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

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.

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 ASCll 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 channels  
Range: -200 to 850 °C (-328 to 1562 °F) ± 0.25°C (± .5°F)  
Designed for 4 wire 100 Ohm Platinum RTD probes with TC of 0.00385 Ω/Ω/°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)

Suppy 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

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