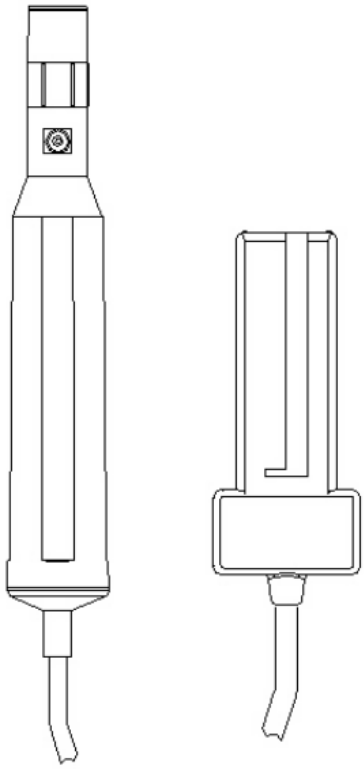
Lutron YK-200PDO Dissolved Oxygen Probe Instruction Manual

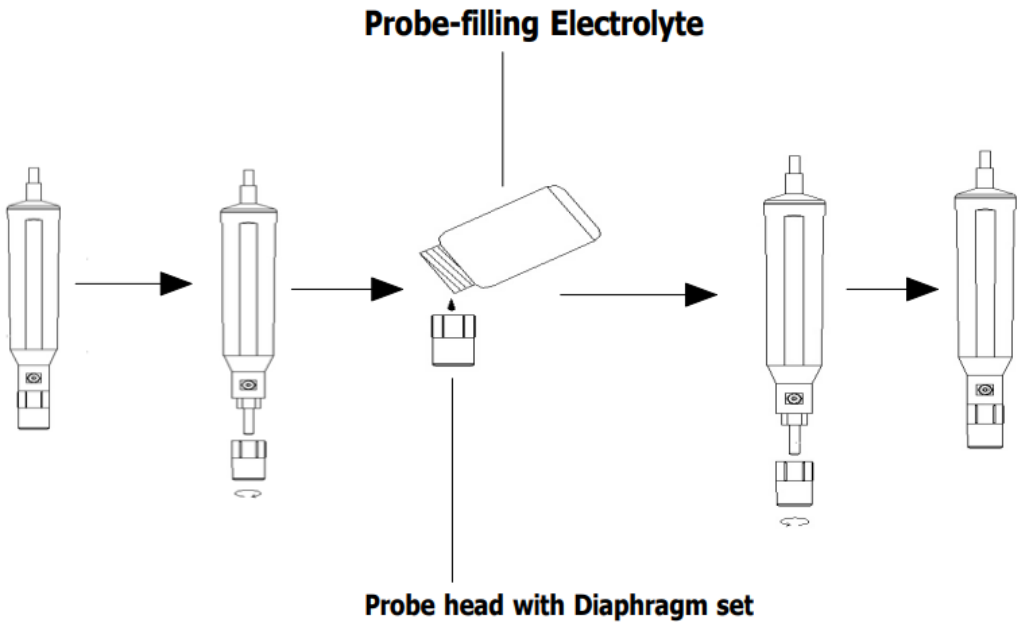
YK-200PDO Dissolved Oxygen Probe
Instruction Manual

Contents

YK-200PDO Dissolved Oxygen Probe



ATTENTION :
Fill the Probe's Electrolyte at first.
Intend to keep the DO probe under the best condition, when user receive the DIGITAL OXYGEN METER along the PROBE, it should fill the2 Probe's Electrolyte at first.



The procedures that to fill the Probe's Electrolyte, refer the chapter 6 " PROBE MAINTENANCE ", page 7.

GENERAL DESCRIPTIONS

This Digital Oxygen Meter is supplied with a polarographic type probe with an incorporated temp. sensor which serves for precision Dissolved Oxygen(DO), Temp. measurement. Applications for Aquarium, Medical research, Agriculture, Fish hatcheries, Laboratory, Water conditioning, Mining industrial, Schools & Colleges, Quality control…

FEATURES

* The polarographic type oxygen probe with an incorporated temp. sensor, high precision measurement for Dissolved Oxygen(DO) & Temperature measurement.
* Dissolved Oxygen probe (YK-200PDO) connect with YK-2001PH will become a professional Dissolved Oxygen Meter as :

1. Automatic temp. compensation from 0 to 50 for℃ sensor.
2. Microprocessor circuit.
3. Multi-display, show oxygen & temp. at the same time.
4. Records Maximum and Minimum readings with recall.
5. Data hold.
6. Auto shut off saves battery life.
7. RS 232 PC serial interface.
8. Temperature function with ℃ & ℉ display unit.

SPECIFICATIONS

Circuit	Custom one-chip of microprocessor LSI circuit.	
Measurement & Range	Dissolved Oxygen	0 to 20.0 mg/L(liter).
	Temperature	0 to 50 °C.
Resolution Accuracy (23± 5 -C)	Dissolved Oxygen	0.1 mg/L.
	Temperature	0.1 °C.
	Dissolved Oxygen	± 0.4 mg/L.
	Temperature	± 0.8 °C /1.5 °F.
Sensor Structure	The polarographic type oxygen probe with an incorporated temperature sensor.	
Probe Temp. Compensation	0 to 50 °C, Automatic.	
Memory Recall * YK-2001PH	Records Maximum and Minimum readings with recall.	
Power off * YK-2001PH	Auto shut off saves battery life, or manual off by push button.	
Data Output * YK-2001PH	RS 232 PC serial interface.	
Over input indication * YK-2001PH	Indication of “- – – -“.	
Sample Time * YK-2001PH	Approx. 0.4 sec.	
Operating Temperature	0 °C to 50 -C (32 °F to 122 °F).	
Operating Humidity	Max. 80% RH.	

Size	Oxygen probe : 190 mm x 28 mm Dia. (7.5″ x 1.1″ Dia.)
	Cable length : 4 meters
Accessories included	Oxygen probe…….. 1 PC. Operation manual…… 1 PC. Spare Probe head with Diaphragm OXHD-04……2 set Probe-filling Electrolyte OXEL-03…….. 1 set
Optional Accessories	Spare Probe head with Diaphragm set ……OXHD-04 Probe-filling Electrolyte ……OXEL-03

OPERATION BUTTON DESCRIPTION

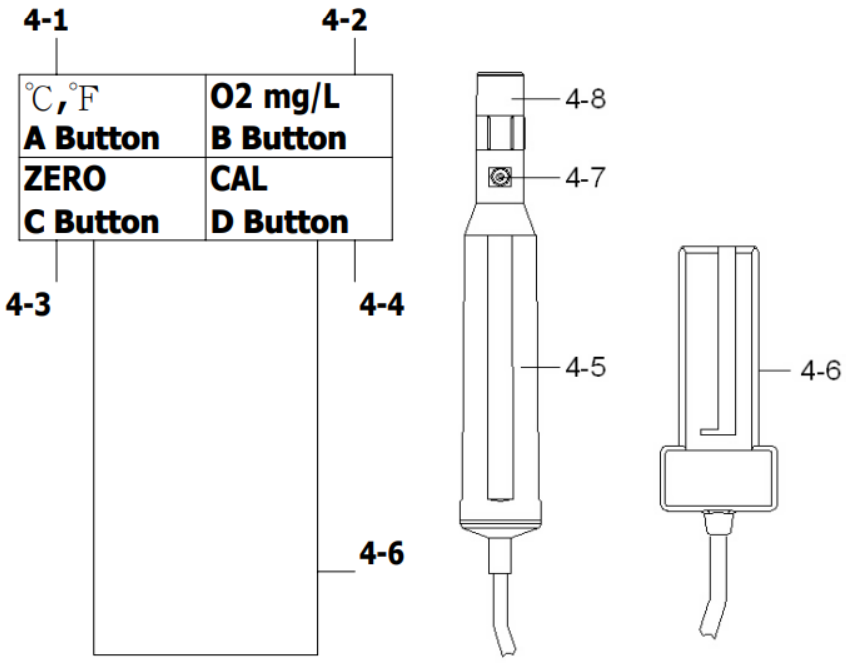


Fig. 1

- 4-1 ℃ ,℉ Button (A Button)
- 4-2 O2 mg/L Button (B Button)
- 4-3 ZERO Button (C Button)
- 4-4 CAL Button (D Button)
- 4-5 OXYGEN PROBE
- 4-6 OXYGEN PROBE plug
- 4-7 Temperature sensor
- 4-8 Probe head with diaphragm set

MEASURING PROCEDURE

5-1 Calibration

Before the measurement, it should make following calibration procedures first :

1. Connect the ” OXYGEN PROBE plug ” (4-6, Fig. 1) into the meter (YK-2001PH).

   Make sure that the probe lock switch should slide to the lock position ().
2. Power on the instrument.
3. Push the ” O2 mg/L Button (B Button) ” (4-2, Fig. 1) to select the ” % O2″ function, the display will show the symbol of ” % O2″
4. Push the ” Zero Button (C Button) ” (4-3, Fig. 1) once, the LCD will show zero value then display the ” Air Oxygen ” value.
5. Wait approx. 5 minutes at least until the display reading values become stable & no fluctuation.

* Push the ” CAL Button (D Button) ” (4-4, Fig. 1) then the display will show the values exact same as 20.9 or 20.8. (As the oxygen in air is 20.9 % typically, so use this data for quick & precise calibration).

Consideration :

Please make calibration procedures under wide and ventilating environment for best effect.

5-2 Dissolved Oxygen(DO) measurement

1. After the meter be calibrated (above procedure 5-1), now the meter is ready for Dissolved Oxygen (DO) measurement.
2. Push the ” O2 mg/L Button (B Button) ” (4-2, Fig. 1) to select the ” DO ” function, the display will show the symbol of ” mg/L ” .

5-3 Oxygen in Air(O2) measurement

1. After the meter be calibrated (above procedure 5-1), now the meter is ready for O2measurement.
2. Push the ” O2 mg/L Button (B Button) ” (4-2, Fig. 1) to select the ” % O2″ function, the display will show the symbol of ” % O2″
3. The display will show the air oxygen in % values for reference.

5-4 Temperature measurement

During the measurement, the lower LCD Display will show the temperature values of measuring solution.

Push the ” / Button ” (4-1, Fig. 1) once will change ℃ ℉ the temperature display unit from ” to ” ℃ ℉ or ” to “.℉ ℃ 5-5 Other functions (Hold, Memory, RS232…) Other functions, such as Data hold, Memory (max., min.,), RS232 interface, Auto power off, Auto power off disable, please refer the operation manual of YK-2001PH.

PROBE MAINTENANCE

First time to use the meter :

Intend to let the DO probe keep the best condition, when user receive the DIGITAL OXYGEN METER along the PROBE, it should fill the Probe’s Electrolyte at first.

Already use the meter for a certain period :

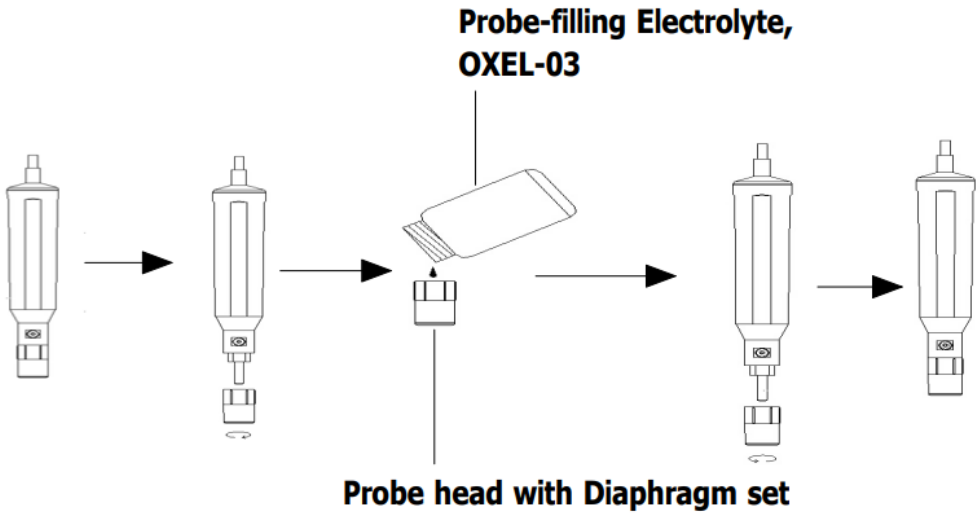
Whenever user can not calibrate the meter properly or the meter’s reading value is not stable, please check the oxygen probe to see if the electrolyte in the probe head container is run out or the diaphragm (probe head with diaphragm set) exist problem (dirty). If yes, please fill the electrolyte or change the ” Probe head with diaphragm set ” and make the new calibration (refer chapter 5-1, page 5).

The consideration of Diaphragm (probe head with diaphragm set) :

The oxygen probe component is the thin Teflon diaphragm housed in the tip of the probe. The diaphragm is permeable by the oxygen molecules but not by the considerably larger molecules contained in the electrolyte. Due to this characteristic, the oxygen may diffuse throughout the electrolyte solution contained in the probe, and its concentration may be quantified by the measurement circuit.

This sensitive diaphragm is rather delicate & is easily damaged if it comes into contact with solid objects or is

subjected to blows. If the diaphragm is damaged (dirty) or the electrolyte is run out, it must be replaced in the following way :



1. Unscrew the ” Probe head ” (6-3, Fig 2).
2. Pour out the old Electrolyte from the container of the ” Probe head “. If the diaphragm is damaged (dirty), then change the new ” Probe head with diaphragm set “.
3. Fill the new Electrolyte (OXEL-03) into the container of the ” Probe head ” .
4. Screw the ” Probe head ” (6-3, Fig 2) into the probe body.

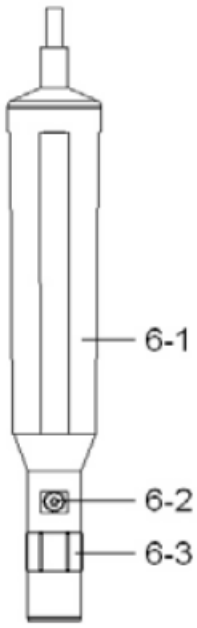


Fig. 2

9-1 Probe handle
9-2 Temp. sensor
9-3 Probe head with diaphragm set

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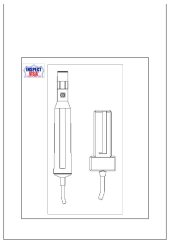
Documents / Resources

	Lutron YK-200PDO Dissolved Oxygen Probe [pdf] Instruction Manual YK-200PDO Dissolved Oxygen Probe, YK-200PDO, Dissolved Oxygen Probe, Oxygen Probe, Probe

References

- User Manual