

Remote antenna installation is complete.



## Using an Inline Connector

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This section describes the 100W/100W+ and 100WP/100WP+ ERT module connections to the water meter register using the inline connector assembly. Follow the manufacturer's recommended procedure for installing the water meter register on the meter.

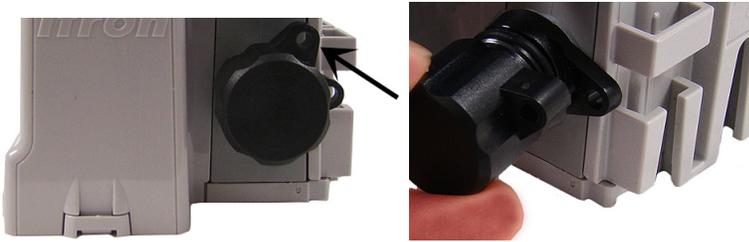
### **To connect the inline connector**

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**Note** If an inline connector is not used and the ERT module is already connected to the water meter register, skip this step.

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1. Remove the protective cover from the connector by twisting the two halves in opposite directions. Pull the halves apart.



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**Caution** Verify the connector halves are clean and dry before assembly.

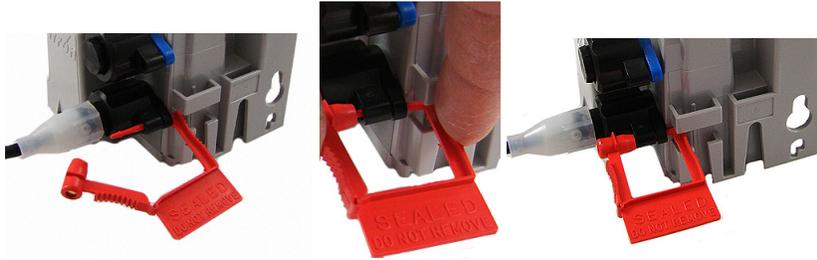
If any of the following conditions occur, do not install the ERT modules:

- Any of the three pins are damaged or missing.
  - The O-ring is missing.
  - The cable is cut or nicked.
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2. Connect the register cable to the ERT module connector:
  - Holding the connectors by the black shells, rotate one end to align the keyed slots.
  - Push until snug.
  - Slide the black coupling nut over the O-ring. Make sure the O-ring stays seated. (If the O-ring does not stay seated, disconnect and repeat this step.)
  - Twist the register cable's black coupling nut to align the two tabs.



3. Install the security seal as shown. Push it until it snaps into place.



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**Note** For future meter or ERT module servicing, break the security seal by pulling the seal apart. The original protective connector covers can be reused if kept clean and dry. Install a new security seal after servicing either device. To order replacement security seals, see the *Water ERT Module Ordering Guide* (PUB-0063-001).

**Caution** Shield connectors with protective environmental covers (see [100W/100W+](#) and [100WP/100WP+](#) ERT Module Mounting Accessories on page 14). Do not leave an exposed connector in the field.

Environmental caps employ multiple seals to increase cap life. Environmental cap design allows utilities to install the ERT module and install a Leak Sensor or optional remote antenna at a future date.

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## APPENDIX B

### Using the Itron Splice Kit

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This section describes connecting the 100W/100W+ and 100WP/100WP+ ERT module with flying leads to the water meter register using the Itron Splice Kit.



**Caution** ERT module wire terminations must be properly sealed with a non-conductive gel material to prevent water intrusion (otherwise, this configuration should not be used in a pit box environment). Itron recommends the 5-foot or 20-inch cable configuration for OEM users only.

#### Required Materials

- E-9R 3M® gel cap crimping tool
- Itron Splice Kit (OEM-0034-002)
- 100W/100W+ and 100WP/100WP+ ERT Module with flying leads



#### To install the Itron splice kit

1. Push the corresponding register and ERT module wires as far as possible into the connector.

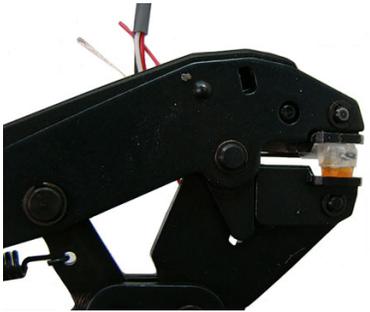


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**Caution** Do not strip insulation from the ends of the wires before inserting them into the connector.

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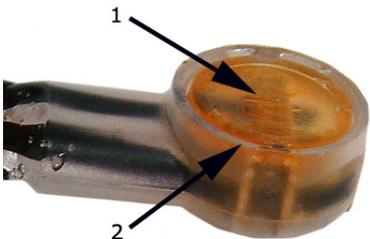
- Carefully place the connector and wires into the jaws of the crimping tool. Make sure the wires remain fully inserted in the gel-cap connector.



- Crimp the connector by squeezing the handles until the connector cap is fully seated. Continue to apply pressure for three seconds.



- A connector is crimped properly when the top of the movable yellow center (1) is flush with the top of the connector body (2).



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**Warning** Crimping the connector forces some sealant out of connector. The sealant protects the inside of the connector against insects, moisture, and other contaminants. The sealant may cause minor eye and skin irritation. Avoid eye contact. Avoid prolonged or repeated skin contact. Contact Itron Support for Material Safety Data Sheets (MSDS).



5. After you complete all ERT module to register wire connections, arrange the connectors in a single file.



6. Insert the connectors and wires into the splice tube until the connectors and wires completely immerse in the tube's gel material.



7. Separate the cables to the sides and close the splice tube cover.



8. Discard any leftover materials from the customer premises.

## Using the Itron Cable Armor

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This section describes the procedure for installing Itron cable armor in a field installation. The Itron armor cable provides a layer of protection for the module's cable jacket. Itron cable armor is available in 5-foot sections.



**Warning** Itron armor cable is stainless steel and may have sharp edges. Use caution when you are installing the armor cable.



**Important** If you remove the inline connector from the ERT module to install the armor cable, you must use an Itron handheld to reprogram the ERT module using FDM Endpoint Tools. Perform a **Check Endpoint** function (with in FDM Endpoint Tools) after you reprogram the ERT module to verify communication with the meter register.

### Required Materials

The following materials are required to install the Itron cable armor.

- 5-foot Itron cable armor
- Electrical tape
- (Optional) Scissors



#### **To install the Itron cable armor**

1. Remove the ERT module from the pit.

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**Note** If it is possible in your field installation, keep the ERT module connected to the register.

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2. Cut a two to three inch strip of electrical tape.



3. Wrap the entire piece of electrical tape around the ERT module cable near the inline connector.



4. Beginning over the installed electrical tape, twist the Itron cable armor onto the ERT module cable using a right-handed twist.



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**Important** You must twist—not wrap—the cable armor onto the ERT module cable. Wrapping the cable armor can cause the stainless steel jacket to warp.



**Warning** You must begin wrapping the cable armor over portion of the cable protected by the electrical tape. If you do not begin to wrap the cable armor over the protected portion of the ERT module cable, a cut cable could cause an ERT module/register communication failure.

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5. Continue to twist the cable armor onto the ERT module cable until the cable armor covers the entire cable.



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**Warning** You must continue to wrap the cable armor onto the cable protected by the electrical tape. If you do not twist the cable armor over the protected portion of the cable, you cut initiate a cut cable and cause an ERT module/register communication failure.

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6. Remove any leftover materials from the customer premises. Discard or recycle leftover materials.

## APPENDIX D

# Troubleshooting

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The following information is provided to help you troubleshoot issues related to the 100W/100W+ and 100WP/100WP+ ERT modules.

The following table describes possible issues and provides suggested actions to resolve the issue.

<b>Issue</b>	<b>Action</b>
Cannot program the ERT module.	Check the programming device and software version. Program ERT modules using the FC300 handheld computer running Field Deployment Manager (FDM) software.
Cannot read the ERT module.	An ERT module that is not programmed will not transmit an SCM/SCM+. Reprogram the ERT module and perform a reread. If an ERT module is not initially programmed, it will not bubble-up and listen for an SCM/SCM+.
The encoder ERT module is reporting an invalid read.	An encoder ERT module that has set the Last Good Read flag will cause an Invalid Read to display in the FDM Consumption field.
Marginal readability due to water ERT module location (for example, an ERT module deep inside a pit).	Consider reprogramming the ERT module for Hard-to-read (H2R) mode. This increases the output power to Fixed Network levels. <b>Note</b> Hard-to-read mode will reduce battery life.
The ERT module in a Fixed Network is not reporting.	Perform a Check ERT and verify the ERT module is in FN mode. If the CCU's pathway is obstructed, consider including an 8-channel repeater. Systems that utilize Fixed Network v4.0 software and a CCU100 may require a Repeater 100.
The handheld programmer is locked up and button presses produce no response.	<i>Soft boot</i> the handheld by pressing and holding buttons A and B until the screen fades. Release the buttons and allow the handheld to reboot.

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