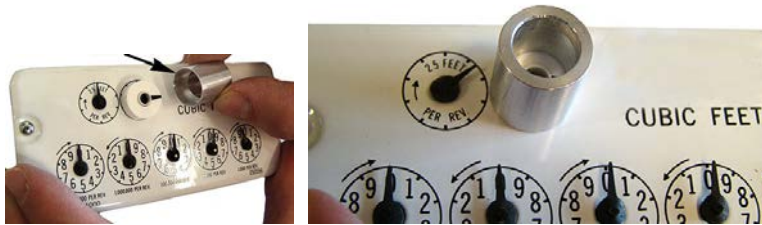


Diaphragm Meter Installation

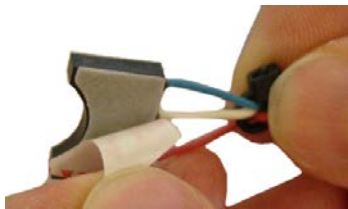
13. Thoroughly apply acetone to the area where you will install the encoder. Do not touch the cleaned area of the index face before the encoder is installed.



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.

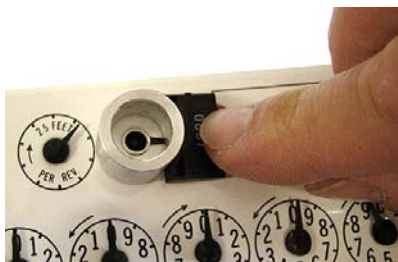


Important You must do the next two steps exactly as described or the 100G series remote gas module will not work properly.

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.



Diaphragm Meter Installation

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 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 100G series remote gas module.
20. Read the 100G series remote gas module. If this reading is the same as the reading programmed into the 100G series remote gas module, the ERT module is programmed correctly.

Index Cover Installation Required Materials

Use the correct replacement index cover gasket for your index (see **Replacement Gaskets** for Itron 4-hole, 2-hole, or 1-hole gasket part numbers).

To install the meter index covers over the 100G series remote gas module encoder cable

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 one index screw two turns. Install and tighten the remaining index screw. Tighten the first index mounting screw completely (alternating fashion).



Diaphragm Meter Installation

4. Install a strain-relief cable tie about 1-1/4-inch 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 just enough to hold the screws in place.



Diaphragm Meter Installation

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.



100G series remote gas module encoder/index installation is complete.

Programming the Remote ERT Module



Caution You must program the 100G series remote gas module before use.

Program the **100G**, **100G DL**, **100G DLN**, and **100G DLT** ERT modules using:

- An FC200SR handheld computer with Field Deployment Manager (FDM) software version 1.1 or higher or
- A FC300 with SRead handheld computer with Field Deployment Manager (FDM) software version 1.1 or higher or
- A 900MHz Belt Clip Radio with Field Deployment Manager (FDM) software version 1.1 or higher and a customer-supplied laptop. The Belt Clip Radio connects to the user-supplied laptop using a USB cable or Bluetooth.

Diaphragm Meter Installation

The 100G DLS ERT modules support enhanced security with the Itron Security Manager. Enabling command or enhanced security requires additional programming.

Program the **100G DLS** ERT modules using:

- An FC200SR handheld computer with Field Deployment Manager (FDM) software version 3.3 or higher or
- An FC300 with SRead handheld computer with Field Deployment Manager (FDM) software version 3.3 or higher or
- A 900MHz Belt Clip Radio with Field Deployment Manager (FDM) software version 3.3 or higher and a customer-supplied laptop. The Belt Clip Radio connects to the user-supplied laptop using a USB cable or Bluetooth.

To enable enhanced security and for more complete programming information, see the *Field Deployment Manager Endpoint Tools Mobile Application Guide* (TDC-0934).



FC200SR FC300 with SRead 900MHz Belt Clip Radio

To program the remote ERT module

- Program the meter drive rate into the 100G series remote gas module using a handheld computer or Belt Clip Radio and laptop computer.
- For all programming and **Check Endpoint** operations using a handheld computer, hold the handheld as close to vertical as possible. For best success, keep the handheld within six feet of the target ERT module.
- Verify you have the correct programming mode (fixed network mode, mobile high power mode, mobile/handheld mode, or hard-to-read mobile/handheld mode) for your application.

Programming parameters are based on the configuration file loaded into the programming device. During programming, the 100G series remote gas module is set to the nearest 100 cubic feet; the last two digits (tens and units) are programmed as zeros (0). After programming is complete, the ERT module assembly will read to the nearest cubic foot.

- **Read** or **Check** the 100G series remote gas module using the handheld computer or Belt Clip Radio.
 - If the read result is higher than the number programmed in step 1, the 100G series remote gas module is counting correctly.

Diaphragm Meter Installation

- If the read result is not higher than the number programmed in step 1, replace the 100G series remote gas module.

DATTUS Meter Installation

This section provides the instructions to install the 100G series remote gas module with Itron DATTUS meters.



DATTUS III fM1

DATTUS III fM2

DATTUS III 3

Installation Prerequisites

100G series remote gas module installation to a DATTUS III meter requires the following materials:

- 100G series remote gas module compatible with the DATTUS III meter (see the [100G Series Remote ERT Module Meter Compatibility List](#) on page 4).
- Itron DATTUS III meter compatible with the 100G series remote gas module.
- Tools and devices to complete installation and programming (see [Installation Prerequisites](#) on page 7).

Programming the DATTUS Meter Parameters

Program the DATTUS meter with the correct pulse width and weight. For all DATTUS III 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 100G series remote gas module to a DATTUS III meter involves five tasks:

1. Programming the meter (see [Programming the DATTUS Meter](#) on page 89 or the Itron DATTUS-Link Programming Guide for more information).
2. Installing any necessary Itron retrofit parts. Customers can request Binder connectors be installed by Itron prior to shipment.

DATTUS Meter Installation

3. Mounting the 100G series remote gas module. The 100G series remote gas module may be mounted on a pipe, or flat surface (see [Mounting the 100G Series Gas ERT Module](#) on page 9).
4. Connecting the 100G series remote gas module to the DATTUS III meter (see [Connecting the Remote ERT Module to the DATTUS Meter](#) on page 90).
5. Programming the 100G series remote gas module (see [Programming the DATTUS Meter](#) on page 89).

Installing the Remote ERT Module to Itron DATTUS Meters

DATTUS meters provide an electronic pulse output compatible with the 100G series remote gas module. The DATTUS meter may be wired to the ERT module using the pulse output cable or the module can be directly mounted to the meter.

When ordering, customers can have the 100G series remote 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.

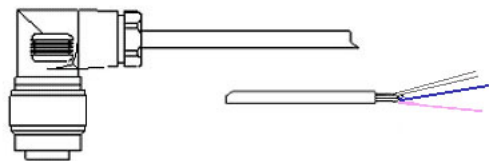


Connecting the Remote ERT Module to a DATTUS meter

The DATTUS fM2 and fM3 meters have two configurable outputs usable as pulse outputs to the 100G series remote gas module. Connecting the module 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 three 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



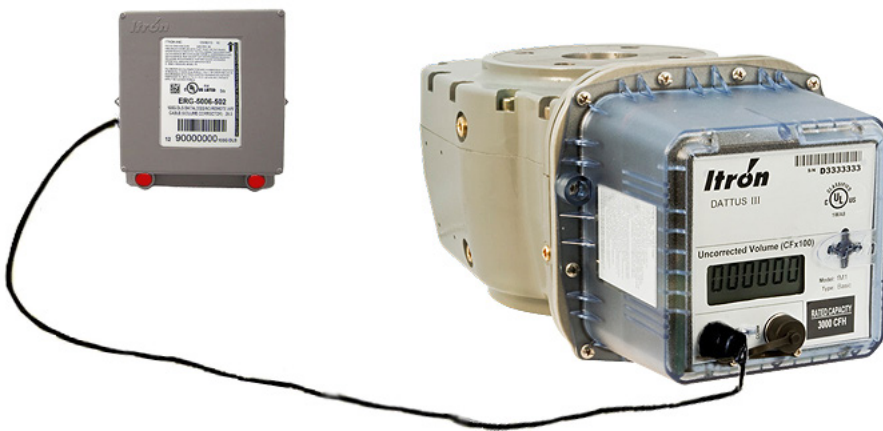
Pulse output cable

To wire the 100G series remote gas module to the DATTUS III meter

Pulse Output Cable Pin Descriptions		
Function	Pulse Output Cable Wire color	ERT module wire color
Output +	White	White
Cut cable	Blue	Blue
Ground -	Pink	Red

Mounting the 100G Series Gas ERT Module Connected to the DATTUS Meter

You can mount the 100G series remote gas module on a pipe or vertical flat surface (wall). Mounting requires the Itron Pipe Mount Kit (Itron part number CFG-0005-003). For mounting instructions, see [Mounting the 100G series remote gas module](#) on page 9.

**Programming the Remote ERT Module**

Caution You must program the 100G series remote gas module before use.

Program the **100G**, **100G DL**, **100G DLN**, and **100G DLT** ERT modules using:

- An FC200SR handheld computer with Field Deployment Manager (FDM) software version 1.1 or higher or
- A FC300 with SRead handheld computer with Field Deployment Manager (FDM) software version 1.1 or higher or
- A 900MHz Belt Clip Radio with Field Deployment Manager (FDM) software version 1.1 or higher and a customer-supplied laptop. The Belt Clip Radio connects to the user-supplied laptop using a USB cable or Bluetooth.

The 100G DLS ERT modules support enhanced security with the Itron Security Manager. Enabling command or enhanced security requires additional programming.

Program the **100G DLS** ERT modules using:

- An FC200SR handheld computer with Field Deployment Manager (FDM) software version 3.3 or higher or
- An FC300 with SRead handheld computer with Field Deployment Manager (FDM) software version 3.3 or higher or
- A 900MHz Belt Clip Radio with Field Deployment Manager (FDM) software version 3.3 or higher and a customer-supplied laptop. The Belt Clip Radio connects to the user-supplied laptop using a USB cable or Bluetooth.

To enable enhanced security and for more complete programming information, see the *Field Deployment Manager Endpoint Tools Mobile Application Guide* (TDC-0934).



FC200SR FC300 with SRead 900MHz Belt Clip Radio

To program the remote ERT module

- Program the meter drive rate into the 100G series remote gas module using a handheld computer or Belt Clip Radio and laptop computer.
- For all programming and **Check Endpoint** operations using a handheld computer, hold the handheld as close to vertical as possible. For best success, keep the handheld within six feet of the target ERT module.
- Verify you have the correct programming mode (fixed network mode, mobile high power mode, mobile/handheld mode, or hard-to-read mobile/handheld mode) for your application.

Programming parameters are based on the configuration file loaded into the programming device. During programming, the 100G series remote gas module is set to the nearest 100 cubic feet; the last two digits (tens and units) are programmed as zeros (0). After programming is complete, the ERT module assembly will read to the nearest cubic foot.

- **Read** or **Check** the 100G series remote gas module using the handheld computer or Belt Clip Radio.
 - If the read result is higher than the number programmed in step 1, the 100G series remote gas module is counting correctly.
 - If the read result is not higher than the number programmed in step 1, replace the 100G series remote gas module.

Sensus Sonix Meter Installation



Sensus Sonix Meter

Programming the Sensus Sonix Meter Parameters

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 100G series remote gas module may be set (using the SonixCom software) as:

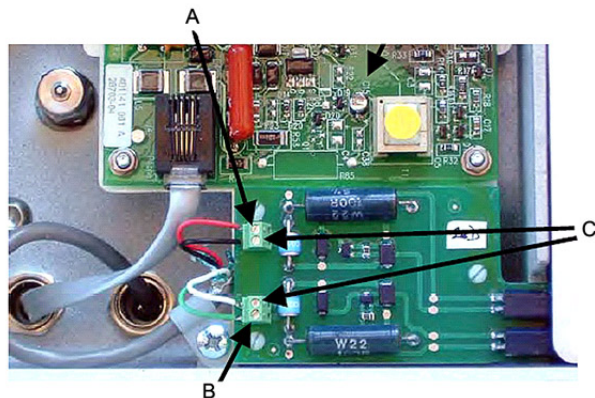
- 1 pulse per 10 cf
- 1 pulse per 100 cf
- 1 pulse per 1000 cf

Contact Sensus North American Gas Customer Service for more information.

Installing the 100G Series Gas ERT Module with Sensus Sonix Meters

Sensus Sonix meters provide a standard Form A electronic pulse output compatible with the 100G series remote gas module. You may connect the Sensus Sonix meter to the ERT module using the pulse output cable or you can directly mount the ERT module to the meter.

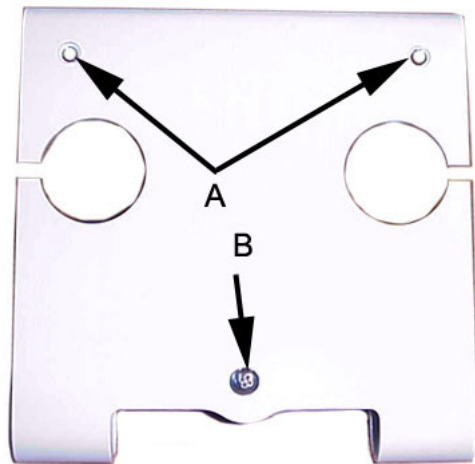
Sensus Sonix2000 Pulse Output Wiring



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 Remote ERT Module to the Sonix Meter

The Sensus factory can direct mount the 100G series remote gas module to Sensus Sonix Meters (contact Sensus North American Gas Customer Service for mounting specifications and ordering information). This section includes the instructions for customers to mount the 100G series remote gas 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 module 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/100G series remote 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 100G series remote gas module on the Sonix meter

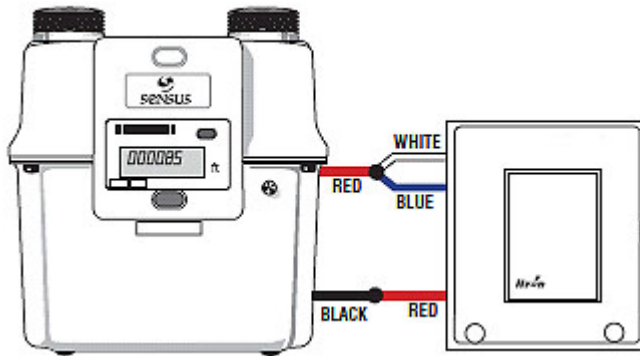
1. Place the ERT mounting bracket over the inlet or outlet pipe fitting on the Sonix meter. (The default position is over the inlet connection. The inlet connection is the left side connection looking at the meter front.)
2. Remove the four ERT backplate screws and turn the backplate so the ERT mounting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

Connecting the Remote ERT Module to a Sensus Sonix 600 or 880 Meter

The 100G series remote gas module provides RF-based data collection for the Sonix 600 or 880 meter.

To wire the 100G DLT remote gas ERT module to Sonix 600 and 880 meters

- Connect the Sonix 600 or 880 meter to the 100G series remote gas module following the wiring diagram below.



Programming the Remote ERT Module



Caution You must program the 100G series remote gas module before use.

Program the **100G**, **100G DL**, **100G DLN**, and **100G DLT** ERT modules using:

- An FC200SR handheld computer with Field Deployment Manager (FDM) software version 1.1 or higher or
- A FC300 with SRead handheld computer with Field Deployment Manager (FDM) software version 1.1 or higher or
- A 900MHz Belt Clip Radio with Field Deployment Manager (FDM) software version 1.1 or higher and a customer-supplied laptop. The Belt Clip Radio connects to the user-supplied laptop using a USB cable or Bluetooth.

The 100G DLS ERT modules support enhanced security with the Itron Security Manager. Enabling command or enhanced security requires additional programming.

Program the **100G DLS** ERT modules using:

- An FC200SR handheld computer with Field Deployment Manager (FDM) software version 3.3 or higher or
- An FC300 with SRead handheld computer with Field Deployment Manager (FDM) software version 3.3 or higher or
- A 900MHz Belt Clip Radio with Field Deployment Manager (FDM) software version 3.3 or higher and a customer-supplied laptop. The Belt Clip Radio connects to the user-supplied laptop using a USB cable or Bluetooth.

To enable enhanced security and for more complete programming information, see the *Field Deployment Manager Endpoint Tools Mobile Application Guide* (TDC-0934).



FC200SR FC300 with SRead 900MHz Belt Clip Radio

To program the remote ERT module

- Program the meter drive rate into the 100G series remote gas module using a handheld computer or Belt Clip Radio and laptop computer.
- For all programming and **Check Endpoint** operations using a handheld computer, hold the handheld as close to vertical as possible. For best success, keep the handheld within six feet of the target ERT module.
- Verify you have the correct programming mode (fixed network mode, mobile high power mode, mobile/handheld mode, or hard-to-read mobile/handheld mode) for your application.

Programming parameters are based on the configuration file loaded into the programming device. During programming, the 100G series remote gas module is set to the nearest 100 cubic feet; the last two digits (tens and units) are programmed as zeros (0). After programming is complete, the ERT module assembly will read to the nearest cubic foot.

- **Read** or **Check** the 100G series remote gas module using the handheld computer or Belt Clip Radio.
 - If the read result is higher than the number programmed in step 1, the 100G series remote gas module is counting correctly.

- If the read result is not higher than the number programmed in step 1, replace the 100G series remote gas module.

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