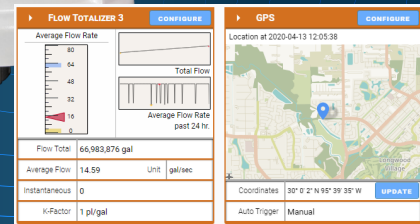# RANGER

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 with GPS to cloud services
- Integrated inputs/output for multi-sensors
- Configurable MQTT Broker
- 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

SIGNALFIRE
WIRELESS TELEMETRY
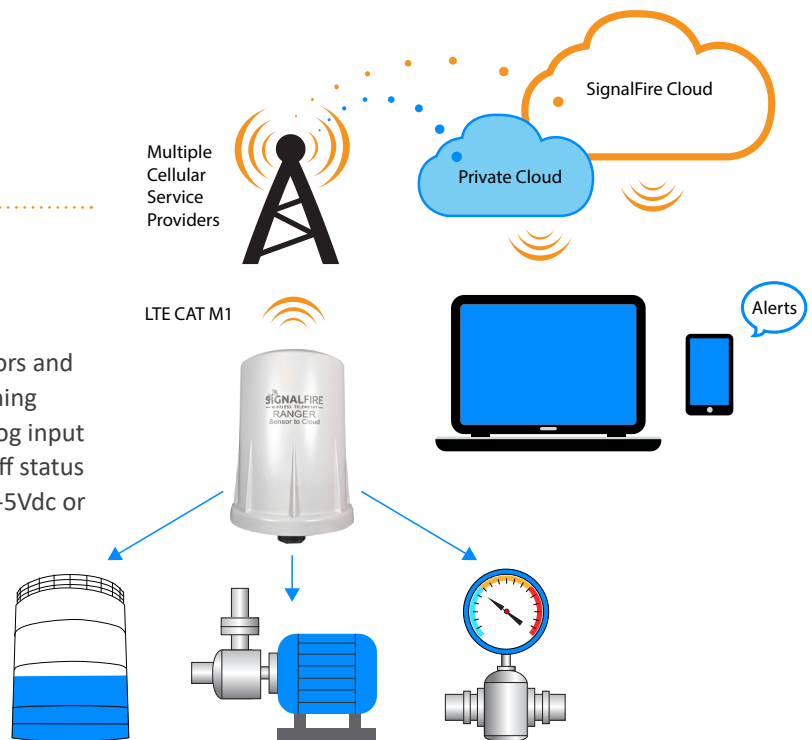
RANGER

Sensor to Cloud Platform

TECHNICAL SPECIFICATIONS

Operating Temp:
-40 to +185°F (-40 to 85°C)

Humidity: 0% - 100% condensing

Input Power:
- Four (4) 3.6Vdc D side size Lithium Thionyl Chloride batteries
- Optional solar power

Standard Input/Output:
- 1 Relay Output (2A @ 30Vdc; 0.3A @ 110Vac; 0.5A @ 125Vac). Logic for local control based on DI or AI (Future)
- 2 Digital Inputs, unpowered, dry contact, report state, total counts, and frequency* (2kHz max)
- 1 Analog Input (1-5Vdc or 4-20mA). Configurable output power 13 or 18Vdc.

Flow totalizing mode with K-factor

Optional Input/Output Modules:**
- 2 Analog Inputs & 1 Digital Input
- Modbus Serial (RS485)
- HART (Future)

Battery Life: Up to 5 years

Data Interface: LTE CAT M1 MQTT w/ SparkPlug B

Cellular Radio Power: 23dBm

Antenna Type: LTE w/ Internal GPS

Enclosure: Industrial polycarbonate UV Rated; IP64

Safety Rating: Class I, Div 2 (Future)

**One module per RANGER, field retrofittable*

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

connected by
verizon✓

STANDARD CONFIGURATION ORDER CODES

RANGER – [＿＿] – [＿＿] – [＿＿]

Power Source

4DPAK	=	4 D Cell Battery Pack
HCSolar	=	High Capacity Intrinsically Safe Solar System
DCDC	=	DC step down adapter 10-30Vdc down to 3.3Vdc. Fits in battery compartment

SIM Card

NoSIM	=	No SIM Card. User provides LTE CAT M1 SIM Card, No SignalFire Cloud
SIM/VZ	=	Verizon LTE CAT M1 SIM - 1 year data plan, SignalFire Cloud Connectivity

Expansion Module

NONE	=	Standard I/O Package: 1AI, 2DI, 1Relay
2AI1DI	=	Expansion Module adding 2AI & 1DI
Modbus	=	Expansion Module with RS485 Modbus Serial Input

DIMENSIONS

7.1" (180 mm)

0.9" (22.8 mm)

1/2 NPT(F)

Ø 4.6" (116.8 mm)