Dual Channel Analyser

Dissolved Oxygen - Suspended Solids - pH - ORP

Smart Sensors - Plug & Play Compatibility

The InsiteIG Dual Channel Analyser (**DCA**) is a unique system that combines advanced electronics with solid-state, smart sensors. The analyser will accept any combination of two standard DO, SS, pH, or ORP sensors and automatically configures for the correct operation. The system allows for flexible and economical process monitoring and control. The DO sensor does not need membranes, fill solutions, nor routine calibrations and maintenance. The SS sensor is based on near infrared technology, eliminating inaccuracies caused by changes in the process colour. The pH electrode is a flat glass, double reference junction with automatic temperature compensation, built-in preamp and signal conditioner. All sensor/electrodes have built in self cleaning capabilities that allows for extended periods between maintenance. Simple, menu driven setup ensures quick and easy system installation. Enclosure is rated NEMA4X and the analyser was designed to withstand the rigors of being mounted outdoors on a basin handrail.

Standard Outputs:

- Two isolated 4-20 milliamps signals
- Two set point relays
- One set point or alarm relay
- One cleaning relay
- RS-485 ModBus RTU signal

Features:

- NEMA 4X (IP65)
- Extended temp range display
- U.V. protection for display
- Simple, plain English menus
- Full two year warranty

FLUORESCENCE DISSOLVED OXYGEN - THEORY OF OPERATION

A very specific energy wavelength is transmitted to a ruthenium compound immobilized in a sol-gel matrix. The ruthenium will absorb this energy, changing the outer electron's energy level. The electron will then collapse back to it's original energy state, emitting the energy as a photon with a different specific wavelength. This is called fluorescing. If the intensity of the transmitted wavelength is tightly controlled, the amount of fluorescing is both predictable and repeatable. If oxygen molecules are present the amount of fluorescing is reduced, referred to as fluorescence quenching. By measuring the amount of quenching it is possible to determine the amount of oxygen present.

Dissolved Oxygen M10

The Model 10 Dissolved Oxygen sensor incorporates optical fluorescent technology, solid state electronics, and a unique side mount element. The InsiteIG Model 10 Dissolved Oxygen sensor is the only continuous optical DO sensor that does not require expensive replacement caps saving the user well over $1K over the expected life of the sensor. Nitric Oxide does not interfere with the model 10 sensor.

- Measuring Range: 0 to 25 ppm (mg/l)
- Accuracy: 1% of the reading or .05 ppm, which ever is greater
- Repeatability: 0.01 ppm
- Response Time: 95% in under 60 seconds
- Resolution: 0.01 ppm below 4.00, 0.1 ppm above 4.0
- Drift: less than 1% per year
- Temp. Range: 0°C to 60°C

Suspended Solids M15 & M15L

The model 15 & 15L Suspended Solids sensors incorporate near infrared technology which provides increased dependability of the reading when colour changes in the solids occur. Accurate, real-time solids loading information. There are two ranges available.

- Measuring Range:
- M15 = 250 to 30,000 mg/l
- M15L = 0 to 1,500 mg/l
- Accuracy:
- M15 = +/- 5% of the reading or +/- 100 mg/l whichever is greater
- M15L = +/- 5% of the reading or +/- 2 mg/l whichever is greater Repeatability: +/- 1% of the reading or +/- 2 mg/l whichever is greater
- Response time: 95% in under 60 seconds

pH M50/51

The Model 50 Electrode Holder with Model 51 replaceable pH Electrode cartridge comprise the pH sensor, which incorporates embedded electronics, custom geometry, and a field proven cartridge. The embedded electronics in the Model 50 Holder includes a built-in electrically isolated preamp, which results in reliable digital communications and temperature compensation circuitry. Our flat glass / double reference junction construction, yields a field proven cartridge producing long-lasting reliable measurements.

- Measuring Range: 2 to 12 pH
- Temp. Range: 0°C to 60°C

ORP M50/52

The Model 50 Electrode Holder with Model **52** replaceable ORP Electrode cartridge comprise the ORP sensor, which incorporates embedded electronics, custom geometry, and a field proven cartridge. Our flat glass / double reference junction construction, yields a field proven cartridge producing long-lasting reliable measurements. The embedded electronics in the Model 50 Holder includes a built-in electrically isolated preamp, which results in reliable digital communications and temperature compensation circuitry.

- Measuring Range: +/- 2000mV
- Temp. Range: 0°C to 60°C