

HI98193

## Professional Waterproof Meter

Dissolved Oxygen and BOD

- **Waterproof**
  - IP67 rated waterproof, rugged enclosure
- **Choice of units**
  - Display units in % saturation or mg/L (ppm)
- **Salinity compensation**
  - Users can set the salinity value
- **Automatic pressure compensation**
  - Built-in barometer with user-selectable units (mmHg, inHg, atm, psi, kPa, mbar)
- **Built-in calculations**
  - Determination of Biochemical Oxygen Demand (BOD), Oxygen Uptake Rate (OUR) and Specific Oxygen Uptake Rate (SOUR)
- **Polarization**
  - Automatic polarization of probe at startup
- **Membrane caps**
  - Ready-to-use PTFE preformed membrane caps
- **Log-on-demand**
  - Store measurement data at the press of a button
- **GLP**
  - GLP data provides data from previous calibration to ensure Good Laboratory Practices are met
- **AutoHold**
  - Automatically holds the first stable reading on the display
- **Calibration timeout**
  - Alerts when calibration is due at a specified interval
- **Help menu**
  - On-screen context specific help is readily available at the press of a button
- **Backlit LCD**
- **Clear display**
  - Dot matrix display with multifunction virtual keys
- **Intuitive keypad**
  - Most of the available options such as GLP information, help, range, calibration and backlight have a dedicated button
- **Connectivity**
  - PC connectivity via opto-isolated micro-USB with HI92000 software



Quick Connect  
Probe

### For Universal Applications

The HI98193 portable dissolved oxygen meter has extended ranges of up to 50 ppm and 600% saturation. When measuring dissolved oxygen, compensations for salinity, temperature and pressure are essential to improve the accuracy and precision of readings.

Salinity compensation allows for direct determination of dissolved oxygen in saline waters. Temperature compensation is automatic with the probe's built-in sensor, which features a one or two-point calibration. Pressure compensation with the meter's built-in barometer can be validated against a reference barometer, and if needed, can be recalibrated in user-selectable units (mmHg, inHg, atm, psi, kPa, mbar). With the internal barometer, the HI98193 is able to compensate for changes in barometric pressure so there is no need for charts, altitude information or external barometric pressure information.

Other features include measurement, methods and calculations for BOD, OUR and SOUR.

### Quick connect probe

The HI764073 polarographic dissolved oxygen probe features a quick connect DIN connector to make attaching and removing the probe simple and easy.

### Data Logging

The HI98193's log-on-demand features allows users to store up to 400 samples that can be later transferred to a PC with the HI920015 USB cable and HI92000 software.



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Shown in HI720193 rugged carrying case with custom thermoformed insert (included)

Specifications

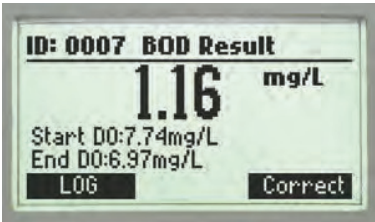
HI98193

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                              |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| DO                        | Range                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.00 to 50.00 mg/L (ppm); 0.0 to 600.0% saturation                                                                                           |
|                           | Resolution                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.01 mg/L (ppm); 0.1% saturation                                                                                                             |
|                           | Accuracy (@25°C/77°F)                                                                                                                                                                                                                                                                                                                                                                                                                                          | ±1.5% of reading ±1 digit                                                                                                                    |
|                           | Calibration                                                                                                                                                                                                                                                                                                                                                                                                                                                    | automatic one or two point at 100 % (8.26 mg/L) and 0 % (0 mg/L); manual one point using a value entered by the user in % saturation or mg/L |
| Atmospheric Pressure      | Range                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 450 to 850 mmHg                                                                                                                              |
|                           | Resolution                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1 mmHg                                                                                                                                       |
|                           | Accuracy (@25°C/77°F)                                                                                                                                                                                                                                                                                                                                                                                                                                          | ± 3 mmHg within ±15% from the calibration point                                                                                              |
|                           | Calibration                                                                                                                                                                                                                                                                                                                                                                                                                                                    | one point at any in range pressure value                                                                                                     |
| Temperature               | Range                                                                                                                                                                                                                                                                                                                                                                                                                                                          | -20.0 to 120.0°C; -4.0 to 248.0°F                                                                                                            |
|                           | Resolution                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.1°C; 0.1°F                                                                                                                                 |
|                           | Accuracy (@25°C/77°F)                                                                                                                                                                                                                                                                                                                                                                                                                                          | ±0.2°C; ±0.4°F (excluding probe error)                                                                                                       |
|                           | Calibration                                                                                                                                                                                                                                                                                                                                                                                                                                                    | one or two point at any in range temperature value                                                                                           |
| Additional Specifications | Measurement Modes                                                                                                                                                                                                                                                                                                                                                                                                                                              | direct DO; BOD (biochemical oxygen demand); OUR (oxygen uptake rate); SOUR (specific oxygen uptake rate)                                     |
|                           | Barometric Compensation                                                                                                                                                                                                                                                                                                                                                                                                                                        | automatic from 450 to 850 mmHg                                                                                                               |
|                           | Salinity Compensation                                                                                                                                                                                                                                                                                                                                                                                                                                          | automatic from 0 to 70 g/L                                                                                                                   |
|                           | Temperature Compensation                                                                                                                                                                                                                                                                                                                                                                                                                                       | automatic from 0.0 to 50.0 °C (32.0 to 122.0 °F)                                                                                             |
|                           | Probe                                                                                                                                                                                                                                                                                                                                                                                                                                                          | HI764073 polarographic DO probe with protective sleeve, internal temperature sensor, DIN connector and 4m (13') cable (included)             |
|                           | Logging                                                                                                                                                                                                                                                                                                                                                                                                                                                        | log-on-demand up to 400 samples                                                                                                              |
|                           | PC Connectivity                                                                                                                                                                                                                                                                                                                                                                                                                                                | opto-isolated USB (with HI92000 software)                                                                                                    |
|                           | Battery Type / Life                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1.5V (4) AA batteries / approximately 200 hours of continuous use without backlight (50 hours with backlight)                                |
|                           | Auto-off                                                                                                                                                                                                                                                                                                                                                                                                                                                       | user-selectable: 5, 10, 30, 60 min or can be disabled                                                                                        |
|                           | Environment                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0 to 50°C (32 to 122°F); RH 100% IP67                                                                                                        |
|                           | Dimensions                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 185 x 93 x 35.2 mm (7.3 x 3.6 x 1.4")                                                                                                        |
|                           | Weight                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 400 g (14.2 oz.)                                                                                                                             |
|                           | Ordering Information                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                              |
|                           | HI98193 is supplied with HI764073 DO probe with protective sleeve, pre-formed PTFE membrane caps (2), HI 7040 bi-component zero oxygen solution (230 mL), HI7041S electrolyte solution (30 mL), DO protective cap, o-rings (2), 100 mL plastic beaker (2), HI92000 PC software, HI920015 micro USB cable, 1.5V AA batteries (4), instruction manual, quick start guide, quality certificate and HI720193 rugged carrying case with custom thermoformed insert. |                                                                                                                                              |

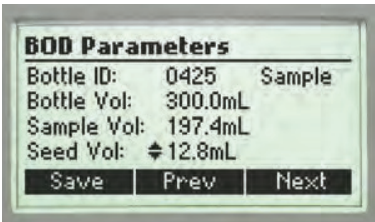
DO solutions begin on page 7.21

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On-screen Features



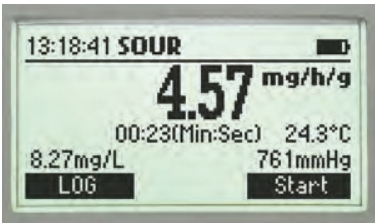
- BOD results
  - BOD is calculated in mg per liter from the difference between the initial and final dissolved oxygen concentration readings.



- BOD parameters and records
  - All necessary parameters for BOD testing can be set and displayed at once.
  - A list of all saved BOD data can be easily retrieved and shown on the LCD display.



- OUR results
  - Measured in mg of oxygen consumed per L per hour.



- SOUR results
  - Measured in mg of oxygen consumed per g of volatile suspended solids per hour.

