




QNAP

QSW-IM3216-8S8T

User Guide



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1. Important Information

Original Packaging

Please keep the original packaging and packaging materials. If you want to return the product or send it for repairs, please use the original packaging to avoid damage.

QNAP reserves the right not to provide a refund or warranty service for products that are damaged due to improper packaging.

Hardware Defects

If your QNAP product has hardware defects, return the product to QNAP or a QNAP-authorized service center for maintenance or replacement. Any attempt to repair or perform maintenance procedures on the product by you or an unauthorized third party invalidates the warranty.

QNAP is not responsible for any damage or data loss caused by unauthorized modifications and installation of unsupported third-party applications.

For details, see the [QNAP Warranty Terms and Conditions](#).

Safety information

The following instructions help ensure personal safety and environmental safety. Read these instructions carefully before performing any operation.

General Instructions

- The device should be stored in a secure location with restricted access, controlled through the use of a tool, lock and key, or any means of security.
- Only qualified, skilled, and authorized persons with knowledge of all restrictions, safety precautions, and installation and maintenance procedures should have physical access to the device.

WARNING



To avoid potential injury or damage to components, ensure that the drives and other internal system components have cooled before touching them.



Observe electrostatic discharge (ESD) procedures to avoid potential injury or damage to components.

Power

WARNING



To reduce the risk of fire or electric shock, ensure that you only connect the power cord to a properly grounded electrical outlet.



To avoid serious injuries, a trained service technician must disconnect all PSU cords from the device before installing or replacing system components.

Moving Parts

WARNING



Moving fan blades: Keep your body parts away from any moving fan blades while the device is connected to a power source.



Moving components: Keep your body parts away from any other moving components.

The device is not suitable for use in locations where children are likely to be present.

System Battery

WARNING



INGESTION HAZARD

- This product may contain a button battery.
- Keep batteries out of reach of children.
- If swallowed, a lithium button battery can cause severe or fatal injuries within 2 hours.
- If you think batteries may have been swallowed or placed inside any part of the body, seek immediate medical attention.

- To avoid potential battery explosion, causing injury or damage to components, ensure that you replace the existing battery with a battery of the same type.
- Dispose of used batteries properly according to local regulations or the instructions of the battery manufacturer.

- Even used batteries may cause severe injury or death.
- Call a local poison control center for treatment information.
- For information on the type and voltage of the button battery in your device, please see the hardware specification table.
- Non-rechargeable batteries are not to be recharged.
- Do not force discharge, recharge, disassemble, heat, or incinerate. Doing so may result in injury due to venting, leakage, or explosion resulting in chemical burns.
- Ensure the batteries are installed correctly according to polarity (+ and -).
- Do not mix old and new batteries, or different brands or types of batteries, such as alkaline, carbon-zinc, or rechargeable batteries.
- Remove and immediately recycle or dispose of batteries from equipment not used for an extended period of time according to local regulations.
- Always completely secure the battery compartment. If the battery compartment does not close securely, stop using the product, remove the batteries, and keep them away from children.

Rail Kits

Rackmount models may require rail kits for installation onto a server rack or cabinet.

To ensure equipment and personal safety, please carefully read the installation instructions for your rail kit before you install the rail kit and mount your device.

To check if your device is a rackmount unit, see the hardware specification table.

WARNING

- When the rail kit is installed on the server rack, do not fully extend and unlatch the rails except when mounting or unmounting a device.
- Leaving the rails fully extended out and unlatched may cause heavy equipment to fall. This can cause equipment damage and severe or even fatal injuries.
- Before you prepare the rails for device mounting or unmounting, please carefully read and ensure you understand the installation instructions.
- Do not place any objects or add any extra load onto the device or rails when mounting or unmounting a device.
- When mounting a device, slide the device all the way into the server rack to fully latch the rails and secure the device to the server rack.

2. Product Overview

This chapter provides basic information about the QSW-IM3216-8S8T switch.

About the QSW-IM3216-8S8T

The QNAP QSW-IM3216-8S8T is a QSW managed switch designed for studio environments and AV over IP (Audio-Visual over Internet Protocol) applications. The switch offers sixteen 10 GbE ports, with eight ports utilizing RJ45 connections and the other eight ports offering SFP+ options for flexibility with fiber optic cabling.

This switch is suited for high-performance NAS environments demanding significant data transfer rates due to its high throughput. It supports AV over IP technology, enabling the transmission of audio and visual signals over Ethernet or fiber networks, providing a cost-effective and flexible alternative to traditional HDMI cables. For configuration and management, the switch includes an RJ45 console port for direct computer connection and a dedicated 1 GbE management port for remote access.

The switch supports redundant DC power input of 9-54V, ensuring continuous operation even in the event of a power supply failure. Its robust construction and advanced features make it suitable for industrial networks requiring high reliability and performance.

Hardware specifications

Tip

Model specifications are subject to change without prior notice. To see the latest specifications, go to <https://www.qnap.com>.

Important

- Indoor use only: This product is designed for indoor use environments only.
- DC input power cable length limitation: The DC input power cable length should not exceed 3 meters (9.8 ft). This length limitation is for protection against transient voltage spikes for low-voltage equipment.

Component	QSW-IM3216-8S8T
Processor	
CPU	Marvell® 98DX3550
Chipset	Marvell® 98DX3550
Memory	1 GB

Component	QSW-IM3216-8S8T
Network interfaces	<ul style="list-style-type: none"> • 8 x 10G/5G/2.5G/1G/100M RJ45 ports • 8 x 10G/1G SFP+ ports • Relay port
Management interfaces	<ul style="list-style-type: none"> • Console ports: 1 x RJ45 port • Management ports: 1 x Marvell® 88E1512 1 GbE port
Interface	
Buttons	Switch reset
LEDs	
System	<ul style="list-style-type: none"> • Status • Power • Locator
Ports	<ul style="list-style-type: none"> • Speed • Link • Activity
Dimensions	
Form factor	1U Rackmount
Dimensions (H x W x D)	43.5 x 285 x 231.5 mm (1.71 x 11.22 x 9.11 in)
Net weight	4.26 kg (9.39 lbs)
Others	
Power supply	<ul style="list-style-type: none"> • DC jack: 12V, 8A (96W) adapter to voltage input 1 (VIN1) • Euroblock: Input voltage from 9V to 54V for redundant power through voltage input 2 and 3 (VIN2 and VIN3) <div data-bbox="533 1800 1082 1921" style="background-color: #e6f2ff; padding: 10px; border-radius: 5px;"> <p>Note For voltage input details, see Rear panel.</p> </div>

Component	QSW-IM3216-8S8T
Maximum power consumption	47.463W
System battery	3V lithium coin cell battery, 200 mAh, 20 x 3.2 mm, Panasonic BR-2032/BN, BR2032, CCL and RoHS compliant
Operating temperature	<ul style="list-style-type: none"> Natural convection operating temperature: -30°C to 65°C (-22°F to 149°F) <p>Note The switch operates optimally in the specified temperature range when placed in open spaces or racks, requiring no additional cooling measures.</p> <ul style="list-style-type: none"> Non-natural convection operating temperature: -30°C to 45°C (-22°F to 113°F) <p>Note The switch operates optimally in the specified temperature range when cooled by external mechanisms such as fans, air conditioning, or liquid cooling.</p>
Relative humidity	<ul style="list-style-type: none"> Non-condensing relative humidity: 5% to 95% Wet-bulb temperature: 27°C (80.6°F)
Security slot	Kensington security slot

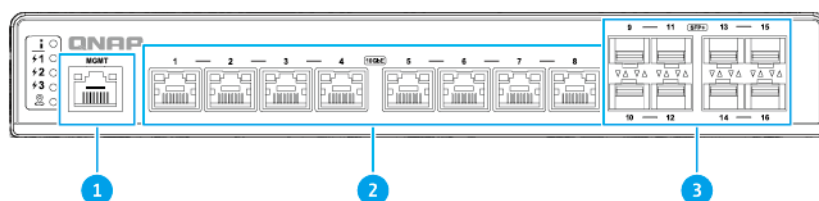
Package contents

Item	Quantity
QSW-IM3216-8S8T	1
Power cord	1
AC power adapter	1
Rail brackets	2
Rail kit	2

Item	Quantity
Rubber feet	4
Quick Installation Guide (QIG)	1

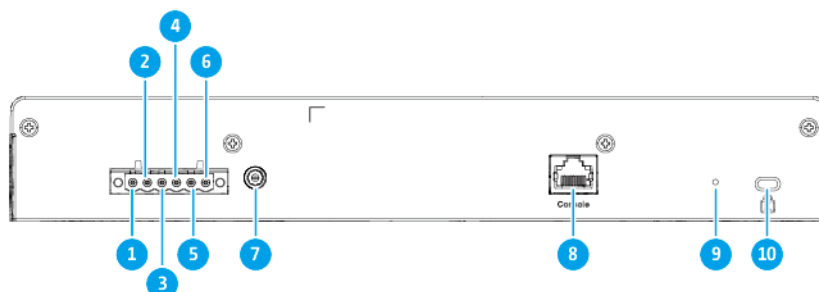
Components

Front panel



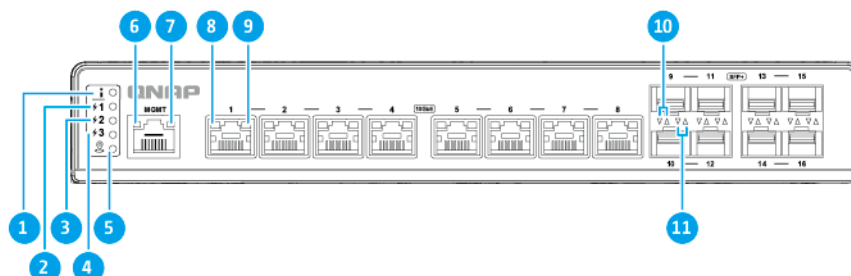
No.	Component	No.	Component
1	Management port	3	10 Gigabit Ethernet ports (SFP+)
2	10 Gigabit Ethernet ports (RJ45)	-	-

Rear panel



No.	Component	No.	Component
1	Voltage input 3 positive terminal (VIN3 +)	6	Voltage input 2 negative terminal (VIN2 -)
2	Voltage input 3 negative terminal (VIN3 -)	7	DC power jack (VIN1)
3	Relay port terminal RELAYCOM (Common)	8	Console port
4	Relay port terminal RELAYNO (Normally Open)	9	Switch reset button
5	Voltage input 2 positive terminal (VIN2 +)	10	Kensington security slot

Front panel LEDs



Note

For the 10 Gigabit SFP+ ports, the upward-facing LED arrows correspond to the ports on the top row, while the downward-facing LED arrows correspond to the ports on the bottom row.

No.	Component	No.	Component
1	System status LED	7	Management port link and activity LED
2	Power Supply 1 (VIN1) LED	8	10 Gigabit Ethernet LED: 10 Gbps speed
3	Power Supply 2 (VIN2) LED	9	10 Gigabit Ethernet LED: 100M/1G/2.5G/5G speed
4	Power Supply 3 (VIN3) LED	10	10 Gigabit SFP+ LED: 10 Gbps speed
5	Locator LED	11	10 Gigabit SFP+ LED: 1 Gbps speed
6	Management port speed LED	-	-

3. Installation and Access

This chapter provides specific hardware installation and switch access steps.

Installation requirements

Category	Item
Environment	<ul style="list-style-type: none"> • Room temperature: <ul style="list-style-type: none"> • Natural convection operating temperature: -30°C to 65°C (-22°F to 149°F) • Non-natural convection operating temperature: -30°C to 45°C (-22°F to 113°F) • Non-condensing relative humidity: 5% to 95% • Wet-bulb temperature: 27°C (80.6°F) • Flat, anti-static surface without exposure to direct sunlight, liquids, or chemicals • Free from objects that may obstruct the switch ventilation or apply pressure to the switch or power cord.
Hardware and peripherals	<ul style="list-style-type: none"> • Computer or NAS • Network cable
Tools	<ul style="list-style-type: none"> • Phillips #1 or #2 screwdriver • Flat head screwdriver • Anti-static wrist strap

Setting up the switch

1. Place your switch in an environment that meets the requirements.
For details, see [Installation requirements](#).
2. Connect the AC power cord on the switch to a working AC outlet.
3. Connect the switch to a computer or network.
For details, see [Connecting the switch to a computer or network](#).
4. Log in to QSS.

Connecting the switch to a computer or network

You can connect the switch to a computer or local area network. For details, see the following topics:

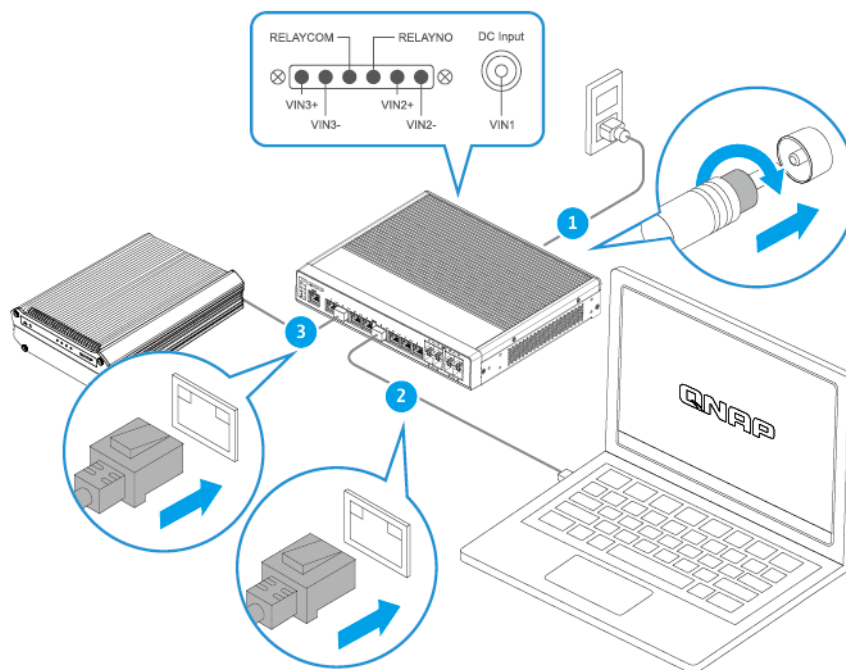
- [Connecting the switch to a computer](#)
- [Connecting the switch to a network](#)

Connecting the switch to a computer

Connecting the switch to a QNAP NAS allows you to expand storage capacity and back up data to another NAS through network cable connections to a host port on the switch. However, you must connect the switch to a computer to configure the settings.

1. Connect the AC power cord on the switch to a working AC outlet.
2. Connect the switch to a computer.
 - a. Connect a network cable to the host port on the switch.
 - b. Connect the network cable to a Gigabit network port on the computer.

- c. Optional: Connect the switch to the NAS.



Important

- The QSW-IM3216-8S8T is designed for industrial applications. Please ensure that you are using the correct type of connector for this device.
- The device supports a DC input voltage range of 9-54V for voltage inputs VIN1, VIN2, and VIN3.

3. Verify that the computer recognizes the switch.
- a. Open Qfinder Pro on the host computer.

Note

To download Qfinder Pro, go to <https://www.qnap.com/utilities>.

- b. Locate the switch on the list.

Connecting the switch to a network

You can connect the switch to the local area network through the host port.

1. Connect the AC power cord on the switch to a working AC outlet.
2. Connect the switch to your local area network using the host port.

3. Run Qfinder Pro on a computer that is connected to the same local area network.

Note

To download Qfinder Pro, go to <https://www.qnap.com/utilities>.

4. Locate the switch in the list and then double-click the name or IP address.
The QSS login screen appears.

Switch access

Method	Description	Requirements
Web browser	<p>You can access the switch using any computer on the same network if you have the following information:</p> <ul style="list-style-type: none"> • Switch name (Example: http://example123/) or IP address • Login credentials of a valid user account <p>For details, see Accessing the switch using a browser.</p>	<ul style="list-style-type: none"> • Computer that is connected to the same network as the switch • Web browser
Qfinder Pro	<p>Qfinder Pro is a desktop utility that enables you to locate and access QNAP devices on a specific network. The utility supports Windows, macOS, and Linux.</p> <p>For details, see Accessing the switch using Qfinder Pro.</p>	<ul style="list-style-type: none"> • Computer that is connected to the same network as the switch • Web browser • Qfinder Pro

Accessing the switch using a browser

You can access the switch using any computer on the network if you know its IP address and the login credentials of a valid user account. QNAP switches support DHCP client configuration by default for IP assignment. When connected to a network, the switch automatically obtains an IP address from a DHCP server.

Note

- If you do not know the IP address of the switch, you can locate it using Qfinder Pro.
- If the switch is not connected to a DHCP supported network, you can access the switch web interface by changing the IP address of the computer to 169.254.100.102.
- The default IP address of the switch is 169.254.100.101.

1. Verify that your computer is connected to the same network as the switch.

2. Open a web browser on your computer.
3. Type the IP address of the switch in the address bar.
The login page appears.
4. Specify the username and password.

Default Username	Default Password
admin	For details on the default password, see this FAQ .

5. Click **Login**.

The **Overview** page appears.

Important

After setting up the switch, ensure that you change the IP address of the computer to the original configuration.

Accessing the switch using Qfinder Pro

1. Install Qfinder Pro on a computer that is connected to the same network as the switch.

Tip

To download Qfinder Pro, go to <https://www.qnap.com/utilities>.

2. Open Qfinder Pro.
Qfinder Pro automatically searches for all QNAP devices on the network.
3. Locate the switch in the list, and then double-click the name or IP address.
The login page appears.
4. Specify the username and password.

Default Username	Default Password
admin	For details on the default password, see this FAQ .

5. Click **Login**.

The **Overview** page appears.

Important

After setting up the switch, ensure that you change the IP address of the computer to the original configuration.

4. Basic Operations

This chapter describes basic switch operations.

LEDs

LEDs indicate system status and related information when the switch is powered on. The following LED information applies only when the switch is connected to the network.

For details on the location of the LEDs, see [Front panel LEDs](#).

System Status LED

Status	Description
Green	<ul style="list-style-type: none"> The device is ready. The firmware is updated. The password has been reset. The device has been reset to factory default settings.
Flashes green	<ul style="list-style-type: none"> The device is being initialized. The firmware is being updated. <div style="background-color: #fff9c4; padding: 10px; margin: 10px 0;"> <p>Important</p> <p>When updating the firmware, do not remove the power cord, and do not force-exit the application.</p> </div> <ul style="list-style-type: none"> The device is being reset. The device password is being reset.
Red	<ul style="list-style-type: none"> A system error occurred. A network loop was detected. The system is overheating. A fan error occurred. <div style="background-color: #e1eef6; padding: 10px; margin: 10px 0;"> <p>Note</p> <p>For more details, check the system logs.</p> </div>

Status	Description
Off	<ul style="list-style-type: none"> • The device is powered off. • The device is ready for password reset. • The device is ready for factory reset.

Power Supply 1 (VIN1) LED

Status	Description
Green	The power supply from Voltage Input 1 (VIN1) is operating normally.
Off	No power detected from VIN1.

Power Supply 2 (VIN2) LED

Status	Description
Green	The power supply from Voltage Input 2 (VIN2) is operating normally.
Red	VIN2 has failed, but VIN3 is maintaining power.
Off	No power detected from VIN2.

Power Supply 3 (VIN3) LED

Status	Description
Green	The power supply from Voltage Input 3 (VIN3) is operating normally.
Red	VIN3 has failed, but VIN2 is maintaining power.
Off	No power detected from VIN3.

Locator LED

Status	Description
Flashes amber	The device is being located. <div style="border: 1px solid #ccc; background-color: #e6f2ff; padding: 10px; margin: 10px 0;"> <p>Note The locator LED flashes for 30 minutes when the locator function is enabled.</p> </div>
Off	The locator function is disabled.

Management RJ45 Speed LED

Status	Description
Green	The network connection is operating at 1 Gbps.
Amber	The network connection is operating at 100 Mbps.
Flashes green or amber	Data is being transmitted.
Off	There is no network connection.

Management RJ45 Link and Activity LED

Status	Description
Amber	The management port is operating as an uplink port.
Flashes amber	Data is being transmitted.
Off	There is no network connection.

10 Gigabit Ethernet LEDs

Status	Description
Green	The network connection is operating at 10 Gbps.
Flashes green	The device is being accessed from a 10 Gbps network.

Status	Description
Amber	The network connection is operating at 100 Mbps, 1 Gbps, 2.5 Gbps, or 5 Gbps.
Flashes amber	The device is being accessed from a 100 Mbps, 1 Gbps, 2.5 Gbps, or 5 Gbps network.
Off	<ul style="list-style-type: none"> • There is no cable connected to the port. • Auto-negotiation failed. • Link speed mismatch occurred. • Port link-up failure. • The port is disabled using the switch interface. • A network loop was detected and loop protection has disabled the port.

10 Gigabit SFP+ LEDs

Status	Description
Green	The network connection is operating at 10 Gbps.
Flashes green	The device is being accessed from a 10 Gbps network.
Amber	The network connection is operating at 1 Gbps.
Flashes amber	The device is being accessed from a 1 Gbps network.
Off	<ul style="list-style-type: none"> • There is no cable connected to the port. • The port is disabled in QSS. • A network loop was detected and loop protection has disabled the port.

Reset button

Operation	User Action	Result
Basic system reset	Press and hold the button for 5 seconds.	<p>The following settings are reset to default:</p> <ul style="list-style-type: none"> • System administrator password: For details on the default password, see this FAQ.

Operation	User Action	Result
Advanced system reset	Press and hold the button for 10 seconds.	The default factory settings are restored.

Relay port

The relay port on the QSW managed switch provides an interface to control external electrical devices, such as alarms or bells, using a relay switch mechanism. A relay is an electrically operated switch that can open or close a circuit, allowing a lower-power control signal to switch higher-power devices on or off.

The relay port includes two main terminals: RELAYNO (Normally Open) and RELAYCOM (Common).

- The RELAYNO terminal is connected to one side of the switch. This terminal remains open until the relay is activated, closing the circuit.
- The RELAYCOM terminal is the common side of the switch and is connected to the power supply or the control circuit.

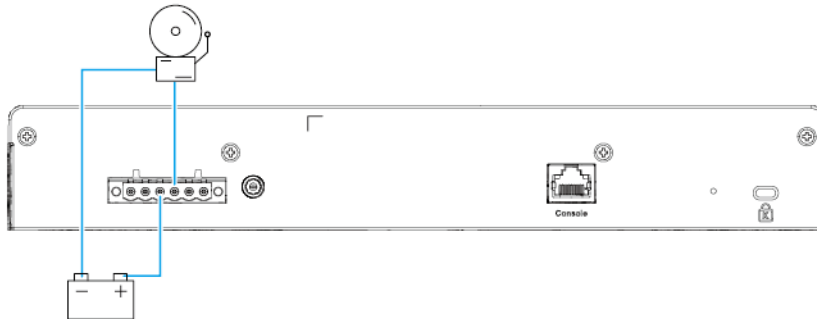
For the location of the relay port terminals, see [Rear panel](#).

Note

- The relay operates without an internal power source and functions purely as an electromagnetic switch. To use the relay to control external devices, you must connect an external power supply.
- The relay can handle up to 20V DC and 1A. Ensure that the connected device does not exceed these power ratings.

1. Connect the RELAYNO terminal on the switch to the fire alarm.
2. Connect the RELAYCOM terminal on the switch to the positive terminal of the external power supply.

3. Connect the negative terminal of the external power supply to the fire alarm.



5. Support and other resources

QNAP provides the following resources:

Resource	URL
Documentation	https://download.qnap.com
Service Portal	https://service.qnap.com
Downloads	https://download.qnap.com
Community Forum	https://forum.qnap.com

6. Glossary

Qfinder Pro

QNAP utility that lets you locate and access QNAP devices in your local area network

QSS

QNAP switch management operating system

7. Notices

This chapter provides information about warranty, disclaimers, licensing, and federal regulations.

Limited warranty

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Version 3, 29 June 2007

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FCC Class A Notice



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D33B77
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壳体	0	0	0	0	0	0
显示	0	0	0	0	0	0

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金属螺帽	0	0	0	0	0	0
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