

Mobile Connect Installation Guide (M1-06)

To install the Enphase Mobile Connect cellular modem, read and follow all warnings and instructions in this guide. Safety warnings are listed at the end of this guide. All installations must comply with national and local electrical codes and standards. Only competent installation personnel shall install, troubleshoot, or replace the Enphase Mobile Connect cellular modem.

About the Mobile Connect

The IQ Gateway paired with the Mobile Connect cellular modem provides plug-and-play connectivity to the Enphase Installer Platform. It is pre-configured for data service and becomes activated when connected to the IQ Gateway. Mobile Connect includes the following:

- Cellular modem: 4G-LTE CAT M1/2G CELLMODEM-M1-06 family (indicated by SKU format CELLMODEM-M1-06-AB-CD, where AB and CD can change) with 5 year M2M data plan.
- SIM card: industrial grade, preconfigured, tested, and installed. CELLMODEM-M1-06-AT-05 has AT&T SIM and CELLMODEM-M1-06-SP-06 has T-Mobile SIM.
- USB cable: 700 mm/2.3 foot USB Type A Female to Type A Male. The IQ Gateway connects to the modem using this cable, which also powers the modem.
- Mounting hardware (plastic mounting bracket and two rivets).

The IQ Gateway collects module-level and system-level production data, and, if configured, consumption data, at predefined periods of time, typically at 15-minute intervals. The report setting for an IQ Gateway with the Mobile Connect cellular modem is low bandwidth mode, which transmits data to Enphase App four times a day. The transmissions occur within a five-minute window, at 3 a.m. (03:00), 9 a.m. (09:00), 3 p.m. (15:00), and 9 p.m. (21:00) at the local time of the IQ Gateway installation. After transmission, the data may take several minutes to display in Enphase Installer Platform.

Both T-Mobile and AT&T variants provide coverage in regions where there is adequate cellular service in the installation area, including the US, Canada, Mexico, Puerto Rico, the US Virgin Islands, Australia, New Zealand, France, the Netherlands, Germany, Austria, Belgium, Switzerland, Spain, and Sweden.

Visit Sprint.com (now part of T-Mobile) or ATT.com for a detailed coverage map.

The basic cellular modem plan is available for systems of up to 64 Enphase Microinverters. To monitor systems of more than 64 microinverters, please contact Enphase Customer Support for guidance.

Installation guidelines

- Enphase recommends that you install the IQ Gateway (or Envoy-S) and the modem in a non-metal enclosure.
- For outdoor installations, you must use an outdoor rated enclosure (NEMA 3R/IP54). The IQ Gateway installation guides provide further guidance.
- Only IQ Gateway/IQ Combiner/Envoy-S with software version 7.x or later support CELLMODEM-M1-06. Update the IQ Gateway software before installing Mobile Connect as the software update can take up to 30 minutes.

A. Mounting the modem

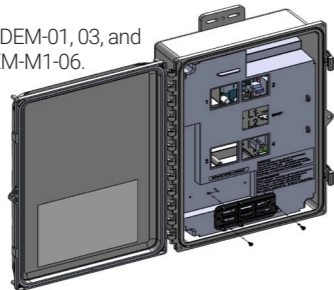
Enphase Mobile Connect can be mounted in a supported IQ Combiner or on a wall or flat surface.

Inside IQ Combiner 3/3C/3-ES/3C-ES/4/4C

- Open the IQ Combiner and locate the mounting recess on the deadfront of the IQ Combiner.
- Remove the black rivets and existing cellular modem (if present) from the IQ Combiner deadfront and discard them.

NOTE: The rivets shipped with CELLMODEM-01, 03, and M1 are not compatible with CELLMODEM-M1-06. If you have CELLMODEM-01, 03, or M1 installed with the IQ Combiner 3 or IQ Combiner 4, remove the existing rivets and use the rivets shipped with CELLMODEM-M1-06.

- Attach the mounting bracket to the IQ Combiner using the included rivets.
- Position the new modem (CELLMODEM-M1-06) on the mounting bracket and snap it into position.



Mounting the modem on a wall or flat surface

Mount the modem, either on a wall using the mounting bracket, or place on a flat, stable surface with the status LEDs pointing upward.

Using a mounting bracket

- Place the mounting bracket on the mounting surface.
- Secure to the surface using the holes at each end of the bracket.
- Position the new modem (CELLMODEM-M1-06) on the mounting bracket and snap it into position.

B. Connecting the USB cable

- Connect the USB cable to the USB port(s) on the IQ Gateway.
- Connect the Type A USB connector to the cellular modem.

The modem power LED lights up when the modem has power. After a few minutes, the Link status LED on the cellular modem flashes to indicate a network connection. The Signal LEDs indicate signal strength as shown in the Signal LEDs table in the next column.

No additional configuration is needed. The IQ Gateway automatically starts reporting to Enphase Installer Platform via the cellular modem.

WARNING: If you have already installed and connected the cellular modem to the IQ Gateway, do NOT move the modem to another IQ Gateway. This will deactivate the modem.

C. Checking connection status and cellular signal strength

When the IQ Gateway establishes an internet connection through the cellular modem, the IQ Gateway Network Communications LED is solid green.

You can use the Enphase Installer App to check the modem status and cellular signal strength. The IQ Gateway's AP (Access Point) Wi-Fi network allows you to connect your mobile device (smartphone or tablet) to the IQ Gateway.

- On the IQ Gateway, the AP Mode LED is solid green when the network is available. If the AP Mode LED is not lit, press the **AP Mode** button.
- Launch Enphase Installer App and tap **connect to IQ Gateway**.
- Tap **Network**.
- Under **Network Configuration**, tap **Cellular**. The app displays connection status and an indication of signal strength.
- Check the connection status and verify that signal strength is at **least two bars** for adequate data transmission.

Checking the cellular modem status LEDs

The modem has the following status LEDs

- Power
- Link
- Signal

The following tables list LED indicator status. The LEDs may be difficult to see if you view them from an angle. View the LEDs from the front for a clear view of the LED colour.

The LEDs are located on the upper right side of the front panel, as shown in the below diagram:



Power LED	Indicates
Off	DC power not present
On	DC power present

Link LED	Indicates
Flashing slowly (200 ms high/1,800 ms low)	Searching for available network
Flashing slowly (1,800 ms high/200 ms low)	Idle
Flashing quickly (125 ms high/125 ms low)	Data transfer in progress

Signal LEDs	Description	Indicates
	All off	Very weak signal
	Bar 1 ON	Weak signal
	Bar 1 and 2 ON	Good signal
	Bar 1, 2, and 3 ON	Very good signal

Troubleshooting

Issue	Action
No communication with Enphase App after connecting the cellular modem to the IQ Gateway.	<ol style="list-style-type: none"> Disconnect the USB cable. Power cycle the IQ Gateway. Wait until the IQ Gateway boots completely. Reconnect the cellular modem USB cable.
I want to disconnect the modem and reuse it at a different site.	Moving the modem to a different IQ Gateway deactivates the modem. Contact Enphase Customer Support if you need to reinstall the modem at a different site.

REGULATORY NOTICES

FCC statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, you are encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the cellular modem.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Contact Enphase Customer Support for assistance (<https://enphase.com/contact/support>).

Changes or modifications not expressly approved by the party responsible for compliance may void the user's authority to operate the equipment.

This Class B digital apparatus complies with Industry Canada ICES-003.

Compliance with EU directives

This product complies with the following EU directives and can be used in the European Union without any restrictions.

- Electro Magnetic Compatibility (EMC) directive 2014/30/EU
- Restriction of Hazardous Substances (RoHS) 2011/65/EU

RED Directive Compliance

Hereby, Enphase Energy Inc. declares that the radio equipment type Cell Modem follows Directive 2014/53/EU.

The full text of the EU declaration of conformity (DoC) is available at: <https://enphase.com/en-gb/installers/resources/documentation>.

Note for third-party products:

Any third-party manufacturer or importer product(s) used to install or commission Enphase product(s) shall comply with the applicable EU Directive(s) and requirements in the EEA (European Economic Area). It is the responsibility of the installer to confirm that all such products are labelled correctly and have the required compliant supporting documentation.

Contact information

Manufacturer:

Enphase Energy Inc.
47281 Bayside Pkwy., FREMONT, CA, 94538, UNITED STATES of AMERICA
PH: +1 707-763-4784

Importer:

Enphase Energy NL B.V.,
Het Zuiderkruis 65,5215MV, 'S-HERTOGENBOSCH, THE NETHERLANDS,
PH: +31 73 3035859



SAFETY WARNINGS

General safety

DANGER: Risk of electric shock. Risk of fire. Do not attempt to repair the Mobile Connect; it contains no user-serviceable parts. Tampering with or opening the Mobile Connect will void the warranty. Warranty void if cover removed. If the Mobile Connect fails, contact Enphase Customer Support for assistance (<https://enphase.com/contact/support>).

DANGER: Risk of electric shock. Do not use Enphase equipment in a manner not specified by the manufacturer. Doing so may cause death or injury to persons, or damage to equipment.

WARNING: Perform all installation in accordance with all national and local regulations regarding the use of radio equipment.

WARNING: This cellular device may cause interference with other electronic equipment if the equipment is inadequately protected.

WARNING: Follow restrictions imposed for any environment in which the device may operate, such as fuel depots, chemical plants, or where blasting operations are in process.

Potential interference with pacemakers and other medical devices

Radio frequency energy (RF) from cellular devices can interact with some electronic devices, causing electromagnetic interference (EMI). The FDA helped develop a detailed test method to measure EMI of implanted cardiac pacemakers and defibrillators from cellular devices. This test method is part of the Association for the Advancement of Medical Instrumentation (AAMI) standard. This standard allows manufacturers to ensure that cardiac pacemakers and defibrillators are safe from cellular device EMI.

The FDA continues to monitor cellular devices for interactions with other medical devices. If harmful interference occurs, the FDA will assess the interference and work to resolve the problem.

Precautions for pacemaker wearers

EMI can affect a pacemaker in one of three ways:

- Stop the pacemaker from delivering the stimulating pulses that regulate the heart's rhythm.
- Cause the pacemaker to deliver the pulses irregularly.
- Cause the pacemaker to ignore the heart's own rhythm and deliver pulses at a fixed rate.

Based on current research, cellular devices do not pose a significant health problem for most pacemaker wearers. However, people with pacemakers may want to take simple precautions to avoid EMI from cellular devices:

- Keep the device on the opposite side of the body from the pacemaker to add extra distance between the pacemaker and the device.
- Avoid placing a turned-on device next to the pacemaker (for example, don't carry the device in a shirt or jacket pocket directly over the pacemaker).

Device maintenance

DANGER: Risk of electric shock. Risk of fire. Only competent personnel should troubleshoot the Mobile Connect cellular modem.

DANGER: Risk of equipment damage. Choose an area for installation where the ambient temperature does not exceed 46°C.

WARNING: To ensure optimal reliability and to meet warranty requirements, you must install the Mobile Connect according to the instructions in this guide.

WARNING: Risk of equipment damage. Exposure to liquids can damage the cellular modem.

WARNING: DO NOT place the cellular modem near computer discs, credit or travel cards, or other magnetic media. It may affect the information contained in the magnetic media.

Environmental Protection

ELECTRONIC DEVICE: DO NOT THROW AWAY. Waste electrical products should not be disposed of with household waste. Refer to your local codes for disposal requirements.

Cellular modem TERMS AND CONDITIONS

These following Cellular modem Terms and Conditions ("Terms and Conditions") will apply to anyone who purchases and/or uses ("you", "your") the Enphase Cellular modem to enable internet connectivity for an Enphase IQ Gateway device ("Cellular modem Terms"). These Cellular modem Terms are incorporated into and made an integral part of the Agreement.

- 1. Cellular modem Description, Use, Unauthorized Use Limitation on Use.** The Cellular modem must be used only in conjunction with Enphase's IQ Gateway/IQ Combiner products. The Cellular modem shall not be used for any unlawful purpose(s).
- 2. Limited Warranty.** The Cellular modem comes with and is covered by a 5-year Limited Warranty which is included in the standard Enphase Limited Warranty which can be found at www.enphase.com/warranty ("Limited Warranty"). Except as expressly provided in this Section, to the maximum extent permitted by applicable law, the Cellular modem is provided on an "AS IS" basis without warranty whatsoever, and Enphase expressly disclaims all warranties, express, implied, and statutory including the implied warranties of merchantability, satisfactory quality, fitness for a particular purpose, title, and non-infringement. Any use of the Cellular modem other than as expressly stated in these Terms and Conditions shall constitute a breach of the limited warranty and render it null and void. The Cellular modem will contain a SIM card provided by a network provider. The SIM card (a) must not be removed from the Cellular modem, nor (b) used with any other device. Any such removal or use shall constitute a breach of the Limited Warranty and render the Limited Warranty null and void.
- 3. Territory.** The Cellular modem shall only be used in the countries listed on this quick installation guide (QIG). Enphase in its sole discretion reserves the right to amend the QIG to add or delete countries wherein the Cellular modem may be used.
- 4. Network Coverage.** Network Coverage is dependent upon network availability which is the responsibility of the network service provider. **Enphase shall have no responsibility, nor any liability to any end user for network service provider's non-coverage, lack of coverage, defective coverage, or termination of the coverage.**
- 5. Connectivity.** Cellular modem connectivity is subject to the telecommunication regulations and policies and terms of the network service providers, and the applicable laws of the country in which the Cellular modem is located and installed. **Enphase makes no representation or warranties as to such connectivity and Enphase shall have no responsibility, nor any liability to you for network service provider's failure to provide connectivity nor any responsibility or liability due to network service provider's termination of connectivity.**
- 6. Acceptable Use Policy.** You must conform to the applicable acceptable use policy ("AUP") posted on the applicable network providers website, and you alone will be responsible for ensuring compliance with its terms. You will indemnify, defend and hold Enphase harmless against any claims or losses suffered by Enphase because of your breach of the AUP.

For Cellular modems with:

AT&T connectivity – The terms available at <https://www.att.com/legal/terms.aup.html> shall apply.

T-Mobile connectivity – The terms available at <https://www.sprint.com/en/legal/acceptable-use-policy.html> shall apply.



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Enphase Customer Support: <https://enphase.com/contact/support>