

SAFETY WARNINGS

General Safety

The device is designed for and intended to be used in fixed applications. Fixed means the device is physically secured at one location and cannot be easily moved to another location.

CAUTION: Maintain a separation distance of at least 20 cm (8 inches) between the transmitter's antenna and the body of the user or nearby persons. The device is not designed for or intended to be used in portable applications within 20 cm (8 inches) of the user's body.

Attention: Maintenir une distance d'au moins 20 cm (8 po) entre l'antenne du récepteur et le corps de l'utilisateur ou à proximité de personnes. Le modem n'est pas conçu pour, ou destinés à être utilisés dans les applications portables, moins de 20 cm du corps de l'utilisateur.

Power Supply Caution

CAUTION: Do not replace the power supply with one designed for another product; doing so can damage the modem and void your warranty. Adapter shall be installed near the equipment and shall be easily accessible.

CAUTION: Pour garantir une protection continue contre les risques d'incendie, remplacez les fusibles uniquement par des fusibles du même type et du même calibre. L'adaptateur doit être installé à proximité de l'appareil et doit être facilement accessible.

Radio Frequency (RF) Safety

Due to the possibility of radio frequency (RF) interference, it is important that you follow any special regulations regarding the use of radio equipment. Follow the safety advice given below:

- Operating the device close to other electronic equipment may cause interference if the equipment is inadequately protected.
- Different industries and businesses restrict the use of cellular devices. Respect restrictions on the use of radio equipment in fuel depots, chemical plants, or where blasting operations are in process. Follow restrictions for any environment where you operate the device.
- Do not place the modem outdoors, unless in an outdoor-rated enclosure.
- Switch OFF your wireless device when in an aircraft. Failing to observe this restriction may lead to suspension or denial of cellular services to the offender, legal action, or both.
- Switch OFF your wireless device when around gasoline or diesel fuel pumps and before filling your vehicle with fuel.
- Switch OFF your wireless device in hospitals and any other place where medical equipment may be in use

Sécurité relative aux appareils à radiofréquence (RF)

À cause du risque d'interférences de radiofréquence (RF), il est important de respecter toutes les réglementations spéciales relatives aux équipements radio. Suivez les conseils de sécurité ci-dessous.

- Utiliser l'appareil à proximité d'autres équipements électroniques peut causer des interférences si les équipements ne sont pas bien protégés. Respectez tous les panneaux d'avertissement et les recommandations du fabricant.
- Certains secteurs industriels et certaines entreprises limitent l'utilisation des appareils cellulaires. Respectez ces restrictions relatives aux équipements radio dans les dépôts de carburant, dans les usines de produits chimiques, ou dans les zones où des dynamitages sont en cours. Suivez les restrictions relatives à chaque type d'environnement où vous utiliserez l'appareil.
- Ne placez pas l'antenne en extérieur.
- Éteignez votre appareil sans fil dans les avions. L'utilisation d'appareils électroniques portables en avion est illégale: elle peut

fortement perturber le fonctionnement de l'appareil et désactiver le réseau cellulaire. S'il ne respecte pas cette consigne, le responsable peut voir son accès aux services cellulaires suspendu ou interdit, peut être poursuivi en justice, ou les deux.

- Éteignez votre appareil sans fil à proximité des pompes à essence ou de diesel avant de remplir le réservoir de votre véhicule de carburant.
- Éteignez votre appareil sans fil dans les hôpitaux ou dans toutes les zones où des appareils médicaux sont susceptibles d'être utilisés.

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

When maintaining your device:

- Do not misuse the device. Follow instructions on proper operation and only use as intended. Misuse could make the device inoperable, damage the device and/or other equipment, or harm users.
- Do not apply excessive pressure or place unnecessary weight on the device. This could result in damage to the device or harm to users.
- Do not use this device in explosive or hazardous environments unless the model is specifically approved for such use. The device may cause sparks. Sparks in explosive areas could cause explosion or fire and may result in property damage, severe injury, and/or death.
- Do not expose your device to any extreme environment where the temperature or humidity is high. Such exposure could result in damage to the device or fire. Refer to the device specifications regarding recommended operating temperature and humidity.
- Do not expose the device to water, rain, or spilled beverages. It is not waterproof. Exposure to liquids could result in damage to the device.
- Do not place the device alongside computer discs, credit or travel cards, or other magnetic media. The information contained on discs or cards may be affected by the device.
- Using accessories, such as antennas, that MultiTech has not authorized or that are not compliant with MultiTech's accessory specifications may invalidate the warranty.

User Responsibility

Respect all local regulations for operating your wireless device. Use the security features to block unauthorized use and theft

QUICK INSTALL GUIDE

Installing the Enphase Mobile Connect (M1-B)

This guide provides instructions on how to install Enphase Mobile Connect™ (CELLMODEM-M1-B) with the Enphase Envoy-S™ and the Enphase IQ Envoy™. This guide is intended for use by professional installation personnel. For details about the Envoy-S or IQ Envoy, refer to the Installation and Operation Manual.

How Mobile Connect Works



Enphase Mobile Connect is a modem package that connects to the Enphase Envoy-S or IQ Envoy, and eliminates the need for an on-site Internet connection to monitor an Enphase Microinverter System. The addition of Mobile Connect to an Enphase System enables greater installation flexibility and provides reliable system monitoring independent of the Internet service on site.

Enphase Mobile Connect is pre-configured for data service and becomes activated when connected to the Envoy.

The Envoy collects module-level and system-level production data, and, if configured, consumption data, at pre-defined periods of time, typically at 15-minute intervals.

The report setting for an Envoy with Mobile Connect is **low bandwidth mode**, which transmits data to Enlighten four times a day. The transmission times occur within a five-minute window, at 3 am (03:00), 9 am (09:00), 3 pm (15:00), 9 pm (21:00). After transmission, the data may take several minutes to display in Enlighten.

About Enphase Mobile Connect

The Envoy paired with Mobile Connect provides plug and play connectivity to the Enphase Enlighten™ monitoring platform. Mobile Connect includes the following:

- MultiTech 4G-LTE Cat M1 modem (**CELLMODEM-M1-B**)
- Five-year M2M AT&T data plan
- SIM card - industrial grade, pre-configured, tested, and installed
- USB cable: Three foot USB type A to micro B. The Envoy connects to the modem using this cable, which also powers the modem.
- Mounting hardware (plastic mounting rail and two rivets)

Mobile Connect CELLMODEM-M1-B is designed to install inside an Enphase Combiner +, Enphase Combiner 3, Enphase Combiner 3C, or on a table top.

Supported combiner models include IQ Combiner + (X-IQ-AM1-240-2), IQ Combiner 3 (X-IQ-AM1-240-3), and IQ Combiner 3C (X-IQ-AM1-240-3C). CELLMODEM-M1-B does not support IQ Combiner (X-IQ-AM1-240-B). Use CELLMODEM-M1 instead.

Mobile Connect is available in regions where there is adequate (non-roaming) cellular service in the installation area, including the US, Canada, Mexico, Puerto Rico, and the US Virgin Islands. Visit ATT.com for a detailed coverage map.

The basic Mobile Connect plan is available for systems of up to 60 Enphase Microinverters. To monitor systems of more than 60 microinverters, additional charges apply.

The Enphase Mobile Connect modem cannot be transferred to a second Envoy after initial installation. Any attempt to do so will deactivate the modem.

Installation Guidelines

- Enphase recommends that you install the IQ Envoy (or Envoy-S) and the Mobile Connect modem in a non-metal enclosure.
- For outdoor installations, you must use an outdoor rated enclosure.

INSTALLATION

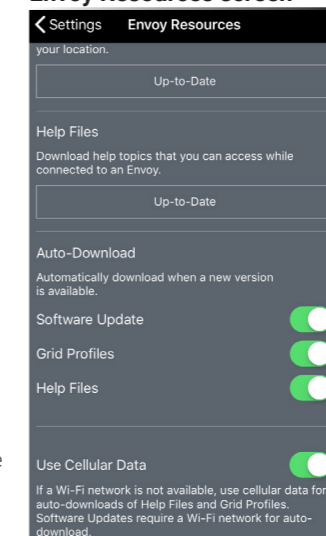
A. Updating the Envoy to 5.0.48 (or later)

Update the Envoy software before the installation. This is because updating the software can take up to 20 minutes. Only Envoy software 5.0.48 and later supports the CELLMODEM-M1-B

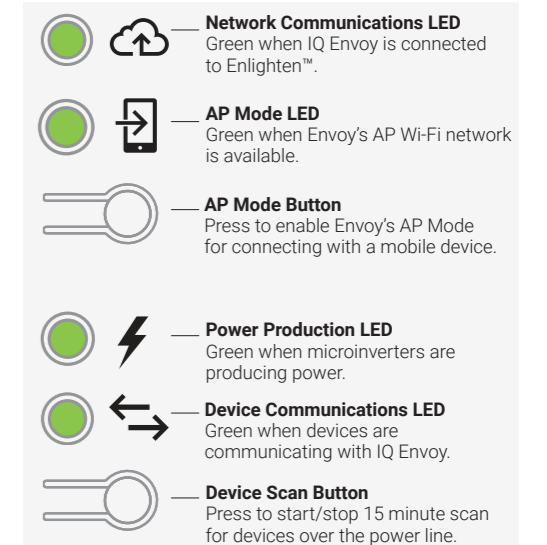
1. On your mobile device, open Enphase Installer Toolkit, go to **Settings**, and then select **Envoy Resources**.
2. Under **Software Update**, check that the Envoy software shows as **Up-to-Date**.
3. If it is not, under **Auto Download**, make sure **Software Update** is turned on.
4. Turn on **Use Cellular Data**.
5. Again, under **Software Update**, check that the Envoy software shows as **Up-to-Date**.
6. On the Envoy, if the AP Mode LED is not lit, press the AP Mode button.
7. On your mobile device, go to **Settings** and join the Wi-Fi network **"Envoy_nnnnnn"** (where "nnnnnn" represents the final six digits of the IQ Envoy serial number).

Continued on next page...

Enphase Installer Toolkit: Envoy Resources screen



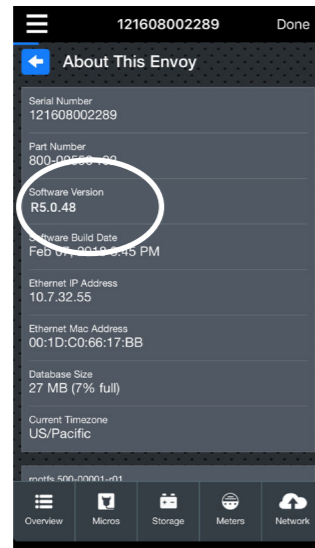
IQ Envoy LEDs and buttons



A. Updating the Envoy to 5.0.48 (or Later), continued

- The Installer Toolkit app informs you if the software on the Envoy is not the latest version by displaying the **Envoy Software Update** message. If the app displays this message, follow the on-screen instructions to update the Envoy.
- For a short period (5-10 minutes), you must keep your mobile device near the Envoy. Follow the on-screen instructions while the update takes place.
- To confirm the software update, check the Envoy, if the AP Mode LED is not lit, press the AP Mode button.
- On your mobile device, again go to **Settings** and join the Wi-Fi network **"Envoy_nnnnnn"** (where "nnnnnn" represents the final six digits of the IQ Envoy serial number).
- From the Installer Toolkit Overview screen, scroll down and tap **About This Envoy**.

Enphase Installer Toolkit: About this Envoy screen



The app responds with a list of Envoy properties including the software version. The update may take up to 20 minutes. The Envoy reboots several times during the update and the LEDs light up in varied sequences until the update is complete.

Once the update is finished, you will be able to connect to the Envoy and complete your system commissioning.

Failure to follow these instructions may result in a system commissioning delay.

B. Mounting the Modem

Mount the modem in a supported IQ Combiner or place it on a flat surface.

To mount the modem in an IQ Combiner:

- 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 existing rivets in the IQ Combiner 3 used with older Enphase modems (CELLMODEM 01, 02, 03, or M1) are not compatible with your new CELLMODEM M1-B.
- Fit the mounting rail into the slots on the back of the modem.
- Position the modem upside down, so that the USB port is on the left, and the mounting rail holes are positioned over the rivet holes in the deadfront.
- Locate the rivets that come with your new CELLMODEM M1-B, and insert the rivets through the holes in the mounting rail and into the holes in the IQ Combiner deadfront until the rivets click into place.



C. Connecting the USB Cable

- First, connect the USB cable to the USB port(s) on the Envoy.
- Then, connect the micro-USB connector to the Mobile Connect modem.

The modem power LED lights when the modem has power. After about two minutes, the Link Status LED flashes to indicate a network connection. The Signal LEDs indicate signal strength according to the Signal LED table.


No additional configuration is needed. The Envoy automatically starts reporting to Enlighten via the cellular modem.

On the Envoy-S or IQ Envoy, check the Network Communication LED to verify connectivity to Enlighten. See the first page of this document for Envoy LED status indications.




WARNING: If you have already installed and connected the cellular modem to the Envoy, do NOT move the modem to another Envoy. This deactivates the modem.

D. Checking Connection Status and Cellular Signal Strength

An Envoy with Mobile Connect automatically reports to Enlighten. When the Envoy establishes an Internet connection through the cellular modem, the Envoy Network Communications LED  lights solid green.

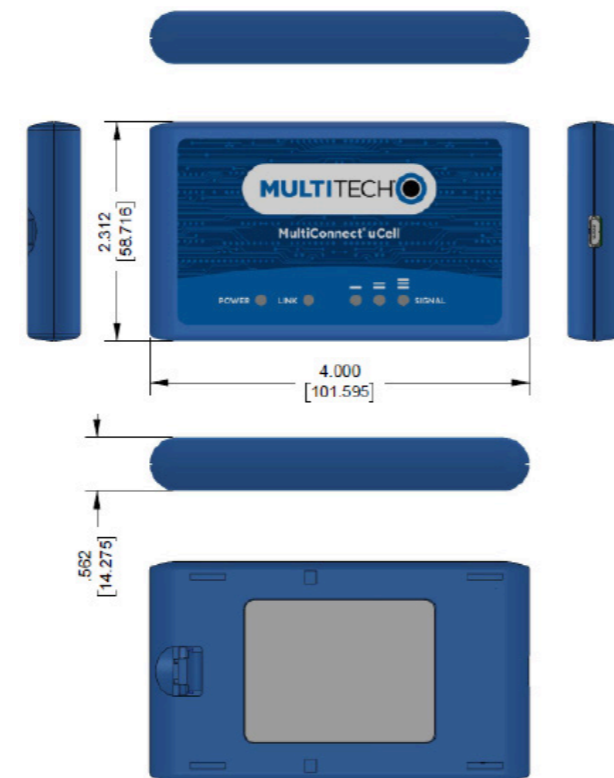
You can use the Enphase Installer Toolkit to check the modem status and cellular signal strength. The Envoy's AP (Access Point) Wi-Fi network allows you to connect your mobile device (smart phone or tablet) to the IQ Envoy.

- On the Envoy, the AP Mode LED  lights solid green when the network is available. If the AP Mode LED is not lit, press the **AP Mode** button.
- On your mobile device, go to **Settings** and join the Wi-Fi network "Envoy_nnnnnn" (where "nnnnnn" represents the final six digits of the IQ Envoy serial number).
- Launch Installer Toolkit and tap Connect to Envoy.
- 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.

Mounting Rail and Rivet



MultiTech Modem Dimensions



DIMENSIONS IN In [mm]

Checking the MultiTech 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 straight on.





Power

LED	Indicates
Off	DC power not present
On	DC power present

Link

LED	Indicates
Lit solid	The modem is not registered to the cellular network.
Flashing	The modem is registered to the cellular network.

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 Enlighten after connecting the cellular modem to the Envoy.	<ol style="list-style-type: none"> Disconnect the USB cable. Power cycle the Envoy. Wait until the Envoy boots completely. Reconnect the cellular modem USB cable.
I want to disconnect the modem and re-use it at a different site.	Moving the modem to a different Envoy deactivates the modem. Contact Enphase Customer Support if you need to re-install the modem at a different site.

REGULATORY NOTICES

FCC - 47 CFR Part 15 Regulation

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, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the cell modem.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the 47 CFR rules. Operation of this device is subject to the following conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference that may cause undesired operation.

WARNING: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Industry Canada Class B Notice

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement Canadien sur le matériel brouilleur.

This device complies with Industry Canada RSS Appliance radio exempt from licensing. The operation is permitted for the following two conditions:

- the device may not cause harmful interference, and
- the user of the device must accept any interference suffered, even if the interference is likely to jeopardize the operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes:

- l'appareil ne doit pas produire de brouillage, et
- l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Industry Canada and FCC

This device complies with Industry Canada license-exempt RSS standard(s) and part 15 of the FCC rules. Operation is subject to the following two conditions:

- this device may not cause interference, and
- this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme avec Industrie Canada RSS exemptes de licence standard (s) et la partie 15 des règles de la FCC. Son fonctionnement est soumis aux deux conditions suivantes:

- l'appareil ne doit pas produire de brouillage, et
- l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Environmental Protection

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

