

HI9146

Dissolved Oxygen Meter

Dissolved oxygen is a commonly measured parameter in aquaculture, wastewater treatment, environmental studies, and wine analysis. The HI9146 is a rugged, portable dissolved oxygen (DO) meter designed to provide high accuracy measurements whether in the field or in the lab. The meter features automatic calibration performed at one or two points in saturated air and/or zero oxygen solution. All readings are automatically compensated for temperature variations and can be frozen on the display upon stability using the auto-end feature. Salinity and altitude compensation are user adjustable based on the environmental conditions that are present. The HI9146 features a Battery Error Prevention System (BEPS) that detects when the batteries become too weak to ensure reliable measurements. The HI9146 is supplied complete and ready to use.



Polarographic Measuring System

The meter and probe use polarographic sensor technology based on the Ross and Clark polarographic measurement method. The probe is comprised of a platinum cathode and silver anode in an electrolyte solution held in place over the surfaces of the electrodes by a polymer membrane. An external voltage applied across the system establishes a current proportional to the concentration of dissolved oxygen.

Replaceable Membrane Caps

The pretensioned thin polytetrafluoroethylene (PTFE) membranes employ a screw cap design that can be changed quickly by simply filling with the HI7041 electrolyte fill solution and screw on the DO probe.

Automatic Calibration

Calibration can be performed at one or two points to 100% and/or 0% saturation. The 100% saturation is done in air while the 0% is done with the HI7040 bicomponent zero oxygen solution.

Good Laboratory Practice (GLP)

The Good Laboratory Practice feature allows the user to recall calibration information including date, time and calibrations points.

Automatic Temperature Compensation

All readings are automatically compensated for temperature variations with a high accuracy, built in linearized thermistor temperature sensor behind a stainless steel cover.

Altitude Compensation

The HI9146 allows for altitude compensation for up to 4000 meters with a 100 meter resolution.

Salinity Compensation

Salinity compensation is adjustable from 0 to 80 g/L (ppt) with a 1 g/L resolution for the measurement of DO in brackish and seawater.

Auto End Point

The HI9146 features an auto endpoint mode in which when selected the reading will frozen on the display once a stable measurement is obtained. The auto-end feature allows for consistency among various users by ensuring that stability has been achieved before recording a measurement.

Backlit LCD

The HI9146 has a display with a backlight for easy viewing of readings in poor lighting conditions.

Battery Error Prevention System (BEPS)

The Battery Error Prevention System detects when the batteries become too weak to ensure reliable measurements. The backlight feature is automatically disabled when batteries are getting low and a clear indication is displayed to warn the user of this condition.

Specifications	HI9146
DO	Range 0.00 to 45.00 mg/L (ppm); 0.0 to 300.0% saturation
	Resolution 0.01 mg/L (ppm); 0.1% saturation
	Accuracy (@ 25°C/77°F) ±1.5% F.S. or ±1 digit, whichever is greater
Temperature	Range 0.0 to 50.0°C; 32.0 to 122.0°F
	Resolution 0.1°C; 0.1°F
	Accuracy (@ 25°C/77°F) ±0.2°C; ±0.4°F (excluding probe error)
Additional Specifications	Dissolved Oxygen Calibration one or two points at 0% (HI7040 solution) and 100% (in air)
	Temperature Compensation automatic from 0 to 50°C (32 to 122°F)
	Altitude Compensation 0 to 4000 m (resolution 100 m)
	Salinity Compensation 0 to 80 g/L (ppt) (resolution 1 g/L)
	Probe HI76407/4F polarographic DO probe, internal temperature sensor, DIN connector and 2 m (6.6') cable (included)
	Battery Type / Life 1.5V AAA (3) /approximately 200 hours of continuous use without backlight (50 hours with backlight on)
	Environment 0 to 50°C (32 to 122°F); RH max 95%
	Dimensions 185 x 72 x 36 mm (7.3 x 2.8 x 1.4")
	Weight 300 g (10.6 oz.)
Ordering Information	HI9146-04 is supplied complete with HI76407/4F probe with 4 m (13.1') cable, HI76407A membranes (2), HI7041S electrolyte solution (30 mL), batteries, instructions and rugged carrying case. HI9146-10 is supplied complete with HI76407/10F probe with 10 m (32.8') cable, HI76407A membranes (2), HI7041S electrolyte solution (30 mL), batteries, instructions and rugged carrying case.