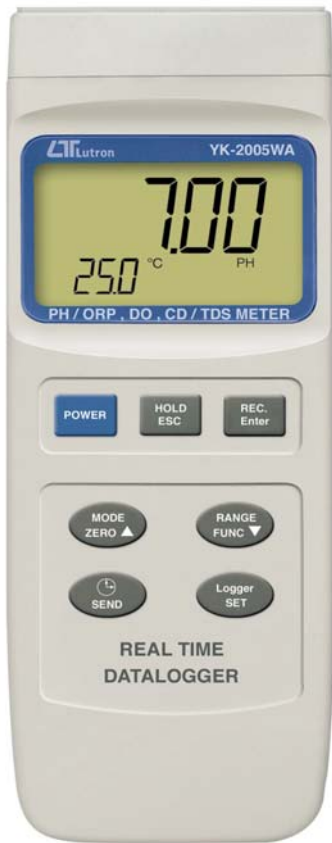


*Real time data logger*

# PH/ORP, DO CD/TDS METER

Model : YK-2005WA



Your purchase of this PH/ORP, DO, CD/TDS 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.



# 1. FEATURES

- \* One meter for multi purpose operation :  
PH/ORP, CD/TDS, Dissolved Oxygen.
- \* pH : 0 to 14.00 pH, ORP :  $\pm$  1999 mV.
- \* Conductivity : 200  $\mu$ S/2 mS/20 mS/200 mS.
- \* Dissolved oxygen : 0 to 20.0 mg/L.
- \* Real time data logger ( record year, month, date, hour, minute, second ), 16,000 data logger.
- \* Real time data logger, build in clock ( hour-MIN-sec., year-month-date ).
- \* Auto or manual data record, 16,000 Data logger no.
- \* Wide sampling time adjustment range from one second to 8 hours 59 minutes 59 seconds.
- \* RS232 computer interface.
- \* MAX, MIN, Data hold.
- \* RS-232 computer interface
- \* Can default auto power off or manual power off.
- \* Optional PH, ORP, CD/TDS, Dissolved Oxygen and ATC probe.
- \* DC 1.5V ( UM-3, AA ) x 4 PCs 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  $\mu$ S/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.
- \* Super large LCD display with contrast adjustment for best viewing angle.
- \* 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.

## 2. SPECIFICATIONS

### *2-1 General Specifications*

Circuit	Custom one-chip of microprocessor LSI circuit.	
Display	LCD size : 58 mm x 34 mm.	
Measurement	PH/ORP Conductivity/TDS(Total Dissolved Solids) Dissolved Oxygen	
Sampling Time of Data Logger	Manual	Push the data logger Button once will save data one time. <i>@ Set the sampling time to 0 second</i>
	Auto	1 sec to 8 hour 59 min. 59 sec.
Data Hold	Freeze the display reading.	
Memory Recall	Maximum & Minimum value.	
Power off	Auto shut off saves battery life or manual off by push Button. <i>@ Can default auto power or manual power off.</i> <i>@ When default auto power function, power will off automatically after 10 MIN, if no Button be pressed.</i>	
Sampling Time of display	Approx. 1 second.	
Data Output	RS 232 PC serial interface.	
Operating Temperature	0 to 50 °C. - Main instrument.	
Operating Humidity	Less than 80% R.H.	

Power Supply <i>* main instrument</i>	DC 1,5 V battery ( UM3 ) x 4 PCs, ( Heavy duty type ).
	DC 9V adapter input. <i>@ AC/DC power adapter is optional.</i>
Power Current	Operatiron : Approx. DC 28 mA Clock ( power off ) : Approx. DC 1 uA.
Weight	365 g/ 0.8 LB. <i>@ Battery is included.</i>
Dimension	203 x 76 x 38 mm
Accessories Included	Instruction manual.....1 PC Hard arrying case ( CA-06 ).....1 PC
Optional Accessories	* PH electrode..... PE-03, PE-11, PE-01, PE06HD PE-04HD, PE-05T, PE-03K7
	* ATC ( Automatic Temperature Probe ).....TP-07
	* pH 7 buffer solution.....PH-07
	* pH 4 buffer solution.....PH-04
	* Conductivity probe.....CDPB-03
	* 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
	* AC to DC 9V adapter.
	* RS232 cable, UPCB-02.
	* USB cable, USB-01
	* Data Acquisition software, SW-U801-WIN.
	* Data Logger software, SW-DL2005.

## 2-2 Electrical Specifications (23±5 °C)

## A. PH/mV

PH Electrode	Optional, Any PH electrode with BNC connector.	
Measurement	PH	0 to 14 PH
	mV	-1999 mV to 1999 mV
Input Impedance	$10^{12}$ ohm	
Temperature Compensation for pH measurement	Manual	0 to 100 °C , be adjusted by push button on front panel.
	Automatic ( ATC )	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-05T, PE-03K7  * ATC ( automatic temperature probe ).....TP-07 * pH 7 buffer solution..... PH-07 * pH 4 buffer solution..... PH-04 * ORP electrode.....ORP-14	

## 2-2 Electrical Specifications ( $23 \pm 5^\circ\text{C}$ )

Measurement	Range	Resolution	Accuracy
PH	0 to 14 PH	0.01 PH	$\pm (0.02 \text{ PH} + 2 \text{ d})$
mV	0 to 1999 mV	1 mV	$\pm (0.5\% + 2 \text{ d})$

\* PH accuracy is based on calibrated meter only.

## B. Conductivity

Conductivity probe	Optional, Carbon rod electrode for long life.
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 Temperature	0 to 60 °C.
Probe Dimension	Round, 22 mm Dia. x 120 mm length.
Optional probe and accessories	* Conductivity probe..... CDPB-03 * 1.413 mS Conductivity Standard Solution.....CD-14

### 1. 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	
<p>* <i>Temperature Compensation :</i> <i>Automatic from 0 to 60 °C ( 32 - 140 °F ), with temperature compensation factor variable between 0 to 5.0% per C.</i></p> <p>* <i>The accuracy is specified under measurement value ≤ 100 mS.</i></p> <p>* <i>mS - milli Simens</i>                      * <i>@ 23± 5°C</i></p>			

## 2. 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.

\* The accuracy is specified under measurement value  $\leq 66,000$  PPM.

\* PPM - parts per million \* @ 23± 5°C

## 3. 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			

## C. Dissolved oxygen

Oxygen Probe	Optional, The polarographic type oxygen probe with	
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 .



