

KNOW MORE

ZURN CONNECTED PRODUCTS

Zurn Connected Products

Technical Guide



ZURN.COM US 1.855.ONE.ZURN CANADA 1.877.892.5216

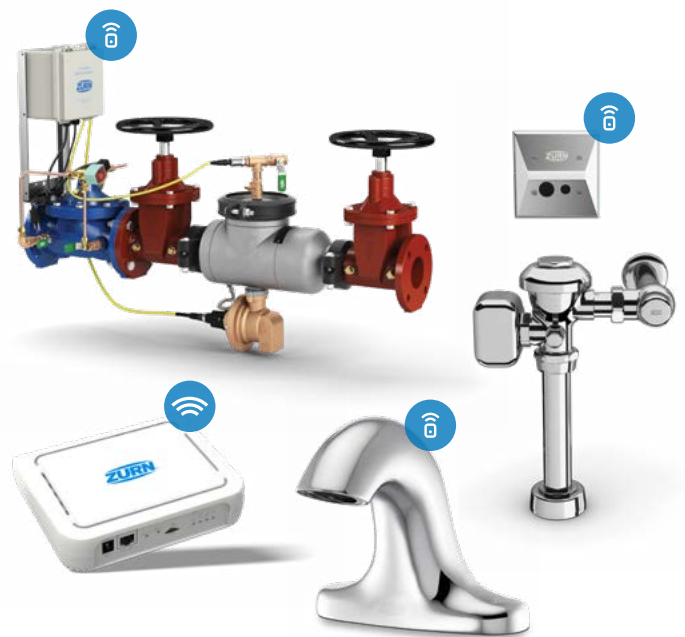


Get Connected to Your Products

From setup to security, a smarter operation begins with what's happening behind the scenes. Use this guide to connect your Zurn plumbing equipment to receive real-time alerts and historic insights on your system's performance. You'll gain an understanding of what it means to be connected and how the technology works.

When you know more, you're in control and calling the shots.

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Visibility for Predictability

Let your equipment do the monitoring for you and your maintenance staff. Log in to the secure portal, plumbSMART™, to access data on your Zurn Connected Products from your desktop or mobile device. The cloud-based system delivers a virtual, centralized, platform for managing your connected plumbing ecosystem — no need to use software in multiple locations. You'll be able to scale the system as your enterprise grows and evolves and keep up with real-time insights for preventative maintenance.

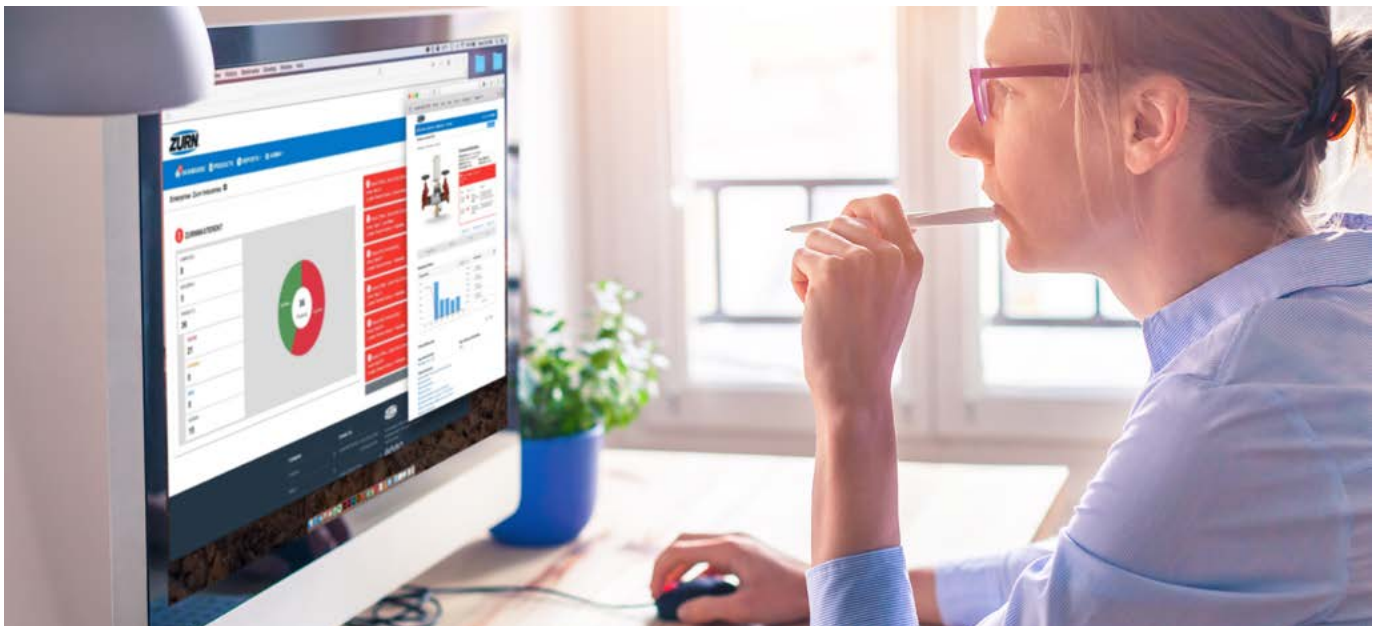
- Access plumbSMART 24/7 from any location
- View the Zurn Connected Products across your enterprise through a user-friendly dashboard
- Receive real-time notifications via email or text
- Customize alerts around your operation and set parameters
- Grant access to both internal team members, as well as external service providers
- Set permission levels and manage user access privileges by location and product type



Respond Faster with Instant Data

From a high-level snapshot to deep dive, manage your building's plumbing products around your operation and around your terms. You can focus your attention on the highest priority or assign your team members to specific areas and products in your building. You can even analyze trends to plan ahead. Each product page delivers real-time data that can be sorted your way.

- Get a snapshot of your enterprise summary
- Drag and drop products to update
- Predefine data parameters and set performance metrics
- Filter by product type, room, severity, etc.
- Analyze data through history, charts, recent alerts, etc.
- Generate reports for your team
- Find product resources all in one place



How it Works

Zurn Connected Products are equipped with advanced sensors that detect changes and track product performance. The data transmits wirelessly via the built-in LoRa radio system to the Zurn Gateway located nearby.

The Zurn Gateway then sends the data on to the Zurn Cloud for analysis via Ethernet connection to the local area network (LAN). If a local Ethernet connection is not an option, the gateway can be set up to communicate directly with the Zurn Cloud via LTE cellular. Algorithms in the Zurn Cloud analyze the data – all displayed on our secure portal, plumbSMART, and delivered via email or text alert.

Each Zurn Connected Product comes with default alert parameters, which can be customized in plumbSMART based on the specific needs of your building and maintenance protocols.

Depending on the functionality of the equipment, some Zurn Connected Products can sense when to act in order to protect your building. Again, these parameters can be set through your plumbSMART account to accommodate your operation.

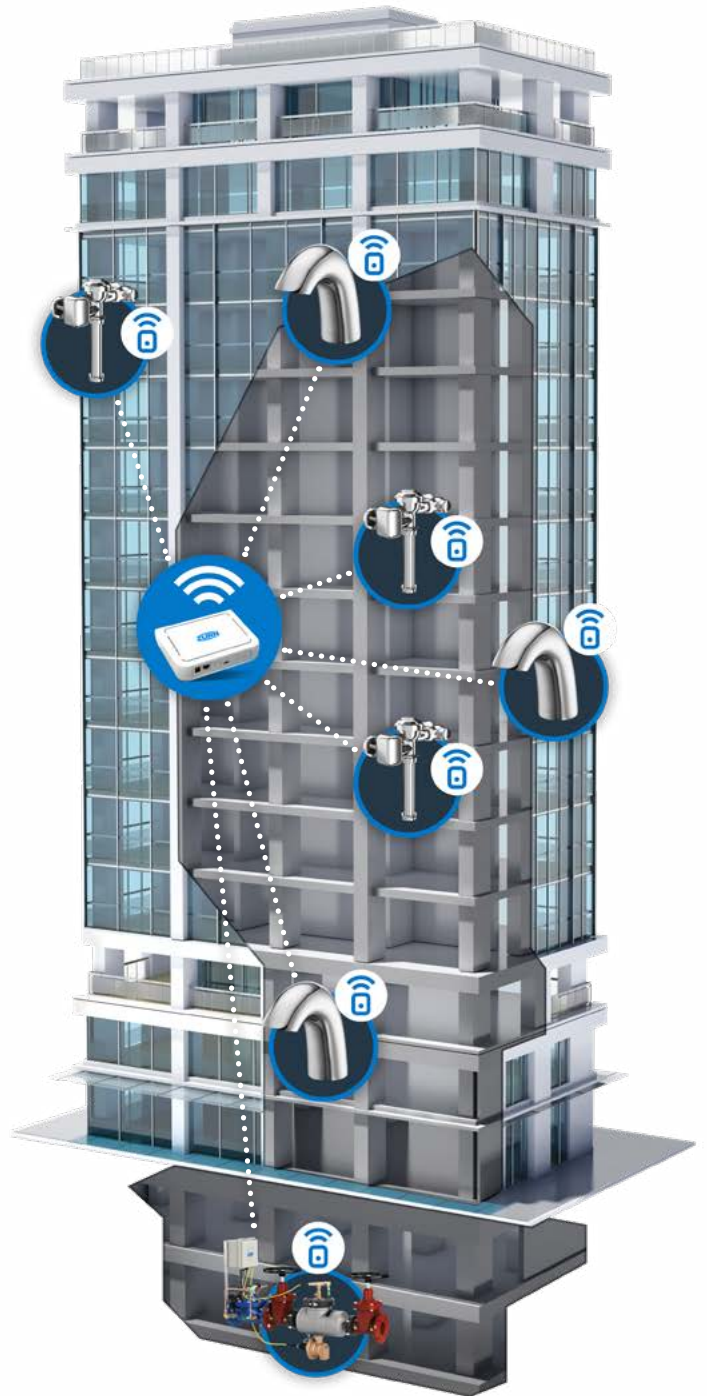
From Product to plumbSMART

The Zurn Gateway functions similar to an Internet modem by syncing your plumbing products to the secure Zurn Cloud. This allows your Zurn Connected Products to talk to you and your staff in real time via the portal, email, and text.

One gateway can handle several hundred Zurn Connected Products within 1,000-foot spherical radius, which means you'll never overwhelm the system.

If your facility utilizes a local area network (LAN) to connect to the internet, you can simply connect the Zurn Gateway to a network port using an Ethernet cable.

If you're opting for LTE Cellular, we recommend placing the gateway in an optimal location for receiving a strong and reliable LTE cellular signal. Your Zurn representative should be able to assist you throughout this process.



Set Up Your Network

First, you want to confirm whether an active Zurn Gateway already exists within 1000 feet of where your Zurn Connected Products will be installed. If not, you will need to acquire and install a Zurn Gateway. You have two options to choose from, depending on your needs — Ethernet LAN or LTE Cellular. Both are as simple as setting up a modem in your home.

Next, you will need to select an appropriate central location for installing this device:

1. Choose a location that is within 1000 feet of the Zurn Connected Products you're installing. Typically, your building's walls should not be an issue. However, be sure to avoid major obstructions, such as thick concrete walls or metal reflective surfaces that will weaken the signal reception.
2. As with any electronic or networking device, install your Zurn Gateway in a cool, dry, dust-free location. In general, air-conditioned offices or server rooms work best.
3. Make sure you have access to a standard 110V electrical outlet to plug your Zurn Gateway.
4. Then, depending on your choice of gateway, please follow the instructions below.



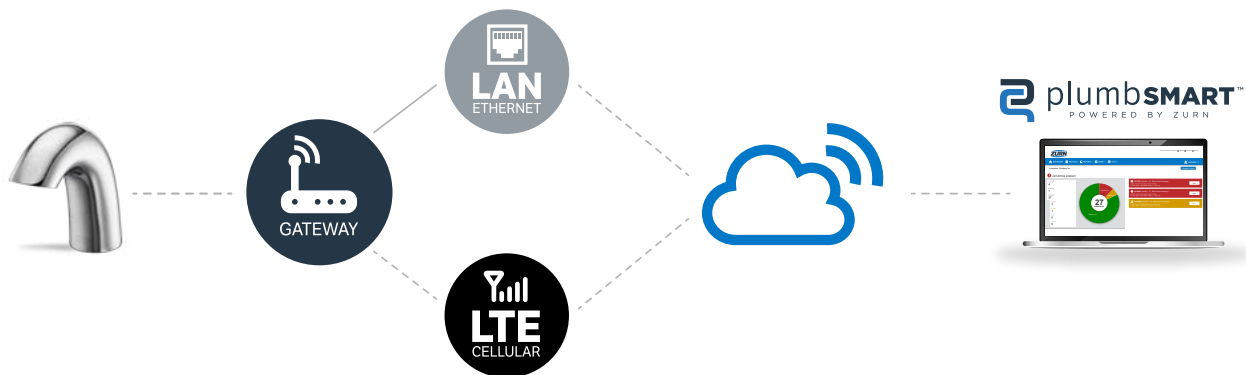
Ethernet LAN

- STEP 1:** Plug the power cord into the electrical outlet to power up your gateway.
- STEP 2:** If the network is secured, ask your network administrator to authorize this gateway. You can provide the MAC address for the gateway, which is printed on the bottom of the label.
- STEP 3:** Confirm the first two indicators (Status and LoRa) are flashing green to complete your setup.

LTE Cellular

- STEP 1:** Check that the location isn't obstructed for sending and receiving cellular signals. You can use your own cellular device's connectivity as an indicator.
- STEP 2:** Once location is confirmed, plug the power cord into the electrical outlet.
- STEP 3:** Your gateway should power up automatically and, within a couple of minutes, all three indicators (Status, LoRa and Cell) should flash green.

Please contact your network administrator or Zurn Customer Care if you run into any issues with this installation

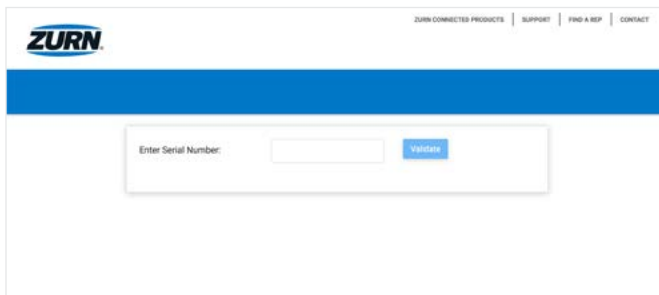


Once you've successfully activated your Zurn Gateway, test the connection between your Zurn Connected Products and the Zurn Cloud. See instructions on the following page.

Test Your System Connection

Make sure your gateway and products are talking now that everything is installed. You can conduct a system connection test.

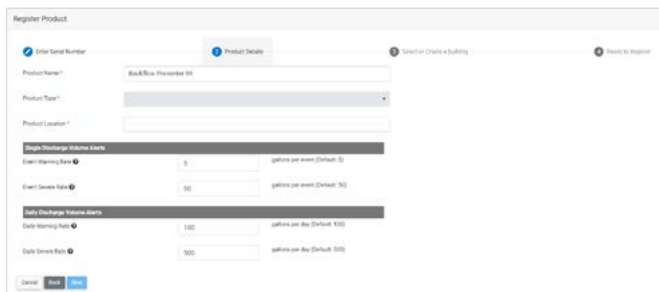
1. Browse plumbsmart.zurn.com/install by typing in the products registration number.
2. Click on the 'Validate' button.
3. If the system recognizes the Zurn Connected Product, it will instantly connect to the Zurn Cloud.



Register Your Products

The final step in the set-up process is to register your products in plumbSMART in order to receive data.

1. Go to plumbsmart.zurn.com. Log in to your plumbSMART account and select the 'Register Products' option from the 'Products' menu within the main blue navigation bar.
2. Follow the prompts to complete the registration.
3. At this point, you can give your Zurn Connected Product a unique name and assign it to a specific building location.
4. Finally, confirm or adjust your alert parameters based on your operation.



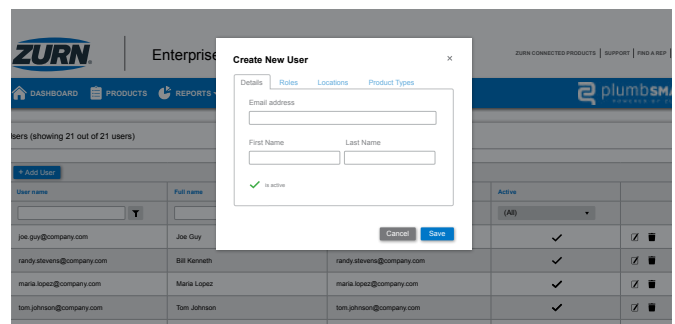
Authorize User Access

You don't have to place all the responsibility in your hands alone. Invite your broader maintenance team to set up their own plumbSMART accounts and receive Zurn Connected Product alerts. Zurn will designate a system administrator to oversee your enterprise's plumbSMART account when it is first created. This system administrator can then grant access to users by individual invitation.

Steps to Grant Access

1. First, your enterprise system administrator will need to log in to plumbSMART and click "Add Users" within the Admin menu options.
2. He/she will then enter the name and email address of each prospective user receiving access.
3. From there, the system administrator can select the level of permissions for the user, such as specific location(s) and product type(s), etc.
4. Once the new user has been added into the system, he/she will receive an invitation via email, including a link to activate the account.
5. After the user validates his/her email address, the system will send a verification code as part of a one-time, two-factor security measure into the plumbSMART portal.
6. The user will enter this emailed code to continue the account creation process and set his/her personal account preferences.
7. Once this is complete, the user is free to access the plumbSMART portal using the validated email address and created password.

Users may update their passwords and other personal settings at any time while they have an active account. System administrators may add users, modify access privileges, or delete accounts at any time.



Secured End to End

Confidence goes beyond the cool capabilities and technology. You want to know it's secure – your data is protected, and plumbSMART is impenetrable.

All data captured and transmitted through the Zurn Connected Products and IoT system is fully encrypted across all nodes of transmission.

The Zurn Gateway is designed to prevent any unauthorized access to the Zurn IoT network, as well as the local area network that it may be connected to. It achieves this by not containing any Wi-Fi access points and only accepting data in the form of LoRa messages, which cannot contain any executable files or scripts by design. Lastly, Zurn Connected Products generate messages with unique identifiers that allow them exclusive access to our cloud servers. Any message that does not have these identifiers is rejected.

Access to plumbSMART is by invitation only. A user account can only be created once he or she is authorized by a system administrator at your enterprise or at Zurn. The user account is then validated using two-factor authentication via Microsoft security protocols before being granted access to plumbSMART.

Network Specifications

Product to Gateway: LoRaWAN (915 MHz)

Gateway to Cloud: Ethernet LAN or LTE Cellular

LTE Cellular Network Provider: AT&T

Cloud Host: IBM

Web Portal Specifications

Host: Microsoft Azure

Authentication: Microsoft Azure B2C

Access: Web browser on desktop, laptop or mobile electronic device with Internet access

Availability: 24/7, 365 days of the year

Desktop/Laptop Operating Systems:

- Windows 10
- MacOS Version 10.13

Mobile Operating Systems:

- iOS Version 10
- Android Version 8.1.0

Internet Browsers:

- Google Chrome Version 73.0
- Firefox Version 63.0.3
- Internet Explorer Version 11
- Microsoft Edge Version 40.15063.674.0
- Safari Version 12.1

of Products per Enterprise: Unlimited

of Users per Enterprise: Unlimited

Communications Specifications

Email Notifications: SendGrid hosted on Microsoft Azure

Text Messaging: Twilio hosted on Microsoft Azure

Zurn Engineered Water Solutions® is a recognized leader in commercial, municipal, and industrial markets, delivering sustainable building solutions for new construction and retrofit applications. At Zurn, we are committed to providing smart solutions that save both time and money. Our goal is serving the customer through innovation, continuous improvement, and assurance behind every installation. Choose Zurn as a reliable, recognized manufacturer to supply your entire installation, from behind the wall rough-in, to finish trim product and fixture systems.



Zurn Industries, LLC
511 West Freshwater Way
Milwaukee, WI 53204, 855.663.9876

In Canada
Zurn Industries Limited
7900 Goreway Drive, Unit 10
Brampton, Ontario L6T 5W6, 877.892.5216

US 1.855.ONE.ZURN CANADA 1.877.892.5216 ZURN.COM

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