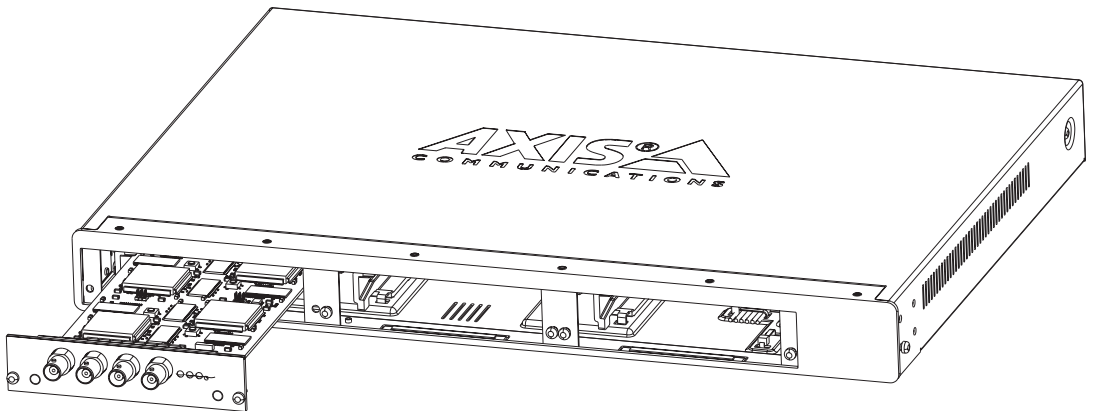




AXIS 291 1U Video Server Rack

Installation Guide



About This Document

This document describes how to install Axis blade video servers in the AXIS 291 1U Video Server Rack. Updated versions of this document will be available on the Axis Web site.

Intellectual Property Rights – Axis AB has intellectual property rights relating to technology embodied in the product described in this document. In particular, and without limitation, these intellectual property rights may include one or more of the patents listed at <http://www.axis.com/patent.htm> and one or more additional patents or pending patent applications in the US and other countries.

Legal Considerations – Camera surveillance can be prohibited by laws that vary from country to country. Check the laws in your local region before using this product for surveillance purposes.

Electromagnetic Compatibility (EMC) – This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. Shielded cables should be used to ensure compliance with EMC standards. Unused video server slots must be covered by cover plates.

US – This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: Reorient or relocate the receiving antenna. Increase the separation between the equipment and receiver. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. Consult the dealer or an experienced radio/TV technician for help.

Europe – **CE** This digital equipment fulfills the requirements for radiated emission according to limit B of EN55022, and the requirements for immunity according to EN55024 residential, commercial, and light industry.

Japan – This is a class B product based on the standard of the Voluntary Control Council for Interference from Information Technology Equipment (VCCI). If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and

use the equipment according to the instruction manual

Australia – This electronic device meets the requirements of the Radio communications (Electromagnetic Compatibility) Standard AS/NZS CISPR 22. Compliance is not valid for unshielded network cables.

Canada – This Class B digital apparatus complies with Canadian ICES-003.

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Support Services – Should you require any technical assistance, please contact your Axis reseller. If your questions cannot be answered immediately, your reseller will forward your queries through the appropriate channels to ensure a rapid response. If you are connected to the Internet, you can:

- download user documentation and firmware updates
- find answers to resolved problems in the FAQ database. Search by product, category, or phrases
- report problems to Axis support staff by logging in to your private support area

Visit the Axis Support Web at www.axis.com/techsup

AXIS 291 1U Video Server Rack Installation Guide, v.1.0

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This installation guide describes the hardware installation of the AXIS 291 1U Video Server Rack, which can accommodate up to 3 Axis blade video servers. To install the Axis video server on the network, please see the video server's own installation guide.

Hardware Inventory - AXIS 291

Please contact your dealer if anything is missing or damaged.

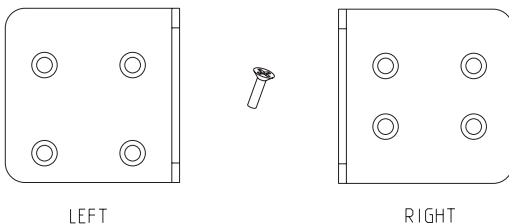
Qty	Item	Models/variants/notes
1	Video server rack	AXIS 291 1U Video Server Rack
2	Cover plates	Front panel cover 1U
1	AC power cord	Europe UK US/Japan Australia
1	Warranty Document	
1	Mounting kit	See below

Hardware Inventory - mounting kit

Please contact your dealer if anything is missing or damaged.

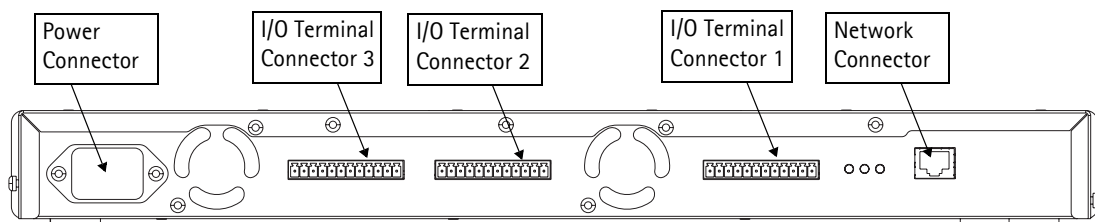
Qty	Item	Models/variants/notes
4	Rubber foot	For placement on flat surfaces
1	Mounting bracket (side)	Left
1	Mounting bracket (side)	Right
8	M3x8 screw (recessed)	For attachment of side brackets
4	M6x20 screw	For mounting AXIS 291 in equipment rack
3	Terminal connector block	12-pin, green

The 2 mounting brackets included in the mounting kit are slightly different. See the label on each bracket, as well as the illustration below.



AXIS 291 1U Video Server Rack - Overview

Read the following information to familiarize yourself with the AXIS 291 1U Video Server Rack, making note of where the connectors and indicators are located.



Power Connector - Input power: 100-240V AC, 50-60 Hz, 1.9A

I/O Terminal Connector(s) - provides the physical interface to the functions supported by the Axis blade video server. For more information see page 8.

Network Connector - Axis blade video servers are designed for 10/100/1000 Mbps networks and are connected via a standard RJ-45 connector.

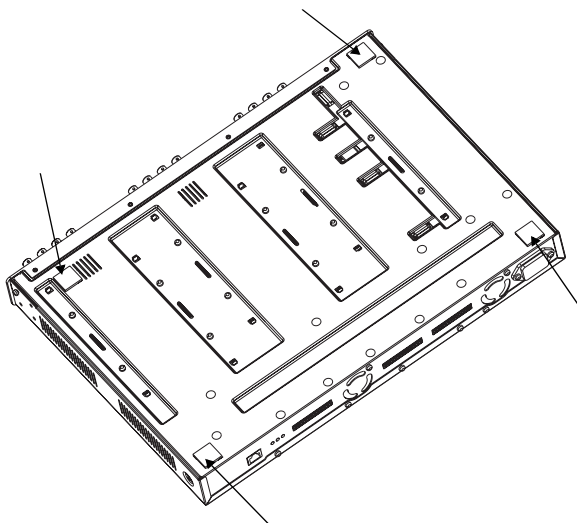
Placement requirements

The location the AXIS 291 1U Video Server Rack is used in must meet the following requirements:

- Ambient temperature: 0° to +45°C (32° to 113°F)
- Relative humidity: 20-80%
- Power source within 1.8 meters
- Minimum 5cm free space on each side, to ensure adequate ventilation
- No excessive dust

Placement on a shelf/table

1. Attach the 4 rubber feet to the underside of the unit, as illustrated here.
2. Place on a flat surface. Note that the AXIS 291 with cables can weigh up to 6kg. Check that the surface can support this weight.



Installation in a 19" equipment rack

Requirements:

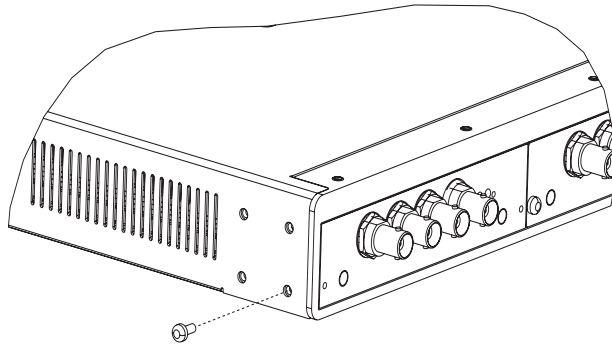
- Pozidriv screwdriver #1
- Pozidriv screwdriver #3
- The rack must be braced and bolted to the floor.
- The AXIS 291 must be grounded to the same ground as the equipment rack.

When mounting the AXIS 291 in a rack, never stack other units directly on top - the mounting brackets are not designed to support more than 1 unit. Each unit in the rack must be secured with appropriate brackets. Place the heaviest units at the bottom of the rack.

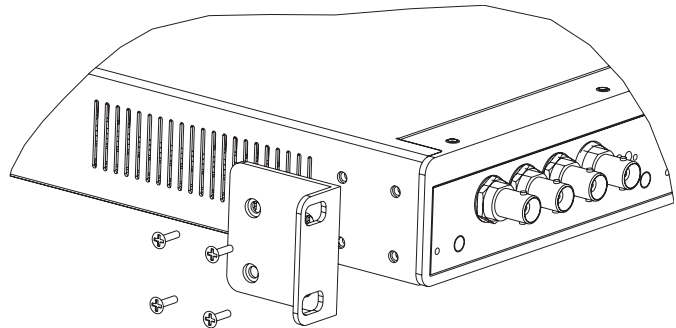
Attaching the brackets

The 2 mounting brackets are slightly different. To tell these apart, see the label on each bracket. See also the illustration on page 3.

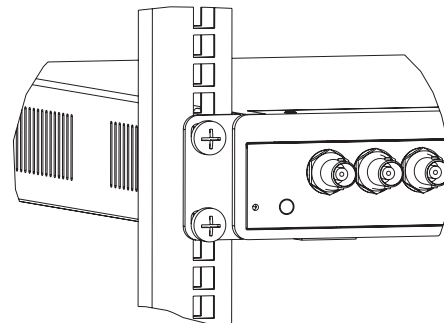
1. Remove the screw shown here from each side of the unit. These will be replaced by the screws used to fasten the bracket.



2. Using the M3X8 screws, fasten the bracket to the side of the unit. Do not use the screw that was removed in step 1.



3. Slide the AXIS 291 into the equipment rack. Insert the M6X20 screws and tighten.



Connect power

Please ensure that the correct AC power cord for your country is used.

The AXIS 291 has no On/Off switch or button, and will power up as soon as the AC power cord is connected. It is important to locate the unit so that the AC power cord is easily accessible. Detaching the cord is the only way to remove power to the unit.

To prevent the risk of electrical shock when in contact with the unit casing, only earthed/grounded power cords should be used to power the AXIS 291.

The AXIS 291 Video Rack Server is designed for use with Axis Blade Video Servers only.

If a foreign object is accidentally dropped into the Video Rack Server, always disconnect power before attempting to remove the object.

Power specifications

- Input voltage 100-240V AC, at 50/60Hz
- Input current: 1.9A
- Power consumption with 3 x AXIS 243Q: Max 80W

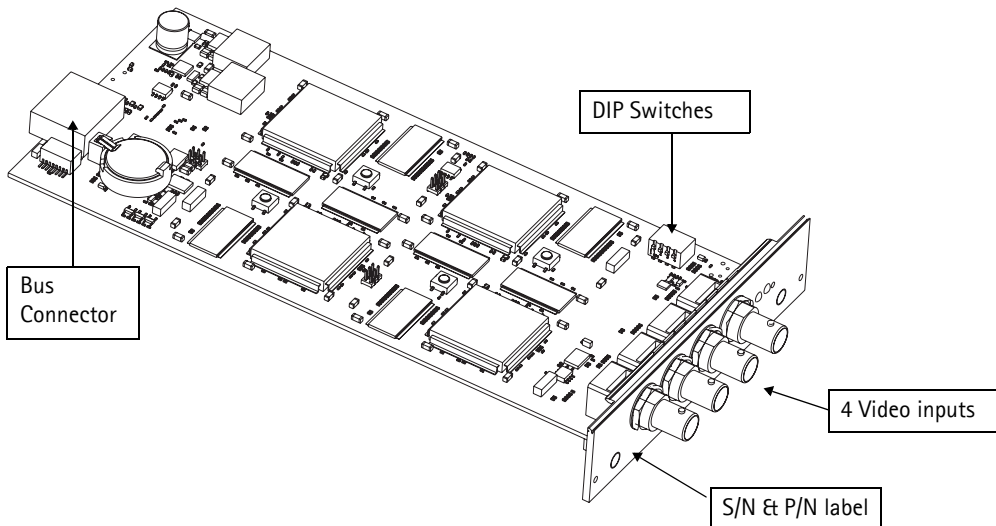
AXIS blade video servers

The S/N (serial number) is identical to the unit's MAC/Ethernet address, e.g. 00408C1A2B3C = 00-40-8C-1A-2B-3C. P/N is the product's model number.

Bus Connector- This is the physical interface to the I/O terminal connector on the rack.

DIP Switches (4-port models) - Each video input has a corresponding line termination DIP switch. Axis blade video servers are supplied with the line termination enabled for each input; that is, with the DIP switches set to ON (down position).

To connect the video server in parallel with other equipment, disable the input termination by setting the corresponding DIP switch to OFF (Up position). Failure to do so may affect the image quality negatively.



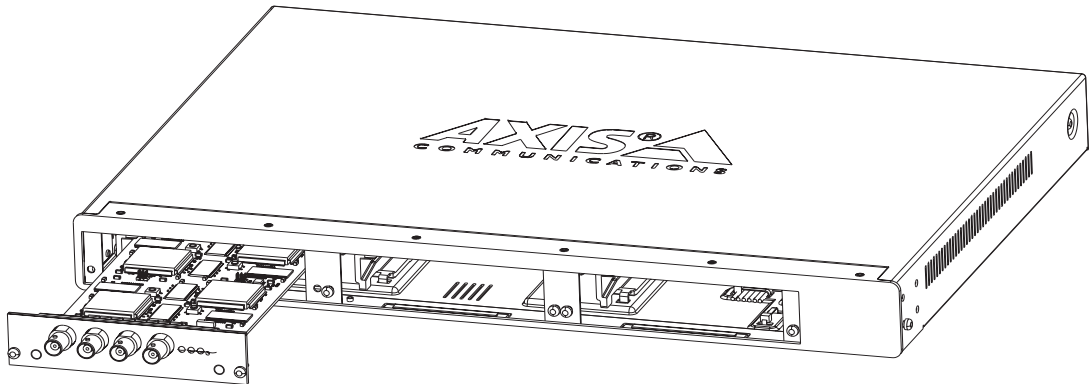
DIP Switches (1-port models) - These models can accommodate either composite or Y/C video. The type to use is determined by the DIP switch settings. 1-port AXIS blade video servers are supplied configured for composite video input, as shown in the table below.

Switch	1	2	3	4
Description	75 ohm video in termination	75 ohm video out termination	Connects video in and video out	Not used
Composite video input	on	off	on	n/a
Y/C video input	on	on	off	n/a

Mounting AXIS blade video servers

The AXIS 291 can accommodate 3 Axis blade video servers. The slots for these are numbered 1-3 from left to right, as seen from the front. The I/O connectors for each slot on the rear panel are also numbered.

1. If mounted, remove the front panel cover from the slot in which the video server will be mounted.
2. Slide the video server into place, using the guides as an aid. The dip switch for setting the line termination should be visible on the top edge.
3. Fix the video server in place, using the screws from the front panel.



The I/O Terminal connector

The AXIS 291 server provides an I/O terminal connector for each Axis blade video server (see illustration on page 4). This is used for connecting external equipment, in applications for e.g. motion detection, event triggering, time lapse recording, alarm notification via email, image storage to FTP locations, etc.

Connector interfaces

The interfaces available via the 12-pin I/O terminal connector are as follows:

- **4 Digital inputs** - used for e.g. a pushbutton. If the button is pressed, the state changes and the input will be active (shown under **Event Configuration > Port Status**).
- **4 Transistor outputs** - for e.g. alarm devices that can be activated from Output buttons on the **Live View** page, or as an action to an **Event Type**. The output will show as active (in **Event Configuration > Port Status**) if the device is activated.
- **RS-485 interface**, for e.g. Pan/Tilt/Zoom devices (see www.axis.com for drivers)
- **Auxiliary power**

Connector pinout

Pin	Function	Description
1	Auxiliary DC Power Input	This pin can be used to power auxiliary equipment, max 100mA
2	GND	
3	Digital Input 1	Connect to GND to activate or leave floating (or unconnected) to deactivate.
4	Digital Input 2	
5	Digital Input 3	
6	Digital Input 4	
7	Transistor Output	With a maximum load of 100mA and maximum voltage of 24V DC, this output has an open-collector NPN transistor with the emitter connected to pin 2 (GND). If it is to be used with an external relay, a diode must be connected in parallel with the load for protection against any voltage transients.
8	Transistor Output	
9	Transistor Output	
10	Transistor Output	
11	RS-485 - A (non-inverting)	A half-duplex RS-485 interface for controlling auxiliary equipment, e.g. PTZ devices.
12	RS-485 - B (inverting)	

To connect input/output devices to the I/O terminal connector:

1. Referring to the table above, loosen the corresponding screw on top of the pin on the green connector block.
2. Push the cable into the connector block and secure it by fastening the screw.
3. Once all devices are connected, push the connector block into the terminal connector on the rear panel of the AXIS 291.

For compatible replacement connectors, contact <http://www.phoenixcontact.com>, quoting: MC1.5/12-ST-3.81 (art no 1803675).