

TRACKSO INSTALLATION GUIDE FOR MKRIS AC ENERGY METER

Brand: MKRIS
Type: AC Energy Meter (Datasheet- <https://goo.gl/9Rfdup>)

CONNECTION DIAGRAM

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

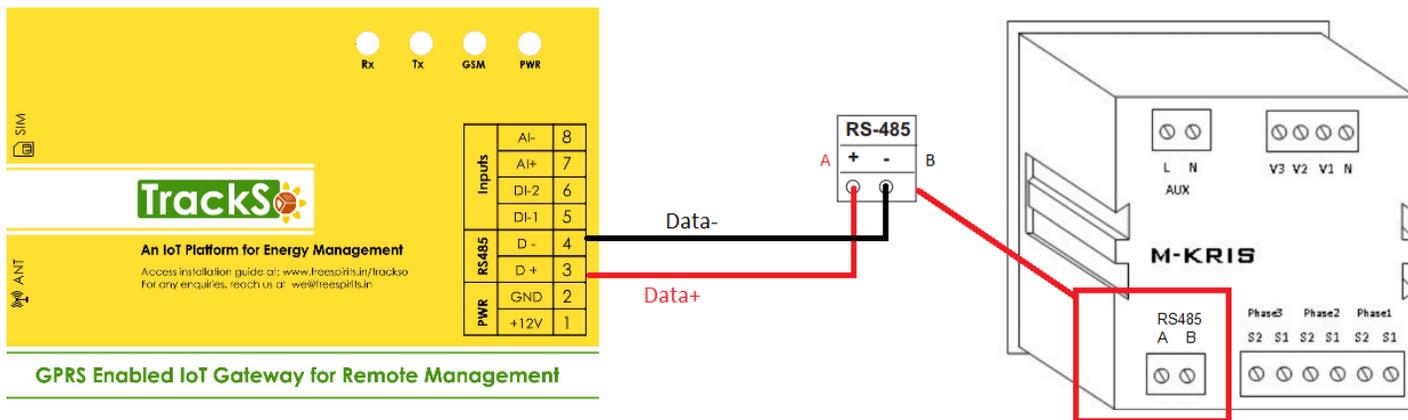


Figure M1 – Rear view of MKRIS METER

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

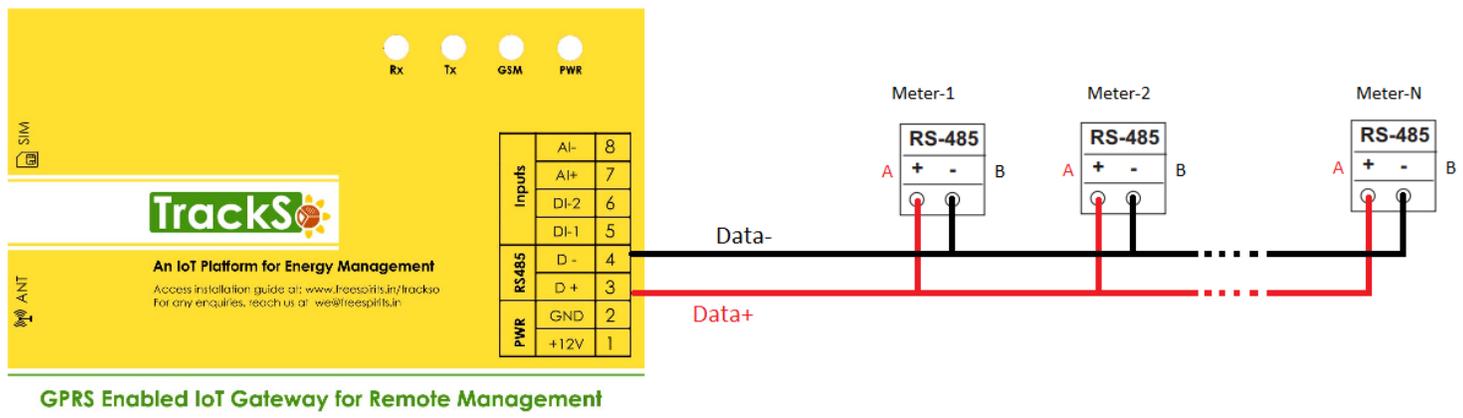
Press **MENU KEY** to enter in baud rate settings Set the desired value by pressing **UP/DOWN** key and then press **MENU** key to save.

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



TRACKSO WORKING

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

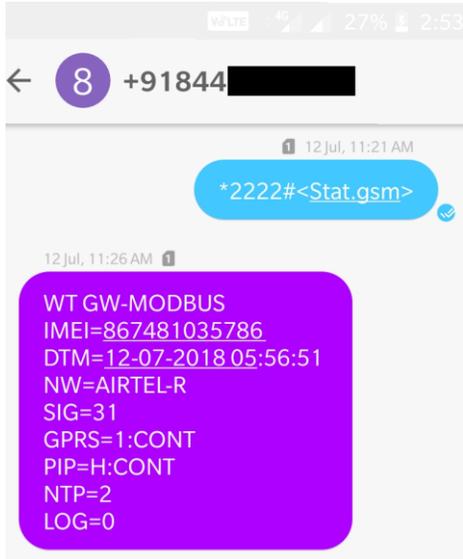


3. Switch on the power to the TrackSo device. (Minimum 12V/1A input is required)
4. Power LED (Red) of TrackSo IoT gateway glows and stays ON.

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 | | | | | | | | | | | | | |
| | | Flashing (ON for 500ms and OFF for 500ms) | Searching for GSM Network | | | | | | | | | | | | | |
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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



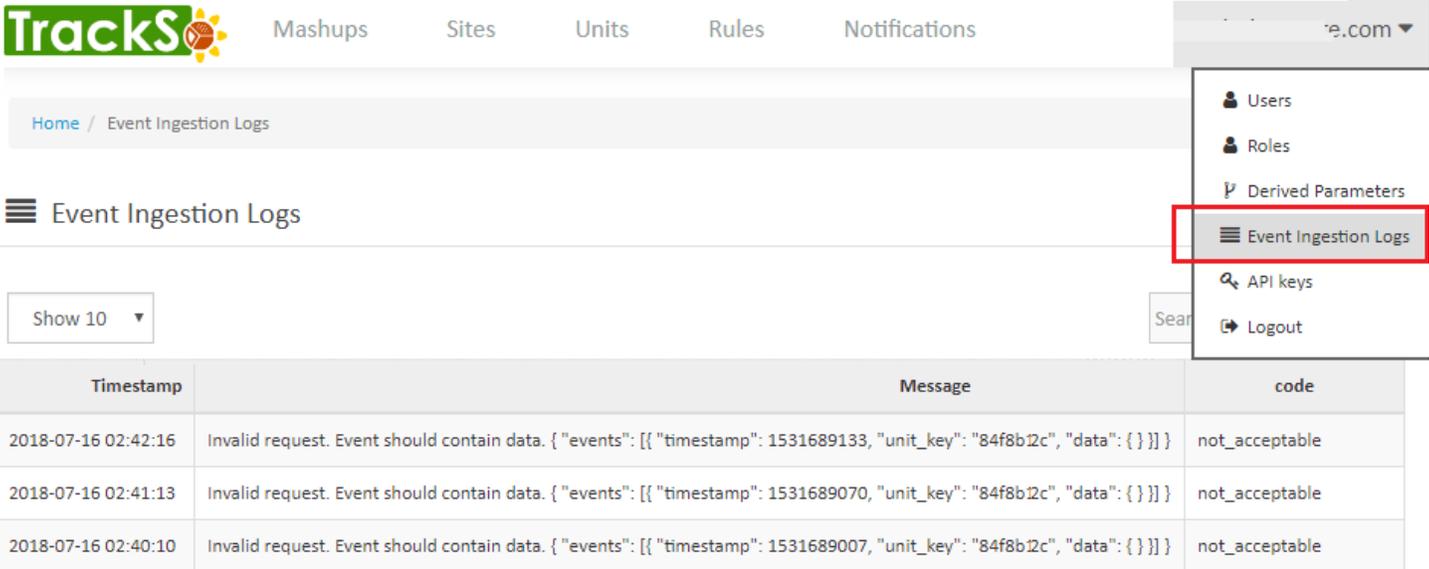
| SMS Command= *2222#<Stat.gsm> | |
|-------------------------------|--------------------------------------------------------------------------|
| IMEI | IMEI No. of the data logger (Device Key) |
| NW | Network |
| SIGN | Signal Strength out of 31 |
| GPRS | CONT- connected , NC- not connected |
| PIP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

6. If the GSM light starts flashing 5 times then Login to 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.

The screenshot shows the TrackSo web application interface. The navigation bar includes 'Mashups', 'Sites', 'Units', 'Rules', and 'Notifications'. The 'Units' page is active, showing a table of installed units. The table has columns for Unit Name, Site, Unit Key, Category, Data Status, Last Event Timestamp, Device Key, Device Phone, and Actions. Two units are shown with a 'Receiving' status, and two are shown with a 'Not Receiving' status.

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

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.



The screenshot shows the TrackSo web application interface. At the top, there is a navigation bar with the TrackSo logo and menu items: Mashups, Sites, Units, Rules, and Notifications. A user profile dropdown menu is open, showing options: Users, Roles, Derived Parameters, **Event Ingestion Logs** (highlighted with a red box), API keys, and Logout. Below the navigation, the breadcrumb path is 'Home / Event Ingestion Logs'. The main heading is 'Event Ingestion Logs'. There is a 'Show 10' dropdown and a search box. Below this is a table with three columns: Timestamp, Message, and code.

| 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.

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