

TRACKSO INSTALLATION GUIDE FOR WAAREE INVERTERS

Brand: Waaree
Type: Solar On Grid String Inverter
Models: ZDNY-TL 10000 , ZDNY-TL 12000, ZDNY-TL 15000, ZDNY-TL 17000, ZDNY-TL 20000

CONNECTION DIAGRAM

NOTE: Valid for Waaree Inverters with capacity of between 10kW & 20kW. Please check page no. 4 for guide of inverter size above 20kw

The below diagram shows the front view of the communication interface

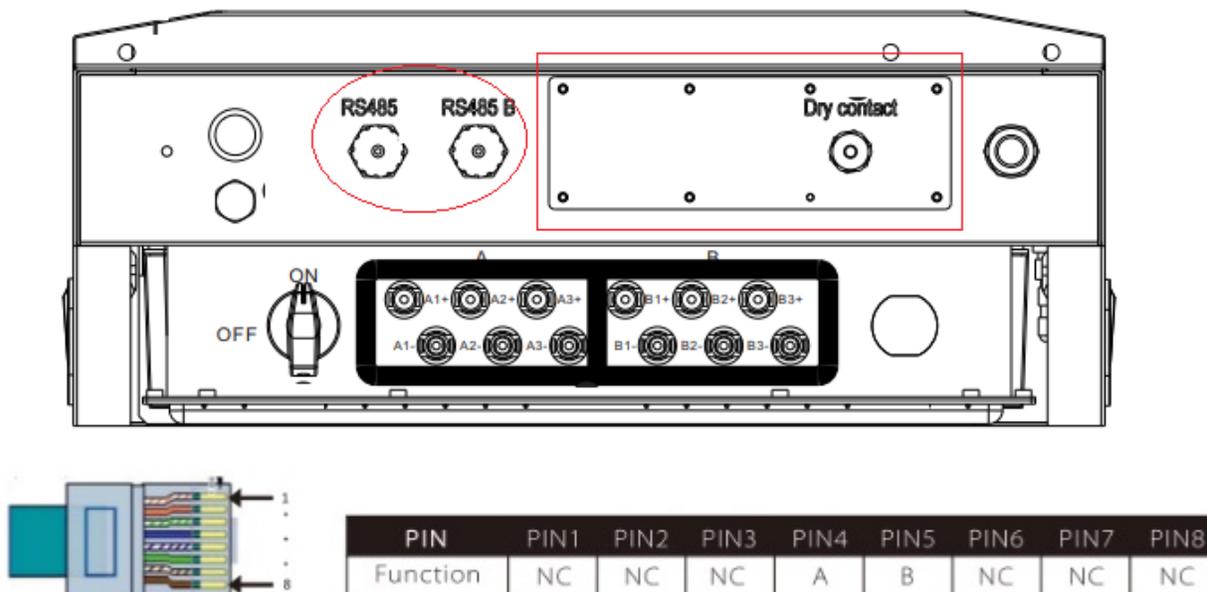


Figure S1 – Waaree String Inverter Connections

Connection Steps

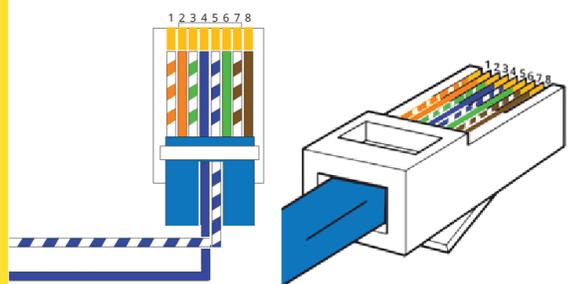
1. Please insert the Lan Cable in RJ45 port of the inverter and check the communication interface as shown in *Figure S1*.
2. Please turn off all DIP Switch (Upside).
3. Cut the LAN Cable on other side
4. Connect the wire from PIN 4 of LAN Port to Data+ & from PIN 5 to Data-

Port	Waaree Pin No. & Assignment	TrackSo Pin No. & Assignment
A	4 RS485A	3 D+
	5 RS485B	4 D-
B	4 RS485A	Used for Daisy Chain
	5 RS485B	

Rx Tx GSM PWR

An IoT Platform for Energy Management
 Access installation guide at: www.freespirits.in/trackso
 For any enquiries, reach us at we@freespirits.in

Inputs	AI-	8
	AI+	7
	DI-2	6
	DI-1	5
RS485	D -	4
	D +	3
	GND	2
PWR	+12V	1



1. White Orange	5. White Blue
2. Orange	6. Green
3. White Green	7. White Brown
4. Blue	8. Brown

DEFAULT CONFIGURATION IN TRACKSO IOT GATEWAY

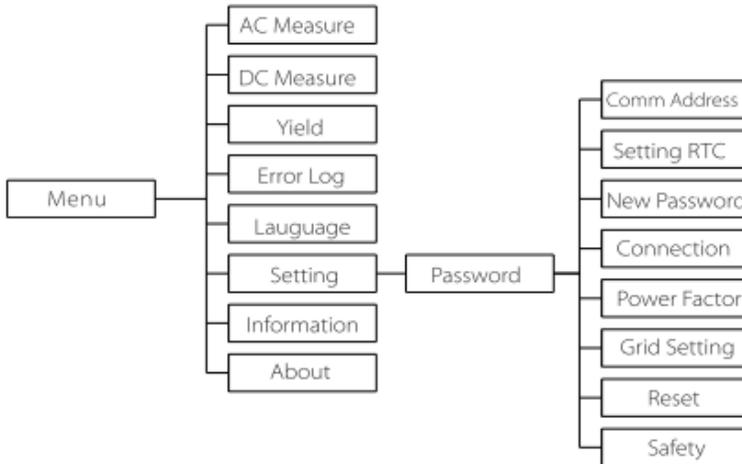
Inverter ID: **1, 2, 3, 4** Continuous numbering starting with 1, (**Range: 1 to 247**)

Baud Rate: **9600 (Default)**

Data Bits: 8 , Stop Bit: 1 , Parity: None

CONFIGURATION AT THE INVERTER END

Menu structure



SETTING THE INVERTER ID

The inverter ID is used to identify the inverter in a RS485 connection

- Set a different inverter ID for each inverter in the PV plant. Otherwise, the inverters cannot be correctly identified.
- On the last inverter in the RS485 connection, switch on the RS485 termination resistor.



← Set correct Inverter Ids

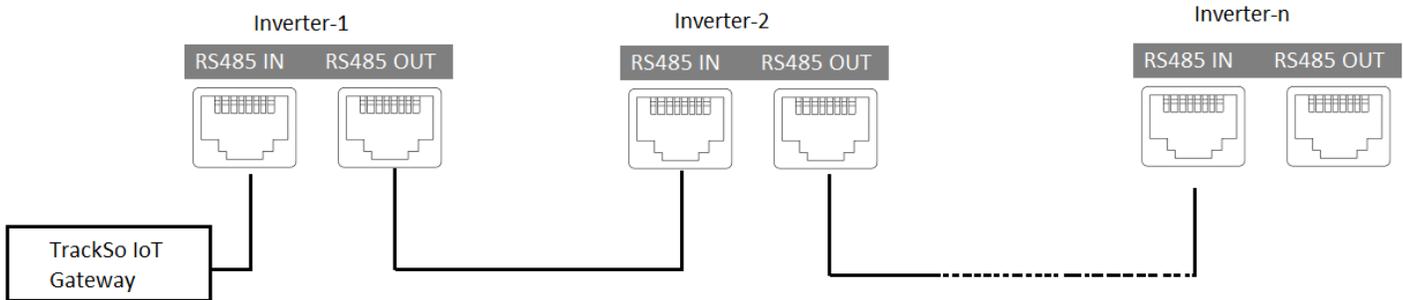
SET DATE & TIME OF INVERTER

For a precise calculation of the statistics in the inverter itself and in a monitoring system, date and time have to be correct.



← Set the Correct Date & Time

Multiple Inverters



NOTE: The above details are mentioned in the [Installation & Operation Manual](#) for waaree Inverter on **Page 104**.

TRACKSO INSTALLATION GUIDE FOR WAAREE INVERTER

Brand: WAAREE
Type: Solar On Grid String Inverter
Models: GW25K-DT

CONNECTION DIAGRAM

NOTE: Valid for Waaree Inverters with capacity of 25kw and above.

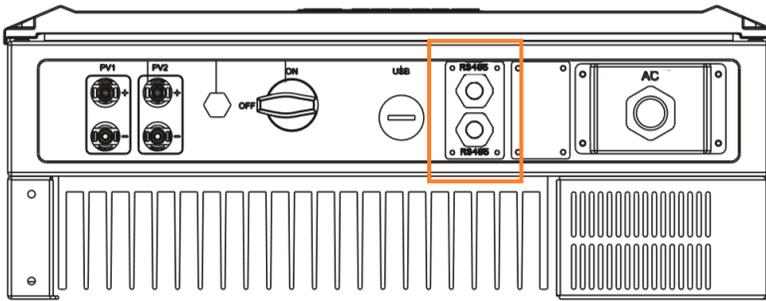
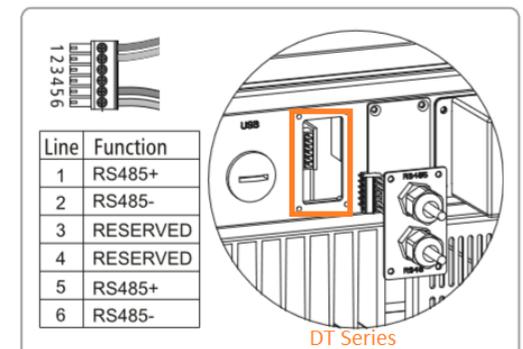
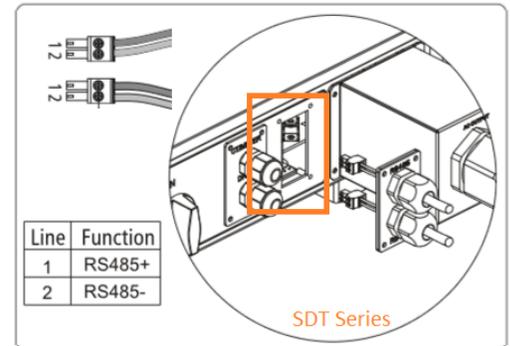


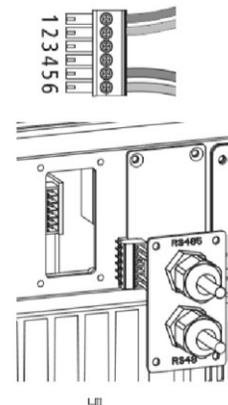
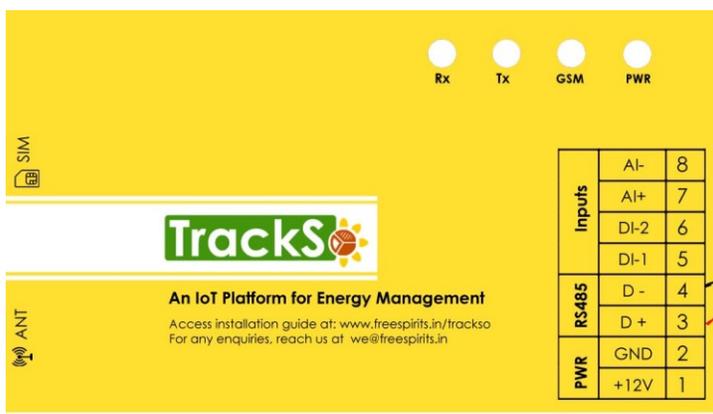
Figure D1 – WAAREE String Inverter Connections



Connection Steps:

1. Please unscrew the RS485 terminal as shown in *Figure D1*.
2. Please make the connections from the Terminal Block of Waaree RS485 chipt to TrackSo IoT Gateway as mentioned in the Table – T1.
3. Please provide 12V external supply to TrackSo IoT Gateway via 12V, 2A DC adaptor provided in the package.
4. The RS485 cables should be kept separate from the AC cable and the DC cables to avoid interferences.

Note: Please insure to carry 2PIN/6PIN Terminal supplied with inverters.



Waaree Pin Assignment		TrackSo Pin Assignment	
1	RS485+	3	RS485+
2	RS485-	4	RS485-
3		NA	
4		NA	
5	RS485+	Used for Daisy Chain	
6	RS485-	Chain	

Table T1 – Waaree connections with TrackSo IoT Gateway

GPRS Enabled IoT Gateway for Remote Management

The second pair (5/6) is used to connect multiple inverters via RS485.

DEFAULT CONFIGURATION IN TRACKSO IOT GATEWAY

Inverter ID: **1, 2, 3, 4** Continuous numbering starting with 1, (**Range:** 1 to 247)

Baud Rate: **9600 (Default)** (**Values:** 9600, 19200, 38400)

Data Bits: 8 , Stop Bit: 1 , Parity: None

CONFIGURATION AT THE INVERTER END

SETTING THE BAUD RATE

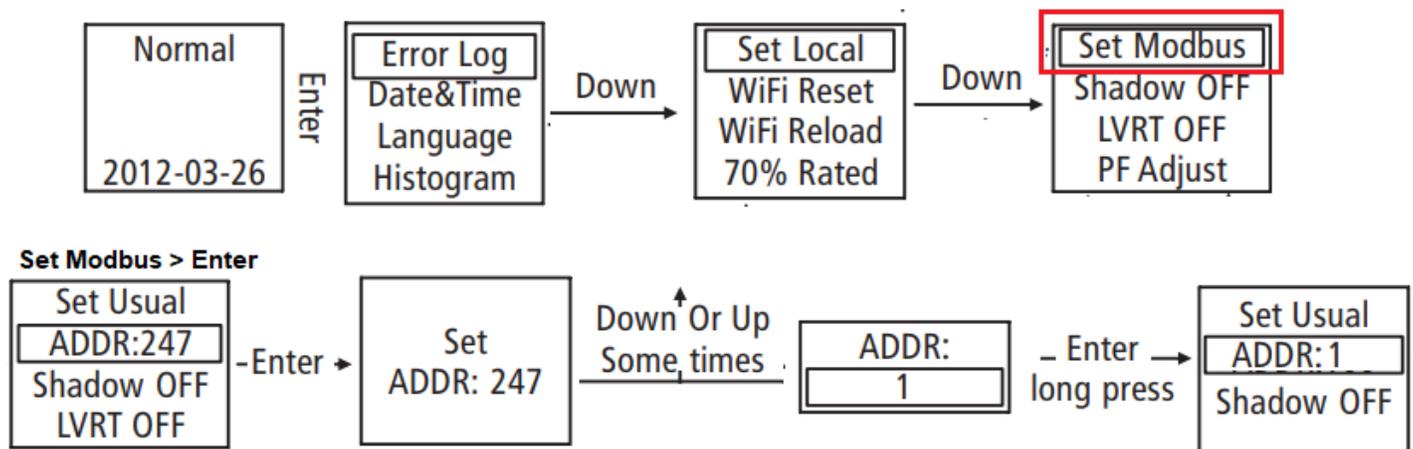
Default Baud rate for Waaree Inverters is 9600bps.

SETTING THE INVERTER ID

The inverter ID is used to identify the inverter in a RS485 connection

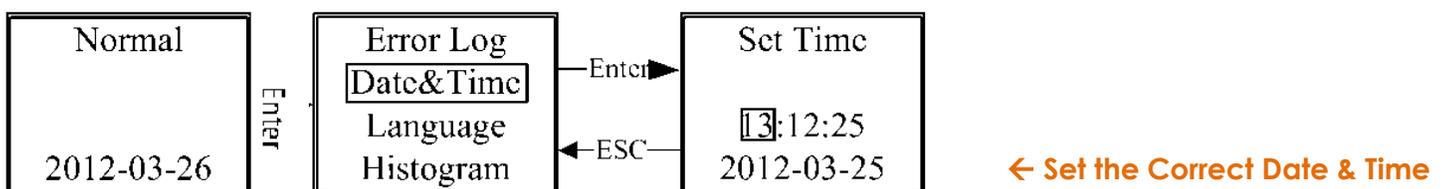
← Set correct Inverter Ids

- Set a different inverter ID for each inverter in the PV plant. Otherwise, the inverters cannot be correctly identified.
- On the last inverter in the RS485 connection, switch on the RS485 termination resistor.



SET DATE & TIME OF INVERTER

For a precise calculation of the statistics in the inverter itself and in a monitoring system, date and time have to be correct.

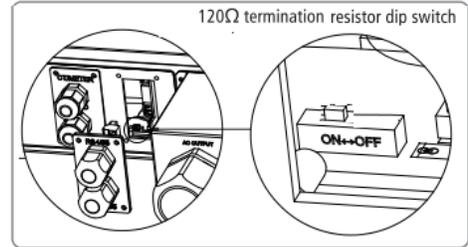
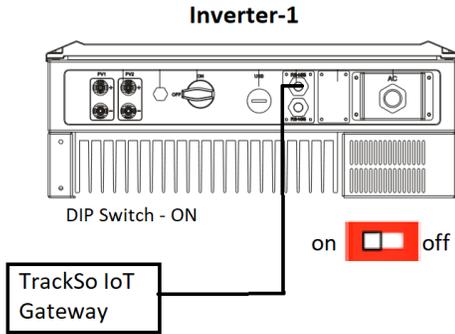


Communication Card Settings

Termination resistor dip switch. Available in DT only

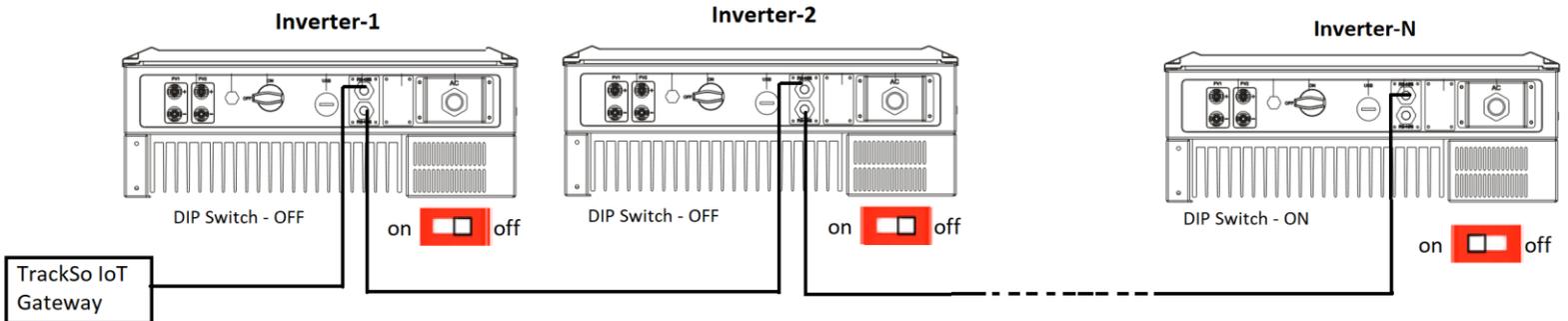
Single Inverter

Please put ON the dip switch (The default if OFF)



Multiple Inverters

Please put ON the dip Switch in the last Inverter (The default is OFF)



The above details are mentioned in the [Installation & Operation Manual](#) for Waaree Inverters.

TRACKSO WORKING

1. Insure correct connections as detailed in the installation guide.
2. Insert the SIM card.

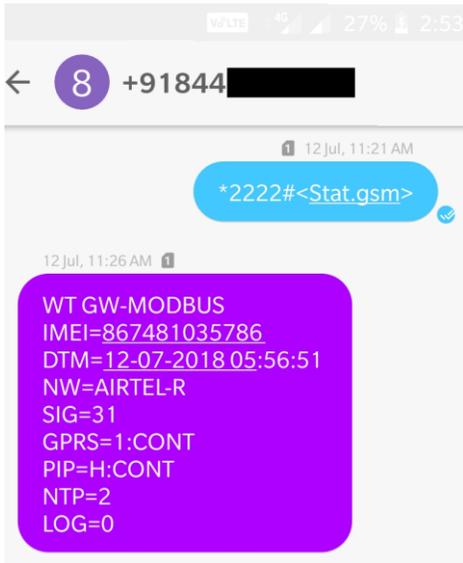


3. Switch on the power to the TrackSo device. (Minimum 12V/1A input is required)
4. Power LED (Red) of TrackSo IoT gateway glows and stays ON.

NOTE: TrackSo IoT Gateway will only be able to send data if the GPRS network is available at the installed location.

LED	NAME	DESCRIPTION														
GREEN	POWER	Light when Power on the device														
RED	GSM	<table border="1"> <thead> <tr> <th>LED Status</th> <th>Connection State</th> </tr> </thead> <tbody> <tr> <td>Flashing (ON for 100ms and OFF for 100ms)</td> <td>SIM Card not found</td> </tr> <tr> <td>Flashing (ON for 500ms and OFF for 500ms)</td> <td>Searching for GSM Network</td> </tr> <tr> <td>Flashing (ON for 0.1s and OFF for 2.9s) Once at every 3sec</td> <td>GSM Network Registered</td> </tr> <tr> <td>Flashing twice at every 3sec</td> <td>GPRS IP Connected</td> </tr> <tr> <td>Flashing 5times</td> <td>GPRS IP Sending data</td> </tr> <tr> <td>LED OFF</td> <td>GSM Fault</td> </tr> </tbody> </table>	LED Status	Connection State	Flashing (ON for 100ms and OFF for 100ms)	SIM Card not found	Flashing (ON for 500ms and OFF for 500ms)	Searching for GSM Network	Flashing (ON for 0.1s and OFF for 2.9s) Once at every 3sec	GSM Network Registered	Flashing twice at every 3sec	GPRS IP Connected	Flashing 5times	GPRS IP Sending data	LED OFF	GSM Fault
		LED Status	Connection State													
		Flashing (ON for 100ms and OFF for 100ms)	SIM Card not found													
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		Flashing twice at every 3sec	GPRS IP Connected													
		Flashing 5times	GPRS IP Sending data													
LED OFF	GSM Fault															
GREEN	COM TX	Blink on data transmission in RS485 port														
YELLOW	COM RX	Blink on data reception in RS485 port														

5. To check the exact network status send the following message to mobile number of the device



SMS Command= *2222#<Stat.gsm>	
IMEI	IMEI No. of the data logger (Device Key)
NW	Network
SIGN	Signal Strength out of 31
GPRS	CONT- connected , NC- not connected
PIP	Connected to TrackSo Server or not CONT- connected, NC- not connected
LOG	no. of data points stored in devices incase of no interet

- If the GSM light starts flashing 5 times then Login to www.trackso.in with your Username/Password.
- Click on 'Units' from the menu bar. You will be able to view your installed unit in the table as shown below.
- Check if the **Status** becomes **Receiving** for the relevant Unit.

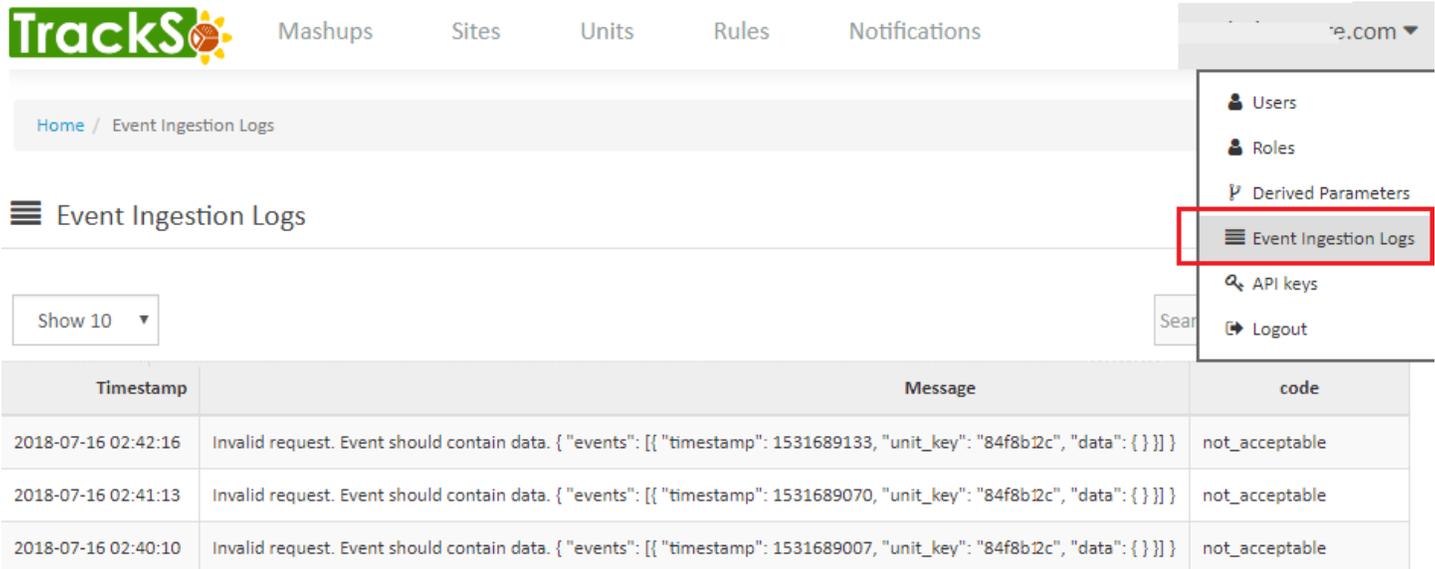
Home / Units

Units Add Unit

Show 10 Search for...

Unit Name	Site	Unit Key	Category	Data Status	Last Event Timestamp	Device Key	Device Phone	Actions
1-Schneider		[redacted]cc	Inverter	Receiving	2018-07-16 02:24:04	[redacted]31034235444/1	[redacted]9	View Data
2-Schneider		[redacted]7799	Inverter	Receiving	2018-07-16 02:24:05	[redacted]034235444/2	[redacted]	View Data
[redacted]	School	[redacted]5	Inverter	Not Receiving			[redacted]8	View Data
[redacted]	chool	[redacted]5	Inverter	Not Receiving				View Data

9. If the state remains **Not receiveing** for more than 10 minutes, click on your email ID at the top right of the screen and click on 'Event Ingestion Logs' in the dropdown.



Timestamp	Message	code
2018-07-16 02:42:16	Invalid request. Event should contain data. { "events": [{ "timestamp": 1531689133, "unit_key": "84f8b2c", "data": { } }] }	not_acceptable
2018-07-16 02:41:13	Invalid request. Event should contain data. { "events": [{ "timestamp": 1531689070, "unit_key": "84f8b2c", "data": { } }] }	not_acceptable
2018-07-16 02:40:10	Invalid request. Event should contain data. { "events": [{ "timestamp": 1531689007, "unit_key": "84f8b2c", "data": { } }] }	not_acceptable

10. Check if there is some log generated at the time of installation of the TrackSo IoT Gateway device.
 - a. If **NO**, please restart the device and try the same flow again.
 - b. If **YES**, email us at we@freespirits.in to consult the same.