

# Residential Gas Endpoints



## Reliable, two-way wireless networking for gas meters:

- » Allows remote firmware upgrades and IMU configuration changes
- » Acknowledges receipt of data transmissions
- » Integrates with other Silver Spring devices to leverage the AMI network
- » Reduces labor costs for meter reading and advanced services
- » Improves customer service with proactive alerts

## Improve service and insight with Advanced Metering

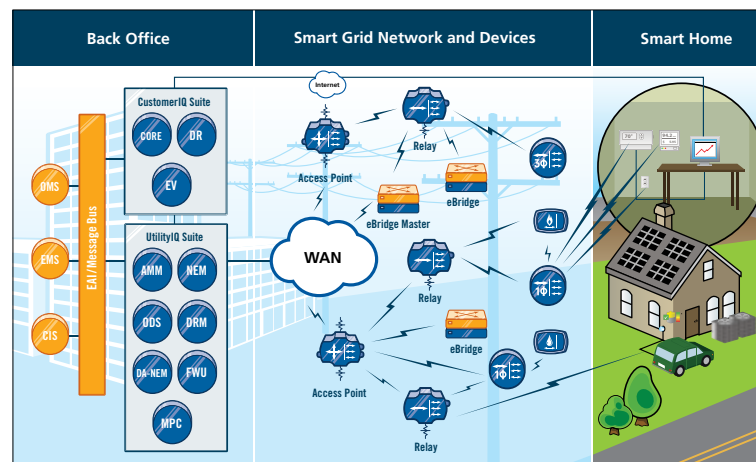
Silver Spring's Smart Energy Platform combines network infrastructure, software, and professional services to enable a range of smart grid applications. Automating reads from gas meters is a critical piece of upgrading the power grid. The Silver Spring Residential Gas Interface Management Unit (IMU) enables utility companies to dramatically improve efficiency, provide their customers with insight and control, and ensure the reliable delivery of low-cost, advanced metering services. It allows remote meter reading and provides asynchronous alerts for leaks, meter tampering and other critical events in real time, cutting labor costs and ensuring extended uptime. The IMU seamlessly integrates with other Smart Energy Platform devices for greater efficiency, creating reliable communications between you and your customers.

## No gas service interruption

The Residential Gas IMU is compatible with a wide variety of gas meters and can be field retrofitted without gas service interruption. This design allows superior customer service and reliability.

## IP-based network

The Gas IMUs are fully compatible with Silver Spring's Smart Energy Platform, which is a secure, self-healing, mesh network built on IP. Based on open standards, the Gas IMU extends the information network from the central office to the customer. Use of IP provides the highest ROI, the least financial risk, the greatest number of proven security options, and the shortest payback cycle. An IP-based network enables utilities to add new products and advanced services as they become available.



*An advanced, IP-based network enables the smart grid—from the data center to the customer premise.*

## About Silver Spring Networks

Silver Spring Networks is a leading Smart Grid solution provider that enables utilities to achieve operational efficiencies, reduce carbon emissions and empower their consumers with new ways to monitor and manage their energy consumption. Silver Spring provides the hardware, software and services that allow utilities to deploy and run multiple advanced solutions, including Smart Metering, Demand Response, Distribution Automation and Distributed Generation, over a single, unified network. The Silver Spring Smart Energy Platform is based on open, Internet Protocol (IP) standards, allowing continuous, two-way communication between the utility and devices on the grid. Silver Spring has numerous deployments with leading utilities in the US and abroad, including Florida Power & Light, Pacific Gas & Electric, Pepco Holdings, Inc., Jemena Electricity Networks Limited and United Energy Distribution, among others. For additional information, please visit [www.silverspringnetworks.com](http://www.silverspringnetworks.com).

# Residential Gas Endpoints

## Real-time measurement

The Gas IMU is an integrated two-way radio and gas meter register that delivers real-time measurement and communication. This reliable, user-configurable, two-way wireless network enables utilities to extend Advanced Metering to their residential gas meters.

## Features

### Greater user-configurable choices by design

#### Data delivery

- » Supports various number of transmissions per day—Single or multiple per day (or less frequent than daily)
- » Enables flexible scheduling and any-time transmission to accommodate variable Gas Day start times
- » Supports any native interval length evenly divisible into 60 minutes (1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30 or 60 minutes)

#### Data reliability

- » Local, non-volatile storage of up to 5952 intervals (enough for 15-minute intervals every day for two months)
- » Flexibility to modify all configuration parameters over the air

#### More options

- » Power-saving mode for extreme cold weather operation
- » Configurable alarms for immediate or delayed transmission

## Specifications:

Communications	Data rate: 100 Kbps Frequency: 902-928 MHz Transmit power: 1 watt equivalent radiated power Receiver sensitivity: -98 dBm for 10 <sup>-3</sup> PER Modulation: Binary FSK # Channels: 83 Antenna: Internal Two-way functionality: Over the air firmware upgrades and configuration changes, and Acknowledgement of receipt of data transmissions
Battery Life	10-20 years: Depends on user configuration for frequency of transmission upgrade and other action
Environmental	Operating temperature: -40°C to +85°C (-40°F to +185°F) Humidity: 0% to 95%, non-condensing
Part Numbers	American: 221-010001 Rockwell: 221-010001 Rockwell 415: 222-020001 Sprague: 223-010001
Event Monitoring	Tamper Runaway Meter (Flow > Meter Capacity) Low Battery Sensor Error Programming Changes
Approvals	ANSI B109.1 UL 913, Class 1, Division 1, Group D FCC 15.247 CSA 22.2 No. 157