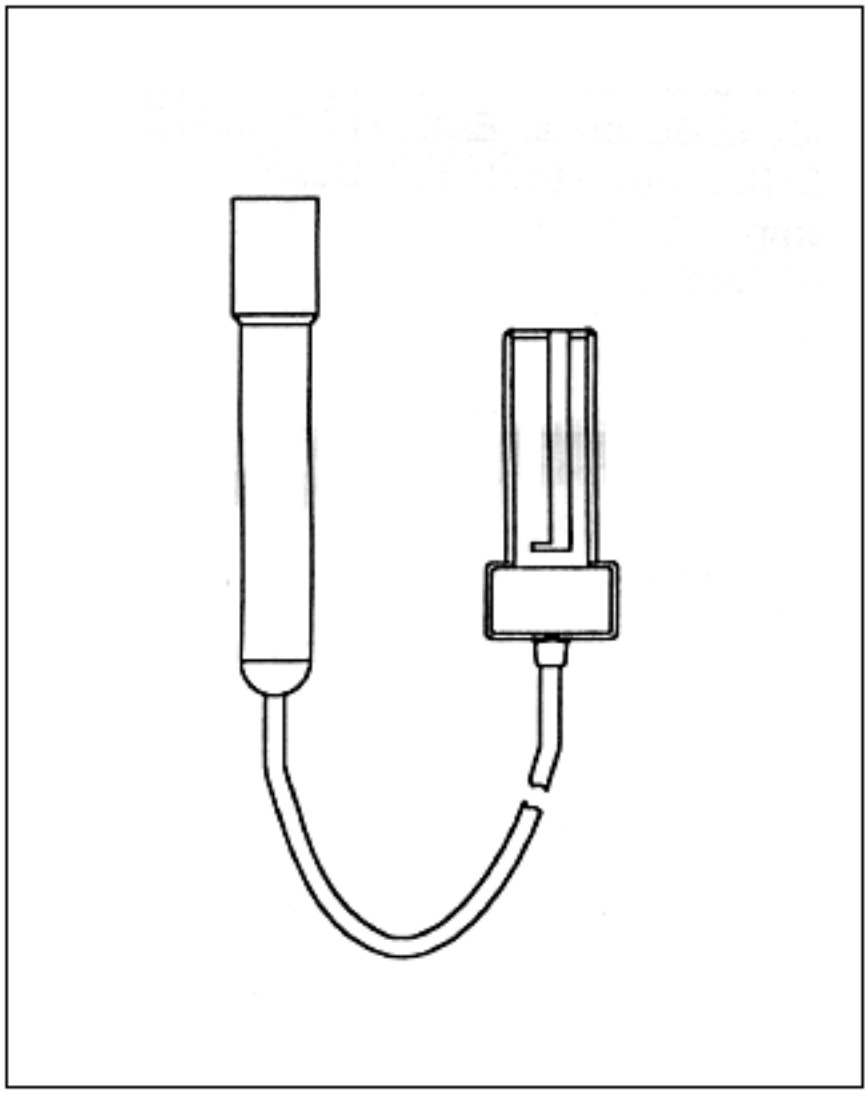
CONDUCTIVITY and TDS PROBE

Model : YK-200PCT



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1. FEATURES

* Conductivity and TDS probe (YK−200PCT) connect with YK−2001PH will become a professional Conductivity & TDS (Total Dissolved Solids) Meter.
* Innovative feature with built−in automatic temperature compensation values adjustable between 0 to 5.0% per °C.
* Selecting "0% per °C" of Temp. Coefficient Adjust, allows you to take uncompensated conductivity readings.
* Wide automatic temperature compensation range from 0 °C to 50 °C.
* Carbon rod electrode for long life.
* Microprocessor circuit.
* Dual LCD display, show both conductivity & temp. values.
* Records Maximum and Minimum readings with RECALL facilities.
* Data hold function.
* Auto shut off prolongs battery life.
* RS 232 PC serial interface.
* Two temperature units, i.e. °C or °F.
* The portable conductivity meter provides fast, accurate readings, with digital readability and the convenience of a remote probe.
* Wide applications: water conditioning, aquariums, beverage, fish hatcheries, food processing, photography, laboratory, paper industry, plating industry, quality control, school & college, water conditionin; 1

2. SPECIFICATIONS

2–1 General Specifications

Circuit	Custom one–chip microprocessor LSI circuit.
Measurement	Conductivity : 2 ranges 2 mS, 20 mS.
	TDS : 2 ranges 2,000 PPM, 20,000 PPM.
	Temperature: 0 – 60 °C / 32 – 140 °F.
Temperature Compensation	Automatic from 0 to 60 °C (32 – 140 °F), with temperature compensation factor variable between 0 to 5.0% per C.
Memory Recall	Records Maximum and Minimum readings with RECALL facility.
Power off	Manual off by push button or Auto shut off offer 10 minuite(Not activated during memory record function).
Data Output	RS 232 PC serial interface.
Over load indication	Indicated by "– – – –".
Sampling Time	Approx. 0.8 second.
Operating Temperature	0 to 50 °C – main instrument. 0 to 60 °C – probe only.
Operating Humidity	Max. 80% RH.
Size	Probe : Round, 22 mm Dia. x 120 mm length.
Accessories Included	Instruction manual.....1 PC. Conductivity probe.....1 PC.

2–2 Electrical Specifications(23 ± 5°C)

A. Conductivity

Range	*Measurement*	*Resolution*	*Accuracy*
2 mS	0.2 to 2.000 mS	0.001 mS	± (3 % F.S. + 1 d)
20 mS	2 to 20.00 mS	0.01 mS	** F.S. – Full scale*
* mS – milli Simens			

B. TDS (Total Dissolved Dolids)

Range	*Measurement*	*Resolution*	*Accuracy*
2,000 PPM	132 to 1,320 PPM	1 PPM	± (3 % F.S. + 1 d)
20,000 PPM	1,320 to 13,200 PPM	10 PPM	** F.S. – Full scale*
* PPM – parts per million			

C. Temperature

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

3. FRONT PANEL DESCRIPTION

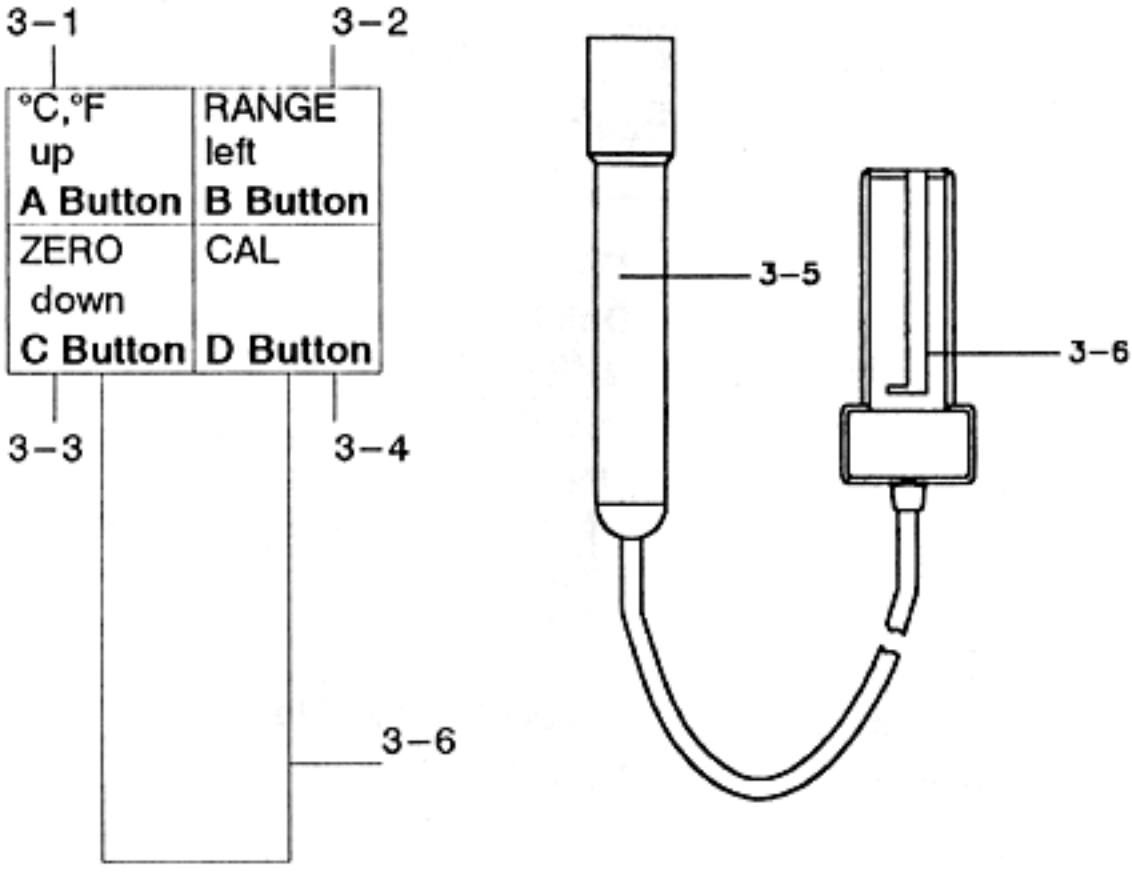


Fig. 1

3-1 °C,°F Button/up Button (A Button)
3-2 RANGE Button/left Button (B Button)
3-3 CD/TDS, down Button (C Button)
3-4 Temp. C Button (D Button)
3-5 Conductivity Probe
3-6 Conductivity Probe Plug

4. MEASURING PROCEDURE

4−1 Conductivity measurement

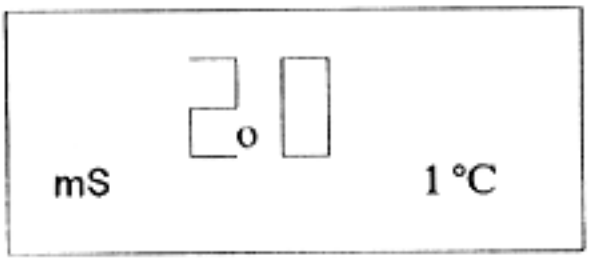
1) Connect the " Conductivity Probe plug " (4−6, Fig. 1) into the meter (YK−2001PH).

Make sure that the probe lock switch of PH−2001PH should slide to the lock position (🔒).

2) Power on the instrument (YK−2001PH).
3) Use the " CD/TDS " Button (C Button) (3 −3, Fig. 1), select the function to the conductivity measurement. The display will show the unit of " mS ".
4) The instrument will default to 2% per °C Temperature Compensation factor. The meter has built−in Automatic Temperature Compensation adjustable between 0 to 5.0 % per °C.

In order to change the default value carry out the following procedures :

a. *Push the " Temp. C Button (D Button) " (3−4, Fig. 1), the display will show :*



b. *Use the*
" up Button (A Button) " (3−1, Fig. 1),
" left Button (B Button) " (3−2, Fig. 1)
" down Button (C Button) " (3−3, Fig. 1)
to select the desired value of Temperature Compensation factor.

c. *Once the desired value is reached, push the " Temp. C Button (D Button) " (3−4, Fig. 1) to set the new value.*

5) Select the applicable range, by using the " Range Button (B Button) " (3−2, Fig. 1).

* *If the display shows "− − − −", it indicates an overload condition, select the next higher range.*
* *If the display shows "_ _ _ _", it indicates an out−of−range condition, select the next lower range.*

6) Immerse the head of " Conductivity Probe " (3−5, Fig. 1) into the solution, up to the immersion level.
7) During the measurement, the lower LCD Display will show the temperature of the solution.

* *Push the " °C/°F Button " (3−1, Fig. 1) to change the temperature display unit from "°C to °F" or "°F to °C".*

4−2 TDS measurement

The operation procedures are same as the above 4−1, except that Use the " CD/TDS " Button (C Button) (3 −3, Fig. 1), select the function to the TDS measurement. The lower display will show the text of " P ".

4−3 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.

6. CALIBRATION PROCEDURE

The meter has been calibrated during manufacture.
However, it may be necessary to re−calibrate periodically.
Particularly if the instrument is used foe a long period or if the conductivity electrode is changed.
To re−calibrate the instrument, follow the procedures shown below :

Range 1 (2 mS range) calibration

1) Prepare a " 1.413 mS Calibration Solution ".
2) Immerse the head of " Conductivity Probe " (3−5, Fig. 1) into the 1,413 mS solution up to the immersion level.
3) Select the range to the " 2 mS " position.
4) Set the temperature coefficient factor value to " 2.0% per °C "
5) At the same time push the following buttons of PH−2001PH together :

   a. REC.(MAX./MIN.) Button.
   b. HOLD Button

   The upper display will show the flashing text of " CAL ".
   The low display will show the flashing text of " 1.413 ".

6) When the display already show the above flashing text (CAL, 1.413), release two buttons. Then after a while, until the text stop to flash, the range 1 will be calibrated to 1.413 mS (May little deviate beyond, it is normal).

   * *After already release two buttons & before the text (CAL, 1.413) stop to flash, if push the " HOLD Button " will cancel the calibration procedures, the meter will return to previous calibration value.*

Range 2 (20 mS range) calibration

1) Prepare a " 12..88 mS Calibration Solution ".
2) Immerse the head of " Conductivity Probe " (3−5, Fig. 1) into the 12.88 mS solution up to the immersion level.
3) Select the range to the " 20 mS " position.
4) Set the temperature coefficient factor value to " 2.0% per °C "
5) At the same time push the following buttons of PH−2001PH together :

   a. REC.(MAX./MIN.) Button.
   b. HOLD Button

   The upper display will show the flashing text of " CAL ".
   The low display will show the flashing text of " 12.88 "

6) When the display already show the above flashing text (CAL, 12.88), release two buttons. Then after a while, until the text stop to flash, the range 1 will be calibrated to 12.88 mS (May little deviate beyond, it is normal).

   * *After already release two buttons & before the text (CAL, 12.88) stop to flash, if push the "HOLD Button " will cancel the calibration procedures, the meter will return to previous calibration value.*