

# **SOL10D24-SW4-56B1N-IP66**

**Solar Charge Controller + PoE Switch  
With IP66 Waterproof Box**

## **USER'S MANUAL**



MSTRONIC CO., LTD.

## **Features:**

- Solar Input, from solar panel to charge 24V battery
- Up to four outputs: four 56VDC PoE outputs(total 70W) on RJ45s and one 24VDC output at terminal block
- Active PoE Output support 802.3at handshake
- Light pole mountable
- IP66 waterproof

## **Applications:**

- Remote Power Systems; Surveillance, Sensors
- Wireless Station; AP/Client/Repeaters
- UPS Systems; Lighting, Fences, Gates

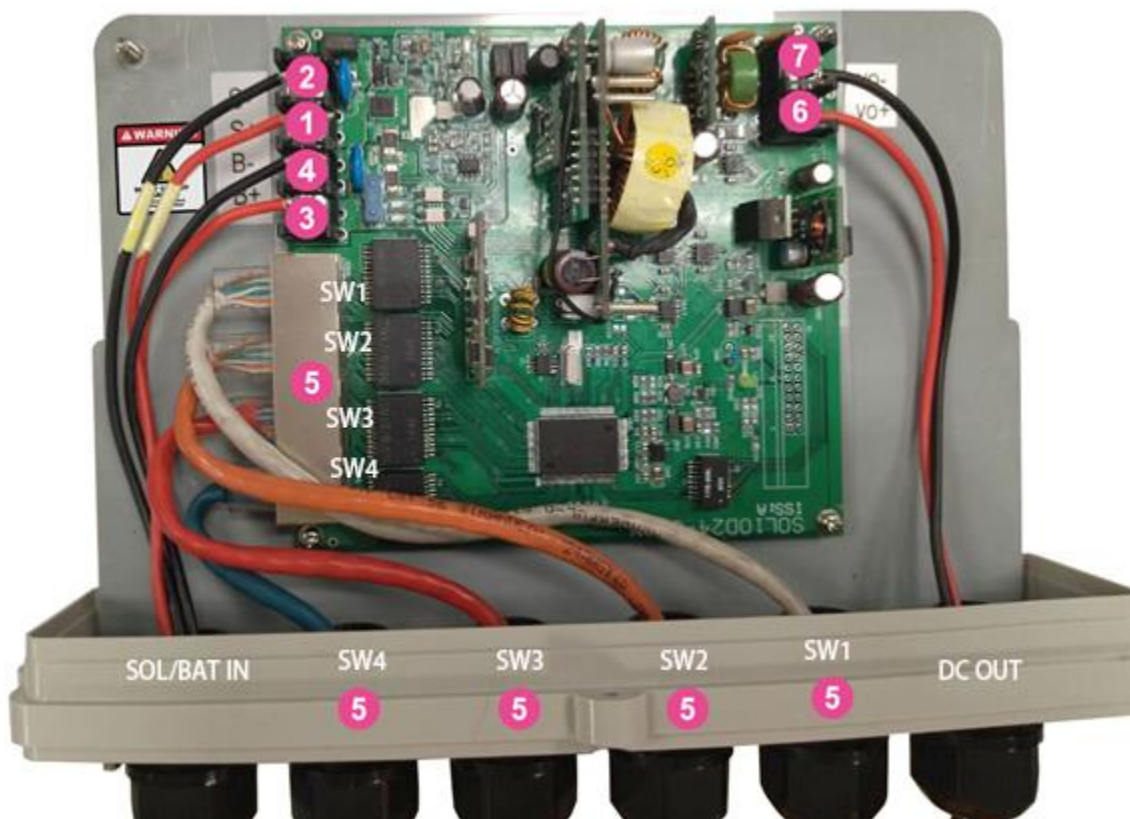
## **Protection:**

- Battery Polarity Reverse Protection
- Battery Over Charge Protection
- Battery Over Discharge Protection
- Solar Panel Polarity Reverse Protection
- Solar Panel Over Charge Protection
- Output Short Circuit Protection
- POE Output Short Circuit Protection



Connection Description:

Item	Name	Descriptions
1	S+	<u>Solar Panel Terminal</u> : used to connect the solar panel. positive electrode
2	S-	<u>Solar Panel Terminal</u> : used to connect the solar panel. negative electrode
3	B+	used to connect the Battery positive.
4	B-	used to connect the Battery negative.
5	POE OUT/ DATA IN	<u>SW1~SW4 Connectors</u> : The four RJ45s are used for PoE output, each port 56V, total 70W. work as Gigabit PoE switch (Endspan). The RJ45s are also used for data uplink, work as Gigabit Ethernet switch.
6	Vo+ :	the DC output terminal is connecting to a device and offering power. positive electrode
7	Vo- :	the DC output terminal is connecting to a device and offering power. negative electrode



## RJ45 Indicators Description:

\*SWITCH LED (the right indicator on RJ45)

LED	STATUS	Description
P1~P4	Green	A network device is detected (1000Mbps), but no communication activity is detected.
	Green Blinking	This port is transmitting to, or receiving package from another device at 1000Mbps.
	Yellow	A network device is detected (10Mbps or 100Mbps), but no communication activity is detected.
	Yellow Blinking	This port is transmitting to, or receiving package from another device at 10Mbps or 100Mbps.
	Off	No device is detected.

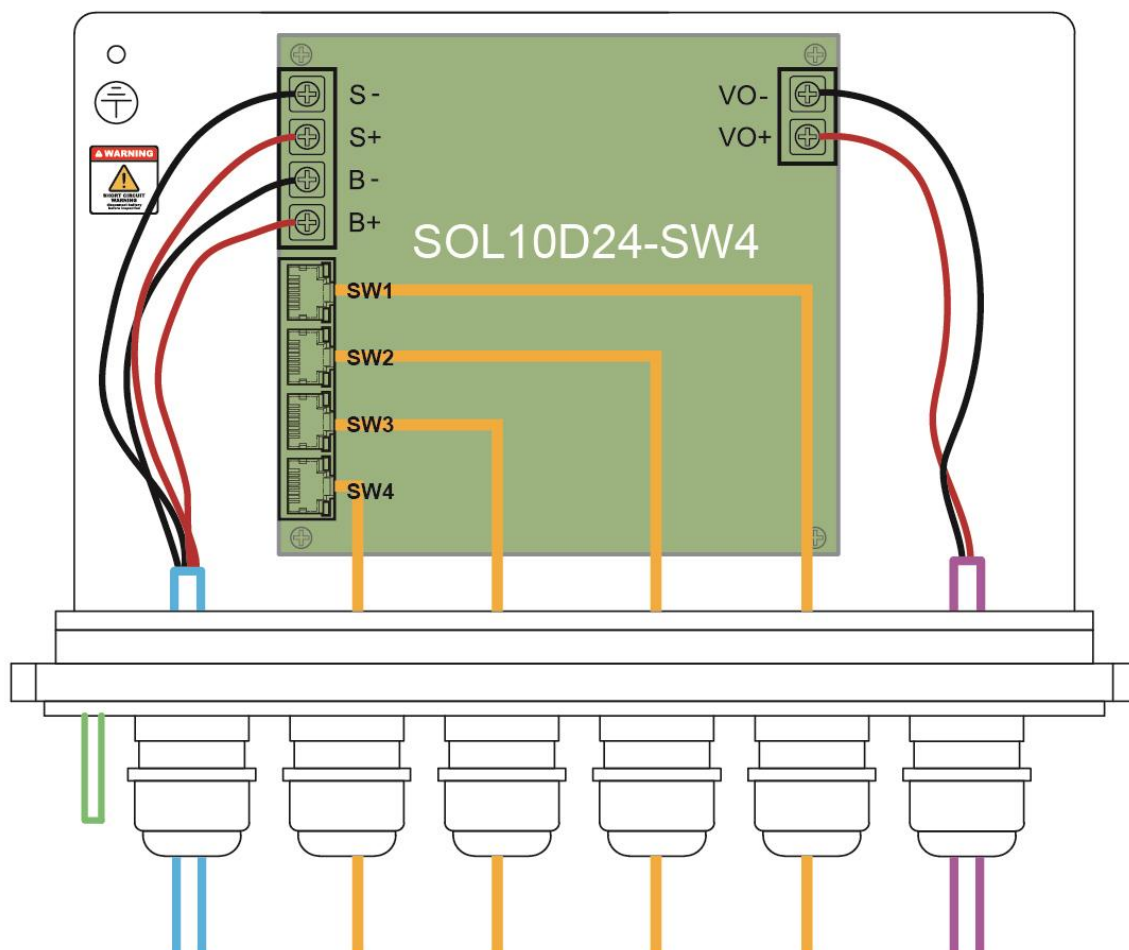
\*PoE LED (the left indicator on RJ45)

P1~P4 POE OUTPUT	Yellow	A valid Powered Device (PD) is detected and delivering power on this port.
	Off	No PD is detected on this port.

## Operation Guide

1. Connect the battery to the B+ & B- terminal. Make sure the polarities are correctly connected. Sequentially connect the solar panel to S+ & S- terminal.
2. Make sure the battery is properly connected to the unit. If no battery is connected, then no voltage at B+ & B- terminal
3. The solar panel cannot be used stand alone without battery connected.
4. When a solar panel are connected to the charger, if the voltage of solar panel is higher than 24V, then solar panel is of the charger.
5. DC output is connected to two separate terminals on the rear, make sure the total draw is not over the limit, continue 3A, off @3.2 ~ 3.5A.
6. When power off /protection, the Solar input(-), and battery(-) are not on the same grounding. Please do not connect Solar input(-) and battery(-) on the same terminal.

## 802.3af Connection



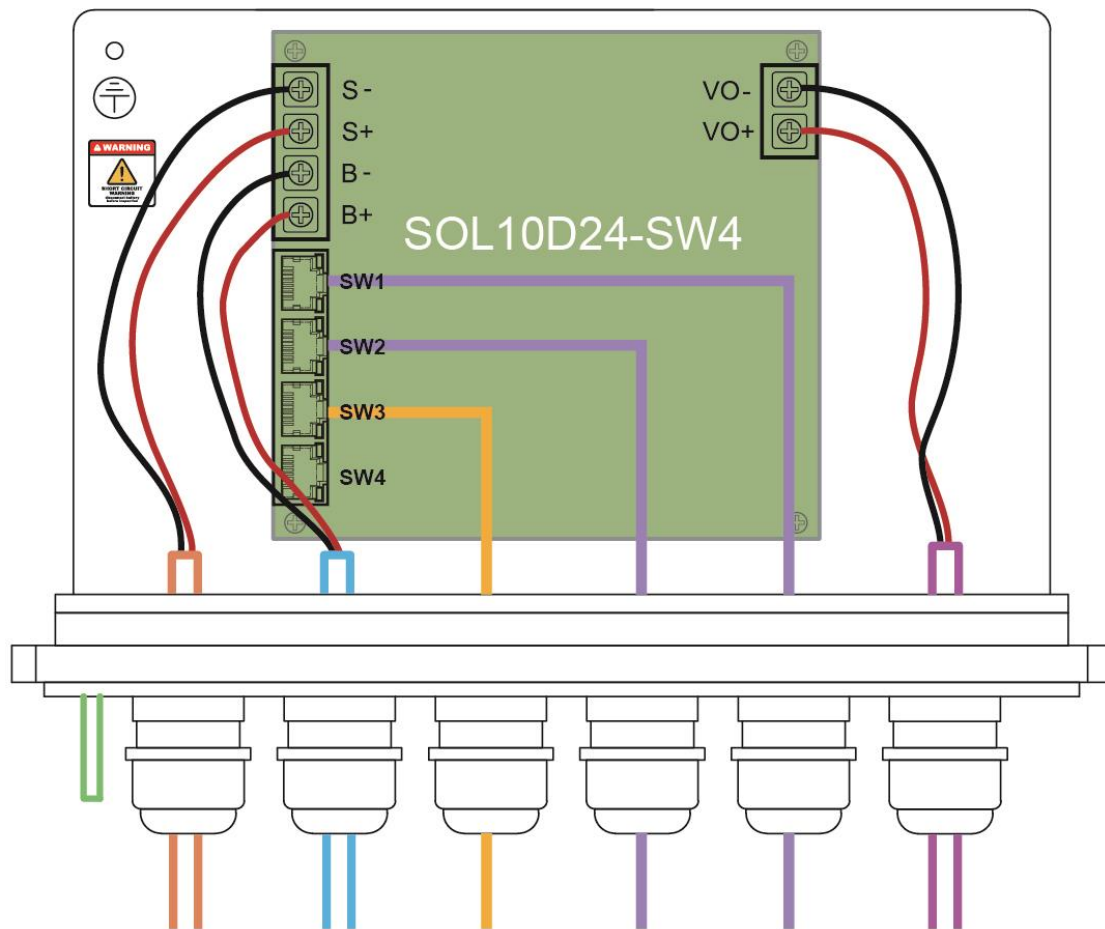
— DATA IN/POE OUT

== SOL/BAT IN

== DC OUT

— Ground

## 802.3at Connection



— DATA IN — POE OUT

== SOL IN == BAT IN

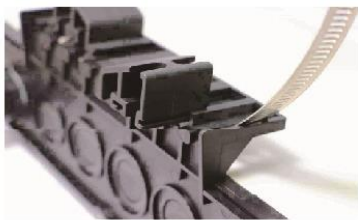
== DC OUT — Ground

## prepare for pole mounting

1



put the hose clamp  
though the designate holes

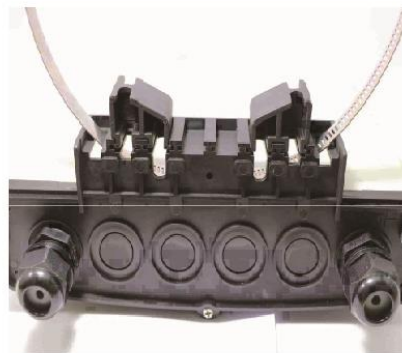


2

add two mounting helpers  
to designated position  
make sure the direction

3

final





## Specification

### 1.0 INPUT

1.1 Solar Panel

1.2 Input Voltage: 33V ~ 40V

### 2.0 OUTPUT

Model	SOL10D24-SW4-56B1N-IP66
DC Output (rear terminal)	24V/3A <sup>*1</sup> (as Bat. Volt.) <sup>*2</sup>
PoE Output 1 (front RJ45)	56V/0.625A (regulated) <sup>*3</sup>

\*1 continue 3A,, off @3.2~3.5A

\*2 the same voltage as battery

\*3 802.3at x2,or 802.3af x4

### 3.0 Battery Charge Types:

Solar Panel: charge current 10A maximum, depends on the solar panel.

### 4.0 Protection:

#### 4.1 Battery Polarity Reverse Protection:

If only battery connected to terminal, when the battery polarities were reversed, the model will stop output.

#### 4.2 Battery Over Discharge Protection:

Cuts off the load when the battery voltage is lower than 20V + 0.3V, and auto recover when the battery voltage returns to 24 V + 0.3V

#### 4.3 Input Polarity Reverse Protection:

When solar panel or DC input polarities be reversed, the charger stop output, it won't damage the charger or end device

#### 4.4 Solar Panel Charge Limit:

When charge current over 15A, the fuse will be burnt.

#### 4.5 Output Short Circuit Protection:

When the rear output terminal or PoE output be short circuit, protection be active, the product stop output and auto-recover when the connector back to normal connection.

#### 4.6 Battery Output Current Limit:

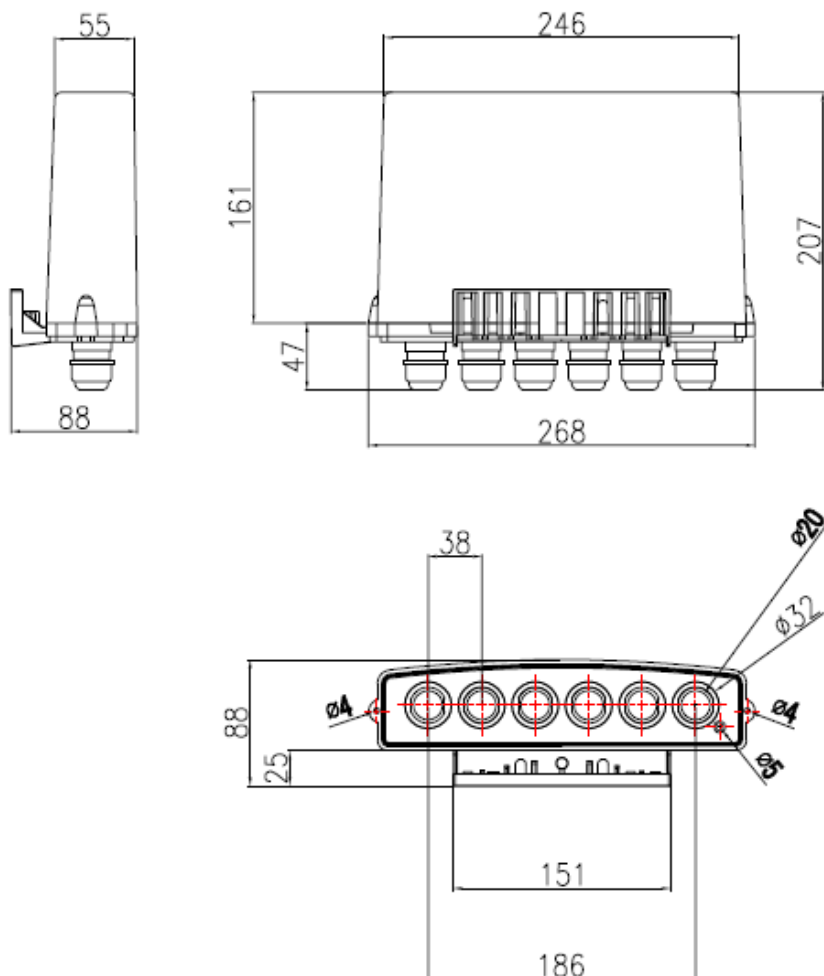
The fuse will be burnt when battery output current over 15A

#### 4.7 Load Output Voltage Point:

The output voltage on the rear terminal normally is the same as battery.

### 5. GENERAL DESCRIPTION

- |                            |                                 |
|----------------------------|---------------------------------|
| 6.1 Operation Temperature: | -40 - +60 Degree                |
| 6.2 Storage Temperature:   | -40 - +85 Degree                |
| 6.3 Operation Humidity:    | 5% - 90% with conformal coating |
| 6.4 Cooling:               | Free air cooling                |
| 6.5 SIZE                   | 88*268*207mm (W*D*H)            |



6. PoE ports pin out: SOL10D24-SW4M-56B1N

RJ-45 Output (Data & Power)		
Pin	Symbol	Description
1	BI_DA+	Data Pair A+
2	BI_DA-	Data Pair A-
3	BI_DB+	Data Pair B+
4	+Vdc + BI_DC+	power(+)+Data Pair C+
5	+Vdc + BI_DC-	power(+)+Data Pair C-
6	BI_DB-	Data Pair B-
7	-Vdc + BI_DD+	power(-)+Data Pair D+
8	-Vdc + BI_DD-	power(-)+Data Pair D-

option model: 12/36 Output  
SOL10D24-SW4M-56A1R, 12= + , 36= -  
SOL10D24-SW4M-56A1N, 12= - , 36= +

