

## Description

The WITS standard (Wellsite Information Transfer Specification) is arguably the most popular data exchange protocol being adopted by companies in the oil and gas industry having systems that require sharing and gathering data onsite. The drilling contractor, mud logging, MWD, cementing, geo-steering, subsea, etc. - everyone is now expected to have the ability to transmit and receive WITS.

The S2-WITS sensor to WITS converter is the most rapid path for any company to establish create a system that is capable of making their sensor signals available as meaningful shareable information, which in turn becomes readily usable by most other systems at the wellsite or even at the test facility or laboratory. An added benefit of converting to WITS than sharing data by parallel or serial electronic interconnection of signals is that the integrity of the signal is protected even if data is shared to an unlimited number of systems.



INFORMATION SHEET

## Specifications

### Model Series

S2-WITS

### Application

Conversion of sensor (analog or digital) signals to parameter-based WITS Level 0 information

### Implementation

Electronic signals are acquired through A/D onboard converters of the firmware and through special software, data is converted to appropriate WITS format, organized either according to WITS-compliant records or customer-specific WITS items.

### Input Capacity

11 Signal Channels (Analog and/or Rate) <sup>4</sup>  
24 Digital Channels

### Precision

12-bit (translates to 0.0048 volts or 0.008 mA)

### Power Requirement

110-240 VAC, < 5VA Consumption  
Or  
24VDC, < 4W Consumption

### Outputs

WITS Level 0 by Serial (RS-232)  
WITS Level 0 by TCP/IP  
(WITS stream frequency 0.5 Hz by default)  
4 Analog Channels 0-10 VDC  
(assignable to any parameter)  
16 Digital Channels

### Weight

< 2 kg (4.4 lbs) for basic system <sup>1</sup>

### Permissible Humidity

Up to 98%

### Approvals / Certification

Typical setup:  
- WITS Transmitter: Safe Area  
- Sensor and barrier circuits are LS.-rated to Class I Div 1, up to Zone 0 <sup>5</sup>

## Features

- Field-installable – this means that signal noise typically associated with electrical/electronic transmissions are virtually eliminated as conversion is carried out nearer the sensor and before the signal-splitting stage of the circuitry.
- Typical customer-specific model categories:
  - S2-WITS-P /AC (or /DC): Pre-configured; customer specifies number of channels needed, WITS item number for each parameter, and calibration tables, and the S2-WITS equipment requires no user-intervention and will immediately measure signals and transmit WITS appropriately. <sup>2</sup>
  - S2-WITS-F/SA /AC (or /DC): Field-configurable Stand-alone; S2-WITS equipment comes with its own HMI (Human Machine Interface) and is user-configurable at any point in time during the operation. <sup>3</sup>
- By utilizing the S2-WITS system, data acquisition is effectively segregated with data recording, thus creating better modularity with separate signal measurement and data management subsystems. Among the advantages of this integrated system implementation is that the data recording computer becomes independent of incoming / outgoing data transmission, and thus less susceptible to virus infiltration and human errors.
- Scalable – cost-effective solution even if starting with only as few as 2 sensors or signal input

**NOTES:** **1** – basic system comprises of the power supply, firmware, connectivity connectors, signal output terminals; isolation barriers will likely be needed for intrinsically safe hazardous area sensors. **2** – the S2-WITS-P requires that sensors can be calibrated independent of the S2-WITS system. **3** – S2-WITS-F/SA has weatherproof protection (NEMA 4X) but only for safe area (i.e., unclassified) use because of the HMI (Human Machine Interface). **4** – The signal types selected by customer determine the type of signal isolators and converters to be used. **5** – Contact us for specific hazardous area requirements; components can be selected with appropriate certification type (e.g., FM, ATEX, IECEx, etc.)