Pen type, air oxygen and Temp.

O₂ METER

Model : PO2-250

Your purchase of this OXYGEN METER marks a step forward for you into the field of precision measurement. Although this METER is a complex and delicate instrument, its durable structure will allow many years of use if proper operating techniques are developed. Please read the following instructions carefully and always keep this manual within easy reach.

O₂ METER

POWER

HOLD

REC

20.9

25.0

%O₂

°C

Lutron PO2-250

OPERATION MANUAL

TABLE OF CONTENTS

1. FEATURES

* O2 (Air oxygen) and Temp. (Air Temp.) measurement.
* O2 measurement range : 0 to 30.0 % x 0.1 %.
* O2 Buzzer warning : If the measurement value < 18.0 %O2, the buzzer will sound for warning.
* Temp. measurement range : 0 to 50 ℃, ℃/℉.
* Galvanic cell type for O2 sensor.
* High reliability Oxygen sensor, not be affected by acidic gases like CO2.
* Oxygen sensor with temperature compensated.
* Data hold, to freeze the desired reading value.
* Auto power off saves battery life.
* Operates from DC 1.5V (UM4/AAA) x 4 PCs batteries.
* Microprocessor circuit ensure high accuracy, and also and also provides special functions and features.
* Durable and compact ABS-plastic housing.
* Application : O2 monitor/dectors, Food industrial (Refrigerator, Vegetable factory), Bio-Technology (Oxygen incubator, Anaerobic cultivator), Security system (Air conditioner and Oxygen shortage alarm system, Fire alarm system), Fuel cell system.

2. SPECIFICATIONS

2-1 General Specifications

Display	LCD size : 28 mm x 19 mm.	
Measurement	O2 (Air oxygen)	
	Temperature (Air Temp.)	
Sensor	Oxygen	Galvanic cell type
	Temperature	Thermistor

Circuit	Custom one-chip of microprocessor LSI circuit.
Data Hold	Freeze the display reading.
Sampling Time	Approx. 1 second.
Power off	Auto shut off saves battery life.
Operating Temperature	0 to 50 ℃.
Operating Humidity	Less than 80% R.H.
Power Supply	DC 1.5 V battery (UM4/AAA) x 4 PCs.
Power Current	Approx. DC 4.0 mA
Weight	194 g/ 0.43 LB.
Dimension	180 x 40 x 40 mm (7.1" x 1.6" x 1.6")
Accessories Included	Instruction manual......................1 PC Soft carrying case (CA-52A).......1 PC

Application	* O2 monitor/dectors.
	* Food industrial :
	   Refrigerator, Vegetable factory
	* Bio-Technology :
	   Oxygen incubator, Anaerobic cultivator
	* Security system :
	   Air conditioner and Oxygen shortage
	   alarm system, Fire alarm system
	* Fuel cell system.

2-2 Electrical Specifications (23± 5 ℃)

O2 (Air oxygen)

Range	0 to 30 %O2.
Resolution	0.1 %O2.
Accuracy	± (1 % reading + 0.2 % O2). *@ After calibration*
Response time	≦ 15 seconds. *@ t 90*
Overload protection	100 %O2.
Environment pressure range	0.9 to 1.1 atmosphere.
Expected life time	≧ 2 years.
Alarm	If the measurement Air oxygen value < 18.0 %O2, the buzzer wll sound for warning.

Temperature (Air Temp.)

Range	0 ℃ to 50 ℃,32 ℉ to 122 ℉.
Resolution	0.1 degree
Accuracy	℃ - ± 0.8 ℃. ℉ - ± 1.5 ℉.

@ Above specification tests under the environment RF Field Strength less than 3 V/M & frequency less than 30 MHz only.
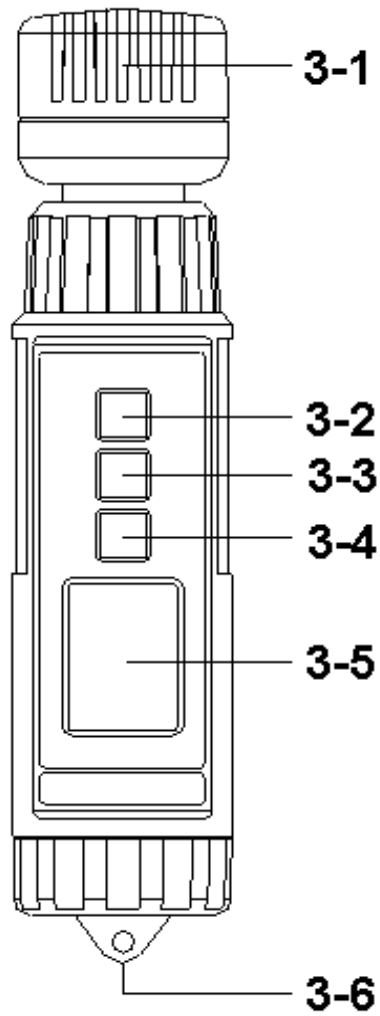
3. FRONT PANEL DESCRIPTION

Fig. 1

3-1 Oxygen/Temp. Sensor

3-2 Power Button

3-3 Hold Button

3-4 REC Button

3-5 LCD Display

3-6 Battery Compartment/Cover

4. MEASURING PROCEDURE

4-1 O2 (Air oxygen)/Temp. (Air Temp.) measurement

1) Power on the meter by pressing the " Power Button " (3-2, Fig. 1) once,
   * Press the " Power Button " once again will power off.
2) Locate the " Oxygen/Temp. Sensor " (3-1, Fig. 1) to the position that intend to make the measurement. The upper Display (3-5, Fig. 1) will show the O2 (Air oxygen) value in the unit of " %O2 ".
   The lower Display (3-5, Fig. 1) will show the Temperature (Air Temp.) value in the unit of " $℃$ " or " $℉$ ".

O2 Buzzer warning
If the measurement value < 18.0 %O2, the buzzer will sound for warning.

O2 Buzzer warning disable
Power off the meter, press the " REC Button " (3-4, Fig. 1) continuously then power on the meter (press the " Power Button " once), the O2 buzzer warning function will be disable.

4-2 Data hold

1) During the measurement, press the " Hold Button " (3-3, Fig. 1) momentarily to hold the measured value. The LCD will show a " HOLD " symbol.
2) Press the" Hold Button " once again to release the data hold function.

4-3 Data Record (Max., Min reading)

1) The Data Record function can memorize the maximum and minimum readings. Press the " REC Button " (3-4, Fig. 1) once to start the Data Record function and there will be a " REC " symbol on the display.

5

2) With the " REC " symbol on the display :
   a) Press the " REC Button " (3-4, Fig. 1) once, the
      " REC MAX " symbol along with the maximum value
      will appear on the display.
      * *If intend to delete the maximum value, just press*
        the " Hold Button " (3-3, Fig. 1) once, then the
        display will show the " REC " symbol only & execute
        the memory function continuously.
   b) Press the " REC Button " (3-4, Fig. 1) again, the
      " REC MIN " symbol along with the minimum value
      will appear on the display.
      * *If intend to delete the minimum value, just press*
        the " Hold Button " (3-3, Fig. 1) once, then
        the display will show the " REC " symbol only &
        execute the memory function continuously.
   c) To exit the memory record function, just press the
      " REC " button for 2 seconds at least. The display will
      revert to the current reading.

4-4 Auto power off
1) In order to prolong the battery life, the instrument
   has "Auto Power Off " function. The meter will
   switch off automatically if no buttons are pressed
   for around 10 minutes.
2) If intend to disable the " Auto power off " mode, then
   just execute the " Data Record " function (Refer to
   chapter 4-3, page 5).

4-5 Set the Temp. unit (℃, ℉) with default
1) Power OFF the meter.
2) Press the " Hold Button " (3-3, Fig. 1) continuously,
   use another finger power ON the meter (press the "
   Power Button " once), until the Temp. unit (℃ or ℉)
   is presented on the Display then release the " Hold
   Button ", the Temp. unit will change From ℃ to ℉ (or
   ℉ to ℃) with default.

5. CALIBRATION

1) Due to the air oxygen value is 20.9 % typically, so use the environment air oxygen value for quick & precise calibration)
   Please make calibration procedures under wide and ventilating environment for best effect.
2) Power on the meter, Wait 3 minutes at least until the display reading values become stable & no fluctuation.
3) Use the two fingers to press both the " Hold Button " (3-3, Fig. 1) and the " REC Button " (3-4, Fig. 1) at the same time. Until the upper Display show the text " CAL " (the lower Display will show the value 20.9), release the two fingers from the buttons, the text " CAL " will flashing within several seconds, then the Display will return to normal screen and show O2 value to " 20.9 ± 0.1 %O2 " and finish the calibration procedures.

6. BATTERY REPLACEMENT

1) Replace the batteries when the left corner of the LCD displays the low battery icon " ⬛ ".
2) Prepare 4 fresh 1.5 V (UM4, AAA) batteries.
3) To change the batteries, open (rotate clockwise direction) the " Battery Cover " (3-6, Fig. 1).
4) Make sure the " Battery cover " (3-6, Fig 1) is secured after changing the batteries.

7