SIGNALFIRE
WIRELESS TELEMETRY

SIGNALFIRE PRODUCT CATALOG

Reliable, User-Friendly & Versatile Wireless Solutions for Sensing & Monitoring

Oil & Gas | Water & Wastewater| Processing | Agriculture | Transportation

GATEWAY

Integrated Gateway and High-Gain Antenna

CLASS 1 DIVISION 2 CERTIFIED

RUGGED OIL FIELD PROVEN

LONG RANGE OF 3+ MILES

LOW POWER CONSUMPTION

Gateway-In-a-Stick

Gateway DIN Mount

FEATURES

- Modbus interface (RS485 RTU or Modbus TCP with optional Ethernet Gateway Interface Module)
- Long range: 3+ miles
- Stores all sensor data in Modbus format
- Manages outbound communications
- Low power consumption
- Integrated high-gain omnidirectional antenna and gateway electronics
- Supports wireless configuration of remote nodes and HART devices via PACTware or Radar Master
- Automatically configures as star or mesh network
- Designed for rugged outdoor environments
- Times out readings from off-line sensors

INTERFERENCE MODULES

Connector Breakout Board for use with Gateway-in-a-Stick. Provides DIN mounted connection point for wiring and configuration.

Analog /Relay Output Module maps any type of sensor reading to an analog or relay output, ideal for retrofit applications.

Ethernet Interface Module provides Modbus-TCP connection and diagnostic interface for remote configuration.

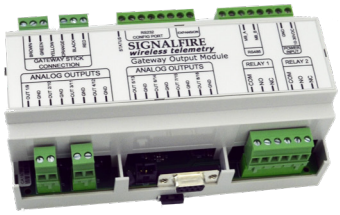
MODELS

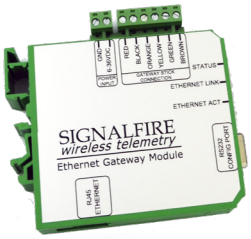
Gateway DIN Mount

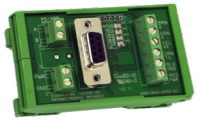
Compact DIN mount gateway module with external RP-SMA antenna connection.

Gateway-In-a-Stick

Encapsulated electronics, high-gain antenna, and multi-mount aluminum base all contained in a high-impact polycarbonate “Stick”.







SIGNALFIRE WIRELESS TELEMETRY

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

GATEWAY

Integrated Gateway and High-Gain Antenna

TECHNICAL SPECIFICATIONS

Operating Temp
-40°C to 85°C

Humidity
0% – 100% condensing

Power
6-36 VDC

Data Interface
RS-485 Modbus RTU, or Modbus-TCP, RS 232 for configuration. All readings are converted to Modbus registers and stored in the gateway.

Radio Power
500 mW

Antenna Type
Omnidirectional

Antenna Gain
5dB

Receive Sensitivity
-105 dB

Frequency
902-928 MHz license-free ISM band compliant with FCC Part 15

Range
3 miles (typical) much farther with careful placement

Networks
Up to 64 separate networks

Enclosure
Weather-tight, integrated electronics and antenna, NEMA 3R (GW Stick)

Safety Rating
Nonincendive, Class 1 Division 2 Groups C and D, T5

Internal Diagnostics
Line voltage, signal strength, error conditions, internal event logging

STANDARD CONFIGURATION ORDER CODES

INTERFACE	IO OUPUTS	ORDER CODE
RS 485 (Gateway-in-a-Stick)	None	GWS-CBBL
Modbus-TCP (Gateway-in-a-Stick)	None	GWSSTATICIP
RS 485 (Gateway-in-a-Stick)	8 Analog (4-20 mA/1-5V) and 2 Relays	GWS-8AO2DO
RS 485 (DIN Mount Gateway)	None	GW-DIN
Modbus-TCP (DIN Mount Gateway)	None	GW-DIN-STATICIP

SIGNALFIRE
WIRELESS TELEMETRY

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

DIN GATEWAY V2

Wireless 900MhZ Gateway with Integrated I/O

CONNECTIVITY TO WIRELESS & WIRED SENSORS

INTEGRATED ETHERNET

LONG RANGE OF 3+ MILES

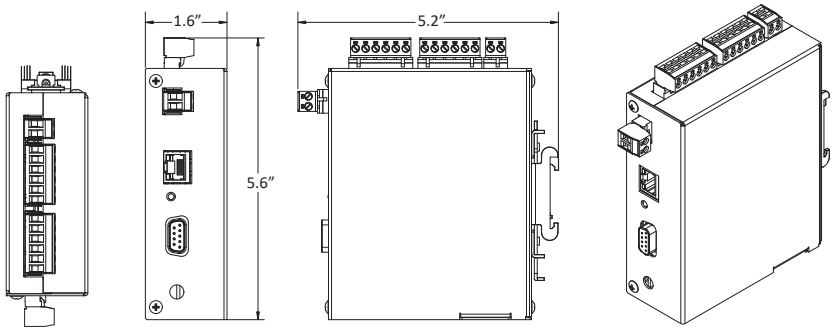
BUILT-IN AUTOMATION

CLASS 1 DIVISION 2 CERTIFIED (PENDING)

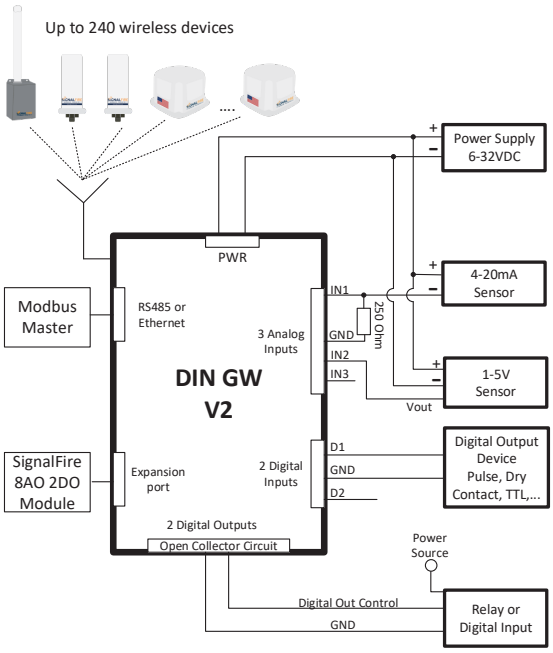
FEATURES

- Modbus interface RS485 RTU or Modbus TCP
- Long range: 3+ miles
- Wired inputs/outputs: 2DI, 2DO, 3AI
- Manages outbound communications
- Low power consumption
- External high-gain omnidirectional antenna
- Supports wireless configuration of remote nodes and HART® devices via PACTware® or Radar Master
- Automatically configures as star or mesh network
- Easy to program internal logic for control applications

DIMENSIONS



WIRELESS AND WIRED SENSOR CONNECTIVITY



SIGNALFIRE WIRELESS TELEMETRY

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

DIN GATEWAY V2

Wireless 900MhZ Gateway with Integrated I/O

TECHNICAL SPECIFICATIONS

Operating Temp
-40°F to 185°F
-40°C to 85°C

Humidity
0% – 95% non-condensing

Power Requirements
6-36 VDC

Average Power Consumption
Modbus RS485 Version
25mA @ 12Vdc
16mA @ 24Vdc

Modbus TCP
85mA @ 12Vdc
50mA @ 24Vdc

Data Interface
RS-485 Modbus RTU, or Modbus-TCP, RS 232 for configuration. All readings are converted to Modbus registers and stored in the gateway.

Radio Power
500 mW

Antenna Type
Omnidirectional

Antenna Gain
- Panel Mounted: +2dB
- W Pole Type: +5dB

Receive Sensitivity
-105 dB

Frequency
902-928 MHz license-free ISM band compliant with FCC Part 15 and Industry Canada

Range
Up to 3 miles

Enclosure
- Powder coated metal
- Metal DIN connector

End Nodes
Up to 240 SignalFire end nodes

Safety Rating
Nonincendive, Class 1 Division 2 Groups C and D, T5 (pending)

Internal Diagnostics
Line voltage, signal strength, error conditions, internal event logging, Modbus communications

Inputs & Outputs
- Two (2) digital input
- Two (2) digital output (open collector pull down)
- Three (3) 1-5Vdc / 4-20mA analog input
- Expansion port for SignalFire Gateway output module (8 analog outputs / 2 relay outputs)

Weight
2 lbs (0.8kg)

STANDARD CONFIGURATION ORDER CODES

INTERFACE	TOTAL I/O & TYPES	ORDER CODE
RS 485	2 DI, 2DO, 3AI	GWDINV2-RS485
Modbus-TCP	2 DI, 2DO, 3AI	GWDINV2-ENET
RS 485 (with expansion port module)	2 DI, 4DO, 3AI, 8AO	GWDINV2-RS485/8AO2DO
Modbus-TCP (with expansion port module)	2 DI, 4DO, 3AI, 8AO	GWDINV2-ENET/8AO2DO

Sample Order Code: GWDINV2-RS485/8AO2DO-ANT-WP-RPSMA-30

ANTENNA OPTIONS
-EXT Panel Mounted RPSMA Antenna with 1 m Cable
-ANT-WP-RPSMA-20 Remote mount antenna, 20ft RG58 cable, RP-SMA connector
-ANT-WP-N-20 Remote mount antenna, 20ft RG58 cable, N-Male connector
-ANT-WP-RPSMA-30 Remote mount antenna, 30ft RG58 cable, RP-SMA connector
-ANT-WP-N-30 Remote mount antenna, 30ft RG58 cable, N-Male connector

SIGNALFIRE
WIRELESS TELEMETRY

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

SENTINEL

Intrinsically Safe Modules for Hazardous Areas

CLASS 1 DIVISION 1 CERTIFIED

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 Intrinsically safe system
- Optional Class 1 Division 1 solar module with integrated charger, battery panel, and mounting bracket
- Costs less than 60ft of installed conduit
- Rugged design for demanding outdoor environments
- Up to 1/2 mile range
- Sensor independent
- 1/2” NPT conduit interface
- Automatically configures as a star or mesh network
- Simple to install and maintain

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, IDT compliant and Wireless RadarMaster

SIGNALFIRE
WIRELESS TELEMETRY

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

SENTINEL

Intrinsically Safe Modules for Hazardous Areas

TECHNICAL SPECIFICATIONS

Operating Temp
-40°C to 60°C (-40°F to 140°F)

Humidity
0% – 100% condensing

Power
3 X D Lithium battery pack. Field replaceable. Class 1 Division 1 certified when used with SignalFire system. In situ replacement does not require a work ticket. Optional Class1 Division 1 solar/ battery module

Sensor Power
True wireless: powers both the radio system and the sensor/transmitter. User configurable for 18 Vdc and 12.5 Vdc. 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 Vdc, 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

Networks
Up to 65,520 separate networks

Intrinsically Safe
Class 1 Division 1, Temp Code T3, Groups C&D. Conforms to UL Std. 913, Certified to Can/CSA Std C22.2 No. 157

Internal Diagnostics
Battery voltage, signal strength, error conditions

Potentiometer Input
Variable resistance

STANDARD CONFIGURATION ORDER CODES

SENSOR TYPE	POWER SOURCE	ORDER CODE
HART	Internal Lithium Battery Pack	Sentinel-Hart-3BIS
HART	Solar/Battery System	Sentinel-Hart-Solar
Analog (1-5V or 4-20 mA)	Internal Lithium Battery Pack	Sentinel-Analog-3BIS
Analog (1-5V or 4-20mA)	Solar/Battery System	Sentinel-Analog-Solar
Modbus	Internal Lithium Battery PackModbus	Sentinel-485-3BIS
Modbus	Solar/Battery System	Sentinel-485-Solar
Digitial Inputs (2)	Internal Lithium Battery PackModbus	Sentinel-DI-3XBIS
Digitial Inputs (2)	Solar/Battery System	Sentinel-DI-Solar

SIGNALFIRE
WIRELESS TELEMETRY

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

A2 LONG RANGE

Long-range, multiple-input modules for sophisticated data transmission over distances of up to three miles between nodes.

POWERS SENSOR AND RADIO FOR YEARS WITH A BATTERY

RUGGED DESIGN FOR DEMANDING OUTDOOR ENVIRONMENTS

UP TO A 3-MILE RANGE

AUTOMATICALLY CONFIGURES AS A STAR OR MESH NETWORK

SIMPLE TO INSTALL AND MAINTAIN

FEATURES

- Powers sensor and radio for years with an internal battery
- Optional solar power package
- Costs less than 60ft of installed conduit
- Rugged design for demanding outdoor environments
- Up to 3-mile range
- Sensor independent
- 1/2” NPT conduit interface
- Automatically configures as a star or mesh network
- Simple to install and Maintain

MODELS

A2

Monitor two analog sensors and one digital input:

- 4-20 mA current loop sensor
- 1-5 V sensor
- Digital input/counter

HART

Monitor one HART® loop and one digital input:

- HART (1-4 sensors)
- Digital input/counter

Modbus

Monitor one or more Modbus sensors

Thermocouple/Digital Input

Monitor one thermocouple and one digital input

SIGNALFIRE WIRELESS TELEMETRY

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

A2 LONG RANGE

Long-range, multiple-input modules for sophisticated data transmission over distances of up to three miles between nodes.

TECHNICAL SPECIFICATIONS

Operating Temp
-40ºC to 85ºC

Humidity
0% – 100% condensing

Power
3 X D Lithium battery pack. Field replaceable.

Sensor Power
12.5 or 18V Jumper selectable for 4-20mA current loop, 1-5V, or HART sensors. Sensor power is provided from the system, no need for external sensor power

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 Rotary Switch from 5 sec to 2 hours

Supported Sensor Interfaces
Analog (4-20mA/1-5V)
Digital input
HART
RS485 Modbus RTU
K-Type Thermocouple

Radio Power
300 mW

Antenna Type
External Weather Resistant, Omnidirectional

Receive Sensitivity
-105 dB

Frequency
902-928 MHz License Free ISM Band
Compliant with FCC Part 15

Range
Up to 3 Miles (Line of Sight)

Networks
Up to 65,520 separate networks

Enclosure
Aluminum, NEMA 4X Rated

Internal Diagnostics
Battery voltage, signal strength, error conditions

STANDARD CONFIGURATION ORDER CODES

SENSOR TYPE	POWER SOURCE	ORDER CODE
2 Analog (1-5V or 4-20 mA)	Battery	A2-A2D1-3B
HART	Battery	A2-HART-3B
RS-485/Modbus	Battery	A2-485-3B
K Type Thermocouple	Battery	A2-KTHERM-3B

SIGNALFIRE
WIRELESS TELEMETRY

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

REMOTE SHUT DOWN (RSD)

Gateway-controlled asset monitoring and shutdown.
PLC-controlled asset monitoring and shutdown

NO PLC PROGRAMMING REQUIRED

SIMPLE TABLE-BASED CONFIGURATION LOGIC

CONFIGURABLE FAILSAFE FEATURES

LONG RANGE: 3+ MILES

TOPOLOGIES

Gateway-Controlled

- May be configured to monitor and control as a standalone system
- A PLC may be used to offload sensor data

PLC-Controlled

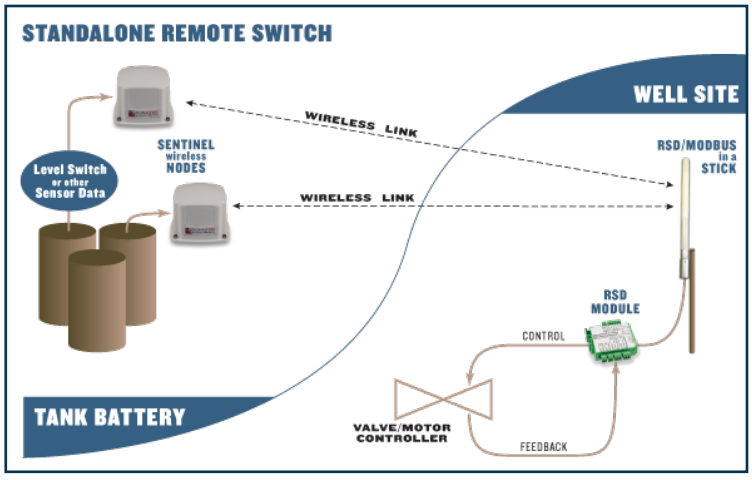
- A PLC monitors and controls remote assets through a Gateway, which relays data to the remote assets

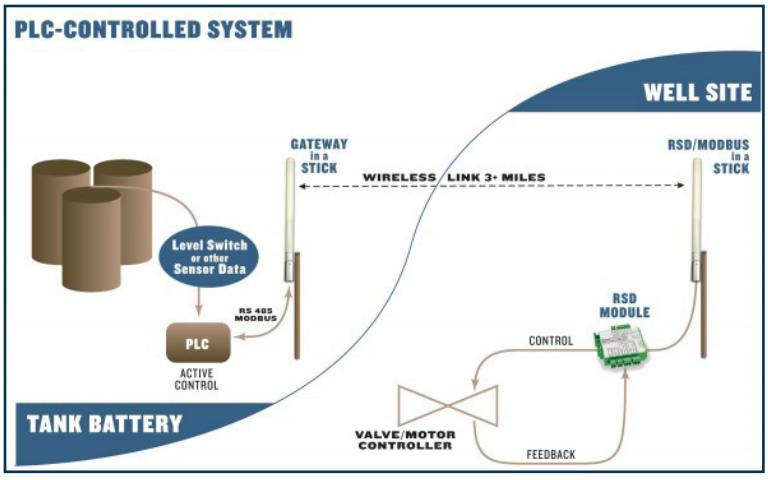
Standalone Remote Switch Mode

- No Gateway required, remote sensor data is sent directly to a RSD-Stick
- The RSD-Stick uses its internal configuration logic to trigger shutdowns based on remote sensor data

STANDARD CONFIGURATION ORDER CODE

ORDER CODE	DESCRIPTION
MBS-RSD	RSD-Stick with DIN mounted RSD Module. 2 relays, 2 digital inputs





SIGNALFIRE
WIRELESS TELEMETRY

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

REMOTE SHUT DOWN (RSD)

TECHNICAL SPECIFICATIONS

Operating Temp
-40°C to 70°C

Power
6-36 VDC

Relay Outputs
2A, 30V, SPDT

Digital Inputs
Dry contact or 30 volts max (push-pull)

Radio Power
500 mW

Antenna Gain
5 dB

Receive Sensitivity
-105 dB

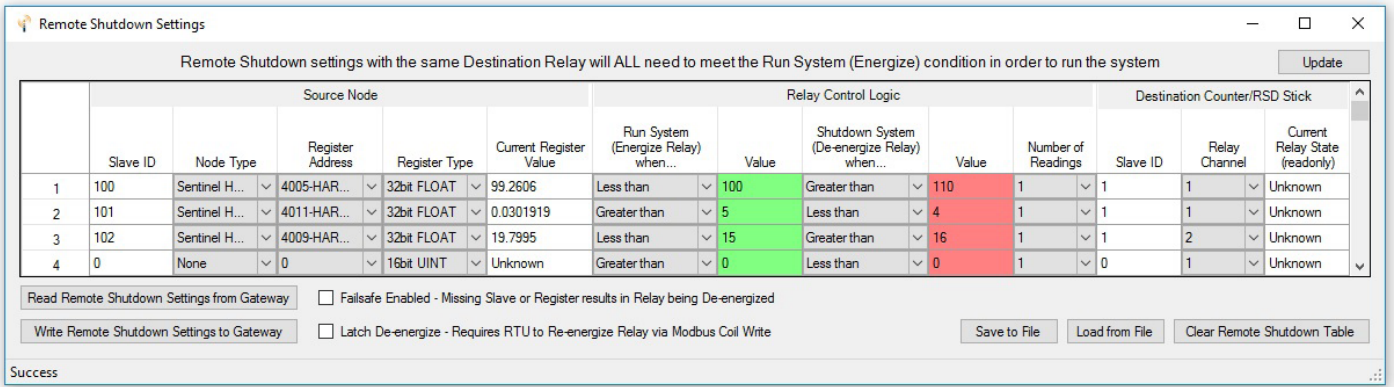
Frequency
902-928 MHz license-free ISM band, FHSS, FCC part 15 compliant

Range
3+ miles (line of sight)

Internal Diagnostics
Supply voltage, signal strength, error conditions

Failsafe Operation
Multiple configurable failsafe timers. Relay fault monitoring.

SIMPLE TABLE-BASED CONFIGURATION LAYOUT



SIGNALFIRE
WIRELESS TELEMETRY

MODBUS STICK

Potted electronics, a high-gain antenna, and a multi-mout aluminum base all contained in a high-impact polycarbonate “Stick”.

LONG RANGE 3+ MILES

PROVIDES A WIRELESS INTERFACE TO A MODBUS DEVICE

MESSAGE-FORWARDING CAPABILITY

LOW POWER CONSUMPTION

SIMPLE TO INSTALL AND MAINTAIN

FEATURES

- Potted electronics, a high-gain antenna, and a multi-mount aluminum base all contained in a high-impact polycarbonate “Stick.”
- Provides a wireless interface to remote Modbus sensors
- RS485 Modbus RTU interface (RS232 also available)
- Supports multiple Modbus devices
- Automatically reads and transmits sensor registers at user-definable intervals
- Outbound capability for sensor Modbus register updates
- Writes Modbus registers
- Message-forwarding / mesh-networking capability
- Rugged design for demanding outdoor industrial environments
- Range up to 3 + miles
- Simple to install and maintain
- Class 1 Division 2, Temp Code T5, Groups C&D. Conforms to ISA 12.12.01 and UL 916, Certified to CSA C22.2 No. 142 and CSA C22.2 No. 213

MODELS

Multi-IO Module (MIOM)

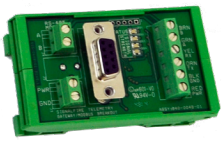
- 8 Analog Inputs
- 6 Digital Inputs
- 4 Relay Outputs

Modbus

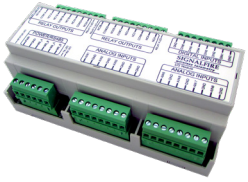
- RS485 interface (RS232 available)
- Automatically reads and transmits sensor registers at user-definable intervals
- Writes modbus registers

Mirroring

- Mirrors the configured data-registers from gateway
- Gateway data available to be read by RTU device



SignalFire Breakout Board connects easily for modbus applications.



Multi-IO Module (MIOM)

SIGNALFIRE
WIRELESS TELEMETRY

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

MODBUS STICK

Potted electronics, a high-gain antenna, and a multi-mout aluminum base all contained in a high-impact polycarbonate "Stick".

TECHNICAL SPECIFICATIONS

Operating Temp
-40°C to 70°C

Humidity
0% – 100% condensing

Power
6-36 VDC

Data Interface:
Modbus RS485

Data Update Rates:
User configurable with configuration utility

Radio Power:
500 mW

Antenna Type:
Omnidirectional

Antenna Gain:
5dB

Receive Sensitivity:
-105 dB

Frequency:
902-928 MHz license-free ISM band compliant with FCC Part 15

Range:
3+ miles (line of sight)

Networks:
Up to 65,520 separate networks

Enclosure:
Weathertight integrated electronics and antenna. Integrated cable (25' standard)

Internal Diagnostics:
Line voltage, Signal strength, Error conditions

Safety Rating:
Class 1 Division 2 Certified, Groups C&D, Temperature Code T5. Certified to CSA C22.2 No. 213, Conforms to ISA 12.12.01

STANDARD CONFIGURATION ORDER CODES

INTERFACE	ORDER CODE
RS485	MBS-CBBL
MIOM	MBS-MOIM-CBBL

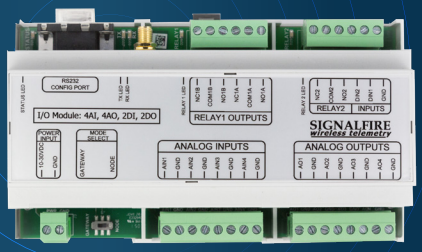
SIGNALFIRE
WIRELESS TELEMETRY

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

WIRELESS I/O MODULE

Din Mounted Node for Wireless Network.

- RUGGED OIL FIELD PROVEN
- INTEGRATED RADIO WITH ANTENNA KIT
- ANALOG AND DIGITAL SIGNAL REPLICATION

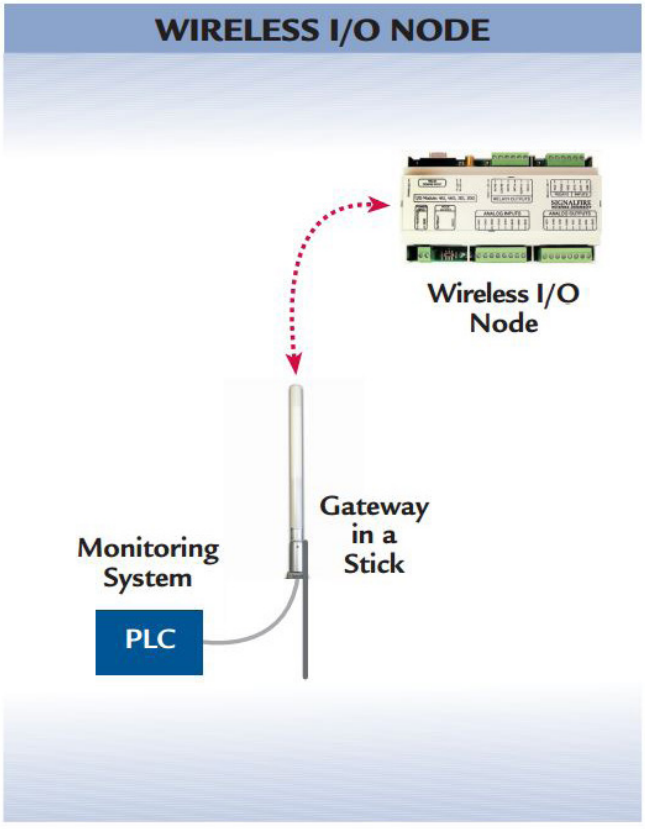


DESCRIPTION

The SignalFire Wireless I/O System can interface to analog (4-20mA/1-5V) inputs and outputs, digital inputs and has relay outputs. There are two modes of operation, the first utilizes two modules and acts as a wire replacement that replicates analog and digital signals over a wireless link between the pair of Wireless I/O Modules. The second mode of operation is as a standard node that sends the data (via the SignalFire wireless mesh network) to a SignalFire Gateway where the data is available via a Modbus RTU or Modbus-TCP interface. The modules are DIN rail mounted and designed to be easy to use.

Point to Point I/O Mirroring Configuration: the analog/digital inputs on one module are replicated on the other module (and vice versa)-ideal for stand alone valve control or simple retrofit applications.

Standard SignalFire Configuration: Operates as a remote node with a standard SignalFire Gateway. All IO data is available at the Gateway as Modbus registers. Supports Modbus writes to control the analog and relay outputs. SignalFire node in a SignalFire network, providing longer-range as well as more sophisticated monitoring and control.



FEATURES

- 4 Analog Inputs (0-20mA or 0-5V)
- 4 Analog Outputs (0-20mA or 0-5V)
- 2 Digital Inputs
- 2 Relay Outputs (1 DPDT, 1 SPST)
- Acts as a repeater for other SignalFire wireless devices
- Wide Range DC Power Input (10-30VDC)
- Low Power Consumption
- DIN Rail Mount with pluggable screw terminal blocks
- Status LEDs

SIGNALFIRE
WIRELESS TELEMETRY

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

WIRELESS I/O MODULE

Din Mounted Node for Wireless Network.

TECHNICAL SPECIFICATIONS

Operating Temp
-40°C to 65°C

Power
10-30 VDC (25mA average @12V no relays energized, additional 15mA max for each energized relay, plus any analog output current)

Analog Ouputs
0-20 mA, 0-5 Volts

Digital Inputs
Dry contact or 30 volts max (push-pull)

Radio Frequency
902-928 MHz ISM band, FHSS radio, RP-SMA connector

Relay Outputs
2A, 60W

Networks
Up to 65,520 separate networks

Safety Rating
Class 1 Division 2 Certified, Groups C&D, Temperature Code T5. Certified to CSA C22.2 No. 213, Conforms to ISA 12.12.01

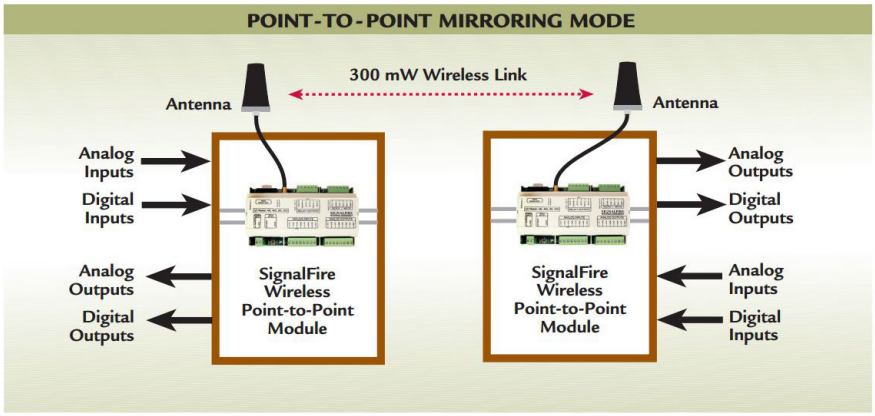
Radio Power
300 mW

Range
Up to 3 miles line of sight (depending on antenna)

Internal Diagnostics
Supply voltage, signal strength, error conditions

STANDARD CONFIGURATION ORDER CODES

I/O MODULE TYPE	ORDER CODE
Wireless IO System with 300 mW Radio and RP-SMA whip antenna. For use with plastic or fiberglass enclosures.	Wireless IO-IA
Wireless IO System with 300 mW Radio with external enclosure mount antenna kit.	Wireless IO-EXA



SIGNALFIRE
WIRELESS TELEMETRY

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

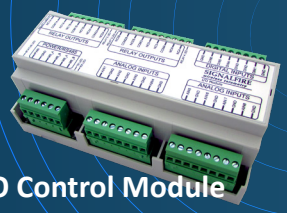
MULTI-I/O STICK SYSTEM

Designed to connect to a Modbus Stick and provide sophisticated wireless I/O control and monitoring at remote locations.

ULTRA -LOW POWER OPERATION

EASY TO USE

HAZARDOUS AREA SAFE



Multi-I/O Control Module

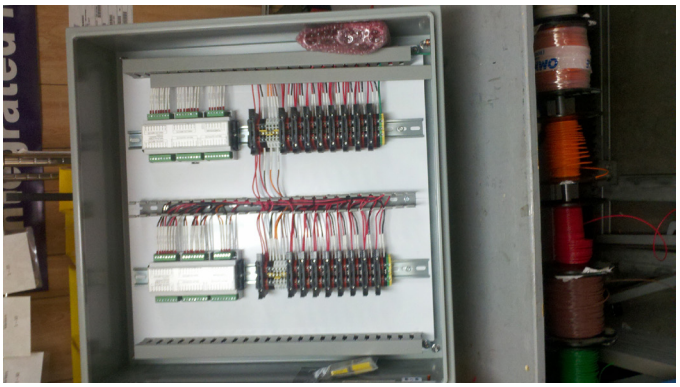
Modbus-In-A-Stick

FEATURES

- 8 Analog inputs. 4-20mA / 1-5V switch selectable (16 bit) with units of measure scaling and threshold monitoring
- 6 Digital Inputs with report on state change and totalizing
- 2 Single Pole and 2 Double Pole relays with direct and programmable pulse control
- Up to 8 units may be daisy chained to one Modbus-In-A-Stick
- 6-36VDC input voltage rage
- Ultra-low power operation
- Class 1 Division 2, Temp Code T4, Groups C&D. Certified to CSA C22.2 No. 213, UL 61010-1, and CSA C22.2#61010-1, Conforms to ANSI/ISA 12.12.01
- Easy to use table driven configuration interface

STANDARD CONFIGURATION ORDER CODES

ORDER CODE	DESCRIPTION
MBS-MIOM-CBBL	Modbus-in-A-Stick with Multi Input/Output Module. 8 Analog, 6 Digital inputs, 4 Relay Outputs, 25 Ft Cable, CBBL Interface Board.
MIOM	Multi Input/Output Module. 8 Analog, 6 Digital inputs, 4 Relay Outputs.



SIGNALFIRE
WIRELESS TELEMETRY

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

ETHERNET INTERFACE MODULE

DIN mounted module Ethernet enables the Gateway-In-a-Stick or DIN-Gateway.

PROVIDES A MODBUS-TCP INTERFACE AND REMOTE CONFIGURATION CAPABILITIES

EASY INTEGRATION WITH GATEWAY-IN-A-STICK OR DIN MOUNTED GATEWAY

CONFORMAL COATED ELECTRONICS

RUGGED OIL FIELD PROVEN

LOW POWER CONSUMPTION

Gateway-In-a-Stick

Ethernet Interface Module

DIN Mounted Gateway

FEATURES

- Direct connection to the SignalFire Gateway-in-a-Stick or the DIN mounted gateway
- Modbus TCP access to all data, supports up to 16 simultaneous server connections
- Allows remote configuration/diagnostics using the SignalFire ToolKit
- Supports remote configuration of HART devices using PACTware or Radar Master
- Power Over Ethernet (PoE) support with auto switchover to DC power supply
- Wide input voltage range of 6-36VDC
- Industrial Temperature range of -40 to +85C
- Easy web page configuration
- DB9 port for local connection to gateway
- Small form factor DIN mount enclosure
- Ethernet 10/100 base TX with Auto Negotiation, and HP Auto MDIX. RJ45 Connector

MODELS

Ethernet Interface Module

The Ethernet Interface Module permits direct connection of the SignalFire Wireless Mesh Network to an Ethernet Network. The Ethernet Interface Module has 2 TCP addressable ports and is designed to connect to a standard SignalFire Gateway-in-a-Stick or DIN mounted Gateway with little or no configuration necessary.

STANDARD CONFIGURATION ORDER CODE

ORDER CODE	DESCRIPTION
ENET-DIN	Ethernet Interface Module for use with a Gateway-In-a-Stick or a DIN Mounted Gateway
GWS-STATICIP	Gateway-in-a-Stick with 25' cable with DIN Mounted Ethernet Interface Module
GW-DIN-STATICIP	DIN Mounted Gateway with SMA Antenna Connection with DIN Mounted Ethernet Interface Module

SIGNALFIRE WIRELESS TELEMETRY

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

COUNTER STICK

Potted electronics, a high-gain antenna, and a multi-mout aluminum base all contained in a high-impact polycarbonate "Stick".

LONG RANGE 3+ MILES

PROVIDES A WIRELESS INTERFACE TO DESCRETE

DIGITAL SIGNALS

MESSAGE-FORWARDING CAPABILITY

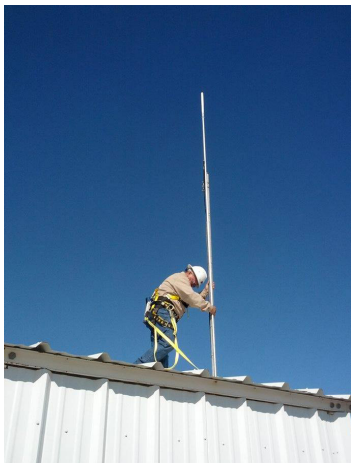
LOW POWER CONSUMPTION

FEATURES

- Provides a wireless interface to remote counting sensors such as
- flow meters
- Two digital interfaces, dry contact, open collector and other
- interfaces
- Calculates:
  - Total Counts
  - Instantaneous Frequency
  - Frequency Since Last Read
  - State
- Measures to 2 kHz
- Rugged design for demanding outdoor environments

MODELS

Counter/Totalizer
2 counter input channels



SIGNALFIRE
WIRELESS TELEMETRY

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

COUNTER STICK

Potted electronics, a high-gain antenna, and a multi-mout aluminum base all contained in a high-impact polycarbonate "Stick".

TECHNICAL SPECIFICATIONS

Operating Temp
-40°C to 70°C

Humidity
0% – 100% condensing

Power
6-36 VDC

Data Interface
2 digital inputs

Data Update Rates
User configurable with configuration utility

Radio Power
500mW

Antenna Type
Omnidirectional

Antenna Gain
5 dB

Receive Sensitivity
-105 dB

Frequency
902–928 MHz, FHSS, License Free ISM Band Compliant with FCC Part 15

Range
3 miles (typical) much farther with careful placement

Networks
Up to 65,520 separate networks

Enclosure
Weathertight intergrated electronics and antenna

Internal Diagnostics
Line voltage, signal strength, error conditions

Safety Rating
Non-insendive, Class 1 Division 2 groups C and D, T5

STANDARD CONFIGURATION ORDER CODES

INTERFACE TYPE	ORDER CODE	DESCRIPTION
Frequency Input	CTRS-CBBL	Counter-in-a-Stick, 2Di, 25 Ft Cable, with DIN mounted CBBL Interface Board

SIGNALFIRE
WIRELESS TELEMETRY

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

PRESSURE SCOUT

Intrinsically Safe Wireless Pressure Sensor

PRESSURE ALARM REPORTING

CLASS 1 DIVISION 1 CERTIFIED

EASY TO INSTALL

LOW COST ALTERNATIVE

HIGH PERFORMANCE & LONG BATTERY LIFE

WIRELESS CONFIGURATION

FEATURES

- Powers integrated pressure sensor and radio for years with an internal battery
- Class 1 Division 1 Intrinsically safe system
- Rugged design for outdoor environments
- Up to ½ mile range
- ½" NPT Process connection standard
- Rapid pressure sampling with configurable alarms and report by exception
- Extremely low power and long battery life
- Compact and simple to install and maintain
- Available in standard pressure ranges
- Pushbutton or remote zeroing

PRESSURE SENSOR

PERFORMANCE AT 77˚F/25˚C

Accuracy: <±0.25% BFSL
Stability (1 year): ±0.25% FS, typical
Over Range Protection: 2X Rated Pressure, Minimum
Burst Pressure: 5X or 40,000 PSI (whichever is less)
Pressure Cycles: >100 Million
Process Connection: 1/2" NPTM 316L Stainless Steel Standard
F250C Autoclave for pressure >10,000 psi
Other process connections/material available

THERMAL LIMITS

Operating Range: -40 to +176°F (-40 to +80°C)
Compensated Range: 32 to +131°F (0 to 55°C)

TC Zero: <±1.5% of FS
TC Span:<±1.5% of FS

Standard Pressure Ranges: 0-50 psi, 0-100 psi, 0-300 psi, 0-500 psi, 0-1000 psi, 0-3000 psi, 0-5000 psi, 0-7500 psi, 0-10,000 psi, 0-15,000 psi, 20,000 psi

Low Pressure Ranges: 0-1 psi, 0-2 psi, 0-5 psi, 0-7.5 psi 0-10 psi, 0-15 psi, 0-20 psi

SIGNALFIRE
WIRELESS TELEMETRY

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

PRESSURE SCOUT

Intrinsically Safe Wireless Pressure Sensor

TECHNICAL SPECIFICATIONS

Operating Temp: -40 to +176°F (-40°C to 80°C)

Humidity: 0% – 100% condensing

Power: "D" Cell Lithium battery pack. Field replaceable. Class 1 Division 1 certified when used with SignalFire system. Optional Class1 Division 1 solar/battery module.

Battery Life: 1–10+ years depending on reporting frequency *Battery Life Example: 5-second pressure sample interval with a 1-minute reporting interval = 6.5 years.*

Data Interface: Wireless – available as Modbus registers at Gateway

Report by Exception: Configurable alarm pressure thresholds, pressure sample rate 5 seconds minimum.

Data Update Rates: User-selectable. 5 seconds to 1 hour, typical.

Radio Power: 40 mW

Receive Sensitivity: -109 dB

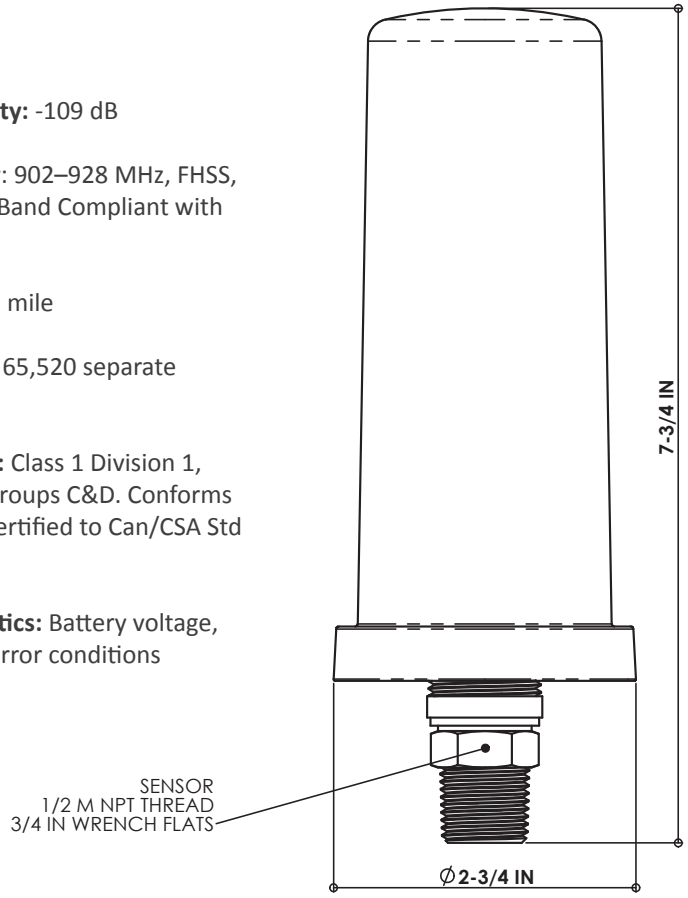
Radio Frequency: 902–928 MHz, FHSS, license-free ISM Band Compliant with FCC Part 15

Range: Up to 1/2 mile

Networks: Up to 65,520 separate networks

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

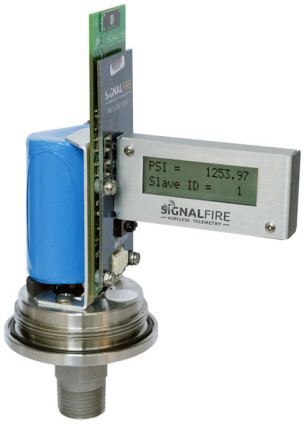
Internal Diagnostics: Battery voltage, signal strength, error conditions



OPTIONAL FIELD CALIBRATION DISPLAY

Simply open the Scout cover and plug this display into the configuration port. The display will show the following information:

- Current pressure reading in PSI
- Modbus Slave ID
- Radio connection status and RF signal strength
- Battery voltage



SIGNALFIRE
WIRELESS TELEMETRY

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

FLOAT SCOUT

Intrinsically Safe Wireless Tank Level Monitoring

RUGGED OIL FIELD PROVEN

COMPLETE WIRELESS TANK LEVEL MONITORING SOLUTION

WIRELESS CONFIGURATION

DESCRIPTION

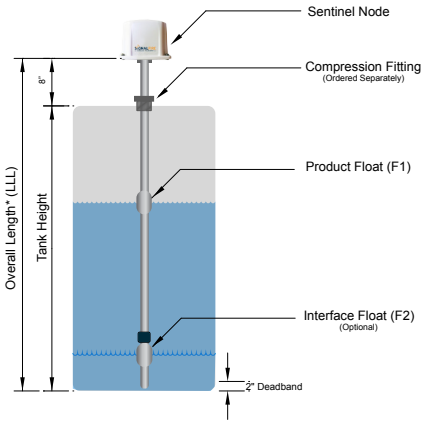
The SignalFire Float Scout consists of a magnetostrictive level probe mated with a Sentinel wireless node which creates a wireless link between the sensor and the Gateway. The Sentinel will take level and temperature readings, and send the data (via the SignalFire wireless mesh network) to the Gateway where the data is available via a Modbus RTU or TCP interface. The system is powered by internal lithium batteries or optional C1D1 rated solar package. Sensor data along with node-diagnostic information is available at the Gateway.

FEATURES

- Available with flexible or rigid magnetostrictive level probe with single or dual floats for level and interface measurements
- Integrated temperature sensor to measure fluid temperature
- Class 1 Division 1 intrinsically safe
- Rugged design for demanding outdoor environments
- Up to 1/2 mile range
- 1” NPT mounting interface
- Automatically configures as a star or mesh network

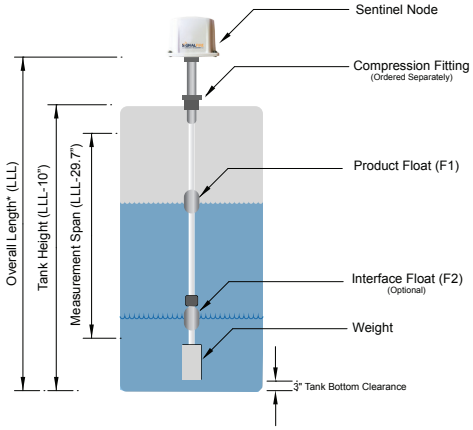
RIGID FLOAT SCOUT

Intrinsically safe wireless tank level monitoring



FLEXIBLE FLOAT SCOUT

Intrinsically safe wireless tank level monitoring



SIGNALFIRE
WIRELESS TELEMETRY

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

FLOAT SCOUT

Intrinsically Safe Wireless Tank Level Monitoring

TECHNICAL SPECIFICATIONS

Operating Temp
-40ºC to 60ºC

Power
3 X D Lithium battery pack. Field replaceable. Class 1 Division 1 certified.

Battery Life
1 min. check-in: 5+ years,
5 min. check-in: 10+ years

Data Interface
Wireless - Modbus data available at GW

Reported Values
Product level, interface level, temperature, status.

Data Update Rate
User selectable - 5 seconds to 1 hour

Radio Power
40 mW

Antenna Type
Internal weather resistant, omnidirectional.

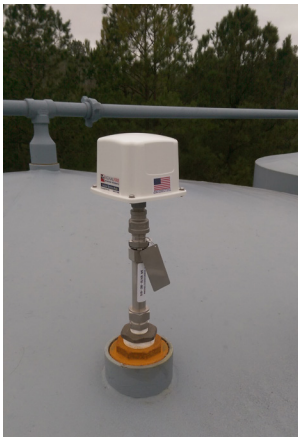
Receive Sensitivity
-109 dB

Frequency
902-928 MHz, FHSS license-free ISM band, FCC part 15 compliant.

Range
Up to 1/2 mile

Networks
Up to 65520 separate network

Diagnostics
Battery voltage, signal strength, error conditions, Faults



LEVEL PROBE

Measurement resolution
0.0001”

Repeatability
Equal to Resolution

Linearity
± 0.01% of span or ± 0.039”, whichever is greater.

Material
Flexible: PVDF. Rigid: 316 Stainless

Dead Band
Flexible: 6”-17” depending on sensor length.
Rigid: 2”

Length
Flexible: 65” to 600”. Rigid: 20” to 288”.
Available in 1” increments

SIGNALFIRE
WIRELESS TELEMETRY

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

TILT SCOUT

Intrinsically Safe Wireless Inclinometer Sensor

PATENT PENDING HATCH DETECTION MODE

EASY TO INSTALL/MAGNETIC MOUNTING

THIEF HATCH MONITORING

PUMP JACK MOTION MONITORING

LOCAL ZEROING AND LED STATUS

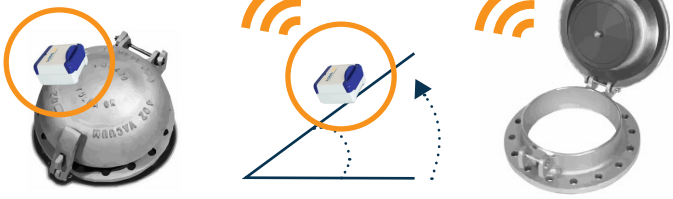
CERTIFIED FOR HAZARDOUS LOCATIONS

DESCRIPTION

The Tilt Scout is a wireless solid state inclinometer that measures an angle from horizontal with two modes: Hatch detection and Pump Jack detection. The Hatch detection mode enables monitoring of the opening condition (closed, cracked open, opened) of a hatch for environmental and safety concerns. The Pump Jack detection mode detects and reports if it is operating or moving. The Tilt Scout can also be applied to a variety of other applications where there's a need to detect an angle from horizontal.

FEATURES

- 3 Axis Accelerometer constantly monitors angle and reports status. Will report on state change.
- Hazardous Location Certified – Class 1 Division 1
- Rugged design for outdoor environments
- Magnetic mounting or with built-in installation holes
- Pushbutton zeroing
- Long battery life (greater than 5 years)
- Up to ½ mile range
- Built-in 900mHz radio and antenna
- Operates as a standard wireless node in the SignalFire network



BENEFITS

- Environmental and safety compliance
- Maintenance free non contact sensing
- Fast installation and setup. No tools required
- SignalFire wireless radio sends status to the Gateway
- Modbus or digital output alarming at Gateway available

What is a solid state accelerometer:

A semi-conductor capable of detecting the effects of gravity and acceleration. We use the same sensor included in most modern phones to detect its orientation.

SIGNALFIRE
WIRELESS TELEMETRY

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

TILT SCOUT

Intrinsically Safe Wireless Inclinometer Sensor (patent pending)

TECHNICAL SPECIFICATIONS

Operating Temp: -40 to +176°F (-40°C to 80°C)

Humidity: NEMA 4X Enclosure

Resolution: <0.1 degree

Power: Internal battery pack. Field replaceable.

Battery Life: Greater than 5 years

Data Interface: Wireless – available as Modbus registers at Gateway

Reporting: Will report every 10 minutes or immediately after a state change.

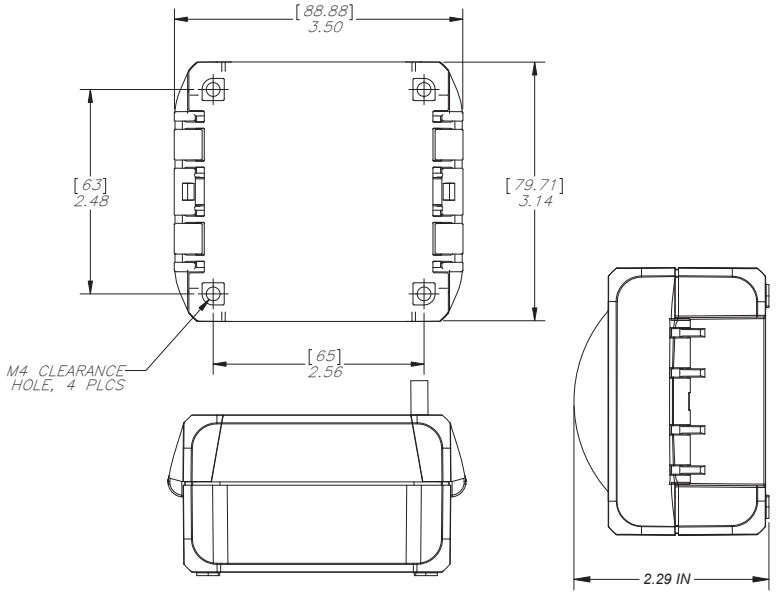
Radio Specifications:

- **Power:** 40 mW
- **Receive Sensitivity:** -109 dB
- **Encryption:** AES 128 bit
- **Frequency**: 902–928 MHz, FHSS, license-free ISM Band Compliant with FCC Part 15

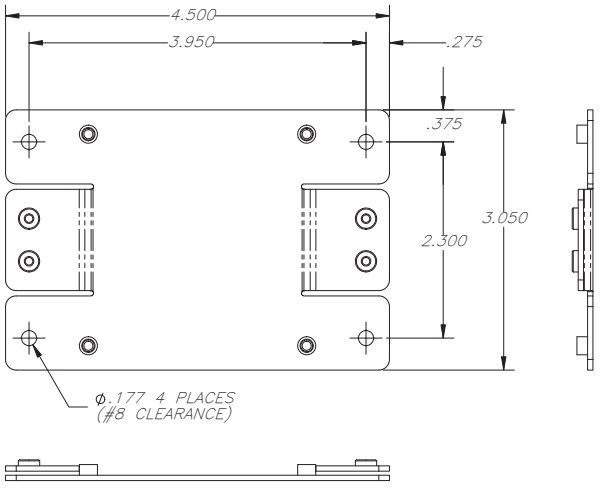
Range: Up to 1/2 mile

Intrinsically Safe: Hazardous Location Certified – Class 1 Division 1 is Temp Code T3, Groups C&D. Conforms to UL Std. 913, Certified to Can/CSA Std C22.2 No. 157

Internal Diagnostics: Battery voltage, signal strength, error conditions



BUILT-IN INSTALLATION HOLES AND OPTIONAL MAGNETIC MOUNTING BRACKET



SIGNALFIRE WIRELESS REMOTE SENSING SYSTEM™

The SignalFire system is a robust, authenticated, secure mesh network designed to give asset managers access to valuable process data. Easy to install and sensor-agnostic, it can interface with many sensor types such as flow, level, pressure, and temperature, and can control devices such as pumps, valves, heaters, fans, and lighting.

SIGNALFIRE
WIRELESS TELEMETRY

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

LINK SCOUT

HART to Wireless Adapter

WIRELESS CONNECTIVITY TO HART INSTRUMENTS

CLASS1 DIV 1 RATED (PENDING) FOR HAZARDOUS LOCATIONS

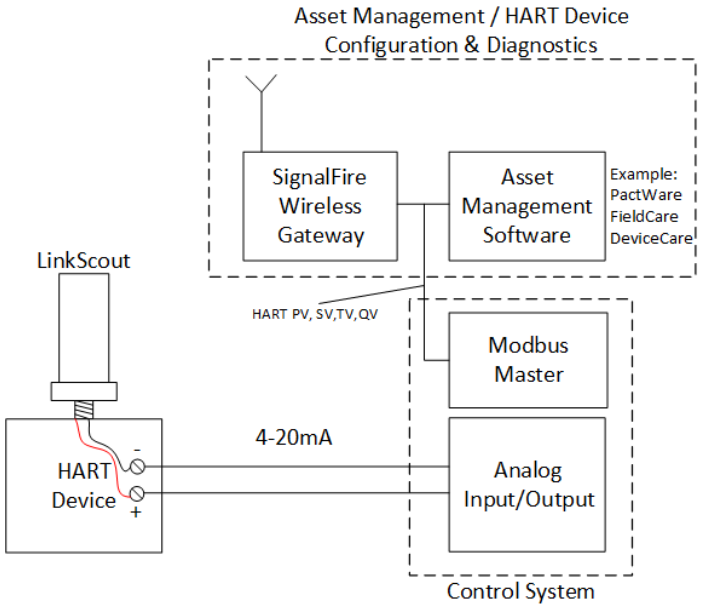
NO IMPACT ON THE 4-20MA LOOP RELIABILITY

CONNECTIVITY WITH ASSET MANAGEMENT SOFTWARE

FEATURES

- Long wireless distance of 2640ft (800m)
- Supports four (4) HART® instruments in multi-drop mode
- Can be installed on a live instrument while in service
- Excellent battery life
- Transmits to gateway as Modbus registers HART PV, SV, TV, QV & HART diagnostic flag
- Tunnels all HART data to software like PactWare, DeviceCare, FieldCare
- 1/2” NPT male connection with potted wiring

SETUP DIAGRAM



PRODUCT OVERVIEW

The Link Scout is a wireless adapter for loop powered 4-20mA HART instruments allowing HART connectivity with asset management software like PactWare, FieldCare, DeviceCare and most FDT based software. The Link Scout is powered from an internal intrinsically safe battery and wired in parallel to not interfere with the existing 4-20mA loop. It will poll the HART instrument for its dynamic variables and alarm status to then transmit to the SignalFire gateway as Modbus registers. The Link Scout tunnels also all the HART traffic to an asset management software allowing full configuration, calibration and troubleshooting using the manufacturers DTM software.

SIGNALFIRE
WIRELESS TELEMETRY

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

LINK SCOUT

HART to Wireless Adapter

TECHNICAL SPECIFICATIONS

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

Humidity: 0% – 100% condensing

Power: One (1) 3.6Vdc D side size Lithium Thionyl Chloride battery

Output: 900Mhz - SignalFire protocol with HART passthrough

HART Support:
1 device in point-to-point
4 devices in multi-drop
HART PV, SV, TV, QV & Status
All parameters available from asset management software using SignalFire Virtual Com Port

Battery Life:
1 HART device:
- 5 sec update rate: 1.1 years
- 15 sec update rate: 2.8 years
- 60 sec update rate: 8.3 years
- 2 min update rate: 10+ years

Radio Power: 40 mW

Antenna Type: Integrated

Receive Sensitivity: -109 dB

Radio Frequency: 900 MHz

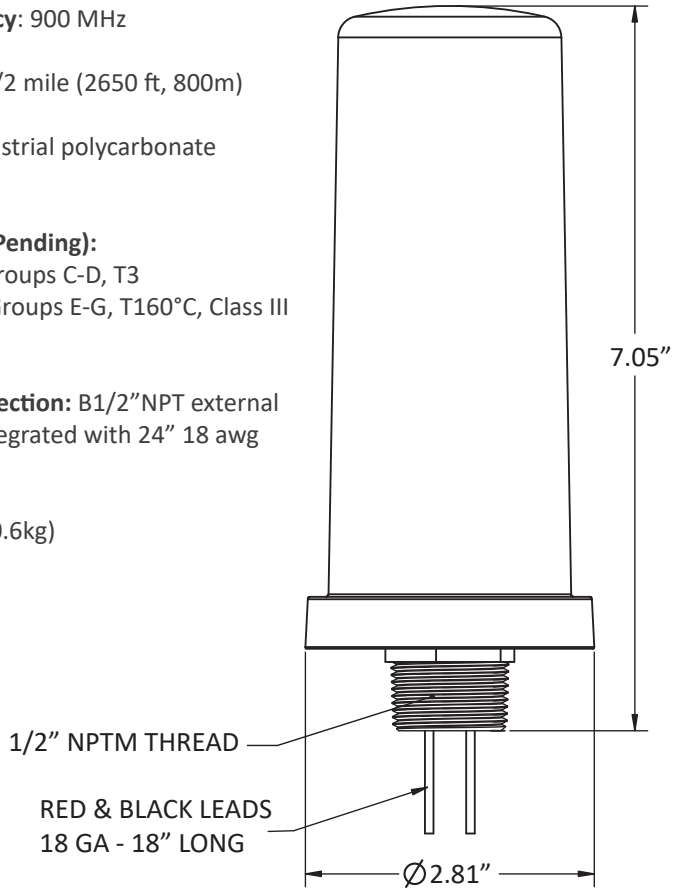
Range: Up to 1/2 mile (2650 ft, 800m)

Enclosure: Industrial polycarbonate UV Rated; IP64

Safety Rating (Pending):
Class I, Div 1, Groups C-D, T3
Class II, Div 1, Groups E-G, T160°C, Class III
Ex ia IIB T3 Ga

Electrical Connection: B1/2”NPT external connection; integrated with 24” 18 awg potted wires

Weight: 1 lbs (0.6kg)



HOW TO ORDER

Model: LinkScout-1BIS-HART

SIGNALFIRE
WIRELESS TELEMETRY

ModQ SENTRY

C1D2 Non-Incendive Modbus Flow Totalizer

ENHANCE EXISTING TURBINE METERS WITH DIGITAL READOUT & MODBUS CONNECTIVITY

QUICK SETUP FROM LOCAL LCD AND PUSH BUTTONS

BATTERY POWERED FOR STANDALONE OPERATIONS

DAILY MANAGEMENT FOR FLOW & TOTALS

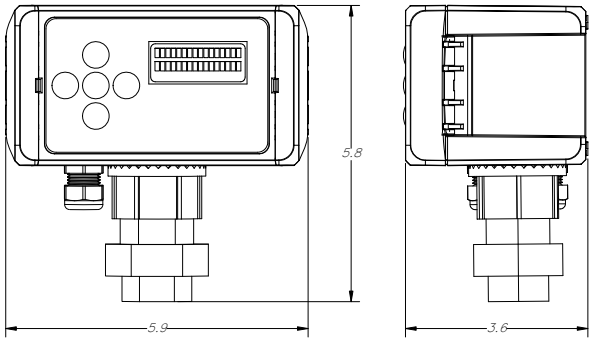
FEATURES

- Local display with, flow rate, totalizer and modbus settings
- Integrates with industry standard turbine meters
- Hazardous location classified for Class1 Div2 Non-Incendive (pending)
- Local pushbuttons for configuration
- Modbus serial (RS485) output to integrate with PLC/SCADA/DCS
- Externally and/or battery powered with auto switch over
- Real-Time-Clock with battery backup
- 1” female NPT standard swivel coupling with 2 pin connector inductive type turbine meters
- Configurable contract hour with real-time clock & battery backup
- 32 day built-in local data historian/backup storage
- Settable K Factor from local interface
- Weathertight rugged enclosure for outdoor operation
- Easy to install and maintain
- Configurable volume and time units

INDUSTRIES

- Oil and Gas
- Water & Wastewater
- Gas Utility
- Chemical
- Power
- Food & Beverage
- Aerospace
- Pharmaceutical
- Metals and Mining
- Pulp & Paper

DIMENSIONAL DRAWING



ELECTRICAL CONNECTIONS

SIGNALFIRE
WIRELESS TELEMETRY

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

ModQ SENTRY

C1D2 Non-Incendive Modbus Flow Totalizer

TECHNICAL SPECIFICATIONS

Operating Temp
-40ºC to 80ºC (-40°F to 176°F)

LCD Display:
-20ºC to 70ºC (-4°F to 158°F)

Input
Magnetic pickup, pulsed input

Sensitivity selector for magnetic pickup
2kHz response high gain mode (5mV sensitivity)
4kHz response low gain mode (20mV sensitivity)

Dry contact pulsed input

LCD & Pushbuttons
32 character display with pushbuttons

Settable K factor, contract hour, etc.

Displays totals, flow rate, and status information

Output
Modbus RTU RS485 serial 2 wires
Pulse output (open collector/pull down)

Real Time Clock
Battery backed up real time clock with coin size battery model 2032

Mechanical Specifications
Connection Fitting:
316SS, 1" NPT Swivel Union
Mating union for direct mount to turbine meter

Enclosure:
High strength & flame retardant Polycarbonate

Magnetic pickup connector:
Standard 2-pin circular connector

Humidity
0% – 100% condensing

Power
Battery: "D" cell lithium battery
Field replaceable Class 1 Div 2
OR
External: 6-36Vdc, 1mA current draw

Battery Life
(standalone operations w/o Modbus)
LCD ON: 4 years
LCD OFF: 6.5 years

Modbus Mapping
Flow totals (today, yesterday, 32 day log)

Instantaneous flow rate

Weight
2lbs (0.9kg) - Without a turbine

Non-Incendive Approval (pending)
Class 1 Division 2, Temp Code T3, Groups C&D. Conforms to UL Std. 913, Certified to Can/CSA Std C22.2 No. 157

Internal Diagnostics
Battery voltage, error conditions

2 Pin Military Connector

STANDARD CONFIGURATION ORDER CODES

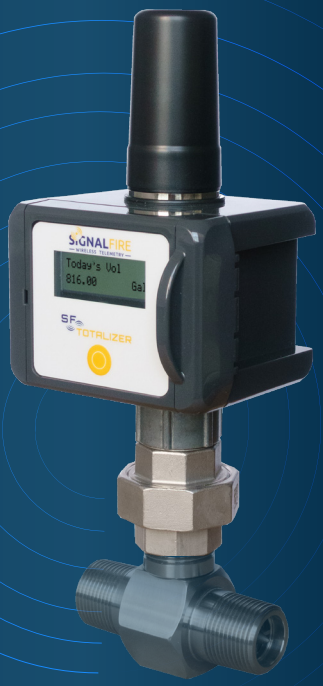
ORDER CODE	DESCRIPTION
ModQ-1BIS-CABLE:	Modbus flow meter with battery, 2 pin connector, RS485 serial & pulse output

SIGNALFIRE
WIRELESS TELEMETRY

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

FLOW TOTALIZER WITH DISPLAY

C1D1 Intrinsically Safe Wireless Flow Totalizer



ENHANCE EXISTING TURBINE METERS WITH DIGITAL READOUT & WIRELESS CONNECTIVITY

BEST OVERALL TOTAL COST OF OWNERSHIP

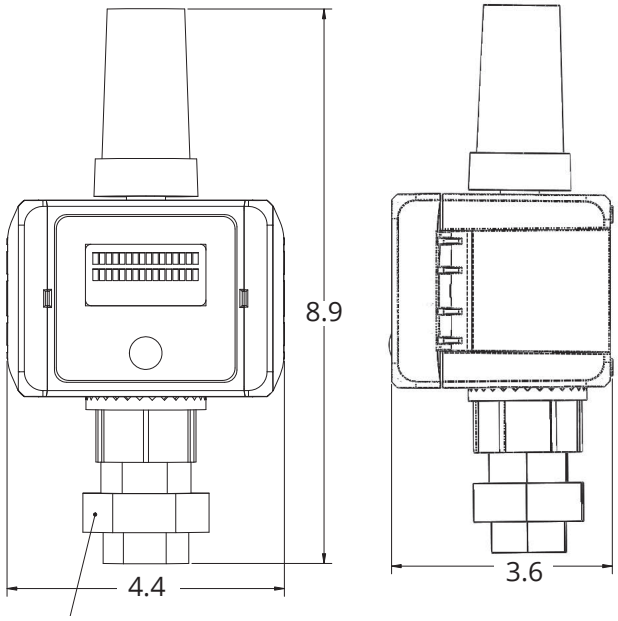
ROBUST AND RELIABLE OPERATIONS IN INDUSTRIAL APPLICATIONS

DAILY MANAGEMENT FOR FLOW & TOTALS

FEATURES

- Local display with, flow rate, totalizer and diagnostics
- Integrates with industry standard turbine meters
- Hazardous location classified for CL1 DIV1 Intrinsically Safe
- Robust 900mHz authenticated wireless protocol
- 0.5 mile range
- Battery powered electronically optimized for long life (5 years+)
- Real-Time-Clock with battery backup
- 1” female NPT standard coupling with 2 pin connector inductive type turbine meters
- Configurable contract hour with real-time clock & battery backup
- 30 day built-in local data historian/backup storage
- Wireless data interface to SignalFire’s standard protocol
- Weathertight rugged enclosure for outdoor operation
- Easy to install and maintain

DIMENSIONAL DRAWING



1” NPT Female Thread Union Coupling STD 2-PIN Pickup Connector Included

INDUSTRIES

- Oil and Gas
- Water & Wastewater
- Gas Utility
- Chemical
- Power
- Food & Beverage
- Aerospace
- Pharmaceutical
- Metals and Mining
- Pulp & Paper

SIGNALFIRE WIRELESS TELEMETRY

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

FLOW TOTALIZER WITH DISPLAY

C1D1 Intrinsically Safe Wireless Flow Totalizer

TECHNICAL SPECIFICATIONS

Operating Temp
-40ºC to 80ºC (-40°F to 176°F)

LCD Display:
-20ºC to 70ºC (-4°F to 158°F)

Input
Magnetic pickup
4 KHz Maximum Frequency
20 mV Minimum amplitude

LCD Display
32 character display with push button activation

Displays totals, flow rate, and status information

Security
AES 128bit Encryption

Real Time Clock
Battery backed up real time clock

Mechanical Specifications

Connection Fitting:
316SS, 1" NPT Mating Union for direct mount to turbine meter

Enclosure:
High Strength Polycarbonate

Magnetic Pickup connector:
Standard 2-pin circular connector

Humidity
0% – 100% condensing

Power
"D" Cell Lithium battery pack. Field replaceable Class 1 Div 1.

Battery Life
$7^{1/2}$ years of battery life at 5 minute check-in

Data Interface
Wireless – Data and Diagnostics available as Modbus registers at GW

Radio Power
40 mW

Receive Sensitivity
-109 dB

Radio Frequency
902-928 ISM FHSS, FCC part 15 Compliant

Range
1/2 mile

Intrinsically Safe
Class 1 Division 1, Temp Code T3, Groups C&D. Conforms to UL Std. 913, Certified to Can/CSA Std C22.2 No. 157

Internal Diagnostics
Battery voltage, signal strength, error conditions

STANDARD CONFIGURATION ORDER CODES

ORDER CODE
SFTotalizer-1BIS

SIGNALFIRE WIRELESS TELEMETRY

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

POWERPAK

On-Demand Power Source for Field Instrumentation

INDUSTRIAL BATTERY-POWERED POWER SUPPLY

SMALL FACTOR THAT SCREWS INTO INSTRUMENT

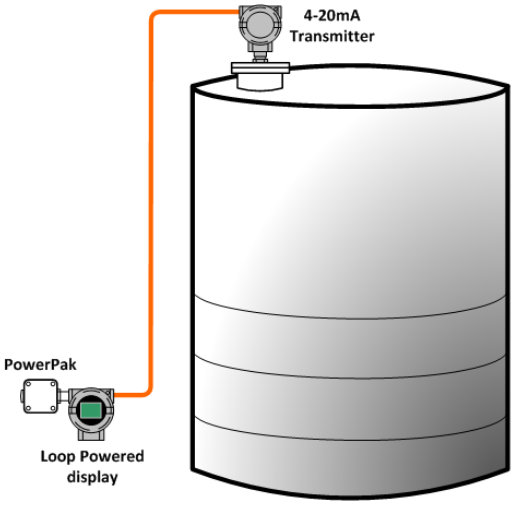
CLASS 1 DIVISION 1 CERTIFIED (PENDING)

NO SOFTWARE REQUIRED TO SETUP

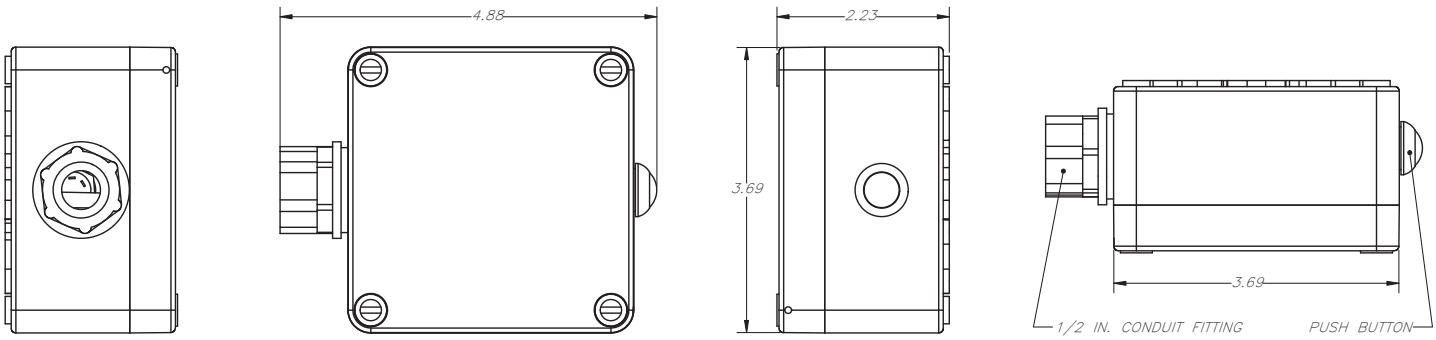
FEATURES

- External on-demand push-for-power button
- Class 1 Division 1 certified for hazardous locations (pending)
- Industrial enclosure for outdoor use
- Settable on-time power with dip switches
- Powers 4-20mA field devices and loop-powered external display
- Replaceable battery easily replaceable
- Long battery life (350 hours @ 4mA)

TYPICAL APPLICATION



DIMENSIONS



SIGNALFIRE
WIRELESS TELEMETRY

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

POWERPAK

On-Demand Power Source for Field Instrumentation

TECHNICAL SPECIFICATIONS

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

Humidity
0% to 100% condensing

Power
One (1) 3.6Vdc D side size Lithium Thionyl Chloride battery

Output
18.9Vdc @ 4mA
15.7Vdc @ 20mA
See chart below

Settable On Time
Field selectable from dip switches:
1 min, 2 min, 5 min, 10 min, Always On
No software required

Battery Life
- 350 hours @ 4mA
- 100 hours @ 12mA
- 50 hours @ 20mA

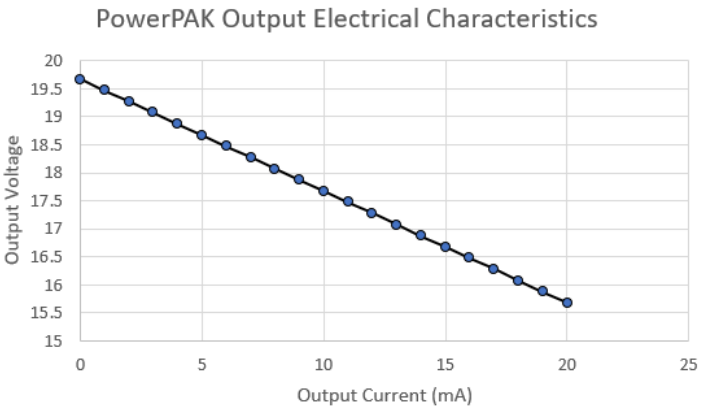
Safety Rating (Pending)
Class I, Division 1, Groups C-D, T3
Class I Zone 0 AEx ia IIB T3 Ga
Ex ia IIB T3 Ga; –40°C ≤ Tamb ≤ +50°C

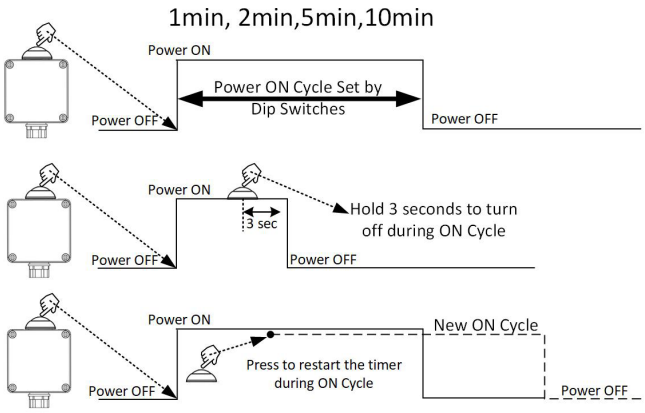
Enclosure
IP64 Industrial polycarbonate
UV rated

Electrical Connections
1/2" NPT external connection
16 awg internal screwed terminals

Weight
1lb (0.6kg)

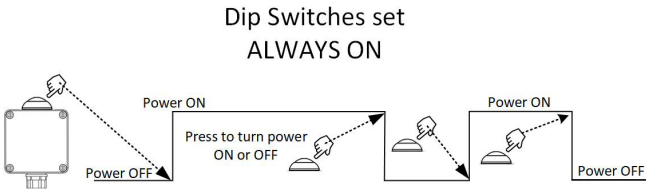
Dimensions
4.9" x 3.7" x 2.2"
12.4cm x 9.1cm x 5.7cm





HOW TO ORDER

Model:
PowerPak-1BIS



SIGNALFIRE
WIRELESS TELEMETRY

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

FIELD MONITOR

Provides in-field access to any gateway data without the need for a laptop computer or other I/O visual device.

IN-FIELD READOUT OF ANY GATEWAY DATA

BATTERY POWERED DISPLAY

PERFECT FOR LOCAL DISPLAY OF TANK LEVELS OR OTHER FIELD DATA

FEATURES

- Local display of data from network sensors
  - Math functions for tank volume calculations
  - Feet and inch conversion
  - Multiple pages
- Rugged design for demanding outdoor environments
- Up to 3+ mile range
- Simple to install, maintain and can also act as the Gateway for display only applications.

STANDARD CONFIGURATION ORDER CODES

ORDER CODE	DESCRIPTION
Field Monitor	Field Monitor, Battery Powered, Sleeping Client Node
Field Monitor-GW -Solar	Field Monitor, IQ4XLD Solar Powered, Gateway
Field Monitor-GW-IQ	Field Monitor, With IQ Smart Battery, Gateway. For external 10-30V power

TECHNICAL SPECIFICATIONS

Operating Temp
-40°C to 70°C

Humidity
0% – 100% condensing

Power
3 X D Lithium battery pack. Field replaceable.

Battery Life
2–5 years depending on update rate

Data Interface
SignalFire toolkit configuration utility

Radio Power
300 mW

Antenna Type
External weather resistant, omnidirectional

Antenna Gain
5 dB

Receive Sensitivity
-105 dB

Frequency
902-928 MHZ, license-free ISM band compliant with FCC Part 15

Range
Up to 3+ miles (line of sight)

Networks
Up to 65,520 separate networks

Enclosure
NEMA 4X rated

Internal Diagnostics
Battery voltage, signal strength, error conditions

Display
High contrast 13x26 character Monochrome LCD

SIGNALFIRE
WIRELESS TELEMETRY

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

ACCESSORIES

BATTERIES

3XD Replacement Battery Pack
For use with the A2 and HART® battery powered systems.

Intrinsically Safe Replacement Battery Pack
For use with the C1D1 Hazardous Area Multiple Input Module.

Solar Battery Power IQ Smart - Battery Pack
For use with the A2 and HART modules

ADAPTER CABLES

Configuration Cable
For use with the A2, HART®, Multi Input, and D2. Connectors from board-mounted 4-pin header to USB for code loads and configurations.

USB-to-Serial Adapater
Our recommendation for best plug-and-play performance with SignalFire products.

SIGNALFIRE
WIRELESS TELEMETRY

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

ACCESSORIES

NODE CHECKER

Node Checker

A setup and network-health tool — recommended for all installers

- Queries the status of any network node
- Provides signal information
- Available for wireless PACTware support to HART® sensors.

SIGNALFIRE CONFIGURATION AND DIAGNOSTIC TOOLKIT

The SignalFire ToolKit is a free, easy to use PC application for configuration and diagnostics for all SignalFire products.

- Configures all settings in nodes and Gateway
- NodeChecker utility interfaces with NodeChecker hardware module to get detailed information about network performance and node data
- Diagnostics and troubleshooting information built into node-configuration window
- Automatically updates itself on startup and downloads latest node firmware versions
- Loads firmware into all nodes and prompts user to push updates when local disk has a newer version than the currently connected node
- Downloads and displays current configuration data from node

SOLAR POWERED REPEATER

- Automatically configures as part of the SignalFire mesh network
- Forwards messages from all SignalFire nodes
- 300mW radio with high gain antenna
- Range up to 3 miles
- Internal rechargeable battery pack with integrated high efficiency solar charger
- Solar panel and all mounting hardware/brackets included
- Rugged design for demanding outdoor industrial environments
- Simple to install and maintain

SIGNALFIRE
WIRELESS TELEMETRY

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

SignalFire Wireless Telemetry
140 Locke Drive, Suite B
Marlborough, MA 01752
978.212.2868
www.signal-fire.com