**Brand:** Delta
**Type:** Solar On Grid String Inverter
**Models:** RPI H3, RPI H5, RPI M6A, RPI M10A, RPI M15A, RPI M20A, RPI M30A, RPI M50A
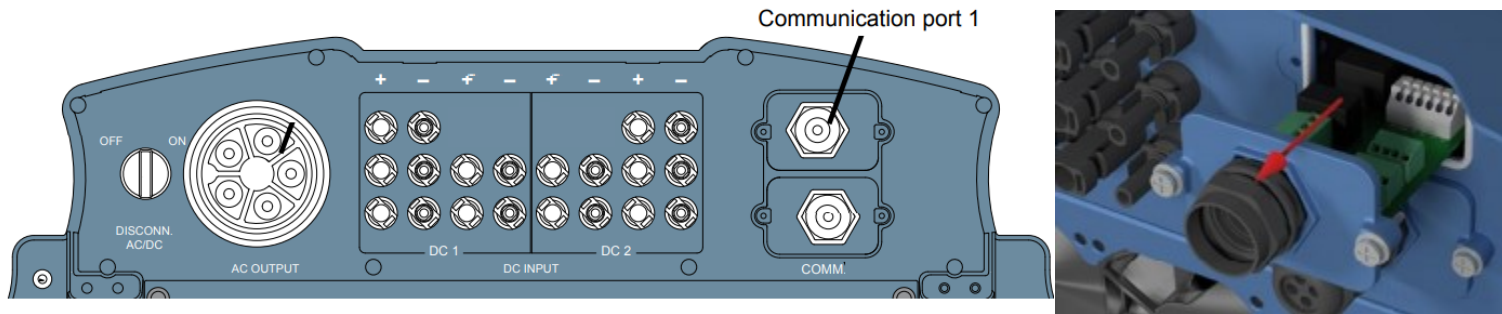
## CONNECTION DIAGRAM



*Figure D1 –Bottom of the Delta Sring Inverter for Connections*

1. Please unscrew the RS485 terminal (communication port 1) as shown in *Figure D1*.
2. The RS485 chip will come out (as shown in *Figure D2)*.
3. Please make the connections from the Terminal Block of Delta RS485 chipt to TrackSo IoT Gateway as mentioned in the Table – *DT1 and Figure D2*.
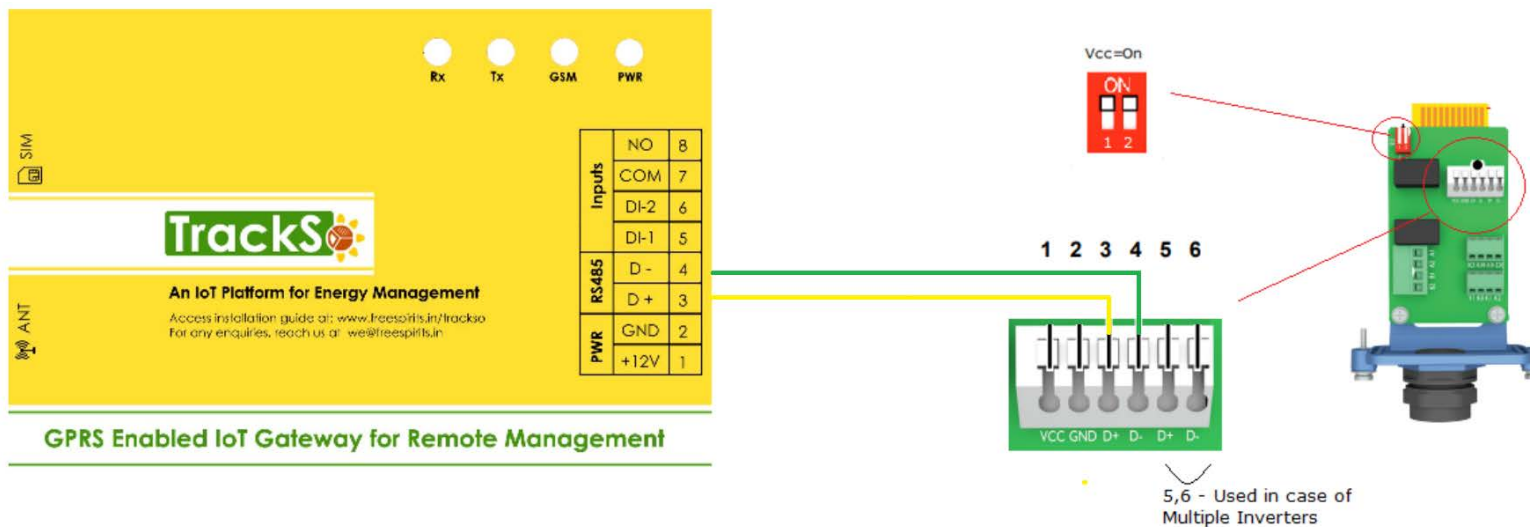4. The RS485 cables should be kept separate from the AC cable and the DC cables to avoid interferences.



*Figure D2 – Delta RS485 chip*

| Delta RS485 Communication Card pin no. | Delta Assignment | TrackSo Pin No. | TrackSo Assignment |
|---|---|---|---|
| 3 | DATA+ | 3 | RS485+ |
| 4 | DATA- | 4 | RS485- |
| 5 | DATA+ | 4 | Used in case of Multiple Inverters |
| 6 | DATA- | 5 | |

*Table DT1 – Delta RS485 chip connections with 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

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

```
 10.Sep 2014 15:32
Status:      On Grid
Power:           0W
E-Today:       0kWh
```

1. When the default information is displayed, press any button to open the main menu.

   Otherwise, repeatedly press the button ESC until the main menu is displayed.

```
▶General Settings
 Install Settings
 Active/Reactive Pwr
 FRT
```

2. Use the buttons ▼ and ▲ to select **General Settings**.

   To confirm your selection, press the button ENT.

```
 Language
 Date & Time
▶Baud rate
```

3. Use the buttons ▼ and ▲ to select **Baud rate**.

   To confirm your selection, press the button ENT.

**← Set the Inverter baud rate to 9600**

```
▶9600
 19200
 38400
```

4. Use the buttons ▼ and ▲ to select a value.

   To confirm your setting, press the button ENT.

### 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.

```
 10.Sep 2014 15:32
Status:      On Grid
Power:           0W
E-Today:       0kWh
```

1. When the default information is displayed, press any button to open the main menu.

   Otherwise, repeatedly press the button ESC until the main menu is displayed.

```
 General Settings
▶Install Settings
 Active/Reactive Pwr
 FRT
```

2. Use the buttons ▼ and ▲ to select **Install Settings**.

   To confirm your selection, press the button ENT.

**← Set correct Inverter Ids**

```
      Warning:
 Adj. would affect
 energy production.
 Password     0 * * *
```

3. The menu is protected by password 5555. Use the buttons ▼ and ▲ to set each digit.

   To confirm a digit, press the button ENT.

```
▶Inverter ID:     001
 Insulation
 Country
 Grid Settings
```

4. Use the buttons ▼ and ▲ to select **Inverter ID**.

   To confirm your selection, press the button ENT.

```
      Setting ID:
        ID=001
```

5. Use the buttons ▼ and ▲ to change the value.

   To confirm your setting, press the button ENT.

## 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.

**Main menu > General settings > Date & Time**

```
 10.Sep 2014 15:32
Status:      On Grid
Power:            0W
E-Today:        0kWh
```

**1.** When the default information is displayed, press any button to open the main menu. Otherwise, repeatedly press the button `ESC` until the main menu is displayed.

```
►General Settings
 Install Settings
 Active/Reactive Pwr
 FRT
```

**2.** Use the buttons `▼` and `▲` to select **General Settings**.

To confirm your selection, press the button `ENT`.

**← Set the Correct Date & Time**

```
 Language
►Date & Time
 Baud rate
```

**3.** Use the buttons `▼` and `▲` to select **Date & time**.

To confirm your selection, press the button `ENT`.

```
 10.Sep 2014 14:55
```

**4.** Use the buttons `▼` and `▲` to change the currently marked (underlined) value.

When finished, press the button `ENT`.

→ The marking moves to the next value.

## SET COMMUNICATION PROTOCOL

**Menu item path**
**Main Menu > General settings > Protocol**

**Setting the RS485 protocol**

```
 10.Sep 2014 15:32
Status:      On Grid
Power:            0W
E-Today:        0kWh
```

**1.** If the default information is displayed, press any button to open the main menu. Otherwise, press the `EXIT` button repeatedly until the main menu is displayed.

```
►General Settings
 Install Settings
 Active/Reactive Pwr
 FRT
```

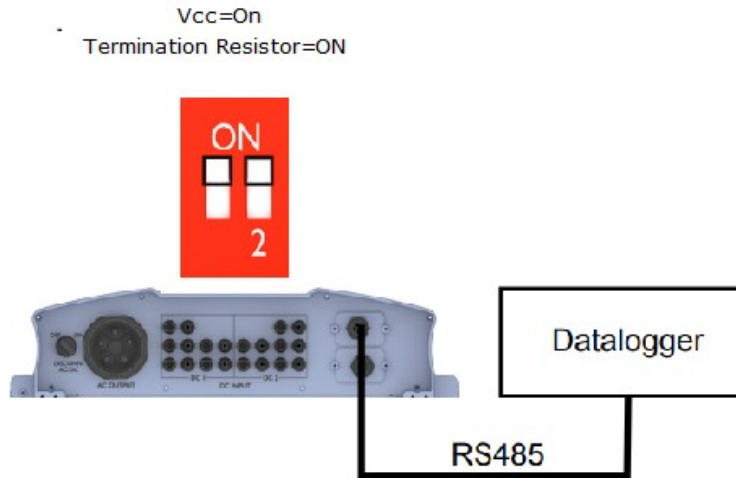**2.** Use the `▼` and `▲` buttons to select the **General Settings** entry and then press the `ENT` button.

```
 Language
 Date & Time
 Baud rate
►Protocoll
```

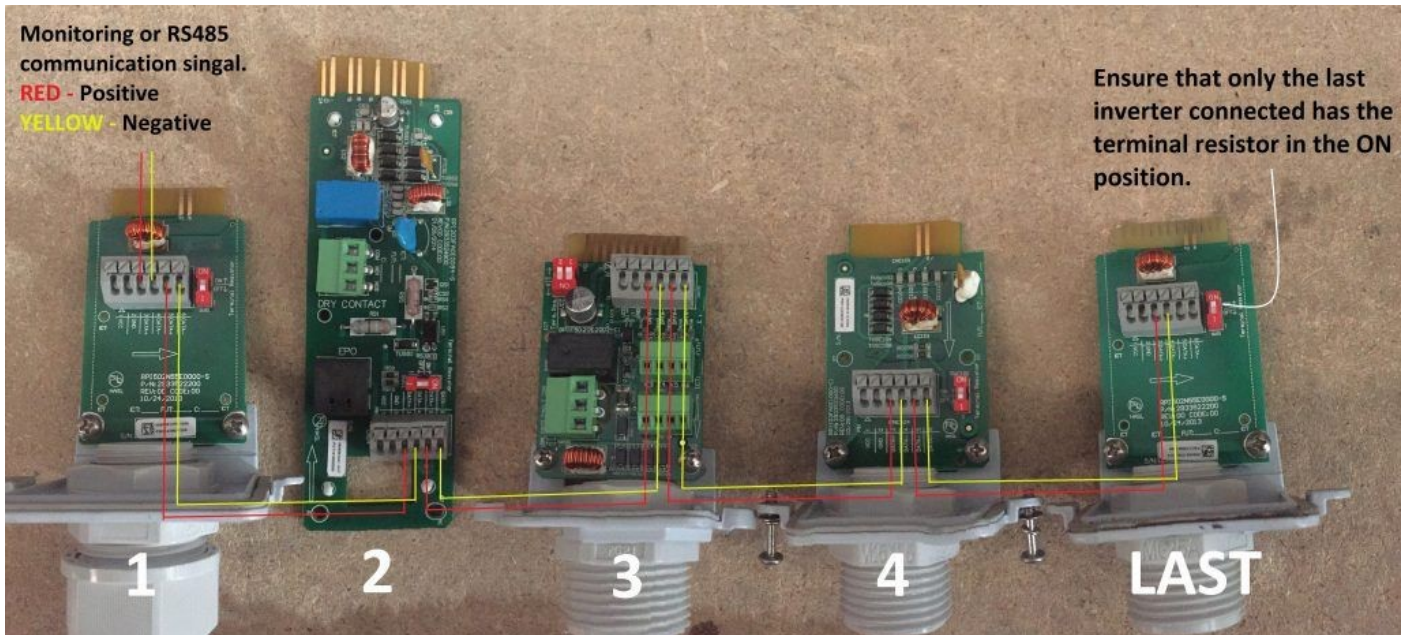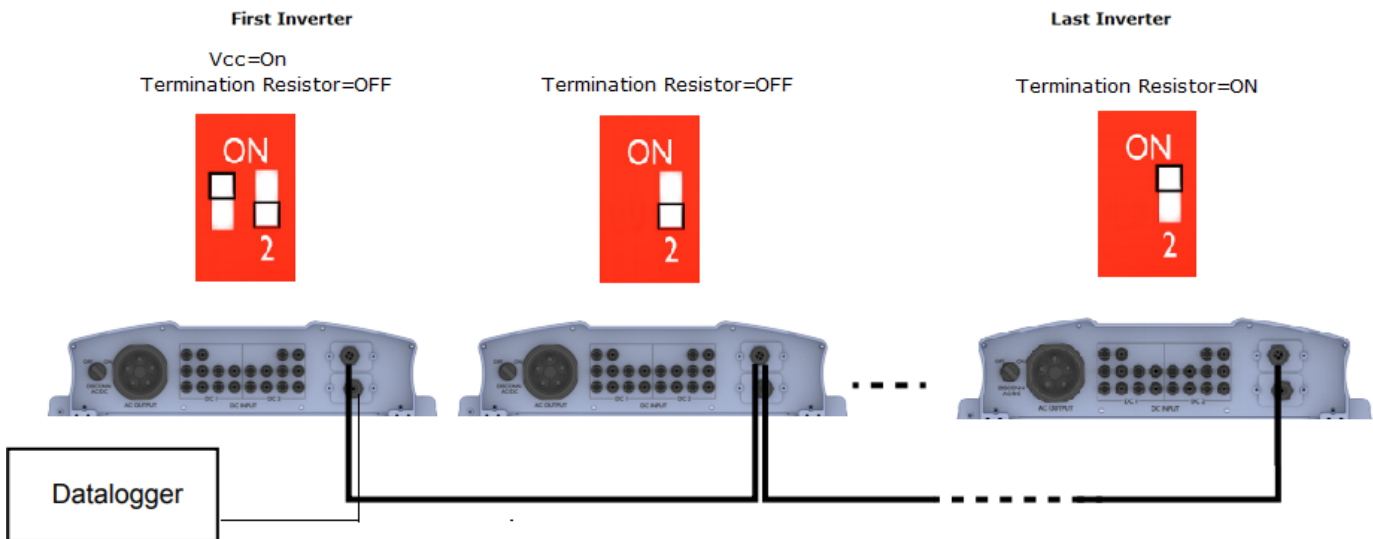**3.** Use the `▼` and `▲` buttons to select the **Protocol** entry and then press the `ENT` button.

```
►Prot. Delta/Solivia
 Prot. Sunspec
```

**4.** Use the `▼` and `▲` buttons to select an RS485 protocol option and then press the `ENT` button.

**Single Inverter**

Vcc=On
Termination Resistor=ON



Datalogger

RS485

**Multiple Inverters**

**First Inverter**

Vcc=On
Termination Resistor=OFF

Termination Resistor=OFF

**Last Inverter**

Termination Resistor=ON



Datalogger

Monitoring or RS485
communication singal.
**RED** - Positive
**YELLOW** - Negative

Ensure that only the last
inverter connected has the
terminal resistor in the ON
position.

1  2  3  4  LAST

The above details are mentioned in the **_Installation & Operation Manual_** for Delta RPI series on **Page 69, 70.**

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



Push Yellow Nob

Pull the SIM Tray

Place the SIM card In tray Inside

Place the SIM Tray in SLOT and Push the Tray

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 | **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 |
| 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
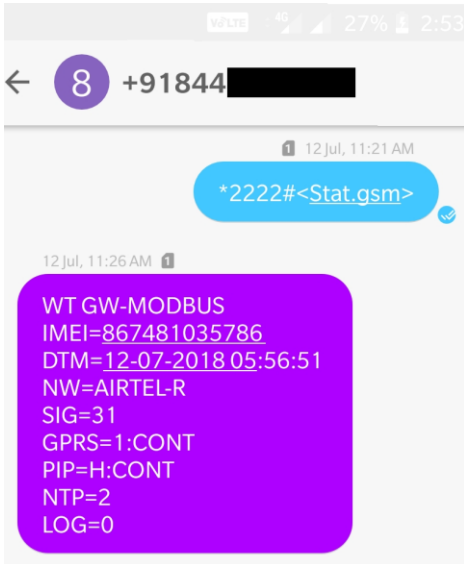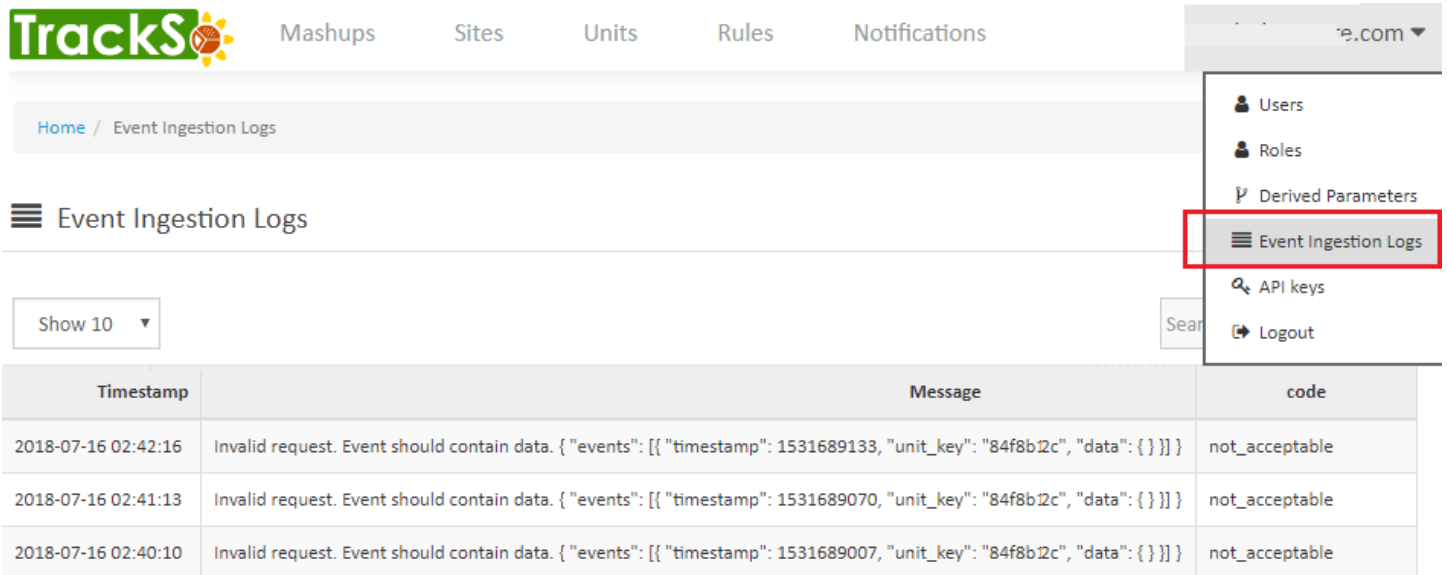


| SMS Command= *2222#<Stat.gsm> | |
|---|---|
| IMEI | IMEI No. of the data logger (Device Key) |
| NW | Network |
| SIGN | Signal Strength out of 31 |
| GPRS | CONT- connected , NC- not connected |
| PIP | Connected to TrackSo Server or not |
| | CONT- connected,  NC- not connected |
| LOG | no. of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



**TrackSo**   Mashups    Sites    Units    Rules    Notifications

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-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 | ▬ | View Data ✎ 🗑 |
| ▬ | ▬School | ▬5 | Inverter | Not Receiving | | | ▬B | 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.



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.

## INSTALLATION VIDEO
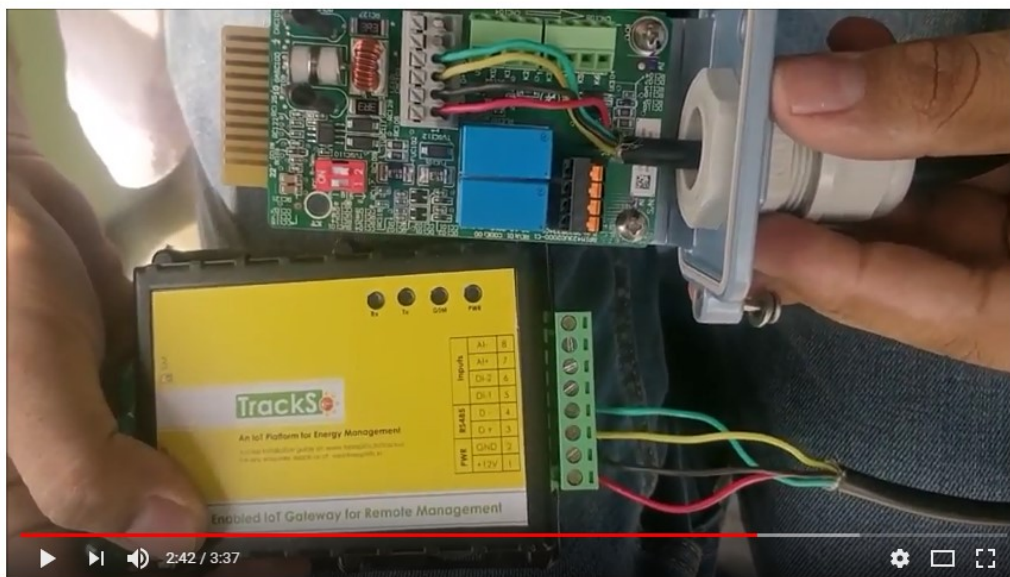


TrackSo Remote Monitoring Installation video for Delta Inverters- English

Scan the QR code to view the video

Video Shortlink- https://goo.gl/hsfZGr

Video Link https://www.youtube.com/watch?v=vFjqCKymg60