

Modbus IoT Gateway

Data Sheet



fieldserver

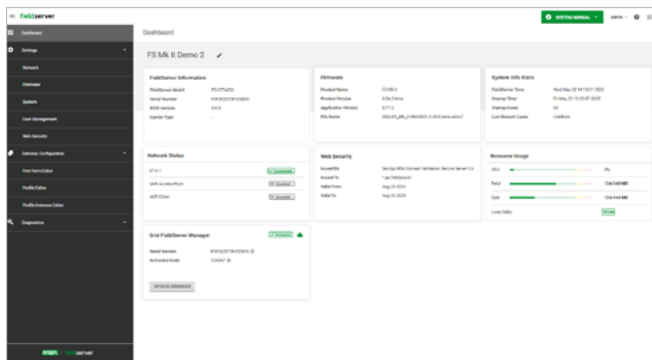
The FieldServer Modbus IoT Gateway enables users to easily connect legacy Modbus devices to MSA and third party clouds, with user tools that enable easy gateway discovery and configuration. This edge device supports seamless interoperability with Modbus, OPC UA, MQTT, connecting to MSA Grid and third-party cloud applications.

The Modbus IoT Gateway is equipped with an advanced Graphical User Interface (GUI) featuring intuitive web functionality, streamlining device setup, configuration, and deployment, being able to see real time data and insights. This efficient interface enables the creation of Profiles—configuration templates that can be reused for future setups. By leveraging these reusable profiles, users can avoid the need to create new configurations for each minor change, resulting in significant time, effort, and cost savings.

These devices can instantly be cloud-enabled to support secure remote device monitoring, control, data collection and alarm notifications. The gateway communicates with Modbus devices via both serial (Modbus RTU) and Ethernet (Modbus TCP/IP) networks.

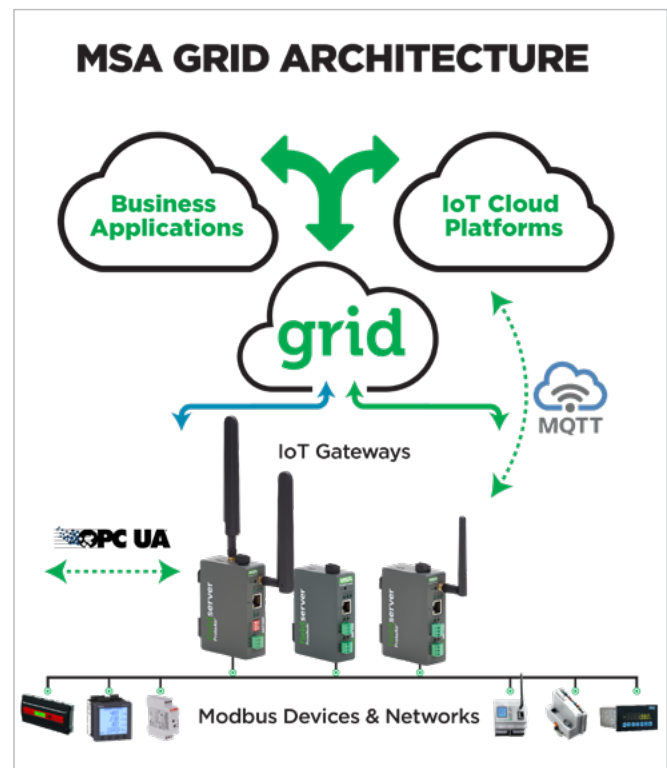
The gateway connects to the cloud via wired (Ethernet) or wireless (Wi-Fi or cellular) installations.

The Modbus IoT Gateway is the fastest and easiest way to cloud-enable Modbus, OPC UA, and MQTT products in the field, providing secure remote access to installed fleets of these devices. These gateways are delivered ready to access, cloud-connect and manage any devices through a user-friendly, intuitive configuration web page that provides real-time data and insights.



Benefits of the Modbus IoT Gateway

- Rapid deployment and configuration
- Reduces custom engineering development time and expense.
- Register gateways seamlessly through MSA Safety's tenant-based IoT Cloud Platform.
- Utilize cloud data by viewing on the dashboard or download as CSV, JSON, Webhooks or RESTful API.
- Generate cloud-based notifications/alerts via SMS and/or email, keeping users informed as events occur.
- On-board diagnostics allow easy troubleshooting for both serial and Ethernet communications.
- Can push up to 1,000 Modbus values to the MSA Grid.
- FieldSafe adds a wealth of security features, including web security options (built-in or user-provided TLS certificates), robust, role-based user authorization and password management features.
- MQTT and OPC UA client features:
 - MQTT can publish or subscribe
 - OPC UA can read or write
- Configurable IP network routing and firewall options included.

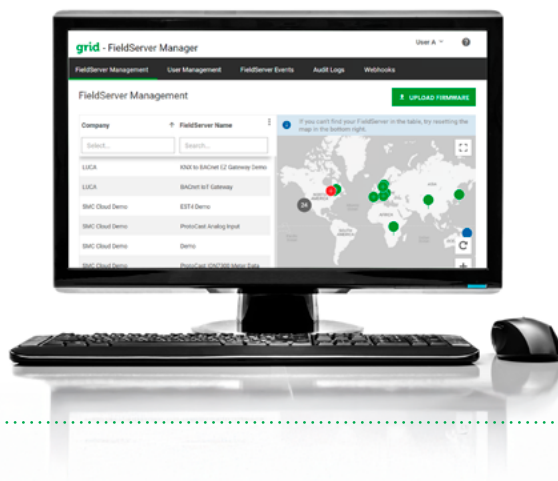


- Secure connectivity to third-party cloud platforms (e.g., AWS, Azure, Ignition) using X.509 certificate-based authentication
- Integrated certificate management, including CSR and key pair generation, secure credential storage, and expiration notifications
- Support for secure MQTT and OPC UA communications
- OPC UA support for certificate-based authentication with Ignition
- Supports configuration of a single OPC UA server connection; multiple clients may connect concurrently

**SAFEGUARDING PEOPLE,
PLACES & THE PLANET.**

MSA Grid — FieldServer Manager

- The FieldServer Manager can use Webhooks or RESTful API to make device data available to 3rd party cloud platforms.
- Gateway connectivity to the FieldServer Manager cloud requires no special firewall configuration since the device uses standard, secure web communications (HTTPS) on port 443, incorporating TLS/SSL (Transport Layer Security / Secure Sockets Layer) encryption
- Firmware upgradable via FieldServer Manager with admin access.
- Remote configuration, administration and troubleshooting using secure tunnel access to the gateway's local web page.



Ordering Information

FS-IOT-MOD	Two serial port model
FS-IOT-MOD2	Two serial port and two ethernet port model
FS-IOT-MODW (WI-FI)	Two serial port model, includes wi-fi antenna
FS-IOT-MODA (LTE-AT&T)	One serial port model, includes wi-fi and cellular antennas
FS-IOT-MODV (LTE-VERIZON)	One serial port model, includes wi-fi and cellular antennas
FS-IOT-MODF (LTE-VODAFONE)	One serial port model, includes one cellular and one wi-fi antenna

Hardware Specifications

Max: 1000 points

MSA Grid Max: 250 DPPM

Communication

Serial (Galvanic Isolation): RS-485

Baud: 9600, 19200, 38400, 57600, 76800

Ethernet: 10/100BaseT, MDIX, DHCP

Environment

Operating Temperature: -20 to 70°C (-4 to 158°F)

Relative Humidity: 10-95% RH non-condensing

Construction

Dimensions (HxWxD):

4 x 1.1 x 2.7 in (10.16 x 2.8 x 6.8 cm)

Weight: 0.4 lbs (0.2 Kg)

Other

Web configuration

DIN rail mount included

Power Requirements

MOD/MODW/MOD2: 24VAC 0.125A, 12-24VDC

0.25A

Max Power: 3W @12 VDC

MOD/V/F: Current draw @ 12V: 0.67A

Input Voltage 12-24 VDC

Approvals

CE and FCC Part 15

UL 60950-1 and CAN/CSA C22.2

Modbus conformance tested

RoHS3, UKCA, and WEEE compliant

PTCRB and CTIA



Radio Specifications

Wi-Fi 802.11 b/g/n

Features: 2.4 GHz

Channels: 1 to 11 (inclusive)

Antenna Type: SMA

Encryption: TKIP, WPA2 & AES

LTE

Features: LTE Cat.4

Antenna Type: SMA

Carriers: AT&T, Verizon & Vodafone

Downlink: Up to 150 Mbps

Uplink: Up to 50 Mbps

Note: This Bulletin contains only a general description of the products shown. While product uses and performance capabilities are generally described, the products shall not, under any circumstances, be used by untrained or unqualified individuals. The products shall not be used until the product instructions/user manual, which contains detailed information concerning the proper use and care of the products, including any warnings or cautions, have been thoroughly read and understood. Specifications are subject to change without prior notice. MSA is a registered trademark of MSA Technology, LLC in the US, Europe, and other Countries. For all other trademarks visit <https://us.msasafety.com/Trademarks>.

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