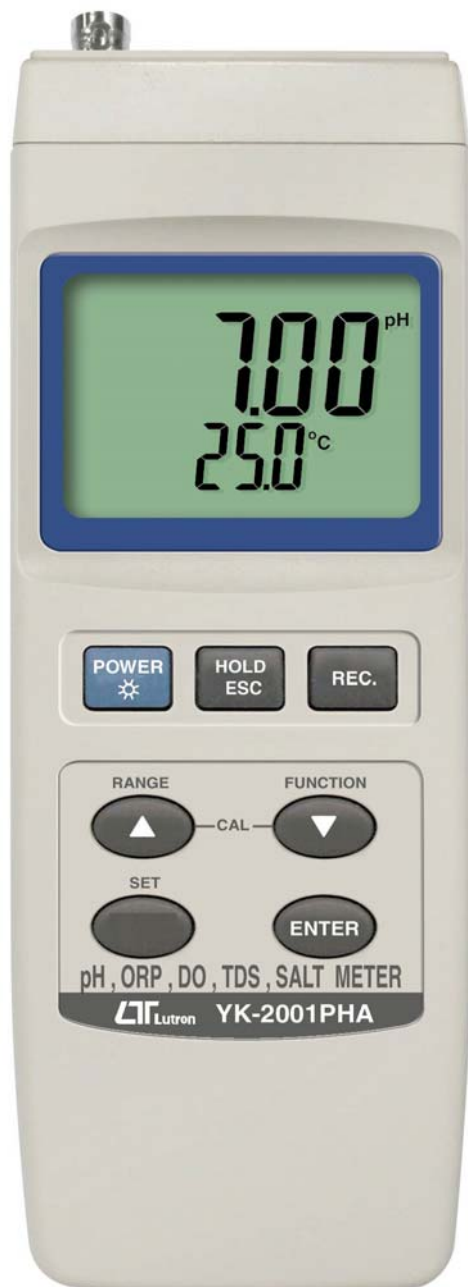


# pH/ORP, DO, CD/TDS, SALT METER

Model : YK-2001PHA

ISO-9001, CE, IEC1010



**Lutron**

**LUTRON ELECTRONIC**

*The Art of Measurement*

# pH/ORP, DO, CD/TDS, SALT METER

Model: YK-2001PHA

## FEATURES

* One meter for multi purpose operation : pH/ORP, CD/TDS, Dissolved Oxygen, Salt measurement.
* pH : 0 to 14.00 pH, ORP : ± 1999 mV.
* Conductivity : 200 uS/2 mS/20 mS/200 mS.
* Dissolved oxygen : 0 to 20.0 mg/L.
* Salt : 0 to 12 % salt ( % weight ).
* Optional pH, ORP, CD/TDS/Salt, Dissolved Oxygen and ATC probe.
* DC 9V ( 006 P ) or DC 9V adapter in.
* pH meter function can select pH or ORP.
* pH measurement can select ATC or manual temperature adjustment.
* pH measurement can make the auto calibration for pH 7, pH 4 and pH 10 or other value.
* Conductivity measurement can select uS/mS or TDS
* Conductivity measurement can select Temp. Coefficient of measurement solution.
* ATC for the conductivity measurement.
* Dissolved oxygen meter use the polar graphic type oxygen probe with temperature sensor, high precision measurement for Dissolved Oxygen ( DO ) and temperature measurement.
* Heavy duty dissolved oxygen probe, probe head can connect with BOD bottle.
* DO use the automatic Temp. compensation.
* DO meter build in " % SALT " & " Mountain Height " compensation value adjustment.
* Separate probe, easy for operation of different measurement environment.
* Wide applications: water conditioning, aquariums, beverage, fish hatcheries, food processing, photography, laboratory, paper industry, plating industry, quality control, school & college, water conditioning.
* LCD with green light backlight, easy reading.
* Can default auto power off or manual power off.
* Data hold, record max. and min. reading.
* Microcomputer circuit, high accuracy.
* Power by DC 9V battery ( 006 P ) or DC 9V adapter.
* RS232/USB PC COMPUTER interface.

## GENERAL SPECIFICATIONS

Circuit	Custom one-chip of microprocessor LSI circuit.
Display	LCD size : 52 mm x 38 mm LCD with green backlight ( ON/OFF ).
Measurement Function	pH/ORP Conductivity/TDS(Total Dissolved Solids) Dissolved Oxygen Salt
Advanced setting	* Auto power OFF management * Set beep Sound ON/OFF * Set temperature unit to °C or °F * Set DO salt% compensation value * Set DO height ( meter ) compensation value * Set CD temperature compensation factor * Set CD to TDS or TDS to CD, CD only * Set pH manual Temp. compensation value
Data Hold	Freeze the display reading.
Memory Recall	Maximum & Minimum value.
Sampling Time of Display	Approx. 1 second.
Data Output	RS 232/USB PC computer interface. * Connect the optional RS232 cable UPCB-02 will get the RS232 plug. * Connect the optional USB cable USB-01 will get the USB plug.
Operating Temperature	0 to 50 °C.
Operating Humidity	Less than 85% R.H.
Power Supply	* Alkaline or heavy duty DC 9V ( 006 P ) battery or equivalent. * DC 9V adapter input. ( AC/DC power adapter is optional ).
Power Current	Normal operation ( LCD Backlight is OFF ) : Approx. DC 14 mA. * If LCD backlight on, the power consumption will increase approx. 12 mA.

Weight	489 g/1.08 LB.
Dimension	177 x 68 x 45 mm (7.0 x 2.7 x 1.9 inch)
Accessories	* Instruction manual..... 1 PC
Included	* Conductivity/TDS/Salt probe, CDPB-03..... 1 PC
Optional	* Hard carrying case, CA-06.
Accessories	* pH electrode..... PE-03, PE-11, PE-01, PE06HD PE-04HD, PE-03K7
	* ATC probe ( Automatic Temperature Probe )..... TP-07
	* pH 7 buffer solution..... pH-07
	* pH 4 buffer solution..... pH-04
	* Conductivity/TDS/Salt probe, ..... CDPB-03
	* Pt type Conductivity/TDS probe, Salt probe..... CDPB-04
	* 1.413 mS Conductivity Standard Solution..... CD-14
	* Oxygen probe..... OXPB-11
	* Spare Probe head with Diaphragm set ..... OXHD-04
	* Probe-filling Electrolyte..... OXEL-03
	* ORP Electrode..... ORP-14
	AC to DC 9V adapter. USB cable, USB-01. RS232 cable, UPCB-02. Data Acquisition software, SW-U801-WIN. Excel Data Acquisition software, SW-E802

## ELECTRICAL SPECIFICATIONS (23±5 °C)

### 1. pH/mV

pH	Optional, Any pH electrode with BNC connector.
Electrode	Any pH electrode with BNC connector.
Measurement	pH 0 to 14 pH mV (ORP) -1999 mV to 1999 mV
Input Impedance	10 <sup>12</sup> ohm
Temperature Compensation for pH measurement	Manual 0 to 100 °C, be adjusted by push button on front panel. Automatic With the optional temperature probe ( TP-07 ) 0 to 65 °C.
pH Calibration	pH7, pH4, and pH10, 3 points calibration ensure the best linearity and accuracy.
Optional probe and accessories	* pH electrode..PE-03, PE-11, PE-01, PE06HD PE-04HD, PE-03K7 * ATC ( automatic temperature probe )..... TP-07 * pH 7 buffer solution.....PH-07 * pH 4 buffer solution..... PH-04 * ORP electrode..... ORP-14

pH	0 to 14 pH	0.01 pH	± (0.02 pH + 2 d)
mV	-1999 to 1999 mV	1 mV	± (0.5% + 2 d)

\* pH accuracy is based on calibrated meter only.

### 2. Conductivity/TDS

Conductivity probe	Optional, Carbon rod electrode for long life, CD-PB03
Function	* Conductivity ( uS, mS ) * TDS ( Total Dissolved Solids, PPM ) * Temperature ( °C, °F )
Temperature Compensation	Automatic from 0 to 60 °C (32 - 140 °F), with temperature compensation factor variable between 0 to 5.0% per C.
Probe Operating Temp.	0 to 60 °C.
Probe Dimension	Round, 22 mm Dia. x 120 mm length.
Optional probe and accessories	* Conductivity/TDS/Salt probe, CDPB-03 * Pt Conductivity/TDS/Salt probe, CDPB-04 * 1.413 mS Conductivity Standard Solution, CD-14

### a. Conductivity ( uS, mS )

Range	Measurement	Resolution	Accuracy
200 uS	0 to 200.0 uS	0.1 uS	± ( 2 % F.S. + 1d ) * F.S.: full scale
2 mS	0.2 to 2.000 mS	0.001 mS	
20 mS	2 to 20.00 mS	0.01 mS	
200 mS	20 to 200.0 mS	0.1 mS	

\* Temperature Compensation :  
Automatic from 0 to 60 °C ( 32 - 140 °F ), with  
temperature compensation factor variable between 0 to  
5.0% per C.  
\* The accuracy is specified under measurement value  
≤ 100 mS.  
\* mS - milli Simens  
\* @ 23± 5°C

### b. TDS ( Total Dissolved Solids )

Range	Measurement	Resolution	Accuracy
200 PPM	0 to 132 PPM	0.1 PPM	± (2% F.S. + 1d) * F.S. - full scale
2,000 PPM	132 to 1,320 PPM	1 PPM	
20,000 PPM	1,320 to 13,200 PPM	10 PPM	
200,000 PPM	13,200 to 132,000 PPM	100 PPM	

\* Temperature Compensation :  
Automatic from 0 to 60 °C ( 32 - 140 °F ), with  
temperature compensation factor variable between 0 to  
5.0% per C.  
\* he accuracy is specified under measurement value  
≤ 66, 000 PPM.  
\* PPM - parts per million  
\* @ 23± 5°C

### c. Temperature

Function	Measuring Range	Resolution	Accuracy
°C	0 °C to 60 °C	0.1 °C	± 0.8 °C
°F	32 °F to 140 °F	0.1 °F	± 1.5 °F

\* @ 23± 5°C

### 3. Salt

Salt probe	Optional, Carbon rod electrode for long life, CD-PB03
Measurement Range	0 to 12 % salt ( % weight ).
Resolution	0.01 % salt.
Accuracy	± 0.5 % salt value * F.S. - full scale.
Temperature Compensation	Automatic from 0 to 60 °C (32 - 140 °F), with temperature compensation factor variable between 0 to 5.0% per C.
Probe Operating Temperature	0 to 60 °C.
Probe Dimension	Round, 22 mm Dia. x 120 mm length.
Optional probe and	* Conductivity/TDS/Salt probe, CD-PB03. * Pt Conductivity/TDS/Salt probe, CDPB-04.

### 4. Dissolved oxygen

Oxygen Probe	Optional, OXPB-11 The polarographic type oxygen probe .
Measurement & Range	Dissolved Oxygen 0 to 20.0 mg/L (liter). Oxygen in Air 0 to 100.0 %. Temperature 0 to 50 °C.
Resolution	Dissolved Oxygen 0.1 mg/L. Oxygen in Air 0.1 % O2 . Temperature 0.1 °C.
Accuracy (23± 5 °C)	Dissolved Oxygen ± 0.4 mg/L. Oxygen in Air ± 0.7% O2. Temperature ± 0.8 °C/1.5 °F.
Probe Compensation & Adj.	Temperature 0 to 50 °C, Automatic Salt 0 to 50 % Salt Height ( M. T. ) 0 to 8900 meter
Probe Weight	335 g/0.74 LB * Battery and probe included .
Probe Size	190 mm x 28 mm Dia. ( 7.5" x 1.1" Dia. )
Optional Accessories	* Oxygen probe..... OXPB-11 * Spare Probe head with Diaphragm set ..... OXHD-04 * Probe-filling Electrolyte..... OXEL-03