

MSM has a wide selection of probes and sensors that allow to obtain meteorologic, environmental and oceanographic parameters. These sensors of high quality and performance can be installed in on-shore stations or buoys, depending on the model.

Likewise, MSM has towers and buoys available, especially conceived to hold these measurement equipment.

These sensors use the latest technology and, connected to the METLOGGER 2000 Unit particularly designed to process and transmit data, provide the specific information in an easy and efficient way.

The main types available are introduced below as follows:

TYPES

METEOROLOGIC	
Wind Speed	Vane or bi-axial ultrasonic type. Wind speed range: 0-100 m/s (0-360 km/h). Wind direction: 0-360 °.
Air Temperature and relative Humidity	Combined sensor of air temperature and relative humidity. Temperature range: -40° to +60° C or -30° to +70°C. Other ranges available. Humidity: 0-100%. Temperature accuracy: ±0.1°C. Relative humidity: ±0.8%.
Solar Radiation	Thermoelectric pyranometer. Class 2, according to ISO-9060. Nominal sensitivity: 15 µV/ (W/m ²). Range: 0 to 2,000 W/m ² . Response temperature: ±3% (-10° to +40°C).
Barometric Pressure	Range: 500 -1,100 hPa. Accuracy: ±0.2 hPa to 25°C.
Rain Gauge	Catchment area: 200 cm ² . Resolution/sensitivity (per tip): 0.1 mm.
Fog	Visibility sensor range: 30 m to 16 km. Other ranges as an option. Power: 12V (220V optional). Analogical output: 0-5V (0-10V optional). RS-232 optional.



OCEANOGRAPHIC	
Wave Sensor	Mounting on buoy or fixed platform. Parameters: Height, direction displacement (3 axis). Range: -20 m to +20 m. Resolution: 1 cm.
Current Profiler	Mounting on buoy or fixed platform. Marine current measurement with Doppler acoustic technology (3 beams). Maximum profile range: 60-90 m, 30-40 m, 12-20 m, 4-10 m. Accuracy: ±1% of measured value ±0.5 cm/s. Maximum sampling rate: 1Hz.
Water Temperature	Mounting on buoy or fixed platform. Range: -10° to +50°C. Accuracy: ±0.1°C.



SENSORS



Specifications subject to change without previous notice.



ENVIRONMENTAL	
Conductivity and Water Temperature submersible Probe	Accuracy: ± 0.2 °C. Linearity: 0.2 % integrated microprocessor compensation.
PH submersible Probe	Range: 0-14 pH. Output: 4-20 mA.
Oxidation Reduction Potential (ORP) submersible Probe	Range: ± 500 mV; $\pm 1,000$ mV or 0-1,000 mV. Output: 4-20 mA.
Dissolved Oxygen submersible Probe	Range: 0-200% saturation or 0-20 ppm.
Water Turbidity submersible Probe	Range: 0-50; 0-100; 0-500; 0-1,000 or 0-2,000 NTU (to be selected at time of purchase order). Output: 4-20 mA.
Multi-parameter submersible Probe, simultaneous measurement of the following water parameters: Conductivity, Temperature, pH and Dissolved Oxygen	pH Range: 0-14 pH. Conductivity Range: 0-1,000; 0-2,000; 0-5,000; 0-10,000; 0-20,000; 0-40,000; 0-60,000 or 0-70,000 $\mu\text{S/cm}$ (to be selected at time of purchase order). Dissolved Oxygen range: 0-200 % saturation or 0-20 ppm.
Temperature, Conductivity and Tide level combined submersible Probe	Conductivity range: 0-1,000; 0-2,000; 0-5,000; 0-10,000; 0-20,000; 0-40,000; 0-60,000 or 0-70,000 $\mu\text{S/cm}$ (to be selected at time of purchase order). Level range: 0-1; 0-2.5; 0-5; 0-10; 0-20; 0-40; 0-75; 0-100; 0-200 metres water column. Temperature range: 0-50 °C.
Multi-parameter submersible probe, simultaneous measurement of the following water parameters: Conductivity, Temperature, Dissolved Oxygen and Tide level	Conductivity Range: 0-1,000; 0-2,000; 0-5,000; 0-10,000; 0-20,000; 0-40,000; 0-60,000 or 0-70,000 $\mu\text{S/cm}$ (to be selected at time of purchase order). Dissolved Oxygen range: 0-200 % saturation or 0-20 ppm. Tide level range: 0-1; 0-2.5; 0-5; 0-10; 0-20; 0-40; 0-75; 0-100; 0-200 metres water column. Temperature range: 0-50°C.
Conductivity, Temperature, pH and Tide level combined submersible Probe	pH range: 0-14 pH. Conductivity Range: 0-1,000; 0-2,000; 0-5,000; 0-10,000; 0-20,000; 0-40,000; 0-60,000 or 0-70,000 $\mu\text{S/cm}$ (to be selected at time of purchase order). Tide level range: 0-1; 0-2.5; 0-5; 0-10; 0-20; 0-40; 0-75; 0-100; 0-200 metres water column. Temperature range: 0-50°C.
Oil and Hydrocarbon UV fluorescent Detector on water surface.	Detection sensitivity: ± 3 microns thickness. Measurement distance: from 0.2 to 5 metres. Output signal: 4-20 mA (yes-no). Power: 220V / 50Hz (12-36 V c.c. optional).

Consult us for other types available. For further information, refer to the specific technical sheet of each sensor.



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