



OpenWay® Riva

Gas Remote Disconnect

Installation Guide

Identification

OpenWay® Riva Gas Remote Disconnect Installation Guide

24 January 2018

TDC-1759-000

Copyright

© 2018 Itron, Inc. All rights reserved.

Confidentiality Notice

The information contained herein is proprietary and confidential and is being provided subject to the condition that (i) it be held in confidence except to the extent required otherwise by law and (ii) it will be used only for the purposes described herein. Any third party that is given access to this information shall be similarly bound in writing.

Trademark Notice

Itron is a registered trademark of Itron, Inc.

All other product names and logos in this documentation are used for identification purposes only and may be trademarks or registered trademarks of their respective companies.

Suggestions

For more information about Itron or Itron products, see www.itron.com.

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

Contact

- Email: support@itron.com
- Internet: support.itron.com
- Telephone Itron Technical Support North America: 1-877-487-6602

For technical support contact information by region, go to www.itron.com and select your country and language.

Contents

Chapter 1 Important Safety and Compliance Information.....	1
USA, FCC Part 15 compliance.....	1
Canada, ISED compliance.....	2
RF Exposure (FCC/ISED).....	2
Electromagnetic compatibility.....	2
Telemetry equipment classification.....	3
Intrinsic safety.....	3
Lithium battery.....	3
Transportation classification.....	3
Modifications, repairs, installation, and removal.....	3
Aluminum enclosure.....	4
Electrostatic discharge.....	4
Electrostatic ignition hazard.....	4
Device cleaning.....	4
Do Not Drop	4
Product notification.....	5
Chapter 2 OpenWay Riva Gas Remote Disconnect Installation Guide	
Overview.....	6
Audience.....	6
Chapter 3 About the OpenWay Riva Gas Remote Disconnect	7
OpenWay Riva Gas Remote Disconnect models.....	7
OpenWay Riva Gas Remote Disconnect system security.....	8
Enabling OpenWay Riva Gas Remote Disconnect security.....	8
Transmission mode.....	8
Operational states.....	8
OpenWay Riva Gas Remote Disconnect functional specifications.....	9
OpenWay Riva Gas Remote Disconnect operational specifications.....	9
Related documents.....	10
Chapter 4 Installing the OpenWay Riva Gas Remote Disconnect.....	11
Initial calibration and alignment.....	11
OpenWay Riva Gas Remote Disconnect installation, commissioning, and decommissioning	12
OpenWay Riva Gas Remote Disconnect accessories.....	12
Meter set installation.....	13
OpenWay Riva Gas Remote Disconnect valve positions.....	14
Installing the OpenWay Riva Gas Remote Disconnect in the pipe.....	14
Installing the flood sensor.....	15
Mounting the flood sensor on the pipe.....	16
Mounting the flood sensor on a flat surface.....	16
Chapter 5 Connecting the Flood Sensor to the OpenWay Riva Gas Remote Disconnect.....	18

Connecting the flood sensor inline connector to the OpenWay Riva Gas Remote Disconnect..... 18

Chapter 6 OpenWay Riva Gas Remote Disconnect Programming.....20

Sending OpenWay Riva Gas Remote Disconnect secure commands..... 20

- Get Commands.....20
 - Performing a Get Commands..... 20
- Commissioning the OpenWay Riva Gas Remote Disconnect..... 21
 - Performing an OpenWay Riva Gas Remote Disconnect valve commissioning..... 21
- Connecting the OpenWay Riva Gas Remote Disconnect.....21
 - Connection instructions..... 21
- Disconnecting the OpenWay Riva Gas Remote Disconnect..... 22
 - Closing the OpenWay Riva Gas Remote Disconnect valve to disconnect service..... 22
- Decommissioning the OpenWay Riva Gas Remote Disconnect.....23
 - Decommissioning instructions.....23

Chapter 1 Important Safety and Compliance Information

This section provides important information for your safety and product compliance.

USA, FCC Part 15 compliance

This device complies with Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference that may cause undesirable operation.

This device must be installed to provide a separation distance of at least 20 centimeters (7.9 inches) from all persons to be compliant with regulatory RF exposure.

USA, FCC Class B-Part 15

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or TV technician for help.

Modifications and Repairs

To ensure system performance, this device and antenna shall not be changed or modified without the express approval of Itron. Per FCC rules, unapproved modifications or operation beyond or in conflict with these instructions for use could void the user's authority to operate the equipment.

Canada, ISED compliance

Compliance Statement Canada

This device complies with Innovation, Science and Economic Development Canada (ISED) license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Under Innovation, Science and Economic Development Canada (ISED) regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Déclaration de Conformité

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

RF Exposure (FCC/ISED)

This equipment complies with radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme aux limites d'exposition aux radiations dans un environnement non contrôlé. Cet équipement doit être installé et utilisé à distance minimum de 20 cm entre le radiateur et votre corps. Cet émetteur ne doit pas être co-localisées ou opérant en conjonction avec tout autre antenne ou transmetteur.

Electromagnetic compatibility



Caution: Use only approved accessories with this equipment. All cables must be high quality, shielded, and correctly terminated. Unapproved modifications or operation beyond or in conflict with these use instructions may void the authority's authorization to operate the equipment.

Telemetry equipment classification



Warning:

- Telemetry equipment for use in CI I, Div. 1, Gp. D Hazardous Location, for hazardous locations.
- Temperature code: T1
- Ambient temperature: $-40^{\circ}\text{C} \leq T_a \leq 70^{\circ}\text{C}$.

Intrinsic safety



Warning: Substitution of components may impair intrinsic safety.

Lithium battery



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°C Celsius (212°F Fahrenheit), crush, expose to water, or incinerate the lithium battery. Fire, explosion, and severe burn hazard.
- The battery used in this device may present a risk of fire or chemical burn if mistreated.
- Keep the lithium battery away from children.
- Batteries must not be replaced or modified in any way.

Transportation classification

The Federal Aviation Administration prohibits operating transmitters and receivers on all commercial aircraft. When powered, the Itron device is considered an operating transmitter and receiver and cannot be shipped by air. All product returns must be shipped by ground transportation.

Modifications, repairs, installation, and removal

To ensure system performance, this device and antenna shall not be changed or modified without the express approval of Itron. Any unauthorized modification will void the user's authority to operate the equipment.

In the event of malfunction, all repairs should be performed by Itron. It is the responsibility of users requiring service to report the need for service to Itron.

Aluminum enclosure



Warning: This enclosure contains aluminum. Take care to avoid ignition hazard due to impact.

Electrostatic discharge



Warning: Internal circuit components can be sensitive to electrostatic discharge. Before installation, discharge electrostatic buildup by touching a metal pipe or other earth-grounded metal object prior to touching the meter body, register housing, or Itron device.

Electrostatic ignition hazard



Warning: Verify the area is not hazardous when installing, servicing, cleaning, or touching the Itron device.

Device cleaning



Warning: Clean only with a damp cloth.

Do Not Drop



Warning: While Itron modules are designed to withstand a drop, dropping the module may damage the device and void the warranty.

Product notification



Warning: These instructions are suggested when Itron-approved utility or installer company-established valve installation procedures and practices are not available.

- Itron does not endorse or warrant the completeness or accuracy of any third-party valve installation procedures or practices, unless otherwise provided in writing by Itron.
- Follow your company's standard operating procedures regarding the use of personal protection equipment (PPE).
- Adhere to guidelines issued by your company in addition to those given in this document when installing or repairing valves.
- This product, as of the date of manufacture, is designed and tested to conform to all governmental and industry safety standards as they may apply to the manufacturer.
- The purchaser and user of this product must comply with all fire control, building codes, and other safety regulations governing the application, installation, operation, and general use of this valve to avoid leaking gas hazards resulting from improper installation, startup, or use of this product.
- To ensure safe and efficient operation of this product, Itron strongly recommends installation by a qualified professional.

Chapter 2 OpenWay Riva Gas Remote Disconnect Installation Guide Overview

This installation guide provides instructions for physically installing, commissioning, connecting, decommissioning, and physically disconnecting the OpenWay Riva Gas Remote Disconnect remote-controlled valve.

Audience

This installation guide is intended for Itron personnel, third-party OpenWay Riva system installers, and end-users of the OpenWay Riva Gas Remote Disconnect remotely-controlled valve.

Chapter 3 About the OpenWay Riva Gas Remote Disconnect

The Itron wireless OpenWay Riva Gas Remote Disconnect valve is integrated in the piping serving OpenWay Riva networks to provide a safe secure device to stop the flow of natural gas into a residential or commercial structure. The OpenWay Riva Gas Remote Disconnect enables system monitoring with functionality to remotely-control the natural gas supply. An externally connected water sensor detects flood water and supports auto-shutoff in extreme weather conditions. In the event of a disconnect due to an extreme weather condition, the OpenWay Riva Gas Remote Disconnect sends an alarm to the head-end system.

Communications with the OpenWay Riva Gas Remote Disconnect device are securely sent between programming and monitoring devices using Itron Security Manager (ISM). ISM ensures operation occurs over a secured network. The secure network allows for both open and close remote commands to facilitate operation and keep field personnel safe from hazardous or unwelcome locations.

The OpenWay Riva Gas Remote Disconnect is made up of two separate chambers: the gas chamber and the electronics chamber.

- The gas chamber houses the gas valve used to shut off the flow of gas with a remote command. The gas valve shaft provides a visual indication of the valve position. A special hardware tool is required to re-engage the gas flow mechanism. Re-engaging the valve to restore the flow of gas requires a qualified technician's intervention to send a wireless command to enable the re-engagement and to use the valve tool to physically open the valve. If the valve was tampered with to force the valve to remain in an open position, the system reports the tampering.
- The electronics chamber houses the monitoring and wireless radio circuitry. The electronics chamber is protected with a tamper plug installed over one of the four fasteners. If the electronics are compromised, the OpenWay Riva Gas Remote Disconnect reports at least one tamper flag.
- The valve engagement mechanism is protected by an industry standard tamper plug.

The OpenWay Riva Gas Remote Disconnect can be installed in any horizontal or vertical position that locates the mounting seal in the upright position while it facilitates gas flow in the proper direction. Locating the mounting seal in an upright position ensures optimum battery life and helps to keep debris from accumulating on the seal surface.

OpenWay Riva Gas Remote Disconnect models

The OpenWay Riva Gas Remote Disconnect is available in the listed models.

OpenWay Riva Gas Remote Disconnect description	Itron part number
Flood sensor with 2' resistive type cable	TEL-7103-002
Flood sensor with 5' resistive type cable	TEL-7103-003

OpenWay Riva Gas Remote Disconnect system security

The OpenWay Riva Gas Remote Disconnect is a component of Itron's OpenWay Riva system. The OpenWay Riva system enhanced security, provided by Itron Security Manager (ISM), applies to the RF communications between the collection device and the OpenWay Riva Gas Remote Disconnect. There are two fundamental security processes used in the Itron Security Manager to ensure system communication confidentiality and validity.

- **Authentication.** Authentication is the process of confirming that an artifact is genuine or valid. Authentication in the OpenWay Riva Gas Remote Disconnect 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. Data transmissions over the network are protected using AES-256 encryption.

Enabling OpenWay Riva Gas Remote Disconnect security

When the OpenWay Gas Remote Disconnects ship from an Itron factory, each module contains utility factory keys. The presence of these utility factory keys does not enable the enhanced security. The installer enables the enhanced security at the time the OpenWay Riva Gas Remote Disconnect is deployed or at a later time using an Itron programming device, Field Deployment Manager Endpoint Tools Enhanced, and programming commands. Initial key exchange commands are secured using the utility factory keys. For more information about programming the OpenWay Gas Remote Disconnect for security, see the *FDM Endpoint Tools Mobile Application Guide* (TDC-0934).

Transmission mode

The OpenWay Riva Gas Remote Disconnect operates in OpenWay Riva Network Mode and is designed to transmit 3 times a day with a 20-year battery life.

An FCC license is not required to read the OpenWay Riva Gas Remote Disconnect.

Operational states

The OpenWay Riva Gas Remote Disconnect features three normal operational states.

- **Closed.** The remote disconnect remotely-controlled valve receives a command to close from a network reading device. When the valve is closed, the flow of gas stops.

- **Commissioned.** The remote disconnect remotely-controlled valve receives a command to open from a network reading device. The valve remains in an armed state (ready to be opened) until the valve detects an open command after which the valve transitions to on open state. The OpenWay Riva Gas Remote Disconnect remains in an armed state (ready to be physically opened) until it detects an open valve. It then transitions to the open state.
- **Open.** The OpenWay Riva Gas Remote Disconnect valve receives a command to open from a network reading device. Opening the valve requires an on-site visit to physically open the valve. First, a technician uses the reading device to issue the connection (open) command. After the connection command is received, the on-site technician uses the valve tool to open the valve. After the gas flow begins, the technician ensures the system is operating properly and gas is flowing in the system.

OpenWay Riva Gas Remote Disconnect functional specifications

OpenWay Riva Gas Remote Disconnect functional specifications include basic specifications and compliance types.

Functional specifications	Description
Power source	Two "A" cell lithium batteries
Tamper detection	Tilt, magnet, cut cable tampers, and valve critical alarm
FCC compliance	Parts 1, 2, and 15 certified
Innovation, Science and Economic Development Canada (ISED)	RSS-102, RSS-247 and RSS-GEN certified
Intrinsically safe per	Telemetry Equipment for use in Hazardous Locations, for Cl I, Div 1, Gp D for Haz Loc, Temp Code T1, $-40^{\circ}\text{C} \leq \text{Ta} \leq +70^{\circ}\text{C}$.
Product identification	Numeric and bar coded device type and serial number
Construction materials	Gray polycarbonate housing with encapsulated electronics, aluminum die cast valve body

OpenWay Riva Gas Remote Disconnect operational specifications

The OpenWay Riva Gas Remote Disconnect features these operational specifications.

Operational specifications	Description
Operating temperatures	-20° to 150° F (-28.9° to $+70^{\circ}$ C)
Operating humidity	5 to 95 percent relative humidity
Program frequency	908 MHz

Operational specifications	Description
Transmit frequency	Frequency hopping spread spectrum 902.2 to 927.75 MHz in the ISM band
Data integrity	Verified in every data message
NIM message	FM modulation; all other messages are AM modulated

Related documents

Document title	Document part number
<i>Customer setup to order secured OpenWay Riva modules</i>	TDC-1748-XXX
<i>First article review form</i>	TDC-1749-XXX
<i>OpenWay Collection Manager Operational Guidelines</i>	
<i>OpenWay Riva Events and Exceptions Reference Guide</i>	
<i>Itron Mobile Radio User Guide</i>	TDC-1719-XXX
<i>Itron Mobile Radio Quick Reference Guide</i>	TDC-1720-XXX
<i>Gas and Telemetry Module Meter Compatibility List</i>	PUB-0117-002
<i>Gas and Telemetry Module Ordering Guide</i>	PUB-0117-001
<i>OpenWay Riva Gas Remote Disconnect Specification Sheet</i>	
<i>Field Deployment Manager Endpoint Tools Mobile Application Guide</i>	TDC-0934-XXX
<i>Field Deployment Manager Mobile Application Guide (NAM)</i>	TDC-1713-XXX
<i>Field Deployment Manager Field Representative's Guide</i>	TDC-0936-XXX

Chapter 4 Installing the OpenWay Riva Gas Remote Disconnect

This section describes OpenWay Riva Gas Remote Disconnect installation. Installation requires initial calibration and alignment using an Itron handheld device loaded with Field Deployment Manager Endpoint Tools Enhanced.

Initial calibration and alignment

At the time of deployment, the OpenWay Riva Gas Remote Disconnect requires initial calibration and alignment. FDM Endpoint Tools Enhanced support secure installation commissioning and verification. FDM Endpoint Tools Enhanced receives secure, signed commands and a list of OpenWay Riva Gas Remote Disconnect reading keys for each specific device, if they are available. The OpenWay Riva Gas Remote Disconnect supports FDM Endpoint Tools operation featuring two important capabilities.

- Pre-fetch capabilities. FDM Endpoint Tools Enhanced obtains secure OpenWay Riva Gas Remote Disconnect commands during in-office work order synchronization.
- In-field commands. FDM Endpoint Tools Enhanced requests and receives commands in the field when there is network availability and when the network has access to the head-end equipment.

The OpenWay Riva Gas Remote Disconnect supports a decommissioned state. The device is placed into a decommissioned state prior to shipment. The device can also be placed into the decommissioned state when it is removed from service and transported to another location.

During the commissioning and decommissioning process, FDM Endpoint Tools Enhanced supports these commands.

- Secure transmission of commissioning and decommissioning commands. Also secure reception of an outcome response.
- Commissioning to align and calibrate the OpenWay Riva Gas Remote Disconnect.
- Decommissioning to put the OpenWay Riva Gas Remote Disconnect into a state that allows for removal or relocation.
- Secure valve setting commands.

The OpenWay Riva Gas Remote Disconnect supports FDM Endpoint Tools Enhanced commands to place the valve in an open or closed state. The valve state is determined from the work order associated with the task. Factory security keys are injected into the device prior to shipment from the factory. Utility-specific security keys are supplied by the utility and are injected at the time the system is deployed. All required Itron Security Manager secure commands are obtained from FDM before the installation is verified. The following secure commands types are obtained by FDM.

- Commissioning

- Valve control
- Secure reading key commands

OpenWay Riva Gas Remote Disconnect installation, commissioning, and decommissioning

This section provides the information to physically install, connect, commission, decommission, and disconnect the OpenWay Riva Gas Remote Disconnect.



Warning: These instructions are suggested when Itron-approved utility or installer company-established valve installation procedures and practices are not available. Itron does not endorse or warrant the completeness or accuracy of any third-party valve installation procedures or practices, unless otherwise provided in writing by Itron. Follow your company's standard operating procedures regarding the use of personal protection equipment (PPE). Adhere to guidelines issued by your company in addition to those given in this document when installing or repairing valves. This product, as of the date of manufacture, is designed and tested to conform to all governmental and industry safety standards as they may apply to the manufacturer. The purchaser/user of this product must comply with all fire control, building codes, and other safety regulations governing the application, installation, operation, and general use of this valve to avoid leaking gas hazards resulting from improper installation, startup, or use of this product.

To ensure safe and efficient operation of this product, Itron strongly recommends installation by a qualified professional.

OpenWay Riva Gas Remote Disconnect accessories

This section provides a list of the accessories available for the OpenWay Riva Gas Remote Disconnect.

Description	Itron part number
Valve tool	MSC-5103-003
Universal environmental cap	MSC-0019-011



Caution: Shield unconnected flood sensor connectors on field installed OpenWay Riva Gas Remote Disconnect devices with the protective universal environmental cap. Do not leave flood sensor connectors exposed in field installations. Environmental caps employ multiple seals to protect connector life.

Meter set installation

OpenWay Riva Gas Remote Disconnect deployment begins with the installation of the device in gas piping. The OpenWay Riva Gas Remote Disconnect is 6.5" in height and requires clearance from the adjacent pipe, meter set components, and building materials to accommodate that size. The device can be installed in any horizontal or vertical orientation that facilitates gas flow in the proper direction. Locating the OpenWay Riva Gas Remote Disconnect in one of the suggested positions ensures optimum battery life and helps keep debris from accumulating on the seal surface. Do not mount the OpenWay Riva Gas Remote Disconnect in a position that places the antenna against a structure or in foliage.



OpenWay Riva Gas Remote Disconnect recommended mounting positions

Note: Install the OpenWay Riva Gas Remote Disconnect in an orientation that positions the antenna as far from walls, meters, or piping as possible. Ensure the following parameters.

- A clear RF signal reaches the antenna (1).
- Gas is flowing in the proper direction (the direction indicated by the arrow on the OpenWay Riva Gas Remote Disconnect).
- The valve reset shaft is accessible with the valve tool (2).





Caution: Do not install the OpenWay Riva Gas Remote Disconnect with the gas out flow in the down position or in such a way that the antenna is against a wall or other structure.



Remove the red shipping plugs from the inlet and outlet and vent the OpenWay Riva Gas Remote Disconnect prior to installation. Keep the piping interior, regulator inlet, and regulator outlet free from dirt, chemical sealant (pipe dope), Teflon tape, or other debris. Materials in piping or regulator inlet or outlet create a loss of pressure control. Apply pipe sealant on the male (exterior) pipe threads. Joint materials can lodge in the regulator and cause a loss of pressure control. Gas must flow through the valve body in the same direction as the arrow on the valve. Gas flowing in the wrong direction may prevent a disconnect.

OpenWay Riva Gas Remote Disconnect valve positions

The OpenWay Riva Gas Remote Disconnect valve positions are shown in the illustrations.



Valve open- valve slot horizontal



Valve closed- valve slot positioned at angle

Note: When the OpenWay Riva Gas Remote Disconnect valve shaft is closed, the valve shaft is in a 7:00/1:00 orientation. The valve rotates counterclockwise from open to closed but does not rotate a full 90 degrees.


Installing the OpenWay Riva Gas Remote Disconnect in the pipe

1. Select the location for the OpenWay Riva Gas Remote Disconnect and plan piping revisions to accommodate the gas flow direction, OpenWay Riva Gas Remote Disconnect device body length, swing radius, and antenna clearance.

2. Verify the gas flow is in the direction noted by the arrow on the body of the OpenWay Riva Gas Remote Disconnect valve.




3. Apply pipe sealant on the pipe.

 **Caution:** Do not leave loose tape or excess pipe sealant on the pipe connections.

4. Thread the OpenWay Riva Gas Remote Disconnect onto the inlet pipe (or riser).
5. Tighten the connection with a pipe wrench.
6. Thread the outlet pipe into the OpenWay Riva Gas Remote Disconnect outlet.
7. Tighten the connection with a pipe wrench.
8. Complete meter set piping as appropriate.
9. Install a tamper plug over the top tamper seal cup (if one is not already present).



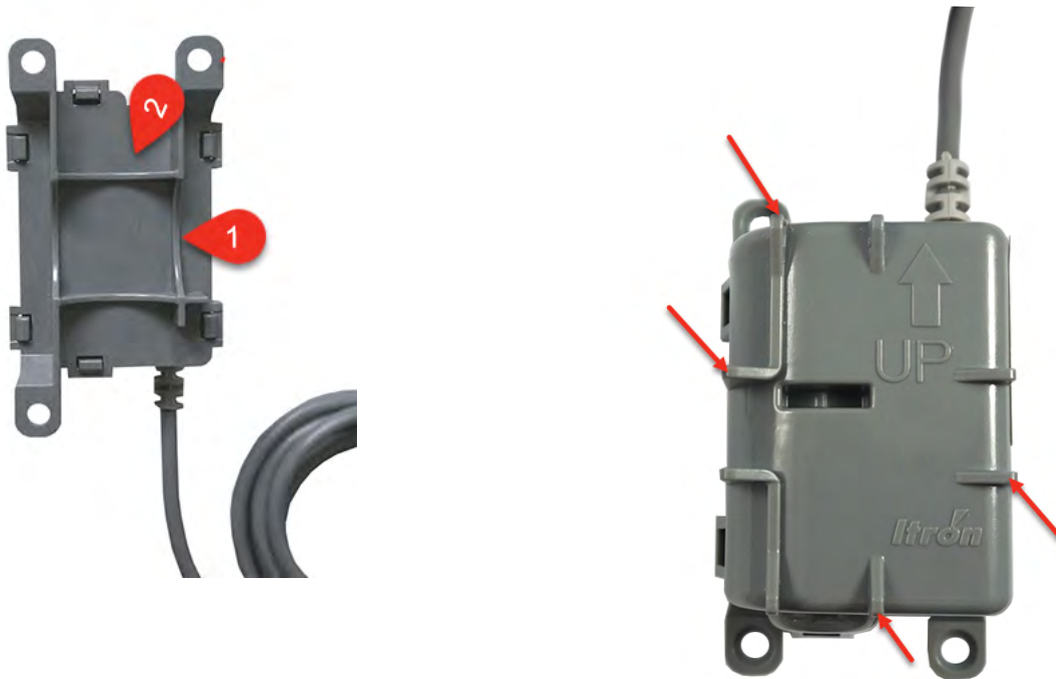
Installing the flood sensor

 **Warning:** Do not paint the flood sensor.

Mounting the flood sensor on the pipe

Mounting the flood sensor on a pipe requires a user-supplied band clamp large enough to secure the sensor to the pipe.

Note: Mount the flood sensor on a vertical (2) or horizontal (1) pipe using the bottom pipe cradles and top and side bracket guides. The arrow on the flood sensor housing must point up after installation.



1. Position the flood sensor on the pipe using the correct pipe cradle for the pipe's orientation.

Note: Place the sensor 6 to 12 inches above the ground or floor but below the OpenWay Riva Gas Remote Disconnect.

2. Place the open band clamp around the pipe and flood sensor.
3. Tighten the band clamp enough to ensure the sensor cannot rotate or slip on the pipe.

Mounting the flood sensor on a flat surface

1. Locate the installation area on a flat surface 6 to 12" above the ground or floor but below the OpenWay Riva Gas Remote Disconnect.

Note: The three mounting holes on the flood sensor may be used as a drilling template for installation.

2. Secure the flood sensor to a wall or other flat surface by tightening three user-supplied screws through the flood sensor's mounting flanges.



Chapter 5 Connecting the Flood Sensor to the OpenWay Riva Gas Remote Disconnect

The flood sensor connects to the OpenWay Riva Gas Remote Disconnect through an inline connector.

Connecting the flood sensor inline connector to the OpenWay Riva Gas Remote Disconnect

1. Remove the protective cover from end of the flood sensor's inline connector by twisting the protective cover tab to the left.



2. Discard or recycle the protective cover.
3. Align the inline connector pins with the OpenWay Riva Gas Remote Disconnect connector pins and push the connector securely onto the remote disconnect device.



4. Twist the inline connector's blue tab until it aligns with the OpenWay Riva Gas Remote Disconnect connector's tab.



5. Secure a tamper seal through the connection tab's opening to complete the connection.



6. Complete the installation by securing the flood sensor's cable with cable ties or wire guides.

Chapter 6 OpenWay Riva Gas Remote Disconnect Programming

The OpenWay Riva Remote Gas Disconnect can be programmed and read with an FC300SR handheld computer and read with an Itron Mobile Radio connected to a user-supplied laptop. Programming the device requires Field Deployment Manager version 4.1.0.

Sending OpenWay Riva Gas Remote Disconnect secure commands

The OpenWay Riva Gas Remote Disconnect must be programmed with the required security parameters using a compatible programming device prior to valve commissioning. For complete programming information, see the *Field Deployment Manger Mobile Application Guide* (TDC-1713-XXX [XXX designates the application guide's revision level]).

Get Commands

Performing a **Get Commands** is required using FDM Endpoint Tools allows before the user can initiate secure communications between the programming device and the OpenWay Riva Gas Remote Disconnect. If the programming device is the FC300SR, the device must be docked in the cradle to communicate with the server before a **Get Commands** can be performed.

Important: Shared key files must be installed on the FDM and ISM servers.

Performing a Get Commands

1. Open FDM.
2. Click the tools icon on the upper left corner.
3. Select **Endpoint Tools**.
4. Click the computer icon in the upper left corner.
5. Select **Get Commands**.
6. Enter the OpenWay Riva Gas Remote Disconnect device ID.
7. From the Device Type drop-down list, select OWR-GRD.
8. Click the **+** icon.

The Device ID is added to the Device Type list.

Note: Several devices may be added to the Device Type list prior to communicating with the server.

9. Click **OK**.

The programming device communicates with the server. The red X next to the Device ID changes to a secure lock symbol.

10. Select the communication type (OpenWay Riva Network).
11. Select **Program Endpoint**.
12. Enter the OpenWay Riva Gas Remote Disconnect Endpoint ID.
13. Click **Next**.

A screen appears showing the programming parameters.

14. Click **Next**.

The OpenWay Riva Gas Remote Disconnect is ready to commission.

Commissioning the OpenWay Riva Gas Remote Disconnect



Warning: COMMISSIONING MUST TAKE PLACE FOLLOWING THE FINAL INSTALLATION. Commissioning is dependent on site-specific configuration.

Continue the OpenWay Riva Gas Remote Disconnect deployment by commissioning the valve. Commissioning requires an Itron programming or reading device loaded with FDM Endpoint Tools Enhanced.

Performing an OpenWay Riva Gas Remote Disconnect valve commissioning

1. Using FDM Endpoint Tools Enhanced, select number 4, **Commission**.
2. Enter the OpenWay Riva Gas Remote Disconnect Device ID.
3. Select **Next**.

Note: The ISM security keys are injected during the commissioning process to enable OpenWay Riva Gas Remote Disconnect enhanced security.

Connecting the OpenWay Riva Gas Remote Disconnect

Continue the OpenWay Riva Gas Remote Disconnect deployment by connecting the device. This process prepares the valve for opening by a qualified installer or technician.



Caution: If the OpenWay Riva Gas Remote Disconnect valve is opened too soon, you must send a **Disconnect Service** command followed by a new **Connect Service** command.

Connection instructions

1. Using the programming device loaded with FDM Endpoint Tools Enhanced, select number 2, **Connect Service**.

2. Click **Next**.
3. Enter the OpenWay Riva Gas Remote Disconnect device ID.
4. Click **Next**.



Caution: A Warning appears to remind the service technician to light the pilots after the valve is opened. You must wait until the programming device confirms the valve is ready to be opened. If an attempt is made to open the valve before the programming device confirms a valve ready state, the valve will return a failed status and initiate a tamper event.

5. Using the valve tool, turn the valve shaft to lock the valve into the open position.

Important: Turn the valve tool until you hear a click indicating the valve locked into position. In the event the valve operation is not confirmed, an error message appears: *Result of operation is inconclusive. The endpoint was not found.*



Disconnecting the OpenWay Riva Gas Remote Disconnect

In the event the gas service is being disconnected, follow these instructions to close the OpenWay Riva Gas Remote Disconnect valve.

Closing the OpenWay Riva Gas Remote Disconnect valve to disconnect service

1. In FDM Endpoint Tools Enhanced, select number 3, **Disconnect Service**.
2. Enter the OpenWay Riva Gas Remote Disconnect device ID.
3. Click **Next**.

Note: A warning appears: *You are turning off the gas supply.*

4. Click **Next**.

Note: A confirmation appears indicating the valve is closed. If the valve does not confirm a closed status, an error screen will appear. Repeat the process. If the valve does not confirm a closed status after the second attempt, contact Itron Support Services for help.

Decommissioning the OpenWay Riva Gas Remote Disconnect

In the event the OpenWay Riva Gas Remote Disconnect will be removed from service, the device must first be decommissioned.



Warning: Prior to decommissioning the OpenWay Riva Gas Remote Disconnect, verify the gas supply is turned off. Decommissioning the OpenWay Riva Gas Remote Disconnect returns the device to Factory Ship Mode with security enabled. To recommission the OpenWay Riva Gas Remote Disconnect, the user must get the proper signed commands from FDM and ISM to recommission the device. Performing a Check ERT with FDM Endpoint Tools Enhanced will not recommission the OpenWay Riva Gas Disconnect.

Decommissioning instructions

1. Select number 5, Decommission in FDM Endpoint Tools Enhanced.
2. Click **Next**.
3. Enter the OpenWay Riva Gas Remote Disconnect device ID.
4. Click **Next**.

A window displays confirming the OpenWay Riva Gas Remote Disconnect was successfully decommissioned.