



LoRaWAN[®] Endpoint

Does the LoRaWAN[®] endpoint have a field replaceable battery?

No. The LoRaWAN endpoint battery is encased in a waterproof potting material for field reliability and does not include an option to replace a battery in the field.

Does the LoRaWAN endpoint require any programming for connecting to a register?

No. The LoRaWAN endpoint provides auto-detect capability to detect the register it is connected to and begin reading.

Does the LoRaWAN endpoint require any programming to change from walk-by/mobile to fixed network mode?

No. The LoRaWAN endpoint simultaneously transmits both the mobile and fixed network message, so that customers can easily migrate from walk-by/mobile to fixed network at their convenience with no site visits to reprogram.

Are the meter readings time synchronized?

Yes. When operating on a LoRa[®] network, the network provides time synchronization via two-way communication with the endpoint. This allows the endpoint to accurately timestamp the individual hourly meter readings.

What information is sent in the LoRaWAN fixed network packet?

The LoRaWAN fixed network packet is transmitted every three hours and includes up to 12 time-synchronized, top-of-the-hour meter readings and flags.

How often is the LoRaWAN endpoint mobile message transmitted?

The LoRaWAN endpoint mobile message is transmitted every 20 seconds.

Does the LoRaWAN endpoint support RF activated data logging?

Yes. The LoRaWAN endpoint supports RF activated data logging using either a Neptune belt clip or mobile data collector.

What version of software is compatible with the LoRaWAN endpoints?

The LoRaWAN endpoint is compatible with N_SIGHT[™] v5.6+ for walk-by and mobile reading. For fixed network reading, the LoRaWAN endpoint is compatible with N_SIGHT[™] PLUS v5.6+ and Neptune[®] 360[™].

What are LoRa[®], LoRaWAN[®], and the LoRa Alliance[®]?

Together, LoRa and LoRaWAN create an IoT platform optimized for solution longevity, robust wireless data transmission and reduced infrastructure costs. LoRa, short for Long Range, is a wireless, RF technology that provides long range, bidirectional communication with the flexibility to support advanced metering and a variety of Smart Water and Smart City devices. LoRaWAN is an open-standard networking protocol that leverages LoRa modulation and ensures interoperability of devices in public and/or private LoRaWAN-based networks. Because the LoRaWAN standard is open, LoRaWAN-based networks can support an ecosystem of devices that is growing rapidly.

What security practices are employed in the LoRa network?

Unlike many other protocols which take a “bolt-on” approach to security, the LoRaWAN protocol is secure by design. LoRaWAN uses well vetted cryptographic algorithms and best practices, approved by the National Institute of Standards and Technology (NIST), to ensure confidentiality and integrity for all transmitted data. This includes security controls such as mutual authentication between the LoRaWAN network interfaces, end-to-end encryption, integrity protection, and replay protection.



What are the key benefits of LoRa® for Smart Water AMI?

- Long range communication reduces the number of gateways required for coverage
- Low power requirements support a 20-year endpoint battery life
- Two-way communication provides time-synchronized hourly readings
- Utility focused AMI network enables solution longevity and flexibility
- Protects meter data with robust end-to-end network security
- Strong support from the LoRa Alliance ensures a future proof protocol

What compatible sensors are available for a LoRa network? Are there any devices for smart city initiatives?

Since the LoRaWAN protocol is an open-architecture standard, there are a variety of devices that can operate on a LoRa network. Please see the LoRa Certified Product website (<https://lora-alliance.org/showcase>) for a directory of available products.

Do the LoRaWAN E-CODER®)R900i™, LoRaWAN ProCoder™)R900i™, LoRaWAN MACH 10®)R900i™ and standalone LoRaWAN pit endpoints require an external, through-the-lid pit antenna?

Yes. The LoRaWAN endpoint does not contain an internal antenna and requires an external, through-the-lid antenna to function.

How does a LoRaWAN endpoint connect to a LoRa network?

The LoRaWAN endpoint completes a join process which is either initiated via magnet swipe or on a scheduled basis. If the endpoint successfully joins the network, it will begin transmitting readings via the LoRa network in addition to transmitting the R900® mobile message.

Can a LoRaWAN endpoint be connected to two separate encoder registers?

No. The LoRaWAN endpoint can only be connected to a single register.

What happens if the LoRaWAN network is down, can I still receive a reading?

Yes. The LoRaWAN endpoint always transmits the mobile message, so that you have a secondary reading method in the event of a network outage.

What encoder registers are compatible with the LoRaWAN endpoint?

The LoRaWAN endpoint is compatible with the following encoder registers:

- Neptune ARB® III, IV, V; ProRead™, E-CODER, ProCoder, and MACH 10
- Sensus (Invensys) ECR II, ECR III, ICE, iPerl (3 wire), Electronic Register, and OMNI
- Hersey/Mueller Translator
- Badger ADE and HR E|LCD
- Elster/AMCO InVision (Sensor protocol version)

