



P-520 pH/Conductivity Meter

User Manual



PEAK INSTRUMENTS INC
Version 1801

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I. General Information

Thanks for using P-520 pH/Conductivity meter. In order to help you operate and maintain the instrument properly, please read the user manual before using it. We reserve the rights to update the manual and its parts subject to the purpose of improving the instrument's performance.

This instrument combines the technologies of advanced electronics, sensors and software design, which can be used to test the pH, conductivity, temperature and other parameters of water solutions. This portable tablet pH meter is very suitable for industrial and mining enterprises, power plant, environment protection, etc., especially convenient for outdoor use.

This instrument has built-in microprocessor chip, beautiful design, variable functions and the following features:

1. Built-in microprocessor chip, with automatic calibration, automatic or manual temperature compensation, data storage, function settings, automatic shutdown and low voltage alarm and other intelligent functions. Easy to use.
2. Digital filtering and slip techniques are used to improve meter's response speed and data accuracy. The symbol of “😊” is displayed when the measured value is stable.
3. Equipped with new type of pH electrode, conductivity electrode and temperature probe with automatic and manual temperature compensation functions. Can test pH, mV, COND, RES, TDS and SAL value, which make the measurement more accurate and operation easier.
4. Automatic recognition of pH buffers with three kinds of options: European & USA, NIST and China. Support 1, 2 or 3 point calibration. Automatic recognition of standard conductivity calibration solutions with two kinds of options: USA and China.
5. The circuit board adopts Surface Mounted Technology to improve the reliability of product processing.
6. White backlight LCD screen.
7. IP57 waterproof and dustproof.

II. Specifications

pH

Measuring Range	(-2.00~19.99) pH
Resolution	0.1/0.01 pH
Accuracy	Electrode: ± 0.01 pH, Instrument: ± 0.02 pH
Input Current	$\leq 2 \times 10^{-12}$ A
Input Impedance	$\geq 1 \times 10^{12}$ Ω
Stability	± 0.01 pH/3h
Temperature Compensation	(0~100) $^{\circ}$ C (automatic/manual)

mV

Measuring Range	-1999 mV~0~1999 mV
Resolution	1mV
Accuracy	$\pm 0.1\%$ FS

Conductivity

Measuring Range	Conductivity: (0.00~19.99) μ s/cm (20.0~199.9) μ s/cm (200~1999) μ s/cm (2.00~19.99)ms/cm (20.0~199.9)ms/cm TDS: (0~100)g/L Salinity:(0~100)ppt Resistivity:(0~100)M Ω ·cm
Resolution	0.01/0.1/1 μ s/cm, 0.01/0.1ms/cm
Accuracy	Electrode: $\pm 1.0\%$ FS Instrument: $\pm 1.5\%$ FS
Temperature Compensation	(0~100) $^{\circ}$ C (Auto/Manual)
Electrode Constant	0.1/1/10 cm ⁻¹
Reference Temperature	25 $^{\circ}$ C, 20 $^{\circ}$ C, 18 $^{\circ}$ C

Others

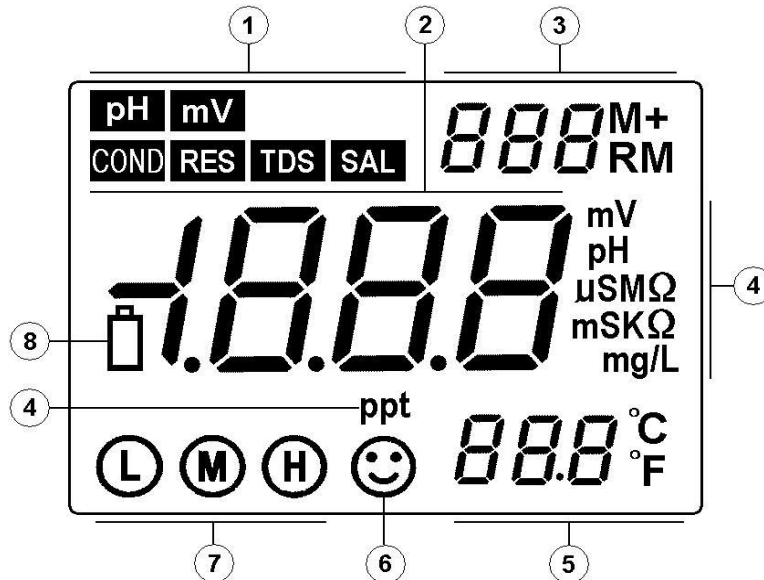
Data Storage	150 sets
Storage Contents	Series number, measuring value, unit, temperature
Power	Two pieces of AA battery
Size & Weight	165×90×32 mm/310g
Certificate	ISO, CE

Working Conditions

Ambient Temperature	5~35 $^{\circ}$ C
Humidity	$\leq 85\%$

III. Device Instructions


1. Display indicators



- ① Parameter mode indicator
- ② Measurement value
- ③ Data storage and replay number and symbol. Indicator of special status. M+ is symbol for data storage. RM is data replay icon.
- ④ Measurement unit
- ⑤ Temperature and unit
- ⑥ Stability symbol
- ⑦ Calibration indicators
- ⑧ Low voltage symbol, when the voltage is lower than 2.6V, the symbol will be shown to remind customer for battery change.

2. Operation Keys

There are seven operating buttons

2.1.  On/off button. It is used to switch on/off the device in measuring mode. This key is not working in other modes.

2.2.  Calibration key.

2.2.1. Press this button to enter calibration mode in measuring mode.

2.2.2. Press this key to back in other modes.

2.3.  Function key.

2.3.1. Long press more than 2 seconds to change between pH and COND.

2.3.2. In pH measuring mode, short press (less than 1.5 seconds) this key to change measuring unit between pH and mV **pH** → **mV** .

2.3.3. In conductivity measuring mode, short press (less than 1.5 seconds) this key to change measure modes as below.



COND → **RES** → **TDS** → **SAL**



2.4. **Backlight and delete key.**

2.4.1. In measuring mode, short press (less than 1.5 seconds) this key to turn on or off backlit.

2.4.2. When viewing saved data, long press (more than 5 seconds) this key to delete saved data.

2.5. **Increase and data view key.** **Decrease and data saving key.**

2.5.1. In measuring mode, short press (less than 1.5 seconds)  to save records, short press (less than 1.5 seconds)  to view saved records.


2.5.2.  and  are used to change parameters under setting mode.

2.6. **Set and Confirm/return key**

2.6.1. In measuring status, long press (more than 2 seconds) to enter parameter settings.


2.6.2. Short press (less than 1.5 seconds) to confirm current selection in other status.

3. Save, view and delete data.

3.1. Data save. In measuring status, when the reading is stable and shows symbol ,

short press (less than 1.5 seconds)  to save records, the screen will show “M+” and storage number. The device can save 150 sets of records totally.



3.2. Data view.

3.2.1. In measuring status, short press (less than 1.5 seconds)  to view the newest saved record of the current unit, and right upper corner will show symbol

“RM”. Continue press  or  to replay all saved records.



3.2.2. In view status, press  to return to measuring mode.

3.3. Delete data

In data viewing mode, long press  more than 5 seconds and screen displays  for two seconds, which means all saved data is deleted already and back to measuring mode.

IV. pH Measurement


1. Preparations





1.1. Press  to switch on device, then long press  to choose pH measuring mode.


1.2. Check if the glass bulb of pH combined electrode is moist and complete. If the bulb is broken, then the electrode will not work, if the bulb is too dry, it should be soaked in saturated KCL solution for 24 hours.

1.3. Connect pH electrode and temperature probe to its right ports.

2. Calibration

2.1. Press  to enter calibration mode, the screen will show C1 to indicate first point calibration.

2.2. Wash pH and temperature electrodes in pure water and make them dry, dip the electrode in the pH 6.86 buffer solution, shake the electrode and let it be static until the reading is stable (the symbol  will be shown on the screen), then press 
and display shows 6.86, next press  to confirm the first point calibration, the screen will show C2 to indicate second point calibration or press  to quit calibration mode.

2.3. Wash pH and temperature electrodes in pure water and wave them dry, dip the electrode in the pH 4.00 buffer solution, shake the electrode and let it be static until the reading is stable (the symbol  will be shown on the screen), then press

OK and display shows 4.00, next press **OK** to confirm the second point calibration, the screen will show C3 to indicate the third point calibration or press **CAL** to quit calibration mode.

2.4. Wash pH and temperature electrodes in pure water and make them dry, dip the electrode in the pH 9.18 buffer solution, shake the electrode and let it be static until the reading is stable (the symbol 😊 will be shown on the screen), then press **OK** and display shows 9.18, next press **OK** to confirm the third point calibration and quit calibration mode and enter measuring mode, “**L M H**” will be shown on the right bottom and means the instrument is calibrated at three points.

2.5. Calibration instructions

2.5.1. This instrument has one point, two point or three point calibration, after the first point calibration is finished, press **CAL** to quit calibration mode and enter measuring mode, “**L**” will be shown on the left bottom. When measurement accuracy is no more than ± 0.1 pH, choose one buffer solution to calibrate one point is enough according to the measurement range.

2.5.2. When the second point calibration is finished, press **CAL** to quit calibration mode and enter measuring mode, the symbol of two point calibration “**L M**” will be shown on the bottom left screen. If you only measure acidic solutions, then choose pH 4.0 & 6.86 buffers for calibration. If you only measure alkaline solutions, then choose pH 6.86 & 9.18 buffers for calibration.

2.5.3. If the measurement range is wide or the pH electrode is ageing after a long time, three point calibration is required, which will lead to higher accuracy. For the first time use of a new pH electrode, it must be calibrated at three points and adjust the slope of the instrument same as the pH electrode.

3. pH Solution Measurement

Wash the pH electrode & temperature electrode and wave them dry, put them into the solution, shake the electrode and let it be static, then wait until the reading is stable and the symbol 😊 appear on the screen, then the reading is its pH value.

NOTE: Based on principle of isothermal measurement, the closer of the temperature of tested solution with that of buffer solution, the more accurate of the

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measurement, please obey this rule when doing the test.

4. Parameter setup

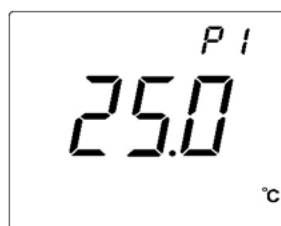
4.1. Table of pH meter parameter setup

Indicator	Description	Remarks
P1	Manual temperature compensation setup	(0-99.9)°C
P2	pH resolution setup	0.1pH/0.01pH
P3	pH buffer setup	CH, USA, NIST
P4	Temperature unit setup	°C °F
P5	Ammonia pure water compensation setup	OFF, ON
P6	Backlight time closing setting	0-20min or 0 stands for this function is not working
P7	Automatic shutdown time setting	0-20min or 0 stands for this function is not working
P8	System restore setup	OFF or ON



4.2. Manual temperature compensation setting(P1)

4.2.1. Long press  to enter set mode


Then press  to enter P1.



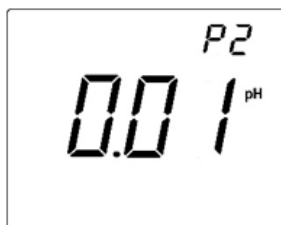
4.2.2. Press  or  to change temperature. Long press these keys to change the figures continuously. Press  to confirm the change and back.




4.2.3. Press  to enter next parameter setting or press  to back to measuring mode.



4.3. Resolution setting(P2).

4.3.1. Press  to choose P2 in mode P1,


Then press  to enter P2.



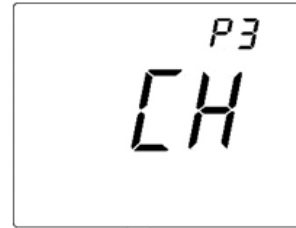
4.3.2. Press  or  to select resolution between 0.1 and 0.01. Press  to confirm the change and back.



4.3.3. Press  to enter next parameter setting or press  to back to measuring mode.

4.4. pH standard buffer setting(P3)



4.4.1. Press  to choose P3 in mode P2,

Then press  to enter P3.



4.4.2. Press  or  to select buffer standard. There are three standards:

USA, NIST and China. Press  to confirm the change and back.


4.4.3. Press  to enter next parameter setting or press  to back to measuring mode.

CH: 1.68 pH, 4.00 pH, 6.86 pH, 9.18 pH, 12.46pH

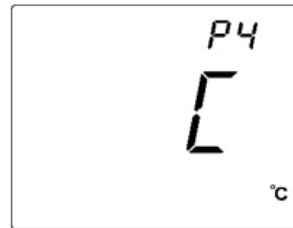
NIST: 1.68 pH, 4.01 pH, 6.86 pH, 9.18 pH, 12.45pH




USA: 1.68 pH, 4.00 pH, 7.00 pH, 10.01 pH, 12.45pH



4.5. Temperature unit setting(P4)

4.5.1. Press  to choose P4 in mode P3,


Then press  to enter P4.



4.5.2. Press  or  to select temperature unit °C/°F. Press  to confirm the change and back.




4.5.3. Press  to enter next parameter setting or press  to back to measuring mode.



4.6. Pure water or ammonia pure water compensation setting (P5)

4.6.1. Press  to choose P5 in mode P4,


Then press  to enter P5.



4.6.2. Press  or  to select compensation mode, "OFF" mean no compensation, "H2O" mean pure water compensation, "NH3" mean ammonia pure water compensation. Press  to confirm the change and back.




4.6.3. Press  to enter next parameter setting or press  to back to measuring mode.



4.7. Auto shutdown timer of backlight(P6)

4.7.1. Press  to choose P6 in mode P5,


Then press  to enter P6.



4.7.2. Press  or  to choose auto shutdown time of backlight. Press  to confirm the change and back.




4.7.3. Press  to enter next parameter setting or press  to back to measuring mode.



4.8. Auto shutdown timer setting of the device(P7)

4.8.1. Press  to choose P7 in mode P6,


Then press  to enter P7.



4.8.2. Press  or  to set the automatic shutdown time of the device. Press  to confirm the change and back. "0" means disabling this function.





4.8.3. Press  to enter next parameter setting or press  to back to measuring mode.

4.9. Restore default settings(P8)

4.9.1. Press  to choose P8 in mode P7,

Then press  to enter P8.



4.9.2. Press  or  to choose "On" and confirm by pressing  and "888" blinks on the screen, which means it is restored to default settings. Press  to back to measuring mode.

4.9.3. Be careful to use this function, because all saved data will be removed once restored to default settings.

5. Notes

5.1. Times to be calibrated depend on test sample, electrode and measurement accuracy. For high accuracy test ($\leq \pm 0.02\text{pH}$), it should be calibrated in time with high accuracy buffers. For normal accuracy measurements ($\geq \pm 0.1\text{pH}$), after being calibrated one time, it can be used for one week or even longer.

5.2. The instrument should be calibrated again in the following situations.

5.2.1. For new electrode and the one that has not been used for a long time.

5.2.2. After testing strong acidic solution ($\text{pH} < 2$) or strong alkaline solution ($\text{pH} > 12$).

5.2.3. After testing fluoride solution or high concentration organic solution.

5.2.4. The temperature difference is big for the tested solution and calibration solution.

5.3. There is electrode immersion solution in the protection bottle where the electrode probe is soaked and used to keep glass bulb moist and liquid interface activated. When to use it, just rotate the bottle cap, take out the electrode and wash it clean. After use, put it back to the bottle and tighten the bottle cap to prevent solution leaking. If the immersion solution is turbid or mouldy, please clean the bottle in time and change soaked liquid.

5.4. It is forbidden to be soaked long time in pure water, protein solution and acidic fluoride solution, and no contact with organic fat.

5.5. In order to increase measurement accuracy, the pH value of the standard buffer must be accurate which is used to calibrate the instrument.

5.6. Keep the instrument clean and dry, especially for the connection interfaces, otherwise the measurements will not be accurate or wrong.

5.7. The glass bulb can't touch solid things, any bulb damage will cause the electrode failure. The electrode should be washed before and after using it, then wave or absorb it dry, don't wipe it with paper tissue which will make the electric potential unstable and prolong response time. After the use in viscous sample, the electrode should be washed for a few time in order to remove sample stuck to the surface, or use suitable solvent to clean it.

5.8. After long use, the electrode will be passivated because the bulb is polluted or the liquid interface is blocked, which will make the electrode sensitive gradient lower, response slow, reading inaccurate. The following methods could be used in different situations.

5.8.1. The glass bulb is passivated: Soak the bulb in 0.1mol/L dilute hydrochloric acid (add pure water into 9ml hydrochloric acid to 1000ml) for 24 hours, wash it with pure water, then soak it in electrode immersion solution for 24 hours. If passivation is

serious, put the glass bulb in 4%HF (hydrofluoric acid) for 3-5 seconds, wash it with pure water, then soak it in electrode immersion solution for 24 hours.

5.8.2. Reference cleaning of glass bulb and liquid interface.

Contaminant	Detergent
Inorganic metal oxide	Less than 1mol/L dilute hydrochloric acid
Organic fat	Dilute detergent(alkalescent)
Resin polymer substance	Dilute alcohol, acetone, aether
Protein blood cell sediment	Acid enzyme solution(like Saccharated Yeast Tablets)
Pigment substance	Dilute bleach solution, hyperoxide

5.9. pH electrode can usually be used for one year, if the working conditions are very bad, being misused or in improper maintenance, its lifespan will be shortened. If the electrode is passivated or not working well, please replace it.

5.10. When the instrument is abnormal, please set P7 and restore default settings, then do the calibration and test.

6. Self-diagnosis information

The following symbols may appear during daily use, it is the self-diagnosis information which helps you understand some problems of the electrode or instrument.

6.1. Static -2.00 pH or -19.99pH means the measured value exceeds its measuring range. When electrode is not connected properly or in the air, it could happen and is normal.

6.2. "Err 1" means electrode zero potential is excess(<-60mv or >60mv).

6.3. "Err 2" means electrode slope is excess(<50% or >105%). When the above error symbols appear, please do the following examinations.




6.3.1. Check if there are bubbles in the electrode bulb, if yes, please wave them away.

6.3.2. Check if the buffers spoil or there is big error for the buffers.

6.3.3. Restore the instrument to default settings and recalibrate it.



If the above methods can't solve the problems, please change the pH electrode.

V. mV measurement






1. Press  to switch on the instrument, press  to choose mV measuring mode
2. Connected to ORP or ion composite electrode(optional). Wash it and wave it dry, put them into tested solution, stir the electrode and let it be static, then wait until the reading is stable and the symbol  appear on the screen, then the reading is its mV value.

VI. Conductivity Measurement

1. Preparations

- 1.1. Press  to switch on device and long press  to choose **COND** measuring mode.
- 1.2. Check if the pole piece of platinum black electrode is intact. If it is broken or rusty, then the electrode should be replaced.
- 1.3. Connect the platinum black electrode and temperature electrode to the proper interfaces.

2. Calibration(Standard solution)

- 2.1. Press  to enter calibration mode, the screen will show "CAL" to indicate entering calibration mode.
- 2.2. Wash conductivity and temperature electrodes in pure water and wave them dry, dip the electrode in 1408 μ s/cm calibration solution, move the electrode and let it be static until the reading is stable (the symbol  will be shown on the screen), then press  and display shows 1408 μ s/cm, next press  to confirm the calibration, save the data and press  to quit calibration mode, then "(L) (M)" is shown on the screen.


NOTE: The instrument was already calibrated at the factory and can be used directly in general.

The standard solution method is for the inaccuracy of conductivity constant caused by long time use. The new conductivity electrode has been calibrated before leaving the factory, and its constant is labeled on the electrode. Just input constant before use.

In the method of electrode constant input, first to confirm the type of electrode constant, then input the constant coefficient. For example, if the constant is 10.5, then select the electrode of type 10, and set the constant as 1.05. That is $10.5 = 10 \times 1.05$.

3. Conductivity solution test

3.1. Wash the pH electrode & temperature electrode and wave them dry, put them into the solution, shake the electrode and let it be static, then wait until the reading is stable and the symbol ☺ appear on the screen, then the reading is its conductivity value.

3.2. Short press  and the values of resistivity, TDS and salinity could be viewed accordingly.

4. Important Instructions

4.1. This instrument has the following two series of calibration solutions in the system, please set up the standard in P4.

CH

Chinese series: 146.6 μ s/cm, 1408 μ s/cm, 12.85ms/cm, 111.3 ms/cm

USA

American series: 84 μ s/cm, 1413 μ s/cm, 12.88ms/cm, 111.9 ms/cm

4.2. This instrument has a unique function of one point calibration, you can choose one solution to calibrate according to the principle that the conductivity of liquid sample is as close to calibration solution as possible. The commonly used calibration solution is 1408 μ s / cm. The DJS-1(K=1) platinum black electrode calibrated by 1408 μ s/cm calibration solution can be used in the range of less than 100 ms/cm. Please refer to the following table.

Table 4-1

Measuring Range	0.05~20 μ s/cm	0.5 μ s/cm~200ms/cm		
Electrode Constant	K=0.1 cm ⁻¹ (flow test)	K=1.0 cm ⁻¹		
Calibration Solution	84 μ s/cm	84 μ s/cm	1413 μ s/cm	12.88ms/cm 111.9ms/cm
Indicator	Ⓛ	Ⓛ	Ⓛ Ⓜ	Ⓛ Ⓜ Ⓜ

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4.3. There are two methods for conductivity electrode calibration, standard calibration solution and set up electrode constant. The calibration way in “4.2” is standard solution calibration. As long as the standard solution is accurate, it can guarantee the best accuracy. Therefore, the standard solution calibration method is preferred. If the user is used to the constant setting method, he can set it according to the constant marked on the conductivity electrode (the constant of new conductivity electrodes have been already calibrated, customers can rest assured to use, if it is not used for a long time or contaminated, in order to ensure the accuracy, then clean electrodes firstly and calibrate them with standard solution.

4.4. The temperature compensation coefficient of the instrument is 2.00% °C originally, but the conductivity temperature coefficient of different kinds of solutions with different concentrations is different. The user can refer to the table 4-2 or the data obtained by the user in the experiment and set up in P13. In high purity water of less than 10 μ s/cm, the instrument automatically compensates for nonlinear temperature.

NOTE: When the temperature compensation coefficient is set to 0.00, that is, namely there is no temperature compensation when testing, and the measured value of the instrument is the conductivity value at the current temperature.

Table 4-2

Solution	Temperature compensation coefficient
NaCl solution	2.12%/°C
5% NaOH solution	1.72%/°C
Dilute ammonia solution	1.88%/°C
10% Hydrochloric acid solution	1.32%/°C
5% Sulfuric acid solution	0.96%/°C

5. Parameter settings

5.1. Table of conductivity meter parameter setup

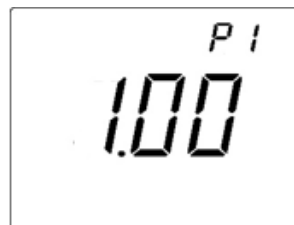
Indicator	Description	Remarks
P1	Electrode constant setting	0.20-5.00
P2	Electrode constant coefficient setting	0.1, 1.0, 10
P3	Manual temperature compensation	(0-99.9)°C
P4	Standard solution setting	China, USA
P5	Temperature compensation coefficient setting	0.00%-9.99%
P6	Reference temperature selection	25°C, 20°C, 18°C

P7	Temperature unit selection	°C, °F
P8	Backlight time closing setting	0-20min or 0 stands for this function is not working
P9	Automatic shutdown time setting	0-20min or 0 stands for this function is not working
P10	System restore setup	OFF or ON



5.2. Electrode constant setting(P1)

5.2.1. Long press  to enter setting mode


Then press  to enter P1.



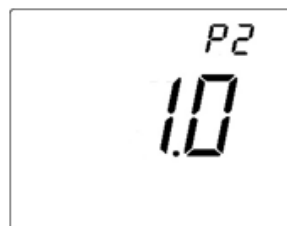
5.2.2. Press  or  to change constant value. Long press these keys to change the figures continuously. Press  to confirm the change and back.




5.2.3. Press  to enter next parameter setting or press  to back to measuring mode.



5.3. Electrode constant coefficient setting(P2).

5.3.1. Press  to choose P2 in mode P1,


Then press  to enter P2.



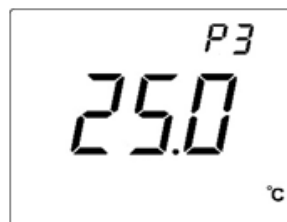
5.3.2. Press  or  to modify the coefficient. Press  to confirm the change and back.

5.3.3. Press  to enter next parameter setting or press  to back to measuring mode.



5.4. Manual temperature compensation(P3)

5.4.1. Press  to choose P3 in mode P2,


Then press  to enter P3.



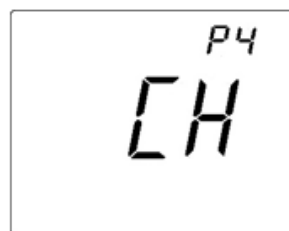
5.4.2. Press  or  to change temperature. Long press these keys to change the figures continuously. Press  to confirm the change and back.




5.4.3. Press  to enter next parameter setting or press  to back to measuring mode.



5.5. Standard solution setting(P4)

5.5.1. Press  to choose P4 in mode P3,


Then press  to enter P4.



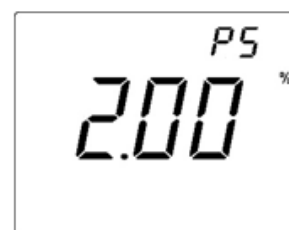
5.5.2. Press  or  to select solution standard. Press  to confirm the setting.

5.5.3. Press  to enter next parameter setting or press  to back to measuring mode.



5.6. Temperature compensation coefficient setting(P5)

5.6.1. Press  to choose P5 in mode P4,


Then press  to enter P5.



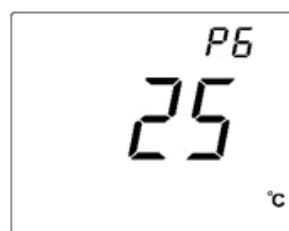
5.6.2. Press  or  to change coefficient, Long press these keys to change the figures continuously. Press  to confirm the change and back.




5.6.3. Press  to enter next parameter setting or press  to back to measuring mode.



5.7. Reference temperature selection(P6)

5.7.1. Press  to choose P6 in mode P5,


Then press  to enter P6.



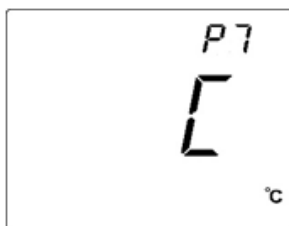
5.7.2. Press  or  to choose reference temperature, there are three options: 25°C, 20°C, 18°C. Press  to confirm the selection.




5.7.3. Press  to enter next parameter setting or press  to back to measuring mode.



5.8. Temperature unit selection(P7)

5.7.1. Press  to choose P7 in mode P6,


Then press  to enter P7.



5.7.2. Press  or  to choose temperature unit °C/°F. Press  to confirm the selection.




5.7.3. Press  to enter next parameter setting or press  to back to measuring mode.



5.9. Backlight setting(P8)

5.9.1. Press  to choose P8 in mode P7,


Then press  to enter P8.



5.9.2. Press  or  to choose auto shutdown time of backlight. Press  to confirm the change and back.



5.9.3. Press  to enter next parameter setting or press  to back to measuring mode.


5.10. Auto shutdown timer of the device(P9)



5.10.1. Press  to choose P9 in mode P8,

Then press  to enter P9.




5.10.2. Press  or  to set the automatic shutdown time of the device.

Press  to confirm the change and back. "0" means disabling this function.

5.10.3. Press  to enter next parameter setting or press  to back to measuring mode.


5.11. Restore default settings(P10)

5.11.1. Press  to choose P10 in mode P9,

Then press  to enter P10.



5.11.2. Press  or  to choose "On" and confirm by pressing  and "888"

blinks on the screen, which means it is restored to default settings. Press  to back to measuring mode.

5.11.3. Be careful to use this function, because all saved data will be removed once restored to default settings.

VII. Notices

1. The conductivity electrode has been calibrated before leaving factory, its constant Value is marked on the electrode, and the customer can set constant, no need to recalibrate it.
2. Normally, it is recommended the electrode should be calibrated once a month or after a period of time. It will depend on the real situations. It is not necessary to be calibrated very often.
3. Keep conductivity electrode clean. Wash it clean in pure water and wave it dry before and after measurement, preferably rinsed with the tested solution.
4. DJS series platinum black conductivity electrode surface is coated a layer of platinum black to reduce electrode polarization, expand its measuring range, so platinum black electrode surface can't be wiped, can only be shaken in water for cleaning to avoid damage platinum-black coating. The organic contamination on the electrode surface can be cleaned with warm water containing detergents or alcohol.
5. The conductivity electrode can be intruded in pure water before use to prevent platinum black passivated. If the platinum black electrode is failure, dip it in 10% nitric acid solution or 10% hydrochloric acid solution for 2 minutes, then rinsed clean with pure water, if the condition is not improved, then the platinum black needs to be electroplated or replaced.
6. When the instrument is abnormal, please restore the instrument to factory setting in P10, then calibrate and test it again.

VIII. Packing List

Description	Quantity
P-520 pH/Conductivity meter	1 unit
pH electrode	1 piece
Conductivity electrode	1 piece
Temperature electrode	1 pieces
Standard buffers(4.00, 6.86, 9.18pH)	1 set
AA Battery	2 pieces
User manual	1 copy