

SecureMesh retrofit for GE I-210+ / I-210+RD / I-210+c / I-210+cRD meters

Introduction

This document will help the SecureMesh user to retrofit the product model **RES-3000-I210+**, **RES-3000-I210+RD** & **RES-3000-I210+c** in a **GE I-210+**, **GE I-210+RD**, **GE I-210+c** & **GE I-210+cRD** meter as intended.

Safety and Assembly Cautions

- **Warning:** *The meter carries **lethal voltages**. The meter must be completely disconnected from any external circuits. Failure to observe this **practice can result in serious injury or death**.*
- **Caution:** *These devices are **electrostatic sensitive**. It is best to use a grounded electrostatic mat and wrist strap to prevent electrostatic discharge.*
- **Important:** *It is not necessary to completely separate the top of the meter from the base of the meter for this retrofit procedure. However, if the two parts are completely disconnected and separated, it is extremely important to **keep each meter component together for re-assembly**. This is due to the top section of the meter containing calibration “characterization” programming for the CTs in the meter base. If these components get mixed up with other meter components, current measurement errors will occur.*

SecureMesh Radio Specifications:

- IEEE Standard : IEEE 802.15.4
- Power Output : +30 dBm
- Radio Sensitivity : -99 dBm
- RF Data rate : 250 kbps
- Operating Frequency : 2.400-2.483 GHz
- Network Topology : Mesh
- Modulation : O-QPSK
- Physical Dimensions : 2.54” x 3.47”
- Antenna : Dipole, 3.5 dBi

Industry Canada Compliance Statement (English & French)

This device complies with industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

"Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication."

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 :

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

"Selon les règles d'Industrie Canada, cet appareil transmetteur radio peut seulement être en opération avec l'utilisation d'une antenne de type et d'un gain maximum (ou moindre) approuvée pour le transmetteur par Industrie Canada. Pour réduire l'interférence potentielle de la radio versus les autres utilisateurs, le type d'antenne et son gain devrait être choisis de façon à ce que la puissance isotrope irradiée équivalente (e.i.r.p.) ne soit pas supérieure à ce qui est requis pour avoir une bonne communication. "

Federal Communication Commission Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

FCC Warning

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

FCC Interference 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, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- 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.

To comply with FCC and Industry Canada RF exposure limits for general population / uncontrolled exposure, the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Material

- GE I-210+ or GE I-210+RD or GE I-210+c or GE I-210+cRD meters (must be AMR configured)
- Trilliant SecureMesh **RES-3000-I210+ or RES-3000-I210+RD or RES-3000-I210+c.**
- Mounting Screws (HS-0013I) – QTY = 2



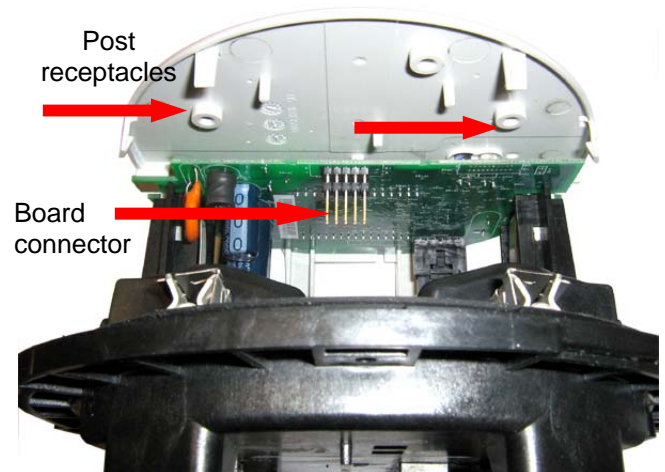
Procedure

*Note: In this procedure, the “**I-210+**” wording will be used for all 4 meter designs: I-210+, I-210+RD, I-210+c & the I-210+cRD meters.*

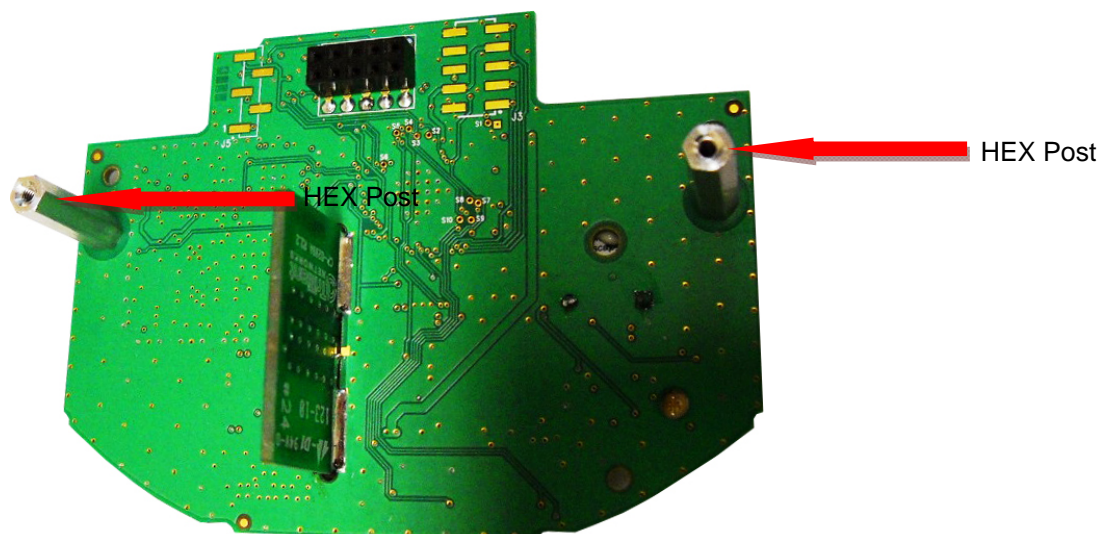
The following table represents the Trilliant SecureMesh product associated to the GE meter:

- *RES-3000-I-210+ product must be installed into an I-210+ meter*
- *RES-3000-I-210+RD product must be installed into an I-210+RD meter.*
- *RES-3000-I-210+c product can be installed into an I-210+c or I-210+cRD meter.*

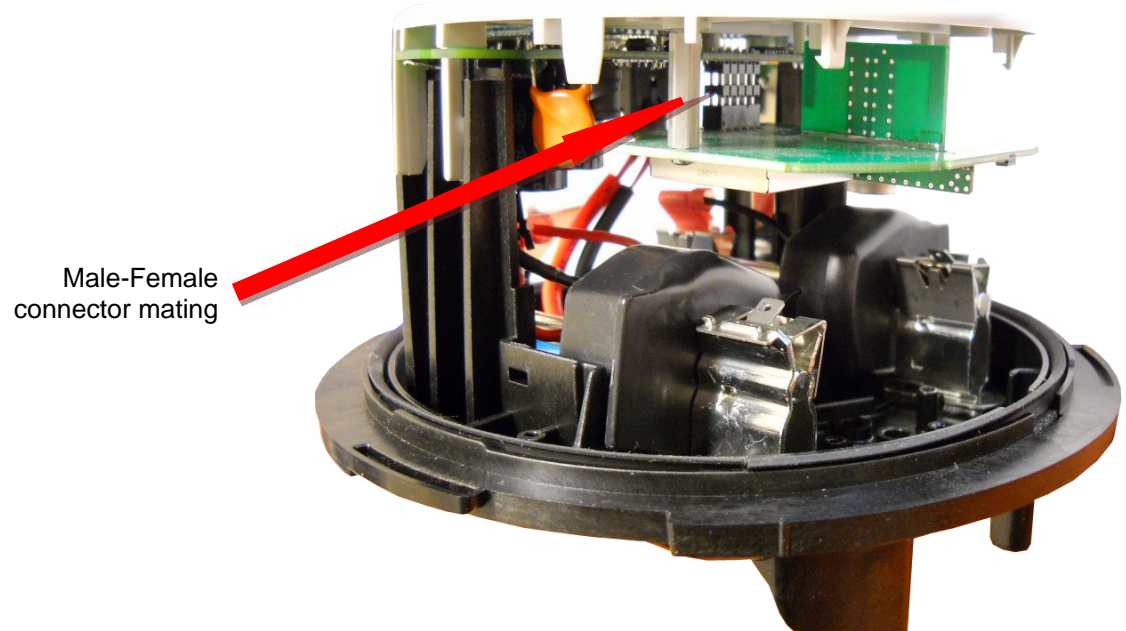
1. If it is not already done, dis-assemble the I-210+ meter clear cover to access the 2 post receptacle holes in the nameplate carrier and the I-210+ board connector as shown.



2. With the SecureMesh board in this orientation, please ensure that the antenna board is securely held in this position and that the 2 HEX posts are properly screwed.

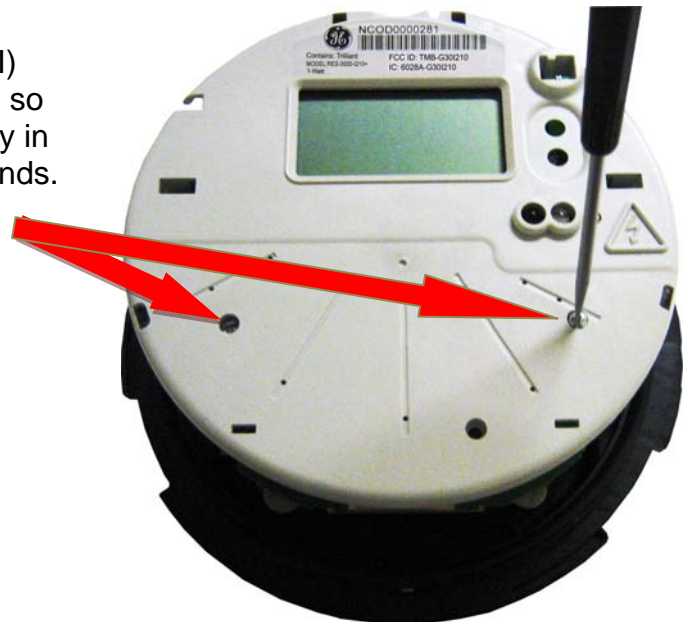


3. Install the SecureMesh board by first inserting the female connector in the I-210+ male connector as shown. Align the 2 HEX Aluminum posts with the 2 holes in the GE I210+ meter faceplate.



4. Attach the two mounting screws (HS-0013I) through the faceplate into the 2 HEX posts so that the SecureMesh board is held securely in place. Torque screws to 2 +/-0.2 Inch pounds.

Screws
(For Trilliant internal use: Milwaukee #2)



5. Affix any missing label on the meter faceplate, finalize inspection & test as required

Note: if this label is supplied by Trilliant, use HI-0274A for the I-210+ or HI-0275A for the I-210+RD or HI-0345A for the I-210+c.



6. Reassemble the I-210+ clear cover on its base.
7. Perform functional test & configuration as required.

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