



SENSORS DAILY

Mat Dirjish - Editor-in-Chief

Sensor-to-Cloud Platform Offers Next-Generation Remote Monitoring Solution for the Industrial Sector

By Josh Schadel, General Manager and CTO | SignalFire Wireless Telemetry

www.signal-fire.com

Cloud connectivity removes barriers in collecting data from assets located in impassable locations. A new IoT cellular transmitter utilizing the latest LTE CAT M1 technology now connects industrial sensors to the cloud for remote monitoring, control and alarming from any web browser including mobile devices.

Designed to work with a range of sensor brands and types (4-20mA transmitters, switches, HART and Modbus) as part of a remote monitoring solution, this cellular-based transmitter - called the Ranger - connects data to the cloud, enabling asset monitoring and control in locations that were previously difficult or impossible to reach.

By connecting directly to the cloud, the RANGER cellular transmitter bypasses local networks to offer a more secure connection, a major concern of many companies. A built-in GPS receiver reports the device location to the cloud, providing a map of all connected assets.

Easy Solution for IoT

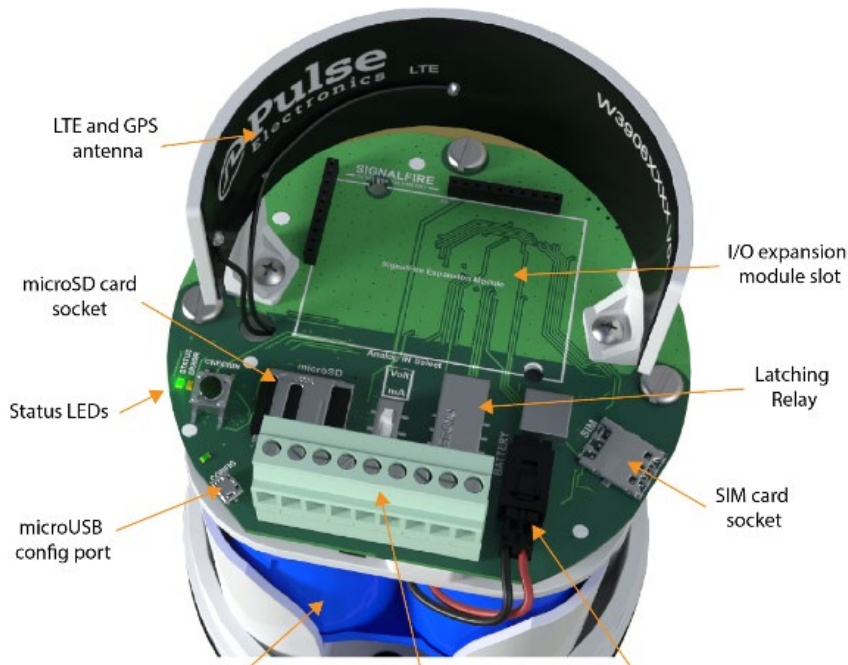
While many enterprises have IoT strategies, planning and implementation is challenging. The Ranger simplifies implementation addresses by providing a sensor-to-cloud platform that is very easy to setup with the least amount of hardware. Plug and play, the transmitter needs no programming or hardware for a do-it-yourself experience. The use of LTE CAT M1 technology supports IoT devices by connecting directly to a 4G network, without a gateway, using the built-in batteries or optional external solar panel.



The Ranger cellular transmitter utilizes LTE CAT M1 technology to connect industrial sensors to the cloud for remote monitoring and control via any web browser.

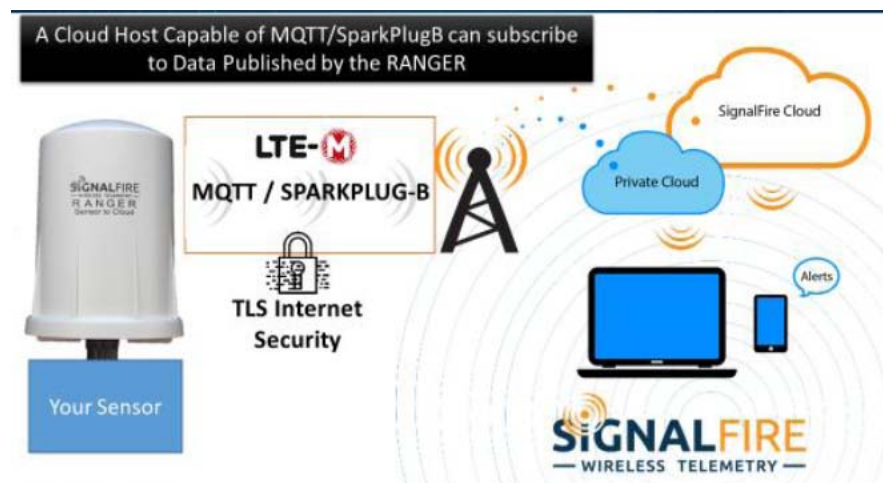
How It Works

The Ranger is equipped with two (2) digital inputs, one (1) analog input and one (1) relay output for remote control of pumps, valves, lights, etc. The digital inputs can detect on/off status or frequencies up to 2kHz. The analog input can be set to 1-5Vdc or 4-20mA and is powered by the integrated battery pack. The relay output is a latching double pole single throw type, capable of loads up to 2A @ 30Vdc, 0.3A @ 110Vac or 0.5A @ 125Vac. Furthermore, the built-in GPS allows for tracking the location of the RANGER and its measurements on a map.



The Ranger cellular transmitter comes complete with a web- and mobile-friendly SignalFire Cloud interface, which allows users to remotely monitor assets, view trends, and receive alarms either by text or email. It also provides for remote configuration and troubleshooting of the Ranger node and the sensor to which it is attached.

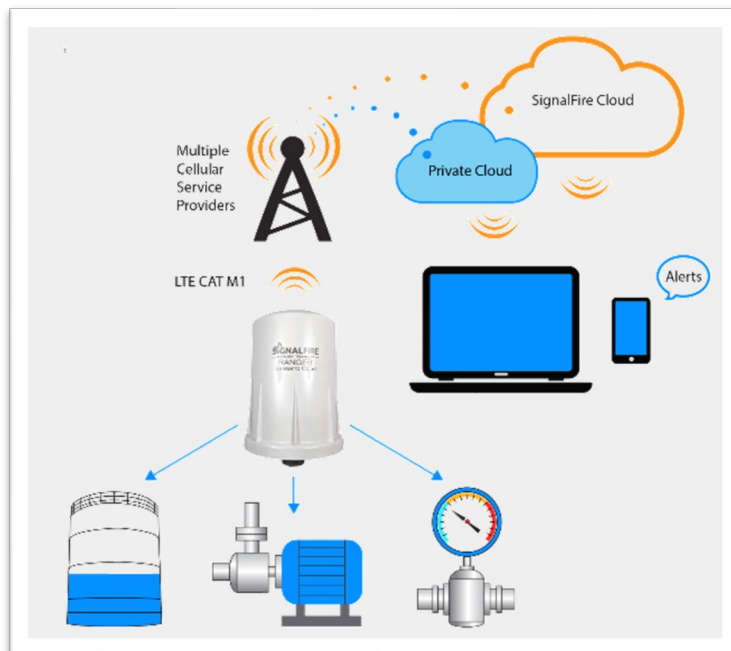
The SignalFire Cloud uses secure MQTT technology for integration with private cloud platforms, when applicable. Operators can turn on/off the relay output from the Cloud interface to remotely control pumps, motors, valves and more.



Markets/Applications

The Ranger platform provides application-specific solutions that are reliable as well as easy to install and maintain. For example, the Ranger can remove barriers in monitoring oil & gas pipelines in isolated areas without Internet by delivering sensor data to the cloud for retrieval by a device with a web browser. Operators can track fluid levels of vast tank farms in remote locations through a cloud connection accessible by any smart device. Other application includes:

- Pipeline pressure monitoring, boost stations, ESD valve position
- Water distribution pressure, pond levels, flow stream
- Wellhead pressure, chemical tank level, production inventory
- Tank farm monitoring, tank level, volume
- Agriculture, water usage, silo level, irrigation pump control.



The Ranger powers the sensor and publishes data to the SignalFire Cloud so users can monitor and trend tank levels and receive email/text alarms.

Product demonstration here: <https://www.signal-fire.com/lte-m1-cellular-products/ranger-node/#testdrivetheranger>