Itron

OpenWay Riva

OpenWay Riva Gas Disconnect Installation Guide

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Trademark Notice

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Contact

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1 Important Safety and Compliance Information

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

USA, FCC Part 15 Spectrum 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 Spectrum 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 do it 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.

Intrinsic Safety

Warning! Substitution of components may impair intrinsic safety.

Telemetering Equipment Classification

Warning!

- Telemetering equipment for use in Cl I, Div. 1, Gp. D Hazardous Location, for hazardous locations.
- Temperature code: T1
- Ambient temperature: -40°C ≤ Ta ≤ 70°C.

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°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 not intended to replace any utility or company-established meter installation procedures. These instructions are provided for additional information when the OpenWay Riva Intelis Gas Meter is installed. The meter installation must comply with all country, state, and local building and safety regulations as well as federal regulations including Section 192.353 of Title 49 of the Code of Federal Regulations. Two pertinent paragraphs of the code are:

- Each meter and service regulator, whether inside or outside of a building must be in a readily accessible location and be protected from corrosion and other damage.
- Each meter installed within a building must be located in a ventilated place and not less than 3 feet from any source of ignition or any source of heat which might damage the meter.

The Intelis Gas Meter is rated for the following operating and storage temperature ranges. Use of the meter outside of the listed temperature ranges is not recommended.

Operating ranges:

- Measurement -30° F (-34° C) to +131° F (55° C)
- Valve -13° F (-25° C) to +131° F (55° C)
- 500G -40° F (-40° C) to +158° F (70° C)

Storage range:

- -40° F (-40° C) to +158° F (70° C)

Direct inquiries as to the selection and application of gas meters to your local Itron sales representative or Itron Support.

- Itron does not endorse or warrant the completeness or accuracy of any third-party meter 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 meters.
- 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 meter to avoid leaking gas hazards resulting from improper installation, start-up, or use of this product.
- To ensure safe and efficient operation of this product, Itron strongly recommends installation by a qualified professional.

- Itron does not endorse or warrant the completeness or accuracy of any third-party meter 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 meters.
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- To ensure safe and efficient operation of this product, Itron strongly recommends installation by a qualified professional.

2 OWRGD Installation Guide Overview

This installation guide provides instructions for physically installing, commissioning, connecting, decommissioning, and physically disconnecting the OWRGD valve.

Audience

This installation guide is intended for Itron personnel, third-party OpenWay Riva system installers, and end-users of the OWRGD valve.

3 About the OpenWay Riva Gas Disconnect

The Itron OpenWay Riva Gas Disconnect (OWRGD) valve is integrated in the piping that distributes natural gas to provide a safe secure device to stop the gas flow in the piping serving a residential or commercial structure. The OWRGD enables remote monitoring and control of the natural gas supply. An optional and externally connected water sensor detects flood water and initiates an automatic valve closure. In the event of an automatic valve closure due to flooding, the OWRGD sends an alarm to the head-end system.

Communications with the OWRGD device are sent using messages secured by Itron Security Manager (ISM). Message security prevents unwanted opening or closure of the valve in the OWRGD. The ability to remotely disconnect and rearm the OWRGD facilitates safety for field personnel in what might be an unsafe or hostile environment.

The OWRGD 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. The gas valve shaft provides a visual indication of the valve position. A special hardware tool is required to re-engage the valve 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 valve engagement mechanism is protected by an industry standard tamper plug.
- 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 OWRGD reports the event.

The OWRGD can be installed in both horizontal and vertical piping with the flow arrow on the valve body pointing in the direction of the gas flow.

When the OWRGD is mounted in horizontal piping, mount the device with the top surface (the area with the product label) away from walls and structures.

When the OWRGD is mounted on vertical piping, do not mount the device in a vertical downflow position (with the flow arrow point down). The top surface (the area with the product label) may point to the side but not toward nearby walls or structures.

Following these installation best practices will optimize communications and prevent debris from accumulating on the valve seal surface.

OWRGD Models

The OWRGD is available in the listed models.

OWRGD description	Itron part number
OWRGD, 1-inch	GRD-7103-001
OWRGD, ¼-inch	GRD-7103-002
Flood sensor, resistive type, with 4' armored cable	TEL-7103-004
Flood sensor, resistive type, with 8' cable	TEL-7103-008

OWRGD System Security

The OWRGD 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 network or handheld and the OWRGD. 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 OWRGD 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.

Transmission Mode

The OWRGD operates in OpenWay Riva Network Mode and is optimized for RF interrogations 3 times a day to support a 20-year battery life.

An FCC license is not required to communicate with the OWRGD.

Operational States

The OWRGD features three normal operational states.

- **Closed**. The remote disconnect valve is closed with no gas flowing.
- **Armed**. The remote disconnect valve receives a command to open. (Gas will not flow until the valve is manually opened on-site.)
- **Open**. The OWRGD valve is open allowing gas to flow.

OWRGD functional specifications

OWRGD 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	RSS-102, RSS-247 and RSS-GEN certified

Functional specifications	Description
Development Canada (ISED)	
Intrinsically safe per	Telemetering Equipment for use in Hazardous Locations, for Cl I, Div 1, Gp D for Haz Loc, Temp Code T1, -40°C ≤ Ta ≤ +70°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, Buna-N valve disk

OWRGD Operational Specifications

The OWRGD features these operational specifications.

Operational specifications	Description
Operating temperatures	-20° to 150° F (-28.9° to +70° C)
Operating humidity	5 to 95 percent relative humidity
Program frequency	908 MHz
Transmit frequency	Frequency hopping spread spectrum 902.2 to 927.75 MHz in the ISM band
Data integrity	Verified in every data message

Related Documents

Document title	Document part number
Customer setup to order secured OpenWay Riva modules	TDC-1748-XXX
First article review form	TDC-1749-XXX
OpenWay Riva Collection Manager Device Interface Guide	TDC-1786-XXX
Itron Mobile Radio User Guide	TDC-1719-XXX
Itron Mobile Radio Quick Reference Guide	TDC-1720-XXX
Gas and Telemetry Module Meter Compatibility List	PUB-0117-002
Gas and Telemetry Module Ordering Guide	PUB-0117-001
OpenWay Riva Gas Devices Ordering Guide	PUB-0117-006
OWRGD Specification Sheet	

Document title	Document part number
Field Deployment Manager Tools Application Guide	TDC-1713-XXX
Field Deployment Manager Tools Configuration Guide	TDC-1711-XXX
Field Deployment Manager Field Representative's Guide	TDC-1714-XXX

4 Installing the OWRGD

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

OWRGD Installation, Commissioning, and Decommissioning

This section provides the information to physically install, connect, commission, decommission, and disconnect the OWRGD.

> **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 replacing 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.

OWRGD Accessories

This section provides a list of the accessories available for the OWRGD.

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

Caution: Shield unconnected flood sensor connectors on field installed OWRGD 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

The OWRGD can be installed in both horizontal and vertical piping with the flow arrow on the valve body pointing in the direction of the gas flow.

When the OWRGD is mounted in horizontal piping, mount the device with the top surface (the area with the product label) away from walls and structures.

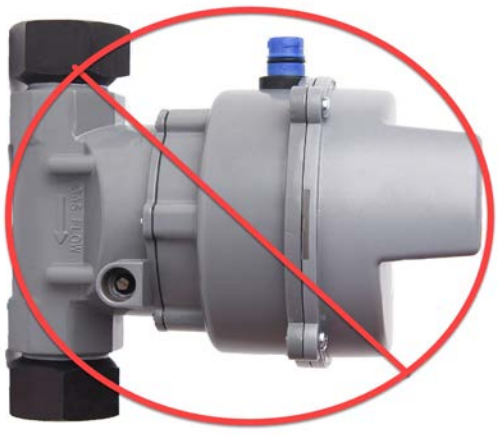
When the OWRGD is mounted on vertical piping, do not mount the device in a vertical down flow position (with the flow arrow point down). The top surface (the area with the product label) may point to the side but not toward nearby walls or structures. Following these installation best practices will optimize communications and prevent debris from accumulating on the valve seal surface. Do not mount the OWRGD in a position that places the antenna against a structure or in foliage.

The OWRGD recommended mounting positions are as follows:

Install the OWRGD 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 OWRGD).
- The valve reset shaft is accessible with the valve tool (2).

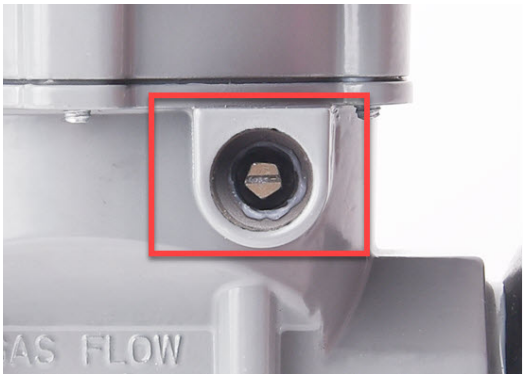
Caution: Do not install the OWRGD with the gas outflow in the down position or in such a way that the antenna is against a wall or other structure.



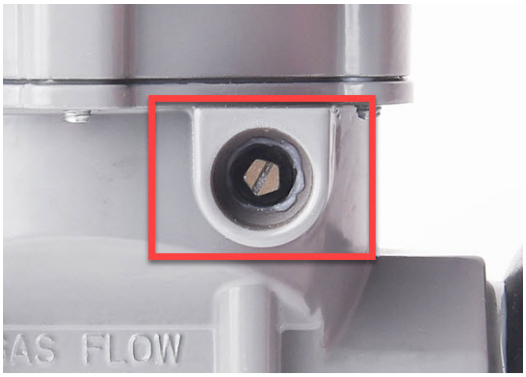
Remove the red shipping plugs from the inlet and outlet to vent the OWRGD prior to installation. Keep the piping interior, regulator inlet, and regulator outlet free from dirt, chemical sealant (pipe dope), Teflon tape, or other debris. Materials in piping or regulator inlet or outlet create a loss of pressure control. Apply pipe sealant on the male (exterior) pipe threads. Sealing 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.

OWRGD Valve Positions

The OWRGD valve positions are shown in the illustrations.



Valve open: valve slot horizontal



Valve closed: valve slot positioned at angle

> **Note:** For devices that are mounted in a horizontal position, the OWRGD 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. If the device is mounted vertically, the valve shaft orientation changes to a 5:00/11:00 orientation.

Installing the OWRGD in the Pipe

1. Select the location for the OWRGD and plan piping revisions to accommodate the gas flow direction, OWRGD 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 OWRGD 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 OWRGD onto the inlet pipe (or riser).
5. Tighten the connection with a pipe wrench.
6. Thread the outlet pipe into the OWRGD 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).

Warning! Check all connections for gas leakage and repair if necessary.

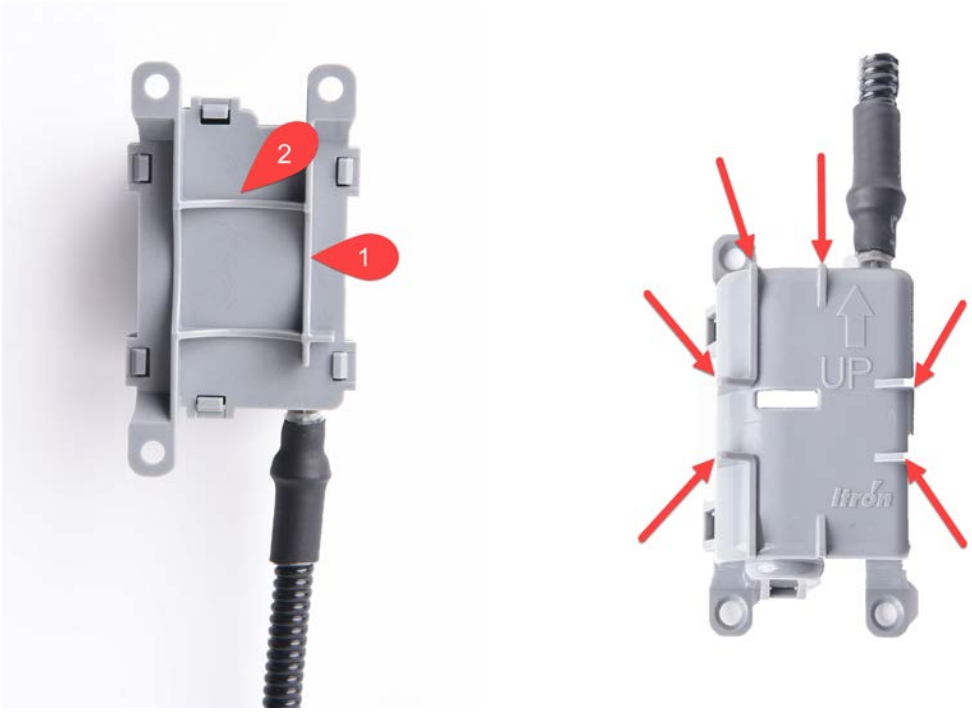
Installing the Flood Sensor

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.

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 OWRGD.

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 inches above the ground or floor but below the OWRGD.

   > **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.

5 Connecting the Flood Sensor to the OWRGD

The flood sensor connects to the OWRGD through an inline connector.

> **Warning!** The OWRGD must be commissioned before the flood sensor is connected to ensure proper event logging. After the flood sensor is attached to the OWRGD, perform a Check Endpoint in FDM tools to verify the flood sensor is connected.

Connecting the Flood Sensor Inline Connector

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 OWRGD connector pins and push the connector securely onto the gas disconnect device.

4. Twist the inline connector's blue tab until it aligns with the OWRGD 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. Coil and secure any excess cable near the OWRGD.

6 OWRGD Operations

The OWRGD can be programmed and read with an FC300SR handheld computer or an Itron Mobile Radio connected to a user-supplied laptop. Programming the device requires Field Deployment Manager (FDM) Tools version 4.1.0.

FDM Tools provides the interface to operate the OWRGD with these OWR-GD categories.

- **Obtaining Security Material on page 28**
- **OWRGD Valve Commands on page 29**
- **Check Endpoint/Valve Status on page 29**
- **Commission on page 30**
- **Connect on page 31**
- **Disconnect on page 32**
- **Decommission on page 33**
- Read events
- **Programming the OWRGD on page 33**
- **Performing Network Operations on page 33**

> **Note:** This installation guide discusses the device valve commands. For complete FDM Tools operation information, see the *Field Deployment Manager Mobile Application Guide (NAM), FDM Tools*. (For documentation information, see **Related Documents on page 14**)

OWRGD Secure Commands

The OWRGD 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]).

Obtaining Security Material

Security information is required by the OWRGD to communicate in the OpenWay Riva network. Security information is available in FDM work orders inventory assignments or when the device is on the FDM Server secured device list (prior to synching your handheld device). If the required security materials have not been synchronized to the device, see the *Field Deployment Manager*

Mobile Application Guide (NAM), FDM Tools for methods to obtain the security materials. (See **Related Documents on page 14** for documentation information.)

> **Important!** Shared key files must be installed on the FDM and ISM servers.

OWRGD Valve Commands

FDM Tools Valve Commands provide the interface to complete and view the listed OWRGD valve commands.

- Valve Status
- Connect
- Disconnect
- Commission
- Decommission

Performing 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 OWRGD device ID.
7. From the **Device Type** drop-down list, select **OWR-GD**.
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.

Check Endpoint/Valve Status

Selecting `Valve Commands > Valve Status` returns the following information.

- Endpoint ID
- Device Type. The device type for the OWRGD device is OWR-GD.

- Valve State
- Service Control State
- Commissioned
- Active Events
- Last Operation Method
- Last Operation Detail
- Last Operation Time
- External Sensor

Emergency Override

In an emergency situation, operation of the valve under conditions outside of normal operating parameters or following a flood related auto-closure is possible by acknowledging the warning pop-up in FDM. Itron assumes no liability for failure of the OWRGD to perform the requested action when the emergency override option is selected. The use of the emergency override option voids any remaining warranty on the OWRGD.

> ⚠ **Caution:** Forcing an emergency override could result in damage to the valve or failure of the valve to operate.

FDM offers the option to perform an override action (Close or Arm) if any of the listed conditions are reported by the OWRGD.

- Previous auto-disconnect due to immersion of an attached flood sensor in water.
- The current valve temperature is outside of the specified operating parameters (for example, less than 32° F [0° C] or greater than 212° [100° C]).
- Valve actuation count exceeded 80.

After an override action is performed, all future valve closure or arming requests will result in an override warning and a corresponding logged event.

Commission

> ⚠ **Warning!** The OWRGD valve must be commissioned following the physical installation. Commissioning is dependent on site-specific configuration.

Continue the OWRGD deployment by commissioning the valve. Commissioning requires an Itron programming or reading device loaded with FDM Tools.

Commission Instructions

1. Enter the OWRGD Endpoint ID.
2. Using FDM Endpoint Tools, select **Commission**.
3. Select **Next**.
4. Select **Valve Status** to confirm the valve is commissioned.

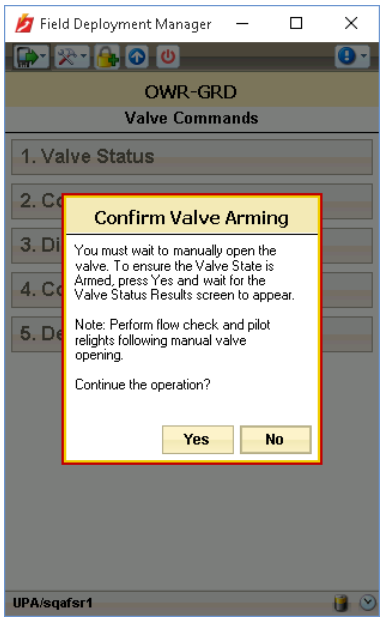
Connect

Continue the OWRGD deployment by connecting the device. This process prepares the valve for opening by a qualified installer or technician.

Connect Instructions

1. Enter the OWRGD Endpoint ID.
2. Click **Next**.
3. Using the programming device loaded with FDM Tools, select **Connect**.
4. Click **Next**.

   A Confirm Valve Arming screen appears.



   Respond to the warning to continue the operation. You must wait for the Valve Status screen to appear before you turn the shaft to open the valve.

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

> **Important!** Turn the valve tool until you hear a click indicating the valve locked into position. You will feel the physical vibration of the valve clicking (engaging). Perform a **Check Endpoint/Valve Status on page 29** to confirm the valve is connected.

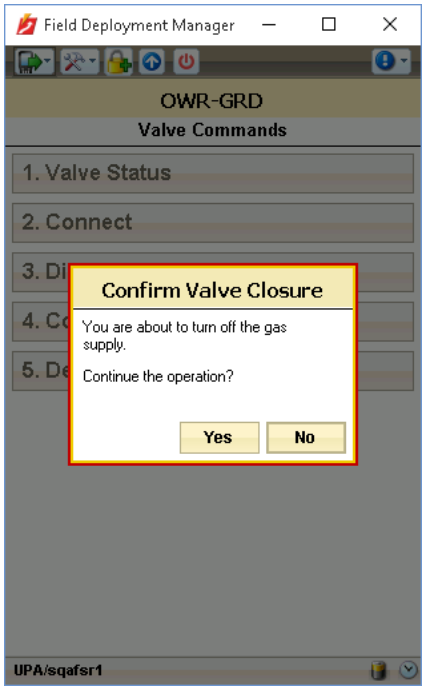
Disconnect

If there is a need to disconnect the gas service, follow these instructions to close the OWRGD valve.

Disconnect Instructions

1. Enter the OWRGD endpoint ID.
2. Using FDM Tools, select **Disconnect**.
3. Click **Next**.

   The following screen appears:



4. Click **Yes** or **No**.

   A confirmation appears indicating the valve is closed.

Decommission

In the event the OWRGD will be removed from service, the device must first be decommissioned.

> **Warning!** Prior to decommissioning the OWRGD, verify the gas supply is turned off.

Decommissioning the OWRGD:

- returns the device to Factory Ship Mode with security enabled
- disables the valve operations
- disables some events (for example, tilt tamper)

To recommission the OWRGD, the user must get the proper signed commands from FDM and ISM to recommission the device. Performing a Check Endpoint with FDM Tools will not recommission the OWRGD.

Decommissioning Instructions

1. Enter the OWRGD endpoint ID.
2. Click **Next**.
3. Select **Decommission**.
4. Click **Next**. A window displays confirming the OWRGD was successfully decommissioned.

Programming the OWRGD

1. Enter the OWRGD Endpoint ID.
2. Select **Program Endpoint**.
3. Confirm or enter the Audit Mode Duration.
4. Browse to and select the OWOC file to upload.
5. Click **Next**. Screens appear showing the programming parameters.
6. Click **Finish**. The OWRGD is ready to commission.

Performing Network Operations

FDM Tools provides the interface to the perform the listed Network Operations.

- Force Registration
- Set BubbleUp Mode
- Close Session

For more information about performing OpenWay Riva Network Operations, see the *FDM Mobile Application Guide, FDM Tools*. For documentation information, see**Related Documents on page 14**.