

# User Manual

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- DTU-Pro

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# 1. Important Safety Information

## 1.1 Read this First

This manual includes important instructions for installing and maintaining the Hoymiles Data Transfer Unit (DTU-PRO).

## 1.2 Safety Instructions

| Symbol  | Usage  |
|---|--|
|    | Indicate a hazardous situation that can result in deadly electric shock hazards, other serious physical injuries, or fire hazards.                                   |
|    | Indicate directions that must be fully understood and followed entirely to avoid potential safety hazards including equipment damage or personal injury.             |
|  | Indicate that the described operation must not be carried out. The reader should stop, use caution, and fully understand the operations explained before proceeding. |

- Note that only professionals can install or replace DTU.
- Do not try to repair DTU without Hoymiles' approval. If DTU is damaged, please send the DTU back to your installer for repairing/replacing. Disassembling DTU without Hoymiles' approval will invalidate remaining of the warranty period.
- Please read all instructions and warnings on the technical specifications carefully.
- Do not use Hoymiles products in a way that is not suggested by manufacture. If doing so, it may cause death or injury to persons or damage to equipment.

## 1.3 User

This manual is only for professional installation and maintenance personnel to use.

## 1.4 Support and Contact Information

If you have technical queries concerning our products, please contact your system's installer. If further support is required, please contact Hoymiles' support at this link.

- [www.hoymiles.com](http://www.hoymiles.com)
- Hoymiles' customer service center: [service@hoymiles.com](mailto:service@hoymiles.com)

## 1.5 Other Information

Product information is subject to change without notice. The user manual will be updated frequently; please refer to Hoymiles official website at [www.hoymiles.com](http://www.hoymiles.com) for the latest version.

## 2. Hoymiles Microinverter System

### 2.1 Microinverter

It converts the DC output of solar modules into grid-compliant AC power. It sends the output information of PV panels and the operation data of the microinverters to the DTU, which is the hardware basis of the panel-level monitoring.

With conversion efficiency up to 96.7% and MPPT efficiency up to 99.9%, Hoymiles microinverters rank into the first class of the world's Microinverter industry.

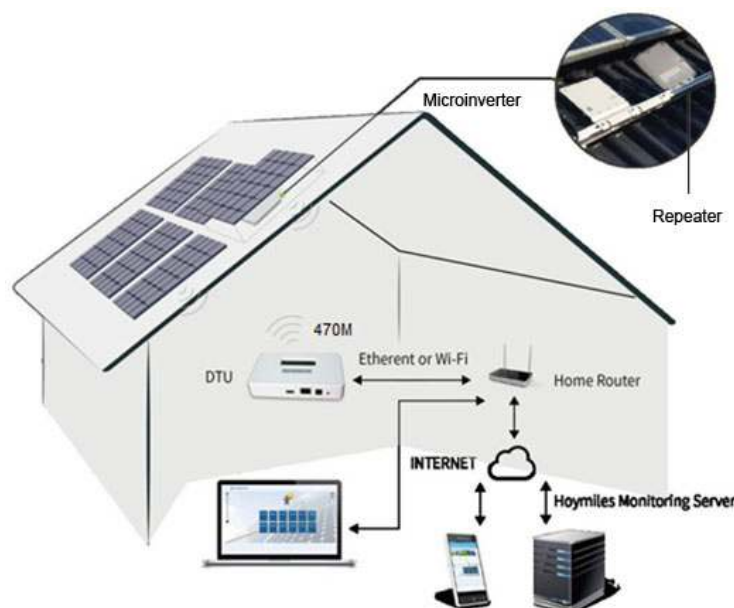
### 2.2 DTU

The DTU is the key component in Hoymiles microinverter system. It works as the communication gateway, which operates between the Hoymiles microinverters and the Hoymiles Monitoring Server. The DTU communicates with the microinverter wirelessly via 2.4G RF, collecting the operation data of the system. Meanwhile, the DTU connects to the Internet via router and communicates with Hoymiles Monitoring Server. The microinverter system operation data will be uploaded to Hoymiles Monitoring Server via DTU.

### 2.3 Hoymiles Monitoring Server

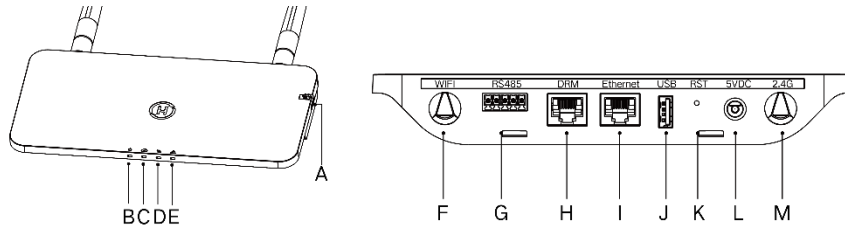
It collects the operation data and status of the microinverters in the system and provides the panel-level monitoring for the users and maintenance staff.

The following diagram shows the Hoymiles Microinverter system.



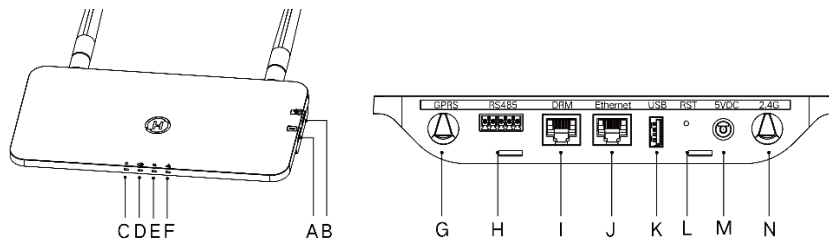
### 3. Interface Layout

#### 3.1 For DTU-Pro (GPRS Version)



| Item | Description                               |
|------|---|
| A    | SD Card Slot                              |
| B    | DTU Power Indicator                       |
| C    | DTU Communication Indicator (With Server) |
| D    | DTU Communication Indicator (With MI)     |
| E    | DTU Alarm Indicator                       |
| F    | WiFi Antenna (2.4G)                       |
| G    | RS485                                     |
| H    | DRM Port (For Australia only)             |
| I    | Ethernet Port                             |
| J    | USB Port                                  |
| K    | Reset Bottom                              |
| L    | Power Port                                |
| M    | 2.4G Antenna                              |

#### 3.2 For DTU-Pro (WiFi Version)



| Item | Description                               |
|------|---|
| A    | SIM Card Slot                             |
| B    | SD Card Slot                              |
| C    | DTU Power Indicator                       |
| D    | DTU Communication Indicator (With Server) |
| E    | DTU Communication Indicator (With MI)     |
| F    | DTU Alarm Indicator                       |
| G    | GPRS Antenna (GSM)                        |
| H    | RS485                                     |
| I    | DRM Port (For Australia only)             |
| J    | Ethernet Port                             |
| K    | USB Port                                  |
| L    | Reset Bottom                              |
| M    | Power Port                                |
| N    | 2.4G Antenna                              |

## 4. DTU Installation

### 4.1 System Capacity

The DTU-Pro is capable of monitoring up to 99 panels.

*Note: Max. monitoring quantity is for open space, installation condition meets the requirement from both DTU and Microinverter manual, and the distance between Microinverter and DTU needs to be within the required range.*

### 4.2 Basic Conditions Required

Before installing the DTU, ensure that the site meets the following requirements:

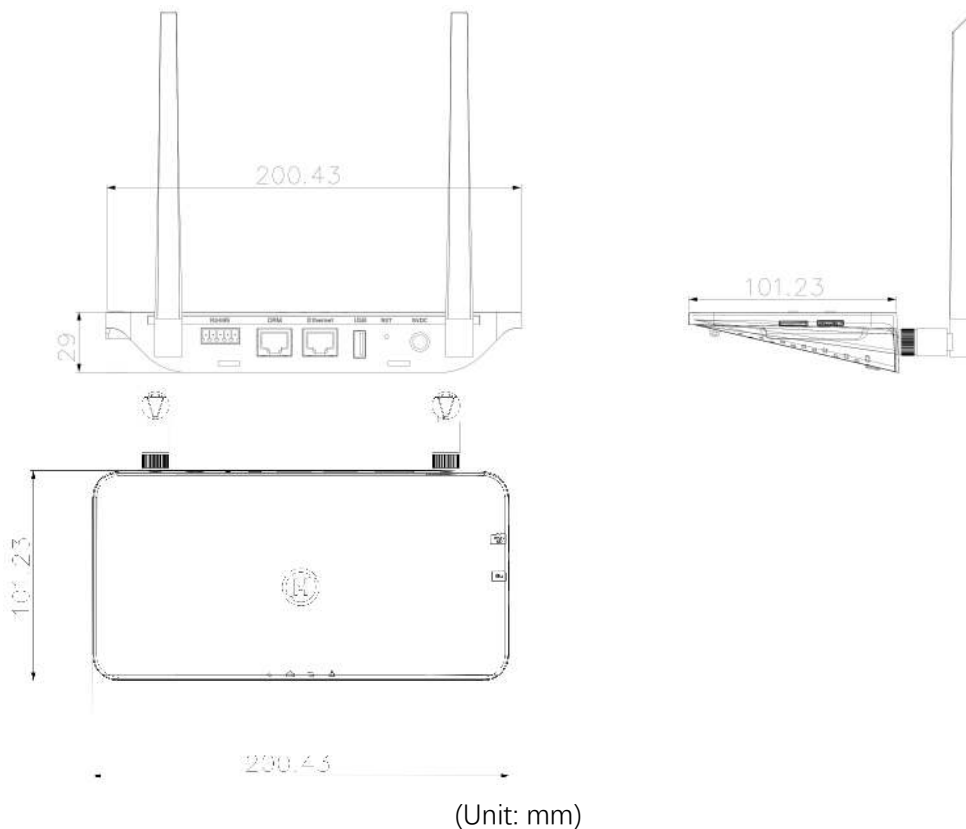
- Standard 220 VAC power outlet.
- Stable broadband internet connection.
- Router with Ethernet port.

The environmental requirements for DTU installation:

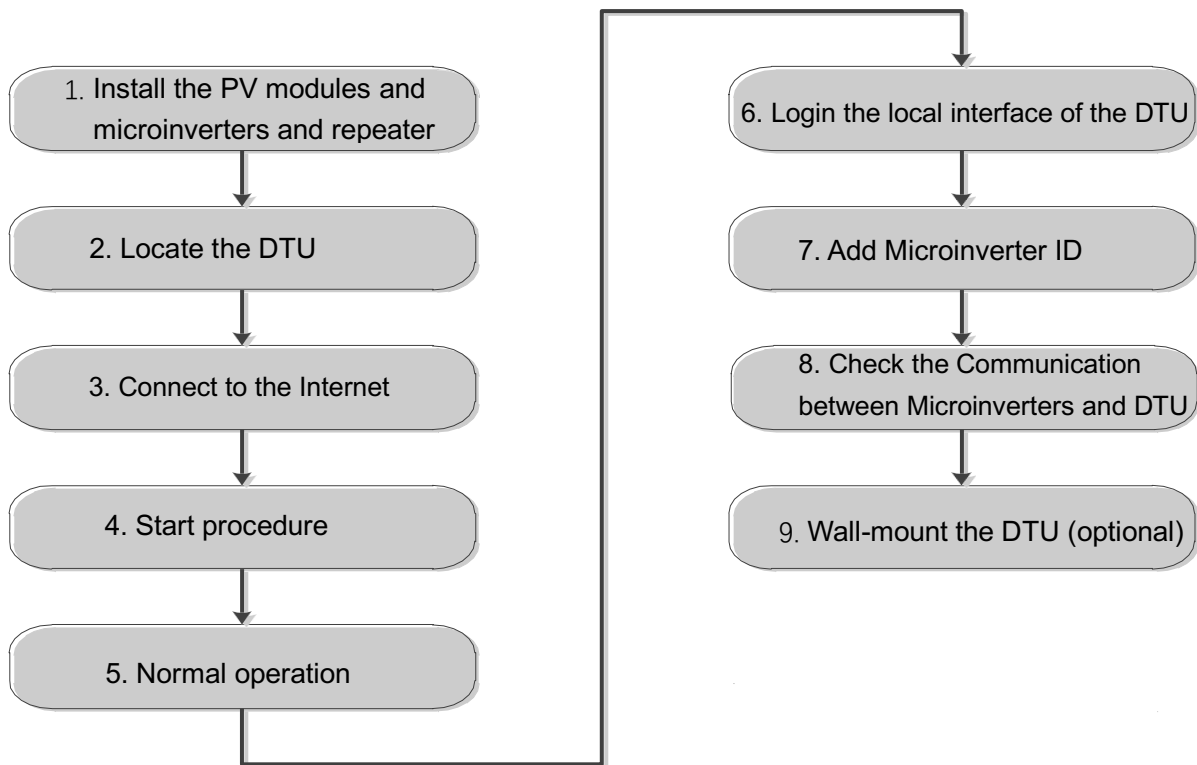
- Away from dust, liquid, acidic, or corrosive gas.
- The temperature should be between -20°C and 55°C.

If you plan to install the DTU on the wall, two #8 (4.166mm diameter) screws and a screwdriver shall be prepared in advance.

### 4.3 Dimensions



## 4.4 System Installation Sequence



## 4.5 Preparation

A) Download the Hoymiles mobile App



B) Check the box for the following items:

- Hoymiles DTU-Pro
- Two Antennas
- Adapter
- Bracket
- 5 Pin Plug

C) Choose the way DTU-Pro connect to the Internet:

For **DTU-Pro (WiFi Version)**:

Use WiFi or Ethernet. Please prepare for the following items, if needed:

- Ethernet Cable (if choose Ethernet option).
- Smart Phone/Tablet with Hoymiles Installer App installed (if choose WiFi option).

For **DTU-Pro (GPRS Version)**:

Use GPRS or Ethernet. Please prepare for the following items, if needed:

- Ethernet Cable (if choose Ethernet option)
- SIM Card (if choose GPRS option)

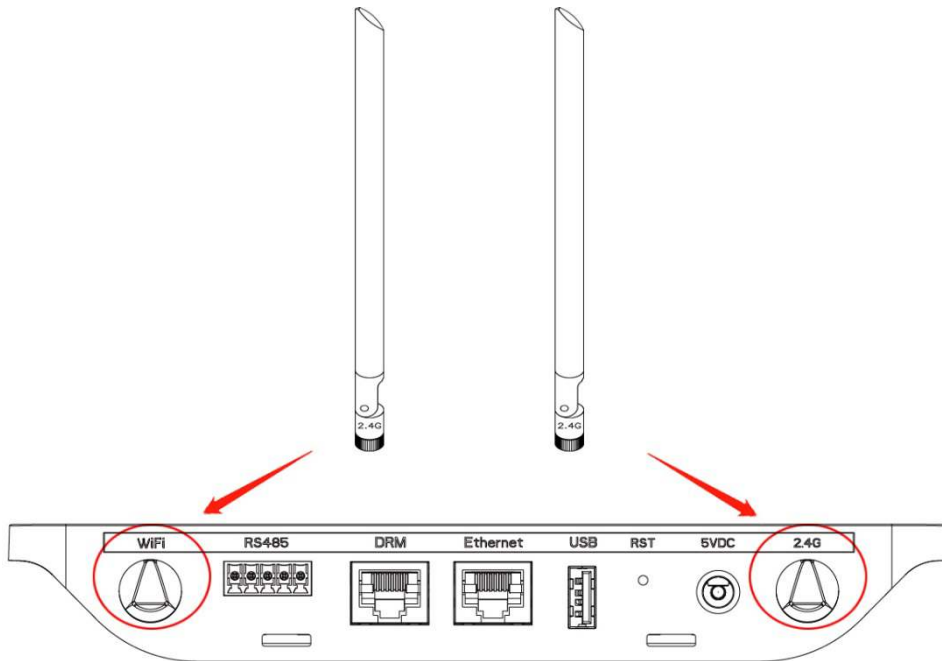
- Smart Phone/Tablet with Hoymiles Installer App installed (if choose GPRS option)

## 4.6 Install the DTU

Step 1: Install the antennas.

**For DTU-Pro (WiFi Version):** Take two 2.4G antennas out from the box, and screw the antenna into the WiFi port and 2.4G port.

**For DTU-Pro (GPRS Version):** Take 2.4G antenna and GSM antenna out from the box, and screw the antenna into the GPRS port and 2.4G port.



Step 2: Insert the SIM Card into the SIM Card slot on the side of DTU (For DTU-Pro GPRS only).

Step 3: Choose an Installation Location

- Installed on the top floor to increase the signal strength.
- Installed near the center of the PV array.
- Installed at least 0.5m above the ground and more than 0.8m away from the corner.

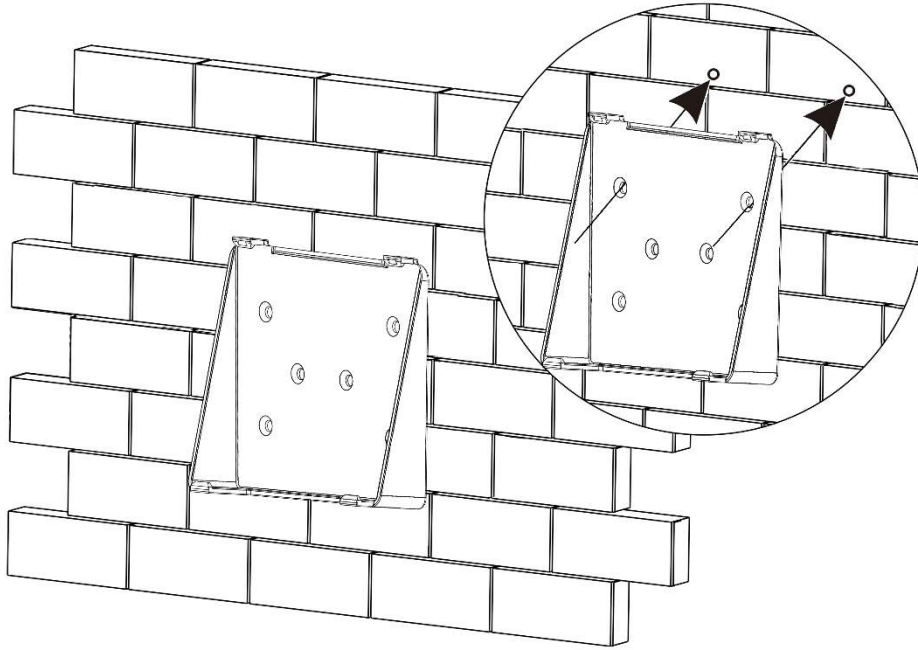
**Note:** Please do not install the DTU direct above the metal or concrete to prevent the signal dilution.

Step 4: Choose the Installation Method

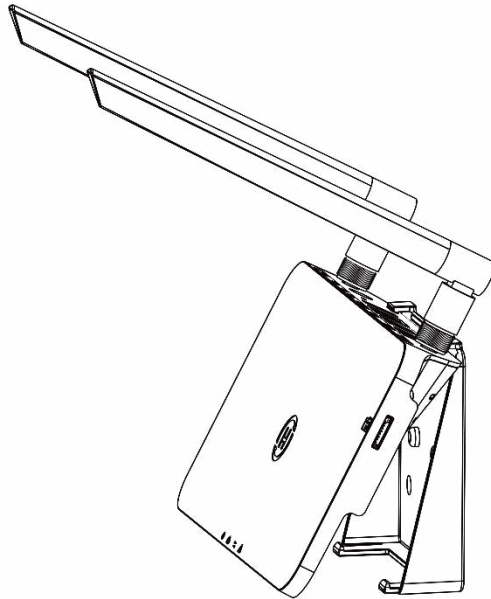
Option 1: Mount the DTU on the wall.

- Screw the bracket on the wall, please choose at least two screw holes (one from each side) to fix the bracket (the M4 screws need to prepare by installer);

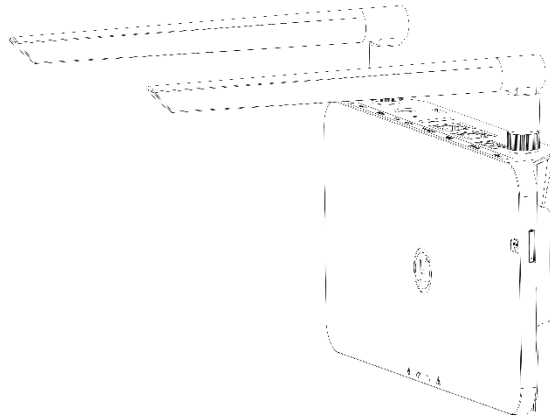




- Match the bracket's upper buckle with DTU-Pro;

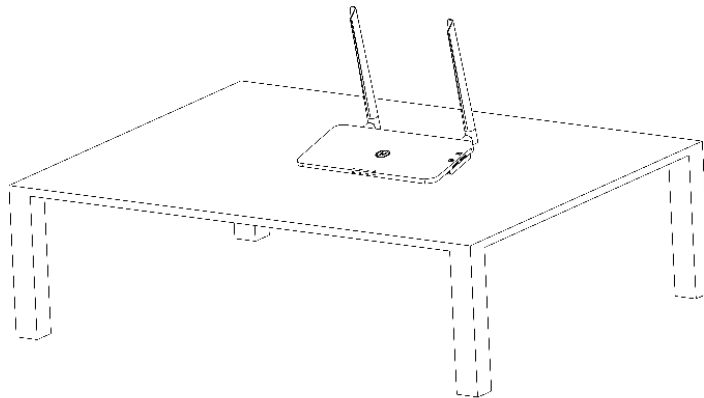


- Match the bracket's lower buckle by gently press the lower side of the DTU-Pro until hear the Click. Please make sure the antennas are vertical to the wall.



### Option 2: Place the DTU on the table

- Place the DTU on the table, please make sure the antennas are vertical to the table;



A) Plug in the power adapter to power the DTU;

B) Set up with Internet.

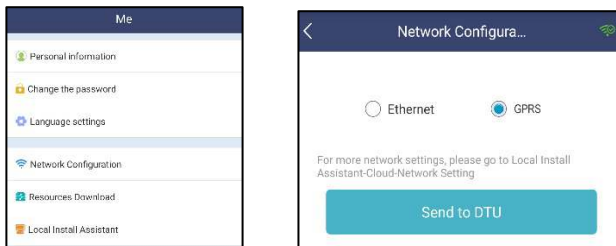
#### For DTU-Pro (WiFi Version):

- Use the smart phone/tablet/laptop open the Installer App and login. Approach to “Me” on the bottom of the page and then “Network Configuration”. And complete the WiFi configuration (If choose WiFi);
- Use the Lan Cable, one side connect with house router, another side with DTU Ethernet port. Use the smart phone/tablet open the Installer App and login. Approach to “Me” on the bottom of the page and then “Network Configuration”, and select “Ethernet” (If choose Ethernet).



**For DTU-Pro (GPRS Version):**

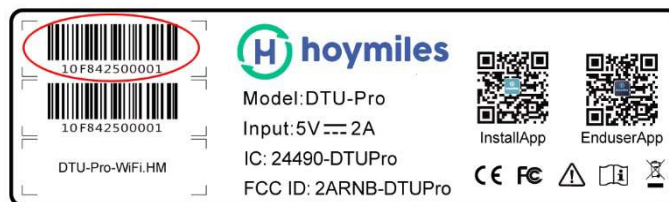
- a) Use the Lan Cable, one side connect with house router, another side with DTU Ethernet port. Use the smart phone/tablet open the Installer App and login. Approach to “Me” on the bottom of the page and then “Network Configuration”, and select “Ethernet” (If choose Ethernet).
- b) Select the Network Configuration method from App (Me – Network Configuration).
- c) Our default APN is CMNET, in terms of your country do not support CMNET please modify the APN at: “Me-Local Install Assistant-Cloud-Network Configuration” from the Installer App (If choose GPRS).



**4. Complete Installation Map**

Please complete the installation map.

- A) Peel the serial number label (as circled below) from the DTU and place it on the installation map.



- B) Complete system information of the installation map shown as follows.

| To sheet _____                   |   |   |   |                       |   |   |   |                    |   |    |    |    |    |    |
|----------------------------------|---|---|---|-----------------------|---|---|---|--------------------|---|----|----|----|----|----|
| N<br>S<br>E<br>W<br>(circle one) | Panel Group:<br>Azimuth:<br>Tilt:<br>Sheet ___ of ___ |   |   | Customer Information: |   |   |   | DTU Serial Number: |   |    |    |    |    |    |
|                                  | 1   | 2 | 3 | 4                     | 5 | 6 | 7 | 8                  | 9 | 10 | 11 | 12 | 13 | 14 |
| A                                |   |   |   |                       |   |   |   |                    |   |    |    |    |    |    |
| B                                |   |   |   |                       |   |   |   |                    |   |    |    |    |    |    |
| C                                |   |   |   |                       |   |   |   |                    |   |    |    |    |    |    |
| D                                |   |   |   |                       |   |   |   |                    |   |    |    |    |    |    |
| To sheet _____                   |   |   |   |                       |   |   |   |                    |   |    |    |    |    |    |

information of the installation map shown as follows.

**6. Site Creation on HMP**

- a. Install Hoymiles Installer APP by searching “Hoymiles” at the App Store (IOS) or Play Store (Android).
- b. Open the APP and login in with your installer account name and password. If you are a new

installer with Hoymiles, please apply an Installer account from Hoymiles Technical and Service Support Team at [service@hoymiles.com](mailto:service@hoymiles.com) in advance.

- c. Add Station, select the “Station” tab on the bottom, then select “⊕” on the right top side of the page.
- d. Select “Quick” for Single-DTU and “Profession” for Multi-DTU.
- e. Please fill in the station details accordingly, and press “Next” after completed.
- f. Press “Add DTU ID”, scan the DTU ID (or you can manually input ID) and press “Next” after complete.
- g. Click “Start binding” and choose the angle and tilt base on the installation.
- h. Scan the Microinverter ID (or you can manually input the ID) and click the tick after complete each ID input. Press “Finish” once all Microinverter ID has been input.
- i. Disable the Scan function on the top of the right-hand side and design the Layout base on the installation. Click the tick box on the top of the right-hand side, and then select “Next” after complete the design.
- j. Upload a picture of the site and select “Finish” to complete the site creation.
- k. The new site will appear on the Station list from the Installer account.
- l. Please click the “Networking” button after the power station is created.
- m. Please wait about 30 minutes, the station will show online, and all the MI-IDs are found.

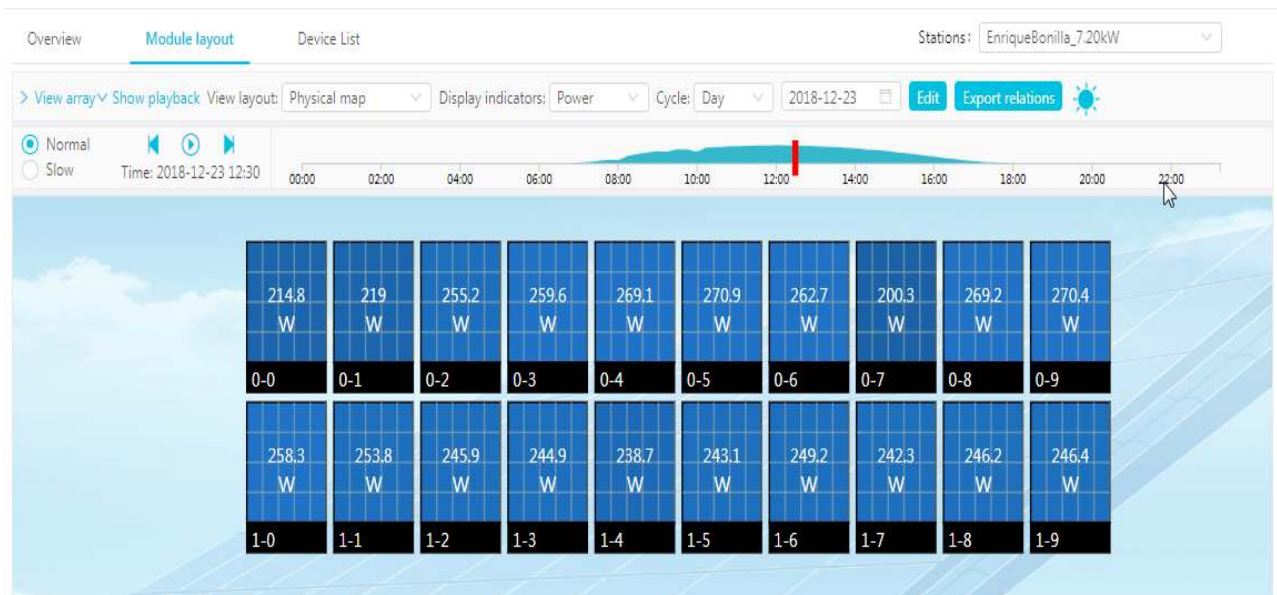
**Note:** For more setting details regarding the Export Control, Local Assistance please acquire the related Operation Guide from our Tech. Support Team at [service@hoymiles.com](mailto:service@hoymiles.com).

## 7. Customer Login

- a. Please download the End User App. You can search “Hoymiles” at the App Store (IOS) or Play Store (Android).
- b. Log in with the Password and User name that has been set up by Installer on the previous step (Section 6 step e), and press “Login”.
- c. Customers will able to view all details once the data start to upload, normally it will need around 30 mins for the first data coming through.
- d. Customer can also view the Microinverter generating details via accessing the HMP monitoring platform website at <https://world.hoymiles.com>

## 8. Browse the Web Station

Log in your account and browse the web station.



## 9. View Phone APP

Download mobile phone APP and view station information.



## 10. Datasheet

| Model  | DTU-PRO (WIFI Version)   | DTU-PRO (GPRS Version) |
|--|--|------------------------|
| <b>Communication to Microinverter</b>          |  |                        |
| Type   | 2.4G RF  |                        |
| Maximum distance (open space)                  | 200m   |                        |
| Maximum number of panels connected             | 99 <sup>1</sup>  |                        |
| <b>Communication to Cloud</b>                  |  |                        |
| Type   | WIFI/Ethernet  | GSM/Ethernet           |
| Sample rate                                    | 15 minutes   |                        |
| <b>Display</b>                                 |  |                        |
| LED  | LED*4  |                        |
| APP  | Local APP  |                        |
| <b>Power Supply</b>                            |  |                        |
| Type   | External plug-in adapter   |                        |
| Adapter input voltage/frequency                | 100 to 240 V AC / 50 or 60Hz   |                        |
| Adapter output voltage/current                 | 5V / 2A  |                        |
| Power consumption                              | 2.5W (typical), 5W (maximum)   |                        |
| <b>Mechanical Data</b>                         |  |                        |
| Ambient temperature(°C)                        | -20°C to 55°C  |                        |
| Dimensions(W×H×D)                              | 200mm×101mm×29mm   |                        |
| Weight   | 0.20 kg  |                        |
| Mounting system                                | Wall mounting / Table  |                        |
| <b>Features</b>                                |  |                        |
| Compliance                                     | RCM, FCC 15B, FCC 15C, EN60950-1, EN61000-3-2, EN61000-3-3, EN301489, EN300328, EN300440 |                        |
| [1] Depending on the installation environment. |  |                        |