

Product Specification Report

Supplier Name:	IGEN Tech Co., Ltd.		
Supplier Part No.:			
Customer Name:			
Customer Part No.:			
Product Name:	Stick Logger (GPRS)		
Product Type:	LSG-3A0201-C		
Traffic Package:			
Firmware Version:			
Inverter Type:			
Inverter Protocol:			
Effective Date:			
Customer Approval:	Supplier Approval		
Confirmed By	Approved By		

Version	Update Time	Note	Updated By
1.0			

Introduction

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

Logger can connect to single inverter via multi 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 GPRS. 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.

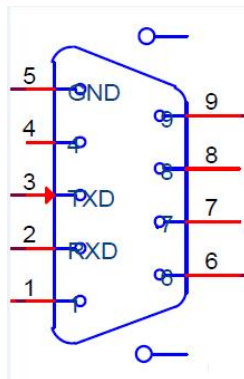
The GPRS module is integrated inside the logger, which is applicable to the power plant projects in remote areas where no cable laying.

Product Parameter

Catalog	Parameter	Value
Wireless Parameters	Working Frequency	GSM850/EGSM900/DCS1800/PCS1900MHz
	Transmit Power	Class 4(2W) GSM850、EGSM900
		Class 1(1W) DCS1800、PCS1900
Antenna Options	External GPRS Stick Antenna	
Hardware Parameters	Data Interface	RS232
	Working Voltage	DC 5V-12V
	Working Power	3W
	Indicator light	One connected to inverter
		One connected to server
		One GPRS network indicator light
	Data Storage	Default: 2MBYTE 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	DB9	
Software Parameters	No. of Connections	One
	Serial Communication Rate	Default: 9600bps (1200-115200bps Configurable)
	Data Transmission Interval	Default: 5 mins (1-15 mins Configurable)

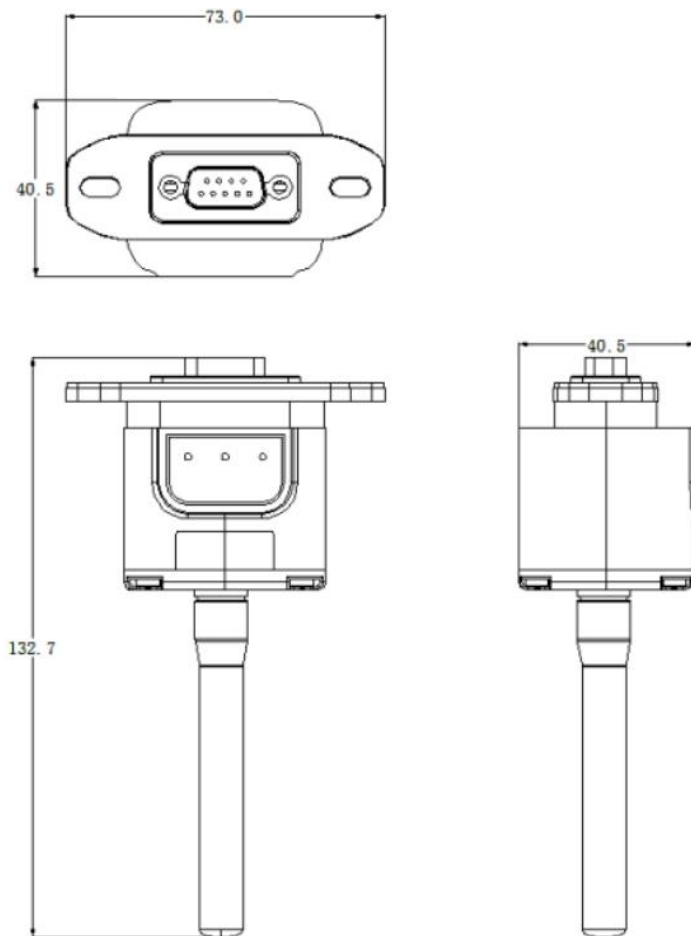
	Configuration	AT+Instruction Set
		Remote Server
	Firmware Upgrade	Remote Upgrade
	Others	Real-time Control, Data Resuming

Interface Identification



Pin	Description	Network Name	Type	Detail
2	Receive Data	RXD	I	RS232 Receive(RS485_B Line、TTL_RX)
3	Send Data	TXD	O	RS232 Send(RS485_A Line、TTL_TX)
1、4、6、7、8	Suspended	NC		Not Used
5	Power GND	GND	Power	External Power: GND
9	Power VCC	DC_VIN	Power	External Power: DC 5V~12V (At Least 3W Power Supply)

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



Product Picture



4.1 Front View

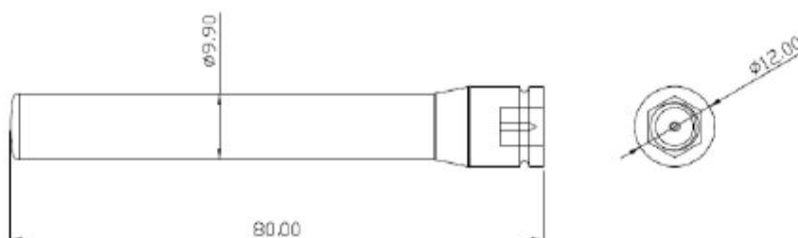


4.2 Back View



4.3 Side View

Logger Antenna



6.1 Size of Antenna

Antenna electrical performance index:

Classification	Performance Parameter
Frequency rang-MHz	900/1800MHZ
VSWR	≤3.0
Input Impedance-Ω	50Ω
Gain-dBi	3-8dBi
Working Temperature-°C	-30°C~+70°C
Antenna Color	Black
Input connector	SMA




LED Indicator lights Instructions

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

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

The normal operation status after the stick logger powered on:




1. Initializing: COM&SER light flash slowly after the stick logger powered on;
2. Network registration: NET light flashes fast around 35s;
Successful registration: NET light flashes slowly around 45s;
3. Successful communication with inverter: COM light flashes fast three times and keeps on around 50s
4. Normal operation: COM&SER light keep on and NET light flashes slowly around 2 mins.

Light	Implication	Instruction
	Communication status with base station	<ol style="list-style-type: none"> 1. On 64ms/Off 800ms: GPRS module not registered. 2. On 64ms/Off 2000ms: GPRS module registered. 3. On 64ms/Off 600ms: GPRS data transmission. 4. Off: GPRS module not running.
	Communication status with inverter	<ol style="list-style-type: none"> 1. On: Logger connected to the inverter. 2. On 400ms/Off 1600ms: Initializing. 3. On 400ms/Off 400ms: Data transmission between logger inverter. 4. Off: Communication with inverter failed.
	Communication status with server	<ol style="list-style-type: none"> 1. On: Logger connected to the server. 2. On 400ms/Off 1600ms: Initializing. 3. On 400ms/Off 400ms: Connection with server 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 Support.

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

NET	COM	SER	Fault Description	Fault Cause	Solution
					
Any status	OFF	Any status	Communication 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.
Flash	Flash/ON	Flash	Communication with base station abnormal	1.SIM card is in arrears 2.Antenna abnormal 3.GPRS signal strength weak.	1.Check if SIM card balance is sufficient. 2.Check the antenna, if there is any damage or loose. 3.Base station signal problem. It is suggested to change sucker antenna.
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

Size:167*85*47mm



No.	Label Type	Label Content
1	Product Label—EN	Product Name: Stick Logger Model: LSG-3 Input: DC 5V-12V 3W Certification and etc.,
2	SN Label—EN	SN Code, Digit Sequence

Firmware Configuration

1	Domain Name	data1.solarmanpv.com (SOLARMAN 2.0)
2	IP	47.88.8.200 (SOLARMAN 2.0)
3	Port No.	10000 (SOLARMAN 2.0)
4	APN:	internet
Data Forwarding		
47.102.152.71,access1.solarmanpv.com,10000 (SOLARMAN 3.0)		

Contact

IGEN Tech Co., Ltd.

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

Tel: +86-400-181-0512

Email: info@solarmanpv.com

Website: www.solarman.cn

Product List

No.	Name	Quantity	Note
1	Stick Logger (GPRS)	1	--
2	304 Screw	3	M4*12
3	LSG-3(No Bluetooth) Quick Guide-EN	1	41-0022-001