1. Summary

Switch-S9GPWR has ten ports which are 10BASE-Te/100BASE-TX/1000BASE-Tcompatible ports.
Ports 1 to 9 (twisted pair ports) support IEEE802.3af PoE power supply functions.

2. Feature

(1) Ports 1 to 10 (twisted pair ports) are 10BASE-Te/100BASE-TX/1000BASE-T corresponding to auto-negotiation.

(2) The twisted pair ports 1 to 9 can supply power conforming with IEEE802.3af. They can supply a maximum of 15.4 W of power per port, and the device total can supply a maximum of 63 W of power.

(3) All of the twisted pair ports are equipped with straight/cross cable automatic detection functions. Straight cables can be used to make interconnections without distinctions between the terminals and network devices having to be made.
(The factory default is for ports 1 to 9 to have MDI-X be fixed.)

(4) If equipped with IEEE802.3az (LPI) compatible Energy Efficient Ethernet functions (hereinafter EEE), and if data is transmitted when linked up, the energy efficient state will be moved to, whereas each port can suppress power consumption.

(5) Automatically detects the connection states via the equipped MNO series energy efficiency mode, and suppresses power consumption to required levels.

(6) These device settings are modifiable by connecting the computer which has ZEQUO assist Plus installed on it from the CD-ROM and this device via twisted pair cables.

3. Rated/Environmental Conditions

3－1. Power supply	AC100-240V, 50/60Hz, 1.7A (with a built-in power supply)
3－2. Power consumption	Normally, Max.83.5W(13.1W when not supplying power), Min.7.2W
3－3. Operating environment	Temperature: 0 - 40℃ Humidity: 20 - 80%RH (no condensation)
3－4. Storage environment	Temperature: -20 - 70℃ Humidity: 10 - 90%RH (no condensation)
3－5. EMC compliance	CISPR 22 Class A, EN 55022 Class A AS/NZS CISPR22 Class A VCCI Class A EN 61000-3-2, EN 61000-3-3 CISPR 24, EN 55024 IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11
3－6. Safety compliance	IEC 60950-1 EN 60950-1
3－7. Environment compliance	RoHS compliant

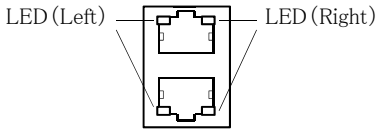
4. Form

4－1. Form and materials/colors	Dimensions :44mm(Height)×210mm(Width)×280mm(Depth) (Excluding protruding sections) Case material :SECC Color : Main unit: Green 03, Front face: Green 03, Face plate label: Green 02
4－2. Mass(Weight)	2,100g

5. Hardware Specifications

5－1. Interface	Twisted pair port 1-10 :RJ45 connector ※1 Transmitting and receiving network system : IEEE802.3az 10BASE-Te IEEE802.3u 100BASE-TX IEEE802.3ab 1000BASE-T Energy Efficient Ethernet :IEEE802.3az (10BASE-Te,LPI) ※2 Transmission speed :10/100Mbps full/half duplex, 1000Mbps full duplex, Compatible cable :Twisted pair cable (At least equivalent to EIA/TIA568 category 5e) If there is Category 3 cable used in a connection, the communication at a speed of 10Mbps can not be established. You must use category 5e or higher crossover cable. Maximum transmission distance :100m Auto-Negotiation :Communication speed and full/half duplex are automatically recognized. The setting can be fixed to 10Mbps, 100Mbps and full duplex or half duplex. Up to 63 W of power can be supplied to ports 1 to 9 in total. (Maximum power supplied to a port: 15.4 W) ※1 Automatically detects the connection states via the equipped MNO series energy efficiency mode, and suppresses power consumption to required levels. ※2 Port 1-8 equipped with IEEE802.3az (LPI) compatible Energy Efficient Ethernet functions(hereinafter EEE), and if data is transmitted when linked up, the energy efficient state will be moved to, whereas each port can suppress power consumption.

5. Hardware Specifications

5－2. Switching mode	Switching method :Store and Forward Switching capacity :20.0Gbps Packet transfer capability :Non-blocking Max 14,880pps/port(10Mbps) Max 148,800pps/port(100Mbps) Max 1,488,000pps/port(1000Mbps) MAC Address table :Max 16K entry/unit Buffer memory :768K Byte/unit Flow control :half-duplex Back pressure full-duplex IEEE802.3x Aging timeout :300 to 600 sec. Jumbo frame supported :9KB Transmittable frames :EAP,BPDU
5－3. LED display	(1) POWER(Power) LED Green Light :Power is ON Off :Power is OFF (2) STATUS (status) LED Green Light : System is normally operating Orange Light : System is starting up Orange Blink : System is malfunctioning (3) PoE LIM. (PoE limit) LED Off : Supplies power in a range of 0 - 56 W Green Light : Supplies power in a range of 56 W - 63 W Green Blink : When the requested power supply capacity exceeds 63 W (overload of the device overall) (4) Port LED (Left) LINK/ACT (ports 1-10) LED Green Light : Link is established. Green Blink : Data is being sent/received. Off : No terminal is connected. (5) Port LED (Right) PoE (ports 1-9) LED Green Light : Power is supplied normally. Green Blink : Overload power supply Off : Power is not supplied or PoE receiving equipment is not connected. 
5－4. Cascade connections	Port 1-10 corresponding to the Auto MDI / MDI-X Port 10 corresponding to the switching of the MDI and MDI-X (Allowed change by the setting for the application) The factory default is for ports 1 to 9 are fixed to be MDI-X.

6. Software Specifications

6－1. Configuration	ZEQUO assist Plus (included on CD-ROM) possible the following set by ・IP Address ・Subnet Mask ・Default Gateway ・System Name ・Port configurations - Auto MDI/MDI-X - MNO series Power Saving Mode Enable/Disable - Energy Efficient Ethernet Enable/Disable ・Software Upgrade ・Factory Default
6－2.Switching Hub Control	ZEQUO assist Plus (included on CD-ROM) can manage the switch by
6－3. Others	TFTP Client (Software Upgrade)

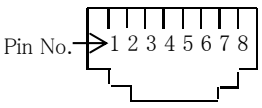
7. Layer 2 Switching Functions

7－1. PoE power supply function	IEEE802.3af PoE power supply function. Up to 63 W of power can be supplied to ports 1 to 9 in total. (Maximum power supplied to a port: 15.4 W) Supply method :Alternative A (Cable signal lines 1, 2, 3, and 6 are used.)

8. Connector Pin Arrangement

8－1. Port 1 - 10

Status	Pin No.	1	2	3	6	4	5	7	8
MDI-X	Signal	BI_DB+	BI_DB-	BI_DA+	BI_DA-	BI_DD+	BI_DD-	BI_DC+	BI_DC-
MDI	Signal	BI_DA+	BI_DA-	BI_DB+	BI_DB-	BI_DC+	BI_DC-	BI_DD+	BI_DD-



9. Accessories

9－1. Accessories	(1) Installation Guide :1 (2) CD-ROM (ZEQUO assist Plus) :1 (3) Rubber foot :4 (4) Power cord (CEE7/7)(*) :1 (*) The attached power cord is dedicated for AC 100 - 240 V use.

10. Prohibitions when Using the Product to Guarantee Safety

The manufacturer assumes no responsibility for any problems occurring when the following conditions are not satisfied. Observe the following items when using the product.

(1) Do not use power supply other than AC 100 - 240 V.
Deviation could lead to fire, electric shock, and/or equipment failure.

(2) Do not handle the power cord with wet hand.
Deviation could lead to electric shock, and/or equipment failure.

(3) Do not handle this Switching Hub and connection cables during a thunderstorm.
Deviation could lead to electric shock.

(4) Do not disassemble and/or modify this Switching Hub.
Deviation could lead to fire, electric shock, and/or equipment failure.

(5) Do not damage the power cord. Do not bend too tightly, stretch, twist, bundle with other cord, pinch, put under a heavy object and/or heat it.
Damaged power cord could lead to fire, short, and/or electric shock.

(6) Do not insert, nor drop foreign objects such as metal or combustible things into the inside from the openings or twisted pair ports.
Deviation could lead to fire, electric shock, and/or equipment failure.

(7) Do not connect equipments other than 10BASE-Te/100BASE-T/1000BASE-T to twisted pair port.
Deviation could lead to fire, electric shock, and/or equipment failure.

(8) Do not place this Switching Hub in harsh environment (such as near water, high humid, and/or high dust).
Deviation could lead to fire, electric shock, and/or equipment failure.

(9) Do not place this Switching Hub under direct sunlight and/or high temperature.
Deviation could lead to high internal temperature and fire.

(10) Do not install this Switching Hub at the location with continuous vibration or strong shock, or at the unstable location.
Deviation could lead to injury and/or equipment failure.

(11) Do not put this Switching Hub into fire.
Deviation could lead to explosion and/or fire.

(12) Use the bundled power cord (AC 100 - 240 V specifications).
Deviation could lead to electric shock, malfunction, and/or equipment failure.

(13) Unplug the power cord in case of equipment failure.
Deviation, such as keeping connected for a long time, could lead to fire.

(14) Connect this Switching Hub to ground.
Deviation could lead to electric shock, malfunction, and/or equipment failure.

(15) Connect the power cord firmly to the power port.
Deviation could lead to electric fire, shock, and/or malfunction.

(16) If the STATUS (status) LED blinks orange, unplug the power cord since this is a malfunction.
Deviation, such as keeping connected for a long time, could lead to fire.

(17) Handle the Switching Hub carefully so that fingers or hands may not be damaged by twisted pair port, console port or power cord hook block.

(18) To support 10BASE-Te, when communicating with 10M, using the Cat5 over cable.
Do not use other than the above cable, can not communicate in 10M.

11. Basic Instructions for the Use of This Product

(1) For inspection and/or repair, consult the retailer.

(2) Use commercial power supply from a wall socket, which is close and easily accessible to this Switching Hub.

(3) Unplug the power cord when installing or moving this Switching Hub.

(4) Unplug the power cord when cleaning this Switching Hub.

(5) Use this Switching Hub within the specifications. Deviation could lead to malfunction.

(6) Do not touch the twisted pair cable modular metal terminals which are connected to RJ45 connectors (twisted pair ports) or the connectors, nor place them near electrically-charged objects. Static electricity could lead to equipment failure.

(7) Do not put the modular plug of the connected twisted pair cable on objects that can carry static charge, such as carpet. Do not place it in the proximity. Static electricity could lead to equipment failure.

(8) Do not put a strong shock, including dropping, to this Switching Hub.
Deviation could lead to equipment failure.

(9) Do not store and/or use this Switching Hub in the environment with the characteristics listed below.
(Store and/or use this Switching Hub in the environment in accordance with the specification.)
- High humidity. Possible spilled liquid (water).
- Dusty. Possible static charge (such as carpet).
- Under direct sunlight.
- Possible condensation. High/low temperature exceeding the specifications environment.
- Strong vibration and/or strong shock.

(10) Please use this Switching Hub in place where ambient temperature is from 0 to 40℃.
Failure to satisfy the conditions above may result in a fire, electric shock, equipment failure, and/or malfunction. Such events are not covered by the warranty.
Do not block the ventilator of the Switching Hub.
Blocked ventilator induces the heat accumulation inside, causing equipment failure and/or malfunction.
If used at a temperature out of the operating temperature range, the protection equipment becomes activated and the power supply stops.

(11) When using two Switching Hubs, do not stack them. When you place them side by side, allow for a space of 20 mm or more between them.