

# Instrumentation

## Ranger System Monitoring

### Overview:

The Ranger is an IoT (Internet of Things) cellular transmitter utilizing LTE-M/NB-IoT technology to bring sensor data directly to the cloud. Data is transmitted over cellular networks directly to the Cloud for a complete monitoring and alarming service. The Ranger comes complete with the mobile device ready cloud interface to monitor, send and receive alarms either by text or e-mail message.

### Monitors:

- **Digital Input:** Flow rate monitoring (gallons per minute), flow totalizer (gallons), pump on/off status, electric valve open/close status, pressure switch, bag filter differential pressure.
- **Analog Input:** Pressure monitoring, suction pit level monitoring, wellpoint level monitoring, water quality monitoring.
- **HART Input:** Tank level monitoring, filling height and volume.
- **Digital Output:** Turn a pump on/off, open/close an electric valve, connect to an audio/visual alarm.

### Features:

- Plug and play, instant connectivity of a sensor to the cloud over cellular networks.
- Optimized for battery life using latest cell modem technology.
- Multi input/output to connect to a variety of sensors including Analog and HART.
- Data location from built-in GPS.
- Sensors powered by battery or external solar.
- Built in I/O with three (3) digital inputs, one (1) analog input, one (1) HART input, and one (1) relay output.
- Analog input supports a 4-20mA device and provides power to the sensor from the built-in battery pack.
- Relay output to provide on/off control to a local device.
- FIRSTNet Capable Designation.
- Configurable 13V or 18V to attached sensor(s).

### Specs:

Operating Temp:	- 40 to +185° F
Material:	Industrial polycarbonate UV Rated; IP68
Weight	2lbs., 15oz
Battery Pack:	Four D-cell Lithium Thionyl Chloride, 76Ahr
Battery Life:	Up to 8 years
Solar Power:	Optional
Dimensions:	8" x 8" x 4"
Safety Rating:	Class 1 Division 2 Certified, Groups A, B, C, D



### Accessories:

- Rain for Rent Tanks
- Bag Filter
- Sand Media Filter
- Pumps
- Electric Actuated Valves
- Flow Meters
- Audio/Visual Alarm



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THE SPECIFICATIONS CONTAINED IN THIS SHEET ARE OPERATING GUIDELINES AND ARE INTENDED TO BE GENERAL REPRESENTATIONS OF EQUIPMENT CAPABILITIES. ACTUAL PERFORMANCE WILL VARY BASED UPON SYSTEM APPLICATION, AGE OF EQUIPMENT, MANUFACTURER, AND OPERATION

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