

# Product Specification Report

Supplier Name:		IGEN Tech Co., Ltd.	
Customer Name:			
Customer Part No.:			
Product Name:			
Supplier Name:		Stick Logger (4G)	
Product Type:		LS4G-4-C	
Flow Package:			
Flow Part No.:			
Inverter Type:			
Inverter Protocol			
Effective Date:			
Customer Approval		Supplier Approval	
Confirmed By	Approved By		

Version	Update Time	Note	Updated By
1.0		First Draft	

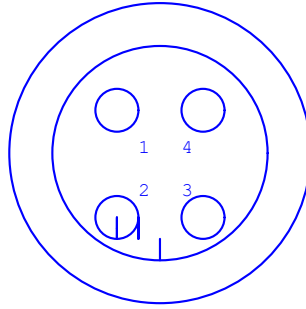
## Introduction

By collecting operating data and power generation of inverter, stick logger (4G) can run a long-term and efficient monitoring of PV system. Logger can connect to single inverter via serial port, 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. The real-time status and historical data can be displayed with graphs, enabling intuitive and clear understanding of PV system.

## Product Parameter

Catalog	Parameter	Value	
Wireless Parameter	Wireless Frequency	LTE FDD: B1/B3/B7/B8/B20/B28A WCDMA: B1/B8 GSM/EDGE: B3/B8	
	Working Frequency	704MHZ-960MHZ 1710MHZ-2690MHZ	
	Antenna Option	External Stick Antenna	
Hardware Parameter	Data Interface	RS485	
	Working Voltage	DC5V-12V	
	Max. Working Voltage	DC 15V	
	Working Power	3.5W	
	Indicator Light		One connected to inverter
			One connected to server
			One connected to network
	Data Storage	Default: 8 MBYTE FLASH	
	SIM Card	Micro SIM Card Slot	
	Working Temperature	-30℃~+70℃	
	Working Humidity	<90% (No Condensation)	
	Storage Temperature	-45℃~+90℃	
Storage Humidity	<40%		
External Interface	Aeronautical head		
Software Parameter	Number of Connections	One	
	Serial Communication Rate	9600bps (1200-115200bps Configurable)	
	Data Transmission Interval	5min (1-15 Configurable)	
	Configuration		AT+Instruction Set
			Remote Server
	Firmware Upgrade	Remote Update	
Others	Real-time Control, Data Resuming		
Application Range	Target Area	Europe	

## Module Interface Identification



Pin	Description	Network Name	Type	Detail
1	Power	VCC	POWER	External power
2	Power ground	GND	GND	GND
3	Data communication	A	I/O	RS485_A Line
4	Data communication	B	I/O	RS485_B Line

## Product Pictures



Fig. 4.1 Front

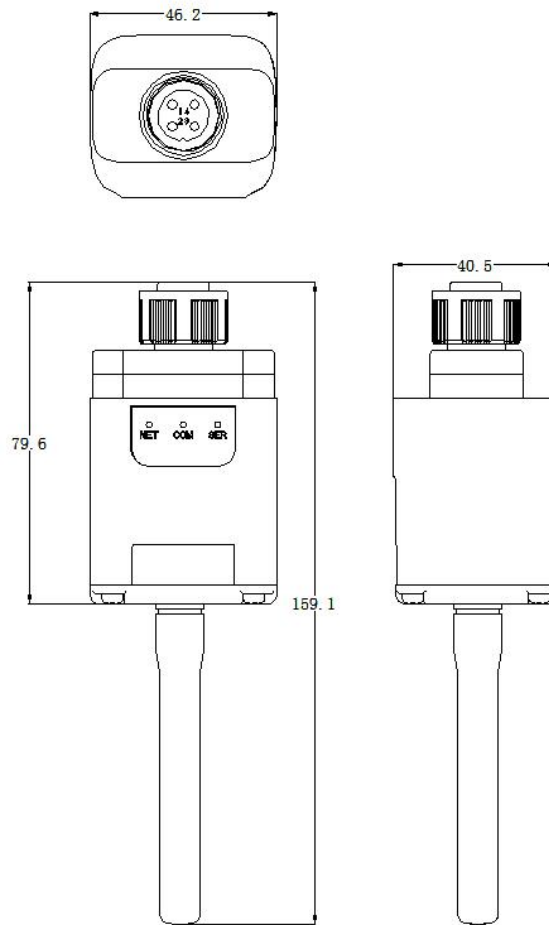


Fig. 4.2 Back



Fig. 4.3 Side

**Logger Size (Unit: mm/Accuracy:±2%)**



## Logger Antenna (Unit: mm)

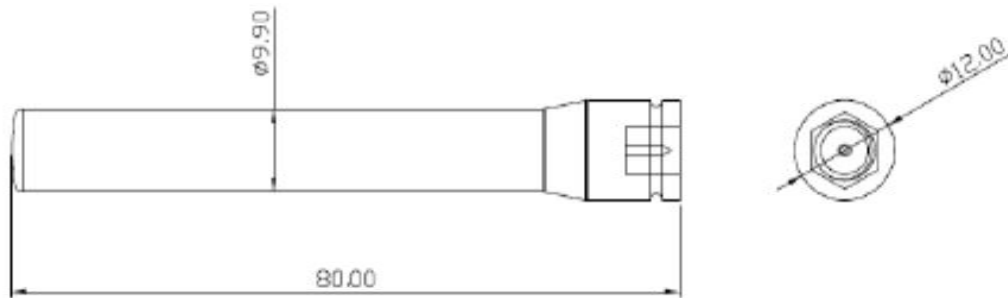


Fig. 6.1 Size of Antenna


Antenna electrical performance index:



Classification	Performance Parameter
VSWR	≤3.0
Input Impedance-Ω	50Ω
Gain-dBi	8dBi at max.
Working Temperature-°C	-30°C~+70°C
Antenna Color	Black
Input Connector	SMA

## LED Indicator Lights Instruction

After the logger is connected to the inverter, you can check logger working status according to the status of SER, COM and NET light.

(There is only one light for each SER, COM and NET light.)

Light	Implication	Instruction
	Communicate with base station	1.On 200ms/Off 1800ms: 4G module has connected to base station. 2.On 1800ms/Off 200ms: 4G module is idle. 3.On 125ms/Off 125ms: 4G module is transmitting data. 4.Off: 4G module is not running.

	Communicate with inverter	1.On: Logger has connected to inverter. 2.On 400ms/Off 1600ms: Logger is in initialization. 3.On 400ms/Off 400ms: Logger is transmitting data with inverter. 4.Off: Communication failed.
	Communicate with server	1.On: Logger has connected to server. 2.On 400ms/Off 1600ms: Logger is in initialization. 3.On 400ms/Off 400ms: Communication failed.

## Abnormal Status Processing

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




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

Normal operation status after the stick logger is powered on:

1. Logger in initialization: COM&SER lights flash slowly after the stick logger is powered on;
2. Module in registration: NET light flashes (On 200ms/Off 1800ms) around 50s;
3. Successful communication with inverter: COM light flashes fast three times around 53s;
4. Successful registration on network: NET light flashes (On 1800ms/Off 200ms) around 83s, ready to send data;
5. Normal operation: COM&SER lights keep on and NET light flashes (On 125ms/Off 125ms) around 150s.

**Notice 1:** Blink time of indicator lights will change according to network status on site.

**Notice 2:** When logger is powered on, COM and SER lights flashes slowly (On 400ms/Off 1600ms), then NET light starts to fast flash (On 64ms/Off 800ms), NET light will flashes slowly (On 64ms/Off 2000ms) and COM, SER lights will keep ON around 2min.

NET	COM	SER	Fault Description	Fault Cause	Solution
					
Any status	OFF	Any status	Communication with inverter abnormal	<ol style="list-style-type: none"> <li>1.Connection between stick logger and inverter loosen.</li> <li>2.Inverter does not match with stick logger's communication rate.</li> </ol>	<ol style="list-style-type: none"> <li>1.Check the connection between stick logger and inverter. Remove the stick logger and install again.</li> <li>2.Check inverter's communication rate to see if it matches with stick logger's.</li> </ol>
Flash	Flash/ON	Flash	Communication with base station abnormal	<ol style="list-style-type: none"> <li>1.SIM card is in arrears</li> <li>2.Antenna abnormal</li> <li>3.4G signal strength weak.</li> </ol>	<ol style="list-style-type: none"> <li>1.Check if SIM card balance is sufficient.</li> <li>2.Check the antenna, if there is any damage or loose.</li> <li>3.Base station signal problem. It is suggested to change sucker antenna.</li> </ol>
OFF	OFF	OFF	Power supply abnormal	<ol style="list-style-type: none"> <li>1.Connection between stick logger and inverter loosen or abnormal.</li> <li>2.Inverter power insufficient.</li> <li>3.Stick Logger abnormal.</li> </ol>	<ol style="list-style-type: none"> <li>1.Check the connection, remove the stick logger and install again.</li> <li>2.Check inverter output power.</li> <li>3.Contact Customer Service.</li> </ol>

## Packing

Label Information (Size: 167\*85\*47/Unit: mm)



No.	Label Type	Label Content
1	Product Label—EN	Product Name: Stick Logger(4G) Model: LS4G-4 Input: DC 5V-12V 3.5W Certification, Environmental protection identification
2	SN Label—EN	SN QR code, Digital sequence

## Firmware Configuration

Direct Transmission Configuration	
Domain Name	access1.solarmanpv.com (solarman 3.0)
IP:	47.102.152.71 (solarman 3.0)
Port No.	10000 (solarman 3.0)
APN	General APN

## Contact

IGEN Tech Co.,Ltd.

Address: Block F4, China IoT International Innovation Park, No. 200, Linghu Avenue, Wuxi, Jiangsu, P. R. China

Tel:+86-400 181 0512

E-mail:customerservice@solarmanpv.com

Website:www.solarman.cn



## Product List

No.	Name	Quantity	Note
1	Stick Logger (4G)	1	--
2	User Guide-LS4G-4	1	