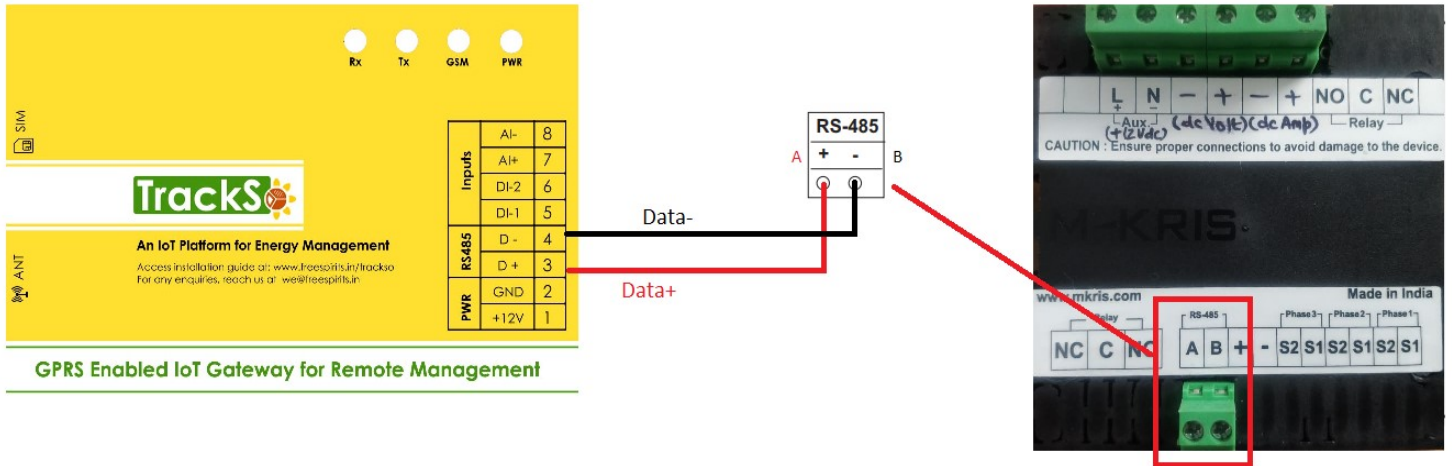


## TRACKSO INSTALLATION GUIDE FOR MKRIS DC ENERGY METER

**Brand:** MKRIS  
**Type:** DC Energy Meter

### CONNECTION DIAGRAM

On the rear panel, MKRIS Meter has an RS-485 communication socket as shown in the following figure.



*Figure M1 – Rear view of MKRIS METER*

1. Please unscrew the RS485 terminal as shown in *Figure M1*.
2. Connect the cables to the RS485 bus terminal blocks.
3. Please make the connections from Terminal Block chip to TrackSo IoT Gateway as mentioned in the Table – MT1.





MKRIS Pin No. & Assignment		TrackSo Pin No. & Assignment	
1	A	3	D+
2	B	4	D-

*Table MT1 –MKRIS RS485 chip connections with TrackSo IoT Gateway*

### DEFAULT CONFIGURATION IN TRACKSO IOT GATEWAY

Inverter ID: **1 (Range: 1 to 247)**  
 Baud Rate: **9600 (Default)**, Data Bits: 8, Stop Bit: 1, Parity: N/A (None)

### CONFIGURATION AT THE METER END

-  = MENU/OK Key
-  = UP Key
-  = DOWN Key
-  = EXIT / VIEW Key

#### Key Description:

1. MENU KEY is used to enter the MENU or SUB-MENU and to SAVE a setting.
2. UP KEY is used to increment the value.
3. DOWN KEY is used to decrement the value.
4. EXIT KEY is used to return to previous sub-menu or to exit from the settings.

Meter Display page can be changed by pressing **DOWN KEY** and the parameter on display can be viewed by pressing **UP KEY**.

There is an option for auto-scroll/manual scroll of the display pages, which can be enabled or disabled by user in the menu settings. On enabling auto-scroll mode, the display page shifts to the next one after 30 sec automatically.

## MENU SETTINGS:

- Menu settings can be changed only when the aux. supply of the Meter is energized and motor is not running.
- During the running of the motor, the Menu settings can be viewed (not modified) by pressing EXIT key.

**COMM (RS-485 communications settings):** Press **MENU** key to enter the **COMM** settings; text **ID** displayed. Press **MENU** again to edit device identity(ID)

## SETTING DEVICE ID

Required for RS485 communication. It can set from 0 to 247 depending on number of slaves.

**STEP 1:** For the first digit, set the desired value by pressing **UP/DOWN** key and then press **MENU** key for second digit.

**STEP 2:** For the second digit, set the desired value by pressing **UP/DOWN** key and then press **MENU** key for third digit.

**STEP3:** For the third digit, set the desired value by pressing **UP/DOWN** key and then press **MENU** key for fourth digit.

**STEP4:** For the fourth digit, set the desired value by pressing **UP/DOWN** key and then press **MENU** key to save.

The relay displays **SAVE** for a few seconds, Press **DOWN** key and enter **PRTY** setting.

## SETTING PARITY

It can be set to even, odd and none. Press **MENU KEY** to enter in parity settings

**STEP 1:** set the desired value by pressing **UP/DOWN KEY** and then press **MENU KEY** to save.

The relay displays **SAVE** for a few seconds, Press **DOWN KEY** and enter in **BAUD** setting.

## SETTING BAUD RATE

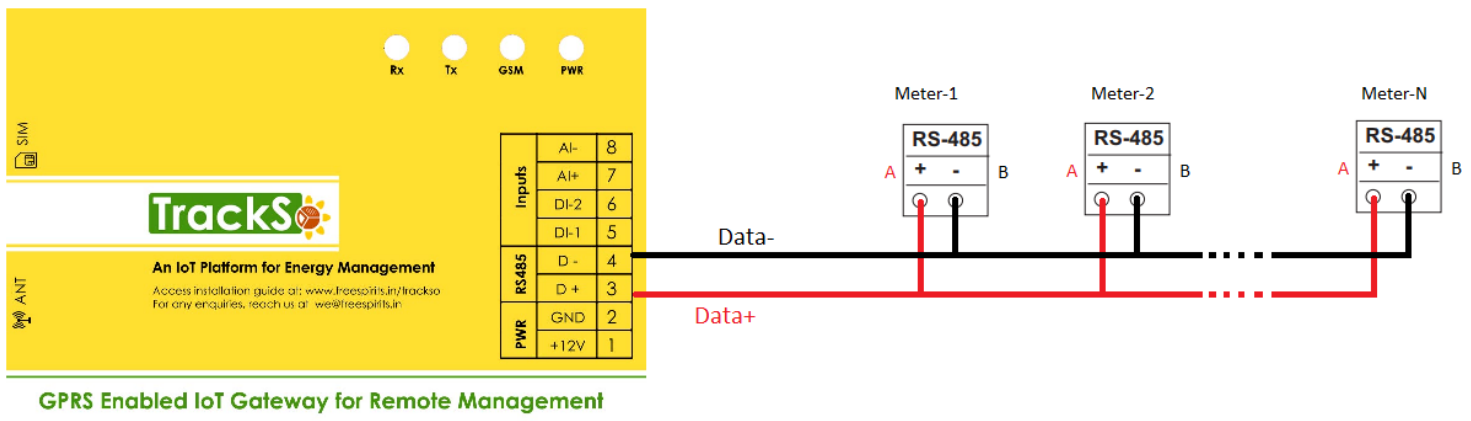
Press **MENU KEY** to enter in baud rate settings Set the desired value by pressing **UP/DOWN** key and then press **MENU** key to save.

The relay displays **SAVE** for a few seconds and then display **CTPR**

Baud rate can be set to 4800,9600 and 19,200.

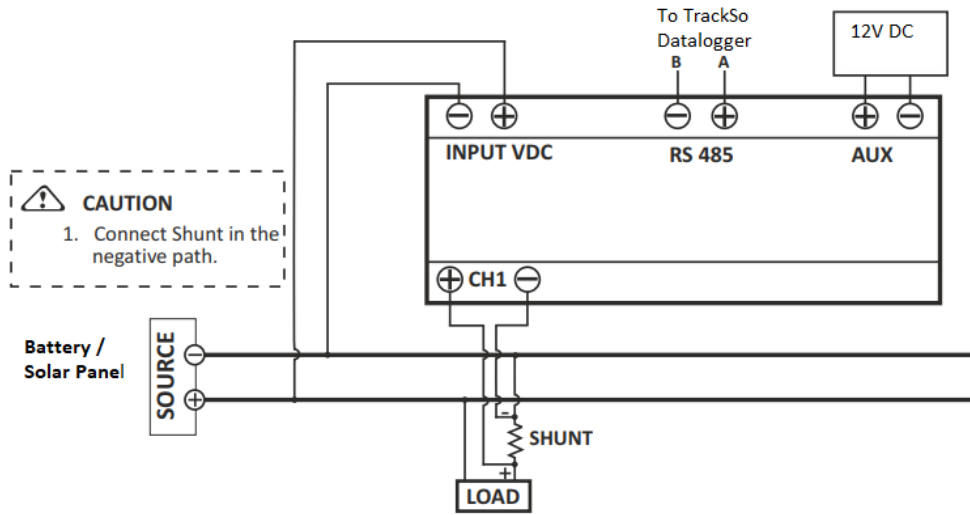
View value	bps
4.8	4800
9.6	9600
19.2	19,200

## CONNECTING MULTIPLE METER

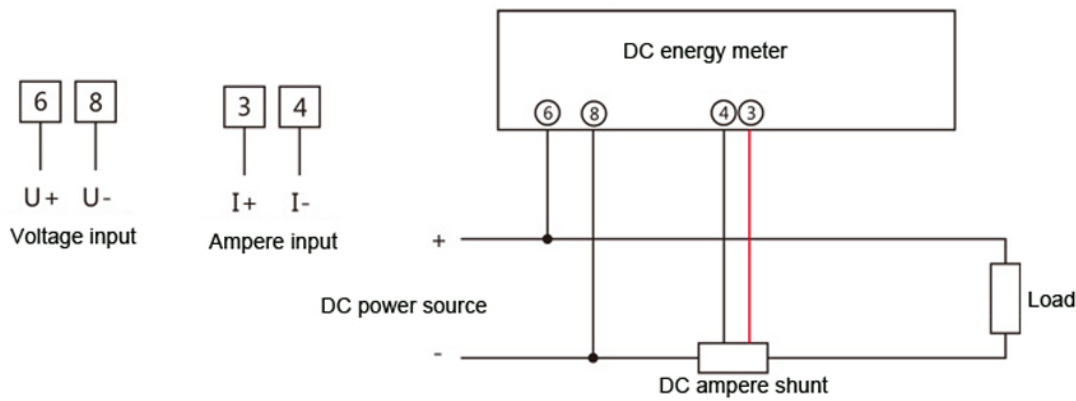


## DC SYSTEM SETUP

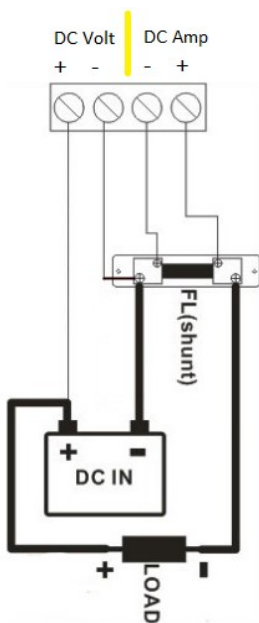
### Example - 1



### Example - 2



### Example-3



- Connect the shunt near the battery negative or near the load negative.
- Cut off the power when you wire the meter/
- Zero Current issue are mostly caused due to wrong wiring.

## TRACKSO WORKING

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

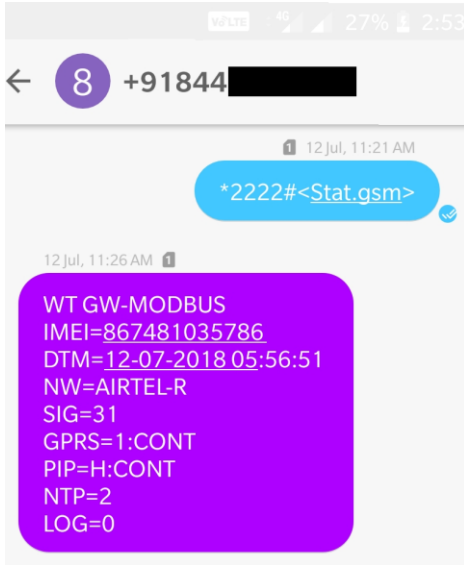


3. Switch on the power to the TrackSo device. (Minimum 12V/1A input is required)
4. Power LED (Red) of TrackSo IoT gateway glows and stays ON.

**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 (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															
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 internet

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










Mashups
Sites
Units
Rules
Notifications

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Home / Units
Add Unit

⚙️ Units
Search for...

Show 10 ▾

Unit Name	Site	Unit Key	Category	Data Status	Last Event Timestamp	Device Key	Device Phone	Actions
1-Schneider		██████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	██████	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

Home / Event Ingestion Logs

Event Ingestion Logs

Show 10

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](mailto:we@freespirits.in) to consult the same.

INSTALLATION VIDEO



Scan the QR code to view the video

TrackSo installation video for Secure Meter Monitoring

Video Shortlink- <https://goo.gl/332QKD>

Video Link- [https://www.youtube.com/watch?v=J0m\\_Am805WA](https://www.youtube.com/watch?v=J0m_Am805WA)