



Quick installation guide for power monitor

For commercial use only. Model name: PPM R3E-000

Please enter the website <http://twtpedsc.cloudapp.net/>
-> Support -> User Manual -> Monitor to download the User Manual.

Essential Points for Safety

- Request a specialist to dispose of the Product.
- Do not install the Product in any place that is prevented from having air flow, such as inside closets or under stairs.
- Pull 6-pin terminal off when any abnormality is detected like smoke, heat.
- Install the Product with the "DELTA" logo facing up when installing the Power Monitor on a wall. When not installed on a wall, set the Product on the Wall Surface/Desktop Mounting Plate when using the Product.
- Take care to ensure no water or other liquid gets on the Power Monitor.
- The Product may malfunction or may be damaged by static electricity. Be sure to remove any static electricity on the body, through such means as touching a metal object nearby, prior to coming into contact with the Product.
- A touch panel type liquid crystal display has been adopted for the Product. Do not press or hit hard on the surface of the display.
- Do not connect a telephone line or household LAN cable to the LAN terminal on the Power Monitor. There is danger of the Product malfunctioning.
- Store the Product in a location with the temperature ranging between -20 and +60°C, with the humidity ranging from 30 to 85% RH.
- For commercial use, the product can monitor maximum 32 inverters at one time.

Do not install the product in the following places:

- Do not expose to extreme fluctuation temperature.
- Do not expose to salt air.
- Do not expose to corrosive substances, explosive / flammable GAS, chemicals.
- Do not install in direct sunlight.
- Do not install in a place exceeding the operating temperature range (-20 to +50°C).
- Do not install above 2000m MSL or higher.
- Do not expose to water vapor, oil vapor, smoke, cotton dust, metal powder, sawdust, Warakuzu.

※ If installed outdoor, please put it in box which is suitable for outdoor use.

Descriptions of Parts and Components

Front **Back** **Side**

① LAN terminal (RJ-45 terminal) (fitted with a protective cover)
This is the terminal that is used to connect the system to an internet line. (A setup is required.)

② RS-485 (a 6-pin terminal)
This is the terminal that is used to connect a 6-pin connector provided, to link the supply of power and signals from the Inverter.

③ Power Supply terminal (fitted with a protective cover)
Not used.

④ USB Terminal (for USB 1 and USB 2) (fitted with a protective cover)
Downloading of various data and maintenance can be performed.
* Customers are requested to procure their own USB memory and USB cable.

⑤ Insertion slot for anchoring the Wall Surface Mounting Plate.
This is the insertion slot used to install the Wall Surface / Desktop Mounting Plate when installing the Product on the wall.

⑥ Insertion slot for anchoring the Desktop Mounting Plate
This is the insertion slot used to install the Wall Surface/Desktop Mounting Plate when installing the Product on desktop.

⑦ Reset button
Resetting the power monitor. Restart the power monitor. The settings and records will not be deleted.

⑧ Wiring access
According to the prescribed wiring method, remove the tab on the wiring access, and guide the cable through.

⑨ Screw hole
For fixing screw of 6-pin terminal.

Setting Connectors and Cables

- Setting cables
Prepare 0.3 to 0.5mm² x single wire, 4 cores (twin wires rather than 2 pair) shielded cables (rated temperature: 80°C to 85°C).
• Process the cables before use.

- Assemble 6-pin connector
Hold down the pin ① of 6-pin connector, insert cable and connect connector to monitor.

- Assemble communication connector
Hold down pin ① of connector in inverter, insert cable and connect connector to inverter.

Warning		Caution	
	Do not allow any fire producing objects to be near the Product, or apply any spray, including combustible gases, to the Product. The Product may ignite or explode in the unlikely event such an occurrence takes place.		When installing the Power Monitor on a wall made of materials that are not wood, be sure to acquire plastic anchors available on the market to secure the Wall Surface/Desktop Mounting Plate on the wall surface. There is danger of injury from the Product falling in some rare cases.
	Do not touch the Product with wet hands. The Product may cause injury due to electric shock or equipment malfunction may occur in the unlikely event such an occurrence takes place.		Do not install the Product in the following types of locations: There is danger of burnout in some rare cases. • Locations that are exposed to rain water, such as outdoors or under eaves and the like. • Locations that are exposed to steam or where the moisture level is 30 to 85% RH, such as lavatories, changing rooms, work sites, kitchens and the like.
	Do not disassemble or modify the Product. The Product may cause injury or fire due to electric shock in the unlikely event such an occurrence takes place.		Do not use organic solvents (paint thinners, benzene and the like), strong alkaline substances or strong acidic substances to clean the case of the Product. There is danger of discoloring the case or the equipment malfunctioning in some rare cases.
	Do not install the Product in a place that is subject to significant effects of vibration and impact. There is danger of injury from the Product falling in some rare cases.		

Scope of Delivery

NO.	Product name	Qty	Remarks	Shape
1	Power Monitor	1 unit	Main unit	
2	Wall Surface / Desktop Mounting Plate	1 piece	This is a plate used to install the Product on a wall or on a desk.	
3	Wood screws (+) for Wall Surface / Desktop Mounting Plate (dia. 4 x 20 mm)	2 pieces	These are wood screws for the Wall Surface / Desktop Mounting Plate.	
4	6 pin connector	1 piece	Connect to the main unit.	
5	Quick installation guide	1 copy	This document.	

※ Prepare 0.2 to 0.33mm² x single wire, 4 cores (twin wires rather than 2 pair) shielded cables (rated temperature: 80°C to 85°C).

Installation Method

- Installation on wall
 - Install the Wall Surface / Desktop Mounting Plate on the wall, using the wood screws provided.
 - Install the Wall Surface / Desktop Mounting Plate on a location that can withstand the weight of the main unit.
 - Use countersunk screws of 4 dia., when installing at a location where the provided wood screws cannot be used.
 - Apply torque of 1.5 to 2.0 Nm when installing wood screws on a wall made of wooden materials.
 - Install on a flat wall surface.
 - Verify the hooking portion of the Wall Surface / Desktop Mounting Plate and the Wall Mounting Plate and the insertion slot for anchoring the Wall Surface Mounting Plate on the reverse surface of the main unit, then press on the main unit until the insertion slot for anchoring is positioned above the upper section of the Wall Surface / Desktop Mounting Plate.
 - Slide the main unit lower in that position and securely engage the hooking portion.
 - Hook on the insertion slot for anchoring the Wall Surface Mounting Plate on the reverse surface of the main unit on the Wall Surface / Desktop Mounting Plate and shift down by approximately 1 centimeter.

Main unit

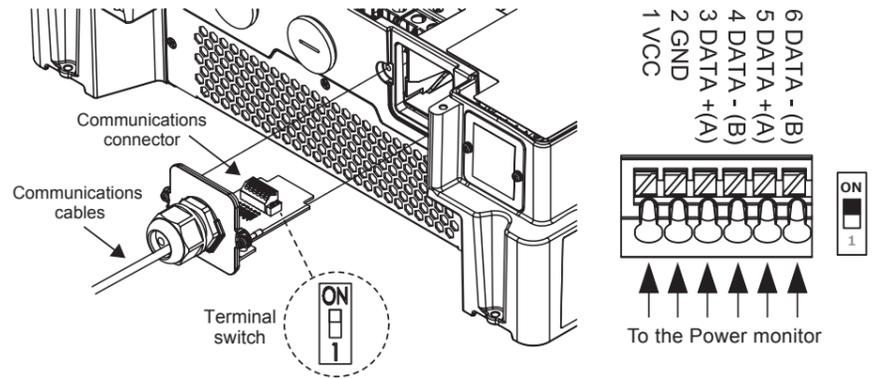
■ Dimensions of Wall Surface / Desktop Mounting Plate and the main unit

■ Separation distance from respective surfaces of main unit

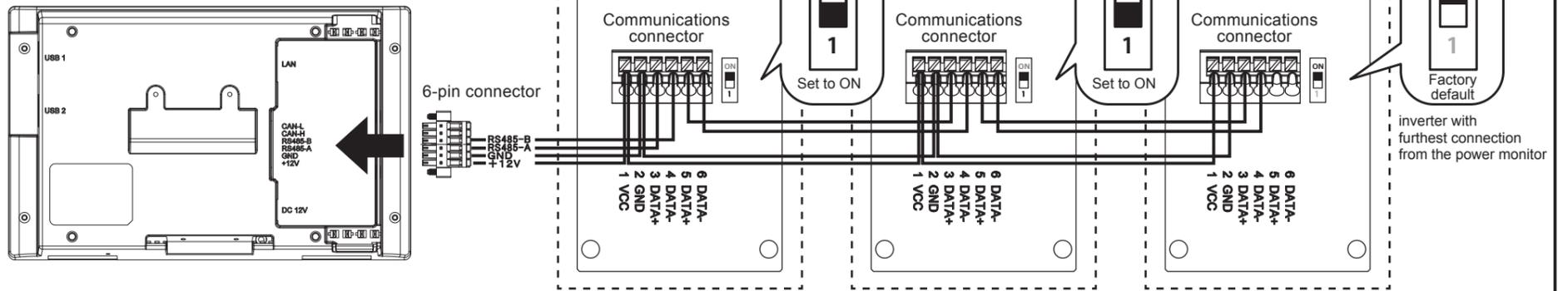
- Desktop installation method
 - Insert the Wall Surface / Desktop Mounting Plate in the insertion slot for anchoring the Desktop Mounting Plate at the lower section of the main unit, being careful about the direction the plate is facing.
 - Verify to ensure that there is no gap between the Wall Surface / Desktop Mounting Plate and Part A at the bottom of the main unit, as shown in the figure to the right.

Method for communication card disassembled

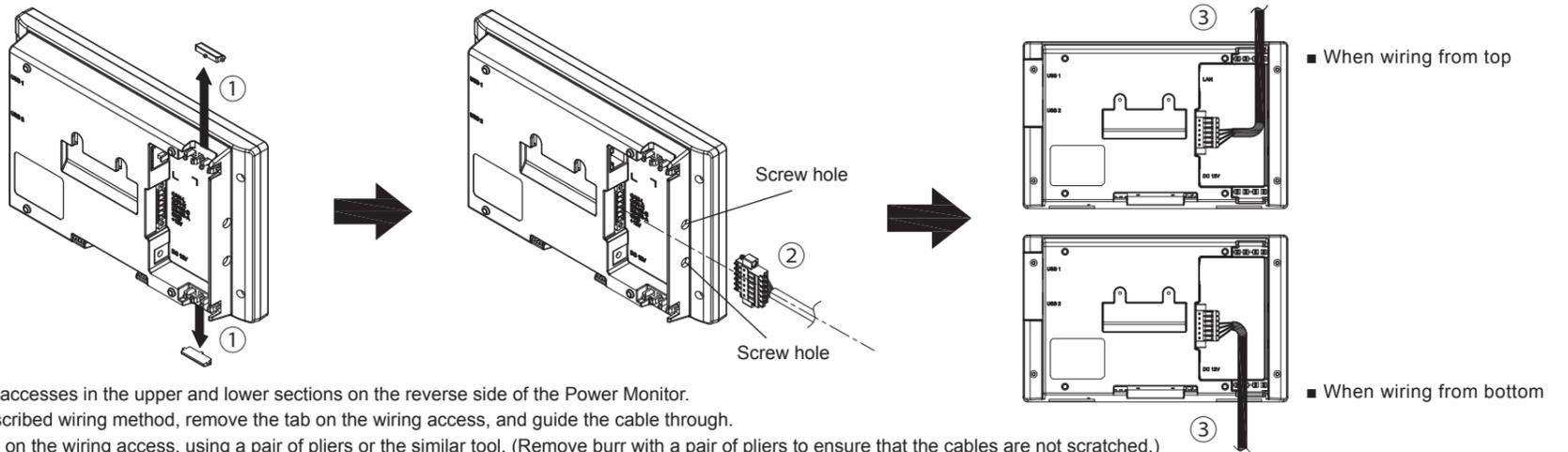
- (1) Remove the communications connectors from the inverter, and thread the cables through the waterproof gasket.
- (2) Hold down the top of the terminal block on the communications connectors, and insert the cables connected to the power monitor as follows: 1 VCC, 2 GND, 3 DATA+, 4 Data-.
- (3) Next, insert the cables into the adjacent inverter as follows: 5 Data+, 6 Data-.
- Check that the cables have been inserted securely.
- (4) Next, insert the aforementioned cables into the adjacent inverter as follows: 3 Data+, 4 Data-.
- (5) After completing the connection, turn ON the terminal switch for only the inverter that is farthest from the monitor, and set all the other inverter to 1 (OFF).



Using 3 inverters



Connecting the main unit and the 6 pin connector

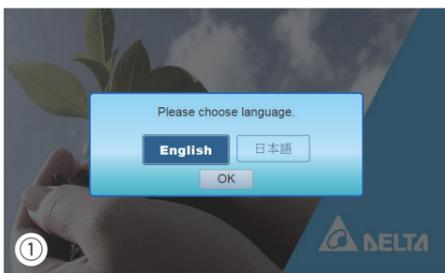


There are two wiring accesses in the upper and lower sections on the reverse side of the Power Monitor. According to the prescribed wiring method, remove the tab on the wiring access, and guide the cable through.

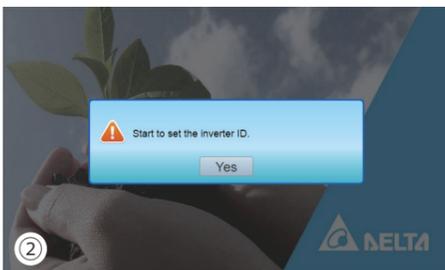
- ① Remove the tab on the wiring access, using a pair of pliers or the similar tool. (Remove burr with a pair of pliers to ensure that the cables are not scratched.)
- ② Pass a screwdriver through the screw hole, and tighten the two screws for the 6 pin connector.
- ③ When all the wiring is complete, install the power monitor in its installation site.

Initial setting

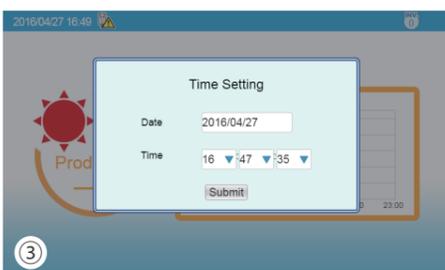
- (1) After started up, please choose language.



- (2) When monitor shows connection is started, please click "YES".



- (3) When monitor shows time setting, please set up time.



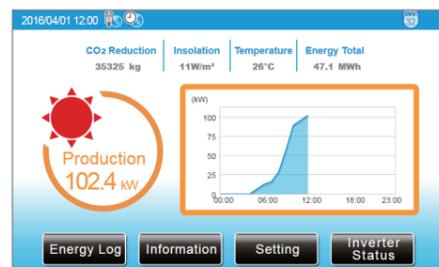
- (4) When time setting is done, monitor will show connection set up page. Please select inverter ID and click "Save".



- (5) When ID selection is done, monitor will show table as ⑤. If change is needed, please click "Reconfigure". If selection is correct, please click "Save", then monitor will show main page.



Home screen



- ①
- ②
- ③
- ④

When touching the screen to display each menu.

- ① [Energy Log]: Power history is displayed.
- ② [Information]: Status of the Inverter and the error history are displayed.
- ③ [Setting]: Setting for the Inverter and monitor.
- ④ [Inverter Status]: Display the status of Inverters.