



# Itron Water ERT Resource Library Overview

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# Welcome & Introductions



## AUDIO

All attendee lines are muted



## INTERACTION

Have a question?

Enter it in the Q&A box at any time!

# Agenda

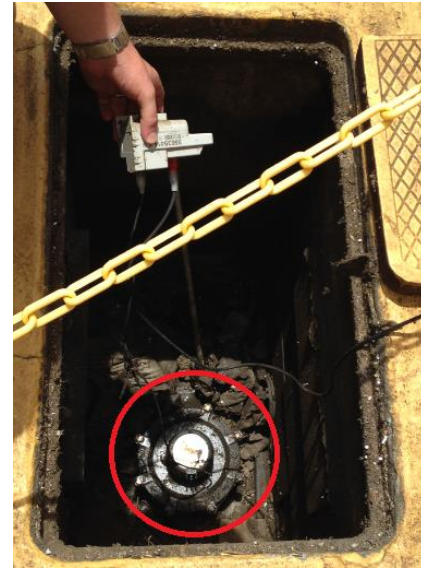
- » Introduction
- » Troubleshooting Tips & Tricks
- » New Resources on Itron Access
- » Q&A

# Troubleshooting Tips & Tricks

# Troubleshooting – Problem Installations Water



# Troubleshooting – Problem Installations Water





# In This Module You Will Learn...

5W2H

- » Endpoint Troubleshooting for these conditions:
  - Unable to read or program
  - Register and endpoint readings do not match
  - Register reading is not reported
  - Cut Cable is indicated
  - Cut Detected is indicated
  - Leak Sensor not detected
- » Tips for maintaining installations
- » Additional tips for Troubleshooting the 100W



# Troubleshooting

5W2H

<b>WHAT</b> – Describe in a single sentence so that others will be able to understand	The problem is....
<b>WHY</b> – Why is this a problem?	This is a problem because....
<b>WHEN</b> – When did we first encounter the problem	We first encountered the problem....
<b>WHERE</b> – Where do we encounter the problem	We encounter the problem at (location)(time) when (specific circumstances)
<b>WHO</b> – Who is impacted	This affects (customer, billing, utility), and how
<b>HOW</b> – How did we know there was a problem	The symptoms of the problem are
<b>HOW OFTEN</b> – How often do we encounter this problem?	We encounter this problem (x) times and each encounter is (this big). The problem is getting (better/worse).



# Troubleshooting

Let's try this out! Scenario: You are unable to read an ERT.

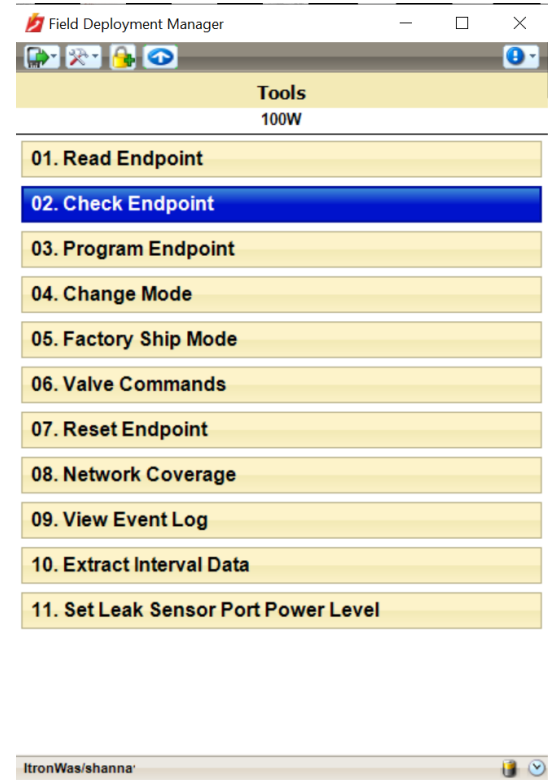
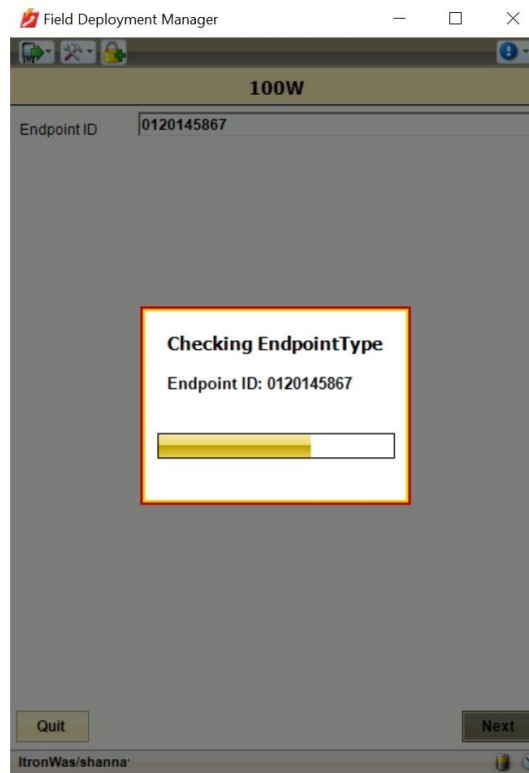
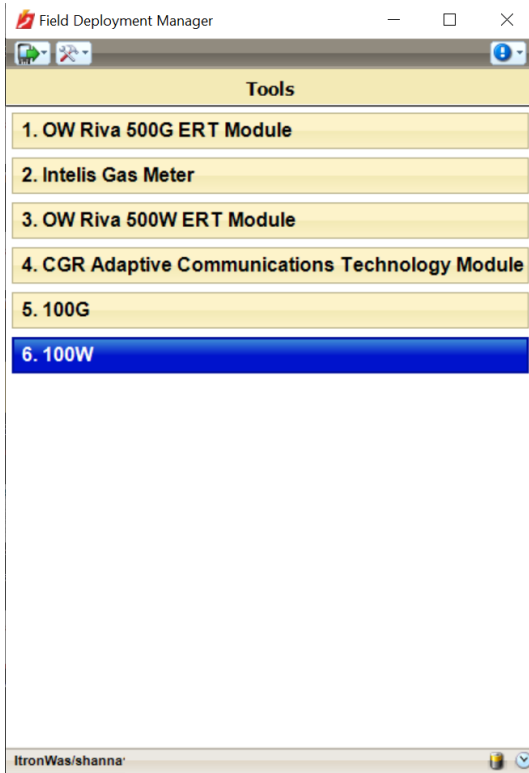
<b>WHAT</b> – Describe in a single sentence so that others will be able to understand	The problem is that I am unable to read an ERT.
<b>WHY</b> – Why is this a problem?	This is a problem because I cannot collect a reading.
<b>WHEN</b> – When did we first encounter the problem	We first encountered the problem 2 months ago.
<b>WHERE</b> – Where do we encounter the problem	We encounter the problem at 123 main street at 8:45 am when reading my FCS route via Mobile Collector.
<b>WHO</b> – Who is impacted	This affects Trish's Water Utility and Mr. Smith because we are unable to collect an accurate reading.
<b>HOW</b> – How did we know there was a problem	The symptoms of the problem are a missed reading over 2 consecutive months in FCS.
<b>HOW OFTEN</b> – How often do we encounter this problem?	We encounter this problem 2 times and each encounter is only Mr. Smith. The problem is remaining the same.

# FDM Tools

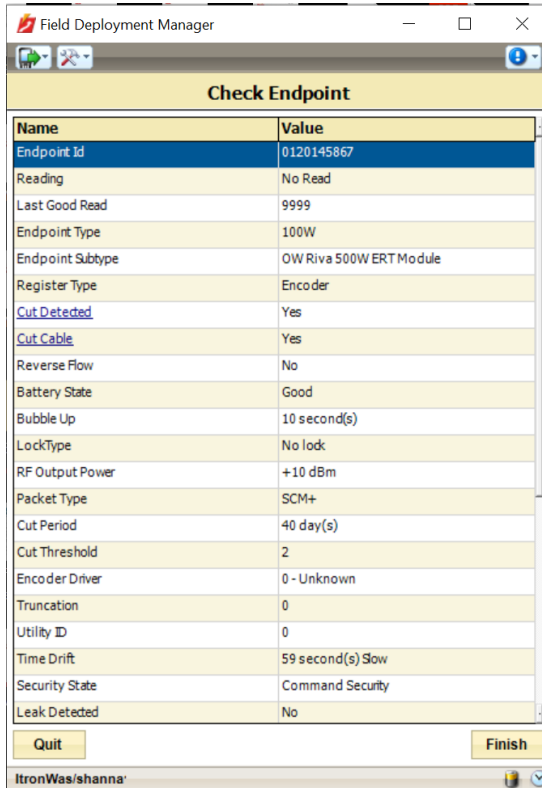


# Check Endpoint

## FDM Tools



# Check Endpoint



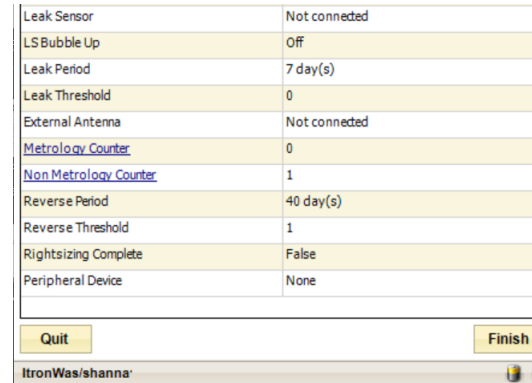
Field Deployment Manager

### Check Endpoint

Name	Value
Endpoint Id	0120145867
Reading	No Read
Last Good Read	9999
Endpoint Type	100W
Endpoint Subtype	OW Riva 500W ERT Module
Register Type	Encoder
<a href="#">Cut Detected</a>	Yes
<a href="#">Cut Cable</a>	Yes
Reverse Flow	No
Battery State	Good
Bubble Up	10 second(s)
LockType	No lock
RF Output Power	+10 dBm
Packet Type	SCM+
Cut Period	40 day(s)
Cut Threshold	2
Encoder Driver	0 - Unknown
Truncation	0
Utility ID	0
Time Drift	59 second(s) Slow
Security State	Command Security
Leak Detected	No

Buttons: Quit, Finish

System tray: ItronWas/shanna



Leak Sensor	Not connected
LS Bubble Up	Off
Leak Period	7 day(s)
Leak Threshold	0
External Antenna	Not connected
<a href="#">Metrology Counter</a>	0
<a href="#">Non Metrology Counter</a>	1
Reverse Period	40 day(s)
Reverse Threshold	1
Rightsizing Complete	False
Peripheral Device	None

Buttons: Quit, Finish

System tray: ItronWas/shanna

# Troubleshooting

Start small work big...



- ❑ Can I read the ERT using FDM?
  - ✓ Yes – ERT is good
  - ✓ No – ERT could be bad
  
- ❑ Does the reading collected in FDM match the register?
  - ✓ Yes – Register is good
  - ✓ No – Register could be bad. Try a different ERT and compare results.

Use 5W2H to determine if time of day or other factors are preventing collection of the read.



# Troubleshooting

What are considerations when I am unable to collect readings

What does the installation physically look like?

- Cast iron pit boxes
- Landscaping covering the pit
- Metal object between the radio and the ERT
- Soil composition – clay, sand, rocky
- Environment – humid, dry, rainy season, snow

Are there potential RF interferers?

- Look for cellular and radio towers, baby monitors, chain link fence, metal buildings

Is the issue a larger percentage of a mobile route?

- Check the antenna, radio, swap with another mobile device



# Troubleshooting

## No response / Unable to read or program

- ❑ Check for physical damage to the module / register / cable
- ❑ Move closer to the module
- ❑ Verify the module and register are compatible
- ❑ Verify the module is correctly mounted, would a remote antenna help?
- ❑ Verify the handheld is functioning by checking other ERTs
- ❑ If you cannot read the module after completing the previous steps, replace the module.



# Troubleshooting



## No response / Unable to read or program – special case for interferers

- ❑ RF interference - Mostly Wireless Internet Service Providers (WISPs) and other telecommunication equipment.
  - To detect, look at pattern of no response. Circle? Line? Arrow?
  
- ❑ Workarounds
  - Ask transmitter to shift frequencies (to high end or low end of ISM band).
  - Increase output power of ERTs

# Troubleshooting



## Read mismatch Encoder (Water only)

- ❑ Check for physical damage to the module, register, or cable.
- ❑ Disconnect and reconnect the module (inline connector only)
- ❑ Verify the module is connected to a compatible register
- ❑ Replace the gel connectors or check wiring color table. (remote only) See Installation guide on Itron Access
- ❑ Install a working module and perform a Check Endpoint in FDM. If the ERT module read does not match the register read (try twice), replace the register.
- ❑ If installation is good and ERT matches register read – validate ERT ID and account information in reading system

# Troubleshooting



## Read mismatch Pulser

- ❑ Check for physical damage to the module, register, or cable
- ❑ Check Endpoint with FDM to view tampers and programming. See Installation guide on Itron Access for programming information.
- ❑ Disconnect and reconnect the module (Water with inline connector only)
- ❑ Verify the module is connected to a compatible register
- ❑ Replace the gel connectors or check wiring color table. See Installation guide
- ❑ Program Endpoint then Check Endpoint to view tampers
- ❑ Consider replacing the ERT module or register (does issue follow register or ERT)
- ❑ If installation is good and ERT matches register read – validate ERT ID and account information in reading system

# Troubleshooting - Recap

## Unable to read or program

- » Check for physical damage to the module.
- » Move closer to the module.
- » Verify the module and register are compatible. Reference the Water Meter Compatibility Guide (PUB-0063-002) to confirm compatibility.
- » Verify the module is correctly mounted. The module must be mounted in an upright position, located within the pit as recommended in the installation guide, and not under water.
- » If the mounting location is prone to filling with water, mount the module through-the-lid and use the remote antenna.
- » If you cannot read the module after completing the previous steps, replace the module.



# Troubleshooting

## Register and endpoint readings do not match

- » Check for physical damage to the module.
- » Verify the cable is connected and is not cut or pinched.
- » Disconnect and reconnect the module.
- » Verify the module is connected to a compatible register. Reference the Water Meter Compatibility List (PUB-0063-002) to confirm compatibility.
- » Install the working module and perform a **Check Endpoint** in FDM. If the ERT module read does not match the register read, replace the register and re-install the original module.



# Troubleshooting



## Register reading is not reported

- » A *No Read* will be indicated if the endpoint has a cut cable or is not wired correctly
- » For Remote endpoint modules check that the gel connectors are properly crimped
- » Verify that the endpoint and meter register are correctly matched. Refer to the meter compatibility list, PUB-0063-002
- » Determine if the installed endpoint is working properly by substituting with a known good unit
- » If an encoder type endpoint and register displays *Invalid Read*, there is improper register/endpoint communications, or the register is trying to transfer unacceptable data
- » Check for physical damage

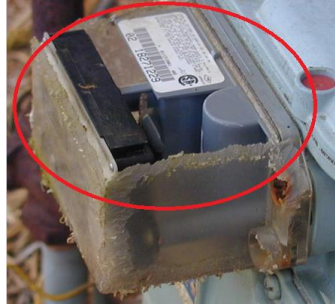


# System Maintenance



# Maintenance

Why is Auditing Installations Important



# Maintenance

## Tips for maintaining installations

- ❑ When reading, check for physical damage, water submersion, cut cable or debris covering up the endpoint
- ❑ Use remote antennas for hard-to-read locations and metal lids
- ❑ Ensure endpoints are installed in accordance with the requirements stated in the respective installation manual
- ❑ The endpoint should always be in a vertical upright position

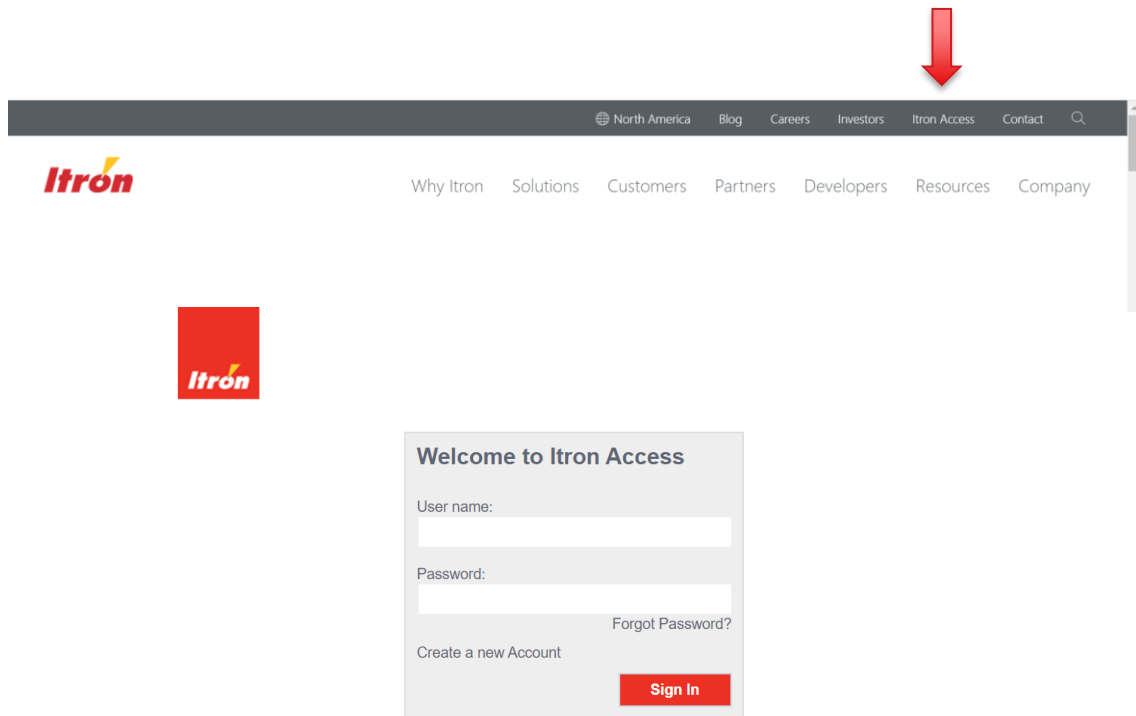


# Troubleshooting Resources

# Itron Access

Your first step to troubleshooting

- » Visit [www.itron.com](http://www.itron.com)
- » Select Itron Access from the top menu bar



The screenshot shows the Itron website's navigation bar with a red arrow pointing to the 'Itron Access' link. Below the navigation bar is the Itron logo and a menu with links for 'Why Itron', 'Solutions', 'Customers', 'Partners', 'Developers', 'Resources', and 'Company'. The main content area features a large Itron logo and a 'Welcome to Itron Access' login form. The form includes fields for 'User name:' and 'Password:', a 'Forgot Password?' link, and a 'Create a new Account' link. A red 'Sign In' button is located at the bottom right of the form.

- » Select Products from the menu
- » Either select from your favorites or view all products to find the product that you need.
- » Current Water Products include:
  - 100W+ ERT Module
  - OpenWay Riva 500W

The screenshot shows the Itron Access website interface. At the top, there is a dark header with 'Itron Access' on the left and 'Company Profile | My Profile' and 'Hanna, Spencer' on the right. Below this is a navigation bar with the Itron logo and several menu items: Home, Products (highlighted with a red arrow), Orders, Service Requests, Projects, Connect, Returns, Knowledge Base, Suppliers, and User Admin. Below the navigation bar is a section titled 'Favorite Products and Solutions'. This section features a search bar labeled 'Search Favorites' and a red button labeled 'View All Products And Solutions'. Below these are eight product cards, each with a red star icon in the top right corner. The products shown are: 100W+ Water Module, Leak Sensor, Mlogonline, OpenWay® Riva, OpenWay Riva 500W ..., Water AMI - ChoiceCo..., Water ERT® Module, and Water SaveSource Net...

# Itron Access

Your first step to troubleshooting

OPENWAY RIVA 500W ERT MODULE



Search Knowledge base  Search

[OpenWay Operations Center - Collection Manager and missing icons](#)  
Dec 20, 2017  
[OpenWay Operations Center - Collection Manager and missing icons](#)  
0 stars | 0 views

## PRODUCT DOWNLOADS

DOCUMENT	VERSION	DOCUMENT #	DATE
▶ White Paper			
▣ User Guides and Manuals			
▶ Spec Sheet			
▶ Software			
▶ Sales Support Tools			
▶ Release Notes			
▶ Presentation			
▶ Marketing, Product and Technical Communication			

DOCUMENT	VERSION	DOCUMENT #	DATE
▾ User Guides and Manuals			
<a href="#">OpenWay Operations Center Collection Manager v5.0 Device Interface Guide</a>	5.0	TDC-8015-001	Jul 30, 2019
<a href="#">OpenWay Riva Global System Release 5.1 Upgrade Guide</a>	5.1	815-0300-00	May 1, 2020
<a href="#">Pit Lid Compatibility Chart</a>	All Versions	PUB-0157-001	Mar 30, 2020
<a href="#">OpenWay Riva 500W ERT Module Pit Installation Guide</a>	All Versions	815-0006-00	Mar 27, 2020
<a href="#">OpenWay Collection Manager v4.5 MR2 Device Interface Guide</a>	4.5	815-0234-00 Rev2	Mar 20, 2020
<a href="#">OpenWay Operations Center Collection Manager v4.5 MR2 Device Interface Guide</a>	4.5	TDC-7083-001	Feb 6, 2019
<a href="#">OpenWay Riva 500W ERT Remote Module Installation Guide</a>	All Versions	815-0005-00	Mar 27, 2020
<a href="#">OpenWay Operations Center Collection Manager v4.5 Device Interface Guide</a>	4.5	TDC-1786-003	Jun 29, 2018
<a href="#">Water Pit ERT Splice Kits White Paper</a>	All Versions	TDC-0642-001	Mar 20, 2007
<small>This white paper describes the available splice kit for Water Pit ERTs and recommendations for its use.</small>			

Questions?



Thank You

