Installing a Gateway into a GE Meter

Consert Inc.
12508 Jones Maltsberger Road
Suite 110
San Antonio, Texas 78247
www.consert.com

COPYRIGHT 2011-2012 Consert Inc. All rights reserved.
The Consert® Solution is covered by U.S. Pat. No. 7,715,951 and other U.S. and international patents pending. A list of patents and published patent applications relating to the Consert Solution may be found at www.consert.com.

Consert, Communicate-Control-Conserve, Virtual Peak Plant, and the Consert logo are trademarks or registered trademarks of Consert Inc.

CONTENTS

About This Guide *1*

Purpose 1

Target Audience 1

Prerequisites 1

What's New in This Edition 1

The Assembly Procedure *2*

Technical Information *8*

Technical Support 8

About This Guide

Purpose

This assembly guide provides detailed instructions for installing a Consert gateway into a General Electric (GE) I-210+ electric meter.

Target Audience

Assembly technicians tasked with assembling the gateway-meter combination.

Prerequisites

The following is required for installation of a Consert gateway into a GE electric meter:

- Assembly Technicians must have completed a static electricity prevention course
- All work must be performed in a static-controlled environment

What's New in This Edition

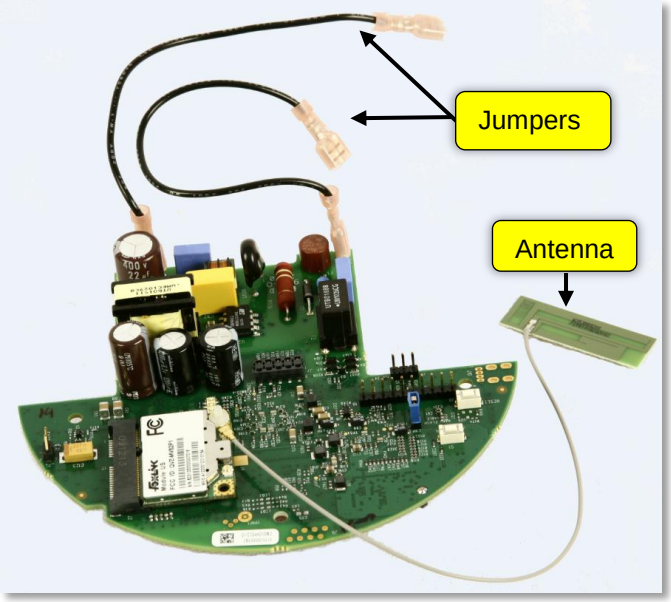
This edition of the guide contains the following changes:

- All information related to R915 modules has been removed.
- A verification step has been added to the assembly procedure to ensure that required FCC ID information is provided on the Consert label that assemblers attach to the meter.
- The Consert address and Customer Support phone number have changed to reflect the company's new location in San Antonio, Texas.

THE ASSEMBLY PROCEDURE

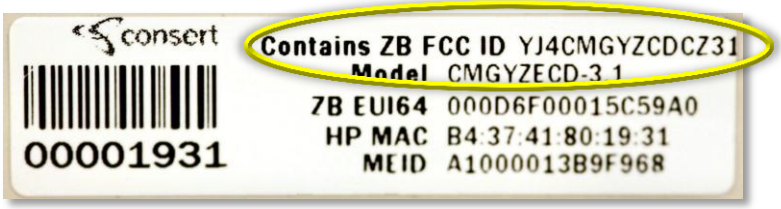
1. Remove the clear meter cover from the GE meter and set it aside.
2. Remove the Gateway PCB, shown in Figure 1, from its anti-static bag. Do not discard or lose the Consert Serial label; it is required in the next two steps.

Figure 1. Gateway PCB



3. Verify that the Consert Serial label includes the required FCC ID statement circled in Figure 2. If it does not, put the gateway board and label back in the anti-static bag for return to Consert, then obtain another gateway package and perform this verification step with the replacement. You **must** have a label that conforms to the FCC requirement before proceeding to the next step.

Figure 2. Consert Serial label with required FCC ID statement

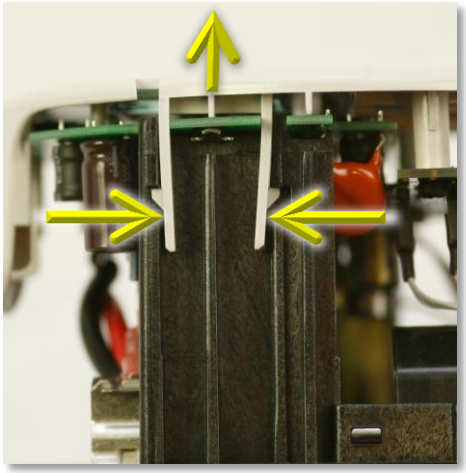


4. Carefully remove the backing from the Consert label and press the label onto the outer cover of the GE meter printed circuit board (PCB) as nearly centered as possible under the display area, as shown in Figure 3.

Figure 3. Consert label position

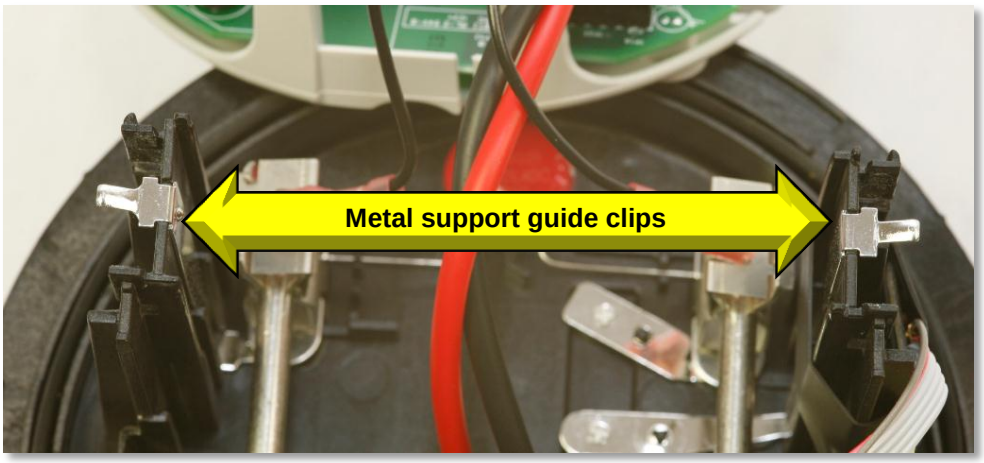
5 Carefully release the meter PCB and top cover combination from the meter support guides by pressing the locking tabs toward each other to release the tabs from the support guides while simultaneously pressing the PCB upward, as illustrated in Figure 4. Do this incrementally on each side, working the PCB upward a little on one side, then the other, until the PCB is completely free of the supports.

Figure 4. Releasing the PCB support guides locking tabs



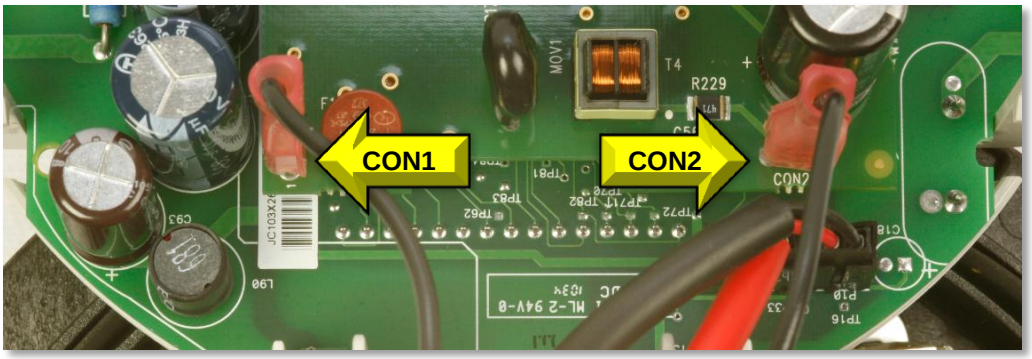
6 Visually ensure that the metal clips remain fully attached to the support guides, as shown in Figure 5.

Figure 5.Support guide clips



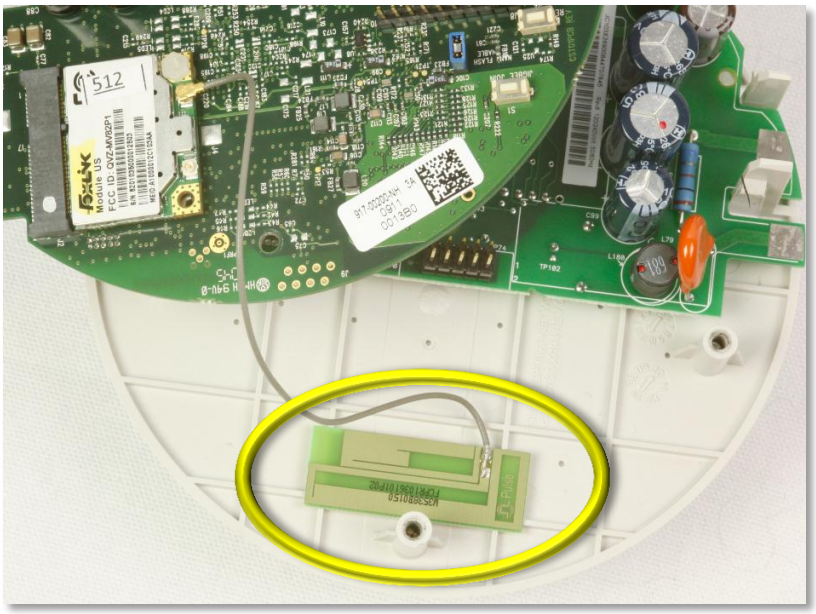
7 Verify that the jumper wires are attached to the CON1 and CON2 terminals on the PCB, as shown in Figure 6. They will be attached to the bus bars.

Figure 6. CON1 and CON2 terminals



8 Remove the adhesive backing from the back of the antenna and attach the antenna to the back of the meter PCB and top cover combination, as shown in Figure 7. Verify that the antenna cable has no defects or nicks and is not pinched.

Figure 7. Antenna attachment



9 Refer to Figure 8, below, which shows the back of the gateway PCB. The circled pins on the GE meter PCB will go into the circled holes on the gateway PCB.

Stand the GE meter PCB and top cover combination upright (with plastic guard on the bottom), then with the gateway PCB also standing upright, align the 10 pin connector on the meter PCB with the 10 pin header on the gateway PCB. *Gently* work the pins of the connector into their corresponding holes on the gateway PCB. When correctly aligned, only very gentle pressure is required to seat the pins into the holes. The pins will protrude through the gateway PCB connector, as shown in Figure 9 on page 6.

Figure 8. Connector pins to connector holes

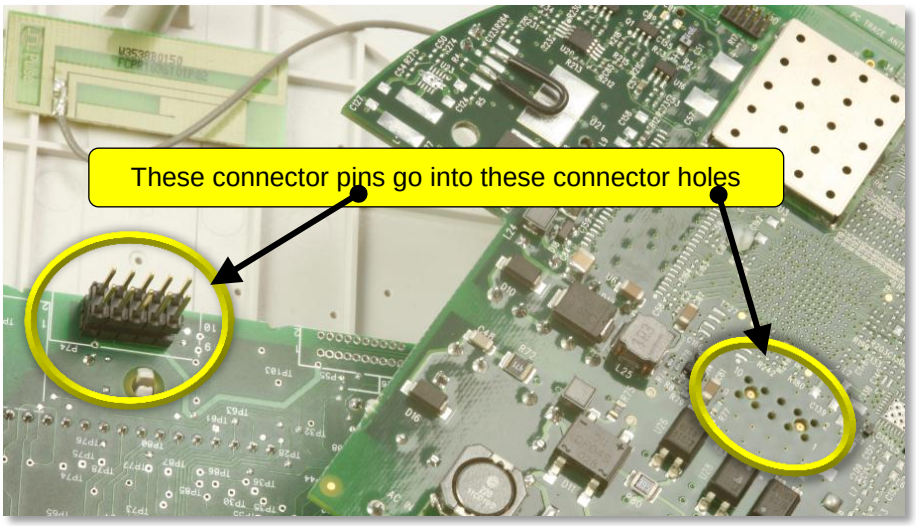
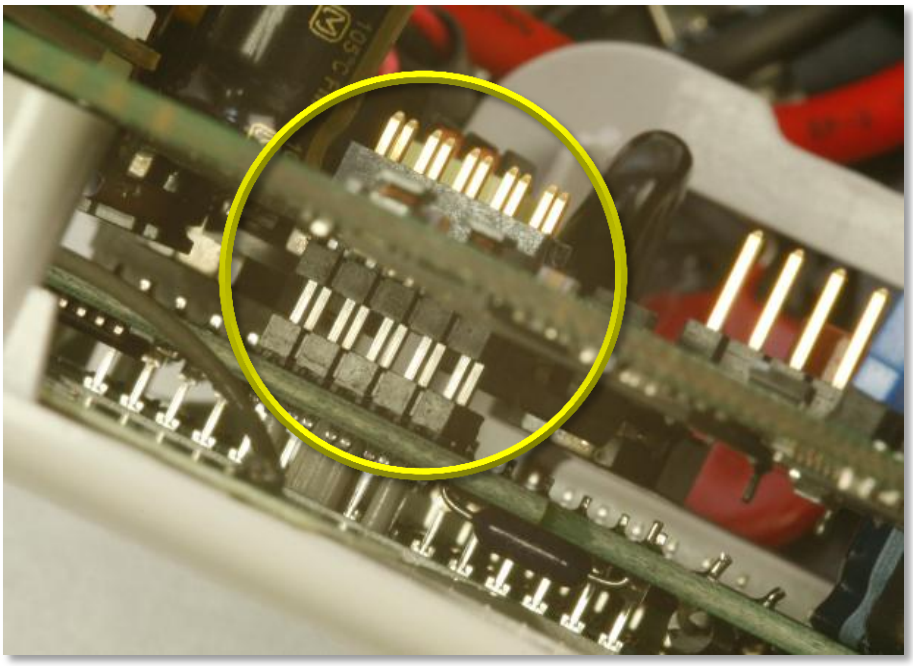
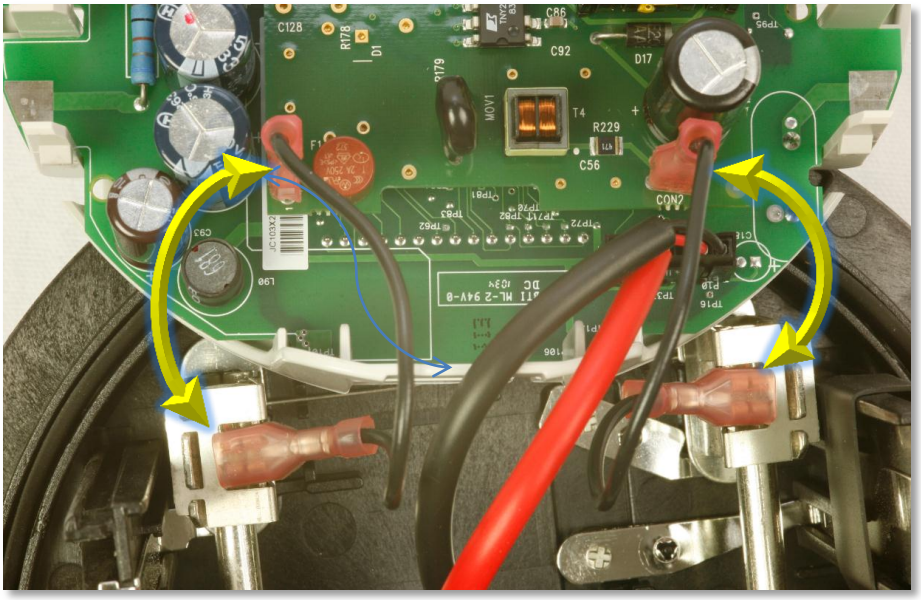


Figure 9. Meter PCB connector pins correctly installed through the gateway PCB connector block



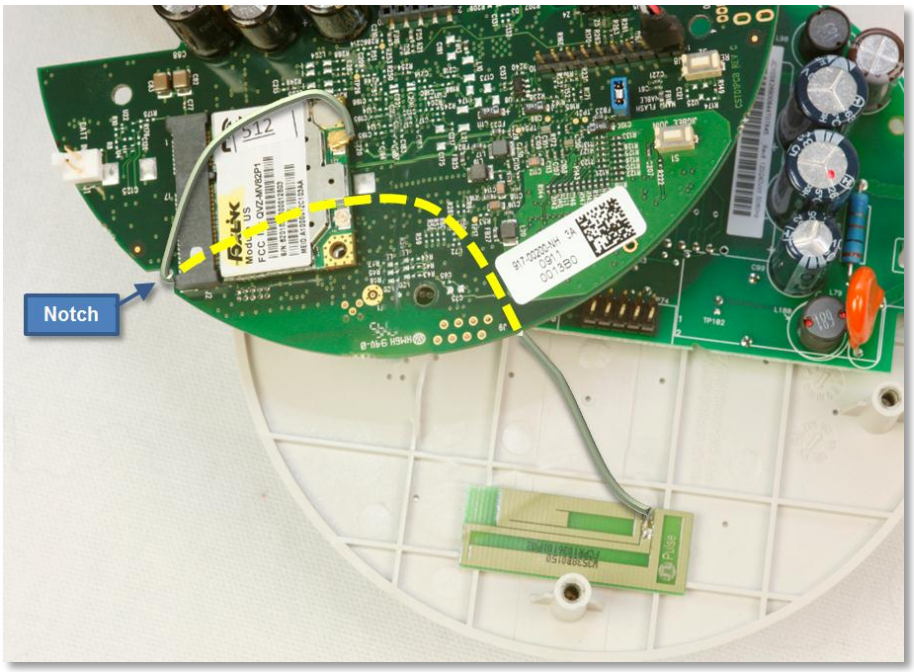
10 Attach the gateway PCB jumpers to their respective bus bars on the meter base, as shown in Figure 10.

Figure 10.Gateway PCB jumpers to meter base bus connections



11 Align the three mounting holes on the gateway PCB with the three mounting posts on the meter PCB and top cover combination. Ensure that the gateway antenna wire runs through the notch in the gateway PCB and *under* the PCB, as illustrated by the dashed yellow line in Figure 11.

Figure 11. Correct routing of the antenna cable



Notes:	Before attaching the gateway PCB to the GE meter PCB and top cover combination: ■ Provide the PCBs with the appropriate support when installing the three screws to mount the Gateway to the GE PCB and top cover. ■ Set your screw driver torque level to 4. ■ Ensure that no wires or cables will be pinched or crimped by the attachment.

12 Insert a screw through its mounting hole. Ensure that the screw is centered in the hole and aligned vertically for insertion. Use your driver to screw it down until the bottom of the screw head touches PCB. Verify that there is no space between the mounting posts and the PCB surface. Repeat this step for each mounting screw.

13 Install the PCB combinations to the meter support guides in the reverse of step 5. Keep all cables away from the supports and guides during installation. If a ribbon cable is attached to the GE PCB, align the ribbon cable straight down and towards the bottom of meter (as referenced by the meter's label).

14 Reattach the clear meter cover removed in step 1.

END OF PROCEDURE. INSTALLATION COMPLETE.

TECHNICAL INFORMATION

The Consert Gateway (GW) is a device that acts as a multi-conduit data transmission controller for a load management system. It also provides remote control and indication for the Consert Device Controller (DC) via backhaul wireless network. The Consert GW includes the following features:

- Industrial temperature rated parts (-40^{O}C to +85^{O}C)[1]
- UL or ETL compliant
- FCC compliant
- JTAG/Programming Connector (Separate connector to program each part)
- ANSI compliant

Part Number: CMGYZHPECD 2.0 (Includes Home Plug)

Part Number: CMGYZECD 2.0 (No Home Plug)

Input Voltage: 120 to 240 VAC

TECHNICAL SUPPORT

For technical assistance, please contact:

Consert Customer Service
12508 Jones Maltsberger Road
Suite 110
San Antonio, Texas 78247

855-851-5271
Customer.Service@consert.com

Customer Service hours:

Monday–Friday: 8:00 a.m. to 8:00 p.m. CST
Saturday: 9:00 a.m. to 1:00 p.m. CST

[1] The CDMA Modem is rated from 0^{O}C to +70^{O}C

Assembly Guide