ABB

WellTell – IS
Wireless communication

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Overview

The WellTell-IS client is an intrinsically safe barrier with integrated wireless capabilities and on-board battery charger. The device communicates with the WellTell-X host at an RTU or flow computer to eliminate wired connections at the wellsite. Depending on the distances and other conditions at the wellsite, it can be much more cost effective to connect remote devices with wireless technology than with wired solutions. Wireless solutions can also be installed immediately. Trenching often requires dig permits and subcontractors which take more time to schedule and get your system up and running.
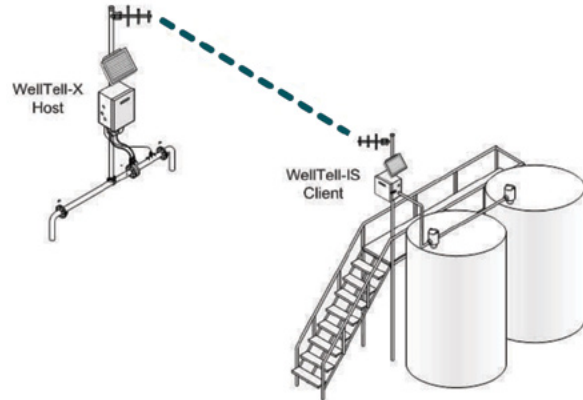
Typical applications

- LevelMaster tank level sensing
- NGC 8200 series chromatographs
- XMVs
- Variable frequency drives
- Motor starters
- Any serial data protocol transmitted over RS-485 connection

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Description

WellTell-IS wireless client can be mounted at the top of your tanks in a Class 1, Division 2 area. The client device can communicate up to a half mile depending on the antennas and other installation conditions.

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Features

- Ultra-low powered for long life and lower-cost batteries and solar panels
- Easy to install
  - setup just like a wired connection in Totalflow software
- Self-diagnosis
  - communication problems are monitored and reported on LCD display
- Built-in battery charger
- Configurable power management
  - can be setup to power down when not needed to minimize power consumption (i.e. no host detected, disconnects electrical load on barrier)
- Battery protection logic
  - disconnects the battery to prevent permanent battery damage
- Easy to maintain
  - in the unlikely event that the devices are damaged, the connection and devices are easy to troubleshoot and repair vs a buried cable

Example tank level application

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Simple wireline replacement

Wired connections can be replaced in 3 steps:

1. Connect the remote sensor(s) to the WellTell-IS client barrier.
2. Connect the WellTell-X server to the RS-485 port on your flow computer or RTU.
3. Setup the communications parameters in PCCU software from Totalflow

Additional configuration software is also provided for setting more advanced parameters of the wireless cards to minimize interference.

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General specifications

WellTell-IS client specifications

Dimensions
6.02 x 7.99 x 1.26 in (153 x 203 x 32 mm)

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

Power consumption without barrier load (idle or Tx/Rx)
163 mW receive (13.6 mA @ 12V)
630 mW transmit (53 mA @ 12V)

Supply voltage
11 to 16 V

Intrinsically safe channels
up to 4

Serial data rate
1200 to 115,200 bps (std baud rates)

WellTell-IS client wireless capabilities

RF data transmission rate
76.8 Kbps

Frequency hopping channels
16 @ 26 hops/sec
32 @ 50 hops/sec

Frequency board
902 to 928 MHz

Output power of radio
100 mW

Output power with 3 dB antenna
200 mW

RF range
1/2 mile max

Recommended antenna
6 dB Yagi

WellTell-X host specifications

Board dimensions
2.6 x 5.04 x 1.06 in (66 x 128 x 27 mm)

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

Power consumption
180 mW receive
630 mW transmit

Supply voltage
11 to 16 V

Communications interface
RS-485

Maximum IS clients
100

WellTell-X host wireless capabilities

RF data transmission rate
76.8 Kbps
Frequency hopping channels
48

Frequency board
902 to 928 MHz

Output power of radio
100 mW

RF range
1/2 mile max

Recommended antenna
6 dB Omni

WTW6450 specifications

Dimensions
Width 12.756 in. (324.00 mm)
Height 17.825 in. (452.76 mm)
Depth 10.269 in. (260.83 mm)

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