LoRaWAN Enabled Submetering, Water Leak & Flood Detection Products

H2O Degree LoRaWAN Enabled Submetering & Utility Management Solutions

H2O Degree is the leading provider of submetering, utility management and water leak detection solutions for multi-tenant residential and commercial facilities.

What is LoRaWAN?

LoRaWAN, or Long Range Wide Area Networks, are open-protocol, wireless networks used in multi-family and commercial facilities to manage and monitor building equipment and processes.

Why LoRaWAN?

LoRaWAN offers an open protocol, secure connection between multiple different components of a building system. It is energy efficient and uses very little power, which in turn, also minimizes cost.

The signal from one LoRaWAN gateway can span as far as 70 acres or 20 stories without any need for network extenders or repeaters. The range and low costs of wireless LoRaWAN systems allow you to implement as many LoRaWAN compatible submetering products across your property without any fear of dropped connections or drops in speed.

Why H2O Degree?

H2O Degree is the leading supplier of utility submetering & water leak detection systems for multi-tenant facilities.

Our LoRaWAN compatible submetering products are the ideal choice for tenant billing, utility management and green building initiatives.

For large apartment buildings with long ranges between each unit, having a wireless LoRaWAN system is the industry choice for communicating throughout the property, keeping the building running efficiently.

The savings in both utility costs and environmental impacts make H2O Degree's LoRaWAN compatible submetering products an obvious choice for property managers looking to manage their utilities.

Garden-Style Facilities

One LoRa Gateway covers a 70-acre property, no repeaters required! Additional gateways can be added for larger properties.
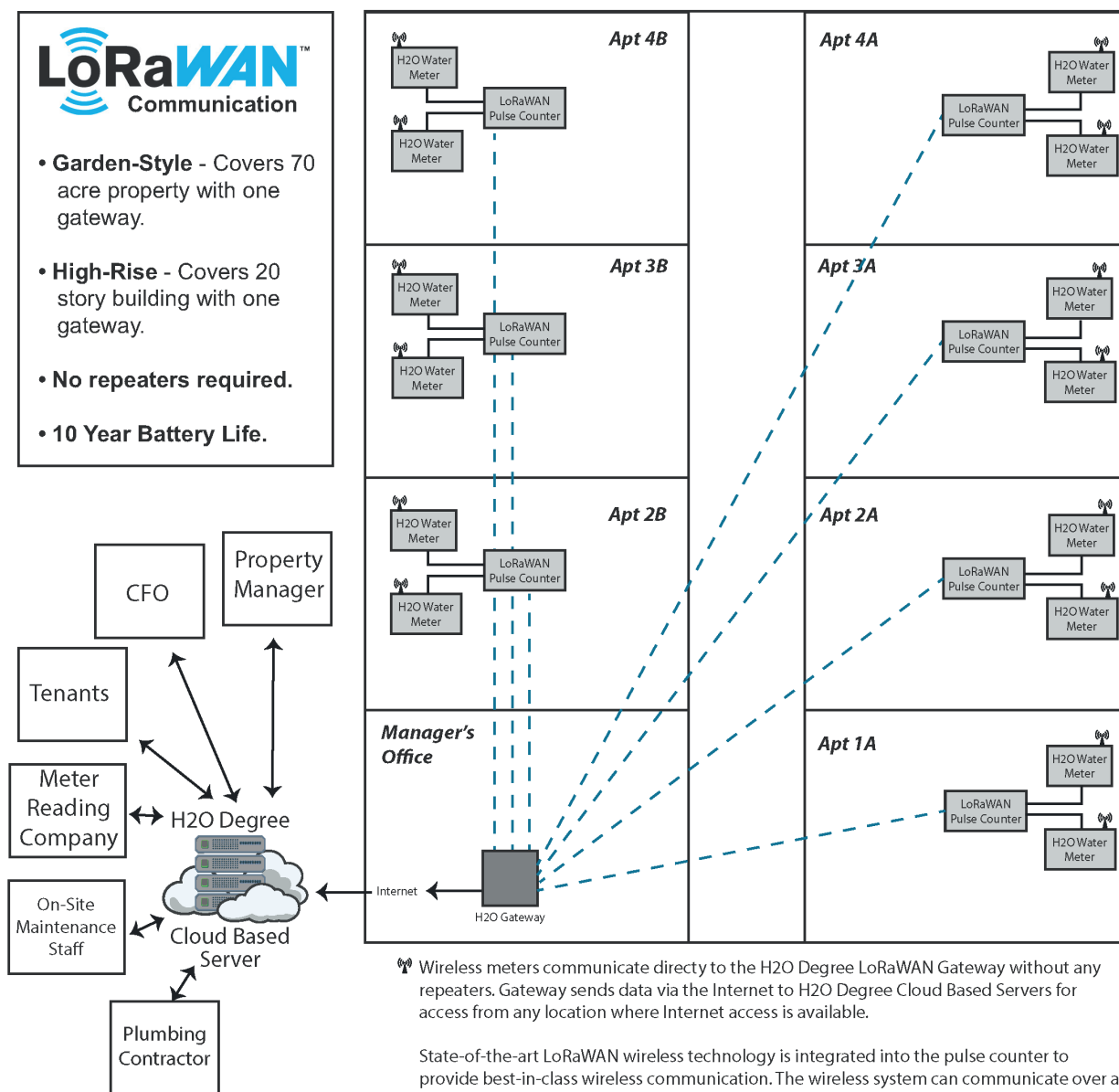
High-Rise Facilities

One LoRa Gateway covers a 20-story building, no repeaters required! Additional gateways can be added for larger properties.

Garden Style Facilities

High-Rise Facilities

Pulse Output Water Meter
Building Configuration Diagram

LoRaWAN™ Communication

- **Garden-Style** - Covers 70 acre property with one gateway.

- **High-Rise** - Covers 20 story building with one gateway.

- **No repeaters required.**

- **10 Year Battery Life.**

CFO

Property Manager

Tenants

Meter Reading Company

On-Site Maintenance Staff

H2O Degree

Cloud Based Server

Plumbing Contractor

Apt 4B — H2O Water Meter, H2O Water Meter, LoRaWAN Pulse Counter

Apt 4A — LoRaWAN Pulse Counter, H2O Water Meter, H2O Water Meter

Apt 3B — H2O Water Meter, H2O Water Meter, LoRaWAN Pulse Counter

Apt 3A — H2O Water Meter, LoRaWAN Pulse Counter, H2O Water Meter

Apt 2B — H2O Water Meter, H2O Water Meter, LoRaWAN Pulse Counter

Apt 2A — H2O Water Meter, LoRaWAN Pulse Counter, H2O Water Meter

Manager's Office

Apt 1A — H2O Water Meter, LoRaWAN Pulse Counter, H2O Water Meter

Internet

H2O Gateway

Wireless meters communicate directly to the H2O Degree LoRaWAN Gateway without any repeaters. Gateway sends data via the Internet to H2O Degree Cloud Based Servers for access from any location where Internet access is available.

State-of-the-art LoRaWAN wireless technology is integrated into the pulse counter to provide best-in-class wireless communication. The wireless system can communicate over a 1,000 foot radius from the gateway within a garden-style apartment complex and up to 20 stories within high-rise properties without any repeaters. Additional Gateways can be added for larger properties.

Line Powered LoRaWAN Gateway

The LIT1005 LoRaWAN Gateway is the heart of the H2O Degree LoRa wireless network. The gateway is equipped with an embedded CPU and is connected to the Internet Based Network Server via either the property's Cat5e Ethernet Internet connection or via Cellular modem. Once connected, the data is transmitted to the H2O Degree cloud based-server for data collection, processing and report generation.

One LoRaWAN Gateway covers a 70 acre garden-style property or up to a 20-story high-rise building with no repeaters required.

LIT1005 Gateway

One- and Two-Channel Pulse Counters

H2O Degree's L54215 (one-channel) and L54230 (two-channel) pulse counters monitor and record dry contact pulses from a variety of water, electric and gas utility meters to determine energy or water consumption.

The pulse counter is equipped with a 10-year battery, non-volatile memory in case of power failure and is available with an optional remote display.

The LoRaWAN wireless interface ensures easy integration to new or existing LoRaWAN open-protocol networks.

L54215/L54230 Pulse Counters
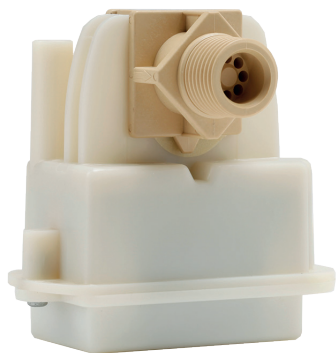
L54120 Battery Powered Water Meter
(Available 2022)

The L54120 LoRaWAN enabled wireless water meter monitors and records water consumption for tenant billing and leak detection in multi-family properties and integrates seamlessly with H2O Degree's LoRaWAN enabled submetering & leak detection systems.

The meter monitors gallons, number of events (such as every time a toilet flushes), duration of events in gallons and time along with temperature in both Point-of-Entry and Point-of-Use applications.

Ideal for new or retrofit applications, the L54120 is the ideal choice for tenant billing, leak detection, alarming and green building initiatives.

L54120 Water Meter

LS4000 Water Flood Sensor

LS4000 Water Flood Sensor

The LS4000 LoRaWAN enabled water flood sensor detects leaks with an easy, flexible design. The dual water leak sensor is ideal for monitoring flooding from individual plumbing fixtures such as toilets, sinks, hot water heaters, washing machines, etc.

Detect leaks with an easy, flexible solution. Avoid costly expenses with this low-cost sensor designed to detect leaks and transmit instant alerts before a major problem occurs. Designed with two probes to attach to areas prone to leak for wider coverage.

LS5000 Water Flood Rope Sensor

H2O Degree's LS5000 water flood rope sensor detects leaks with an easy, flexible design. The sensor allows users to monitor and prevent leaks across a wide area to protect valuable property and reduce operating costs.

The water leak rope sensor detects water leaks in real-time for preventative maintenance. The sensor is designed to sense leaks along the full length of the rope and transmit an alert so you can react quickly to prevent damage to your building equipment. The LS5000 is ideal for monitoring an entire utility room to capture the washing machine, hot water heater and slop sink with one device. Sensor can be wrapped around pipes to identify pin-hole leaks and larger commercial applications.

LS5000 Flood Rope Sensor

LS6000 Smart Valve

The H2O Degree Smart Valve LS6000 is designed with sensors hard-wired to the valve and/or it can "talk" with multiple wireless sensors installed throughout an apartment or a building. For flexibility, it comes in a range of pipe sizes from 3/8" up to 3".

Once water is detected by the on-the-floor flood sensors, a signal is sent over the LoRaWAN gateway. An open/close function in the LoRaWAN smart valve can be triggered remotely via a cell phone app (Android or IOS) to shut off the water, or it can close automatically. The smart valve can be attached on either point-of-entry or dual point-of-entry pipes on hot water heaters, washing machines, risers, irrigation and chillers.

LS6000 Smart Valve

LS3000 Occupancy Sensor

H2O Degree's LS3000 LoRaWAN enabled occupancy sensor combines infrared detection, temperature and illumination with a multi-sensing device. Applications include security, energy management, occupancy monitoring and environmental monitoring.

The occupancy sensor simultaneously detects movement and monitors the environment. Receive real-time information about the motion, lighting and temperature activity in a designated area. Smart and configurable, identify your ideal case and set the device to report back in a timely and efficient manner.

LS3000
Occupancy Sensor

L54110 Humidity/Temperature Sensor

The L54110 Humidity/Temperature sensor provides a variety of functionality in a compact form factor. The sensor is ideal for holistically monitoring the home and office environment, whether it is measuring and reporting temperature, humidity or other custom features.

The L54110 is optimized for long battery life and excellent RF performance. It is fully configurable over-the-air by the user for custom applications, behaviors, thresholds, trigger events and reports.

L54110 Temp/
Humidity Sensor

LS1000 Door/Window Sensor

H2O Degree's LS1000 door/window sensor tracks door and window movement with magnetic open/closure sensor and integrates with H2O Degree's LoRaWAN based open protocol wireless networks.

Users can get instant alerts when secured items are opened for improved security and energy efficiency. Get instant alerts when key areas of your building are accessed or left unsecured. Window open alerts in the winter when the thermostat is calling for heat is an immediate indication of wasted energy. Simple and easy to install, these magnetic devices can be used on doors, windows and gates — offering flexibility for your security and building optimization needs.

LS1000 Door/
Window Sensors

LS2000 Multi-Sensor

LS2000 Multi-Sensor

The LS2000 multi-sensor is a cost effective multi-use device that monitors temperature, acceleration, orientation, magnetic field, strength, pressure and humidity.

The unit is compact with a long battery life making it a cost effective solution to collect data and trigger threshold detection mechanisms in a wide variety of applications.

The device is quick and easy to set up and integrates seamlessly with H2O Degree's LoRaWAN wireless based networks.

H2O Degree Reporting & Alarming Solutions

H2O Degree's suite of reporting solutions provide multi-family facilities with the data they need to effectively manage, conserve and reduce utility costs.

Leak Detection, Toilet Reports, Water Leak/Flood Alarming

The daily leak report allows property managers to keep their finger on the pulse of the property ensuring that the maintenance team reacts quickly to water leaks and floods. H2O Degree issues daily leak reports via email through its automated system to up to 10 pre-defined recipients. Additional reports can be accessed via the internet from H2O Degree's password-protected secure server and can be utilized to analyze your building's usage in near real-time. Reports can be sorted by:

• Serial Number   • Property   • Building
• Apartment   • Leak Size   • Point-Of-Use (toilet, shower, etc.)

Alarming/Alerts can be set to generate an immediate email to the appropriate staff when a leak or flood occurs. Leaks are determined based on a high gallon alarm (more than X gallons per hour for N hours) or Constant Flow alarm - 60 minutes of flow in an hour.

Energy Usage & Tenant Billing

H2O Degree's suite of tenant billing solutions provides owners and managers with the tools required to easily and effectively allocate energy consumption to individual tenants and building systems. The password-protected web portal allows tenants as well as managers to view energy data from anywhere internet access is available. The system also integrates seamlessly with leading RBC (Read, Bill, Collect) companies to allow convenient energy billing for each tenant.

No matter what your application size or type, H2O Degree's submetering and water leak detection systems can provide you with a cost-effective, easy to use solution. For a free application review contact our team of experts at info@h2odegree.com or call (215) 788-8485.

The industry leader in submetering, utility management, water leak detection and alarming solutions for new or retrofit applications.

H2O Degree provides solutions for:
• Apartments
• Condos & Co-ops
• Student Housing
• Low-Income Housing
• Military Housing
• Mobile Homes
• Hotels
• Commercial & Industrial
• Institutional & Governmental

H2O Degree's nationwide network of manufacturer sales representatives looks forward to supporting your project locally with site visits, engineering design, contractor take-offs, development of bill of materials and can provide investment analysis for the projects as part of the quotation process.

In addition, H2O Degree's installation and meter reading service provider (RBCs) partners are "Best in Class" providers with a proven track record and broad national experience.

For a free demonstration or site survey contact the H2O Degree team of experts at info@h2odegree.com or call (215) 788-8485.

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