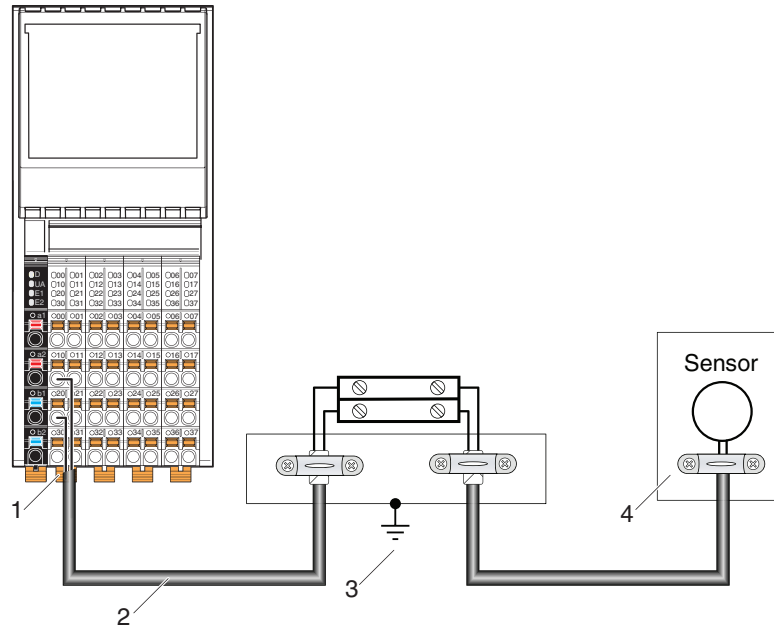
All shields must connect directly to a common point within the enclosure. In this case, that is the busbar.

The busbar must connect to a single, ground point (FE) outside the enclosure.

7.2.5 Centralized equipotential bonding at the enclosure entry

A centralized location may be implemented to provide equipotential bonding of the shield ground (FE) at the enclosure entry.

Figure 7-11 Equipotential shield grounding example



- 1 Sensor cable to Axioline P I/O
- 2 Sensor cable
- 3 Common ground (FE) point with strain relief for shields
- 4 Sensor

8 Process, parameter, and diagnostic data

Axioline P process data information may be found in the module-specific data sheet. Information on configuration or parameterization of the system may be found in another Axioline P manual or reference material.

Diagnostic information may found in the Diagnostic User Manual.

9 Software support

9.1 Software overview

Axioline P is supported by the following software from Phoenix Contact:

- Axioline P GSDML Composer Tool
- Axioline P DTM
- Axioline P Field device integration (FDI)

Axioline P is configured and managed through the use of the web-based manager, Axioline P GSDML composer, the Device Type Manager (DTM) in FDT framework applications, and any PROFINET controller environment, for example, via GSDML in Siemens or ABB controller configuration software.

9.2 FDT/DTM

FDT/DTM is a non-proprietary concept which enables parameterization of field devices from various manufacturers with a single program - an FDT framework application.

DTMs from various manufacturers can be integrated into an FDT framework application. Point-to-point communication, even beyond network boundaries, enables user-friendly parameterization and diagnostics of devices and sensors/actuators via Ethernet, INTERBUS, PROFIBUS, HART, and, in the future, PROFINET or IO-Link protocol.

The **FDT** (Field Device Tool) defines the interfaces between the FDT framework application and the DTM.

A **DTM** (Device Type Manager) incorporates all functions, the structure, parameterization and graphical user interface for a device.

A DTM is available for all Axioline P modules. They can be integrated into each FDT framework application. More information on the DTM can be found in the DTM manual on the product downloads tab at phoenixcontact.com.

9.3 Axioline P GSDML Composer

The Axioline P GSDML Composer is used to create a custom GSDML for customer-specific installations to be integrated into any PROFINET controller environment.

More information on the GSDML Composer can be found in the Axioline P GSDML Composer Manual.

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