



Data to Cloud



Predix* Ready



Edge Management

Field Agent*

A secure gateway between your operations and the cloud

To leverage the power of the Industrial Internet, equipment data must be collected and transmitted to the cloud. Operators can then visualize the performance of their assets and perform predictive analytics. Armed with this valuable information, operators can optimize equipment uptime and OEMs can proactively maintain and service their equipment fleet, improving operations, growing service revenues and winning new business.

But bringing data from the plant to a cloud service can be challenging. Data privacy, security, and IT infrastructure concerns often derail efforts to effectively gather and leverage asset information.

GE has developed a family of Field Agent devices to address the challenges of communicating equipment data. A Field Agent is a secure, cost-effective, preconfigured gateway that is easy to deploy across distributed fleets of assets. It is a universal solution, meaning a Field Agent can collect data from nearly any intelligent device.

Once a Field Agent is up and running, data is transferred from the plant to the cloud over encrypted channels, preserving its time stamp, quality, and fidelity. It also provides a rich domain application environment for edge processing, so logic can be executed at the most appropriate place in the architecture—locally on the machine or in the cloud.

Secure Data Collection

Data is a valuable asset in today's digital economy. With a GE Field Agent, data can be securely gathered from industrial machinery or plants and transferred to the cloud. Information can be collected across various industrial protocols and translated to a common format for distribution and analysis.

Enabling Advanced Analytics

Once machine data is collected and communicated via a Field Agent device, operators can run local analytic models to improve asset performance and predict failures before they occur, leading to reduced costs and new sources of revenue. Field Agents can also run local analytics to improve the performance of OEM machinery locally.

Powered by Predix*

GE's Field Agents are powered by Predix, a cloud platform-as-a-service (PaaS) built for industrial workloads. Predix empowers organizations to develop, deploy, and operate industrial apps in the cloud by securely connecting machines and data to people. By integrating Field Agents with other Predix platforms, such as Predix Asset Performance Management (APM) and Brilliant Factory solutions, operators can drive outcomes ranging from the reduction of unplanned downtime to improved asset output and operational efficiency.

Remote Updates and Troubleshooting

Distributed assets are often located in hard-to-reach or distant locations. Getting to those assets can be quite challenging for an OEM or fleet operator, diverting valuable time and resources.

Field Agent devices are easy to manage with remote access. Updates and security patches can be deployed from a central location down to a Field Agent without traveling to the device. Field Agents also enable remote troubleshooting of distant assets.

A Range of Solutions

There are a range of Field Agent solutions designed for a variety of applications. Choose the right combination of form factor, protocol, tag capacity, connectivity, and controller functionality for your specific needs.

Easy Installation and Connectivity

Field Agent installation is simple and secure. It requires virtually no IT support from the end user. Once configured, Field Agent devices can be installed and transmitting data to the cloud in a matter of minutes.

Field Agent, powered by Predix



Product	Mini Field Agent*	IPC Field Agent*
Selection Criteria/Requirements	<ul style="list-style-type: none"> Limited cabinet space available Low power operation Low cost Modbus TCP or OPC-UA only needed Lower performance Rard CANBus support, WiFi or BLE, and IPM required 	<ul style="list-style-type: none"> Moderate cabinet space available Moderate to high power operation High-speed communication (1GbE), large storage for collector and/or additional compute power at the edge needed Protocols other than Modbus TCP or OPC-UA needed VGA display at site required
Form Factor	Small	Medium
Protocols	Modbus TCP, OPC-UA	150+
Performance to run Predix applications	Limited	Medium
Capacity	Low (1000+ tags)	Medium (10,000 tags)
Connectivity Interfaces	Extensive (wireless and wired)	WiFi not available, everything else is.
Embedded with GE Controls	No	No
Processor	600MHz Arm A8	1GHz Dual core Via Eden
Memory	512MBDDR3/1GB Flash	4GBDDR3/250GB HDD
Software	Linux	Windows 7 Pro
Interfaces	(4) Ethernet 10/10, IsoRS232, RS485, CAN, USB, SD, WiFi, BLE, mPCIe, Relay Out/Opto In	(2) Ethernet 10/100/1000, RS232, (2) USB, VGA , MSATA, HDD
Cellular	3G/4G/LTE/GSM/CDMA	3G/4G/LTE/GSM/CDMA
Power	9VDC-30VDC	18VDC-32VDC
Power Consumption	250mA@24VDC	1.8A@24VDC
Dimensions	5.5D"x5.25H"x1.5"W	7.55"x4.5"x3.2"

Field Agent Annual Support Contract

The value of the Field Agent solution comes from both the Field Agent software deployed on the target device and the apps and device management capabilities enabled by the support contract.

Support Contract Deliverables

- Device & Fleet Management platform
- Field Agent functional enhancements
- OS (Linux) automatic patching service
- Use of GE developed free apps
- Connectivity management for Field Agents using GE managed cellular service

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