# Smart Dongle (WLAN-FE) Quick Guide

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## NOTICE

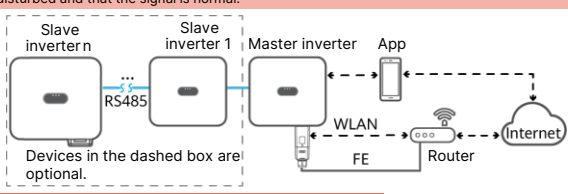


- Dongle is a smart communications expansion module that works with inverters to implement communication between inverters and the management system using WLAN or FE.
- A Dongle can be used for device cascading using RS485 communication (inverter cascaded or inverters cascaded with other devices). A maximum of 10 devices can be cascaded.
- When multiple inverters are cascaded, only one Smart Dongle is allowed.

# 1 Communication Scenario

**NOTE**

- Inverters with different appearances are used in the same communication scenario. The inverters in this document are used as an example.
- In the networking, the inverter where the Dongle is installed is the master inverter, and other inverters are slave inverters. Slave inverters can communicate with the Dongle through cascading.
- In the communications scenario, ensure that the wireless network of the inverter and router is not disturbed and that the signal is normal.




**Number of devices in the RS485 communication scenario**

| Limit | | Actual Number | |
|---|---|---|---|
| Maximum Number of Devices That Can Be Connected to the Dongle | | Number of Slave Inverters | Number of Non -Inverter Devices (Such as Power Meters) |
| 10 | 10 | n ≤ 9 | ≤ 9 – n |
| | 3 (with energy storage) | n ≤ 2 | ≤ 2 – n |
| | 3 (with single-phase inverters) | n ≤ 2 | ≤ 2 – n |

If devices are connected to the 485B2 and 485A2 ports of the master inverter, the devices are not included as cascaded devices.

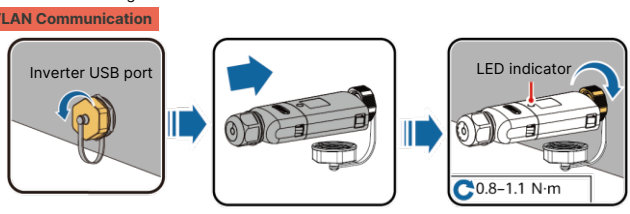
**Inverter Model Requirements**

| Master Inverter | Slave Inverter |
|---|---|
| Single-phase inverter | Single-phase inverter |
| Three–phase inverter | Three–phase inverter |

# 2 Installation and Commissioning

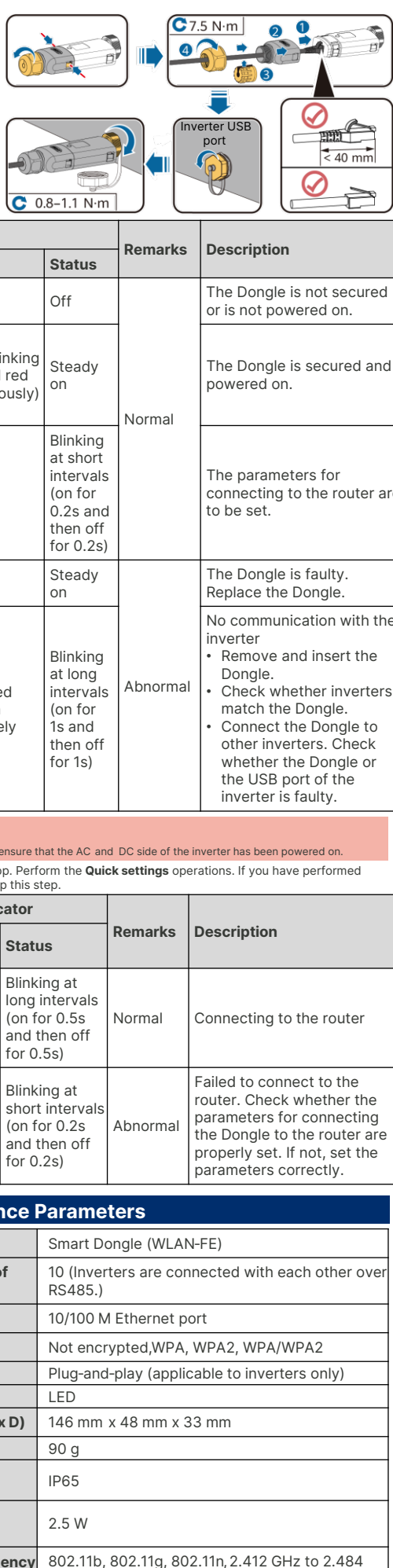
1. Install the Dongle.

**WLAN Communication**




**FE Communication**

You are advised to use a CAT 5E outdoor shielded network cable (outer diameter < 9 mm; internal resistance ≤ 1.5 Ω/10 m) and shielded RJ45 connectors.




| Operation | LED | | Remarks | Description |
|---|---|---|---|---|
| | Color | Status | | |
| Installing the Dongle | N/A | Off | Normal | The Dongle is not secured or is not powered on. |
| | Yellow (blinking green and red simultaneously) | Steady on | | The Dongle is secured and powered on. |
| | Red | Blinking at short intervals (on for 0.2s and then off for 0.2s) | | The parameters for connecting to the router are to be set. |
| | Red | Steady on | Abnormal | The Dongle is faulty. Replace the Dongle. |
| | Blinking red and green alternatively | Blinking at long intervals (on for 1s and then off for 1s) | | No communication with the inverter<br>• Remove and insert the Dongle.<br>• Check whether inverters match the Dongle.<br>• Connect the Dongle to other inverters. Check whether the Dongle or the USB port of the inverter is faulty. |

## NOTICE

Before setting parameters, ensure that the AC and DC side of the inverter has been powered on.

2. Install the HiSolar app. Perform the **Quick settings** operations. If you have performed such operations, skip this step.

| Operation | LED Indicator | | Remarks | Description |
|---|---|---|---|---|
| | Color | Status | | |
| Router connection settings | Green | Blinking at long intervals (on for 0.5s and then off for 0.5s) | Normal | Connecting to the router |
| | Red | Blinking at short intervals (on for 0.2s and then off for 0.2s) | Abnormal | Failed to connect to the router. Check whether the parameters for connecting the Dongle to the router are properly set. If not, set the parameters correctly. |

# 3 Performance Parameters

| | |
|---|---|
| **Product** | Smart Dongle (WLAN-FE) |
| **Maximum Number of Devices** | 10 (Inverters are connected with each other over RS485.) |
| **Network Port** | 10/100 M Ethernet port |
| **Encryption Mode** | Not encrypted,WPA, WPA2, WPA/WPA2 |
| **Installation Mode** | Plug-and-play (applicable to inverters only) |
| **Indicator** | LED |
| **Dimensions (W x H x D)** | 146 mm x 48 mm x 33 mm |
| **Net Weight** | 90 g |
| **Ingress Protection Rating** | IP65 |
| **Typical Power Consumption** | 2.5 W |
| **Standard and Frequency Band** | 802.11b, 802.11g, 802.11n, 2.412 GHz to 2.484 GHz |
| **Operating Temperature** | –30 °C to +65 °C |
| **Relative Humidity (Non - condensing)** | 5%–95% RH |
| **Storage Temperature** | –40 °C to +70 °C |
| **Highest Altitude** | 4000 m |