

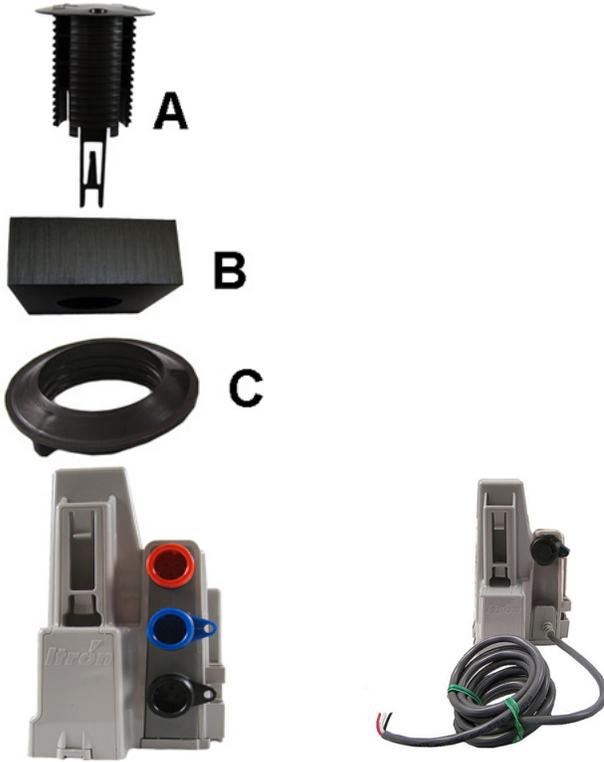
Through Lid Mount Required Tools and Hardware

This mounting method requires the Pit Lid Mounting Kit. Refer to the 100W Installation Methods Overview (PUB-1300-004) for guidance on which kit to install for different pit lid material and traffic conditions.

Pit Lid Mounting Kit (CFG-1300-004)

-  **Note** The Pit Lid Mounting Kit is not intended for applications involving vehicular traffic. Use the Remote Antenna Kit in incidental traffic areas (such as residential environments).

This section provides the instructions to install the 100W/100W+ and 100WP/100WP+ ERT module in a pit lid with a hole using the Pit Lid Mounting Kit (CFG-1300-004). Verify you have the following items to complete the installation.



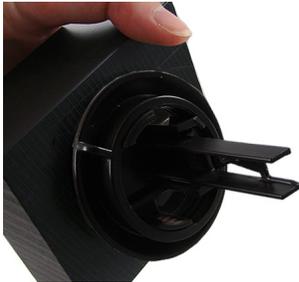
A	Retainer clip
B	Pit lid with a pre-drilled hole (simulated pit lid material shown)
C	Retainer clip collar
D	100W/100W+ and 100WP/100WP+ ERT module

To install in lids with holes using the Pit Lid Mounting Kit (CFG-0771-011)

1. Insert the retainer clip into the pit lid hole with the convex surface on the top of the pit lid.



2. From the bottom side of the lid, screw on the threaded retainer clip collar until the beveled top rests against the pit lid.



Note Ensure the beveled edge of the clip collar is toward the top of the pit lid.

3. Align and insert the retainer clip tab into the retainer clip receptacle on the ERT module housing.



4. Verify the clip locks into place in the housing.



Caution Carefully align the ERT module through lid assembly. If the assembly is improperly aligned, the pit lid may not close.



Pit lid mounting installation is complete.

Optional Leak Sensor Installation

This section describes installation of the Leak Sensor (LS) in a 100W/100W+ and 100WP/100WP+ ERT module system.

The ERT module stores 20 days of LS data. On the 21st day, the ERT module begins to write over stored data in a first in, first out manner.

The ERT module automatically detects the presence of connected LS devices. The ERT module will automatically detect the LS within 22.5 minutes and begin reading LS data. To immediately detect the LS and begin reading data, perform a **Check ERT** with a handheld computer running FDM software.

The LS is used in conjunction with both indoor (basement) and outdoor (mounting on the exterior of the house) 100W/100W+ and 100WP/100WP+ ERT module installations. LS devices are mounted on a water service pipe or meter inserter (meter horn) and connect to the LS connector on the ERT module as described in [To connect the Leak Sensor to the 100W/100W+ and 100WP/100WP+ ERT module](#) on page 28. The mounting bracket shipped with the LS accommodates an (up to) 1-1/2-inch OD pipe. An optional mounting bracket is available for pipe sizes (up to 2 1/2-inch OD).

Leak Sensor Installation Equipment

Equipment	Itron Part Number	Description
Leak Sensor	LDS-0001-002	LS with inline connector, environmental connector cap; 5-foot cable, and mounting bolt (fits up to 1 1/2-inch OD pipe).
Optional mounting bracket	CFG-0349-002	Mounting bolt fits up to 2 1/2-inch OD pipe.
ERT module		
100W three-port ERT module	ERW-1300-203	Triple port encoder ERT module for connection to register, Leak Sensor or remote SO, and optional remote antenna.
100W, 5-ft. flying leads, two-port ERT module	ERW-1300-206	Three-port encoder ERT module for connection to register using 5-ft. flying leads, Leak Sensor or remote SO and optional remote antenna connection with inline connectors.
100W, 20-in. flying leads, three-port encoder ERT module	ERW-1300-218	Three-port encoder ERT module for connection to register using 20-in. flying leads, Leak Sensor or remote SO, and optional remote antenna connection with inline connectors.
100WP Three-port ERT module	ERW-1300-209	Three-port pulser ERT module for connection to register, Leak Sensor or remote SO, and optional remote antenna.
100WP, 5-ft. flying leads, two-port ERT module	ERW-1300-212	Three-port pulser ERT module for connection to register using 5-ft. flying leads, Leak Sensor or remote SO, and optional remote antenna connection with inline connectors.
100WP, 20-in. flying leads, three-port pulser ERT module	ERW-1300-220	Three-port pulser ERT module for connection to register using 20-in. flying leads, Leak Sensor or Remote SO, and optional remote antenna connection with inline connectors.
25-foot extension cable (optional)	CFG-0349-101	25-foot cable with coordinating connectors (LS or SO blue connector, register black connector).
100W LS environmental replacement cap	MSC-0019-008	Protects Leak Sensor or remote SO connector when the LS or remote SO is not connected to the 100W ERT module.
Itron Security Seal	MSC-0018-001	Indicates module tampering and ensures the protective cover stays intact.

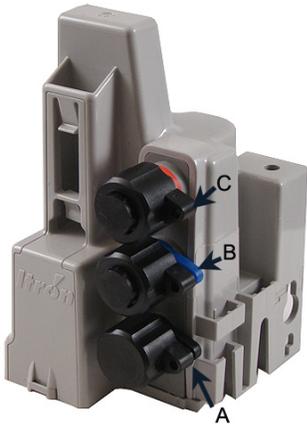


Warning When the 100W/100W+ or 100WP/100WP+ is installed but the LS is not attached, you must protect the blue port with the universal environmental cap (MSC-0019-008). If you remove the LS from the ERT module, the environmental cap must be replaced to protect the connector.

To connect the Leak Sensor to the 100W/100W+ and 100WP/100WP+ ERT module

Caution Verify you have the correct 100W/100W+ or 100WP/100WP+ ERT module. Leak Sensors must mount to Port B (middle blue port) of the ERT module. Connecting the LS to Port A (bottom port) or Port C (top port) will cause electrical damage to the LS and ERT module.

1. Remove the environmental cap from the ERT module's blue connector (B).



- C. **Red** connector: Optional antenna connection
- B. **Blue** connector: Leak Sensor connection
- A. **Black** connector: register connection

2. Remove the environmental cap from the Leak Sensor connector. Verify the connectors (the ERT module's LS connector and the Leak Sensor connector) are clean and dry.



3. Align the Leak Sensor connector with the ERT module's blue connector and insert.



4. Rotate the connector locking ring until the security holes align.



Caution Do not force the connector ends together. While you hold the LS connector, engage the ERT module's connector by rotating the locking ring until both connectors securely connect. Twist only the connector locking ring, not the body of the connector. Twisting the connector body could damage the connector's pins.

To attach an Itron Security Seal through the connector security hole

1. Insert the pointed end of the security seal through the inline connector and the ERT module connector security holes.



2. Insert the pointed end of the security seal into the capped end and push until the seal locks.



This completes the ERT module and Leak Sensor connections.

Pipe Preparation

Clean any dust or dirt from the pipe to facilitate direct contact with the LS surface.

To install the Leak Sensor on a pipe or meter insetter

1. Select a Leak Sensor mounting location within 5-feet of the ERT module. Mount the sensor on the water input side of the meter.

Caution Mount the Leak Sensor on the water input side of the meter. Failure to follow this mounting requirement could result in errors in the leak detection data. Installation requires Itron mounting hardware. Repair costs and service charges relating to the use on non-compliant mounting hardware will be charged to the customer. Contract Itron Support for more information.

2. Verify the pipe's mounting surface is free from dirt and debris. Place the curved surface of the LS against the pipe.



3. Insert the mounting U-bolt over the pipe and into the LS mounting holes.

Caution Do not mount the Leak Sensor on a pipe coupler, joint, or nut.



4. Insert the mounting plate over the U-bolt's threaded screw ends. Attach the two wing nuts over the clamp screw ends and tighten the wing nuts until snug (to a minimum of 5-inch pounds) to prevent device rotation on the pipe. After you tighten the second wing nut, check the Leak Sensor to verify the device is snug. If the sensor moves, tighten the wing nuts until there is no movement.

Caution Do not tighten the Leak Sensor to more than 20 inch-pounds. Over-tightening could damage the Leak Sensor housing and/or the pipe.

Note Leak Sensor mounting orientation is not critical. Orient the sensor to best accommodate your installation. The most important installation practice is to mount the sensor securely to the pipe.



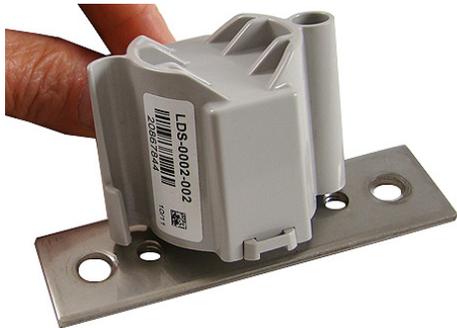
To install the Leak Sensor on a pipe (up to 2 1/2-inch OD)

1. Select a Leak Sensor mounting location within 5 feet of the ERT module.

Note Leak Sensor mounting orientation is not critical. Orient the sensor to best accommodate your installation. The most important installation practice is to fasten the sensor securely to the pipe.

Caution Mount the Leak Sensor on the water input side of the meter. Failure to follow this mounting requirement could result in errors in the leak detection data. Installation requires Itron mounting hardware. Repair costs and service charges relating to the use on non-compliant mounting hardware will be charged to the customer. Contact Itron Support for more information.

2. Insert the mounting plate screws into the holes on the Leak Sensor's curved surface.



- Secure the mounting plate to the Leak Sensor.



- Verify the pipe's mounting surface is free from dirt and debris. Place the curved surface of the LS against the pipe.

Caution Do not mount the Leak Sensor on a pipe coupler, joint, or nut.

- Insert the U-bolt around the pipe and into the holes in the plate/Leak Sensor assembly. Secure the U-bolt with the wing nuts. Tighten the wing nuts until snug (to a minimum of 5-inch pounds) to prevent device rotation on the pipe. After the second wing nut is tightened, check the Leak Sensor to verify the device is snug. If the sensor moves, tighten the wing nuts until there is no movement.



Caution Do not tighten the Leak Sensor to more than 20 inch-pounds. Over-tightening could damage the Leak Sensor housing and/or the pipe.

Optional Direct Connect Remote Antenna Installation

The optional 900 MHz remote mount antenna provides increased RF range coverage for the listed mobile applications where the meters are located deep in a pit boxes.

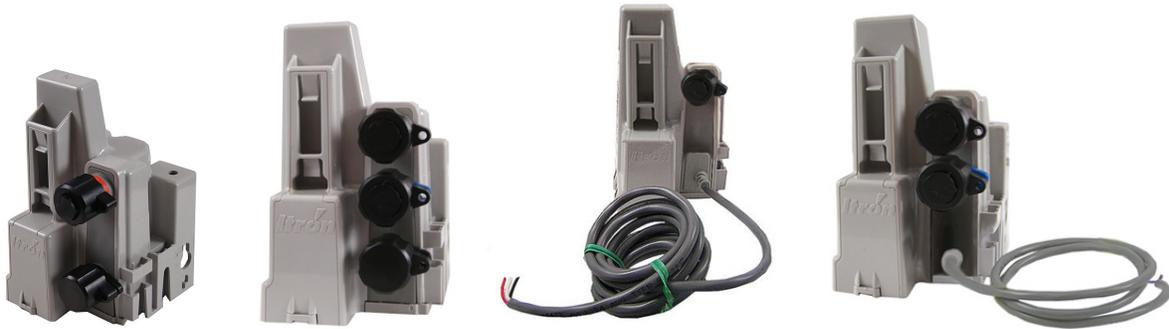
This section provides antenna mounting instructions through a pit lid and the instructions to connect the optional antenna to the ERT module.



Caution Only remote antenna ERT modules can be used with the remote antenna. See the following table for 100W and 100WP remote antenna ERT models.

100W and 100WP ERT Module Models for use with Remote Antennas

100W/100W+ and 100WP/100WP+ ERT Module Description	Iron Part Number
100W and 100W+ encoder ERT module with optional remote antenna and register integral connectors	ERW-1300-202 ERW-1300-302
100W and 100W+ encoder ERT module with optional remote antenna, Leak Sensor, and register integral connectors	ERW-1300-203 ERW-1300-303
100W and 100W+ 5-ft. flying leads encoder ERT module with optional remote antenna integral connector	ERW-1300-205 ERW-1300-305
100W and 100W+ 5-ft. flying leads encoder ERT module with optional remote antenna and Leak Sensor connectors	ERW-1300-206 ERW-1300-306
100W and 100W+ 20 in. flying leads encoder ERT module with optional remote antenna integral connector	ERW=1300-317 ERW-1300-317
100WP and 100WP+ 20 in. flying leads encoder ERT module with optional remote antenna and Leak Sensor integral connectors	ERW-1300-218 ERW-1300-318
100WP and 100WP+ pulser ERT module with optional remote antenna and register integral connectors	ERW-1300-208 ERW-1300-308
100WP and 100WP+ pulser ERT module with optional remote antenna, Leak Sensor, and register integral connectors	ERW-1300-209 ERW-1300-309
100WP and 100WP+ 5-ft. flying leads pulser ERT module with optional remote antenna and Leak Sensor integral connectors	ERW-1300-212 ERW-1300-312
100WP and 100WP+ 20 in. flying leads pulser ERT module with optional remote antenna integral connector	ERW-1300-219 ERW-1300-319
100WP and 100WP+ 20 in. flying leads pulser ERT module with optional remote antenna and Leak Sensor integral connectors	ERW-1300-220 ERW-1300-320



Industry Canada Conformity

The radio transmitter (IC:864D-100WC, IC:864D-100WD) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio (IC: 864D-100WC, IC:864D-100WD) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Specification

Part number	CFG-0900-003
Gain	2 dBi
Horizontal beamwidth	Omni-directional
Impedance	50 ohms
Termination	Proprietary

Installing the Remote Antenna

Metal lids on water pit boxes require a through-lid solution for optimal ERT module radio performance. The remote antenna is designed to fit in a pit lid hole with a diameter of 3/4-inch and lid thicknesses from 1/4-inch to 1-3/4-inch.



Caution Remove cable or twist ties from the antenna cable to prevent damage to the ERT module or antenna.

To install the remote antenna through a pit lid

1. Thread the remote antenna connector and cable through the pit lid hole. Verify the antenna's convex surface is on the top of the pit lid. (These instructions show a simulated pit lid material.)



2. Insert the antenna connector through the rectangular opening in the threaded collar.



3. Turn the threaded collar until it is tight against bottom of the pit lid.



To connect the remote antenna to the ERT module

1. Align the connector pins with the top, red connector on the ERT module. The illustration shows a 3-port ERT module connection.



2. Push in the antenna connector to complete the connection. The illustration shows a two-port ERT module connection.



3. Turn the connector lock ring to the right to secure the connection.

Caution Turn the connector lock-ring only. Do not twist the completed connection. Twisting the connection could damage the ERT module or antenna connector pins.



4. Follow the [Rod Mount Installation](#) on page 15 or [Wall Mount Installation](#) on page 18 instructions to mount the ERT module.