MICROSENS

Quick Start Guide

Commissioning the
28-Port 10G L2/L3 Switch 19" PoE+ fanless

V1.0.0

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0 Overview and Aim of this Quick Start Guide

The fanless 28-Port 10G L2/L3 Switch from MICROSENS provides twenty-four Gigabit Ethernet RJ-45 ports and four 10G SFP uplink ports. All downlink RJ-45 Ethernet ports support Power-over-Ethernet (PoE+) and deliver up to 30W power per port.

The switch has extensive Layer 2 and 3 management functions, such as VLANs, IGMP Snooping, QoS, RSTP, PROFI Ring or Layer 3 routing. It can be easily managed via a WEB GUI (http/https), CLI (telnet/ssh/console) or SNMP.

Note:
For comprehensive information about configuring the device please refer to the following documents:

- Web manual: describes Web network management system configuration instructions.
- CLI manual: describes CLI-based configuration instructions

1 Safety Information

Before performing an operation, read the following operation instructions and precautions to be taken, and follow them to prevent accidents.

1.1 General Requirements

- Only qualified and skilled personnel must install, configure, and unmount the device. The device must not be disassembled.
- When operating the device, obey the local safety regulations. The safety precautions provided in the document are supplementary and shall be in compliance with the local safety regulations.
- When operating the device, in addition to the precautions (please see the notes below), follow the specific safety instructions.
- The installation and maintenance personnel need to understand the basic safety precautions to be taken.
- Do not block the ventilation while the device is running. Keep a minimum distance of 5 cm from the ventilation to the walls or the other objects that block the ventilation.
- Do not operate the device in an area that exceeds the maximum recommended ambient temperature of 50°C.
- Do not place the device in the environment that has inflammable and explosive air or fog. Do not perform any operation in this environment.

1.2 Electric Safety

- During the installation of the AC power supply facility, follow the local safety regulations. The personnel who install the AC facility must be qualified to perform high voltage and AC operations.
- Before touching the device or hand-operating parts, wear a grounded electrostatic discharge (ESD) wrist strap. It can prevent the sensitive components from damage by the static electricity in the human body.

1.3 Optical Safety

- When handling optical fibers, do not stand close to, or look at the optical fiber outlet directly with unaided eyes.
- Cutting and splicing fibers must be performed by the trained personnel only.
- Before cutting or splicing a fiber, ensure the fiber is disconnected from the optical source. After disconnecting the fiber, use protecting caps to protect all the optical connectors.

2 Display and Connections

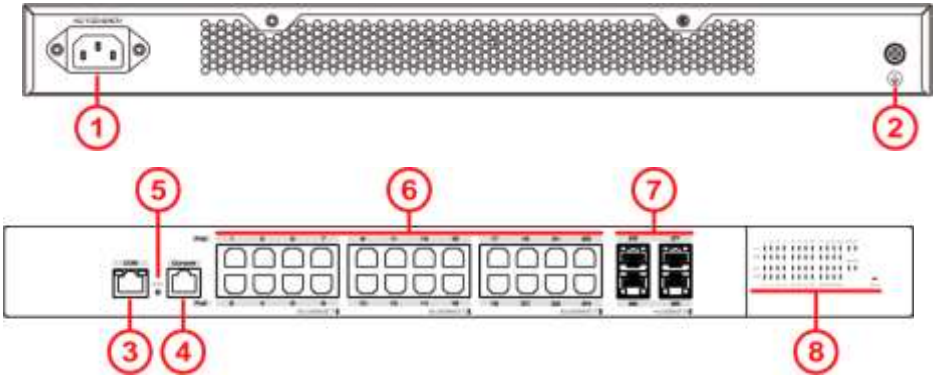

Fig. 1: Display and Connections

No.	Description	No.	Description
1	AC power supply (100-240 VAC)	5	Init button
2	Grounding	6	24x Gigabit PoE+ ports
3	Ethernet management port (OOB)	7	4x 10G SFP ports
4	Console port	8	LED indicators (PWR, ports status LEDs)

3 Mounting the Device

This device supports two installation methods:

- Rack mounted installation
- Desktop installation

Note:
All necessary mounting parts are provided with the enclosed mounting accessory set.

3.1 Rack Mounted Installation

Please follow the steps below:

1. Fix the provided rack mounted hangers to the left and right side of the device using 4 screws each. Use the four holes on the left and right side of the device.
2. Install the device to the rack.

Keep the following points in mind:

- Make sure not to pinch existing cables!
- Keep a distance of at least 5 cm to nearby devices to provide ventilation and to avoid overheating.
- Position the device the way that connected cables will not cause mechanical tension on the device or its attachment.

3.2 Desktop Installation

Please follow the steps below:

1. Carefully put the device upside down, clean the grooves on the chassis backplane with soft cloth to make sure there is no oil or dust in it.
2. Remove the stickers on the foot pad, paste the foot pad on the four corners of the bottom of the switch.
3. Carefully put the device upright on the workbench.

4 Connecting the Power Supply

Note:
Ground the switch housing with the grounding screw on the side of the housing (s.

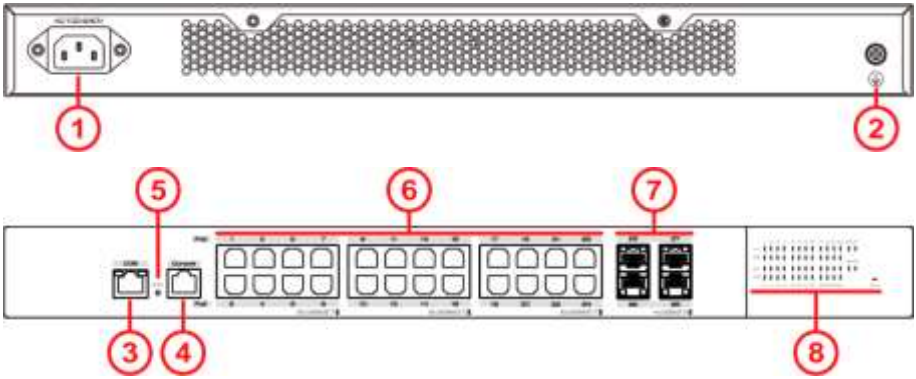

Fig. 1, (2)! Always make the ground connection first and disconnect it at the end.

Use one end of PGND cable to connect the M4 grounding connector of the switch, the other end to a ground point. The PGND of the switch is shorted to the copper protection ground bar provided by the user. The PGND cable used should be an alternating yellow and green plastic insulating one with copper core, with cross-sectional area greater than2.5 mm^2.

The figure below takes rack-mounted installation as example.

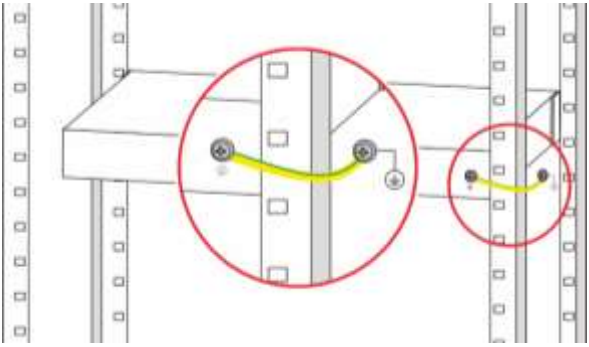

Fig. 2: Grounding

The switch is powered by a 100…240 VDC power connection (s.

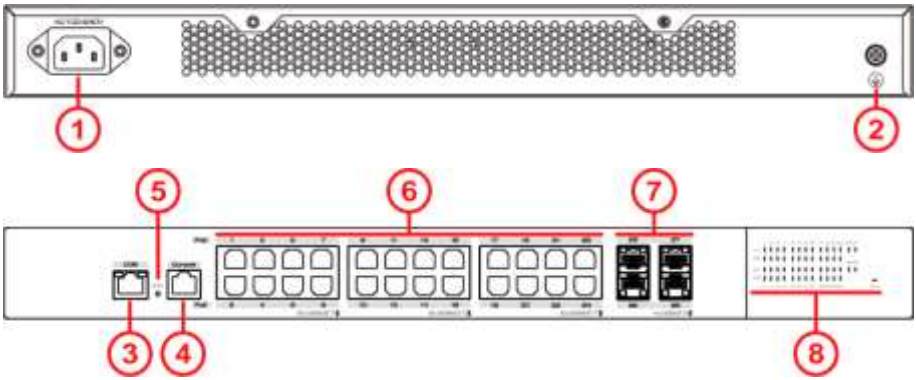

Fig. 1, (1)).

4.1 100…240 VAC Supply

Use an AC power cable to connect the AC power connector of the switch. We recommend that you use the AC power cable provided in the package.

Please observe the following specifications:

- Power Input
  - Input voltage: AC 100...240V 50/60Hz
  - Input current: 4.5A max (full load with 100V AC input voltage)

Connect the mains supply to the building's power supply network.

Note:
To switch off the device, always disconnect the power supply.

4.2 Starting Up

After connection to the power supply, the switch starts automatically and is ready for operation after approx. 90 s.

LED indicators “PWR” turn green.

Connect the switch to your local network segment using a suitable connector cable.

5 Factory Settings

Note:
Please note that the factory settings may change with future firmware versions (s. section 10). For this reason we recommend that you check the release notes for information about any changes to the factory settings before carrying out a firmware update.

The switch starts with its factory settings:

- Interfaces:
  - RS232: (Sub-D9 to RJ-45) — Enabled, transfer rate: 115200 bit/s, flow control: no, test mode: no, Stop bits: 1, Data bits: 8
  - RJ45: (Ethernet management port) — Enabled, transfer rate: 10/100Base-TX
  - SSH: Enabled
  - Telnet: Enabled
  - SNMP: Enabled
  - Web Manager: Enabled
- User level: as per "SFP ports: 10GBase-X operation — Ports 25…28: SFP+ inserted:

  The default rate of the SFP ports is 10 Gbit/s.

  When setting the SFP ports, the port speed of the switch and connected device must be set to the same before they can communicate. When both the switch and connected device are set to <Auto Negotiation>, the communication rate is 10G bit/s.
- Preset User Level for Management Access" (s. section ☐)
- IP configuration: DHCP disabled, default static IP address: 192.168.1.200, default subnet mask: 255.255.255.0
- Ethernet RJ-45 ports: Ports 1…24:1000M bit/s operation enabled in VLAN 1
- PoE+ function: Ports 1…24: enabled
- SFP ports: Ports 25…28: SFP+ inserted: 10GBase-X operation

  The default rate of the SFP ports is 10 Gbit/s.

  When setting the SFP ports, the port speed of the switch and connected device must be set to the same before they can communicate. When both the switch and connected device are set to <Auto Negotiation>, the communication rate is 10G bit/s.

6 Preset User Level for Management Access

The following user level (role with specific access rights) is preset:

User	Password	Access	Comments
admin	admin	Access privilege: 15 Full access rights	This user can adjust all settings of the switch.

7 Notifications

7.1 Status LEDs

The status LEDs on the device's front side (s.

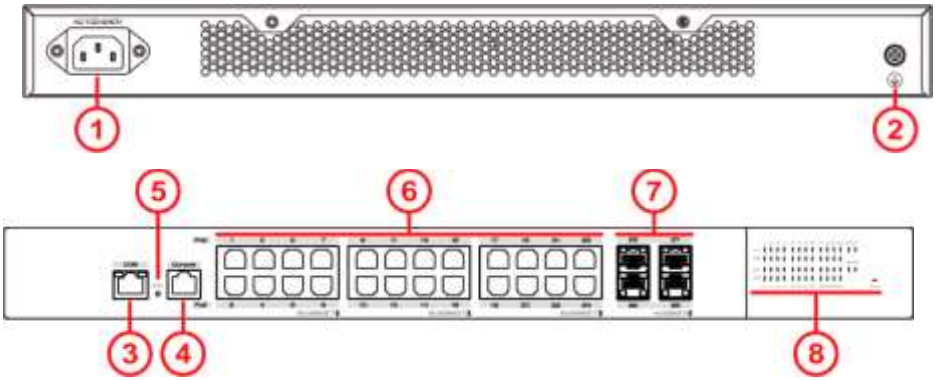

Fig. 1, (8)) have the following meaning:

- "PWR"
  - Off – The respective power supply is off.
  - Green – The respective power supply is working.

7.2 Port Status LEDs

7.2.1 Ethernet (10/100/1000Base-T)

The device's Ethernet copper ports (s.

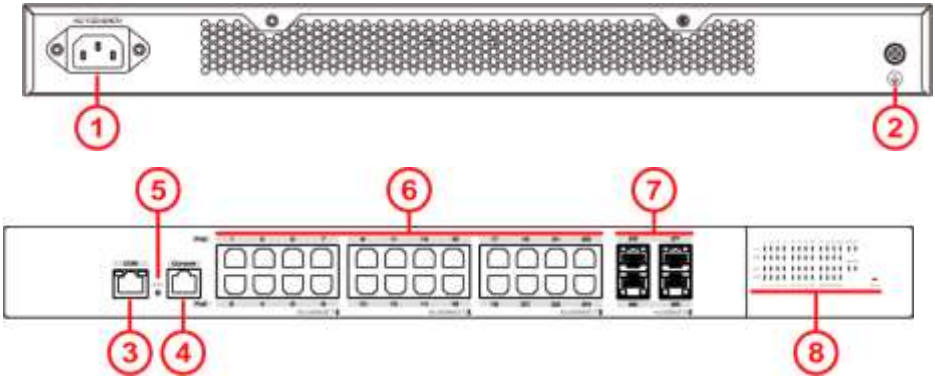

Fig. 1, (8)) have one port status indicators

- Port link indicator
  - Off – Link down, no connection.
  - Green – Link up
  - Green *blinking* – Port sending or receiving data.

7.2.2 SFP/SFP+ (1000/10GBase-X)

The device's SFP ports (s.

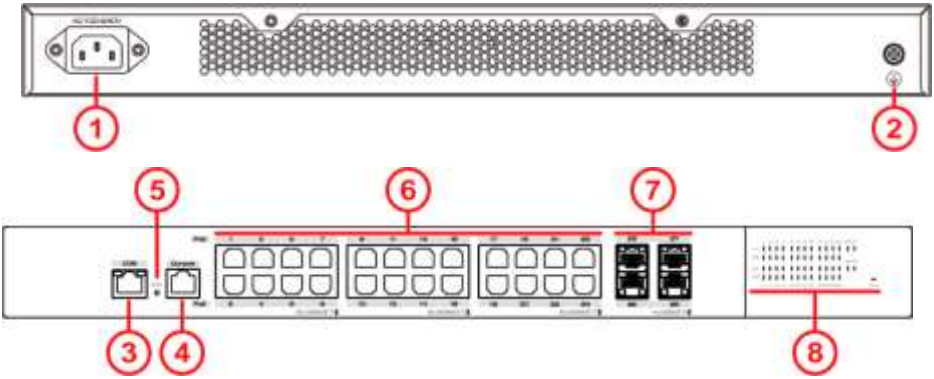

Fig. 1, (7)) have one port status indicator:

- Link (Link)
  - Off – Link down, no connection.
  - Green – Link up
  - Green *blinking* – Port sending or receiving data.

8 Reset Button

On the front of the housing there is a reset button (s.

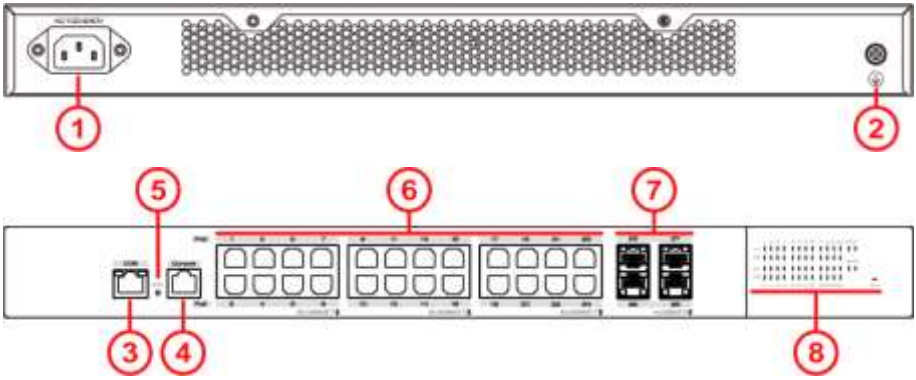

Fig. 1, (5)), which is accessible with a thin object.

By pressing the button longer than 5s, the switch will be restored to the original factory default setting.

Note:
Additionally, status messages are issued via the console port.

9 Access for Network Management

Note:
For accessing the device after starting up successfully please refer to one of the following documents:

- Web manual: describes Web network management system configuration instructions.
- CLI manual: describes CLI-based configuration instructions

10 Firmware Updates and Further Information

You have access to current firmware versions and further information once you have registered on our website.

10.1 Registration

1. In your internet browser open the address "www.microsens.com" and navigate to the page "Partner Login".
2. Follow the link "Please register here".
3. Fill out and submit the online user registration form.
4. You will receive an e-mail containing a user name and password for the partner login.

10.2 Login

1. In your internet browser open the address "www.microsens.com" and navigate to the page "Partner Login".
2. Enter your username and your password.
3. Click the button "Login".
4. To find your switch quickly, enter the item number of your switch into the search box on the website.

10.3 Firmware Image File

Please navigate to your switch and select the tab "System Management". This tab contains recent download files for your device.

Upload the firmware image file to the device by using the Web Manager. For further information please refer to the web manual of your device.

10.4 MICROSENS Support

For further questions please contact our support:

- E-mail: support@microsens.com
- Phone: +49 (0)2381 9452-345 (Mo. – Fr., 7:30 AM – 04:00 PM CET)

11 DECLARATION OF CONFORMITY

The following information is for CE compliance of Class A and Class B devices:

This equipment has been tested and found to comply with the limits for a Class A digital device.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio-frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference. If the equipment causes interference to radio or television reception, which can be determined by turning the equipment off and on, users are encouraged to try to correct the interference by using 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.

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Document ID: QSG-21020_2021-07-26