

AXIS Camera Station S20 Appliance Series

AXIS Camera Station S2008 Appliance

AXIS Camera Station S2016 Appliance

AXIS Camera Station S2024 Appliance

AXIS Camera Station S20 Appliance Series

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AXIS Camera Station S20 Appliance Series

About the AXIS Camera Station S20 Appliance Series

About the AXIS Camera Station S20 Appliance Series

With an Axis Network Video recorder you get an easy-to-install and reliable surveillance solution in up to 4K Ultra HD adapted to Axis wide range of network products. Inside a network video recorder from the AXIS Camera Station S20 Appliance series, you'll find two parts: a computer and a switch. The computer part is preloaded with all necessary software you need to create a surveillance solution including the video management software AXIS Camera Station. The built-in Power over Ethernet (PoE) switch simplifies installation and maintenance.

AXIS Camera Station S20 Appliance Series consists of three different models:

- **AXIS Camera Station S2008 Appliance:**
8 channel client/server up to two monitors
4 TB storage
Integrated managed PoE switch
Suitable for installation as a standalone workstation for office environments, also possible to rack mount.
- **AXIS Camera Station S2016 Appliance:**
16 channel client/server for up to two monitors
8 TB storage
Integrated managed PoE switch
Possible to rack mount.
- **AXIS Camera Station S2024 Appliance:**
24 channel client/server for up to two monitors
2 TB storage
Integrated managed PoE switch
Possible to rack mount

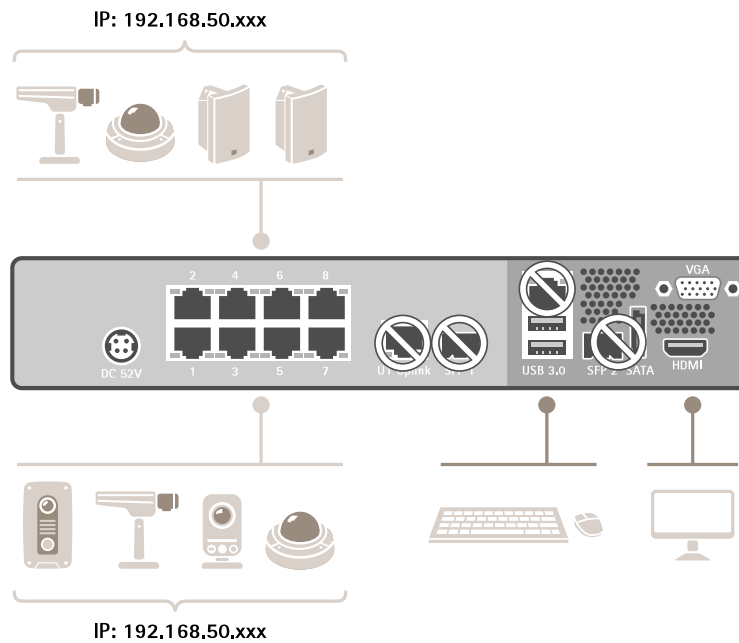
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Setup examples

Setup examples

Use AXIS Camera Station S20 Appliance in an independent surveillance network

You can create an independent surveillance network which has no interconnectivity to another external network. This setup is a basic plug and play installation. The built-in switch's DHCP server is enabled by default. As soon as you plug the cameras into the PoE ports, the cameras will power on and obtain an IP address and be accessible via AXIS Camera Station.



Difficulty level	Basic
Benefits	Dedicated surveillance network with no interconnectivity to another external network Plug and play installation
Limitations	Bandwidth PoE budget No remote access
Actions needed	Change the default password for the built-in switch. Register the AXIS Camera Station license.

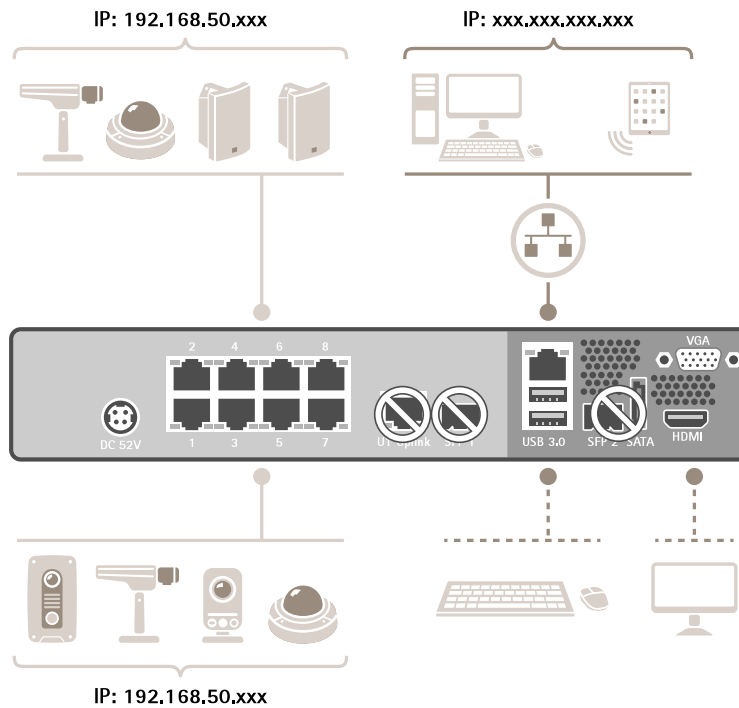
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Setup examples

Connectors used	PoE enabled network connectors, port 1 – 8 USB 3.0 connector x2 (for keyboard and mouse) VGA or HDMI connector
Connectors NOT used	U1 switch uplink SFP 1 switch uplink U2 server network SFP 2 server network eSATA connector USB 2.0 connector x2 (front panel)

Use AXIS Camera Station S20 Appliance in an existing network

You can create a surveillance network within an existing network. This means that the surveillance network is separated from the existing network.



Difficulty level	Advanced
Benefits	Ability to use an AXIS Camera Station Client to connect to S2008 over the network. Network segregation.
Limitations	May require you to follow corporate network policies.

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Setup examples

Actions needed	Change the default password for the built-in switch. Register the AXIS Camera Station license.
Connectors used	PoE enabled network connectors, port 1 – 8 U2 server network (for connection to network) (Optional) USB 3.0 connector x2 (for keyboard and mouse) (Optional) VGA or HDMI connector
Connectors NOT used	U1 switch uplink SFP 1 switch uplink SFP 2 server network eSATA connector USB 2.0 connector x2 (front panel)

AXIS Camera Station S20 Appliance Series

Manage the built-in switch

Manage the built-in switch

About the built-in switch

The AXIS Camera Station S20 Appliance Series comes with an integrated Power over Ethernet (PoE) switch. You configure and manage the built-in switch from a webpage.

The purpose of the switch is to segregate traffic on the network so that security cameras and related traffic managed by the switch (PoE ports and U1 network connections) are not shared with other networks.

The switch's power management follow these rules:

- Each port reserves power according to the connected powered device's PoE class.
- If the actual power consumption for a given port exceeds the reserved power for that port, it will shut down.
- Ports will shut down when the actual power consumption for all ports exceeds the total amount of power that the power supply can deliver. The ports are then shut down according to the ports priority where a lower port number means higher priority.

How to open the switch's webpage

1. From your desktop, open the **Get Started** application and go to **PoE Switch**.
2. Click **Go to PoE switch website**.
3. Log in with user name **admin** and password **system**.

The first time you log in you'll be prompted to change the password.

Note

You can also open the switch's webpage via a browser: enter the switch's IP address 192.168.50.1 in the browser's address field.

How to reboot the switch

Important

While the switch reboots, all connected devices will temporarily lose connection with the switch (including PoE).

1. Open the switch's webpage.
2. Go to **Admin > Maintenance**.
3. Click **Reboot switch**.

How to improve security for used ports

You can lock a MAC address to a port so that only traffic coming from that MAC address will pass. This improves security and prevents unauthorized users from connecting a laptop or other devices to the security network.

1. Open the switch's webpage.
2. Go to **ACL**.
3. For each port you want to lock the MAC address for, click **ACL enabled**.

Note

Click **Enable all** to lock the MAC addresses for all ports at once.

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Manage the built-in switch

How to improve security for unused ports

You can disable ports that you do not use. This improves security and prevents unauthorized users from connecting a laptop or other devices to the security network.

1. Open the switch's webpage.
2. Go to **Overview > Port status**.
3. For each port you want to disable, turn off **Port enabled**.

How to configure the switch's IP address

You can change the switch's IP address but for most camera installations we recommend to use the default settings. The reason for this is that a surveillance network is normally isolated from other networks, for example a corporate LAN. In this case, you would only use the surveillance network to manage and collect surveillance devices and data from the video management software installed on the server.

Important

Make sure you record the new IP address. If you've forgotten the new IP address, contact Axis support.

Note

The factory default settings are: a static IP connection with address 192.168.50.1 and a subnet mask with address 255.255.255.0.

1. Open the switch's webpage.
2. Go to **Network > Configuration**.
3. Enter **IP address**, **Subnet mask**, **Gateway**, **DNS 1** and **DNS 2**.
4. Click **Save**.
5. Reboot the switch.

How to configure the DHCP server

Important

If the switch's DHCP server is enabled and the AXIS Camera Station S20 Appliance is connected to an external network with its own DHCP server via the U1 or SFP 1 connectors, you will have IP address conflicts. This might result in the corporate network not working.

You can configure the switch to use its internal DHCP server for assigning IP addresses to connected devices. When you use the U1 connection to allow devices to access or being accessed by external application, you must specify the gateway and DNS addresses.

1. Open the switch's webpage.
2. Go to **Network > DHCP server**.
3. Enter **Start IP address**, **End IP address**, **Subnet mask**, **Gateway**, **DNS 1**, **DNS 2** and **Lease length**.
4. Click **Save**.
5. Reboot the switch.

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Manage the built-in switch

How to reset the switch to factory default settings

Note

If you've forgotten your new IP address or password and can't access the switch, contact Axis support.

1. Open the switch's webpage.
2. Go to **Admin > Maintenance**.
3. Click **Reset to factory default**.
4. Reboot the switch.

How to change the switch's password

You can change the default password to a password you choose yourself.

Important

Make sure you select a password you remember. If you've forgotten the new password, contact Axis support.

1. Open the switch's webpage.
2. Go to **Admin > Security**.
3. Enter **User name** and **Password**.
4. Enter the **New password** and confirm it.
5. Click **Save**.
6. Reboot the switch.

How to backup the switch's settings

Note

The username and password are not included in the backup file.

1. Open the switch's webpage.
2. Go to **Admin > Maintenance**.
3. Click **Backup settings**.
4. Save the .gz file.

How to restore the switch's settings to previous backup

Note

To restore the switch's settings you must previously have created a backup file.

1. Open the switch's webpage.
2. Go to **Admin > Maintenance**.
3. Click **Browse**.
4. Select the appropriate .gz file. Make sure that the model name and serial number in the file name match your device.
5. Click **Restore**. Once the settings are restored, the switch will automatically reboot to accept all restored changes.

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Manage the built-in switch

The username and password are not included in the restore file. You have to login to the switch's webpage with the same credentials as before you restored the settings.

How to add a VLAN

We recommend to create a separate VLAN for endpoints other than devices belonging to the surveillance system. Each member of the VLAN can only communicate with other members of the VLAN with the exception of the switch's webpage. Every VLAN, if its endpoint is enabled to include an IP address in the same subnet as the switch's webpage, can browse to the switch's webpage (if you have the correct credentials). In this way, switch administrators can never be locked-out from the switch.

Example

You could create a second VLAN for IP phones, printers, or computers sharing the same switch. The default VLAN (VLAN 1) would then be used strictly by the security system. In this way, you prevent traffic from a separate network with a different purpose to mingle with or gain access to security equipment or access security traffic and vice versa.

Note

Firmware version 1.4.5.418 or higher supports VLAN.

1. Open the switch's webpage.
2. Go to **VLAN** and click **Add**.
3. Select which port, uplink or CPU connections you want to add to the new VLAN.

Each port, uplink, or CPU connection can only belong to one VLAN at a time.

4. (Optional) Click the **VLAN name** field and type a description, for example "Building A, 2nd floor cameras".
5. Reboot the switch.

How to encrypt traffic to the switch's webpage

You can implement HTTPS to add a transport layer encryption (TLS) on data that passes from the browser to the switch. This is important when you reset the switch's password to prevent non-authorized users from obtaining the switch's password through unencrypted traffic.

The device supports three modes for implementing HTTPS: HTTP only, HTTP or HTTPS (based on the URL selected), or HTTPS only. If you want to encrypt traffic, we recommend to disable HTTP and only use HTTPS.

1. Open the switch's webpage.
2. Go to **HTTPS > Manage certificate**.
3. Generate a self-signed certificate or upload matching bundle, certificate, and key files.
Before you can activate HTTPS, the switch verifies that these are valid and that the files match.
4. Go to **Administration**.
5. Select **HTTPS** and disable **HTTP**.
6. Reboot the switch.

Overview tab

In the **Overview** tab, you find information about the device, resource usage and port status.

Pane	Function	Description
System information	Model	The device's model name.

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Manage the built-in switch

	Serial number	The device's serial number. Can be useful for maintenance or when you need to track individual devices.
	Firmware version	The firmware version installed on you device. Can be useful to determine whether you need to upgrade the switch firmware.
	Port count	The number of network ports the device supports, including a corporate uplink port.
	Max PoE	The total power available for power over ethernet (PoE) devices.
Resource usage	Total PoE usage	Displays how much power (in watts) the PoE devices connected to the switch are using. Once the maximum power has been reached, the devices cannot provide any further power.
	PoE status	Indicates whether PoE is enabled and how many ports have been enabled to support PoE.
	ACL status	Indicates whether ACL (Access Control List) is enabled and how many ports are enabled with this added security feature. ACL binds a specific MAC address to a port, preventing traffic (sent or received) from devices with other MAC addresses.
Port status	Port #	The port number to which the selected device is connected.
	Link state	Up indicates that a device is connected to this port. Down indicates that no device is connected.
	Link speed	The current negotiated link speed for each port.
	Transmit rate	An overview of traffic load on each port showing the average data rate in megabits per second for outbound data on the port.
	Receive rate	An overview of traffic load on each port showing the average data rate in megabits per second for inbound data on the port.
	Power draw	The average power (in watts) being drawn via PoE by the device attached to the port.
	PoE status	Displays if PoE is enabled or disabled for each port.
	ACL status	Displays if ACL is enabled or disabled for each port.
	Port enabled	Allows you to view and change the enabled or disabled port status (the port's ability to receive or send data). This is separate from the link status and PoE. A disabled port may or may not still be providing power to a PoE device, and it may still be physically connected to device, but it cannot be used to send or receive data, even though its link status may still be Up and the attached device is still drawing power. Disabling the port prevents any device from accessing the switch or network. Ports that are not in use should be disabled for increased security.
	Uplink 1	If U1 or SFP 1 contains an active connection it will display Up . If U1 or SFP 1 contains a non-active connection it will display Down . The maximum link speed and average transmit and receive data in megabits per second help you understand traffic patterns and verify operational status of associated applications.

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Manage the built-in switch

PoE tab

In the PoE tab, you find information about the setup and status of power over Ethernet (PoE) for each port and for the PoE enabled devices as a whole. This data is useful for setting, enabling, disabling, and managing the switch's power budget.

Pane	Function	Description																														
Port status	Port #	The appliance port number to which the selected device is connected.																														
	Link state	<p>Up indicates that a device is connected to this port.</p> <p>Down indicates that no device is connected.</p>																														
	PoE mode	<p>Type of device the switch has detected. This is not configurable, the values are assigned by the switch based on its interaction and power draw of the connected device.</p> <p>PoE mode values are either AT or AF. These values refer to the IEEE 802.3at or IEEE 802.3af standards.</p>																														
	PoE class	<p>Type of device the switch has detected. This is not configurable, the values are assigned by the switch based on its interaction and power draw of the connected device.</p> <p>PoE Class values range from 0 to 4 and correspond to the following properties as defined in the IEEE standard:</p> <table border="1"> <thead> <tr> <th>Class</th> <th>Usage</th> <th>Classification Current (mA)</th> <th>Power Range (watts)</th> <th>Class Description</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Default</td> <td>0-4</td> <td>0.44-12.94</td> <td>Classification unimplemented</td> </tr> <tr> <td>1</td> <td>Optional</td> <td>9-12</td> <td>0.44-3.84</td> <td>Very low power</td> </tr> <tr> <td>2</td> <td>Optional</td> <td>17-20</td> <td>3.84-6.49</td> <td>Low power</td> </tr> <tr> <td>3</td> <td>Optional</td> <td>26-30</td> <td>6.49-12.95</td> <td>Mid power</td> </tr> <tr> <td>4</td> <td>Valid for 802.3at (Type 2) devices; not allowed for 802.3af devices</td> <td>36-44</td> <td>12.95-25.50</td> <td>High power</td> </tr> </tbody> </table>	Class	Usage	Classification Current (mA)	Power Range (watts)	Class Description	0	Default	0-4	0.44-12.94	Classification unimplemented	1	Optional	9-12	0.44-3.84	Very low power	2	Optional	17-20	3.84-6.49	Low power	3	Optional	26-30	6.49-12.95	Mid power	4	Valid for 802.3at (Type 2) devices; not allowed for 802.3af devices	36-44	12.95-25.50	High power
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4	Valid for 802.3at (Type 2) devices; not allowed for 802.3af devices	36-44	12.95-25.50	High power																												
	Power draw	The average number of watts the connected device is consuming.																														
	Power limit	Displays a default limit based on the PoE mode and class.																														
	PoE enabled	<p>Allows you to view and change the PoE enabled or disabled status to turn the PoE to the device on or off for devices.</p> <p>Devices requiring PoE will be turned off when disabled and the link state will change to Down.</p>																														
PoE administration	Watts scale	The amount of power (in watts) drawn by all devices currently connected to the switch.																														
	Total PoE usage	<p>The total power consumed (in watts and percentages) by all connected devices.</p> <p>This information is helpful when installing devices and verifying your power budget.</p>																														

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Manage the built-in switch

	Ports enabled	The number of ports that are currently enabled for data providing power over Ethernet.
	Master PoE	Allows you to enable or disable PoE for all ports in one command.

ACL tab

In the **ACL** tab, you find information about the access control list (ACL) settings. In this tab you can for example lock a MAC address to a port so that only traffic coming from that MAC address will be passed. This improves security and prevents unauthorized users from attaching a laptop or other devices to the surveillance network.

Pane	Function	Description
Administration	Ports enabled	The number of ports bound to a specific MAC address using ACL.
	Master ACL	Enables or disables ACL for all ports with a bounded MAC address. Only ports with a discovered MAC address or bounded address will be affected.
Port status	Port #	The port number to which the selected device is connected.
	Link state	Up indicates that a device is connected to this port. Down indicates that no device is connected to this port
	Discovered MAC addresses	The switch automatically detects the MAC address of any device connected to the port and displays it here. Data traffic will only be allowed to or from this MAC address.
	Bound MAC addresses	Enabling ACL will bind the port to the discovered MAC address. No other device will be able to communicate on this port. When you enable ACL, if there is a Discovered MAC Address , it will move to the Bound MAC Address column, binding it to this port.
	Unauthorized MAC addresses	Displays the MAC address of any unauthorized camera or other network device attempting to send traffic over an ACL enabled port.
	PoE status	Displays the current PoE status (enabled or disabled).
	ACL enabled	When you enable ACL, if there is a Discovered MAC Address it will move to the Bound MAC Address column, binding it to this port. Disabling ACL clears the Bound MAC Address value so you may bind a different device to this port.

VLAN tab

In the **VLAN** tab, you find information about how to add and manage virtual LANs (VLAN).

Function	Description
ID	The automatically generated name of the VLAN.
VLAN name	The manually entered description of the VLAN.
Select all	Adds all available ports to the VLAN.
1 – 8 1 – 16 1 – 24	The available ports. The number depend on the device model.
U1	Uplink 1
CPU	Network connection to the server's CPU.

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Manage the built-in switch

DHCP	The switch's DHCP server is only available on VLAN 1 (default). DHCP will display as enabled once the switch's DHCP server is activated in the Network tab. If other VLANs require DHCP address assignment, an external DHCP server must be provided and accessible within the networks of VLANs 2 or greater.
Delete	When you delete a VLAN, any members of that VLAN are immediately returned to the membership of VLAN 1, the default VLAN.

HTTPS tab

In the HTTPS tab, you find information about certificates and HTTPS settings.

Pane	Function	Description
Administration	HTTP	Turn on or off HTTP.
	HTTPS	Turn on or off HTTPS.
Current certificate	Version	Information about to the currently installed certificate (third-party or self-signed), if any. To update certificates or any of the information in this pane once new certificates or keys are provided, you must reboot the switch. Once rebooted, the switch will display the most current certificate information.
	Serial number	
	Signature algorithm	
	Valid from	
	Valid to	
	Subject	
	Issuer	
	Fingerprint	
Manage certificate	CA bundle file	These fields allow you to generate a self-signed certificate or upload matching bundle, certificate, and key files.
	Certificate file	
	Private key file	
	Select country	
	Organization	
	Common name	

Network tab

In the **Network** tab you can configure the IP address of the switch and manage the built-in DHCP server. The DHCP server controls the assignment of IP addresses devices connected to the switch's ports.

Pane	Function	Description
Configuration	IP address	The IP address of the U1 switch connection. You can open the switch's webpage through this address
	Subnet mask	The subnet mask of the U1 switch connection.
	Gateway	The gateway for accessing the U1 switch connection.
	DNS 1	The primary domain name server used by the switch.
	DNS 2	An alternate domain name server used by the switch.

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Manage the built-in switch

DHCP server	Enabled	The status of the DHCP server. When the DHCP server is disabled, you must assign IP addresses manually to the cameras or use an external DHCP server accessible via the U1 network connection for IP assignment.
	Start IP address	When DHCP is enabled, you can choose a Start IP address and End IP address range for assignment of attached devices
	End IP address	
	Subnet mask	The subnet mask of the U1 switch connection.
	Gateway	The gateway to access the U1 switch connection.
	DNS 1	The primary domain name server used by the switch.
	DNS 2	An alternate domain name server used by the switch.
	Lease length	The suggested length of time in minutes that the DHCP server will use for potentially reassigning its pool of dynamic IP addresses. The minimum lease length is 60 minutes.

Admin tab

In the **Admin** tab, you find information about the firmware version. In this tab you can also change the password, backup settings and reboot the switch.

Pane	Function	Description
Security	Username	These fields allow you to set the password for the switch administrator. The switch only has one user: admin . The factory default password is system .
	Password	
	New password	
	Confirm new password	
Firmware	Version	The installed firmware version.
	Upgrade firmware	Allows you to update the firmware to a new version.
Maintenance	Reset to factory default	Resets all switch settings to factory default values.
	Reboot switch	Reboots the switch. While rebooting, all devices will temporarily lose connection with the switch (including PoE).
	Backup settings	Stores a backup of your settings in a file in the Downloads folder of your browser.
	Restore settings	Allows you to select a saved backup file to restore settings.

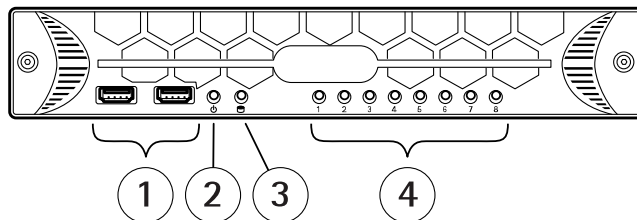
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Product overview

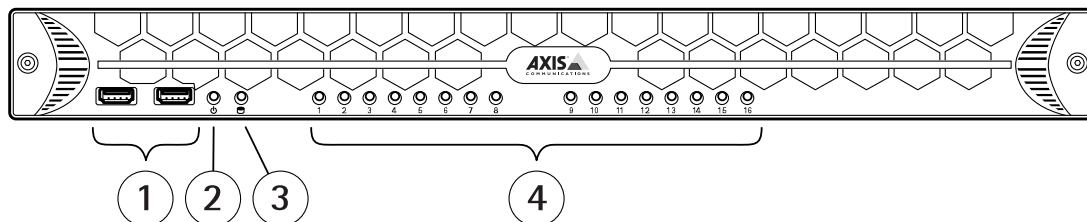
Product overview

Front Panel AXIS Camera Station S20 Series

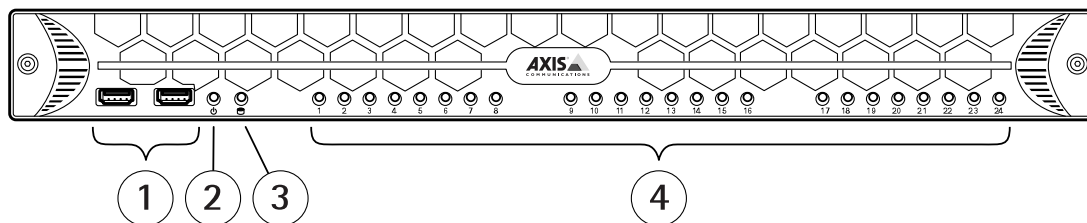
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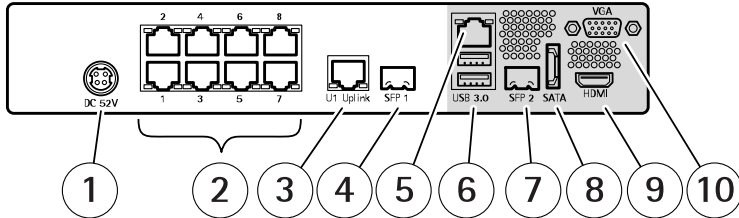
- 1 USB 2.0 connector x2 (not used)
- 2 System power LED
- 3 Disk activity LED
- 4 Status LEDs, PoE port 1-8, 1-16 or 1-24

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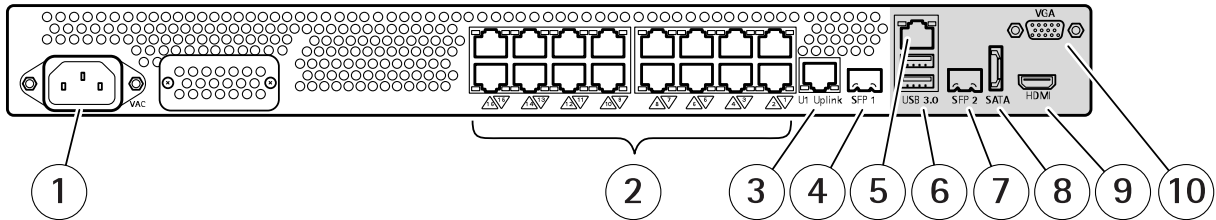
Product overview

Back Panel AXIS Camera Station S20 Series

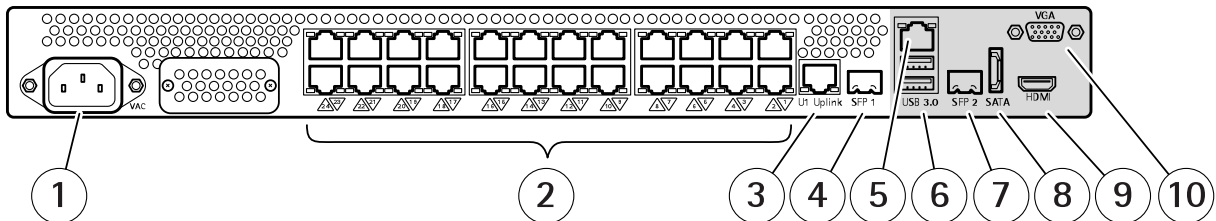
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- 1 Power connector
- 2 PoE enabled network connectors, port 1-8, 1-16 or 1-24
- 3 U1 switch uplink, RJ45 connector
- 4 SFP 1 switch uplink, SFP connector
- 5 U2 server network, RJ45 connector
- 6 USB 3.0 connector x2
- 7 SFP 2 server network, SFP connector
- 8 eSATA connector
- 9 HDMI connector (audio output supported)
- 10 VGA connector

LED Indicators

LED indicator	Color	Indication
System Power LED	Steady green	On
Disk activity	Flashing yellow	Read/write
PoE ports	Steady red	Port connected

