

# RANGER

Sensor to Cloud Platform

PLUG-&-PLAY, INSTANT CONNECTIVITY OF A SENSOR TO THE CLOUD OVER CELLULAR NETWORKS

OPTIMIZED FOR BATTERY LIFE USING LATEST CELL MODEM TECHNOLOGY LTE CAT M1

MULTI INPUT/OUTPUT TO CONNECT TO A VARIETY OF SENSORS

MQTT & SPARKPLUG-B READY TO INTEGRATE WITH HOSTS OTHER THAN SIGNALFIRE CLOUD



## FEATURES

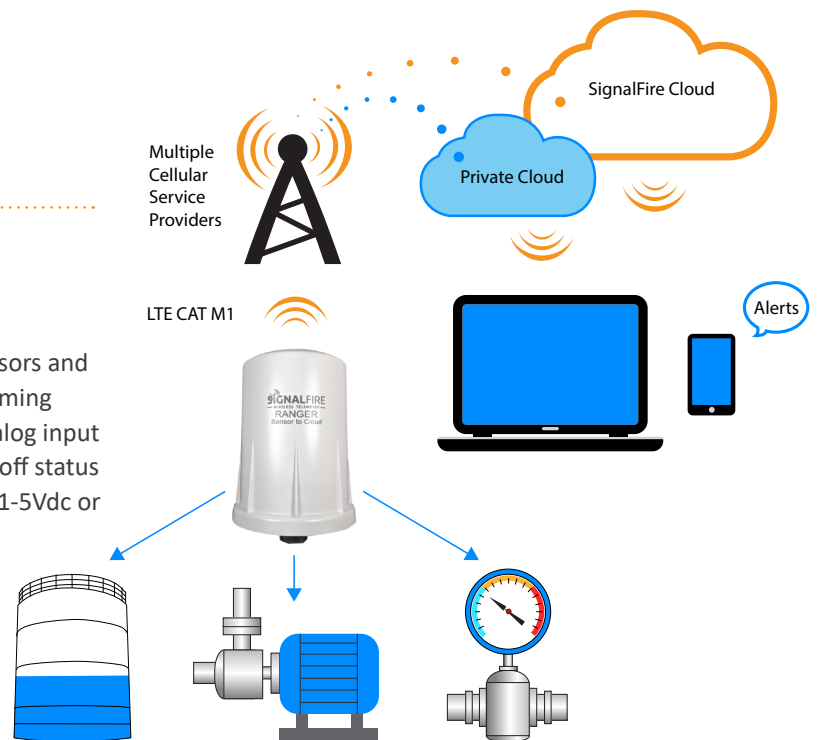
- LTE CAT M1 connectivity to cloud services
- Integrated inputs/output for multi-sensors
- Data location from built-in GPS
- SignalFire cloud monitoring/alarming service
- Powers sensors from battery or external solar

## PRODUCT OVERVIEW

The SignalFire Ranger is an IoT (internet of things) cellular transmitter using the latest LTE CAT M1 technology for sensors and fully integrated with SignalFire's cloud monitoring and alarming services. The Ranger has two (2) digital inputs, one (1) analog input and one (1) relay output. 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 powered by the built-in battery pack. The relay output is a single pole single throw N.O or N.C capable of loads up to 2A @ 30Vdc, 0.3A @ 110Vac or 0.5A @ 125Vac.

The Ranger comes complete with the mobile device ready SignalFire cloud interface to monitor, trend and get alarms either by text or email message. In addition, the cloud platform provides for remote configuration and troubleshooting of the Ranger node and its attached sensor(s). It is also possible to turn on/off the relay output from the cloud interface to remotely control pumps, motors, valves.

## CONFIGURATION DIAGRAM



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## TECHNICAL SPECIFICATIONS

### Operating Temp:

-40 to +185°F (-40 to 85°C)

**Humidity:** 0% - 100% condensing

### Input Power:

- Four 3.6Vdc D side size Lithium Thionyl Chloride batteries
- Optional solar power

### Input/Output:

#### Standard

- 1 Latching Relay Output (2A @ 30Vdc; 0.3A @ 110Vac; 0.5A @ 125Vac). Failsafe configurable
- 2 Digital Inputs report state, total counts, frequency (2kHz max), volume total with K Factor
- Analog Input (1-5Vdc or 4-20mA) configurable for flow totalizing mode

### Optional Expansion Module

(one module possible per RANGER)

- 2 additional analog input and 1 additional digital input
- Modbus RTU – RS485 up to 8 slaves, 32 total registers (read/write)

**HART Support:** Future

**Battery Life:** Up to 5 years

**Data Interface:** LTE CAT M1 MQTT with SparkPlug B

**Cellular Radio Power:** 23dBm

**Antenna Type:** LTE w/ Internal GPS

**Enclosure:** Industrial polycarbonate UV Rated; IP64

**Safety Rating:** Class 1 Division 2 Certified, Groups A, B,C, D. Temperature Code T5. Certified to CSA C22.2 No. 213:2017, Conforms to UL 121201:2017

**Electrical Connection:** Pluggable terminal block, 16-30AWG screw terminals

**Local Micro-USB Configuration Port**

**Weight:** 1 lbs (0.6kg)

### Estimated Monthly Data Usage:

Check-in interval dependent

- 30 sec = 54 MB
- 1 min = 27 MB
- 5 min = 5.4 MB
- 15 min = 1.08 MB
- 60 min = 0.27 MB

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## DIMENSIONS

