

AMIKON TECHNICAL DOCUMENTATION

Installation Instructions

Siemens 6ES7590-0BH00-0AA0

Active Backplane Bus ST 1+8

FAMILY	VARIANT	GRID	ROLE
SIMATIC	ST 1+8	35 mm	Active backplane

For qualified personnel only. Isolate the affected equipment before mounting or replacing the backplane. Permitted I/O hot swapping does not authorize live replacement of the backplane or interface module. Follow the complete Siemens safety instructions.

01

PREPARATION AND MOUNTING

Identity and firmware	Verify ST 1+8, the exact CPU or interface module, active backplane firmware and the approved engineering configuration.
Rail selection	Use the original rail table for ET 200MP or S7-1500H. Leave space for fixing screws; do not locate screws behind the backplane.
Insert and align	Tilt the backplane into the mounting rail, press it back and align it with the CPU or interface module in the first position.
Module fastening	Follow the original mounting procedure. Siemens specifies 1.5 Nm for the CPU/interface and I/O module fastening screws.
Slot protection	Fit protection to all unused positions. A 70 mm module occupies two positions; record the completed station layout.

Full Siemens installation procedure - original pages 15-19

Original pages 15, 16, 17 and 32 follow this two-page reference. The complete manual retains the continuation of every procedure.

02

OPERATIONAL AND COMMISSIONING CHECKS

Engineering	Confirm the supported module order numbers, firmware, rack selection, station power balance and physical slot arrangement.
Pull/plug interrupt	Review OB 83 handling. Siemens states that a missing OB 83 can cause the CPU to enter STOP when a configured module is removed.
Isochronous mode	Do not plan reaction-free hot swapping in isochronous mode. Module removal or insertion re-establishes the controller connection.
Electrical safety	De-energize I/O front connectors and power supply modules before removal. Never remove the interface module under load.
Hazardous areas	Do not pull or plug in a potentially explosive atmosphere unless the area is no longer hazardous or the device and connectors are de-energized.

03

ORIGINAL FIGURE AND PAGE REFERENCES

- Rail selection: original pages 15 and 16 distinguish ET 200MP from S7-1500H.
- Insertion figure: original page 17, Figure 4-1. Siemens page 4 states that common ST 1+12 illustrations also apply to ST 1+8.
- Dimension drawing: original page 32, Figure 9-1. Use the ST 1+8 length identified by marker 2.

[Original operation and safety - pages 20-21](#)

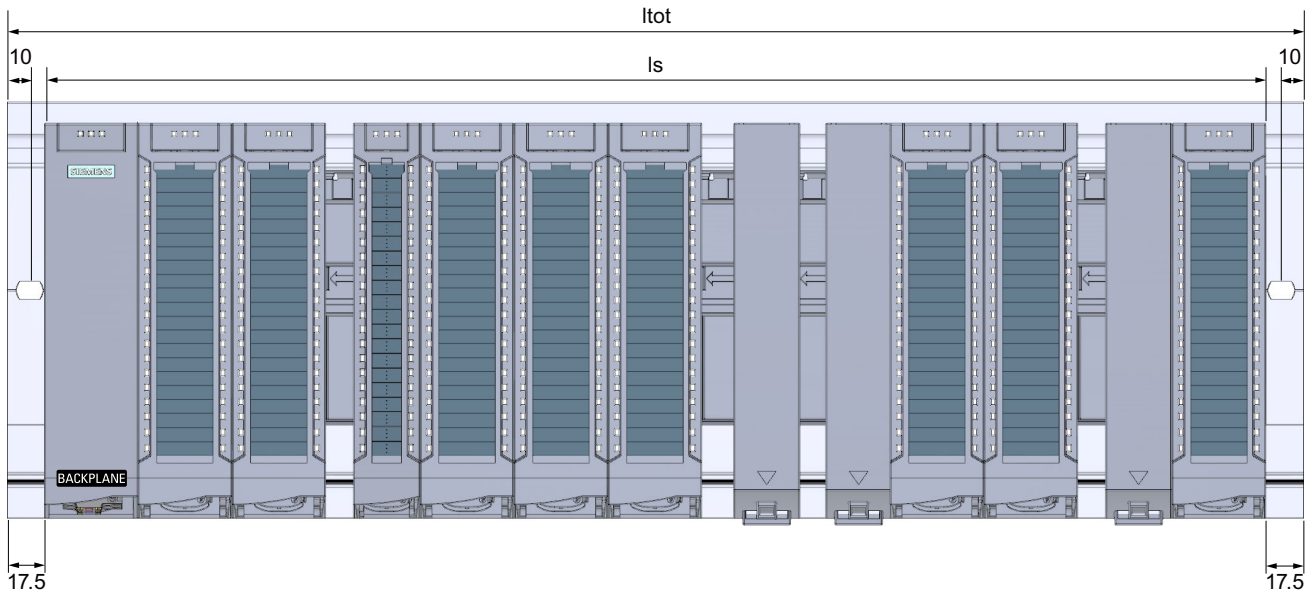
[Original mounting figure - page 17](#)

[Original dimension drawing - page 32](#)

Check diagnostics and the intended operating state before release. Firmware updates can restart the station; plan them under the approved maintenance procedure.

Mounting

4.1 Required mounting rail



Required mounting rail for ET 200MP

The following table and diagram help you to select the matching mounting rails for the active backplane bus used.

Active backplane bus	Length of station l_s	Minimum length of mounting rail l_{tot} (2 m rail for cutting to length)	Pre-assembled mounting rail
Active backplane bus ST 1+4 slot	175 mm	210 mm for pre-mounted modules 192.5 mm with left-alignment	245 mm (9.6") 6ES7590-1AC40-0AA0
Active backplane bus ST 1+8 slot	315 mm	350 mm for pre-mounted modules 332.5 mm with left-alignment	482 mm (19") 6ES7590-1AE80-0AA0
Active backplane bus ST 1+12 slot	455 mm	490 mm for pre-mounted modules 472.5 mm with left-alignment	

4.1 Required mounting rail

Required mounting rail for S7-1500H

The following table and diagram help you to select the matching mounting rails for the active backplane bus used.

Active backplane bus	Length of station l_s	Minimum length of mounting rail l_{tot} (2 m rail for cutting to length)	Pre-assembled mounting rail
Active backplane bus ST 1+4 slot	350 mm	385 mm for pre-mounted modules 367.5 mm with left-alignment	482 mm (19") 6ES7590-1AE80-0AA0
Active backplane bus ST 1+8 slot	490 mm	525 mm for pre-mounted modules 507.5 mm with left-alignment	530 mm (20.9") 6ES7590-1AF30-0AA0

Mounting the mounting rail**NOTE****No screws behind the active backplane bus**

Note that behind the active backplane bus, no screws are available for mounting the mounting rail. Otherwise, the active backplane bus cannot be mounted.

4.2 Installation

System power supply

With active backplane bus, a system power supply supplies power to the entire station. Which means also to the I/O modules plugged in to the left of the bus. You can plug the system power supply into any slot to the right of the interface module/CPU.

Place the active backplane bus in the mounting rail and mount the modules

Below we will show you how to mount the active backplane bus.

1. Tilt the active backplane bus forward and insert it diagonally into the mounting rail.
2. Push the active backplane bus backwards.

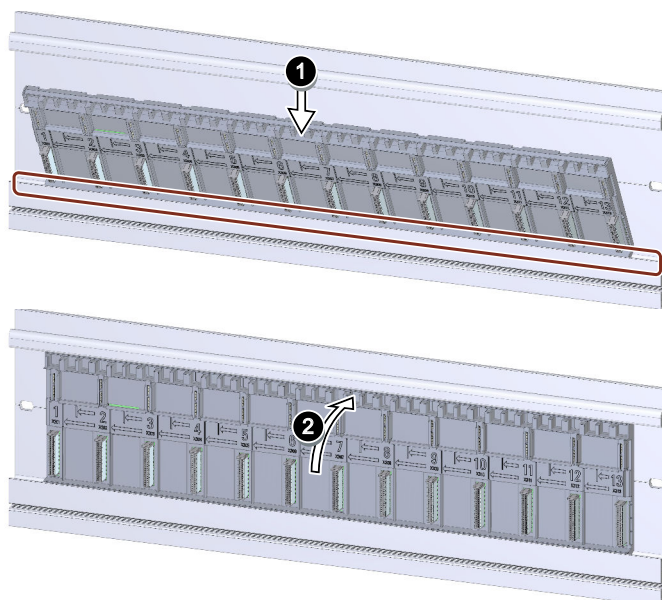


Figure 4-1 Insert the active backplane bus into the mounting rail

3. Hook the interface module/CPU into the mounting rail.
You can only plug in one interface module/one CPU. The interface module/CPU must be plugged into the first slot.
4. Swivel the interface module/CPU downward so that the contacts are connected to the active backplane bus.
5. Align the active backplane bus with the interface module/CPU.

Dimension drawings

Dimension drawing of active backplane bus

This section contains a dimension drawing of the active backplane bus mounted on a mounting rail.

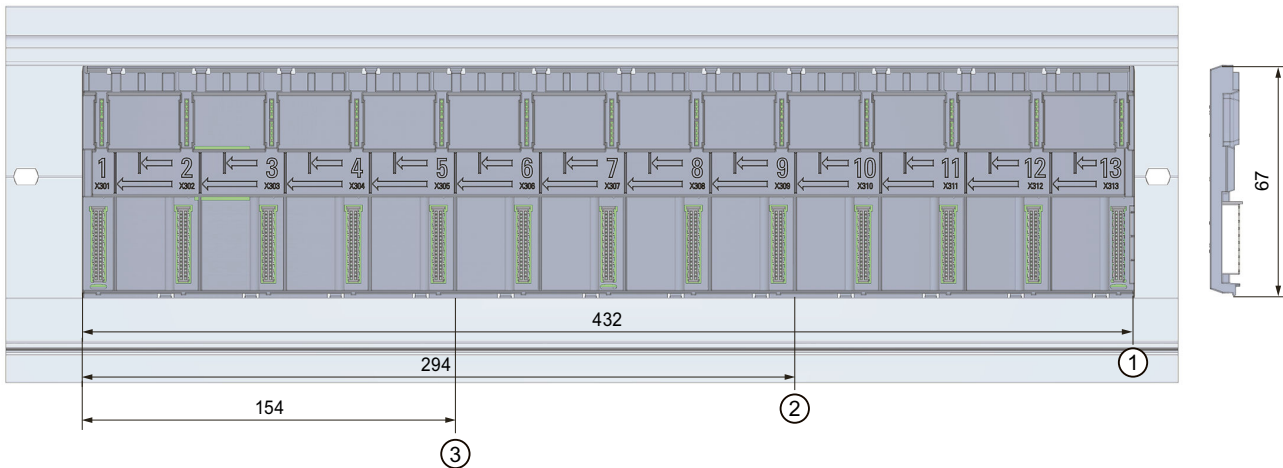


Figure 9-1 Dimension drawing of active backplane bus front and side view