DIREKTRONIK

SOLAR

UPS Managed PoE Switch

User Manual

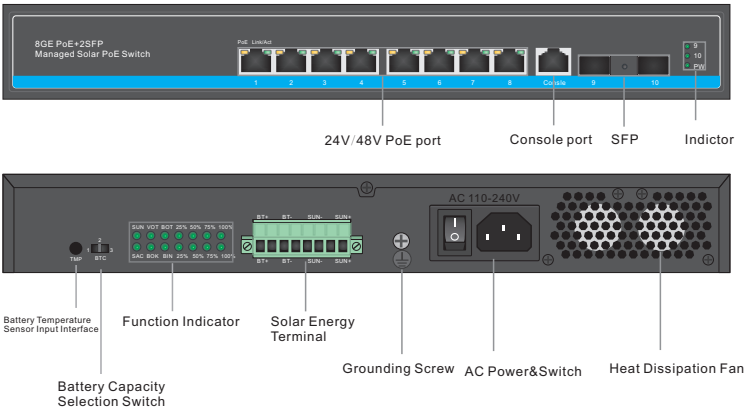
Introduction

8 port managed PoE solar charging switch with 2 SFP has the features of electricity generation by solar energy, intelligent PoE power supplying, auto charging and discharging control, which is a clean energy switch and can solve network application and power supplying requirements in complicated environment like remote mountainous regions, scenic spots, marine network power supplying, outdoor construction and etc.

Function

- ◆ ◆ Auto charging and discharging.
- ◆ ◆ Support 24V lead-acid batteries(100AH maximum).
- ◆ ◆ Support 24V solar panel input(800W maximum).
- ◆ ◆ Support an additional set of AC power input.
- ◆ ◆ Adopt intelligent PSE chip.
- ◆ ◆ 48V PoE standard:IEEE802.3AF/AT; 24V non-stadard port support auto PoE power supply.
- ◆ ◆ 1-8 port support 24V/48V power supplying adaptive output.
- ◆ ◆ Adopt REALTEK CUP chip.

Product Display & Description

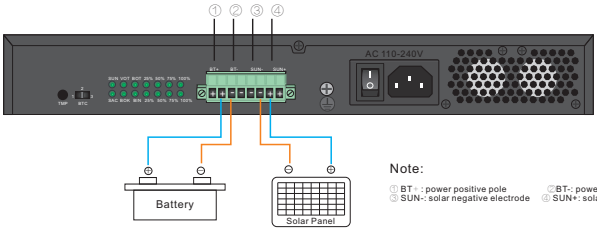


Indicator

Indicator(Front)		Status	Description
Power Indicator:PW		Always ON	Normal
		Always OFF	Power unconnected
PoE Indicator	Orange (24V)	Always ON	24V powered device connected and power supplying normal
		Always OFF	24V powered device unconnected or no power supplied
	Green (48V)	Always ON	48V powered device connected and power supplying normal
		Always OFF	48V powered device unconnected or no power supplied
SFP Indicator:9-10		Always ON	SFP connected normally
		Always OFF	SFP unconnected or abnormal

Indicator(Back)	Status	Description	Indicator(Back)	Status	Description
SUN: Solar energy	Always ON	Solar energy normal input	AC: Input indicator	Always ON	AC normal input
	Always OFF	Solar energy not inputed		Always OFF	AC power unconnected
	Flickers	1/2S: Battery normal 1/4S: Battery failure		Flickers	AC input voltage error, input stopped
VOT: Output voltage normal	Always ON	Voltage normal output	BOK: Battery normal indicator	Always ON	Battery normal
	Always OFF	Voltage abnormal output		Always OFF	Battery abnormal
BOT: Discharging indicator	Always ON	Battery in discharging	BIN: Charging indicator	Always ON	Battery in charging
	Always OFF	Battery discharging finished or not discharge		Always OFF	Battery charging finished or not charge
	Flickers	1/2S: power<15%		Flickers	About to be filled, and the power ≥98%
25%, 50%, 75%, 100%:	Always ON	Corresponding discharging electricity	25%, 50%, 75%, 100%:	Always ON	Corresponding charging electricity

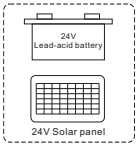
Connection Description of Terminals



Note:

① BT+: power positive pole ②BT-: power negative electrode
③ SUN-: solar negative electrode ④ SUN+: solar positive pole

Battery&Solar Panel Matching-usage Description

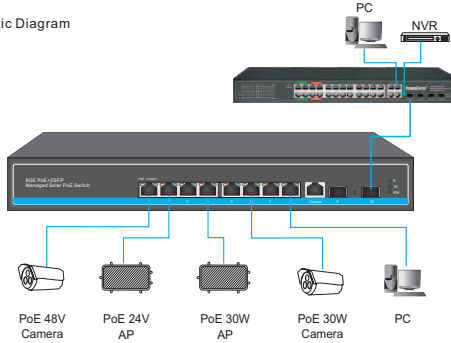


1.24V 600W solar panel+24V 100AH lead-acid battery: charging time about 6hours(in good illumination condition);
2.Endurance time about 40 hours(60W device loaded), 20 hours(120W device loaded).
Note: open circuit voltage is 45V maximum and operation voltage is 37V(solar panel power please refer to actual configuration).
Charging time = Battery AH(solar power short-circuit current*0.55)
Discharging time=(Battery rated voltage*battery AH)/actual discharging power

The above calculated results are just as reference for selection and installation; when you use it please base on the local environment, illumination, weather and etc.

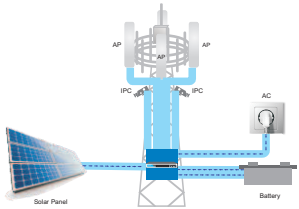
Application

Connection Schematic Diagram



Scene Schematic Diagram

Operator Base Application



Software Parameter

Model	TS0800G-2S-SE
Network Protocol	IEEE 802.3x; IEEE 802.3, IEEE 802.3u, IEEE 802.3ab. IEEE 802.3z; IEEE 802.3ad; IEEE 802,3q, IEEE 802.3q/p; IEEE 802.1w, IEEE 802.1d, IEEE 802.1S
VLAN Configuration	Port-based VLAN, Up to 4096 VLANs; Support Voice VLAN, can configure QoS for voice data 802.1Q
Spanning Tree	STP(Spanning tree protocol); RSTP/MSTP(Rapid spanning tree protocol) EPPS/EAPS(Ring network protocol) 802.1x Argument agreement
Negotaition Mode	Port support auto negotiation(self-negotiation transmission rate and duplex mode)
Port Mirroring	Support many-to-one port mirroring
Loop Guard	Support loop protection, real-time detection, quick alram, concise location, Intelligent blocking, automatic recovery
Port Isolation	Support downlink ports isolate from each other and communicate with uplink port as well
Flow Control	Half duplex based on Back pressure; Full duplex based on PAUSE frame
Speed Limitation	Support input and output bandwidth management based on port
Network Management	Web interface management SNMP V1/V2/V3 CLI management based on Telnet, Console SSH V1/V2 RMON management
Port Aggregation	Support 8 groups of aggregation, each group support up to 8 ports; static and dynamic convergence
Multicast control	IGMPv1/2/3 and MLDv1/2 Snooping GMRP protocol registration Multicast address management, multicast VLAN, multicast routing port, static multicast address
Storm Suppression	Support unknown unicast, multicast , unknown multicast, broadcast type storm suppression Storm suppression based on bandwidth adjustment and storm filtering
Security	Support User port+IP address+MAC address ACL based on IP, MAC Support security properties of number of MAC address based on port
QOS	802.1p Port queue priority algorithm Cos/Tos, QOS remark WRR (Weighted Round Robin), Weighted priority rotation algorithm WRR, SP, WFQ priority scheduling mode Classification based on port, MAC, 802.1q, DSCP
System Maintenance	Upgrade package upload System log viewing Upload and download configuration file through Web Support multi-user management WEB recovery factory configuration
Solar Energy Configuration	System and battery temperature control; Battery capacity configuration selection; System and power fans control; AC input status monitoring Charging status monitoring; Input and output power monitoring; Charging and discharging time budget; Fault alarm system; Total power generation statistics
PoE Management	24V/48V PoE output configurable; Turn on/off port; Standard PoE schedule management; Power and current display; PoEdog function; Timed reactivation; IP binding restart
Cable Sequence	Auto-MDIX, auto detection on straight-through cable and cross-over cable
MAC Address	Support 16K MAC address,auto aging and learning
DHCP	DHCP Snooping

Hardware Parameter

Model	TS0800G-2S-SE
Product	8+2 Managed Solar Energy PoE Switch
Port	8*10/100/1000Base-TX PoE port（data/power） 2*1000M SFP
PoE Port	8-port fully automatic 24V/48V matching PoE hasivo IEEE802.3af/at, PoE port output power MAX 30W, hasivo passive 24V PoE port output power MAX 25W 48V/24V PoE output configurable; support 48V/24V PoE device power; 1-8 port support PoE
PoE total power	MAX 120W
Network Protocol	IEEE 802.3 IEEE 802.3u 100BASE-TX IEEE 802.3ab1000BASE-T IEEE 802.3x IEEE 802.3z 1000BASE-X IEEE 802.3af/at hasivo AI PSE IEEE 802.3ad IEEE 802.3q , IEEE 802.3q/p IEEE 802.1w, IEEE 802.1d , IEEE 802.1S STP(Spanning Tree Protocol) RSTP/MSTP(Rapid Spanning Tree Protocol) EPPS ring network protocol EAPS ring network protocol
Console Port	1
Reset Key	1
Port Specification	10/100/1000BaseT■x■Auto
Transmission Mode	Store and Forward(full wirespeed)
Bandwidth	56Gbps
Packet Forwarding	40.32Mpps
MAC	8K
Buffer	4.1M
Transmission Distance	10BASE-T ■ Cat3,4,5 UTP(≤250 meter) 100BASE-TX ■ Cat5 or later UTP(≤100 meter) 1000BASE-TX ■ Cat6 or later UTP(≤1000 meter) 1000BASE-SX:62.5μm/50μm MMF(2m~550m) 1000BASE-LX:62.5μm/50μm MM(2m~550m) or 10μm SMF(2m~5000m) Maximum Supporting Transmission Distance 120KM for Single Mode Optical Fiber
Speed	Ethernet 10Mbps half duplex; 20Mbps full duplex Fast Ethernet 100Mbps half duplex; 200Mbps full duplex Gigabit Ethernet 2000Mbps full duplex
CPU	500MHZ
FLASH	16M
RAM	128M
Power Pin	48V power supply: 12+36- 24V power supply: 45+78-
Charging Function	Controlling and management on charging and discharging
Power Input	AC 100-240V 50/60Hz 4.0A MAX 350W Support 24V solar panel input(≤44V) MAX 800W
Watt	Charging+full-loaded: 450W Discharging+full-loaded: 150W
PoE Function	8 port fully automatic 24V/48V power supply hasivo IEEE 802.3af/at; PoE output power MAX 30W hasivo dynamic 24V_PoE output MAX power 25W Programmatically configure PoE power supply output mode 48V.24V PoE output
Battery	Support 24V(12V*2)lead-acid battery group Capacity MAX 24V 100AH
LED Indicator	PW:Power LED Port:(Orange=PoE LED+Green=Link LED) 9 10:(SFP LED■ SUN:Solar energy LED AC:AC input LED VOI:Output voltage normal LED BOK:Battery normal LED BOT:Discharging normal LED BIN:Charging normal LED 25%/50%75%100%:Charging and discharging power LED
Operating Temperature /Humidity	-10～+55°C■10%～90% RH Non coagulation
Storage Temperature /Humidity	-40～+70°C■5%～90% RH Non coagulation
Product size/Packing size (L*W*H)	330mm*190mm*45mm 410mm*280mm*100mm
N.W(kg)	3.5kg(solar panel and battery excluded in the product)
Installation	Rack-mount(machine hangers accessoried)
Lightning protection level	3KV 8/20us■ IP30
Certificate	CE mark, commercial■CE/LVD EN60950■ FCC Part 15 Class B■RoHS■
Warranty	Whole device for 1 year(Accessories not included)

Generator Control Panel Parameter

Battery	Lead-acid Battery
Battery Voltage	24V
Charging Mode	PWM (Current and voltage limit-constant current-voltage limit-voltage and current limit-floating charge)
Self-consumption Supplement	+
Self-consumption Detection Voltage	<25.2V
Rated Charging Current	10A
Floating Charge Current	0.5A-3A
Floating Charge Time	3 hours
Charging Ending	Floating charge timing reached
Rated Discharging Current	3.6A
PoE Output Current	MAX 2.5A
PoE Output Voltage	48~57V
Maximum Photovoltaic Voltage	44V
Maximum Charging Voltage	29.6V
Maximum DC Charging Voltage	36V
Floating Charge Voltage	27.4V
Cut-off Discharging Voltage	20.2V
Recovery Discharging Voltage	25.8V
IIC Communication	Support IIC communication query and configuration of power, voltage, current, charging and discharging time and operation status
Over-temperature Protection	Support main board over temperature and battery over temperature (optional)
Input Protection	Over-current, over-voltage, delayed restarting; anti-reversal protection
Output Protection	Over current, over voltage and short circuit
Indicator	System normal operation indicator; battery indicator; normal input indicator; charging and discharging indicator; multi-function fault indicator
Operation Temperature	-30℃~+65℃

Attentions

1.Please read the user manual carefully before using the switch or improper operation may cause damage to components on the switch.
2.Do not use the switch in the place near fire source.
3.Do not throw it into water or wet the internal components neither.
4.Do not short circuit the battery interface with a metal conductor.
5.Do not disassemble or dissect internal components of products or factory will not underwrite warranty stipulation.
6.The product is equipped with AC interface, if necessary, one power cable is needed to be connected to 100V-240V power.

Accessories List