

Product Specification Report

Version	Note	Updated Time	Updated By
1.0	First Draft (Upgrade progress bar added)	2023.04.23	Yue nan.lu

I Introduction

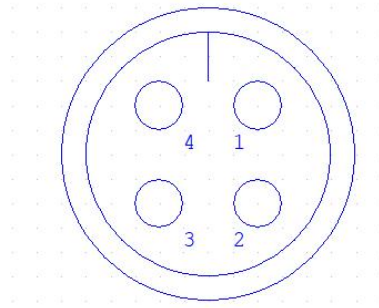
By collecting operating data and power generation of inverter, stick logger (Ethernet) can run a long-term and efficient monitoring of PV system.

Logger can connect to single inverter via multi-type interfaces, which enables to collect all the data of PV system from the inverter. Meanwhile, remote monitoring cloud platform (SOLARMAN Portal) provides powerful data support for the logger. Logger sends the data to the monitoring platform via Ethernet. The real-time status and historical data can be displayed with graphs, enabling intuitive and clear understanding of PV system. Furthermore, customized alerts can notify users of any malfunction or defect immediately via SMS and e-mails, which realizes the management of PV system at anytime and anywhere, also simplifies the maintenance significantly.

II Product Parameter

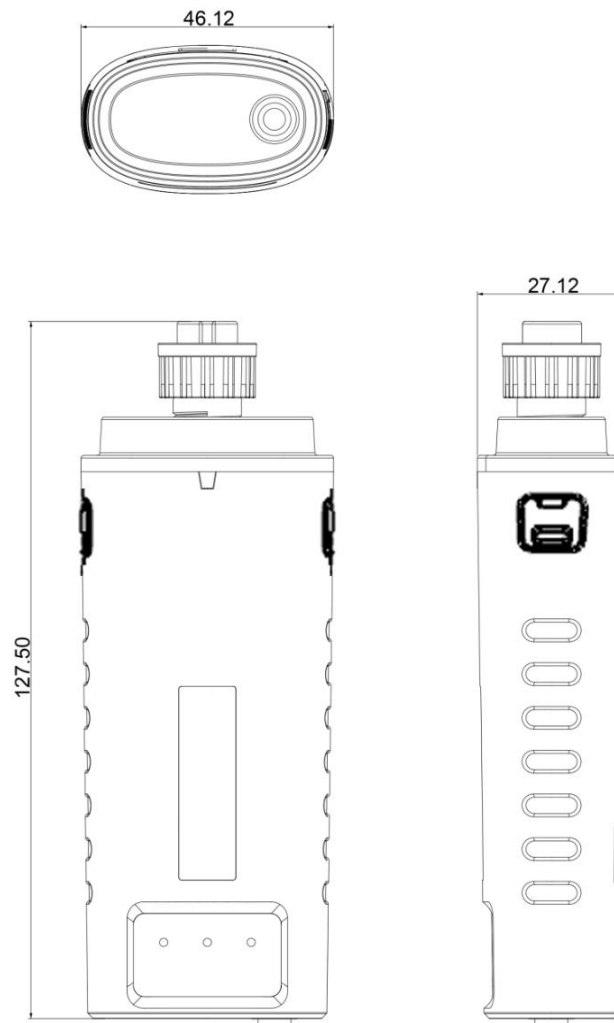
Catalog	Parameter	Value
Wireless Parameter	Working Frequency	2.412GHz~2.472GHz
	Transmit Power	802.11b: +17 dBm $\pm$ 1.5dBm (@11Mbps)
		802.11g: +15 dBm $\pm$ 1.5dBm (@54Mbps)
		802.11n: +14 dBm $\pm$ 1.5dBm (@HT20, MCS7)
Bluetooth	Antenna Option	Embedded PCB antenna
	Wireless standard	BLE5.0
	Frequency range	2.402GHz~2.480GHz
	Transmit power	MAX15dBm
Hardware parameter	Data Interface	RS485
	Working voltage	DC5V ~DC12V
	Working power	1.5W
	Indicator Light	One connected to Inverter
		One connected to router
		One connected to heartbeat
	Data Storage	Default:8 MBYTE FLASH
	Working Temperature	-30℃~+70℃
	Working Humidity	10%-90%, no, condensation
	Storage Temperature	-45℃~+90℃
	Storage Humidity	<40%
	External Interface	Small Aviation Head
Software parameter	No. of connections	One
	Serial Communication Rate	Default: 9600bps(1200-115200bps optional)
	Data Transmission Interval	Default: 5 mins(1-15 mins optional)
	Configuration	AT+Instruction set
		Local web configuration
		Remote server
		Bluetooth
	Firmware Upgrade	Local web upgrade
		emote update
	Others	Real-time Control, Data Resuming

III Interface Identification



Pin	Description	Network Name	Type	Detail
1	Power	VCC	POWER	External Power
2	Communication	A	I/O	RS485_A Line
3	Communication	B	I/O	RS485_B Line
4	Power Ground	GND	GND	GND

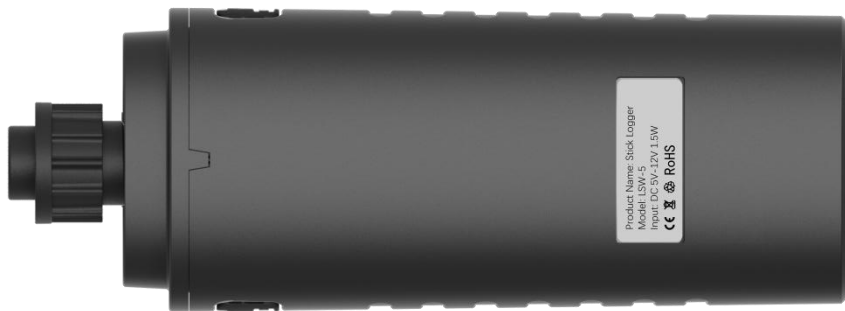
IV Product Size (Unit: mm/Accuracy: $\pm 2\%$)



V Product Picture



Front View



Back View



Side View

VI LED Indicator Lights Instructions

After logger connected to the device, check the status of NET light, COM light, READY light and whether there are data on the platform.

(There is only one light for each NET, COM and READY light.) The normal operation status after the stick logger powered on:

- 1、 Successful connection to the server: NET light keeps on.
- 2、 Logger runs normally: READY light flashes.
- 3、 Successful connection to the inverter: COM light keeps on.

Light	Implication	Implication
	Communicate with base station	1.Light off: Connection to the router failed. 2.On 1s/Off 1s (Slow flash) : Connection to the router succeeded. 3.Light on: Connection to the server succeeded. 4.On 100ms/Off 100ms (Fast flash) :Fast networking.
	Communicate with inverter	1 .Light on: Logger connected to the inverter. 2.Light off: Connection to the inverter failed. 3.On 1s/Off 1s (Slow flash) : Logger communicating with inverter.
	Logger Running Status	1 .Light off: Logger runs abnormally. 2.On 1 s/Off 1 s (Slow flash) : Logger runs normally. 3.On 100ms/Off 100ms (Fast flash) :Restore factory settings.

VII Abnormal Status Processing

If the data on platform is abnormal when the stick logger is running, please check the table below and complete a simple troubleshooting according to the status of indicator lights. If it still can not be resolved or indicator lights status do not show in the table below, please contact our Customer Service.

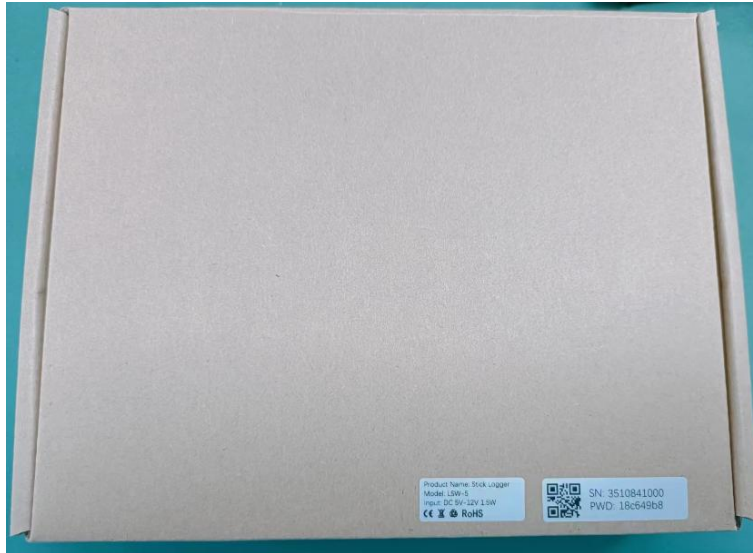
(Note: Please using the following table query after power-on for 2mins.)

NET	COM	READYT	Fault Description	Fault Cause	Solution
					

VIII Packing 8. 1	Any status	OFF	Slow flash	Communicate with inverter abnormal	1.Connection between stick logger and inverter loosen. 2.Inverter does not match with stick logger's communication rate.	1. Check the connection between stick logger and inverter. Remove the stick logger and install again 2. Check inverter's communication rate to see if it matches with stick logger's.
	OFF	ON	Slow flash	Communicate with router abnormal	1.Stick logger does not have a network. 2.Antenna abnormal 3.Router WiFi signal strength weak.	1. Check if the wireless network configured. 2. Check the antenna, if there is any damage or loose. 3. Enhance Router WiFi signal strength.
	Slow flash	ON	Slow flash	Communicate with router normal, communicate with remote server abnormal	1. Router networking abnormal. 2. Server direction has been verified. 3. Network restrained.	1.Check if the router has a network. 2.Check router setup. 3.Contact Customer Service.
	OFF	OFF	OFF	Power supply abnormal	1.Connection between stick logger and inverter loosen or abnormal. 2.Inverter power insufficient. 3.Stick Logger abnormal.	1.Check the connection, remove the stick logger and install again. 2.Check inverter output power. 3.Contact Customer Service.

Packing Box Label Information

Box size:178*135*50mm



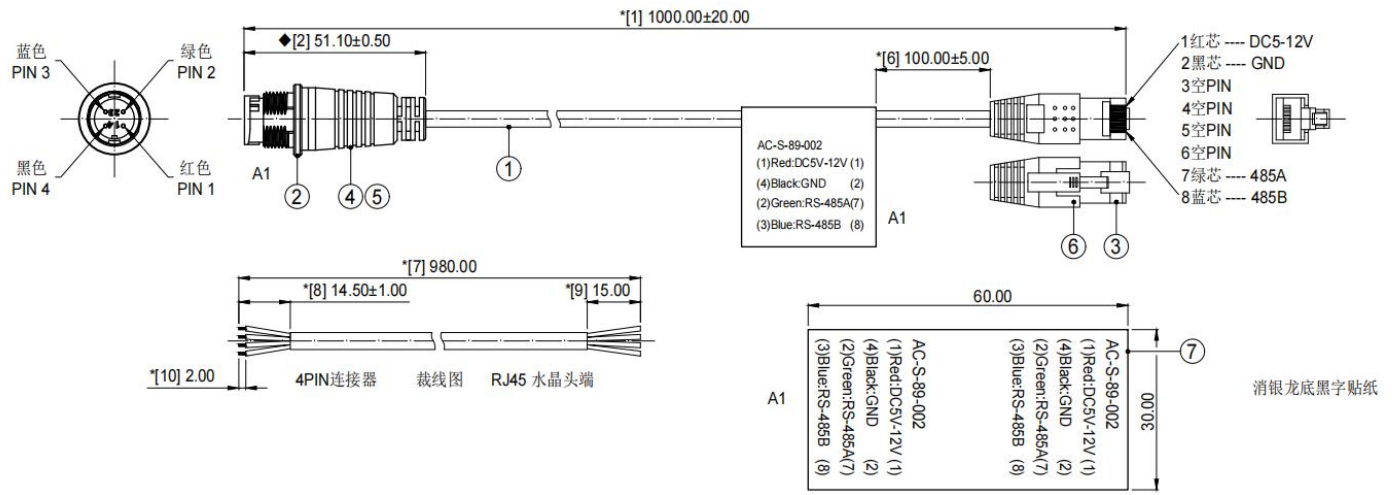
No.	Label Type	Label Content
1	Product Label—EN	Product Name: Stick Logger Model: LSW-5 Input: DC 5V-12V 1.5W CE、RoHS
2	SN Label—EN	Example: QR code SN: 3510841000 PWD: 18c649b8

XI、Firmware configuration

Direct Data Transmission	
Domain Name	access1.solarmanpv.com (SOLARMAN 3.0)
IP	47.102.152.71 (SOLARMAN 3.0)
Port No.	10000 (SOLARMAN 3.0)
Direct Data Transmission	
None	

X.Accessory

10.1 Adapter cable



10.2 Fixed trestle (Dimensional tolerance $\pm 2\%$)

