

# SENTINEL

Intrinsically Safe or Non-Incendive Wireless Transmitter

CLASS 1 DIVISION 1 OR CLASS 1 DIVISION 2

RUGGED OIL FIELD PROVEN

WIRELESS PACTWARE™ AND RADARMATER™ SUPPORT

TRUE WIRELESS - POWERS SENSOR AND RADIO

WIRELESS CONFIGURATION



## FEATURES

- Powers sensor and radio for years with an internal battery
- Class 1 Division 1 or Class 1 Division 2
- Optional Class 1 Division 1 solar module with integrated charger, battery panel, and mounting bracket
- HART over wireless
- Over the air bi-directional communication
- Rugged design for demanding outdoor environments
- Up to 1/2 mile range (800 meters)
- Sensor independent
- 1/2" NPT conduit interface
- Automatically configures as a star or mesh network



## MODELS

### Sentinel HART

Connects to a single HART sensor

### Sentinel Analog

Connects to a single 4-20 mA/1-5v sensor

### Sentinel Digital

2 digital inputs  
2 KHz frequency response

### Sentinel Modbus

RS-485 Modbus interface

### Sentinel Turbine

Connects directly to the Magnetic Pickup of the Turbine Sensor

### Sentinel Thermocouple

Connects directly to Thermocouple sensors (J, K other)

### Sentinel RTD

Connects directly to P100 RTD sensors

*HART Model supports wireless PACTware, FDT compliant and Wireless RadarMaster*

# SENTINEL

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## TECHNICAL SPECIFICATIONS

### Operating Temp

-40°F to 140°F (-40°C to 60°C)

### Humidity

0% – 100% condensing

### Power

57Ah lithium primary cell battery pack. Field replaceable/Non sparking. Can be replaced in Class 1 Division 1 area. Optional Class 1 Division 1 solar/battery module. Optional Class 1 Division 2 internal DC module good for 10-30Vdc external power.

### Sensor Power

Powers both the radio system and the sensor/transmitter. User configurable 1-5 Vdc or 4-20 mA mode.

4-20 mA mode: 18 Vdc @ 4 mA, 13 Vdc at 20 mA.

Barriers and external power not required.

### Battery Life

1–10 years depending on the type of sensor and reporting frequency

### Data Interface

Wireless – available as Modbus registers at Gateway

### Data Update Rates

User-selectable. 5 seconds to 1 hour, typical.

### Supported Sensor Interfaces

HART™, 4-20 mA current loop, 1-5 Volt, Digital input (state, counter, totals, frequency), RS-485/Modbus, Thermocouple and RTD temperature sensors.

### Radio Power

40 mW

### Receive Sensitivity

-109 dB

### Security

128 AES Encryption

### Radio Frequency

902–928 MHz, FHSS, license-free ISM Band Compliant with FCC Part 15

### Range

Up to 1/2 mile (80 meters))

### Intrinsically Safe

Battery or Solar Power:

· Class 1 Division 1, Temp Code T3, Groups C&D. Conforms to UL Std. 913, Certified to Can/CSA Std C22.2 No. 157 External/DC Power:

· Class 1 Division 2, Temp Code T4, Groups A, B, C&D. Conforms to UL Std. 121201 and 61010-1. Certified to CSA C22.2 Nos. 213 and 61010-1.

### Internal Diagnostics

Battery voltage, signal strength, error conditions

## STANDARD CONFIGURATION ORDER CODES

Sentinel -  -

### Sensor Type

Hart = HART Communication Interface  
Analog = Single Analog 1-5V or 4-20mA Interface  
485 = RS485 Modbus Interface  
DI = Dual Digital Inputs  
K THERM = K-Type Thermocouple Interface  
J THERM = J-Type Thermocouple Interface  
RTD = RTD Temperature Sensor Interface  
485/2DI = RS485 Modbus Interface with Dual Digital Inputs  
Turbine = Turbine Meter Interface

### Power Source

3BIS = Intrinsically Safe Internal Lithium Battery  
DC = DC Converter for 10 to 30VDC External Power Source  
SolarRdy = High Capacity Intrinsically Safe Solar System  
HCSolar = High Capacity Intrinsically Safe Solar System