

TRACKSO INSTALLATION GUIDE FOR KSTAR

Brand: Kstar
Type: Solar On Grid String Inverter
Models: KSG-DM 10kW | 1 2kW | 15kW | 17kW | 20kW , KSG-TM 30kW | 50kW | 60kW

CONNECTION DIAGRAM

The communication terminals (RS485) are located at the bottom of the inverter. And there are two connection terminals on the configuration circuit board: ++ -- terminal blocks.

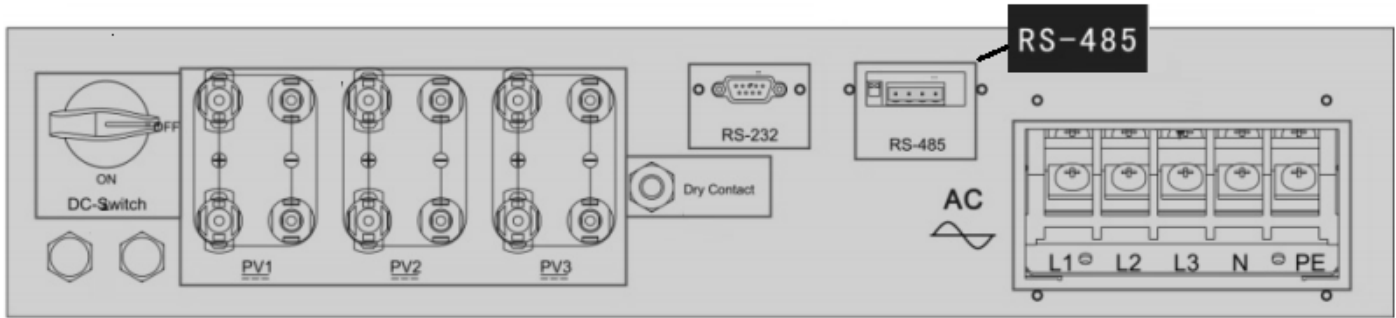


Figure K1:A- Kstar String Inverter communication port & Connections

Connection steps

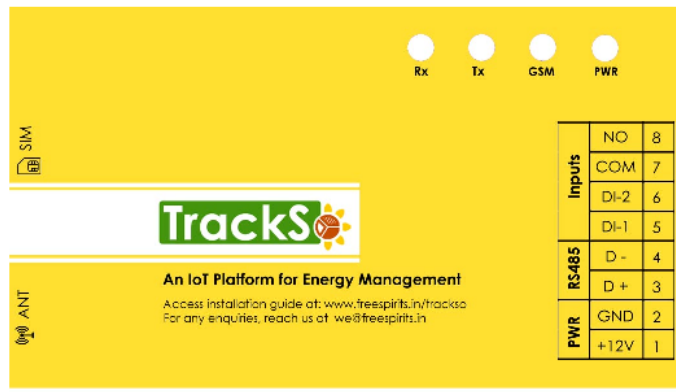
- Please unscrew the RS485 terminal as shown in A part of Figure K1.
- Please make the connections from the Terminal Block to TrackSo IoT Gateway as mentioned in Table – KT1.

Kstar Pin No.	Kstar Assignment	TrackSo Pin No.	TrackSo Assignment
1	(A) R/T+	3	D+
2	(A) R/T+	RS485 Out	
3	(B) R/T-	4	D-
4	(B) R/T-	RS485 Out	

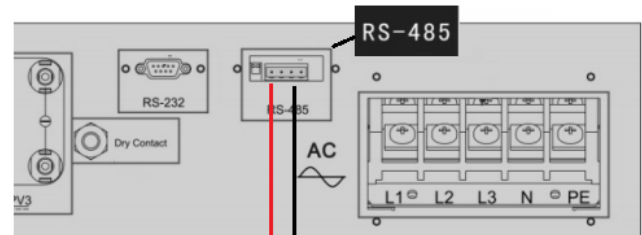
Table KT1 – Kstar RS485 chip connections with TrackSo IoT Gateway

RS485 Out- Used in case of Multiple Inverter Connection (Daisy chain).

TrackSo Device



Bottom of Inverter



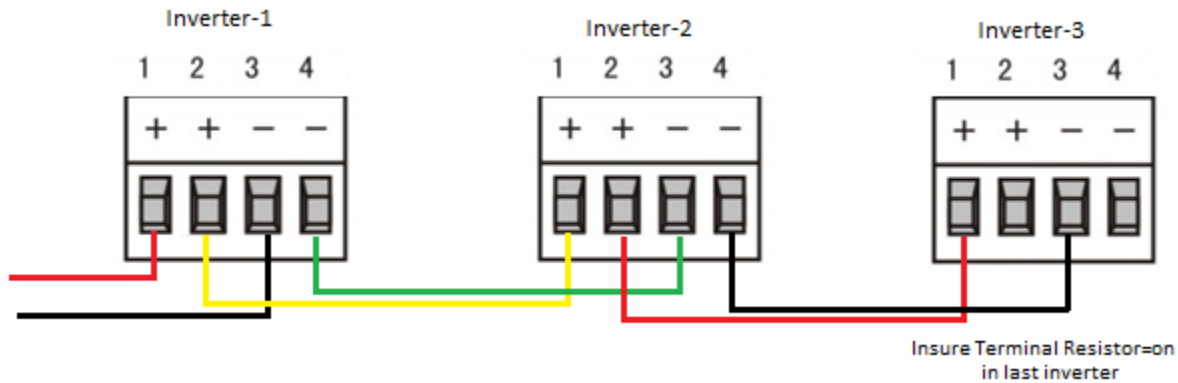
Red- Data + to 1st pin no.
Black- Data - to 3rd pin no.

Pin NO.	RS485
1	(A) R/T+
2	(A) R/T+
3	(B) R/T-
4	(B) R/T-

2nd & 4th pin no. are used in case of multiple inverters

GPRS Enabled IoT Gateway for Remote Management

Multiple Inverters



Pin 2 & 4 of Inv-1 is connected to Pin 1 & 3 of next inverter in Daisy Chain.

When two or more inverters are in parallel communication, 2P DIP switch beside RS485 of the last one should be "ON". Or else, it may cause communication interruption. That 2P DIP switch is on, means connecting a 120Ω communication terminal resistance between the R/T + and R/T -)

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

Press Enter on LCD panel and get into settings menu, After entering into the setup interface, the system will prompt to input password, the default password is "00000"

```
-----User-----
→1:Setting
 2:Inquiry
 3:Statistics
```

```
-----Password-----
Input: XXXXX
```

Default - 00000

SETTING THE BAUD RATE

If you connect multiple inverters via RS485, set the same baud rate on each inverter.

Option 6 under Settings Menu- 485 Baudrate

← Set the Inverter baud rate to 9600

```
Interface
-----SELECT-----
 1:2400 bps
 2:4800 bps
→ 3:9600 bps
```

Press UP/DOWN button to move corresponding options. And confirm selected option and return back the setup interface by pressing ENTER button, press ESC button to cancel choice and return back setup interface.

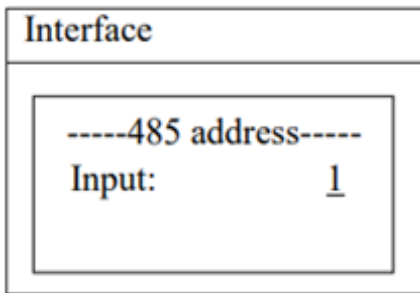
SETTING THE INVERTER ID

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

Option 5 under Settings Menu- 485 address

← Set correct Inverter Ids



The screenshot shows a terminal window titled 'Interface'. Inside, there is a sub-window with the text '-----485 address-----' and 'Input: 1'. The number '1' is underlined, indicating it is the current selection.

Press UP/DOWN to increase or decrease the input figure, confirm input and return back setup interface by pressing ENTER button, press ESC button to cancel input and return back setup interface;

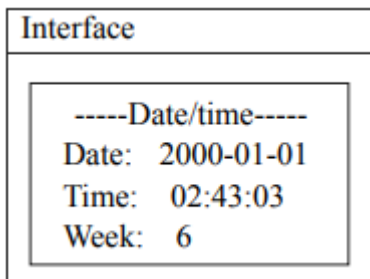
the input numerical value is between 1 and 32.

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.

Option 10 under Settings Menu- Date/Time

← Set the Correct Date & Time



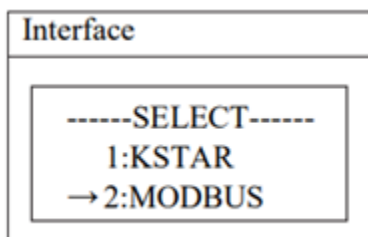
The screenshot shows a terminal window titled 'Interface'. Inside, there is a sub-window with the text '-----Date/time-----'. Below this, it displays 'Date: 2000-01-01', 'Time: 02:43:03', and 'Week: 6'.

Press UP/DOWN to increase or decrease the input figure; press ENTER button to move the cursor backwards, confirm input and return back setup interface ; and move the cursor frontward and return back setup interface by pressing ESC button.

SET COMMUNICATION PROTOCOL

Option 7 under Settings Menu- 485 Protocol

← Set correct Protocol



The screenshot shows a terminal window titled 'Interface'. Inside, there is a sub-window with the text '-----SELECT-----'. Below this, it displays '1:KSTAR' and '→ 2:MODBUS', where the arrow points to the second option.

Press UP/DOWN button to move corresponding options. And confirm selected option and return back the setup interface by pressing ENTER button, press ESC button to cancel choice and return back setup interface

NOTE: The above details are mentioned in the [Installation & Operation Manual](#) for Kstar KSG-30K/36K/50K/(60K-HV)/60K on **Page 28**.

TRACKSO WORKING

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

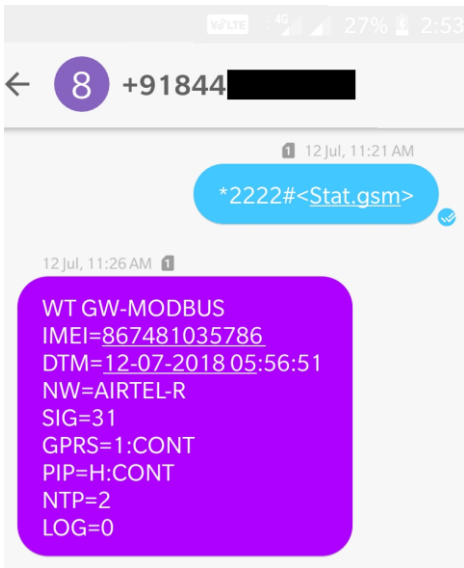


3. Switch on the power to the TrackSo device. (Minimum 12V/1A input is required)
4. Power LED (Red) of TrackSo IoT gateway glows and stays ON.

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
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		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.

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

TrackSo Mashups Sites Units Rules Notifications re.com

Home / Event Ingestion Logs

Event Ingestion Logs

Show 10

Search

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.
- If **NO**, please restart the device and try the same flow again.
 - If **YES**, email us at we@freespirits.in to consult the same.