hasivo®

Solar Managed

Clean Energy PoE Switch

User Manual

S1200WP-8G-2S-BT

hasivo, Sichuan

Product introduction

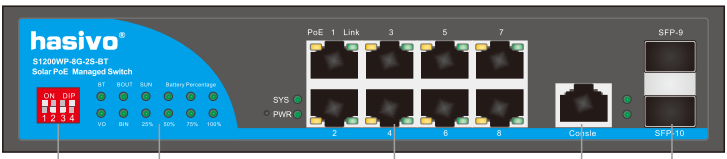
"hasivo" Managed 8 Port 10/100/1000M PoE RJ45+2SFP Solar PoE switch is a clean energy switch integrating solar power generation, intelligent PoE power supply and full-automatic charge and discharge control. It can better solve the network application and power supply demand in remote mountainous areas, scenic spots, off shore network power consumption, outdoor operation, base station power supply scheme and other complex environments.

Product function

- The first integrated solar power charging management PoE switch
- Rich L2 network management functions can easily meet the needs of complex modern network applications
- It supports full-automatic charging and discharging function, with a maximum charging current of 15A
- The advanced MPPT intelligent charging system greatly improves the efficiency of photovoltaic power generation
- It supports two battery types: lead-acid battery and lithium battery. There are 6 built-in battery specifications, and the maximum capacity is 500AH
- Support 12V / 24V(maximum 1200W)solar panel input
- Using hasivo independent intelligent PSE power supply chip
- Support high-power PoE output(the first port can output BT, up to 90W)
- 2-8 ports support ieee802.0 3af / at single port maximum power 30W
- Support PoE power supply output with total power up to 120W
- Adopt Realtek's latest intelligent network CPU

Product display and description

Front Panel



Function switch Charging state indicator Network port(PoE+Data) Console port SFP port

Function switch definition

Function switch	Description
1	Battery type switch
2	Battery voltage switch
3	Lithium iron phosphate switch
4	Wide voltage charging switch

Battery type selection			
Switch 1	Switch 2	Switch 3	
OFF	OFF	—	12V lead acid battery
OFF	ON	—	24V lead-acid battery pack
ON	OFF	OFF	12.6V lithium battery pack
ON	OFF	ON	14.8V lithium iron phosphate battery pack
ON	ON	OFF	25.2V lithium battery pack
ON	ON	ON	29.6V lithium iron phosphate battery pack
Switch 4	ON	Support 24V solar charging 12V battery pack	

Warning: When using the switch to configure the battery type, the battery type switch is invalid.
Power off ths Switch before DIP Switch setting

Charging indicator definition

Charging state indicator	State	Description	Charging state indicator	State	Description
BT:Battery status indicator	on	Battery is normal	VO:PoE boost success indicator	on	PoE boost is normal
	off	Battery abnormality		off	PoE boost abnormality
BOUT:Discharge indicator	Always on	Battery discharge > 15%	Bin: Charging indicator	Always on	Charging and power < 98%
	Always off	End of battery discharge or no discharge		Always off	End of battery charging or no charging
	Blink	1 / 2S flashing, power < 15%		Blink	When the battery is charged or not charged, it will be fully charged, and the power is ⩾ 98%
SUN:Solar state indicator	on	Solar state is normal	25%-100%: battery indicator	on	Corresponding charge
	off	Solar state abnormality			
BOUT and BIN lights are off at the same time and the equipment works normally: charging has been completed					

Indicator definition

Front indicator	State	Description
Power indicator:PWR	on	Power on
	off	Power off
Port indicator: network port	Green on	Network link on
	Orange on	PoE on
	Port light blink	Network data exchange
Optical port:9、10	on	Optical network Link
	off	Optical network down
System indicator: SYS	on	System loading or system crash
	1S cycle blink	System is normal
	100MS fast blink	System Initializing
	off	Not powered on or CPU not started

Rear Panel

DC power input
SW:12-57V PoE:42-57V
Note:DC input does not have charging function

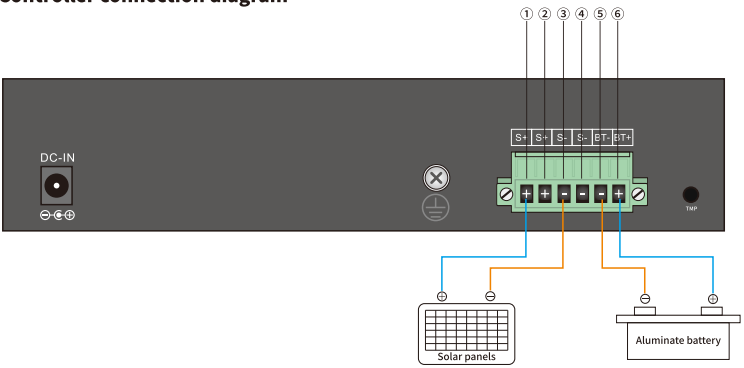
Ground wire screw

Solar
Input terminal

Battery pack
connection terminal

Battery temperature
sensor input port(Optional)

Controller connection diagram



Notes: ① S+ The first group of solar positive electrodes
② S+ Second group of solar positive electrodes
③ S- The first group of solar negative electrodes
④ S- Second group of solar negative electrodes
⑤ BT- battery negative electrode
⑥ BT+ battery positive

Reference instructions for supporting battery and solar panel

❶

12V 400W solar panel + 12V 50AH lithium battery are used together. When the light is good, the charging time is about 5 hours; The endurance is 20 hours (30W load) and 5 hours (120W load) respectively

❷

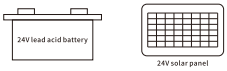
12V 400W solar panel + 12V 50AH lead-acid batteryWhen in use, when the light is good, the charging time is about 5 hours; Endurance points20 hours (30W load) and 5 hours (120W load)

Note: the maximum reference open circuit voltage is 32V, and the working voltage is 18.5V
(please configure the solar panel power according to the actual conditions)

❸

24V 400W solar panel + 25.2V 50AH lithium batteryWhen the light is good, the charging time is about 5 hours; Endurance respectively42 hours (30W load), 10 hours (120W load)

❹



24V 400W solar panel + 24V 50AH lead-acid batteryWhen the light is good, the charging time is about 5 hours; Endurance respectively42 hours (30W load), 10 hours (120W load)

Note: the maximum reference open circuit voltage is 45V and the working voltage is 33V
(please configure the solar panel power according to the actual conditions)

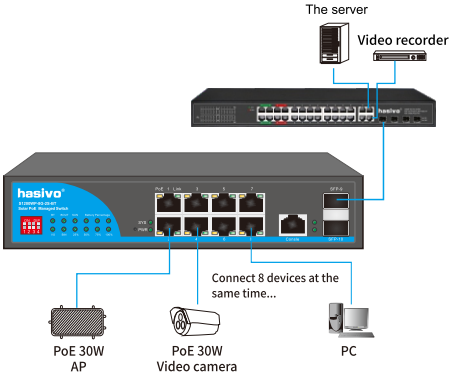
Charging time reference formula = = battery ampere hour ah (solar panel short-circuit current a * 0.55) = charging hours

Discharge time reference formula = = (battery rated voltage * battery ampere hour ah) battery capacity watt hour / actual discharge power

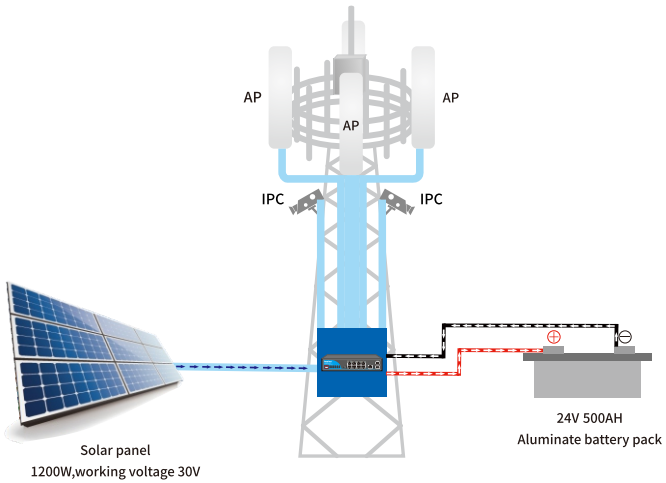
The above calculation results are only used as a reference for selection and installation. Please comprehensively consider the specific use according to the local environment, light, weather and other factors.

Product application

Schematic diagram of switch connection



Scene diagram——Application example of operator base station



Technical parameter

Model	S1200WP-8G-2S-BT
Product name	8+2 BT Solar MPPT Managed PoE Switch
Fixed port	8*10/100/1000Base-TX PoE port(Data) 2*1000M SFP
Console port	1*console port
Reset Key	1
PoE port	Port1 support IEEE802.3af/at/poe++/bt port max 90W Port2-8 support IEEE802.3af/at port max 30W
PoE out pin	Port1:12+ 45+/36- 78- Port2-8:12+ 36-
PoE total power	120W Max
Network protocol	IEEE 802.3;IEEE 802.3u 100BASE-TX IEEE 802.3ab1000BASE-T;IEEE 802.3x IEEE 802.3z 1000BASE-X;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 IEEE802.3af/at/PoE++/BT
Port Specification	10 / 100 / 1000baset(x)automatic detection, full / half duplex MDI/MDI-X adaptive
Transmission Mode	Store and Forward(full wirespeed)
Bandwidth	56Gbps
Packet forwarding	40.32Mpps
MAC address	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)
Speed	Ethernet 10Mbps half duplex; 20Mbps full duplex Fast Ethernet 100Mbps half duplex; 200Mbps full duplex Gigabit Ethernet 2000Mbps full duplex
FLASH	16M
RAM	128M
Power Load	< 10W(excluding partial charging power) < 130W(full load)
Charging function	Integrated MPPT automatic charging, maximum efficiency 98%, maximum charging current 15A Integrated battery protection Automatic battery voltage identification Integrated lithium battery automatic activation system Integrated low capacity start protection system Integrated battery temperature monitoring interface
Charging function switch	1: Battery type selector switch 2: Battery voltage selector switch 3: 14.8/29.6v lithium switch 4: Wide voltage charging(24 solar plate MPPT charging 12V battery)
Battery type	The maximum supporting capacity of 12V / 24V lead-acid battery is 200ah, and the maximum charging current is 15A The maximum supporting capacity of 12.6v/25.2v lithium battery is 200ah, and the maximum charging current is 15A The maximum supporting capacity of 14.8v/29.6v lithium battery is 200AH, and the maximum charging current is 15A Support 1 set of self-defined lead-acid or lithium battery (battery parameters are customized)
Switch LED	PWR: power indicator SYS: system indicator Network port:(network connection indicator green) PoE indicator:(network connection indicator orange)
Power in	Support 12V solar panel input(≤ 57V) / with 12V battery Support 24V solar panel input(≤ 57V) / with 24V battery Support DC in: 20-57V(12V battery); 30-57V(24V battery)
Charging LED indicator	BT: battery status indicator;VO: PoE boost success indicator BOUT: battery discharge indicator;BIN: battery charging indicator SUN: solar status indicator;25% - 100%: battery power indicator
Operating temperature / Humidity	-20~+65°C;10%~90% RH Non coagulation
Storage temperature / Humidity	-40~+70°C;5%~90% RH Non coagulation
Productsize/packagesize (L*W*H)	210mm*140mm*45mm 267mm*220mm*70mm
Net weight / gross weight(kg)	1.8/2.5kg(solar panel and battery excluded in the product)
Lightning protection / protection grade	3KV 8/20us;IP30
Safety regulation certification	3C; CE mark, commercial; CE/LVD EN60950; FCC Part 15 Class B; RoHS;
Warranty period	Whole device for 1 year(Accessories not included)

Parameters of power generation controller

Battery type	Lead acid battery		Lithium battery		Lithium iron phosphate battery	
Battery voltage	12V	24V	12.6V	25.2V	14.8V	29.6V
Charging mode	MPPT(current and voltage limiting - constant current - voltage limiting - Pressure and current limiting --- floating charge)		MPPT (current and voltage limiting constant current constant voltage)			
Consumable supplement function	Support					
Consumable detection voltage	<12.6V	<24.8V	<12.2V	<24.4V	<14.2V	<28.8V
Rated charging current	15A					
Float current	50mA-1000mA		—			
Float time	3 hours		—			
Charging stop	Arrival float timing		Rated voltage and simultaneous charging current < 30mA			
Rated discharge current	6.5A	3.6A	8.5A	4A	6.5A	4A
PoE output voltage	42~57V					
PoE output power	Maximum 120W					
Photovoltaic open circuit voltage	32V	45V	32V	45V	32V	45V
Photovoltaic input	1200W Max					
Maximum charging voltage	14.7V	29.6V	12.6V	25.2V	14.8V	29.6V
Floating charge voltage	13.7V	27.4V	—	—	—	—
Discharge cut-off voltage	10.1V	20.2V	9V	18V	10.2V	20.4V
Overtemperature protection	Support automatic shutdown when the main board is over temperature and automatic shutdown when the battery is over temperature(optional)					
Input protection	Overcurrent, overvoltage, delayed start and anti connection protection					
Output function	Overcurrent, overvoltage and short circuit					
Indicator light	System normal operation indicator, battery lamp, input normal indicator, charge discharge indicator and multi-functional composite fault indicator					
Working temperature	-20℃ ~+65℃					

Matters needing attention

1.Please read the operation manual carefully before use. Improper operation may cause damage to machine components.
2.Don't use in places near the fire source.
3.Don't put the product into water or wet the built-in machine components.
4.Don't short circuit the positive and negative poles of the battery interface with metal conductors
5.Don't disassemble or unravel the internal parts of the product. If there is damage, the manufacturer does not implement the insurance provisions.
6.This product is also equipped with DC interface. In case of emergency, it needs to be equipped with power adapter to directly connect 100v-240v AC power supply

Product supporting list

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