
ABB MEASUREMENT & ANALYTICS | DATA SHEET

WellTell – IO

Wireless communication



Overview

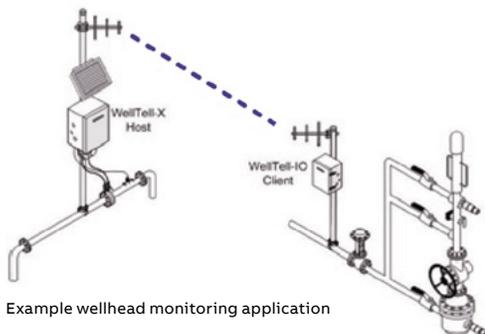
The WellTell-IO client is a quick and easy way of connecting remote I/O signals to an RTU or Flow Computer. It looks just like a wire to Totalflow systems – but without the cabling, trenching, environmental impact, and other headaches associated with wireline. And by eliminating the lightning path, you can prevent damage to connected equipment.

Typical applications

- Tubing and casing pressure monitor
- Pump and plunger control
- Liquid turbine meter monitor
- Compressor monitor

Features

- Extensive input/output capabilities:
 - 4 analog Inputs
 - 2 RTD Inputs
 - 4 digital inputs or 4 digital outputs
 - 1 analog output
- Configurable polling rates for lower power consumption and less data overload
- Built-in battery charger
- Battery protection logic
 - disconnects the battery to prevent permanent battery damage
- 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
- On-device diagnostics
 - communication problems are monitored and reported on LCD display
- 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
- Configuration software included for troubleshooting and optimizing communications performance



Example wellhead monitoring application

Wired connections can be replaced in 3 steps:

1. Install and wire the I/O client (or multiple clients) at locations up to a 1/2 mile (0.8 km) away from an RTU.
2. At the RTU, connect the WellTell-X host to a communications port.
3. Create the wireless application in PCCU software from Totalflow or map the modbus registers to other RTUs.

The wireless data is automatically available in the RTU and can be setup in PCCU software as shown.



I/O setup in PCCU software

General specifications

Certification

Class I, division 2, groups C and D
Host with mounting bracket

WellTell-IO client specifications

Board dimensions (w x h x d)

6.02 x 7.99 x 1.46 in (153 x 203 x 37 mm)

Power consumption (without I/O load)

360 mW receive (30 mA at 12V)
800 mW transmit (67 mA at 12V)

Serial communications protocol

Modbus ASCII or Totalflow RTU

Minimum scan rate 1 sec:

1 to 3 clients
2 secs: 4 to 7 clients
3 secs: 8 to 11 clients
4 secs: 12 to 15 clients

Analog input: 4 channels

0-10VDC or 4-20 mA, software selectable. 15 bit resolution

Digital input / pulse input: 4 channels

Dry contact or voltage input
Maximum input voltage:
-0.5 VDC to 26.5 VDC
Maximum input frequency:
10 kHz - Ch 1-2; 400 Hz - Ch3-4 (50% duty cycle)

Digital output: 4 channels

(available if not used as digital in)

Open drain FET

Maximum continuous current: 2 A at 24 VDC

RTDs: 2 channelsRange: -200 to 850 C (-328 to 1562 F) $\pm 0.25^{\circ}\text{C}$ ($\pm .5^{\circ}\text{F}$)Designed for 4 wire 100 Ohm Platinum RTD probes with TC of $0.00385 \Omega/\Omega/^{\circ}\text{C}$ **Analog output: 1 channel**

Configured to either sink or source 4-20mA signal using either an internal or external power source. 12 bit resolution.

Enclosure dimensions (w x h x d)

WTW6453:

12.756 x 17.825 x 10.269 in. (324.00 x 452.76 x 260.83 mm)

WTW6753:

14.920 x 21.845 x 13.710 in. (379.53 x 554.86 x 348.23 mm)

WellTell-X host specifications**Board dimensions**

2.6 x 5.04 x 1.46 in (66 x 128 x 37 mm)

Operating temperature

-40° to 140° F (-40° to 60° C)

Power consumption

180 mW Receive (15 mA at 12V)

630 mW Transmit (53 mA at 12V)

Supply voltage

11 to 16 V

Communications interface

RS-485

Recommended antenna

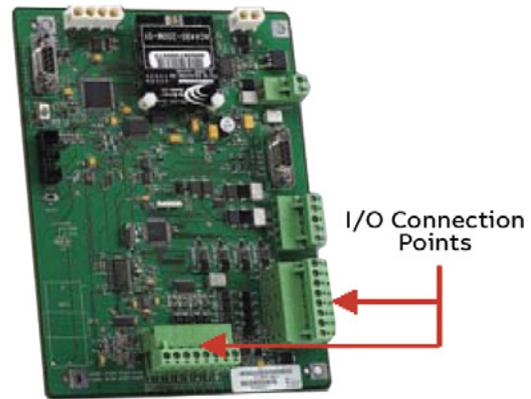
6 dB Omni

Maximum number of clients per host

20

Mounting bracket compatibility

6400 or 6700 enclosures with optional FreeWave or GE MDS radios



I/O client

Wireless capabilities (client & host)**RF data transmission rate**

76.8 Kbps

Frequency hopping channels

16 at 26 hops/sec

32 at 50 hops/sec

Frequency band

902-928 MHz

Output power of radio

100 mW

Output power with 3 dB antenna

200 mW

RF range

1/2 mile max



Host with mounting bracket



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