RANGER900

Sensor to Cloud Platform

PLUG-&-PLAY SIGNALFIRE 900 MHz NODES TO THE CLOUD

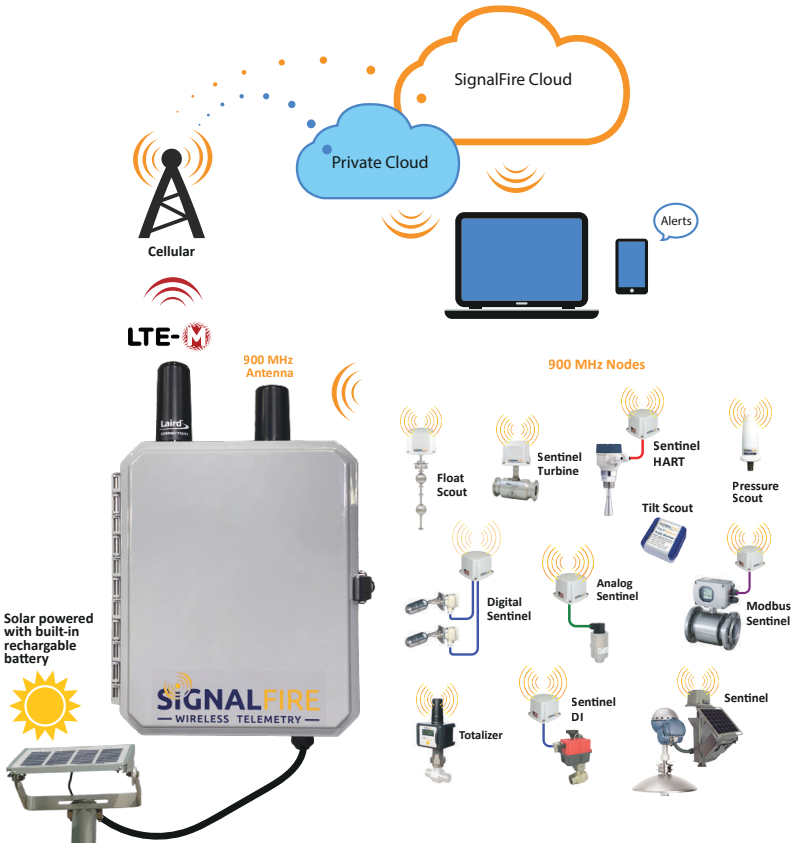
ONE CELLULAR CONNECTION FOR MULTIPLE 900 MHz NODES

SOLAR POWERED – READY TO MOUNT AND USE.

MQTT / SPARKPLUG-B READY USING SIGNALFIRE CLOUD AND OTHER COMPATIBLE HOSTS

PRODUCT OVERVIEW

The Ranger900 combines the best of both worlds – 900 MHz and cellular into one user friendly industrial package. This solution reduces the customers overall cellular and monthly cost by integrating SignalFire's 900 MHz network with the Ranger platform. With this solution, only one Ranger Cloud and SIM Card subscription is necessary to accommodate up to 32 SignalFire 900 MHz nodes (32 total read / write registers). The number of nodes depends on the quantity of measurements per node. For example, if a Sentinel is measuring level and battery voltage, the number of total Sentinels would be 16 because each are using 2 registers from the available 32.



BENEFITS

- One SignalFire Cloud & SIM subscription for up to 32 data points
- Solar Powered with 14 days autonomy. No external power required. Solar panel, charger, and battery included.
- User friendly, ready to mount and use, form factor
- Cost effective connectivity of a SignalFire's 900 MHz network to the Cloud
- Send measurements with 900 MHz closer to where there is cellular coverage
- LTE M / NB-IoT ready for broader coverage
- SignalFire Cloud ready and connectivity with other hosts compatible with MQTT / SparkPlugB

SIGNALFIRE
WIRELESS TELEMETRY

www.signal-fire.com | 140 Locke Drive, Suite B, Marlborough, MA 01752 USA | 978.212.2868

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TECHNICAL SPECIFICATIONS

Environmental:

- Operating Temperature: -40°F to 185°F (-40°C to 85°C)
- Humidity: 0 - 95% non-condensing

Power:

- Solar Powered (integrated 10W panel)
- Built-in rechargeable battery & charge controller
- 14 days of autonomy with no sun

Enclosure Specs & Mounting:

- NEMA 4X / IP66, Polycarbonate UV Rated
- 9.8" (240mm) wide x 14.1" (357mm) tall x 7.0" (178mm) deep
- 15.3 lbs (6.9 kg)
- 2" U-Bolt mount included

Antenna (included):

- Panel mounted omni-directional LTE
- Panel mounted omni-directional 900 MHz

900 MHz Specifications:

- Integrated SignalFire DIN Gateway V2 (see SignalFire DIN Gateway V2 for complete specifications)
- Radio Power/Range: 500 mW (approx. 3 miles line of sight (5 km))
- Antenna Type: Omnidirectional. +2dB gain, -105dB receive sensitivity
- Frequency: 902-928 MHz license-free ISM band compliant with FCC Part 15 and Industry Canada
- Wireless 900 MHz End Nodes: 32 maximum. Depends on number or registers being used for each node.
- Internal Diagnostics: Line voltage, signal strength, error conditions event logging, Modbus communications
- Inputs & Outputs:
  - » Two (2) digital inputs
  - » Two (2) digital outputs (open collector pull down)
  - » Three (3) 1-5Vdc / 4-20mA analog inputs

Cellular Specifications:

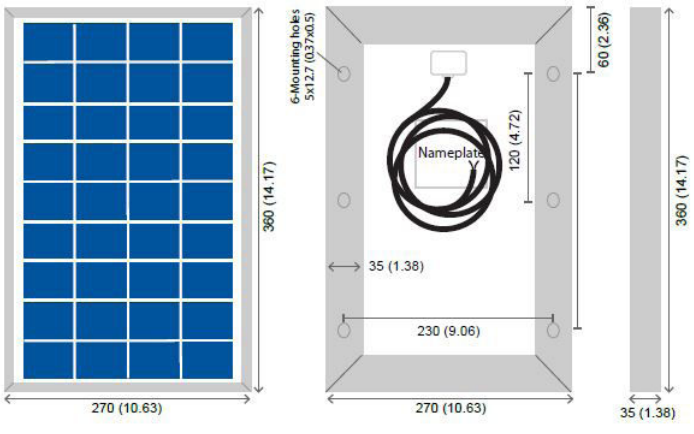
- Input/Output integrated with RANGER electronics:
  - » 1 Latching Relay Output (2A @ 30Vdc; 0.3A @ 110Vac; 0.5A @ 125Vac). Failsafe & local automation configurable.
  - » 2 Digital Inputs report state, total counts, frequency (2kHz max), volume total with K Factor
  - » Analog Input (1-5Vdc or 4-20mA). Configurable for flow totalizing mode.
- Data Interface: LTE CAT M1 / NB-IoT, auto-selectable
- SparkPlug B messaging
- Cellular Radio Power: 23dBm
- Electrical Connection: Pluggable terminal block, 16-30AWG screw terminals
- Local Micro-USB Configuration Port
- Estimated Monthly Data Usage:
  - » Check-in interval dependent
  - » 1 min = 27 MB
  - » 5 min = 5.4 MB
  - » 15 min = 1.08 MB
  - » 60 min = 0.27 MB
- LTE band support: Cat-M1 / NB-IoT: B1, B2, B3, B4, B5, B8, B12, B13, B14, B17, B20, B25, B26, B28, B66
- Supports 4FF SIM type
- Power saving features: eDRX
- Secure socket using TLS
- PTCRB Certified

Solar Panel:

Max Power:
10W

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

Weight:
2.6 lbs (1.2 kg)



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HOW TO ORDER

RANGER – 900 – [ ] – [ ] – [ ] – [ ] – [ ] – [ ] – [ ]

Power Source
SOLAR = Solar panel, battery and integrated charger
DC = 10-30Vdc input ready

Antenna
Int = Enclosure mounted antennas

HW Option
Modbus = Expansion Module with RS485 Modbus Serial port. Supports 8 devices

SIM Card
NoSIM = No SIM Card. No SignalFire Cloud. User provides LTE CAT M1 SIM Card
VZSIM1 = VERIZON LTE CAT M1 SIM – 1 Year Data Plan, SignalFire Cloud Connectivity
VZSIM3 = VERIZON LTE CAT M1 SIM – 3 Year Data Plan, SignalFire Cloud Connectivity
SFCloud1 = No SIM Card. 1 year SignalFire Cloud. User provides LTE CAT M1 SIM Card
SFCloud3 = No SIM Card. 3 year SignalFire Cloud. User provides LTE CAT M1 SIM Card

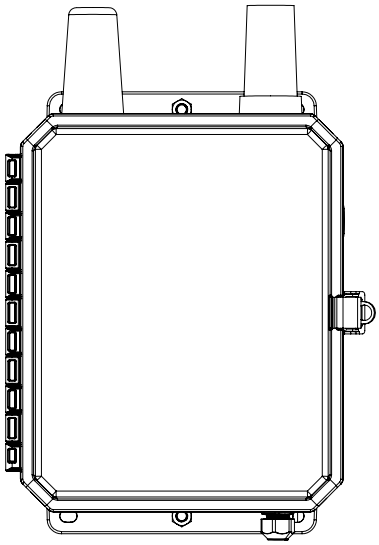
Subscription Type
N = No Subscription
MB32 = 32 Modbus values
MB96 = 96 Modbus values

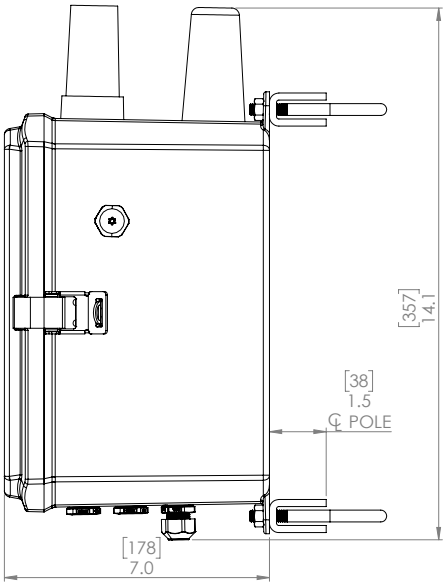
Report Interval
N = n/a
STD = 60 seconds minimum
Fast = 15 seconds minimum
Ultra = 5 seconds minimum

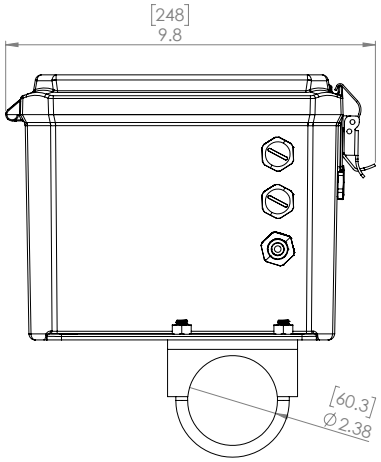
Customer Configuration*
N = None

* Consult factory to discuss if custom configuration is neeed.

DIMENSIONS







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