Water Solutions

100W-R/100W-R+ and 100WP-R/100WP-R+ Datalogging ERT Module Installation Guide

Warning To prevent ignition of flammable or combustible atmospheres, disconnect power before servicing.

Warning Follow these procedures to avoid injury to yourself or others:

   • The lithium battery may cause a fire or chemical burn if it is not disposed of properly.
     Do not recharge, disassemble, heat above 100° Celsius (212° Fahrenheit), crush, expose to water, or incinerate the lithium battery.

   • Fire, explosion, and severe burn hazard.

   • Keep the lithium battery away from children.

Warning ELECTROMAGNETIC COMPATIBILITY

Use only approved accessories with this equipment. Unapproved modifications or operation beyond or in conflict with these instructions for use may void authorization by the authorities to operate the equipment.

Warning This unit cannot be modified and is not repairable. Attempts to modify or repair this device will void the warranty.

Transportation Classification

The Federal Aviation Administration prohibits operating transmitters and receivers on all commercial aircraft. When powered, ERT modules are considered operating transmitters and receivers and cannot be shipped by air. All product returns must be shipped by ground transportation to Itron.

Suggestions

If you have comments or suggestions on how we may improve this documentation, send them to TechnicalCommunicationsManager@itron.com

If you have questions or comments about the software or hardware product, contact Itron Technical Support:

Contact

- Internet: www.itron.com
- E-mail: support@itron.com
- Phone: 800 635 8725

Contents

CHAPTER 1

Before You Begin

Document Conventions

Convention	Example
Itron product part numbers are noted in parentheses.	To install the ERT module (ERW-1300-3XX), do the following steps.
Hypertext links are in blue.	For more information about this document's structure, see How This Document is Organized on page 1.

> 🛈 **Note** A Note indicates neutral or positive information that stresses or supplements important points of the main text. A note supplies information that may apply only in special cases.

> ⚠ **Caution** A Caution advises users that failure to take or avoid a specified action could result in a loss of data.

> ⚡ **Warning** A Warning advises users that failure to take or avoid a specified action could result in physical harm to the user or the hardware.

Document Purpose

This document provides installation instructions for the 100W-R/100W-R+ and 100WP-R/100WP-R+ ERT modules including step-by-step instructions for pipe mount, remote mount, and direct mount.

> ⚠ **Caution** Installing a remote ERT module or an integrated 100W/100W+ ERT module and meter register in a water pit box will void the product warranty. Remote ERTs are designed for interior and exterior (on the side of buildings) installations only. Use a pit ERT module for pit-mount applications. (Refer to the *Water ERT Module Ordering Guide* PUB-0063-001).

How This Document is Organized

This installation guide is organized with the following chapters:

Chapter	Description
1. Before You Begin	Information about this publication
2. About the 100W-R/100W-R+ and 100WP-R/100WP-R+	Overview of 100W-R/100W-R+ and 100WP-R/100WP-R+ functionality.
3. Initializing, Connecting, and Programming the ERT Module	Instructions to initialize the 100W-R/100W-R+ ERT module, program the 100WP/100WP+ ERT module, and connect the ERT module to the register.
4. Installing the 100W-R/100W-R+ and 100WP-R/100WP-R+	Step-by-step ERT module installation instructions for: • Pipe mount • Optional Leak Sensor • Remote mount • Direct mount
Appendix A Using Gel cap Connectors	Instructions for using gel cap connectors to connect the remote ERT module to the register.
Appendix B Troubleshooting	Tips for troubleshooting 100W/100W+ ERT module operation.

Related Documents

Document Description	Itron Part Number
100 Series Modules and CENTRON Bridge Meter Tamper Reference Guide	TDC-1028-XXX
100W/100W+ and 100WP/100WP+ Datalogging ERT Module Installation Guide	TDC-0909-XXX
Field Deployment Manager Endpoint Tools Mobile Application Guide	TDC-0934-XXX
Field Deployment Manager Field Representative's Guide	TDC-0936-XXX
900 MHz Belt-Clip Radio User's Guide	TDC-0889-XXX
FC300 Getting Started Guide	TDC-0898-XXX
FC200 Series Getting Started Guide	TDC-0598-XXX
Water ERT Module Ordering Guide	PUB-0063-001
Water Meter Compatibility List	PUB-0063-002
mlogonline™ Network Leak Monitoring System User Guide	TDC-0792-XXX

Note XXX designates the document revision and is subject to change without notice.

CHAPTER 2

About the 100W-R/100W-R+ and 100WP-R/100WP-R+ ERT Modules

The 100W-R/100W-R+ and 100WP-R/100WP-R+ are high-power radio frequency automatic meter reading (AMR) devices that attach to water registers to collect consumption usage and tamper data that the ERT module transmits to a data collection device. The ERT module operates in both bubble-up mode and two-way modes.

The 100W-R/100W-R+ and 100WP-R/100WP-R+ ship in factory mode. The ERT modules acquire and transmit meter register data within one hour following register connection. The ERT module transfers meter data immediately if the unit is initialized with a handheld computer during installation (see *Initializing, Programming, and Connecting the ERT Module*).

⚠️ **Caution** Failure to initialize the ERT module may delay the initial reading up to 1 hour. The 100WP-R module will default to a consumption value of 0 if the ERT module is not programmed with Itron's Field Deployment Manager (FDM).

The 100W-R/100W-R+ and 100WP-R/100WP-R+ support protocols for a variety of meter manufacturer's registers. Refer to the *Water Meter Compatibility List* (PUB-0063-002), for the list of supported meters and registers.

100W-R/100W-R+ and 100WP-R/100WP-R+s feature the following capabilities:

- **Leak Detection and Reverse Flow Detection**. 100W series ERT modules feature robust features to provide Leak Detection and Reverse Flow Detection. For more information about Leak Detection and Reverse Flow Detection, see the Itron white paper Detecting Leaks and Reverse Flow with 100 Series ERT Modules.

  🛈 **Note** The 100WP-R/100WP-R+ ERT module will not report reverse flow. Incremental encoded registers do not provide a distinguishing signal while flowing in reverse.

- **Communication Error Indicators.**
  - **Last Good Read** (LGR Flag). Indicates a communication error with the register.
    - 100W-R/100W-R+ encoder ERT module

      If this flag is set for 24 consecutive hours, it initiates a cut cable flag in the extended tampers.

      The last good read flag automatically clears after the ERT module receives a successful read from the register.
    - 100WP-R/100WP-R+ pulser ERT module

      If the last good read flag is set two consecutive times, it initiates a cut cable flag in the extended tampers.

      The last good read flag automatically clears after the ERT module receives a successful read from the register.

      🛈 **Note** A last good read flag may be an indicator of a damaged register.

- **Extended Tamper Flag**. (Retrievable with two-way communication).
  - Low Battery Warning. The 100W-R/100W-R+ and 100WP-R/100WP-R+ ERT modules include a battery life estimator. The estimator is based on the number of data packets sent at the various power levels and the age (self-discharge) of the ERT module. The low battery warning allows the utility to

easily identify which ERTs are nearing end-of-life in a mixed population and gives the opportunity to schedule replacement.

The low battery warning is a single flag set when the battery has less than 10% remaining capacity, typically 2 years life remaining battery life is evaluated daily at midnight.

- **Cut Cable Flag**.
  - 100W-R/100W-R+ encoder ERT module. The cut cable flag sets if the LGR Flag is active for 24 hours.
  - 100WP-R/100WP-R+ pulser ERT module. The cut cable flag sets if the LGR Flag is active for two consecutive times.
  - The cut cable flag remains active for 40 days in mobile mode.
  - The cut cable flag remains active for 24 hours in fixed network mode.

100W-R/100W-R+ and 100WP-R/100WP-R+ Models

100W/100W+ Remote ERT Module Description	Itron Part Number
100W-R Encoder Remote, 10-inch flying lead	ERW-1300-213
100W-R+ Encoder Remote, 10-inch flying lead	ERW-1300-313
100W-R Encoder Remote with Leak Sensor, 10-inch flying lead	ERW-1300-214
100W-R+ Encoder Remote with Leak Sensor, 10-inch flying lead	ERW-1300-314
100WP-R Pulser Remote, 10-inch flying lead	ERW-1300-215
100WP-R+ Pulser Remote, 10-inch flying lead	ERW-1300-315
100WP-R Pulser Remote with Leak Sensor, 10-inch flying lead	ERW-1300-216
100WP-R+ Pulser Remote with Leak Sensor, 10-inch flying lead	ERW-1300-316

Itron Security Manager (ISM)

The 100W-R+ and 100WP-R+ modules are components of a ChoiceConnect system. Itron system security—performed by Itron Security Manager—supplies security to the RF communications between the handheld computer, Mobile Collector, or Fixed Network system and the ERT module. There are two fundamental security processes used in the ISM to ensure confidentiality and validity of the system communications.

- **Authentication**. Authentication is the process of confirming that an artifact is genuine or valid. Authentication in the 100W-R+ and 100WP-R+ is the process of verifying a request is from a valid source and in its original form.

- **Encryption**. Encryption is the process of transforming information to make it unreadable to anyone who does not have a valid security key. There are two types of encryption, symmetric and asymmetric. Symmetric encryption uses a shared key to decrypt or encrypt information. Asymmetric encryption uses a private key to encrypt and a public key to decrypt.

As a component of the Itron ChoiceConnect solution, the 100W-R+ and 100WP-R+ modules supports the Itron Security Manager model found in the ChoiceConnect solution for both reading and programming. If the 100W-R+ and 100WP-R+ modules are shipped without security enabled, the utility can, at a later date, configure the ERT modules for security.

Enabling 100W-R+ and 100WP-R+ Security

When 100W-R+ and 100WP-R+ modules ship from an Itron factory, each module contains a utility factory key. The presence of this utility factory key does not enable security. The installer enables 100W-R+ and 100WP-R+ security using an Itron programming device and programming commands. Initial key exchange commands are secured using the utility factory key. For more information about programming the 100W-R+ and 100WP-R+, see the *FDM Endpoint Tools Mobile Application Guide* (TDC-0934).

Battery Life

Powered by two non-replaceable, long-life lithium batteries, the 100W has an expected battery life of 20 years when the ERT module operates in default mobile or fixed network operating mode. If the 100W series ERT module is programmed for Hard to Read Mobile Mode, the battery life is reduced to 13 years. To proactively indicate the battery has reached a <10% useful battery life, a *Low Battery flag* is set to indicate impending battery failure. Battery life is 15 years for the 100W-R/100W-R+ and 100WP-R/100WP-R+ ERT Module when ERT module cable lengths exceed 150 feet.

100W-R/100W-R+ and 100WP-R/100WP-R+ ERT Module Transmission Modes

The 100W-R/100W-R+ and 100WP-R/100WP-R+ ERT module can be set to transmit in fixed network, mobile high power, mobile and handheld, or hard to read mobile and handheld mode.

- **Fixed Network Mode**. The 100W-R/100W-R+ and 100WP-R/100WP-R+ ERT module transmits a high-powered NIM RF message every six minutes and a contingency SCM+ RF message every minute.
- **Mobile and Handheld Mode**. The 100W-R/100W-R+ and 100WP-R/100WP-R+ ERT module transmits a medium-powered SCM+ RF message every 9 seconds.
- **(Optional) Mobile High Power Mode**. The 100W-R/100W-R+ and 100WP-R/100WP-R+ ERT module transmits a high-powered SCM+ RF message every 60 seconds.
- **(Optional) Hard to Read Mobile Mode**. The 100W-R/100W-R+ and 100WP-R/100WP-R+ ERT module transmits a high-powered SCM+ RF message every 30 seconds. *The hard-to-read mobile and handheld mode should only be used for exceptionally hard-to-read applications.*

  Note The 100W-R/100W-R+ and 100WP-R/100WP-R+ ERT module's battery life is significantly affected in hard to read mobile mode. You may use the 900 MHz Remote Antenna to increase reading range.

An FCC license is not required to read 100W-R/100W-R+ and 100WP-R/100WP-R+ ERT modules.

100W-R/100W-R+ Operating Modes

1. Factory mode
   - 100W-R/100W-R+ modules ship from the factory in factory mode.
   - The ERT module's transmitter is off.
   - The ERT module's receiver bubbles-up to listen for a programming command.
   - 100W-R/100W-R+ encoder models attempt to read the register every hour.
   - Last good read and extended tamper flags may be set when a register is not connected.
   - If the 100W-R/100W-R+ reads a connected register, the ERT module automatically moves to run mode (100W-R/100W-R+ only).

2. Run mode
   - 100W-R/100W-R+ normal operation mode.
   - The 100W-R/100W-R+ transmitted message is dependent on its factory settings or setting programmed with FDM for standard consumption messages (SCM or SCM+) or network interval message (NIM).

     For SCM (mobile), the 100W+ default bubble-up rate is 9 seconds.

     For NIM (fixed network), the 100W default bubble-up rate is five minutes. When the ERT module is set for NIM, the 100W-R/100W-R+ transmits a contingency SCM or SCM+ message every minute. Program FN mode with a programming device to configure NIM mode.

3. Meter manufacturer quiet mode
   - Meter manufacturers can configure the ERT module for quiet mode after initializing and direct mounting the 100W-R/100W-R+ in the factory.
   - The ERT module awakens from quiet mode and enters run mode in one of two ways:

1. The 100W-R/100W-R+ detects consumption at the top of the hour (last hourly interval >1 or <-1).
2. The 100W-R/100W-R+ receives a two-way command (for example, a **Read ERT** using FDM software).

4. GEO mode

- To reach the head end, 100W-R+ establishes a communication link with a CCU.
- In the event communications are lost with the host CCU, FDM is used to enable communications (create a geo mode set) with a nearby 100W-R+.
- The ERT establishes communications with the new device and continues transmitting NIM messages.

100WP-R/100WP-R+ Operating Modes

The 100WP-R/100WP-R+ has three standard operating modes.

5. Factory Mode

- 100WP-R/100WP-R+ modules ship from the factory in factory mode.
- The 100WP-R/100WP-R+'s transmitter is off.
- The 100WP-R/100WP-R+'s receiver bubbles-up to listen for a programming command.
- Last good read and extended tamper flags may be set when a register is not connected.
- You must program the 100WP-R/100WP-R+ with the initial consumption and the register type to properly move the ERT module to run mode and record consumption. You can program the 100WP-R/100WP-R+ in the field with FDM or in the factory using custom programming.

6. Run mode

- 100WP-R/100WP-R+s normal operation mode.
- The 100WP-R/100WP-R+ transmitted message is dependent on its factory settings for standard consumption messages (SCM or SCM+) or network interval message (NIM).
  - For SCM/SCM+, the 100WP-R/100WP-R+ default bubble-up rate is 9 seconds.
  - For NIM, the 100WP-R/100WP-R+ default bubble-up rate is 6 minutes. When the ERT module is set for NIM, the 100WP-R/100WP-R+ transmits a contingency SCM/SCM+ message every minute. NIM mode is configured by programming NIM mode with a programming device.

3. Meter manufacturer quiet mode

- Meter manufacturers can configure the ERT module for quiet mode after programming and direct mounting the 100WP-R/100WP-R+ in a factory.
- The 100WP-R/100WP-R+ is awakened from quiet mode and enters run mode in one of two ways:
  - Counting two pulses. The pulses are counted internal to the 100WP-R/100WP-R+ while it is in quiet mode.
  - Receiving a two-way command, such as a **Read ERT** using FDM.
- If an ERT module installed in quiet mode is not bubbling up SCM/SCM+ or NIM messages, it may be due to zero consumption on the ERT module, such as a vacant or vacation home. Initiate a two-way command (for example, perform a **Read ERT** with FDM) before removing the unit.

4. GEO mode

- To reach the head end, 100WP-R+ establishes a communication link with a CCU.
- In the event communications are lost with the host CCU, FDM is used to enable communications (create a geo mode set) with a nearby 100WP-R+.

- The ERT establishes communications with the new device and continues transmitting NIM messages.

100W-R/100W-R+ and 100WP-R/100WP-R+ ERT Module Geo Mode

100W-R+ and 100WP-R+ module geo mode reduces infrastructure requirements by improving network coverage. The 100W/100W+ series geo mode technology addresses meters with isolated RF impairments allowing hard-to-read ERT modules to be read by a neighboring ERT module with good network coverage. The ERT module forwards the hard-to-read ERT module's message to the nearest data collection device.

C H A P T E R 3

Initializing, Programming, and Connecting the ERT Module

This chapter provides the instructions to initialize and start up the 100W-R/100W-R+ ERT module, program and start up the 100WP-R/100WP-R+, and connect the 100W-R/100W-R+ or 100WP-R/100WP-R+ ERT module.

Initializing the 100W-R/100W-R+

⚠️ **Caution** To obtain an immediate reading, initialize the 100W-R/100W-R+ with an approved handheld computer. Failure to initialize the ERT module may delay the initial reading up to one hour.

- To initialize the 100W-R/100W-R+ immediately, use one of the following handheld computers running Field Deployment Manager (FDM) version 3.2 or later.
    - FC200SR handheld computer (Itron part number FC2-0005-004 or FC2-0006-004)
    - FC300 with SRead
- For normal activation, connect the 100W-R/100W-R+ to the water meter register. The ERT module polls for a register every hour. The 100W-R/100W-R+ automatically activates after the ERT module detects a register.

100W-R/100W-R+ Encoder Start-up

The 100W-R/100W-R+ automatically:

- Detects the connected register type at the top of the hour, exits factory mode, and enters run mode (programming is not required for the 100W-R/100W-R+ to initiate run mode in the default mobile mode).
- Detects an Itron Leak Sensor.

100W-R/100W-R+ encoder programming is required to:

- Change the operation mode (for example, to change the ERT module from the default mobile mode to fixed network mode).
- Enter a Utility ID or Lock Type.
- To enter an E-Coder 8-digit driver.

Itron strongly recommends performing a **Check ERT** with a handheld computer running FDM to verify the ERT module is operating correctly after installation. Performing a **Check ERT** will:

- Generate an immediate register read.
- Align the 100W-R/100W-R+'s time with the handheld's time.

    Important Periodically dock or cradle the handheld computer or mobile reader to keep the time current.

- Verify communication with the Leak Sensor.
- Check for tamper flags.

Programming the 100WP-R/100WP-R+

Programming the 100WP-R/100WP-R+ requires one of the following handheld computers running Field Deployment Manager (FDM) version 3.2 or later.

- FC200SR handheld computer (Itron part number FC2-0005-004 or FC2-0006-004)
- FC300 with SRead

For normal activation, connect the 100WP-R/100WP-R+ to the water meter register and program the ERT module with FDM.

100WP-R/100WP-R+ Pulser Start-up

The 100WP-R/100WP-R+ enters run mode by completing programming with FDM. Programming sets the appropriate pulser parameters (initial consumption and Utility ID).

Itron strongly recommends performing a **Check ERT** with a handheld computer running FDM to verify the 100WP-R/100WP-R+ is operating correctly after installation. Performing a **Check ERT** will:

- Generate an immediate register read.
- Align the 100WP-R/100WP-R+'s time with the handheld's time.

  Important Periodically dock or cradle the handheld computer or mobile reader to keep the time current.

- Verify communication with the Leak Sensor.
- Check for tamper flags.

Connecting the 100W-R/100W-R+ to a Remote Meter Register

Connect the wires from the 100W-R/100W-R+ ERT module to the register screw terminals according to the following table.

| | 100W-R/100W-R+ wire color | | |
| | Brown (data) | Gray (power/clock) | Yellow (ground) |
Register Manufacturer	Register screw color designator		
Elster AMCO Invision	R	GRN	BLK
Elster AMCO Scancoder	R	GRN	BLK
Elster AMCO evoQ4 (Q4000)	R	White	BLK
Hersey Translator	GRN	R	BLK
Badger ADE	GRN	R	BLK
Sensus ECR (all variants)	GRN	R	BLK
Sensus ICE	GRN	R	BLK
Metron Famier	GRN	R	BLK
Itron (Actaris) Coder	GRN	R	BLK

	100W-R/100W-R+ wire color		
	Brown (data)	**Gray (power/clock)**	**Yellow (ground)**
Neptune ProRead E-Coder ARB-V	R	B	G
Performance ETR	GRN	R	BLK
SevernTrent SM700 SmartMeter (Sensus Protocol)	GRN	R	BLK

Connecting the 100WP-R/100WP-R+ to a Remote Meter Register

- Connect the 100WP-R/100WP-R+ wires from the ERT module to the register screw terminals according to the following table.

	100WP-R/100WP-R+ wire color		
Register Manufacturer	**Brown (signal)**	**Gray (common)**	**Yellow (tamper)**
	Register screw color designator		
Elster Digital	BLK	GRN	R
Itron (Actaris) Cyble Sensor (2-wire)	Either wire	Remaining wire must be connected to both ERT module wires	
Badger RTR	R	BLK	Green/bare
Elster V100	BLK	R	Blue
Sensus PMM	R	BLK	Bare

Connect the ERT module to the cable using gel-cap connectors (see Using Gel Cap Connectors).

Verifying 100W-R/100W-R+ and 100WP-R/100WP-R+ ERT Module Operation

Use one of the following handheld computers to verify the ERT module is correctly recording consumption data.

* FC200SR
* FC300 with SRead

⚠️ **Caution**

* Each handheld radio requires special setup and configuration parameters to successfully read and program 100W/100W+ modules. Refer to the respective meter reading application for specific instructions.
* Do not use ReadOne Pro, FS2PN and FS3PN, or FC200R handhelds to read the 100WP-R/100WP-R+. These readers do not operate their receivers long enough or at the right frequency to reliably capture a 100WP-R/100WP-R+ transmission.

Refer to the user guide for your programming device (see Related Documents) and data collection application for more information.

CHAPTER 4

Installing the 100W-R/100W-R+ and 100WP-R/100WP-R+ ERT Module

Install the 100W-R/100W-R+ and 100WP-R/100WP-R+ ERT modules using one of the following mounting options:

100W-R/100W-R+ and 100WP-R/100WP-R+ ERT module Mounting Options

Pipe Mount	The ERT module mounts to a pipe near the meter (see Pipe Mount Installation). This option requires the Remote Mount Kit and the appropriate Pipe Mount Kit.
Remote Mount	The ERT module mounts to a flat surface and connects to the meter register with a cable up to 300 feet (see Remote Mount Installation). This option requires the Remote Mount Kit.
Direct Meter Register Mount	The ERT module mounts directly to a meter register designed for ERT module direct mounting. This installation does not require a mounting kit (see Direct-Mounting to the Meter Register).

100W-R/100W-R+ and 100WP-R/100WP-R+ ERT Module Accessories

100W-R/100W-R+/100WP-R/100WP-R+ Mounting Accessories

Accessory	Part Number
Remote Mount Kit (Encoder/Pulser only)	CFG-0771-021
Remote Mount Kit (Encoder/Pulser with Leak Sensor)	CFG-1300-003
Pipe Mount Kit	
pipes from 3/4 to 1 3/4 inches	CFG-0217-503
pipes from 1 5/16 to 2 1/4 inches	CFG-0217-504
pipes up to 4 inches	CFG-0217-501
Direct Mount Screw Pack	
Bulk	SCR-0010-005
80 per bag	SCR-0010-004
122 per bag	SCR-0010-001

# Installing 100W-R/100W-R+ and 100WP-R/100WP-R+ ERT Module Cable Strain Relief

After you complete the ERT module to register or ERT module to register and Leak Sensor connections (for more information, see Connecting the Leak Sensor to the 100W-R/100W-R+ and 100WP-R/100WP-R+ ERT Module), install a cable tie to the meter cable (and Leak Sensor cable, if applicable) just below the exposed colored lead wires on the cable insulation. The cable tie performs as a cable strain relief to reduce the risk of destructive tension on the lead wires.

Required Materials

- Remote Mount Kit
  - CFG-0771-021, single cable port for register connection
  - CFG-1300-003, dual cable ports for Leak Sensor and register connection
- Sidecutter pliers
- Gel connector crimping tool
- Cable tie gun
- Torx T-15 screwdriver

To install the remote ERT module cable strain relief

1. Wrap the cable tie around the meter register or Leak Sensor cable.
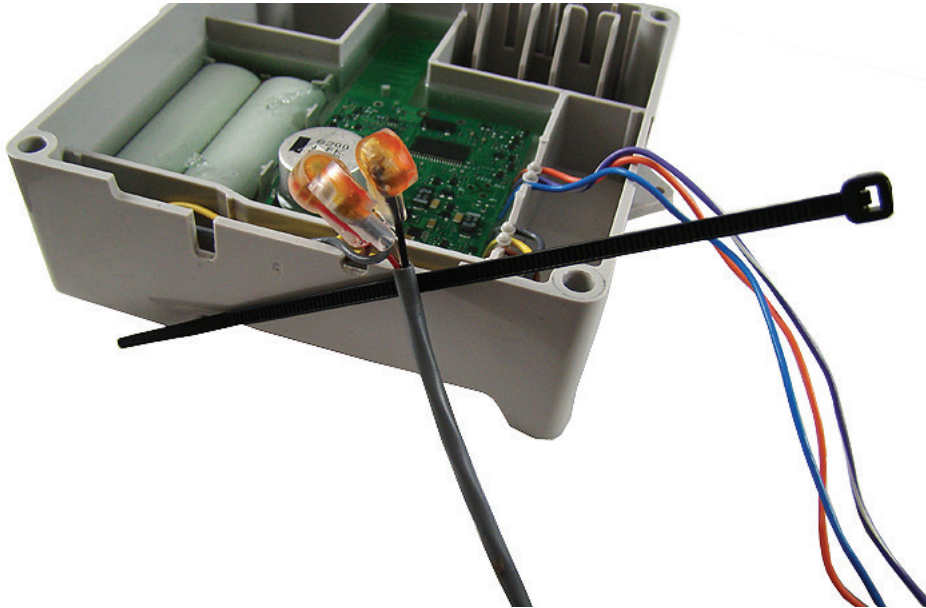
2. Insert the pointed end of the cable tie into the receptacle end of the cable tie with the ribbed edge facing in.


3. Pull the pointed end of the cable tie until hand tight. Insert the excess cable tie into the cable tie gun. Pull the cable gun trigger to tighten and clip the excess cable tie. The cable tie gun shown is equipped with a red dial to set the cable tightening pressure of the gun.


Note If your cable tie gun is equipped with a dial to set the tightening pressure, set the pressure to ensure the cable tie is secure on the lead wire. After installation, the cable tie must not move on the register or Leak Sensor lead wire.

4. If your cable tie gun does not have a clipping feature, remove the cable tie from the cable tie gun. Using a sidecutter pliers, remove the excess cable tie.
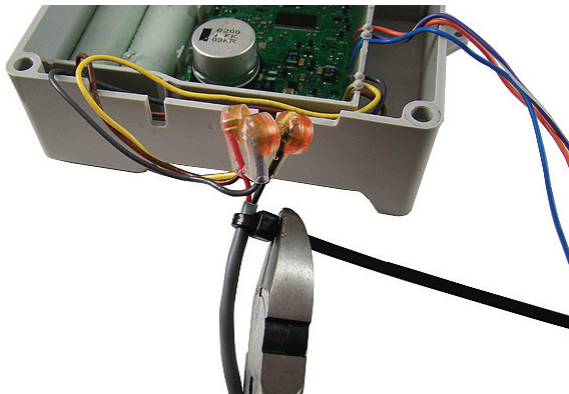
5. Place the cable connection(s) into the ERT module housing with the cable ties to the inside.
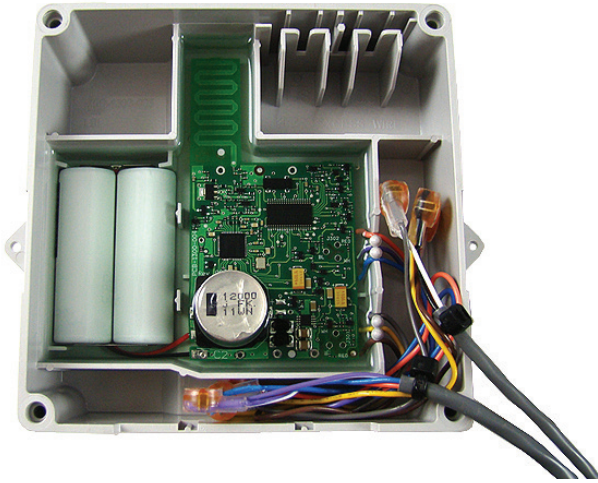
Note The image shown above illustrates the dual cable strain relief for the register and Leak Sensor.

Attaching the Backplate

Select the appropriate remote mount kit for your 100W ERT module (see 100W-R/100W-R+ and 100WP-R/100WP-R+ ERT Module Accessories). Attach the ERT module's backplate before completing a Remote Mount or Pipe Mount installation.

To attach an encoder/pulser only backplate

1. Route the register cable through the single backplate cutout. Ensure the cable strain relief is inside the module housing and backplate assembly.