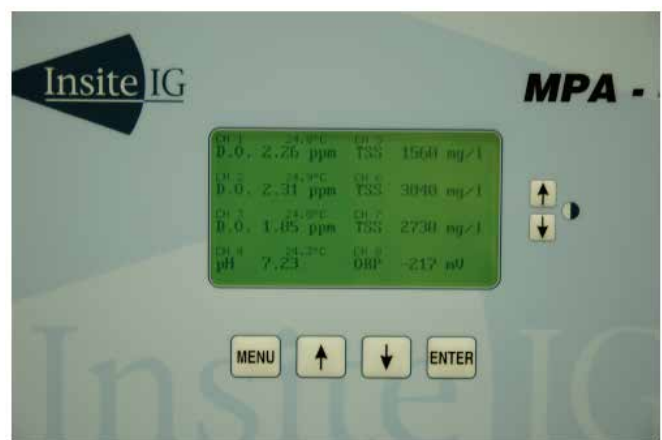


MPA 48 Multi-Parameter Analyzer

4 to 8 SENSORS

Optical Dissolved Oxygen — Suspended Solids
pH — ORP — Any Sensor Combination

The Insite Instrumentation Group MPA 48 multi-channel analyzer is a unique system that combines advanced electronics with the latest sensor technology. The analyzer will accept any combination of DO, SS, pH, or ORP sensors and automatically configure 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 replaceable sensor caps. The SS sensor is based on near infrared technology, eliminating inaccuracies caused by changes in the process color. The pH electrodes are flat glass, double reference junction with temperature compensation. The ORP electrodes are flat glass, double reference junction. Both pH and ORP electrodes feature a quick disconnect design that makes changing electrodes a snap and reduces downtime due to electrode maintenance.



CH 1	24.8°C	CH 5	
D.O.	2.26 ppm	TSS	1560 mg/l
CH 2	24.9°C	CH 6	
D.O.	2.31 ppm	TSS	3040 mg/l
CH 3	24.8°C	CH 7	
D.O.	1.85 ppm	TSS	2730 mg/l
CH 4	24.3°C	CH 8	
pH	7.23	ORP	-217 mV

Fluorescence Dissolved Oxygen—Theory of Operation

A very specific energy wavelength is transmitted to 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 its 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 reduced, referred to as fluorescence quenching. By measuring the amount of quenching it is possible to determine the amount of oxygen present.

MPA 48 Specifications:

Measuring Range	DO — 0 to 25 ppm SS — 0 to 30,000 mg/l pH — 2 to 12 pH ORP — +/- 2000 mV
Accuracy	DO — 1% of reading or .05ppm, whichever is greater SS — 3% of reading
Sensitivity / Resolution	DO — .01 ppm below 4.00, .1 ppm above 4.0 SS — 1 mg/l below 1000 mg/l 10 mg/l between 1,000 and 9,999 mg/l 100 mg/l above 10,000 mg/l
Repeatability	DO — .01 ppm SS — +/- 1%
Sensor Drift	DO & SS — Less than 1% per year
Temperature Range	DO & SS — 0° to 60° C pH & ORP — 10° to 100° C
Response Time	95% in less than 60 seconds.
Sensor Check	Automatic self diagnostics
Outputs	Up to 8 Opto-isolated 4-20 milliamp (one for each channel) Optically isolated RS-485 Modbus RS-232 serial Up to 8 dry contact 10 amp relay setpoints (one for each channel) 1 alarm relay 1 clean relay
Memory Backup	Yes
Sensor Cable Length	33 feet standard (optional lengths up to 2000 ft)
Ambient Temperature	-20° C to 70° C
Ambient Humidity	0 to 100%
Wetted Materials	Epoxy, polyurethane, glass, and PVC
Maximum Pressure	100 psi

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