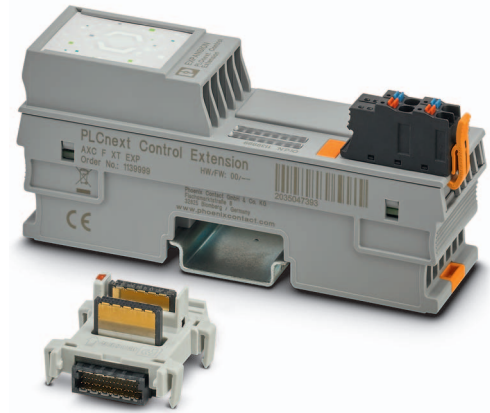


AXC F XT EXP

Axioline F, left-alignable extension module

Data sheet
109633_en_00

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1 Description

With the left-alignable AXC F XT EXP extension modules, you can extend a PLCnext Controller of the type AXC F ... with three additional AXC F XT ... modules.

Features

- Individual expansion option for PLCnext Controls of the Axiococontrol series
- Left-alignable extension module
- Enables the connection of 3 additional left-alignable modules



Ensure that the left-alignable extension module is only aligned next to a PLCnext controller which has a firmware version that is permissible for this.

AXC F ... PLCnext controllers with the following firmware versions are permitted:

- AXC F 2152 with firmware version ≥ 2021.0



This data sheet is only valid in association with the UM EN AXL F SYS INST user manual.



Make sure you always use the latest documentation.

It can be downloaded at: phoenixcontact.net/product/1139999

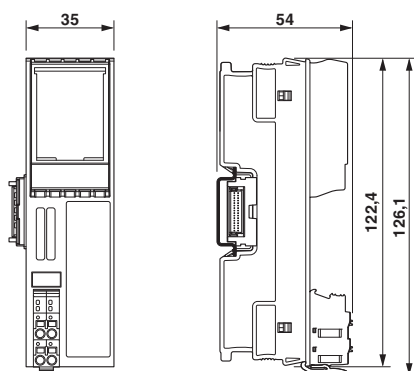
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3 Ordering data

Description	Type	Order No.	Pcs./Pkt.
Left-alignable PCIe extension interface, for connection to a compatible modular controller from the PLCnext Control range.	AXC F XT EXP	1139999	1
Accessories	Type	Order No.	Pcs./Pkt.
PLCnext Control for the direct control of Axioline F I/Os. With two Ethernet interfaces. Complete with connector and bus base module.	AXC F 2152	2404267	1
Axioline F short power connector (for e.g., AXL F BK ...) (Replacement item)	AXL CN S/UL	2701421	5
Bus base module for left-aligning the AXC F 2xxx controllers	AXC BS L 2	1064312	1
Documentation	Type	Order No.	Pcs./Pkt.
User manual, English, Axioline F: System and installation	UM EN AXL F SYS INST	-	-
User manual, English, Axioline F: Diagnostic registers, and error messages	UM EN AXL F SYS DIAG	-	-

4 Technical data

Dimensions (nominal sizes in mm)



General data

Color	traffic grey A RAL 7042
Weight	100 g (with connector and bus base module)
Ambient temperature (operation)	-25 °C ... 60 °C (up to 2000 m above sea level)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	5 % ... 95 % (according to DIN EN 61131-2)
Permissible humidity (storage/transport)	5 % ... 95 % (according to DIN EN 61131-2)
Air pressure (operation)	70 kPa ... 106 kPa (up to 3000 m above sea level)
Air pressure (storage/transport)	58 kPa ... 106 kPa (up to 4500 m above mean sea level)

General data

Degree of protection	IP20
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
Mounting type	DIN rail mounting

Connection data: Axioline F connector

Connection method	Push-in connection
Conductor cross section solid / stranded	0.2 mm ² ... 1.5 mm ² / 0.2 mm ² ... 1.5 mm ²
Conductor cross section [AWG]	24 ... 16
Stripping length	8 mm

Supply of the logic voltage U_L

Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)



NOTE: Damage to the electronics
Provide external protection for the module.

Protective circuit

Polarity reversal protection of the supply voltage	Polarity protection diode
Transient protection	Suppressor diode

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

Conformance with EMC Directive 2014/30/EU

Noise immunity test in accordance with EN 61000-6-2

Electrostatic discharge (ESD) EN 61000-4-2/IEC 61000-4-2	Criterion B, 6 kV contact discharge, 8 kV air discharge
Electromagnetic fields EN 61000-4-3/IEC 61000-4-3	Criterion A, Field intensity: 10 V/m
Fast transients (burst) EN 61000-4-4/IEC 61000-4-4	Criterion B, 2 kV
Transient overvoltage (surge) EN 61000-4-5/IEC 61000-4-5	Criterion B, DC supply lines: ±0.5 kV/±0.5 kV (symmetrical/asymmetrical)
Conducted interference EN 61000-4-6/IEC 61000-4-6	Criterion A, Test voltage 10 V

Noise emission test according to EN 61000-6-3 Class B

Approvals

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

5 Internal circuit diagram

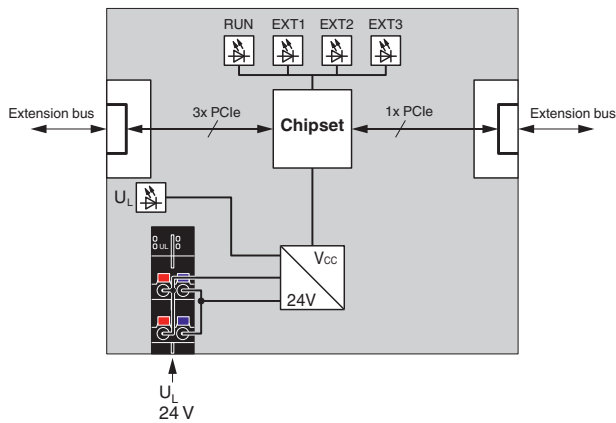


Figure 1 Basic circuit diagram

Key:



LED



Power supply unit

Chipset

Chipset

Extension bus

Axioline F extension modules aligned to the left

6 Security in the network



NOTE: Risk of unauthorized network access

Connecting devices to a network via Ethernet entails the danger of unauthorized access to the network.

To prevent unauthorized network access, please read the following notes.

Please check your application for the option of deactivating active communication channels (FTP, DCP, HTTP, HTTPS, etc.) or assigning passwords to prevent third parties from accessing the controller without authorization and modifying the system.

Due to its communication interfaces, the controller should not be used in safety-critical applications unless additional security appliances are being used.

Therefore, please take additional protective measures in accordance with the IT security requirements and the standards applicable to your application (e.g. virtual networks (VPN) for remote maintenance access, firewalls, etc.) for protection against unauthorized network access.

On first request, you shall release Phoenix Contact and the companies associated with Phoenix Contact GmbH & Co. KG, Flachsmarktstrasse 8, 32825 Blomberg in accordance with §§ 15 ff. AktG (German Stock Corporation Act), hereinafter collectively referred to as "Phoenix Contact", from all third-party claims made due to improper use.

For the protection of networks for remote maintenance via VPN, Phoenix Contact offers the mGuard product series as security appliances; these are described in the latest Phoenix Contact catalog (phoenixcontact.net/products).

Additional measures for protection against unauthorized network access can be found in the AH EN INDUSTRIAL SECURITY application note. The application note can be downloaded at phoenixcontact.net/products.



Please note:

The PCIe bus may be manipulated through physical access to the bus.

Sensitive data may therefore be viewed by unauthorized persons.

- Ensure that unauthorized persons do not have physical access to the AXC F XT module.

7 Module components

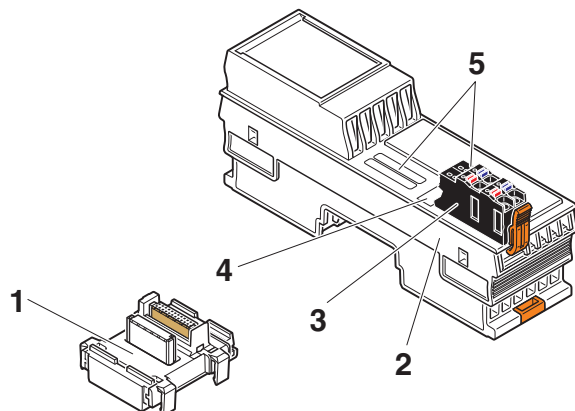


Figure 2 Module components

- 1 Bus base module
- 2 Electronics module
- 3 Supply connector
- 4 Function identification
- 5 Diagnostic and status indicators

8 Mounting



Please note:

Mount all the modules required **before** supplying power to the Axioline F station. Modules to which power is only supplied following the controller boot process are not detected or may result in a malfunction. To ensure that the left-alignable extension module is detected correctly, proceed as follows:

- Switch on the power to the left-alignable extension module **before** switching on the power to the controller, or
- Switch on the power to the left-alignable extension module and to the controller **simultaneously**.

8.1 Removing the controller supply connector

- Release the locking latch (A), tilt the supply connector upwards slightly (B), and remove it from the controller (C).

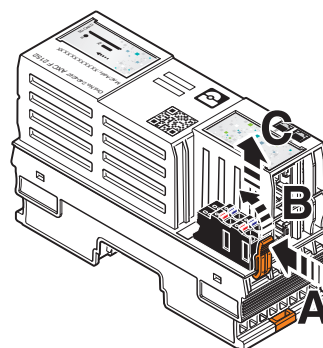


Figure 3 Removing the supply connector

8.2 Removing other connectors from the controller

- Remove all other connectors from the controller.

8.3 Removing electronics modules

Before the left-alignable extension module interface can be connected to the controller, you must remove the controller electronics module.

In the case of AXC ... controllers, you must also remove the electronics module of the first module aligned to the right.

To do this, proceed as follows:

- Insert a suitable tool (e.g., bladed screwdriver) into the upper and lower snap-on mechanisms (base latches) of the controller/module one after the other and release it (A).

The base latches are locked in place in the open position.

- Remove the electronics module vertically out of the DIN rail (B).

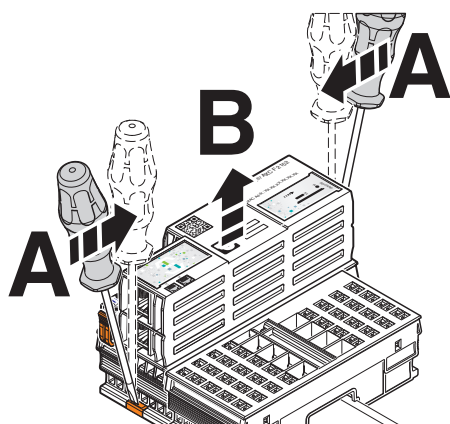


Figure 4 Removing the electronics module

For the operation of the left-alignable extension module on a controller for Axioline F, a special bus base module is required for the respective controller.

The bus base module is not supplied as standard with AXC ... controllers. For the ordering data, please refer to the user manual for the controller you are using.

In the case of AXC ... controllers, you must first replace the existing bus base module with the special bus base module.

To do this, proceed as follows:

- Remove the controller bus base module from the bus base of the first module aligned to the right.
- Remove the controller bus base module from the DIN rail.

Proceed as follows to mount the special bus base module:

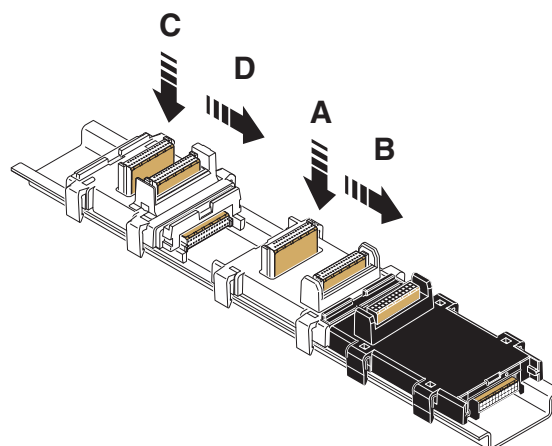


Figure 5 Mount bus base module(s)

- Place the special controller bus base module on the DIN rail (A).
- Push the special controller bus base module into the connection for the bus base module of the module aligned to the right (B).
- Place the bus base module of the left-alignable extension module interface on the DIN rail (C).
- Push the bus base module of the left-alignable extension module interface into the connection for the special bus base module of the controller (D).

Align additional AXC F XT ... modules on the left (in preparation):

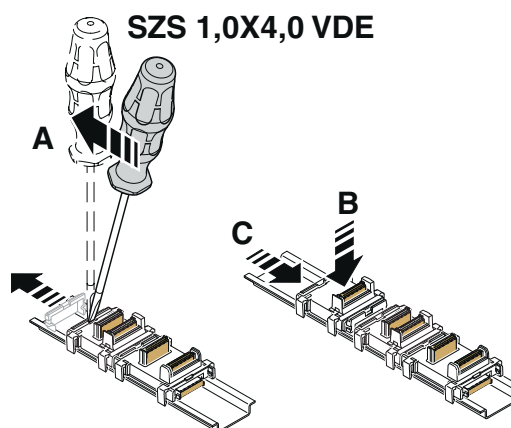


Figure 6 Mounting the bus base modules of further AXC F XT ... modules

- Remove the cover cap of the preceding bus base module (A).

- Place the bus base modules of the additional AXC F XT ... modules to be aligned on the left on the DIN rail (B).
- Push each subsequent bus base module into the connection of the previous bus base module (C).

8.4 Snapping on electronics modules

- Working from right to left, place each electronics module vertically on the corresponding bus base module and on the DIN rail until it snaps into place with a click. Make sure that the device plug for the bus base connection is situated above the corresponding socket on the bus base module.

8.5 Inserting supply connector

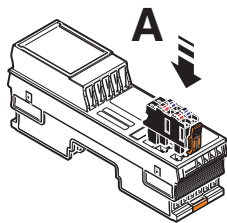


Figure 7 Inserting supply connector

- Place all supply connectors in position and press firmly. Make sure that the respective locking latch snaps in.

9 Connecting the supply voltage



Please note:

The supply voltage of the controller and the left-alignable extension module must be supplied via **a shared** power supply unit.

- Connect the supply voltage via the Axioline F connector.

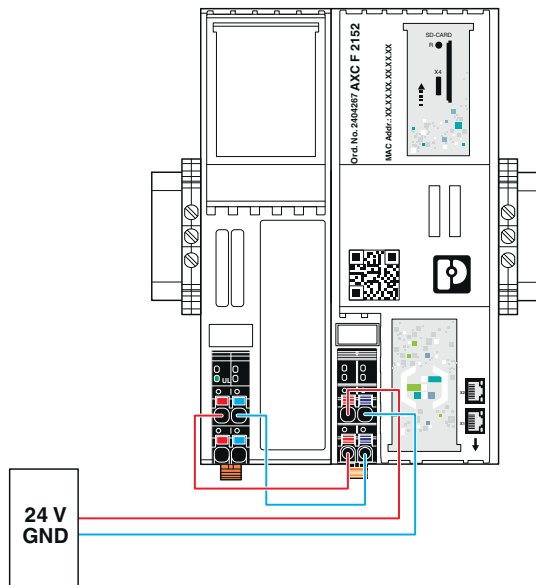


Figure 8 Connecting the supply voltage

Terminal point assignment

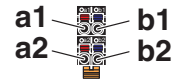


Figure 9 Terminal point assignment

Terminal point	Color	Assignment	
Supply voltage input			
a1, a2	Red	24 V DC (U _L)	Supply voltage feed-in (bridged internally)
b1, b2	Blue	GND	Reference potential of the supply voltage (bridged internally)

10 Connection example

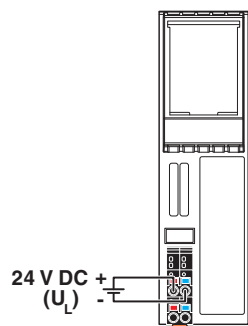


Figure 10 Connection of the cables

11 Application example

With the left-alignable extension module, you can install three additional left-alignable extension modules on the PLCnext controller:



Figure 11 Example application