

Installing the Module to the Dresser ROOTS® Micro Corrector (IMC/W2 or MC2)

Dresser ROOTS® Meters and Instruments offer a mounting bracket kit assembly to direct mount Itron's 2.4GZ OpenWay remote gas module to the IMC/W2.

Dresser ROOTS® Meters Instruments Mounting Bracket Kit (Dresser ROOTS Part Number 057783-000)

Quantity	Description	Dresser ROOTS® Part Number
1	Mounting bracket	015951-000
1	Screw, 8-32 x 7/16-inch	000163-277
2	Screw, 8-32 x 3/4-inch	000163-282
3	Nut, 8-32	012829-005
4	Spacer, #10	053669-001
4	Endpoint/bracket mounting screw, M6 x 20 mm	013444-002



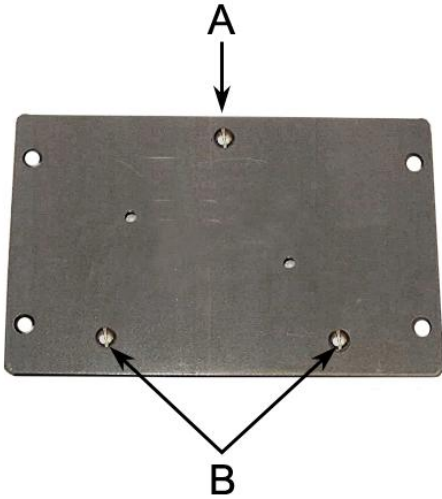
Important Dresser ROOTS® mounting bracket kit does not include the cable required to connect the 2.4GZ OpenWay remote mount gas module to the Amphenol connector on the IMC/W2.

Dresser ROOTS® Accessories

Description	Dresser ROOTS® Part Number
9" A-B male cable	054983-012
9" D-E male cable	054983-010

To attach the module to the IMC\W2 and MC2

1. Insert the 8-32 x 7/16-inch screw (A) into the top of the mounting bracket. Insert the two 8-32 x 3/4-inch screws (B) into the bottom of the mounting bracket.



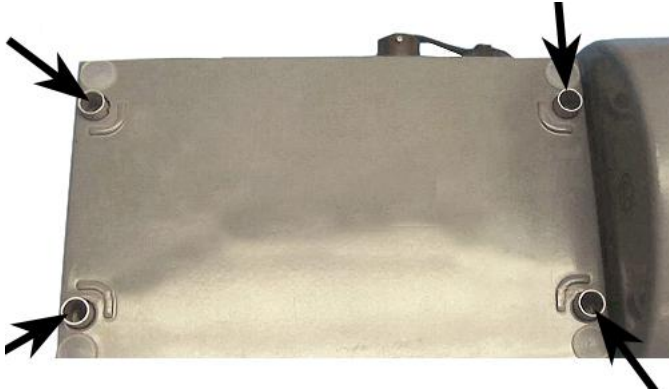
2. Insert one 3/32-inch nut on the top 7/16-inch bracket screw (A). Slide the 2.4GZ OpenWay remote mount gas module mounting lug over the top of the bracket screw and nut.



3. Secure the bottom 2.4GZ OpenWay remote mount gas module mounting holes over the two 8-32 x 3/4-inch screws with the remaining two 8-32 nuts.



4. Insert the #10 spacers into the four mounting holes on the back of the IMC\W2.



Caution Vertical mounting position is important to maximize RF performance. You can mount a 2.4GZ OpenWay remote gas module with the module's label arrow pointing up or down, dependent upon the application as noted in relevant sections of this installation manual. *The module's arrow must never point to either side.* The module's tilt tamper functionality is designed to operate with the module installed vertically. The 2.4GZ module's tilt tamper will operate with the label arrow pointed up or down. The module's tilt tamper *will not operate* with the module installed horizontally (the label arrow pointed to either side).

5. Secure the module/bracket assembly on the IMC\W2 using four module/mounting bracket screws (M6 x 20 mm).

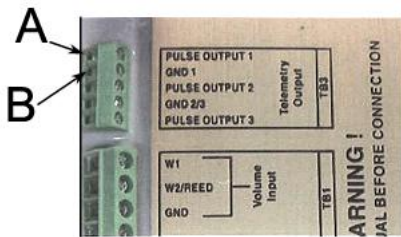


- 6. There are two options to connect the 2.4GZ remote gas module to Dresser ROOTS to the IMC\W2:
 - 1. For the Amphenol connector: plug the connector from the Itron endpoint to the IMC\W2 volume input connector.

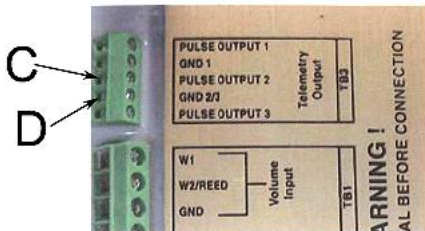


- 2. For the cable gland or conduit fitting:
 - a. Route the cable from the 2.4GZ OpenWay remote mount gas module through the IMC\W2 cable gland/conduit connector.

To receive uncorrected reads: connect the red wire to the terminal block 3 (TB3 telemetry output) GND1 (ground) position (B). Connect the white and blue wires to the pulse output 1 position (A).



To receive corrected reads: connect the red wire to the GND 2/3 (ground) TB3 telemetry output position (C). Connect the white and blue wires to the pulse output 2 position.



- 2. Tighten the cable gland fitting around the cable. Apply 15 inch-pounds torque.

Note 2.4GZ OpenWay remote mount gas modules using the flying lead cable assembly (Dresser ROOTS® part number 055018-700) are factory wired to terminal block 3 (TB3) according to IMC\W2 pulse output default configuration. Consult the customer specification for other wiring configurations.

To test the 2.4GZ OpenWay remote mount gas module IMC\W2 installation

1. Connect the IMC\W2 to the PC using the serial cable.
2. Using the Dresser ROOTS® User Terminal (UT) communications software, connect to the IMC\W2.
3. Read the uncorrected or corrected count number on the 2.4GZ OpenWay remote mount gas module with the Itron endpoint reading device. Compare the IMC\W2 uncorrected or corrected amounts to the 2.4GZ OpenWay remote mount gas module.
4. Input approximately 20 pulses to the 2.4GZ OpenWay remote mount gas module. Verify the uncorrected or corrected counts on the IMC\W2 and the 2.4GZ OpenWay remote mount gas module are the same.

Programming the 2.4GZ OpenWay Remote Mount Gas Module Assembly

 **Caution** The 2.4GZ Remote Mount Gas Module must be programmed before use.

Program the 2.4GZ OpenWay remote mount gas module with a Bluetooth-enabled FC200 or FC300 with SRead handheld computer and ZigBee Belt Clip Radio loaded with Endpoint-Link or Endpoint-Link Pro software version 5.3.1.26 or version 5.5 for Itron Private Profile (IPP) gas modules (OWG-5001-XXX). Endpoint-Link Pro software version 5.5 must be used for Smart Energy Profile (SEP) gas modules (OWG-5002-XXX). See the Endpoint-Link Endpoint Programming Guide (TDC-0744) for more complete programming information. An Itron magnet is also required for programming.



To program the 2.4GZ OpenWay remote mount gas module

1. Program the meter drive rate into the 2.4GZ OpenWay remote mount gas module using the handheld computer and Belt Clip Radio. Programming parameters are based on the configuration file loaded into the handheld computer.
2. Place the magnet over the barcode on the module cover label with the magnet face (inked Itron logo and part number) arrow pointed up toward the top of the module.



3. Hold the magnet in place for 5 seconds and remove it.
4. The LED will blink red three times. This signifies the 2.4GZ OpenWay remote mount gas module is searching for a programming device. Within a few seconds of locating the handheld computer, the red LED will blink five more times. The handheld computer will confirm programming success or failure.



5. **Read** the 2.4GZ OpenWay remote mount gas module using the handheld computer and Belt Clip Radio.
 - If the read result is higher than the number programmed in Step 1, the 2.4GZ OpenWay remote mount gas module is counting correctly.
 - If the read result is not higher than the number programmed in Step 1, replace the 2.4GZ OpenWay remote mount gas module.

Diaphragm Meter Installation

This chapter provides the instructions to install Remote 2.4GZ OpenWay remote mount gas modules (Itron part number OWG-5001-501 and OWG-5002-501 with 2.5 foot cable and encoder) on the diaphragm gas meters where a direct mount endpoint is not possible. Reference the Itron Gas Endpoint Meter Compatibility List (PUB-0117-002 or the [2.4GZ OpenWay remote mount gas module Meter Compatibility List](#) on page 3 for compatible diaphragm meters.

Tools and Materials Supplied By You



Note 2.4GZ OpenWay remote mount gas module installation to a diaphragm meter may require additional tools and materials over those listed in [Installation Prerequisites](#) on page 7.

The following user/installer-supplied tools and materials are required to install, program, and check the 2.4GZ OpenWay remote mount gas module:

- Medium flat-blade screwdriver
- Medium flat-blade, torque-measuring screwdriver
- Medium Philips screwdriver
- Pliers
- Side-cutting pliers or similar tool
- 1/4-inch nut driver or other blunt tool for seating endpoint tamper
- Itron programming device to program and check 2.4GZ OpenWay remote mount gas module installation and operation:
 - FC300 with SRead with Endpoint-Link or Endpoint Link Pro version 5.5 or higher or
 - FC200 (with Bluetooth-enabled) handheld computer loaded with Endpoint-Link or Endpoint-Link Pro software to program and check endpoint.
 - ZigBee Belt-clip Radio with Endpoint-Link or EndPoint-Link Pro software - to program and check 2.4GZ OpenWay remote mount gas module installation and operation.




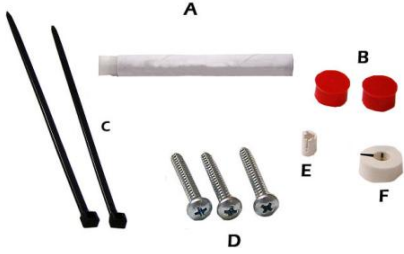

Caution You must program the 2.4GZ OpenWay remote mount gas module with a Bluetooth-enabled FC200 or FC300 with SRead handheld computer and ZigBee Belt Clip Radio loaded with EndPoint-Link Pro software version 5.3.1.26 or version 5.5 for Itron Private Profile (IPP) gas modules (OWG-5001-XXX).

Endpoint-Link Pro software version 5.5 must be used for Smart Energy Profile (SEP) gas modules (OWG-5002-XXX).

- 1-inch putty knife or similar tool to remove old gasket material from the meter and index cover
- Replacement temperature compensation (TEMP COMP) meter index stickers (if required)

Materials Available from Itron

The following items are required for each 2.4GZ OpenWay remote mount gas module installation to a diaphragm gas meter:

Itron Part Number	Description	
OWG-5001-501	2.4GZ OpenWay Remote Mount Module - IPP	
OWG-5002-501	2.4GZ OpenWay Remote Mount Module - SEP	
CFG-0081-001	Remote Mount Encoder Kit A Acetone applicator stick B Tamper Seals C Cable ties D Mounting screws E Hub spacer F Magnet hub	
013-1723-112	Encoder Spacing Tool (Use the Encoder Spacing Tool to ensure the encoder mounts the correct distance from the magnet hub on the meter index.)	

Replacement Gaskets

The Itron replacement index cover gaskets shown below are thicker than standard gaskets and have a special slot to accommodate the encoder cable. Gaskets are specific to Schlumberger/Sprague model 675 and 1000 commercial diaphragm meters

4-hole front cover gasket:
Itron part number
FAB-0014-003



2-hole front cover gasket:
Itron part number
FAB-0014-002



1-hole front cover gasket:
Itron part number
FAB-0014-001



Installing the 2.4GZ OpenWay Remote Mount Gas Module

The 2.4GZ OpenWay remote mount gas module mounts on a pipe using the Remote Mount Installation Kit (Itron part number CFG-0005-003) or a vertical flat (wall) surface. Always mount the 2.4GZ OpenWay remote mount gas module with the printed label right-side-up (arrow pointing up -1), and the encoder wires (2) and tamper seals (3) at the bottom, as shown.



Caution Vertical mounting position is important to maximize RF performance. You can mount a 2.4GZ OpenWay remote gas module with the module's label arrow pointing up or down, dependent upon the application as noted in the relevant section of this installation manual. *The module's arrow must never point to either side.* The module's tilt tamper functionality is designed to operate with the module installed vertically. The 2.4GZ module's tilt tamper will operate with the label arrow pointed up or down. The module's tilt tamper *will not operate* with the module installed horizontally (the label arrow pointed to either side).

Note The occurrence of false tampers may increase on inverted 2.4GZ modules installed in high vibration areas.

Installing 2.4GZ OpenWay Remote Mount Gas Module Encoders



Caution To insure proper adhesion, the 2.4GZ OpenWay remote mount gas module encoder must be installed at temperatures between 40° to 95° Fahrenheit.

There are four tasks when installing the 2.4GZ OpenWay remote mount gas module with an encoder on a diaphragm meter:

- Remove the index cover and any gasket residue.
- Install the 2.4GZ OpenWay remote mount gas module encoder on the index.
- Program the 2.4GZ OpenWay remote mount gas module.
- Attach the index cover to the meter.

To remove the index

Note Properly dispose all unused screws, old index covers, gaskets, tamper seals, and other leftover materials. Do not leave materials on customer premises. Replace any stripped, worn, or corroded mounting screws.

1. Cut and remove any wire seal routed through the index cover screws. Remove the index cover and set aside. Remove the index mounting screws in an alternating fashion.



2. Remove the two index screws in an alternating fashion. Loosen the left index screw two turns, loosen the index screw three to four turns. Hold the index while removing the screws to keep the index from falling. Set the index aside where it will not be damaged.



3. Remove old gasket and any gasket residue from the meter and index cover.



4. Use the FC200 or FC300 to read the 2.4GZ OpenWay remote mount gas module and record the reading for comparison with progressive readings as installation is completed.

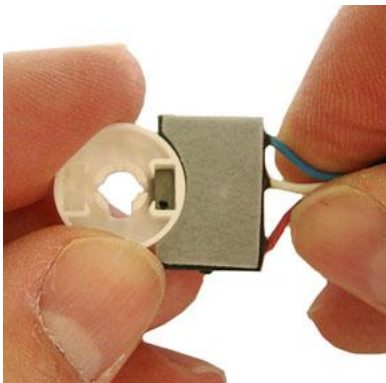
To install the encoder

1. Take the magnet hub from the Encoder Installation kit (Itron part number CFG-0081-001).
2. Verify there is only one magnet in the hub.



Note If there is no magnet or if there are two magnets in the magnet hub, discard the magnet hub and use a hub with one magnet.

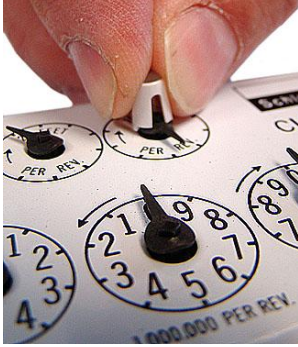
3. Briefly place the magnet side of the magnet hub into the curved indentation in the encoder, as shown.



4. Take the magnet hub away from the encoder and set it at least one inch away from the encoder.
5. Use the FC200 to read the 2.4GZ OpenWay remote mount gas module. If this reading is higher than the reading taken after removing the index, the 2.4GZ OpenWay remote mount gas module is counting and working properly.

Note If the reading is not higher than the previous reading, the 2.4GZ OpenWay remote mount gas module is not reading. Repeat steps 3, 4, and 5. If the 2.4GZ OpenWay remote mount gas module is still not counting, replace the 2.4GZ OpenWay remote mount gas module and perform steps 3, 4, and 5.

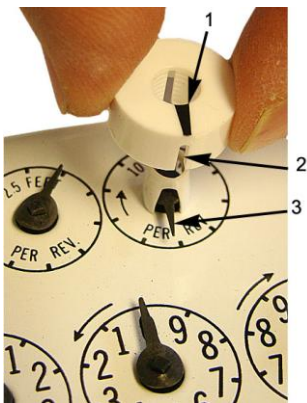
- Align the large notch in the side of the magnet hub spacer with the needle of the meter drive rate dial (1 foot or 2 foot for residential diaphragm meters; 5, 10, or 100-foot for commercial diaphragm meters).



- Press the magnet hub spacer down over the dial needle as far as possible. The tip on the bottom of the spacer may touch index face. Turn the dial after hub spacer installation to verify the index dial functions with a smooth, easy rotation.



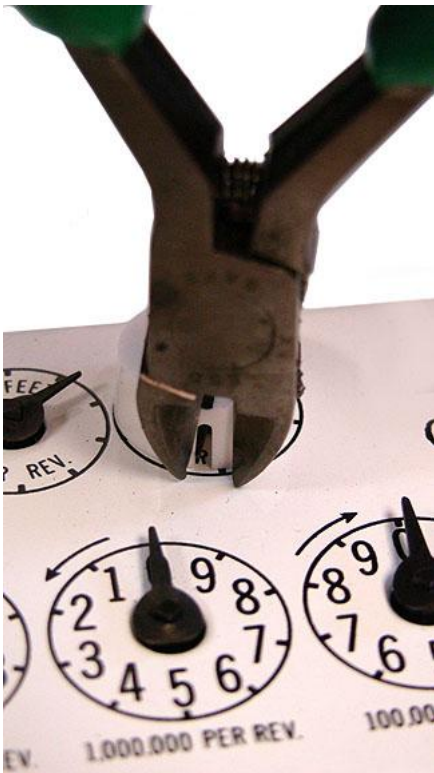
- Align the pointer (1) on the top of the magnet hub and the notch (2) in the side of the magnet hub with the needle (3) of the meter drive rate dial.



9. Press the magnet hub down over the hub spacer as far as possible. The bottom of the hub spacer may touch the index face. Turn the dial after magnet hub installation to verify the index dial functions with a smooth, easy rotation.



10. If the tip of the dial needle sticks out past the edge of the magnet hub, cut off the end of the dial needle as close as possible to the magnet hub with a sharp, side-cutting pliers.



11. Take the acetone stick applicator from the Remote Encoder Installation Kit (Itron part number CFG-0081-001).



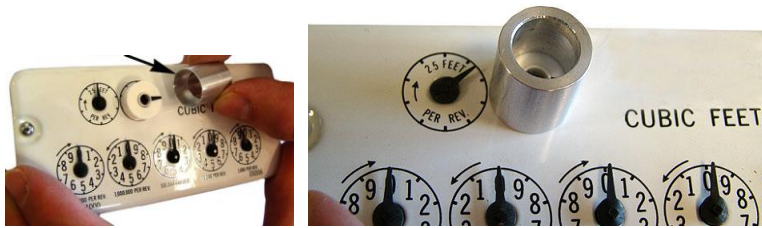
12. Select a location on the index face next to the magnet hub. After encoder installation, the encoder cable must not interfere with the index dials.

Note If a TEMP COMP sticker is attached to the index where the encoder cable will mount, remove it before cleaning with the acetone stick. If the sticker (or replacement sticker) must be put back on the register face, place it in a new location on the index face after the encoder is attached.

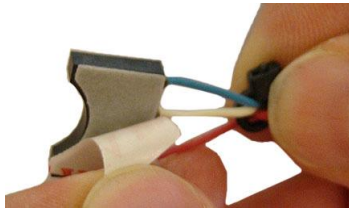
13. Tilt the acetone stick vertically with the wick end down. Squeeze the acetone stick on the black dot until the packet inside the pen breaks. Continue to hold acetone stick vertical until the acetone wicks into the foam applicator end.
14. Thoroughly apply acetone the area where the encoder will be installed. Do not touch the cleaned area of the index face before the encoder is installed.



15. Slide the thin end of the encoder spacing tool down over the magnet hub.



16. Peel the strip of protective plastic off the adhesive side of the endpoint's encoder.

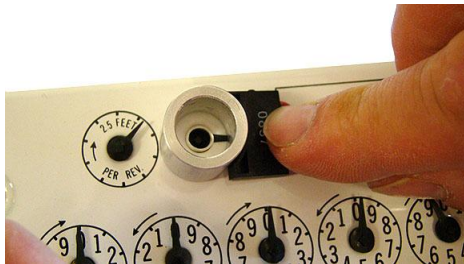


IMPORTANT You must do the next two steps exactly as described or the 2.4GZ OpenWay remote mount gas module will not work properly.

17. Press the curved side of the encoder firmly against the side of the encoder spacing tool as shown below, with the adhesive side down.



18. Slide the encoder down along the side of the encoder spacing tool until it touches the surface of the index (as shown below). Using moderate pressure, hold the encoder firmly against the index, without moving, for 15 seconds to permanently apply the encoder.



The photo below shows how the encoder spacing tool and encoder will look after the 15 second wait time.

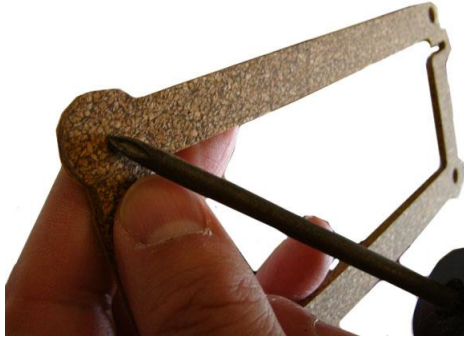


19. Remove the encoder spacing tool, set it aside, and lay the index on a flat, horizontal surface, to diminish strain on the encoder cable.
20. Program the index reading (with the encoder mounted) into the 2.4GZ OpenWay remote mount gas module.
21. Read the 2.4GZ OpenWay remote mount gas module. If this reading is the same as the reading programmed into the 2.4GZ OpenWay remote mount gas module, the module is programmed correctly.

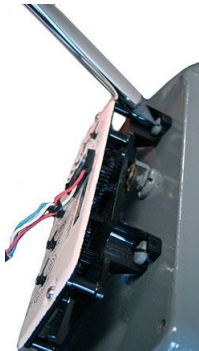
To install the meter index covers over the 2.4GZ OpenWay remote mount gas module encoder cable

Note Use the correct replacement index cover gasket for your index (see [Replacement Gaskets](#) on page 58 for Itron 4-hole, 2-hole, or 1-hole gasket part numbers).

1. Remove the gasket center and index cover hole plugs from the new gasket.



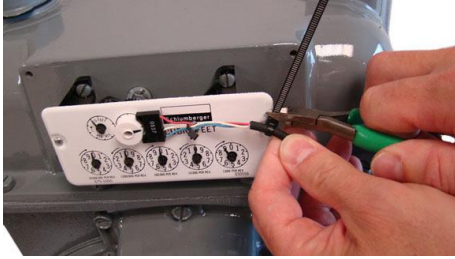
2. Insert the index/encoder assembly through the gasket center. Verify the gasket's adhesive-backed side is facing the meter face.
3. Align the index wriggler with the meter's drive dog. Install the index on the meter using the index mounting screws. Tighten in an alternating fashion.



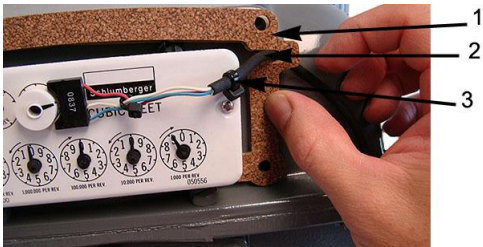
4. Install a strain-relief cable tie about one 1/4" from the encoder cable's stripped end. (The cable tie must be inside the index cover after the cover is installed on the meter.)



5. Remove the excess cable tie with a side-cutting pliers. Dispose excess cable tie properly.



6. Remove the protective backing on the replacement gasket to expose the adhesive side of the gasket. Align the gasket (1), encoder cable (2), and cable tie (for strain-relief) (3) on the meter as shown.



Caution Route the encoder cable inside the index cover to provide strain relief (minimize pulling or twisting on the encoder). Verify the strain-relief cable tie on the encoder cable is inside the index cover when the cover is installed on the meter. The gasket must align with the index cover screw holes and adhere to the meter face to insure a proper seal after the index cover is installed.

7. Install the four index cover screws and tighten them just enough to hold them in place.



8. Verify the encoder cable is in the cable slot of the gasket. Fully tighten the screws in an alternating fashion. If required, install utility-approved security wire seals.



2.4GZ OpenWay remote mount gas module encoder/index installation is complete.

Programming the 2.4GZ OpenWay Remote Mount Gas Module Assembly

 **Caution** The 2.4GZ Remote Mount Gas Module must be programmed before use.

Program the 2.4GZ OpenWay remote mount gas module with a Bluetooth-enabled FC200 or FC300 with SRead handheld computer and ZigBee Belt Clip Radio loaded with Endpoint-Link or Endpoint-Link Pro software version 5.3.1.26 or version 5.5 for Itron Private Profile (IPP) gas modules (OWG-5001-XXX). Endpoint-Link Pro software version 5.5 must be used for Smart Energy Profile (SEP) gas modules (OWG-5002-XXX). See the Endpoint-Link Endpoint Programming Guide (TDC-0744) for more complete programming information. An Itron magnet is also required for programming.



FC200SR

FC300 with SRead

Zigbee Belt Clip Radio

Itron Magnet

To program the 2.4GZ OpenWay remote mount gas module

1. Program the meter drive rate into the 2.4GZ OpenWay remote mount gas module using the handheld computer and Belt Clip Radio. Programming parameters are based on the configuration file loaded into the handheld computer.
2. Place the magnet over the barcode on the module cover label with the magnet face (inked Itron logo and part number) arrow pointed up toward the top of the module.



3. Hold the magnet in place for 5 seconds and remove it.
4. The LED will blink red three times. This signifies the 2.4GZ OpenWay remote mount gas module is searching for a programming device. Within a few seconds of locating the handheld computer, the red LED will blink five more times. The handheld computer will confirm programming success or failure.



5. **Read** the 2.4GZ OpenWay remote mount gas module using the handheld computer and Belt Clip Radio.
 - If the read result is higher than the number programmed in Step 1, the 2.4GZ OpenWay remote mount gas module is counting correctly.
 - If the read result is not higher than the number programmed in Step 1, replace the 2.4GZ OpenWay remote mount gas module.





CHAPTER 6

Curb Diaphragm Meter Installation

This chapter provides the instructions to install Remote 2.4GZ OpenWay remote mount gas modules (Itron part number OWG-5001-501 and OWG-5002-501 with 2.5 foot cable and encoder) on curb diaphragm gas meters where a direct mount endpoint is not possible. Reference the Itron Gas Endpoint Meter Compatibility List (PUB-0117-002 or the [2.4GZ OpenWay Remote Mount Gas Module Meter Compatibility List](#) on page 3 for compatible curb diaphragm meters.

Materials Available from Itron

The following items are required for each 2.4GZ OpenWay remote mount gas module installation to a curb diaphragm gas meter:

Itron Part Number	Description	
OWG-5001-501 OWG-5002-501	2.4GZ OpenWay Remote Mount Module - IPP 2.4GZ OpenWay Remote Mount Module - SEP	
CFG-0081-001	Remote Mount Encoder Kit A Acetone applicator stick B Tamper Seals C Cable ties D Mounting screws E Hub spacer F Magnet hub	
013-1723-112	Encoder Spacing Tool (Use the Encoder Spacing Tool to ensure the encoder mounts the correct distance from the magnet hub on the meter index.)	
CFG-2400-501	American Curb Meter Installation Kit	

Tools and Materials Supplied By You



Note 2.4GZ OpenWay remote mount gas module installation to a curb diaphragm meter may require additional tools and materials over those listed in [Installation Prerequisites](#) on page 7.

The following user/installer-supplied tools and materials are required to install, program, and check the 2.4GZ OpenWay remote mount gas module:

- Medium flat-blade screwdriver
- Medium flat-blade, torque-measuring screwdriver
- Medium Phillips screwdriver
- Pliers
- Side-cutting pliers or similar tool
- 1/4-inch nut driver or other blunt tool for seating endpoint tamper
- Itron programming device to program and check 2.4GZ OpenWay remote mount gas module installation and operation:
 - FC300 with SRead with Endpoint-Link or Endpoint Link Pro version 5.5 or higher or
 - FC200 (with Bluetooth-enabled) handheld computer loaded with Endpoint-Link or Endpoint-Link Pro software to program and check endpoint.
 - ZigBee Belt-clip Radio with Endpoint-Link or EndPoint-Link Pro software - to program and check 2.4GZ OpenWay remote mount gas module installation and operation.



Caution You must program the 2.4GZ OpenWay remote mount gas module with a Bluetooth-enabled FC200 or FC300 with SRead handheld computer and ZigBee Belt Clip Radio loaded with EndPoint-Link Pro software version 5.3.1.26 or version 5.5 for Itron Private Profile (IPP) gas modules (OWG-5001-XXX). Endpoint-Link Pro software version 5.5 must be used for Smart Energy Profile (SEP) gas modules (OWG-5002-XXX).

- 1-inch putty knife or similar tool to remove old gasket material from the meter and index cover
- Replacement temperature compensation (TEMP COMP) meter index stickers (if required)

Installing the 2.4GZ Remote Mount Gas Module on the Curb Meter

The 2.4GZ OpenWay remote mount gas module mounts on a pipe using the Remote Mount Installation Kit (Itron part number CFG-0005-003) or a vertical flat (wall) surface. Always mount the 2.4GZ OpenWay remote mount gas module in a vertical position with the arrow pointing down (1), and the encoder wire and tamper seals (2, 3) at the top, as shown.



Caution Vertical mounting position is important to maximize RF performance. You can mount a 2.4GZ OpenWay remote gas module with the module's label arrow pointing up or down, dependent upon the application as noted in relevant sections of this installation manual. *The module's arrow must never point to either side.* The module's tilt tamper functionality is designed to operate with the module installed vertically. The 2.4GZ module's tilt tamper will operate with the label arrow pointed up or down. The module's tilt tamper *will not operate* with the module installed horizontally (the label arrow pointed to either side).

Note The occurrence of false tampers may increase on inverted 2.4GZ modules installed in high vibration areas.

To remove the index

Note Properly dispose all unused screws, old index covers, gaskets, tamper seals, and other leftover materials. Do not leave materials on customer premises. Replace any stripped, worn, or corroded mounting screws.

1. Cut and remove any wire seal routed through the index cover screws. Remove the index cover and dispose. Remove the index mounting screws in an alternating fashion.



2. Remove the two index screws in an alternating fashion.
 - Loosen the left index screw two turns.
 - Loosen the right index screw three to four turns. Finish removing the index holding screw.
 - Hold the index while removing the screws to keep the index from falling.

Set the index aside where it will not be damaged.

3. Use the FC200 or FC300 to read the 2.4GZ OpenWay remote mount gas module and record the reading for comparison with progressive readings as installation is completed.

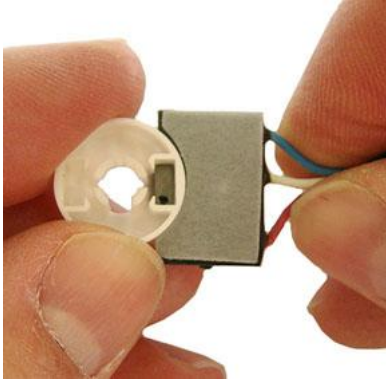
To install the encoder

1. Take the magnet hub from the Encoder Installation kit (Itron part number CFG-0081-001).
2. Verify there is only one magnet in the hub.



Note If there is no magnet or if there are two magnets in the magnet hub, discard the magnet hub and use a hub with one magnet.

3. Briefly place the magnet side of the magnet hub into the curved indentation in the encoder, as shown.



4. Take the magnet hub away from the encoder and set it at least one inch away from the encoder.
5. Use the FC200 to read the 2.4GZ OpenWay remote mount gas module. If this reading is higher than the reading taken after removing the index, the 2.4GZ OpenWay remote mount gas module is counting and working properly.

Note If the reading is not higher than the previous reading, the 2.4GZ OpenWay remote mount gas module is not reading. Repeat steps 3, 4, and 5. If the 2.4GZ OpenWay remote mount gas module is still not counting, replace the 2.4GZ OpenWay remote mount gas module and perform steps 3, 4, and 5.

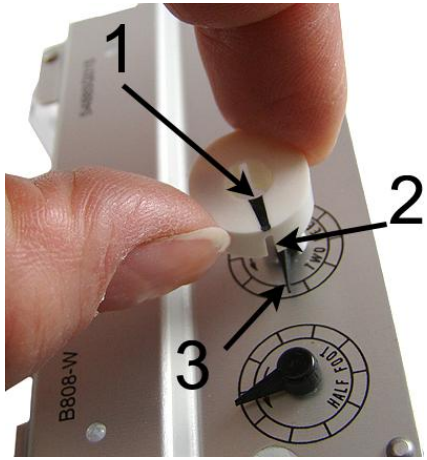
6. Align the large notch in the side of the magnet hub spacer with the needle of the meter drive rate dial (2 foot).



7. Press the magnet hub spacer down over the dial needle as far as possible. The tip on the bottom of the spacer may touch index face. Turn the dial after hub spacer installation to verify the index dial functions with a smooth, easy rotation.



- Align the pointer (1) on the top of the magnet hub and the notch (2) in the side of the magnet hub with the needle (3) of the meter drive rate dial.



- Press the magnet hub down over the hub spacer as far as possible. The bottom of the hub spacer may touch the index face. If the tip of the dial needle sticks out past the edge of the magnet hub, cut off the end of the dial needle as close as possible to the magnet hub with a sharp, side-cutting pliers. Turn the dial after magnet hub installation to verify the index dial functions with a smooth, easy rotation.



- Take the acetone stick applicator from the Remote Encoder Installation Kit (Itron part number CFG-0081-001).

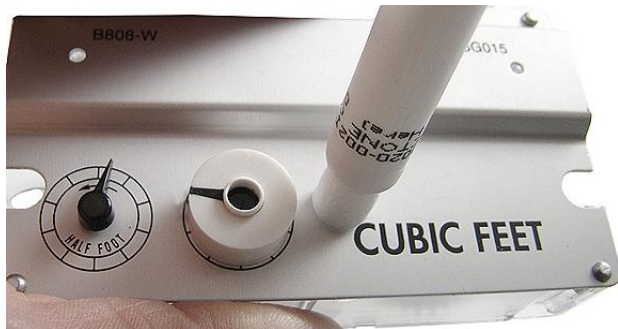


- Select a location on the index face next to the magnet hub. After encoder installation, the encoder cable must not interfere with the index dials.

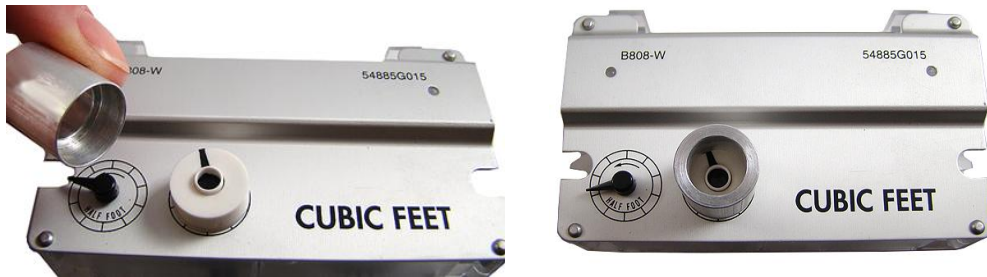
Note If a TEMP COMP sticker is attached to the index where the encoder cable will mount, remove it before cleaning with the acetone stick. If the sticker (or replacement sticker) must be put back on the register face, place it in a new location on the index face after the encoder is attached.

- Tilt the acetone stick vertically with the wick end down. Squeeze the acetone stick on the black dot until the packet inside the pen breaks. Continue to hold acetone stick vertical until the acetone wicks into the foam applicator end.

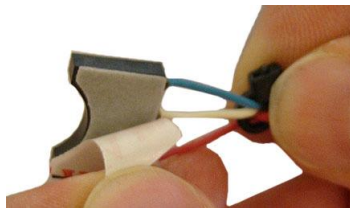
13. Thoroughly apply acetone the area where the encoder will be installed. Do not touch the cleaned area of the index face before the encoder is installed.



14. Slide the thin end of the encoder spacing tool down over the magnet hub.



15. Peel the strip of protective plastic off the adhesive side of the module's encoder.



IMPORTANT You must do the next two steps exactly as described or the 2.4GZ OpenWay remote mount gas module will not work properly.

16. Press the curved side of the encoder firmly against the side of the encoder spacing tool as shown below, with the adhesive side down.



17. Slide the encoder down along the side of the encoder spacing tool until it touches the surface of the index (as shown below). Using moderate pressure, hold the encoder firmly against the index, without moving, for 15 seconds to permanently apply the encoder.



The photo below shows how the encoder spacing tool and encoder will look after the 15 second wait time.

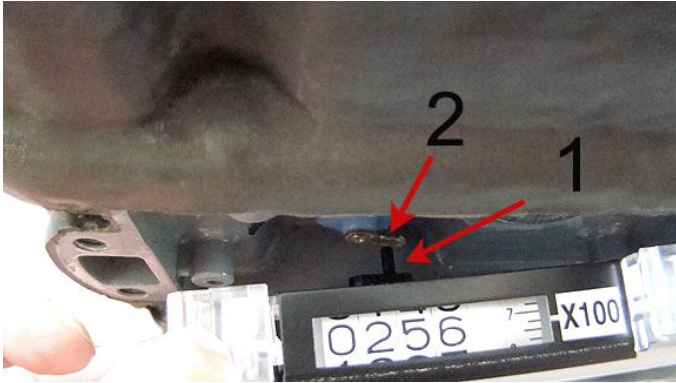


18. Remove the encoder spacing tool, set it aside, and lay the index on a flat, horizontal surface, to diminish strain on the encoder cable.

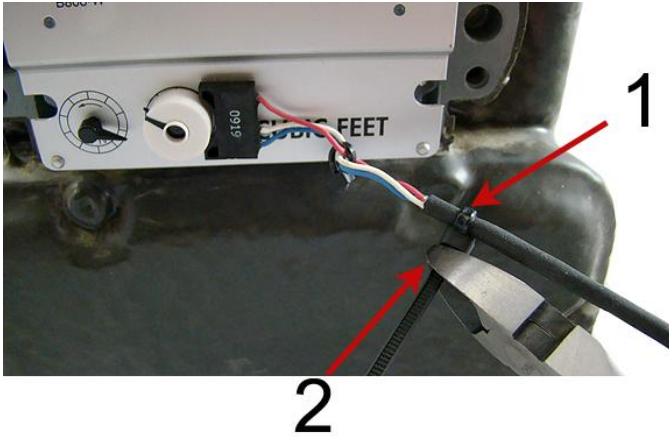
19. Program the index reading (with the encoder mounted) into the 2.4GZ OpenWay remote mount gas module.
20. Read the 2.4GZ OpenWay remote mount gas module. If this reading is the same as the reading programmed into the 2.4GZ OpenWay remote mount gas module, the module is programmed correctly.

To install the meter index covers over the 2.4GZ OpenWay remote mount gas module encoder cable

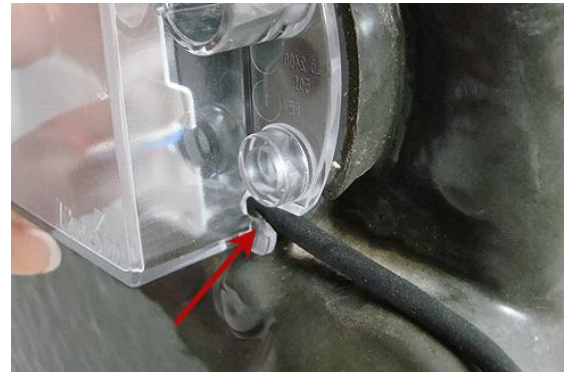
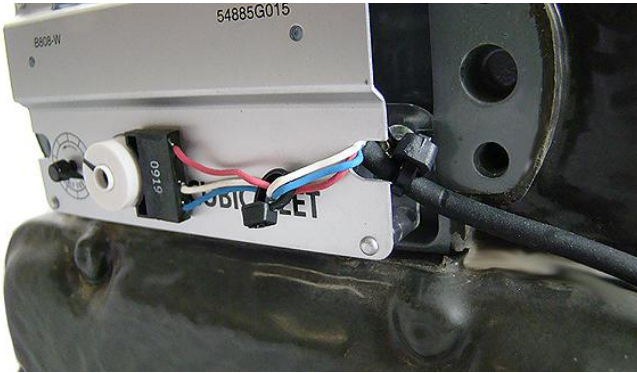
1. Align the index wiggler (1) with the meter's drive dog (2). Install the index on the meter using the index mounting screws. Tighten in an alternating fashion.



2. Install a strain-relief cable tie about one 1/4-inch from the encoder cable's stripped end (1). Remove the excess cable tie with side-cutting pliers (2). Dispose of the excess cable tie properly.



3. Route the encoder cable through the index mounting screw inset to ensure adequate clearance for the index cover and minimize pulling or twisting on the encoder. Continue routing the cable through the cable inset on the Itron index cover to provide strain relief. Verify the strain-relief cable tie on the encoder cable is inside the index cover before tightening the index cover screws.



4. Install the four index cover screws and tighten in an alternating fashion. Install the tamper seals included in the American Meter Curb Installation kit.



2.4GZ OpenWay remote mount gas module encoder/index installation on the curb meter is complete.

Programming the 2.4GZ OpenWay Remote Mount Gas Module Assembly

 **Caution** The 2.4GZ Remote Mount Gas Module must be programmed before use.

Program the 2.4GZ OpenWay remote mount gas module with a Bluetooth-enabled FC200 or FC300 with SRead handheld computer and ZigBee Belt Clip Radio loaded with Endpoint-Link or Endpoint-Link Pro software version 5.3.1.26 or version 5.5 for Itron Private Profile (IPP) gas modules (OWG-5001-XXX). Endpoint-Link Pro software version 5.5 must be used for Smart Energy Profile (SEP) gas modules (OWG-5002-XXX). See the Endpoint-Link Endpoint Programming Guide (TDC-0744) for more complete programming information. An Itron magnet is also required for programming.



FC200SR

FC300 with SRead

Zigbee Belt Clip Radio

Itron Magnet

To program the 2.4GZ OpenWay remote mount gas module

1. Program the meter drive rate into the 2.4GZ OpenWay remote mount gas module using the handheld computer and Belt Clip Radio. Programming parameters are based on the configuration file loaded into the handheld computer.
2. Place the magnet over the barcode on the module cover label with the magnet face (inked Itron logo and part number) arrow pointed up toward the top of the module.



3. Hold the magnet in place for 5 seconds and remove it.
4. The LED will blink red three times. This signifies the 2.4GZ OpenWay remote mount gas module is searching for a programming device. Within a few seconds of locating the handheld computer, the red LED will blink five more times. The handheld computer will confirm programming success or failure.



5. **Read** the 2.4GZ OpenWay remote mount gas module using the handheld computer and Belt Clip Radio.
 - If the read result is higher than the number programmed in Step 1, the 2.4GZ OpenWay remote mount gas module is counting correctly.
 - If the read result is not higher than the number programmed in Step 1, replace the 2.4GZ OpenWay remote mount gas module.

Dattus Meter Installation

This section provides the instructions to install the 2.4GZ OpenWay remote mount gas module with Itron Dattus fM2 and fM3 meters.



Dattus fM2



Dattus fM3

Installation Prerequisites

2.4GZ OpenWay remote mount gas module installation to a Dattus meter requires the following materials:

- 2.4GZ OpenWay remote mount gas module compatible with the Dattus meter (see the [2.4GZ OpenWay Remote Mount Gas Module Meter Compatibility List](#) on page 3)
- Itron Dattus meter compatible with the 2.4GZ OpenWay remote mount gas module
- Tools and devices to complete installation and programming (see [Installation Prerequisites](#) on page 7)

Programming the Dattus Meter

Program the Dattus fM2 or fM3 meter with the correct pulse width and weight. For all Dattus type meters, the pulse width must be set to .050 seconds.

Dattus Meter Pulse Weight Settings

Meter type	Pulse weight in cubic feet (CF) or cubic meter (CM)
11M or smaller	10 (CF) or 1 CM
16M or greater	100 CF or 1 CM

Installation Overview

Installing the 2.4GZ OpenWay remote mount gas module to an Dattus meter involves five tasks:

1. Programming the meter (reference the Itron Dattus programming guide for more information).
2. Installing any necessary Itron retrofit parts. Itron offers installation kits and brackets for module mounting options.
3. Mounting the 2.4GZ OpenWay remote mount gas module directly on the meter. If direct-mounting is not an option for your installation, the 2.4GZ OpenWay remote mount gas module may be mounted on a pipe, or flat surface (see [Mounting the 2.4GZ OpenWay Remote Mount Gas Module](#) on page 8).
4. Connecting the 2.4GZ OpenWay remote mount gas module to the Dattus meter (see [Connecting the 2.4GZ OpenWay Remote Mount Gas Module to the Dattus meter](#) on page 87).
5. Programming the 2.4GZ OpenWay Remote Mount Gas Module (see [Programming the OpenWay Remote Mount Gas Module Assembly](#) on page 88).

Installing the 2.4GZ Remote Mount Gas Module to Itron Dattus Meters

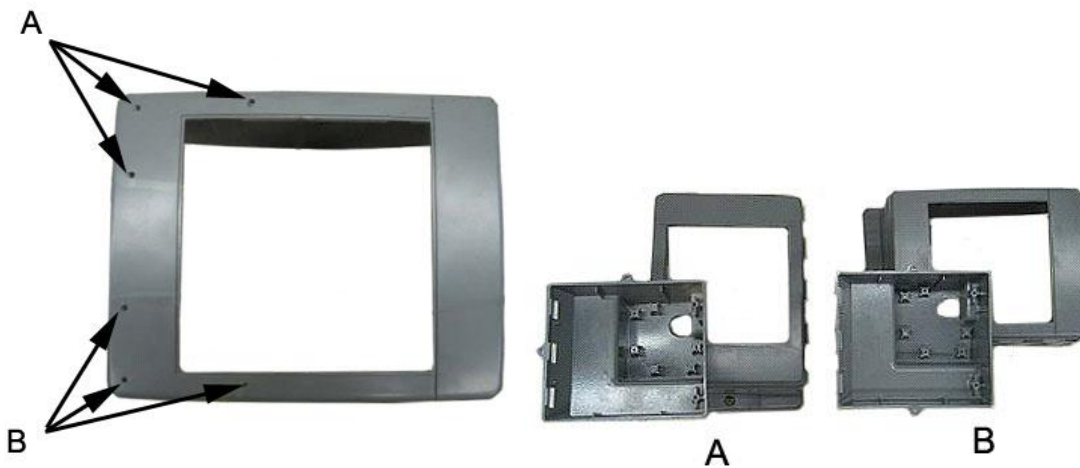
Dattus meters provide an electronic pulse output compatible with the 2.4GZ OpenWay remote mount gas module. The Dattus meter may be wired to the module using the pulse output cable or the module can be directly mounted to the meter.

When ordering, customers can have the 2.4GZ OpenWay remote mount gas modules drop shipped to Itron's Owenton, Kentucky meter factory to have a factory-installed connector attached to the module's bare leads. The connector directly fits the pulse output on the Dattus meter.



Direct Mounting the 2.4GZ OpenWay Remote Mount Gas Module to the Dattus Meter

2.4GZ OpenWay remote mount gas modules can be direct mounted to Dattus fM2 and fM3 meters with the Dattus Direct Mount Kit (Itron part number 442491-001). Dattus meter registers can be rotated to accommodate vertical or horizontal meter. Customers may have Itron, Owenton, Kentucky complete the cover modification and bracket attachment or may order the kit to retrofit the Dattus meter. The external cover of the Dattus meter is modified with three holes to mount the module bracket. The modification is dependent on the orientation of the meter installation.



A Horizontally oriented meter module mounting hole modifications

B Vertically oriented meter module mounting hole modifications



Caution Vertical mounting position is important to maximize RF performance. You can mount a 2.4GZ OpenWay remote gas module with the module's label arrow pointing up or down, dependent upon the application as noted in relevant sections of this installation manual. *The module's arrow must never point to either side.* The module's tilt tamper functionality is designed to operate with the module installed vertically. The 2.4GZ module's tilt tamper will operate with the label arrow pointed up or down. The module's tilt tamper *will not operate* with the module installed horizontally (the label arrow pointed to either side).

After the meter cover and bracket are replaced on the meter, the 2.4GZ OpenWay remote mount gas module is connected to the pulse output of the Dattus meter by the Binder Connector. The module is seated into the bracket to create a secure assembly.



Vertical installation

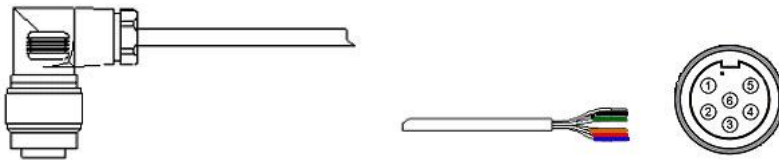
Horizontal installation

Connecting the 2.4GZ OpenWay Remote Mount Gas Module to a Dattus meter

The Dattus fM2 and fM3 meters have two configurable outputs usable as pulse outputs to the 2.4GZ OpenWay remote mount gas module. Connecting the endpoint following the information in this section requires a pulse output cable, installed at the Owenton, Kentucky Itron location. Pulse output cables are available in 10 foot and 20 foot lengths. Factory-installed cables have a Binder connector on one end and six bare wires on the opposite end.

Dattus Meter Wiring Accessories (available from Itron, Owenton, Kentucky)

Accessory	Itron Part Number
Pulse output cable - 10 ft.	442461-009
Pulse output cable - 20 ft.	442461-010



Pulse output cable

To wire the 2.4GZ to the Dattus meter

Pulse Output Cable Pin Descriptions				
			To use Output 3	To use Output 4
Pin	Function	Wire color	2.4GZ wire color	2.4GZ wire color
1	Cut cable	White		Blue
2	Output 4 (+)	Black		White
3	Ground (-)	Green		Red
4	Output 3 (+)	Orange	White	
5	Cut cable	Red	Blue	

Pulse Output Cable Pin Descriptions				
6	Ground (-)	Blue	Red	

Mounting the 2.4GZ OpenWay Remote Mount Gas Module

The 2.4GZ OpenWay remote mount gas module can be mounted on a pipe or vertical flat surface (wall). Mounting requires the Itron Remote Mount Kit (Itron part number CFG-0005-003). See [Mounting the 2.4GZ OpenWay Remote Mount Gas Module](#) on page 8 for mounting procedure instructions.



Programming the 2.4GZ OpenWay Remote Mount Gas Module Assembly

 **Caution** The 2.4GZ Remote Mount Gas Module must be programmed before use.

Program the 2.4GZ OpenWay remote mount gas module with a Bluetooth-enabled FC200 or FC300 with SRead handheld computer and ZigBee Belt Clip Radio loaded with Endpoint-Link or Endpoint-Link Pro software version 5.3.1.26 or version 5.5 for Itron Private Profile (IPP) gas modules (OWG-5001-XXX). Endpoint-Link Pro software version 5.5 must be used for Smart Energy Profile (SEP) gas modules (OWG-5002-XXX). See the Endpoint-Link Endpoint Programming Guide (TDC-0744) for more complete programming information. An Itron magnet is also required for programming.



To program the 2.4GZ OpenWay remote mount gas module

1. Program the meter drive rate into the 2.4GZ OpenWay remote mount gas module using the handheld computer and Belt Clip Radio. Programming parameters are based on the configuration file loaded into the handheld computer.
2. Place the magnet over the barcode on the module cover label with the magnet face (inked Itron logo and part number) arrow pointed up toward the top of the module.



3. Hold the magnet in place for 5 seconds and remove it.

- The LED will blink red three times. This signifies the 2.4GZ OpenWay remote mount gas module is searching for a programming device. Within a few seconds of locating the handheld computer, the red LED will blink five more times. The handheld computer will confirm programming success or failure.



- Read** the 2.4GZ OpenWay remote mount gas module using the handheld computer and Belt Clip Radio.
 - If the read result is higher than the number programmed in Step 1, the 2.4GZ OpenWay remote mount gas module is counting correctly.
 - If the read result is not higher than the number programmed in Step 1, replace the 2.4GZ OpenWay remote mount gas module.

Sensus Sonix Meter Installation



Sensus Sonix Meter

Programming the Sensus Sonix Meter

Program the Sensus Sonix meter following the Sensus programming guidelines.

Adjusting the Pulse Output for Sonix 600 and 880 Meters

The pulse output sent to the 2.4GZ OpenWay remote mount gas module may be set (using the SonixCom software) as:

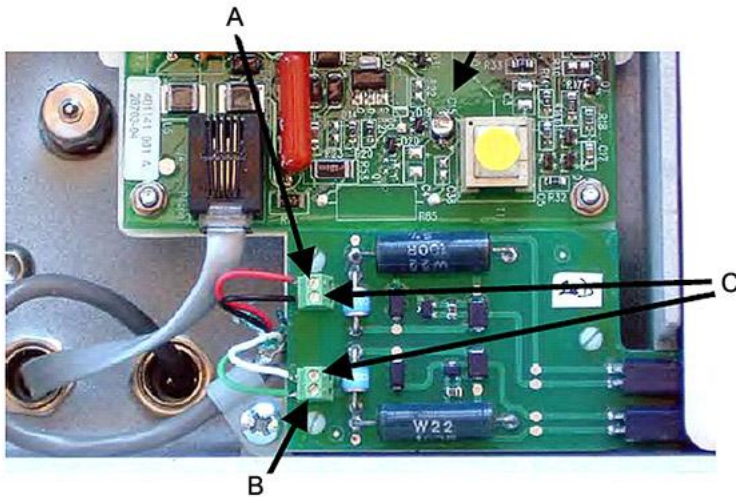
- 1 pulse per 10 cf
- 1 pulse per 100 cf
- 1 pulse per 1000 cf

Contact Sensus North American Gas Customer Service for more information.

Installing the 2.4GZ OpenWay Remote Mount Gas Module with Sensus Sonix Meters

Sensus Sonix meters provide a standard Form A electronic pulse output compatible with the 2.4GZ OpenWay remote mount gas module. The Sensus Sonix meter may be connected to the module using the pulse output cable or the module can be directly mounted to the meter.

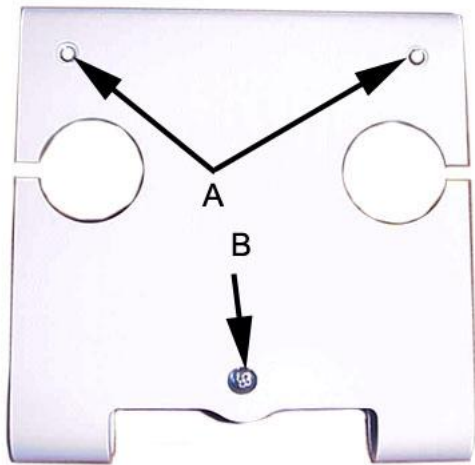
Sensus Sonix2000 Pulse Output Wiring



Sensus Sonix2000 Pulse Output Options			
Option	(A) Pulse 1 (+)	(B) Pulse 2 (+)	(C) Ground (-)
1	Uncorrected	Corrected	
2	LCD index volume	Alarm	

Direct Mounting the 2.4GZ OpenWay Remote Mount Gas Module to the Sonix Meter

2.4GZ OpenWay remote mount gas modules can be direct mounted to Sensus Sonix meters at the Sensus factory (contact Sensus North American Gas Customer Service for mounting specifications and ordering information). This section includes the instructions for customers to mount the module on the Sonix meter using the mounting materials available from Sensus Metering Systems.



- A** Top anchor screw positions
- B** Bottom anchor position for the endpoint U-shaped mount

Sensus Sonix Direct Mount Brackets and Mounting Hardware

Sensus Part Number	Description
60025-063-00000	1 1/2" FTP, 45Lt, #3 Spg, 60Lt, #4 Spg
60025-063-01000	2" - 11BS, 2" FTP
60025-063-02000	30Lt, #1A Spg, 1 1/4" NPT, #2 Spg, 20Lt
903376	#8-32 x 3/4" SS Fillister-head screws (2 required)
011-14-286-00	Rubber mounting washer Stabilizes bracket/2.4GZ OpenWay remote mount gas module assembly

*Order the correct bracket for your installation requirements from Sensus North American Gas Customer Service. Brackets and mounting hardware are ordered separately.

To direct-mount the 2.4GZ OpenWay remote mount gas module on the Sonix meter

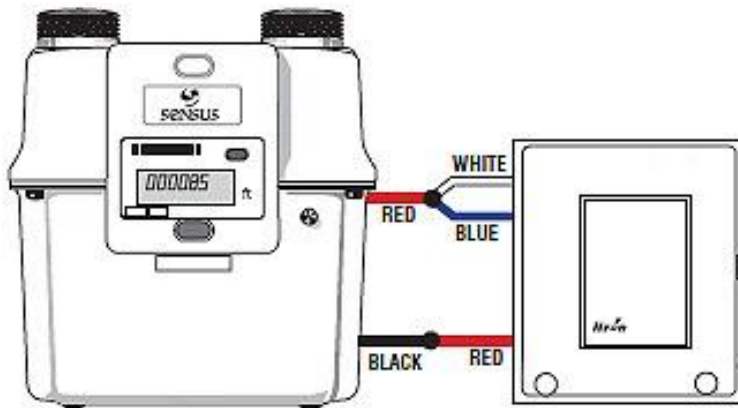
1. Place the module mounting bracket over the inlet or outlet pipe fitting on the Sonix meter. (The default position is over the inlet connection - left side connection looking at the meter front.)
2. Remove the four module backplate screws and turn the backplate so the module mounting screw holes are to the top of the module (the arrow on the module label must point up). Secure with the four module backplate screws previously removed.
3. Slide the mounting lug (now on the bottom of the module) over the bottom anchor. Insert the two top module mounting screws and tighten in an alternating fashion.

Connecting the 2.4GZ OpenWay Remote Mount Gas Module to a Sensus Sonix 600 or 880 Meter

The 2.4GZ OpenWay remote mount gas module provides RF-based data collection for the Sonix 600 or 880 meter.

To wire the 2.4GZ OpenWay remote mount gas module to Sonix 600 and 880 meters

- Connect the Sonix 600 or 880 meter to the 2.4GZ OpenWay remote mount gas module following the wiring diagram below.



Programming the 2.4GZ OpenWay Remote Mount Gas Module Assembly

 **Caution** The 2.4GZ Remote Mount Gas Module must be programmed before use.

Program the 2.4GZ OpenWay remote mount gas module with a Bluetooth-enabled FC200 or FC300 with SRead handheld computer and ZigBee Belt Clip Radio loaded with Endpoint-Link or Endpoint-Link Pro software version 5.3.1.26 or version 5.5 for Itron Private Profile (IPP) gas modules (OWG-5001-XXX). Endpoint-Link Pro software version 5.5 must be used for Smart Energy Profile (SEP) gas modules (OWG-5002-XXX). See the Endpoint-Link Endpoint Programming Guide (TDC-0744) for more complete programming information. An Itron magnet is also required for programming.



FC200SR

FC300 with SRead

Zigbee Belt Clip Radio

Itron Magnet

To program the 2.4GZ OpenWay remote mount gas module

1. Program the meter drive rate into the 2.4GZ OpenWay remote mount gas module using the handheld computer and Belt Clip Radio. Programming parameters are based on the configuration file loaded into the handheld computer.
2. Place the magnet over the barcode on the module cover label with the magnet face (inked Itron logo and part number) arrow pointed up toward the top of the module.



3. Hold the magnet in place for 5 seconds and remove it.
4. The LED will blink red three times. This signifies the 2.4GZ OpenWay remote mount gas module is searching for a programming device. Within a few seconds of locating the handheld computer, the red LED will blink five more times. The handheld computer will confirm programming success or failure.



5. **Read** the 2.4GZ OpenWay remote mount gas module using the handheld computer and Belt Clip Radio.
 - If the read result is higher than the number programmed in Step 1, the 2.4GZ OpenWay remote mount gas module is counting correctly.
 - If the read result is not higher than the number programmed in Step 1, replace the 2.4GZ OpenWay remote mount gas module.

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