Direct Smart Sensors

with Digital MODBUS RTU Output for pH, ORP and Dissolved Oxygen

TURTLE TOUGH®

Turtle Tough's range of Direct Smart Sensors (DSS) are equipped with an on-board microprocessor which is capable of processing measurement data and providing a feature rich digital MODBUS RTU output directly from the sensor. This enables the sensor to be directly interfaced with any MODBUS compatible data acquisition device, such as a PLC, RTU or data logger.

Direct connectivity eliminates the need to interface with a traditional intermediary controller or analyser and provides unprecedented communication and control directly with the sensor.

Process more than a dozen parameters with Direct Smart Sensors including:

- Measurement type
- Calibration data
- Raw and calibrated process values
- Max/min temperature
- Serial number

...as well as useful service information such as the number of days in use. These values can be intelligently integrated into your data acquisition system to achieve a very sophisticated level of analysis and control.

Why is this different?

Smart on-board data processing presents us with a number of unique advantages that are not possible with traditional sensor and transmitter configuration. This includes:

- The ability to interface directly to modern PLC controllers and data acquisition systems
  ‣ Utilise existing powerful architecture; or
  ‣ Utilise factory supplied custom programmed PLC's, Transmitters and Controllers
  ‣ Access data remotely through both wired and wireless networks

- The ability to eliminate the cost of a mating transmitter where a local display is not necessary

- Intelligent management of sensor calibrations and service life cycle
  ‣ Calibrate sensors offline in the field, laboratory or workshop
  ‣ Offset calibrations can be done remotely with the sensor left in service
  ‣ Accurately monitor service intervals and calibration history

- Turtle Tough intelligent Handheld Field Communicator provides easy-to-use portable connectivity for calibration and configuration of all Smart Sensors

- Quick connectors eliminate hard wiring and provide system wide plug and play compatibility to ALL interfacing components including: handheld field communicator, junction boxes, extension cables, transmitters and controllers.

- Smart digital sensors ensure reliable operation even in noisy process environments
  ‣ Supports cable runs of up to 1000m with no degradation in signal

- The Windows PC Software directly communicates with sensors for calibration, configuration, and data logging.

About the technology

Turtle Tough's DSS technology is supported with comprehensive documentation. Our software allows users to access all user adjustable parameters, analytic data, calibration functions as well as sending fully compensated high resolution process values. Sensor analytics enable operators to schedule proactive maintenance and provide accurate and timely information on the process.

The Modbus RTU protocol has been specifically chosen as it is an open standard that creates an open and collaborative environment for process automation and liquid analysis. This provides a level of connectivity and integration that is not possible with closed architectures and proprietary platforms that force vendor lock-in.
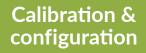
DSS Junction Box
For cable runs longer than 7.5m

Junction Boxes with Quick Connectors allow Smart Sensors to be easily connected to network devices up to 1000m away.

Quick Connect Plugs
Plug and Play connectivity for all Smart Sensors.

Handheld Field Communicator
For field calibration and configuration of Smart Sensors.

Provides a portable interface to your Smart Sensor. Calibrate, configure and retrieve vital information from your Smart Sensor. It also doubles as a portable display or meter.

Quick Connect Plugs

Provide instant connectivity to all DSS compatible devices and eliminate the need for hard wiring.

Connectivity

Calibration & configuration

Customer supplied controllers & data acquisition

Turtle Tough supplied controllers & data acquisition

DSS Interface Box
To connect to your PC

Smart Sensors can interface directly to your PC via our Windows Software. Calibrate, configure and data log directly from your PC.

DSS Explosion Proof Transmitter/Controller
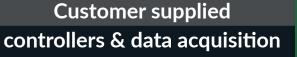**Connect up to 8 Smart sensors**

The explosion proof transmitter can accept 8 sensor inputs and provides a stunning super bright LED display, while outputting MODBUS RTU to your network.

Customer Supplied Controllers & Data Acquisition
PLC's, RTU's, Dataloggers etc.

Turtle Tough DSS technology allows end users to access configuration parameters, analytic data, calibration functions and values via the open standard MODBUS RTU protocol.

This enables customers to interface sensors with virtually any modern data acquisition device.

Turtle Tough DSS PLC Based Controller

This powerful PLC based controller with large touch screen HMI provides connectivity for up to 6 sensors. Our factory programmed user interface provides all the benefits of a local analyser; a detailed local display, auto calibration, analogue outputs, contact relays, digital outputs and data logging.