SIEMENS

SIMATIC NET

Industrial Ethernet switches
SCALANCE X-400 extender
modules

Compact Operating Instructions

Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

⚠ DANGER
indicates that death or severe personal injury **will** result if proper precautions are not taken.

⚠ WARNING
indicates that death or severe personal injury **may** result if proper precautions are not taken.

⚠ CAUTION
indicates that minor personal injury can result if proper precautions are not taken.

NOTICE
indicates that property damage can result if proper precautions are not taken.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

⚠ WARNING
Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

Trademarks

All names identified by ® are registered trademarks of Siemens AG. The remaining trademarks in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owner.

Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

Table of contents

Introduction 1

Content of the document

These operating instructions (compact) contain information with which you will be able to install a device of the SCALANCE X-400 extender modules product line.

Where can I find more detailed information on the product?

A CD is supplied with the IE Switch X-400 basic devices on which you will find a detailed description of the products in PDF format in the relevant subfolder.

Safety instructions 2

2.1 Important notes on using the device

Safety notices on the use of the device

The following safety notices must be adhered to when setting up and operating the device and during all work relating to it such as installation, connecting up, replacing devices or opening the device.

General notes

⚠ WARNING
Safety extra low voltage
The equipment is designed for operation with Safety Extra-Low Voltage (SELV) by a Limited Power Source (LPS). (This does not apply to 100 V...240 V devices.)
This means that only SELV / LPS complying with IEC 60950-1 / EN 60950-1 / VDE 0805-1 must be connected to the power supply terminals. The power supply unit for the equipment power supply must comply with NEC Class 2, as described by the National Electrical Code (r) (ANSI / NFPA 70).
There is an additional requirement if devices are operated with a redundant power supply:
If the equipment is connected to a redundant power supply (two separate power supplies), both must meet these requirements.

⚠ WARNING
Opening the device
DO NOT OPEN WHEN ENERGIZED.

Information on use in hazardous areas

⚠ WARNING
Risk of explosion when connecting or disconnecting the device
EXPLOSION HAZARD
DO NOT CONNECT OR DISCONNECT EQUIPMENT WHEN A FLAMMABLE OR COMBUSTIBLE ATMOSPHERE IS PRESENT.

⚠ WARNING
Replacing components
EXPLOSION HAZARD
SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2 OR ZONE 2.

⚠ WARNING
Requirements for the cabinet/enclosure
When used in hazardous environments corresponding to Class I, Division 2 or Class I, Zone 2, the device must be installed in a cabinet or a suitable enclosure.

Information on use in hazardous areas according to ATEX

> ⚠ **WARNING**
>
> **Requirements for the cabinet/enclosure**
>
> To comply with EU Directive 94/9 (ATEX95), this enclosure must meet the requirements of at least IP54 in compliance with EN 60529.
>
> The fiber-optic bus connections labeled SCALANCE MM400 (see type plate) may also be led through a hazardous area zone1 (see also Auto-Hotspot, section "Explosion Protection Directive (ATEX)").

> ⚠ **WARNING**
>
> **Suitable cables for temperatures in excess of 70 °C**
>
> If the cable or conduit entry point exceeds 70 °C or the branching point of conductors exceeds 80 °C, special precautions must be taken. If the equipment is operated in an air ambient in excess of 50 °C, only use cables with admitted maximum operating temperature of at least 80 °C.

> ⚠ **WARNING**
>
> **Protection against transient voltage surges**
>
> Provisions shall be made to prevent the rated voltage from being exceeded by transient voltage surges of more than 40%. This criterion is fulfilled, if supplies are derived from SELV (Safety Extra-Low Voltage) only.

Information on use in hazardous areas according to UL-HazLoc

> ⚠ **WARNING**
>
> **EXPLOSION HAZARD**
>
> DO NOT DISCONNECT WHILE CIRCUIT IS LIVE UNLESS AREA IS KNOWN TO BE NON-HAZARDOUS.

This equipment is suitable for use in Class I, Division 2, Groups A, B, C and D or non-hazardous locations only.

This equipment is suitable for use in Class I, Zone 2, Group IIC or non-hazardous locations only.

Description

3

3.1 Extender for twisted pair EM495-8

Eight additional 100Base-TX ports

Note

The EM495-8 extender module can be used only in connection with the SCALANCE X414-3E.
The SCALANCE X408-2 has no port for an extender module.

The extender module for twisted pair transmission provides an additional eight ports for connecting twisted pair cables. The TP cable is attached to an 8-pin RJ-45 jack with securing collar.

Note

The twisted pair extender CANNOT be installed during operation.

The transmission rate of the Ethernet ports is 10 Mbps or as a Fast Ethernet port 100 Mbps. No media module is required for data transfer with this extender module.
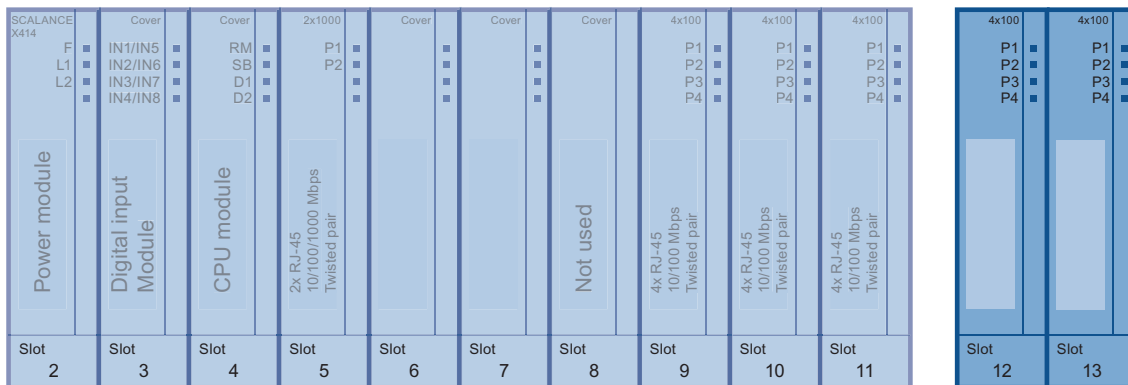
Figure 3-1   Basic device with twisted pair extender module

Figure 3-2   Twisted pair extender EM495-8

Covers

For slots 12 and 13 of the twisted pair extender EM495-8, you can use the cover that can be used on slots 9 through 11 on the basic device. Two CV490 4x100 covers are supplied with the twisted pair extender.

3.2 EM496-4 extender for media modules

Four additional slots for media modules

> **Note**
>
> The EM496-4 extender module can be used only in conjunction with the SCALANCE X414-3E.
> The SCALANCE X408-2 has no port for an extender module.

By adding the media module extender, the basic device is extended by four slots that you can equip with the following modules as required:

- MM491-2
- MM491-2LD
- MM491-2LH+

If you use all slots, you have an additional eight optical Fast Ethernet ports available (100 Mbps).

> **Note**
>
> For data transfer with this extender module, the minimum requirement is an occupied slot (for example, no. 1). The installation of the extender module and the removal and insertion of a media module from/in the required slot (for example no. 1) is NOT possible during ongoing operation.

> **Note**
>
> The required slot (for example no. 1) must remain occupied to allow the removal and insertion of the other media modules (for example slots 2-4) during ongoing operation.

The media module plug connectors are protected by protective caps.

Connector

Depending on the media module, the connectors used are 2x2 BFOC sockets or SC duplex sockets.
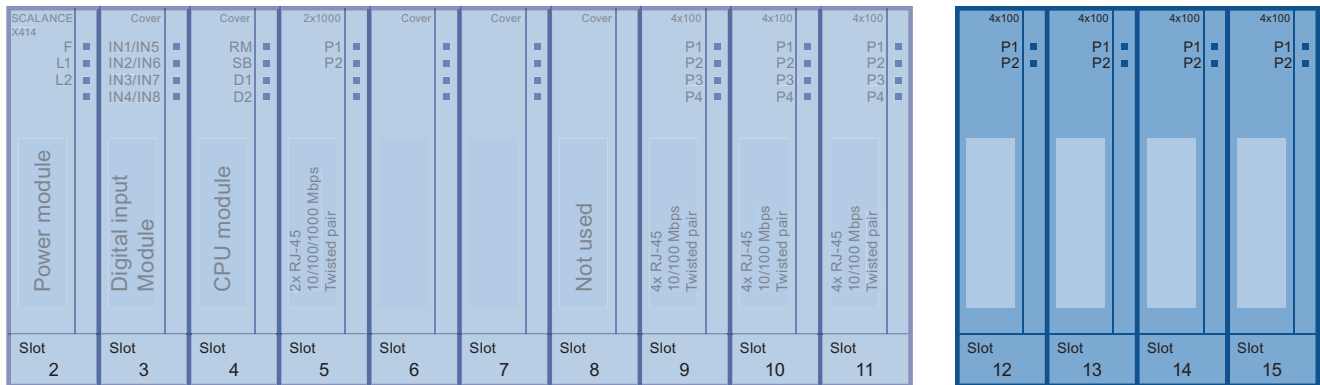
Figure 3-3   Basic device with media module extender

Figure 3-4   Empty media module extender EM496-4 without protective caps for the media module
terminal strips and without covers

Covers

Four CV490 2x100 covers are supplied with the twisted media module extender EM496-4. The media module plug connectors are also protected from damage by protective caps.

Figure 3-5   Media module extender EM496-4 with media module MM491-2 on slot and with covers

3.3 Unpacking and checking

Unpacking, checking

1. Make sure that the package is complete.

2. Check all the parts for transport damage.

⚠ WARNING
Do not use any parts that show evidence of damage!

Assembly

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4.1 Safety notices for installation

> ### ⚠ WARNING
>
> If a device is operated in an ambient temperature of more than 50 °C, the temperature of the device housing may be higher than 70 °C. The device must therefore be installed so that it is only accessible to service personnel or users that are aware of the reason for restricted access and the required safety measures at an ambient temperature higher than 50 °C.

4.2 Installing/uninstalling the EM495-8 twisted pair extender for SCALANCE X414-3E

Installing the twisted pair extender on the S7-300 standard rail

You require the following tools:

- slotted screwdriver with a 2.8 mm wide blade
- slotted screwdriver with a 5.5 mm wide blade

Note

Make sure that in addition to the extender width of 87 mm, there is a clearance of 20 mm to the right of the basic device on the standard rail to be able to align the guide bolts of the extender with the holes in the basic device during installation.

When installing a twisted pair extender on an S7-300 standard rail,

the basic device remains in position. Follow the steps below:

1. Remove the cover from slot 11 of the basic device.

2. Remove the right-hand side panel of the basic device. To do this, use a slotted screwdriver with a 2.8 mm wide blade to loosen the two captive slug screws on slot 11 in the upper and lower recesses as far as they will go.

3. Remove the side panel of the basic device from the basic device to the right.

Note

Keep the panel in a safe place in case the extender needs to be removed again later.

4. Remove the two covers from the extender.

5. Place the extender module on the edge of the S7-300 standard rail with the upper groove angled slightly towards the back and tilt the extender towards the back. Make sure that there is adequate clearance between the guide bolts of the extender module and the basic device. In this position, the extender module should not be able to slip off, however it can be moved horizontally in both directions.

6. Push the extender module slowly to the left while keeping it straight and without skewing and check that the two guide bolts on the extender fit into the holes in the basic device. Then push the extender module to the left as far as it will go so that it is flush with the right side of the basic device.

7. Using a slotted screwdriver with a 5.5 mm wide blade, tighten the captive screw between slots 12 and 13 in the lower part of the extender module.

8. Using a slotted screwdriver with a 2.8 mm wide blade, tighten the two captive slug screws on slot 11. The screws lock the two guide bolts, so do not use excessive force when tightening them.

9. Fit the CV490 4x100 cover to slot 11 of the basic device and slots 12 and 13 of the twisted pair extender.

Figure 4-1   Installing the twisted pair extender on the S7-300 standard rail

Removing the twisted pair extender from the S7-300 standard rail

You require the following tools:

- slotted screwdriver with a 2.8 mm wide blade
- slotted screwdriver with a 5.5 mm wide blade

When removing a twisted pair extender from an S7-300 standard rail, the basic device remains in position. Follow the steps below:

1. To remove an extender module, remove the two covers on the extender.

2. Using a slotted screwdriver with a 5.5 mm wide blade, open the captive screw between slots 12 and 13 in the lower part of the extender module.

3. Remove the cover from slot 11 of the basic device.

4. Use a slotted screwdriver with a 2.8 mm wide blade to loosen the two captive slug screws on slot 11 of the basic device in the upper and lower recesses as far as they will go.

5. Push the extender module slowly to the right while keeping it straight until the two guide bolts of the extender module are completely outside the holes in the basic device.

6. Pull out the lower part of the extender module slightly towards the front and lift it from the S7-300 standard rail.

7. Replace the right side panel of the basic device so that the guide bolts fit into the two holes in the basic device.

8. Using a slotted screwdriver with a 2.8 mm wide blade, tighten the two captive slug screws on slot 11. The screws lock the two guide bolts, so do not use excessive force when tightening them.

9. Fit a suitable cover on slot 11 of the basic device.

Note

The basic device must not be used permanently without the right side panel.

Installing the twisted pair extender on the 35 mm DIN rail

> ⚠ **CAUTION**
>
> If the IE Switch X-400 with extender is liable to severe vibration (> 10 g), use the S7-300 standard rail for installation. The DIN rail does not provide adequate support for the twisted pair extender with vibration greater than 10 g.

For installation, you require a slotted screwdriver with a 2.8 mm wide blade.

Although the captive screw in the lower part between slots 12 and 13 of the extender module is not used when installing on a 35 mm DIN rail, it is nevertheless advisable to remove the media modules.

Note

Make sure that in addition to the extender width of 87 mm, there is a clearance of 20 mm to the right of the basic device on the DIN rail to be able to align the guide bolts of the extender with the holes in the basic device during installation.

When installing a twisted pair extender on a 35 mm DIN rail, the basic device remains in position. Follow the steps below:

1. Remove the cover from slot 11 of the basic device.

2. Remove the right-hand side panel of the basic device. To do this, use a slotted screwdriver with a 2.8 mm wide blade to loosen the two captive slug screws on slot 11 in the upper and lower recesses as far as they will go.

3. Remove the side panel of the basic device from the basic device to the right.

   Note

   Keep the panel in a safe place in case the extender needs to be removed again later.

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4. Place the central groove containing a spring clip on the back of the extender module on the upper edge of the DIN rail with the module tilted slightly towards the back. Make sure that there is adequate clearance between the guide bolts of the extender module and the basic device.

5. The spring clip must be located behind the edge of the DIN rail so that it is visible from the rear of the frame.

6. Press the extender module down and push in the lower part until you hear it click into place in the DIN rail.

7. Push the extender module slowly to the left while keeping it straight and without skewing and check that the two guide bolts on the extender fit into the holes in the basic device. Then push the extender module to the left as far as it will go so that it is flush with the right side of the basic device.

8. Using a slotted screwdriver with a 2.8 mm wide blade, tighten the two captive slug screws on slot 11. The screws lock the two guide bolts, so do not use excessive force when tightening them.

9. Fit the CV490 4x100 cover to slot 11 of the basic device and slots 12 and 13 of the twisted pair extender.

Figure 4-2   Installing the twisted pair extender on the 35 mm DIN rail

Removing the twisted pair extender from the 35 mm DIN rail

To remove the device, you require a slotted screwdriver with a 2.8 mm wide blade. The captive screw in the lower part of the extender module between slot 12 and 13 is not used for mounting on an 35 mm DIN rail. When removing a twisted pair extender from a 35 mm DIN rail, the basic device remains in position. Follow the steps below:

1. Remove the cover from slot 11 of the basic device.

2. Use a slotted screwdriver with a 2.8 mm wide blade to loosen the two captive slug screws on slot 11 of the basic device in the upper and lower recesses as far as they will go.

3. Push the extender module slowly to the right while keeping it straight until the two guide bolts of the extender module are completely outside the holes in the basic device.

4. Push the twisted pair extender down until the lower part can be pulled away from the rail to the front.

5. Lift the extender module up and off the DIN rail.

6. Replace the right side panel of the basic device so that the guide bolts fit into the two holes in the basic device.

7. Using a slotted screwdriver with a 2.8 mm wide blade, tighten the two captive slug screws on slot 11. The screws lock the two guide bolts, so do not use excessive force when tightening them.

8. Fit a suitable cover on slot 11 of the basic device.

Note

The basic device must not be used permanently without the right side panel.

4.3 Installing / uninstalling the EM496-4 media module extender for SCALANCE X414-3E

Installing the media module extender on the S7-300 standard rail

You require the following tools:

- slotted screwdriver with a 2,8 mm wide blade
- slotted screwdriver with a 5.5 mm wide blade

Note

Make sure that in addition to the extender width of 155 mm, there is a clearance of 20 mm to the right of the basic device on the standard rail to be able to align the guide bolts of the extender with the holes in the basic device during installation.

Note

Protective caps and CV490 2x100 covers must be fitted to all slots without media modules.

When installing a media module extender on an S7-300 standard rail,

the basic device remains in position. Follow the steps below:

1. Remove the cover from slot 11 of the basic device.

2. Remove the right-hand side panel of the basic device. To do this, use a slotted screwdriver with a 2.8 mm wide blade to loosen the two captive slug screws on slot 11 in the upper and lower recesses as far as they will go.

3. Remove the side panel of the basic device from the basic device to the right.

Note

Keep the panel in a safe place in case the extender needs to be removed again later.

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4. Remove the four covers from the extender.

5. Place the extender module on the edge of the S7-300 standard rail with the upper groove angled slightly towards the back and tilt the extender towards the back. Make sure that there is adequate clearance between the guide bolts of the extender module and the basic device. In this position, the extender module should not be able to slip off, however it can be moved horizontally in both directions.

6. Push the extender module slowly to the left while keeping it straight and without skewing and check that the two guide bolts on the extender fit into the holes in the basic device. Then push the extender module to the left as far as it will go so that it is flush with the right side of the basic device.

7. Using a slotted screwdriver with a 5.5 mm wide blade, tighten the captive screw between slots 13 and 14 in the lower part of the extender module.

8. Using a slotted screwdriver with a 2.8 mm wide blade, tighten the two captive slug screws on slot 11. The screws lock the two guide bolts, so do not use excessive force when tightening them.

9. Fit the CV490 4x100 cover on slot 11 of the basic device. Make sure that the media module terminal strips of slots not occupied by media modules have protective caps fitted and that the CV490 2x100 covers are in place.

Figure 4-3   Installing the media module extender on the S7-300 standard rail

Removing the media module extender from the S7-300 standard rail

You require the following tools:

- slotted screwdriver with a 2,8 mm wide blade
- slotted screwdriver with a 5.5 mm wide blade

Note

To remove the extender, remove the media modules from slots 13 and 14.

When removing a media module extender from an S7-300 standard rail, the basic device remains in position. Follow the steps below:

1. To remove an extender module, use a slotted screwdriver with a 5.5 mm wide blade, to open the captive screw between slots 13 and 14 in the lower part of the extender module.

2. Remove the cover from slot 11 of the basic device.

3. Use a slotted screwdriver with a 2.8 mm wide blade to loosen the two captive slug screws on slot 11 of the basic device in the upper and lower recesses as far as they will go.

4. Push the extender module slowly to the right while keeping it straight until the two guide bolts of the extender module are completely outside the holes in the basic device.

5. Pull out the lower part of the extender module slightly towards the front and lift it from the S7-300 standard rail.

6. Replace the right side panel of the basic device so that the guide bolts fit into the two holes in the basic device.

7. Using a slotted screwdriver with a 2.8 mm wide blade, tighten the two captive slug screws on slot 11. The screws lock the two guide bolts, so do not use excessive force when tightening them.

8. Fit a suitable cover on slot 11 of the basic device.

Note

The basic device must not be used permanently without the right side panel.

Installing the media module extender on the 35 mm DIN rail

> ⚠️ **CAUTION**
>
> If the IE Switch X-400 with extender is liable to severe vibration (> 10 g), use the S7-300 standard rail for installation. The DIN rail does not provide adequate support for the media module extender with vibration greater than 10 g.

For installation, you require a slotted screwdriver with a 2.8 mm wide blade.

Although the captive screw in the lower part between slots 13 and 14 of the extender module is not used when installing on a 35 mm DIN rail, it is nevertheless advisable to remove the media modules.

Note

Make sure that in addition to the extender width of 155 mm, there is a clearance of 20 mm to the right of the basic device on the DIN rail to be able to align the guide bolts of the extender with the holes in the basic device during installation.

Note

Protective caps and CV490 2x100 covers must be fitted to all slots without media modules.

When installing a media module extender on a 35 mm DIN rail, the basic device remains in position. Follow the steps below:

1. Remove the cover from slot 11 of the basic device.

2. Remove the right-hand side panel of the basic device. To do this, use a slotted screwdriver with a 2.8 mm wide blade to loosen the two captive slug screws on slot 11 in the upper and lower recesses as far as they will go.

3. Remove the side panel of the basic device from the basic device to the right.

   Note

   Keep the panel in a safe place in case the extender needs to be removed again later.

4. Place the central groove containing a spring clip on the back of the extender module on the upper edge of the DIN rail with the module tilted slightly towards the back. Make sure that there is adequate clearance between the guide bolts of the extender module and the basic device.

5. The spring clip must be located behind the edge of the DIN rail so that it is visible from the rear of the frame.

6. Press the extender module down and push in the lower part until you hear it click into place in the DIN rail.

7. Push the extender module slowly to the left while keeping it straight and without skewing and check that the two guide bolts on the extender fit into the holes in the basic device. Then push the extender module to the left as far as it will go so that it is flush with the right side of the basic device.

8. Using a slotted screwdriver with a 2.8 mm wide blade, tighten the two captive slug screws on slot 11. The screws lock the two guide bolts, so do not use excessive force when tightening them.

9. Fit the CV490 4x100 cover on slot 11 of the basic device. Make sure that the media module terminal strips of slots not occupied by media modules have protective caps fitted and that the CV490 2x100 covers are in place.

Figure 4-4   Installing the media module extender on the 35 mm DIN rail

Removing the media module extender from the 35 mm DIN rail

To remove the device, you require a slotted screwdriver with a 2.8 mm wide blade.

Although the captive screw in the lower part between slots 13 and 14 of the extender module is not used on a 35 mm DIN rail, it is nevertheless advisable to remove the media modules. When removing a media module extender from a 35 mm DIN rail, the basic device remains in position. Follow the steps below:

1. Remove the cover from slot 11 of the basic device.

2. Use a slotted screwdriver with a 2.8 mm wide blade to loosen the two captive slug screws on slot 11 of the basic device in the upper and lower recesses as far as they will go.

3. Push the extender module slowly to the right while keeping it straight until the two guide bolts of the extender module are completely outside the holes in the basic device.

4. Push the media module extender down until the lower part can be pulled away from the rail to the front.

5. Lift the extender module up and off the DIN rail.

6. Replace the right side panel of the basic device so that the guide bolts fit into the two holes in the basic device.

7. Using a slotted screwdriver with a 2.8 mm wide blade, tighten the two captive slug screws on slot 11. The screws lock the two guide bolts, so do not use excessive force when tightening them.

8. Fit a suitable cover on slot 11 of the basic device.

Note

The basic device must not be used permanently without the right side panel.

Certification

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5.1 Approvals, Certificates

Note

The specified approvals apply only when the corresponding mark is printed on the product. You can check which of the following approvals have been granted for your product by the markings on the type plate.

EC directives

SIMATIC NET products meet the requirements and aims of the following EU directives.

Declaration of conformity

You will find the EC Declaration of Conformity for this product on the Internet at the following address:

http://support.automation.siemens.com/WW/view/de/67218486 (http://support.automation.siemens.com/WW/view/en/67218486)

--> Entry list
--> Entry type "Certificates"
--> Certificate type "Declaration of Conformity"

Example German: "EG-Konformitätserklärung SCALANCE MM491-2",
Example English: "Declaration of Conformity SCALANCE MM491-2".

EMC directive (electromagnetic compatibility)

The SIMATIC NET product meets the requirements of the EC Directive:
2004/108/EEC "Electromagnetic Compatibility"

The product is designed for use in the following areas:

Area of application	Requirements	
	Emission	Immunity
Industrial area	EN 61000-6-4 : 2001	EN 61000-6-2: 2001

> ⚠ **WARNING**
>
> **Personal injury and damage to property may occur.**
>
> The installation of expansions that are not approved for SIMATIC NET products or their target systems may violate the requirements and regulations for safety and electromagnetic compatibility.
>
> Only use expansions that are approved for the system.

- **Keep to the installation guidelines**
  The product meets the requirements if you adhere to the installation and safety instructions contained in this documentation and in the following documentation when installing and operating the product.

- **You can always find the latest documentation on the Internet!**
  The current descriptions of the currently available products can always be found on the Internet under the specified entry IDs/Internet pages:

  – SIMATIC NET Industrial Ethernet Network manual
    27069465 (http://support.automation.siemens.com/WW/view/en/27069465)

  – EMC Installation Guideline, Planning Guide
    60612658 (http://support.automation.siemens.com/WW/view/en/60612658)

- **Working on the product**
  To protect the product from electrostatic discharge, personnel must first discharge any electrostatic charge from their body before touching the product.

Note

The product was tested with a device that also complies with the standards listed above. If the product is operated with a device that does not meet these standards, there is no guarantee that the corresponding values will be adhered to.

Machinery directive

The product remains a component in compliance with Article 4 (2) of the EC Machinery Directive 89/392/EEC.

According to the machinery directive, we are obliged to point out that the product described is intended solely for installation in a machine.

Before the final product can be put into operation, it must be tested to ensure that it conforms with the directive 89/392/EEC.

Note for the manufacturers of machines

This product is not a machine in the sense of the EC Machinery Directive. There is therefore no declaration of conformity relating to the EC Machinery Directive 89/392/EEC for this product.

Explosion protection directive (ATEX)

The SIMATIC NET product meets the requirements of the EC directive:
94/9/EC "Equipment and Protective Devices for Use in Potentially Explosive Atmospheres"

Note

When using (installing) SIMATIC NET products in hazardous area zone 2, make absolutely sure that the associated conditions are adhered to.

You will find these conditions on the SIMATIC NET Manual Collection.

- "Approval of SIMATIC/ SIMATIC NET Products for Direct Installation in Ex-Zone 2"

ATEX classification II 3 G Ex nA IIC T4 Gc

KEMA 07ATEX0145 X

The product meets the requirements of the standards

- EN 60079-0: 2009
- EN 60079-15: 2005 (electrical apparatus for potentially explosive atmospheres; Type of protection "n")

ATEX classification II 3 (2) G Ex nA [op is] IIC T4 Gc

DEKRA 11ATEX0060 X

The product meets the requirements of the standards:

- EN 60079-0: 2009
- EN 60079-15: 2005
- EN 60079-28: 2007

FM Approval

The product meets the requirements of the standards

- Factory Mutual Approval Standard Class Number 3611
- FM Hazardous (Classified) Location Electrical Equipment:
  Non Incendive / Class I / Division 2 / Groups A,B,C,D / T4 A and
  Non Incendive / Class I / Zone 2 / Group IIC / T4

Note for Australia

The product meets the requirements of the AS/NZS 2064 standard (Class A).

cULus Approval for Information Technology Equipment

cULus Listed I. T. E. Underwriters Laboratories Inc. to

- UL 60950-1 (Information Technology Equipment)
- CSA C22.2 No. 60950-1-03

Report no. E115352

cULus Approval for Industrial Control Equipment

cULus Listed IND. CONT. EQ. Underwriters Laboratories Inc. to

- UL 508
- CSA C22.2 No. 142-M1987

Report no. E85972

cULus Approval Hazardous Location

cULus Listed I. T. E. FOR HAZ. LOC. Underwriters Laboratories Inc. to

- UL 60950-1 (Information Technology Equipment)
- ANSI/ISA 12.12.01
- CSA C22.2 No. 60950-1-03
- CSA C22.2.No. 213-M1987

Approved for use in:

Cl. 1, Div. 2, GP. A, B, C, D, T4 A
Cl. 1, Zone 2, GP. IIC T4
Cl. 1, Zone 2, Aex nC IIC T4

Report no. E240480

Technical specifications

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6.1 Extender module EM495-8 - technical specifications

Interfaces

Connection of end devices or network segments over twisted pair	8 x RJ-45 jacks (10/100 Mbps) All electrical ports support autonegotiation and autocrossover.
Power consumption	< 0.5 W

Permitted cable lengths

TP cable length	With TP cord up to 10 m, with FastConnect cabling system up to 100 m.

Permitted environmental conditions / EMC

Operating temperature: • For product versions 01 to 02 • As of product version 03	0 °C through + 60 °C - 40 °C through + 70 °C
Storage/transport temperature	– 40°C through + 80°C
Relative humidity in operation	< 95% (no condensation)
Operating altitude	Max. 2000 m
RF interference level	EN 55081 Class A
Immunity	EN 61000-6-2: 2001

Construction

Dimensions (W x H x D)	86 x 145 x 112.4 mm
Weight	560 g
Degree of protection	IP20

6.2 Extender module EM496-4 - technical specifications

Interfaces

Installation of media modules	4 x slot for media module
	MM491-2, MM491-2LD, MM491-2LH+
Power consumption without media modules	< 0.1 W

Permitted environmental conditions / EMC

Operating temperature:	
• For product versions 01 to 02	0 °C through + 60 °C
• As of product version 03	- 40 °C through + 70 °C
Storage/transport temperature	– 40°C through + 80°C
Relative humidity in operation	< 95% (no condensation)
Operating altitude	Max. 2000 m
RF interference level	EN 55081 Class A
Immunity	EN 61000-6-2: 2001

Construction

Dimensions (W x H x D)	154 x 145 x 112.4 mm
Weight	980 g
Degree of protection	IP20

Graphics

7

7.1 Dimension drawing - EM495-8 extender module

Dimension drawing EM495-8
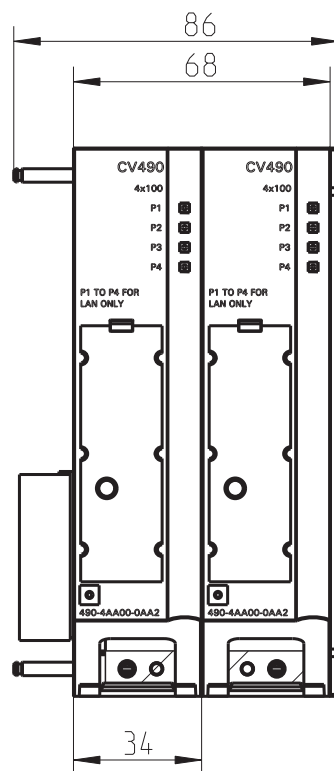
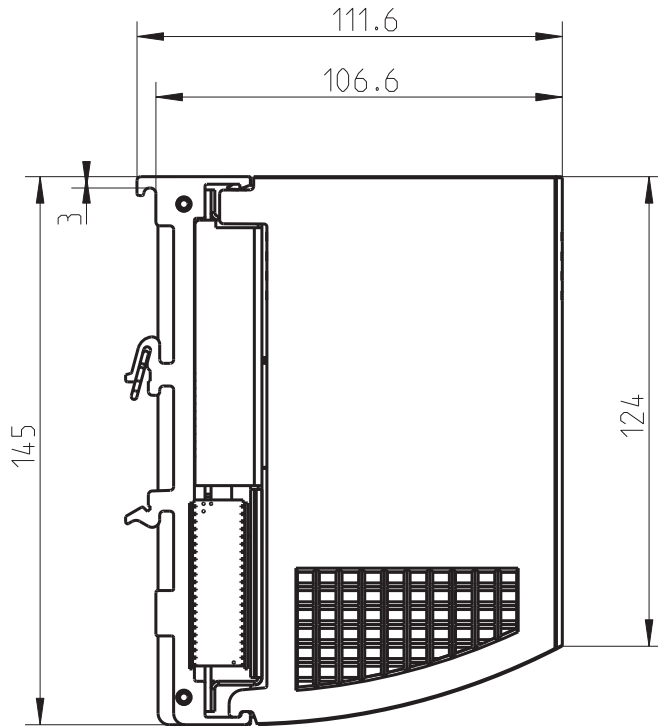Figure 7-1   Extender module EM495-8 front

Figure 7-2   Extender module EM495-8 left

7.2 Dimension drawing - EM496-4 extender module

Dimension drawing EM496-4
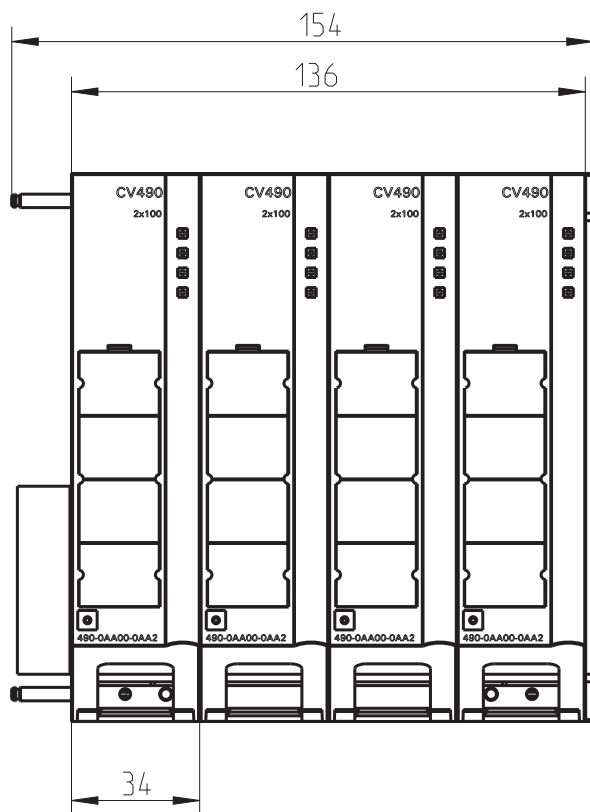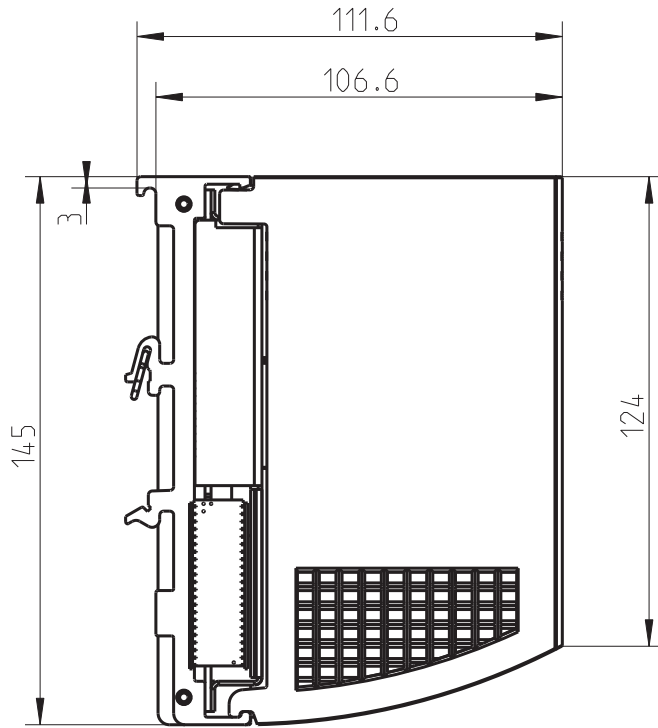

Figure 7-3   Extender module EM496-4 front

Figure 7-4   Extender module EM496-4 left

Index

A

ATEX, 9

E

EMC directive, 31
Extender module
    Media module extender, 13
    Twisted pair extender, 11

H

Hazardous area, 8

I

Installation
    Media module extender, 25
    Twisted pair extender, 19

S

Safety notices, 7

U

UL-HazLoc, 9
Uninstalling
    Media module extender, 30
    Twisted pair extender, 24