ESSGS8-B

Industrial Unmanaged Ethernet Switch
with
PowerPilot
PoE Control

QSG-ESSGS8-B-Rev2608

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1 INTRODUCTION

1.1 ESSGS8-B Introduction

ESSGS8-B is an industrial unmanaged PoE/PoE+ Ethernet switch with 8*10/100/1000M auto-sensing electrical ports. This product supports PoE/PoE+. Each electrical port outputs up to 30W. Its rugged design, with an IP40 enclosure and industrial level 3 protection, makes it suitable for applications such as Intelligent Transportation Systems, IP surveillance, and industrial networks.

1.2 Features

- Unmanaged design with PowerPilot™ PoE control
- 8*10/100/1000Base-T ports
- Support IEEE802.3af/at
- Dual 45~57VDC power input
- Level 3 ESD protection
- IP-40 housing design
- Operation temperature: -40~+75℃
- Supports DIN-rail or wall-mounted
- Unique DIN mount design makes mounting and removal easy
- Installation: Plug-and-play, no setting required

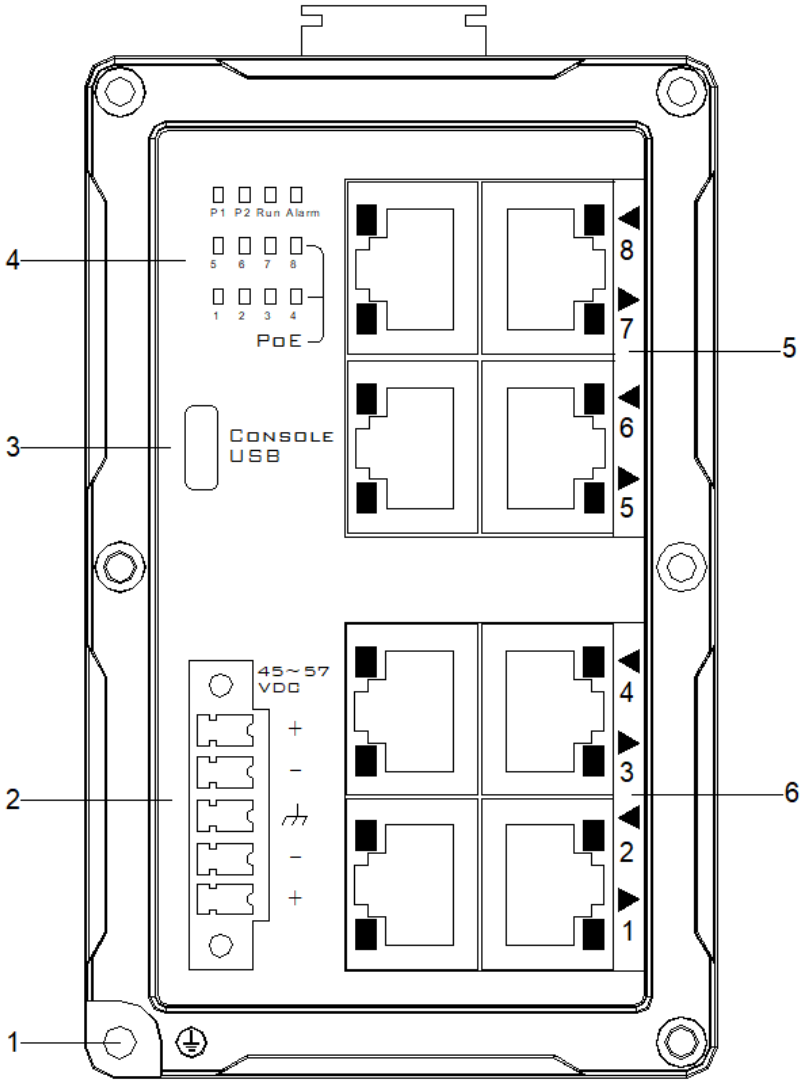
1.3 Specifications

Ethernet

10/100/1000Base-T	8 with PoE+
PoE Standard	IEEE802.3af/at
Switch Performance	
Architecture	Store and forward
Switch Capacity	20Gbps
Power	
Redundant Input Power	Dual DC inputs. 45~57VDC, 5-pin screw terminal
Power Consumption (Max.)	< 6W (without PoE)
PSE Type	End span
PoE Port	Each port up to 30W output
Overload Current Protection	Present
Reverse Polarity Protection	Present
Mechanical	
Enclosure	IP40
Dimensions (L x W x H)	62 x 102 x 100 mm
Weight	0.6kg
Environment	
Storage Temperature	-40 to +85°C (-40 to 185°F)
Operating Temperature	-40 to +75°C (-40 to 167°F)
Operating Humidity	5% to 95% non-condensing

2 PANEL VIEWS

2.1 Front Panel View



1. Equipment protection grounding terminal

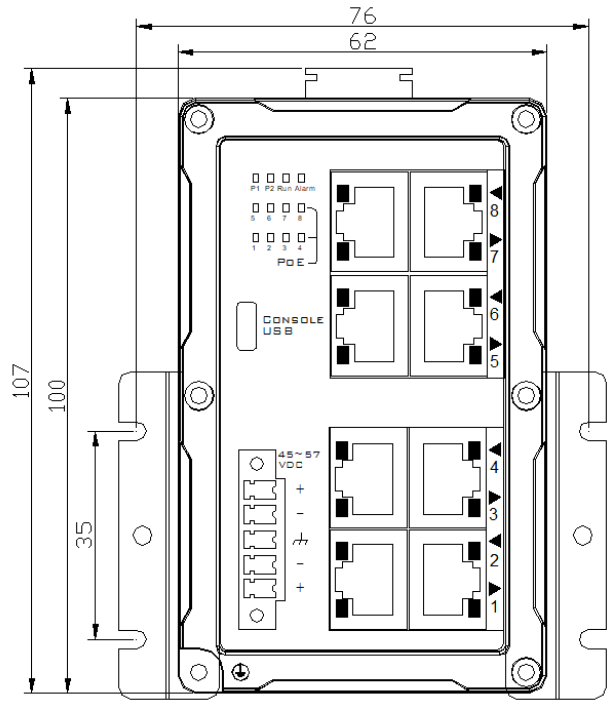
WARNING: This product MUST be mounted to a well-grounded mounting surface such as a metal panel.

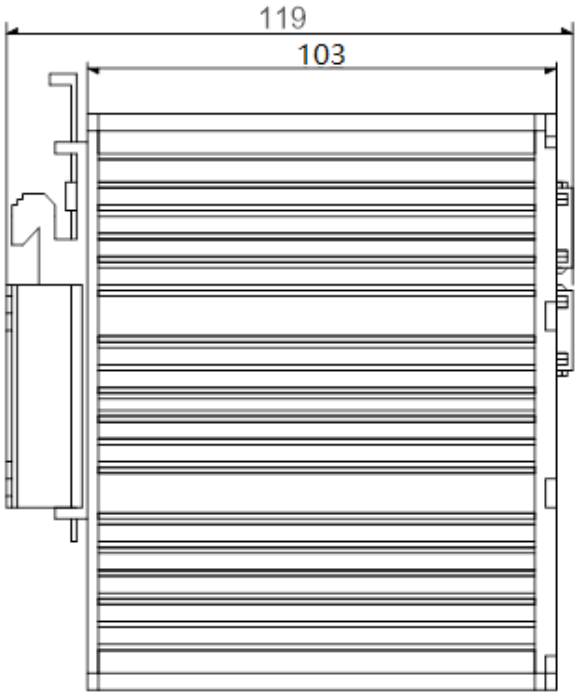
2. 45~57VDC power input
3. USB Console
4. Power Alarm and PoE status indication
5. 10/100/1000Base-T port (PoE): #5 ~ #8
6. 10/100/1000Base-T port (PoE): #1 ~ #4

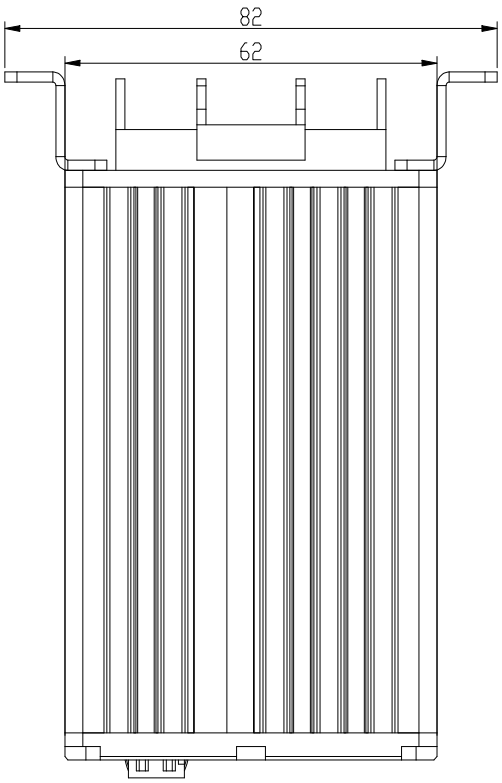
2.2 Status Indicator LED

LED	Color	Status	Description
P1	Orange	On	Power 1 is being supplied
		Off	Power 1 is not being supplied
P2	Orange	On	Power 2 is being supplied
		Off	Power 2 is not being supplied
PoE1-8	Green	On	The corresponding port's PoE power is on
		Off	The corresponding port's PoE power is off
10/100/1000Base-T(X)			
SPD	Green	On	Speed indicator for 1000Mbps
		Off	Speed indicator for 100Mbps and 10Mbps
LINK/ACT	Orange	On	The corresponding port's link is active
		Blinking	Data is being transmitted
		Off	The corresponding port's link is inactive

3 DIMENSIONS (UNIT: mm)

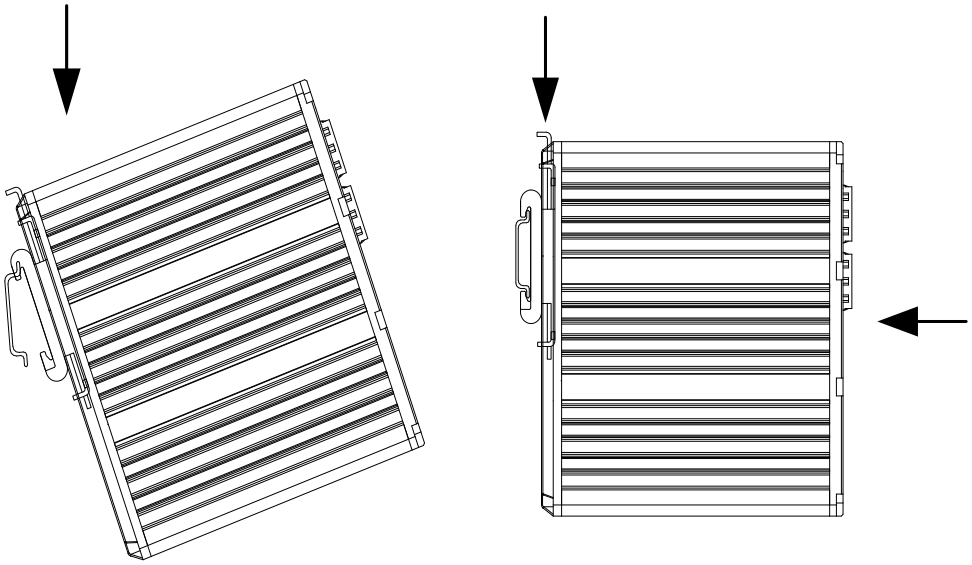






4 MOUNTING

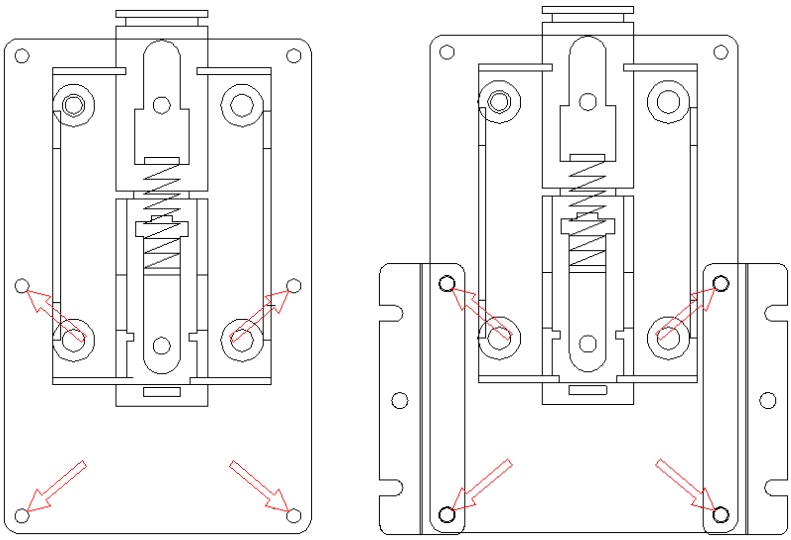
4.1 DIN Mounting



Pull the spring clip downward, seat the bracket on the DIN rail, and release the clip.

Verify that the switch is securely locked in place.

4.2 Wall Mounting



Step 1 Step 2

Step 1: Loosen the 4 screws on the rear panel;

Step 2: Mount the accessories on the rear panel;

Step 3: Fix the switch on the wall.

4.3 Items for Attention

- **Operating Temperature:** If the product is installed in a closed rack, the rack's interior operating temperature may be higher than the outside temperature. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer's maximum operating temperature.
- **Air Flow:** Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
- **Circuit Overloading:** Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring.
- **Reliable Grounding:** Rack-mounted equipment should be properly grounded. Attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

4.4 Grounding

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the ground screw to the grounding surface before connecting devices.

5 CABLE

5.1 Ethernet Cable

The product uses a standard Ethernet cable. Depending on the connection type, you can choose CAT3, 4, 5e, or 6 UTP cable to connect to other network devices (computers, servers, switches, routers, hubs, etc.). The cable properties are listed in the following table.

Cable	Type	Max Length	Connector
10BASE-T	Cat.3, 4, 5 100-ohm	UTP 100 m (328 ft)	RJ-45
100BASE-T	Cat.5 100-ohm UTP	UTP 100 m (328 ft)	RJ-45
1000BASE-T	Cat.5/Cat.5e/6 100-ohm UTP	UTP 100 m (328 ft)	RJ-45

10BASE-T / 100BASE-T Pin Allocation

For 10BASE-T / 100BASE-T cable, pins 1 and 2 send data, and pins 3 and 6 receive data.

10/100Base-T RJ-45 Pin Definition

Pin Number	Signal	PoE
1	TD+	PoE+
2	TD-	PoE+
3	RD+	PoE-
4	null	
5	null	
6	RD-	PoE-
7	null	
8	null	

1000Base-T RJ-45 Pin Definition

Pin Number	Signal	PoE
1	BI_DA+	PoE+
2	BI_DA-	PoE+
3	BI_DB+	PoE-
4	BI_DC+	
5	BI_DC-	
6	BI_DB-	PoE-
7	BI_DD+	
8	BI_DD-	

This switch supports MDI / MDIX auto-flip function. The following table lists the 10/100Base-T MDI/MDI-X / 1000Base-T MDI/MDI-X port pin output.

10/100Base-T MDI/MDI-X Pin Definition

Pin Definition	MDI Port	MDI-X Port	PoE
1	TD+(transmit)	RD+(receive)	PoE+
2	TD-(transmit)	RD-(receive)	PoE+
3	RD+(receive)	TD+(transmit)	PoE-
4	Not used	Not used	
5	Not used	Not used	
6	RD-(receive)	TD-(transmit)	PoE-
7	Not used	Not used	
8	Not used	Not used	

1000Base-T MDI/MDI-X Pin Definition

Pin Number	MDI Port	MDI-X Port	PoE
1	BI_DA+	BI_DB+	PoE+
2	BI_DA-	BI_DB-	PoE+
3	BI_DB+	BI_DA+	PoE-
4	BI_DC+	BI_DD+	
5	BI_DC-	BI_DD-	
6	BI_DB	BI_DA-	PoE-
7	BI_DD+	BI_DC+	
8	BI_DD-	BI_DC-	

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