



A PRODUCT SHEET OF NEPTUNE TECHNOLOGY GROUP

R900[®] IoT Gateway

Deploy a Smart Water AMI Network with LoRaWAN[™] IoT

Water utilities can quickly deploy and operate their own Smart Water AMI Network with a ruggedized LoRaWAN[™] gateway that employs the open-standards LoRaWAN protocol and network architecture. Leveraging the R900[®] System, utilities can easily view collected metering data to improve operations, quickly resolve customer questions and complaints, and optimize distribution system management.

Deploy with Confidence

Get the most value from your current endpoint infrastructure and workforce through Neptune R900 Systems that allow you to migrate at your own pace from walk-by and mobile Automatic Meter Reading (AMR) to Advanced Metering Infrastructure (AMI). Providing fixed network functionality, the R900[®] IoT Gateway is easily integrated into the R900 System. You can choose the optimal reading solution as needed – without the requirement for special reprogramming of R900 endpoints. The R900 IoT Gateway supports the R900 System's 1-Watt LoRa[®] fixed network endpoint messaging, extending coverage while reducing AMI infrastructure costs.

Ease of Deployment and Scalability

The R900 IoT Gateway and compatible LoRaWAN network provide a secure and scalable IoT network for Smart Water automation, incorporating the Neptune R900[®] endpoint. Support of AMI functionality can be achieved rapidly. The R900 IoT Gateway comes in a compact, ruggedized enclosure for easy deployment for wide-area-network (WAN) connectivity for Smart Water AMI applications. The gateway and R900 System provide a scalable IoT solution to support millions of messages per day using LoRa's adaptive data rate (ADR) technology to optimize data rates, connectivity, and capacity of the network.



KEY BENEFITS

Facilitates Migration to AMI with LoRa[®]

- Supports the LoRa 1-Watt fixed network messaging from R900[®] endpoints, extending coverage, reducing infrastructure costs, and supports a LoRa IoT deployment
- Migrate at your own pace – your R900 System can be read by any combination of walk-by, mobile, and fixed network reading systems
- No reprogramming of R900 endpoints required to migrate from mobile to fixed network AMI reading

Supports LoRaWAN[™] Open-Standards Protocol

- Support for open-standards LoRaWAN network architecture
- The LoRaWAN network incorporates several standardized features and algorithms, including AES encryption, to ensure end-to-end security and confidentiality

KEY BENEFITS (continued)

Network Reliability, Capacity, and Security

- LoRa technology provides for long range communications and superior coverage
- LoRaWAN network architecture and ADR functionality provide broad scalability from rural to dense urban AMI applications
- LoRaWAN protocol and gateway provide for bi-directional end-to-end communications and encryption of meter reading data
- LoRa chirp spread-spectrum technology and gateway result in high immunity to interference

Access to Powerful Data

- Daily leak, reverse flow, and days of no flow alerts from E-CODER® - or ProCoder™ - equipped meters

Specifications

LoRa® Radio Parameters

- 902 - 915 MHz (Rx)
- 923 - 928 MHz (Tx)
- 72 channels
- 2 x 1W (Tx Power)

Installation Options

- Rooftop
- Pole 2" - 16" diameter (5cm - 40cm)
- Wall
- Water towers
- Street lights

Power Supply

- 100 - 140 VAC

Battery Backup

- UPS provides up to 18 hours of battery backup

Backhaul Options

- Multi-Carrier 4G LTE cellular modem
- Ethernet

Environmental

- IP67 enclosure
- Operating temperature: -40°F to +131°F (-40°C to +55°C)
- 10 - 100% condensing operational humidity
- Weight 11 lbs (5 Kg)

