C370

CONDUCTIVITY MONITOR

iGPG GOLDPOINT COMPANY LTD.

Conductivity Monitor

OPERATION GUIDE

CONTENTS

C370 Intelligent On-line Conductivity/TDS Monitor

1. INTRODUCTION

The C370 is a microprocessor controlled conductivity measurement instrument. The unit utilizes a multifunction LCD to display readings and provide feedback to the user. It is available with different option to provide fully configurable control, alarm and feedback with up to two relays and 0/4-20mA current output sources.

2. FEATURES AND TECHNICAL SPECIFICATIONS

2.1 Features

(1) Large back-lit multifunction LCD display
(2) Wall or Panel mounting is available
(3) Man-machine interface is friendly
(4) Measured conductivity, resistivity, TDS, temperature
(5) 0 ~ 100℃ automatic/manual temperature compensation
(6) Manual or Automatic buffer adjustment
(7) Restore factory setting function is available
(8) ROM inside, measurements and time can be programmed store
(9) Galvanic separation between inputs and outputs and supply voltage
(10) Different input for excellent noise rejection
(11) High and low programmable alarm, 250V/10A relay output

2.2 Technical Specifications

(1) Ranges of measurement：0~18 MΩ·cm or 0~19.99uS/cm, 0~999.9uS/cm, 0~9999uS/cm, 0~100mS/cm, 0~300mS/cm, 0~9999ppm, 0~100ppt, 0~300ppt
(2) Accuracy：±0.5% FS / ±0.2℃
(3) Linearity：±0.1% of range

(4) Repeatability：±0.1% of range

(5) Temperature compensation type：Auto / manual 0℃ to 100℃

(6) Alarm Output：Four relays outputs (250V/10A)，full range with hysteresis adjustable

(7) Current output：Two sets DC 4~20mA，Opto-isolated outputs，(750Ω Max. load)

(8) Ambient Operating temperature：-10~+55℃

(9) Humidity：≤95%

(10) Power supply：AC100 ~240V，50~60Hz

3. INSTALLATION

Depending on the installation position, use the attached mounting bracket and fastened it horizontally or vertically on the rear of the instrument with screws, then fixed on the wall or panel as *figure 1*.
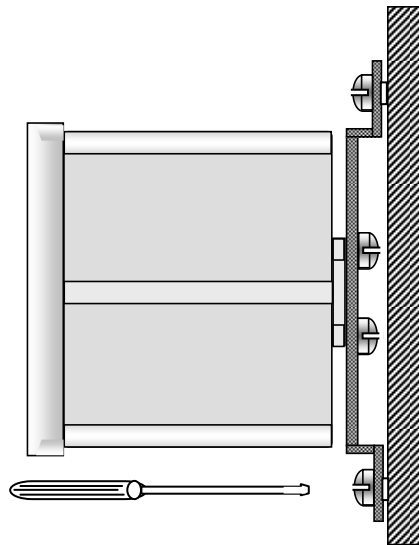
Figure 1 : installation diagram

3.1   Dimensions
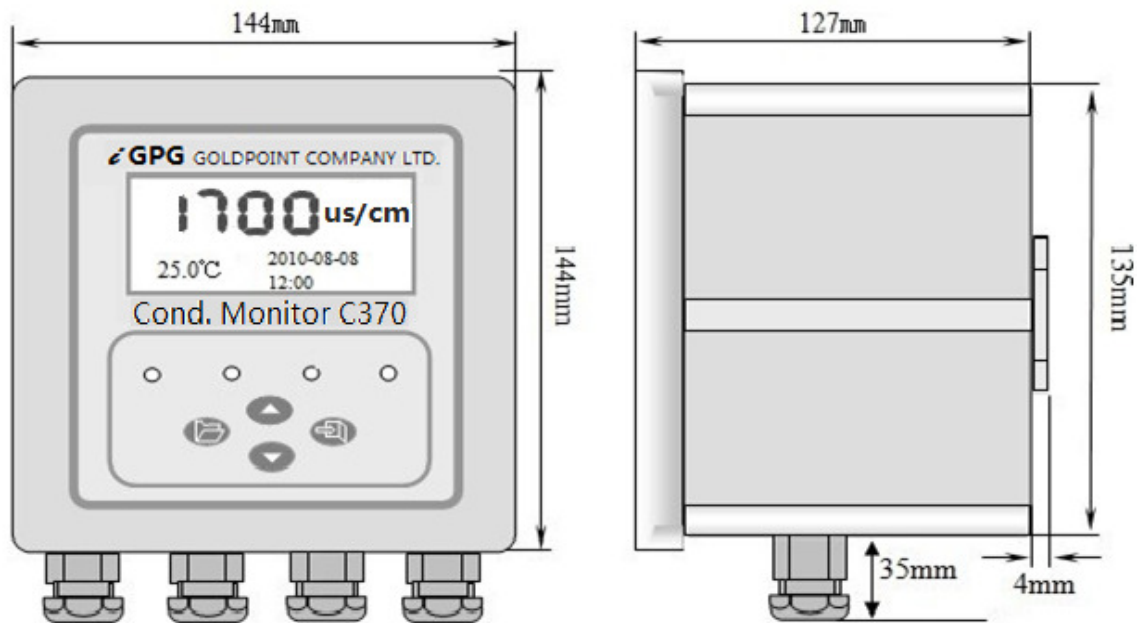
Figure 2 : overall dimensions panel-mounting

3.2   Connection

Remove the four bolts on the front of the instrument, open the case gently, you can see a row of terminals shown in *Figure 3*, please wiring follow the directions.
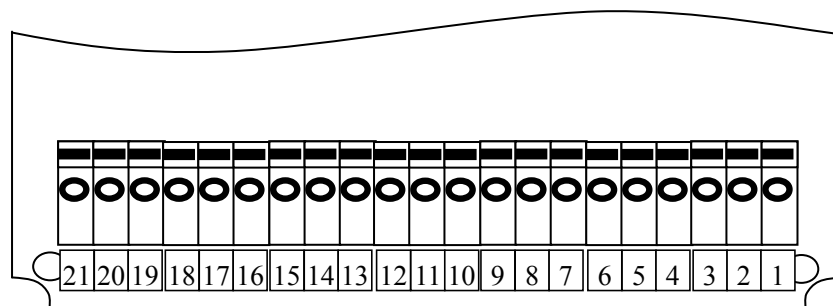
Figure 3 : connection terminals diagram

Connection terminals wiring directions：

1. V1,   Power supply terminal: Connect AC100 ~ 240V

2. V2,   Power supply terminal: Connect the power supply phase

3. GND,   Ground

4. Spare,

5. I+,   4~20mA current output

6. I-,   4~20mA current output

7. Spare,

8. Spare,

9. AH,   high alarm relay output (N/O, normally open)

10. COM,   high alarm relay output (Common)

11. AL,   low alarm relay output (N/O, normally open)

12. COM,   low alarm relay output (Common)

13. Spare,

14. Spare,

15. Spare,

16. MB,   RS485- (Optional)

17. MA,   RS485+ (Optional)

18. T2,   temperature sensor (blue or brown line)

19. T1,   temperature sensor (black line)

20. C2,   conductivity sensor (yellow or white line)

21. C1,   conductivity sensor (red line)

★ **CAUTION ! :**

The specified performance of the C370 is entirely dependent on correct installation. For this reason, the installer should thoroughly read the instructions before attempting to make any electrical connections to the unit.

4. SETTING AND OPERATION

4.1 User Interface and Description
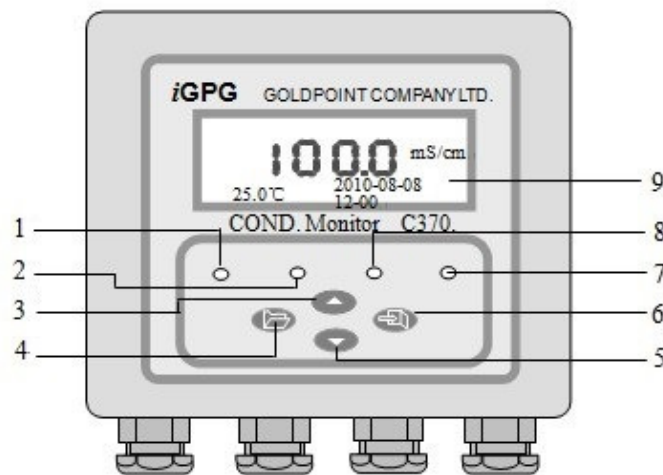
Figure 4: front panel diagram

Front panel description:

(1) **Hi** alarm light，Under the conditions of setting high alarm, when the measured DO value of the solution is higher than the value of High alarm, the **Hi** alarm light will be turned on and the high relay (N/O) close; When the measured DO value of the solution is lower than the value of High alarm, furthermore lower than the hysteresis, the **Hi** alarm light will be turned off and the high relay (N/O) open.

(2) **Lo** alarm light，Under the conditions of setting low alarm, when the measured DO value of the solution is lower than the value of low alarm, the **Lo** alarm light will be turned on and the low relay (N/O) close; When the measured DO value of the solution is higher than the value of low alarm, furthermore higher than the hysteresis, the **Lo** alarm light will be turned off and the low relay (N/O) open.

(3) **UP** key. In the setting state, using the **UP** key the user can cycle through the front menu. To adjust a value, the **UP** key is used to increment the digit.

(4) **MENU** switch. Press this key to enter or exit the setting state.

(5) **DOWN** key，In the setting state, using the **DOWN** key the user can cycle through the next menu. To adjust a value, the **DOWN** key is used to select a digit.

(6) **ENTER** key is the enter button to confirm enter the menu and store the setting parameters.

(7) **Meas** indicator light, the light will be turned on when entering the measuring state.

(8) **SET** indicator light, the light will be turned on when entering the setting state.

(9) **LCD digital Monitor**，displayed the measured values，and can also be displayed prompt function, parameter values and error codes in interactive

4.2 Parameter Setting and Operation

When the instrument is powered security, after a brief self-test program, **Meas** indicator lights and display the conductivity value, example "100.0" as *Figure 5*. Indicates the instrument is working in the measurement state.

$$100.0^{mS/cm}$$

25.0℃   2010-08-08
            12：00
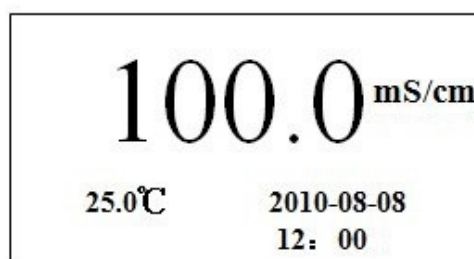
Figure 5 measurement

Instrument has two kinds of operating states: "Measuring" state and "Setting" state. In the measuring state, there are three kinds of display: "Conductivity" "Resistance" and "TDS" display status. Generally，when the instrument is powered on, it enter into the measuring state. Use the

MENU key to switch the "Measuring" state or "Setting" state.Press **MENU** key in the measuring state, it will enter the setting state, and the SET indicator light will be turned on. At this point press the **UP** or **DOWN** keys to select various setting functions, press the **MENU** key to return to measuring state.

The C370 Monitor is locked to prevent unauthorised access to the configuration menu's by using a password. If you want to enter the setting menu, you must enter correct password.

The user password is a 4 digit number that can be set to any value the user chooses. When press the **MENU** key, the screen will display:

```
Enter Password
     2222

▲/▼  "ENTER" to set
```
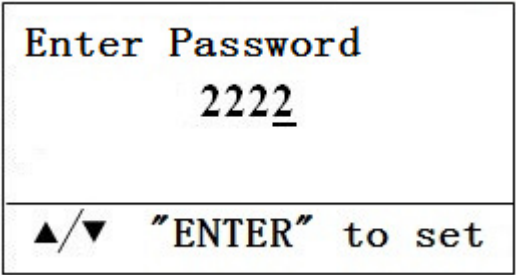
When supplied new, the user password is set to 2223, we recommend that this is changed when the instrument is installed. Use **UP** and **DOWN** to modify it, then press **ENTER** to enter the setting menu.

Setting Menu Level 1 Directory

```
Parameters        ⬍         Parameters
Set Alarm                   Set Alarm
Current Output              Current Output
▲/▼ "ENTER" to set          Calibration
                            Save/Read
                            Reset
```
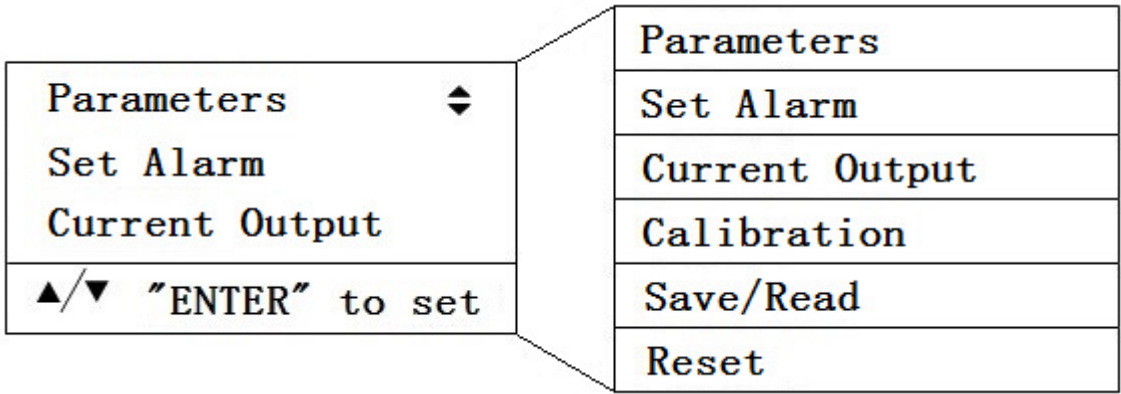
Figure 6   setting menu level 1 directory

After entering into the setting menu, the main menu is displayed on the screen as *Figure 6*. By pressing the **UP** and **DOWN** keys to select menu option, then press the **ENTER** key to enter this menu subdirectory.

4.2.1 Set Parameter
4.2.1.1 Set Measuring Parameter

```
┌─────────────────────────────┐
│ Parameters        ◆         │
│ Set Alarm                   │
│ Current Output              │
├─────────────────────────────┤
│ ▲/▼  "ENTER" to set         │
└─────────────────────────────┘
```

Select "Meas Parameter", press **ENTER** key to enter the next menu level.

```
┌─────────────────────────────┐
│ Meas Parameter    ◆         │
│ Cell Constant               │
│ TDS Coefficient             │
├─────────────────────────────┤
│ ▲/▼  "ENTER" to set         │
└─────────────────────────────┘
```

```
┌─────────────────────────────┐
│ Meas Parameter              │
├─────────────────────────────┤
│ Cell Constant               │
├─────────────────────────────┤
│ TDS Coefficient             │
├─────────────────────────────┤
│ Temp Comp                   │
├─────────────────────────────┤
│ Time and Date               │
├─────────────────────────────┤
│ Change Password             │
└─────────────────────────────┘
```

```
┌─────────────────────────────┐
│ Meas Parameter              │
│     Conductivity            │
│                             │
├─────────────────────────────┤
│ ▲/▼  "ENTER" to set         │
└─────────────────────────────┘
```

Press **UP** and **DOWN** keys to select "Conductivity" "Resistance" or "TDS", press **ENTER** key to confirm.

4.2.1.2 Set Cell Constant

```
┌─────────────────────────────┐
│ Meas Parameter              │
│ Cell Constant     ◆         │
│ TDS Coefficient             │
├─────────────────────────────┤
│ ▲/▼  "ENTER" to set         │
└─────────────────────────────┘
```

Select "Cell Constant", press **ENTER** key to enter the next menu level.

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```
┌─────────────────────────┐
│  Cell Constant          │
│         1.0͟0            │
│                         │
│ ▲/▼  "ENTER" to set     │
└─────────────────────────┘
```

Press **UP** and **DOWN** keys to select "0.01", "0.1", "1.00", "10", or "30", press **ENTER** key to confirm.

4.2.1.3 Set TDS Coefficient

```
┌─────────────────────────┐
│  Meas Parameter         │
│  Cell Constant          │
│  TDS Coefficient   ⬍    │
│                         │
│ ▲/▼  "ENTER" to set     │
└─────────────────────────┘
```

Select "TDS Coefficient", press **ENTER** key to enter the next menu

```
┌─────────────────────────┐
│  TDS Coefficient        │
│         1.0͟            │
│                         │
│ ▲/▼  "ENTER" to set     │
└─────────────────────────┘
```

Press **UP** and **DOWN** keys to modify, TDS Coefficient range is 0.4 to 1.0, then press **ENTER** key to save and return to the previous menu.

4.2.1.4 Temperature Compensation

C370 has Auto and manual temperature compensation function. Use manual temperature compensation, according to the manual input temperature value to compensate. Use automatic temperature compensation, according to the measuring temperature value by the temperature sensor to compensate.

```
Temp Comp              ↕
Time and Date
Change Password
─────────────────────────
▲/▼  "ENTER" to set
```

Select "Temp Comp", press **ENTER** key to enter the next menu level.

```
Temp Comp Mode         ↕
Manual Temp I/P
TC Coefficient
─────────────────────────
▲/▼  "ENTER" to set
```

Select "Temp Comp Mode", press **ENTER** key to enter the next menu level.

```
Temp Comp Mode
    Auto/Manual

─────────────────────────
▲/▼  "ENTER" to set
```

Press **UP** and **DOWN** keys to select "Auto" or "Manual", press **ENTER** key to confirm.

When selected temperature compensation mode to manual, you need to enter the temperature value. Range is 0~100℃, and the factory default is 25.0℃.

```
Manual Temp I/P
    25.0 ℃

─────────────────────────
▲/▼  "ENTER" to set
```

```
TC Coefficient
    0.01%

─────────────────────────
▲/▼  "ENTER" to set
```

The temperature compensation coefficient is different for each type of solution, so the temperature compensation coefficient is designed to be

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adjustable(25 ℃ as the reference), and the range is -2~+2%. The temperature compensation coefficient works both in automatic and manual temperature compensation.

The Calculation Method of coefficient

$$\varepsilon = \frac{\text{cond.35-cond.25}}{\text{cond.25 (35-25)}} \times 100\%$$

Remark：cond.25=the conductivity value at t=25℃；
cond.35=the conductivity value at t=35℃

4.2.1.5 Modify Time and Date of Instrument

```
Temp Comp
Time and Date      ⬍
Change Password
─────────────────────
▲/▼  "ENTER" to set
```

Select "Time and Date", press **ENTER** key to enter the next menu level.

⬇

```
Modify Time        ⬍
Modify Date


─────────────────────
▲/▼  "ENTER" to set
```

Select "Modify Time", press **ENTER** key to enter the next menu level.

⬇

```
Modify Time
        08:18:18

─────────────────────
▲/▼  "ENTER" to set
```

When the character starts flashing, press **DOWN** key to select the digit, the **UP** key is to modify the selected digit. After modifying the value, press **ENTER** key to save and return to the previous menu.

```
┌─────────────────────────────┐
│ Modify Date                 │
│        2012-08-18           │
│                             │
│                             │
├─────────────────────────────┤
│ ▲/▼  "ENTER" to set         │
└─────────────────────────────┘
```

Method of modify date is similar to modify time.

4.2.1.6 Change Password

When the character starts flashing, press **DOWN** key to select the digit, the **UP** key is to modify the selected digit. After enter a new password, press **ENTER** key to save and return to the previous menu.

```
┌─────────────────────────────┐
│ Temp Comp                   │
│ Time and Date               │
│ Change Password     ▲▼      │
├─────────────────────────────┤
│ ▲/▼  "ENTER" to set         │
└─────────────────────────────┘
```

⬇

```
┌─────────────────────────────┐
│ New Password                │
│        2223                 │
│                             │
├─────────────────────────────┤
│ ▲/▼  "ENTER" to set         │
└─────────────────────────────┘
```

4.2.2 Set Alarm

The C370 monitor has two alarm outputs designated high alarms(**H**) and low alarms(**L**). The alarm value and alarm hysteresis can be set within the currently selected measuring range.

Alarm Relay

During normal operation when the alarm is not active, the alarm output

will be in its NORMAL condition, the N/O (normal open) contact will be open. When the alarm is active, the alarm output will be in its ALARM condition and therefore the N/O contact will be closed.

Alarm Hysterisis

In a normal condition an alarm turns on and off at the same value. For example, if a high alarm turns on at 1000 uS/cm the alarm occurs when the reading increases to 1000 uS/cm. When it decreases through 1000 uS/cm the alarm turns off.

Some applications may demand that the alarm turns off at a different value, for a high alarm this would be value lower than the alarm value, and for a low alarm this would be a value higher than the alarm value.

The hysterisis value determines the difference between the alarm switch on point and the alarm switch off point. In the case of a high alarm, hysterisis causes the alarm to turn off at a value that is less than the alarm value. For a low alarm, hysterisis causes the alarm to turn off at a value greater than the alarm value.
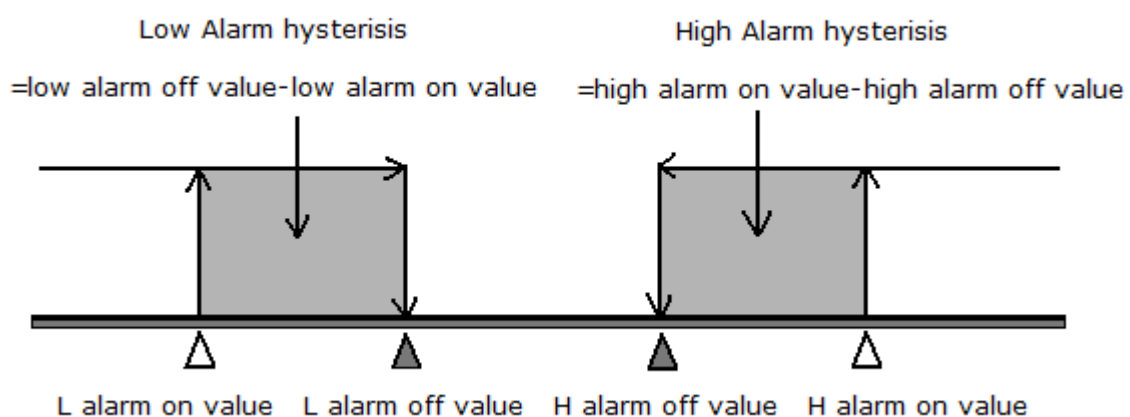
Figure 6   alarm with hysterisis

Select "ALARM", press **ENTER** key to enter the next menu level.

```
┌─────────────────────────────┐
│ Parameters                  │
│ Set Alarm            ⬍       │
│ Current Output              │
├─────────────────────────────┤
│ ▲/▼  "ENTER" to set         │
└─────────────────────────────┘
```

Select "Set Alarm", press **ENTER** key to enter the next menu level.

```
┌─────────────────────────────┐   ┌─────────────────────────────┐
│ Alarm Target         ⬍       │   │ Alarm Target                │
│ High Alarm                  │   ├─────────────────────────────┤
│ High Hysteresis             │   │ High Alarm                  │
├─────────────────────────────┤   ├─────────────────────────────┤
│ ▲/▼  "ENTER" to set         │   │ High Hysteresis             │
└─────────────────────────────┘   ├─────────────────────────────┤
                                  │ Low Alarm                   │
                                  ├─────────────────────────────┤
                                  │ Low Hysteresis              │
┌─────────────────────────────┐   ├─────────────────────────────┤
│ Alarm Target                │   │ T H Alarm                   │
│     Conductivity            │   ├─────────────────────────────┤
│                             │   │ T H Hysteresis              │
│                             │   ├─────────────────────────────┤
├─────────────────────────────┤   │ T L Alarm                   │
│ ▲/▼  "ENTER" to set         │   ├─────────────────────────────┤
└─────────────────────────────┘   │ T L Hysteresis              │
                                  └─────────────────────────────┘
```

Press **UP** and **DOWN** keys to select "Conductivity" "Temperature" or "No Alarm", press **ENTER** key to confirm.

```
┌─────────────────────────────┐
│ Alarm Target                │
│ High Alarm          ↕       │
│ High Hysteresis             │
├─────────────────────────────┤
│ ▲/▼  "ENTER" to set         │
└─────────────────────────────┘
              ⬇
┌─────────────────────────────┐
│ High Alarm                  │
│      8000 uS/cm             │
│                             │
│                             │
├─────────────────────────────┤
│ ▲/▼  "ENTER" to set         │
└─────────────────────────────┘
```
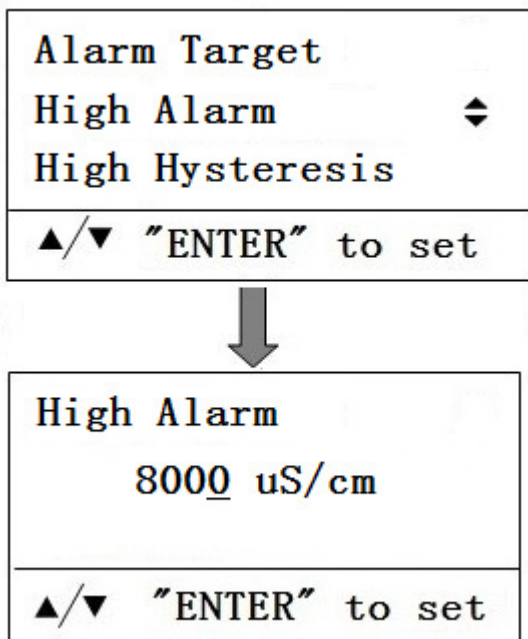
Press **UP** and **DOWN** keys to select the item you want to modify, then press **ENTER** to enter into. When the character starts flashing, press **DOWN** key to select the digit, the **UP** key is to modify the selected digit. After modifying the value, press **ENTER** key to save and return to the previous menu. The factory default alarm value as below:

High Alarm	2000 uS/cm	T H Alarm	50.0 ℃
High Hysteresis	20 uS/cm	T H Hysteresis	2.0 ℃
Low Alarm	100 uS/cm	T L Alarm	10.0 ℃
Low Hysteresis	20 uS/cm	T L Hysteresis	2.0 ℃

*Note: The setting should meet (high alarm - high hysteresis)≥(low alarm + low hysteresis)

4.2.3 Set Current Output

C370 has 4~20mA current output. The current output can be set work over the whole range of the input source.
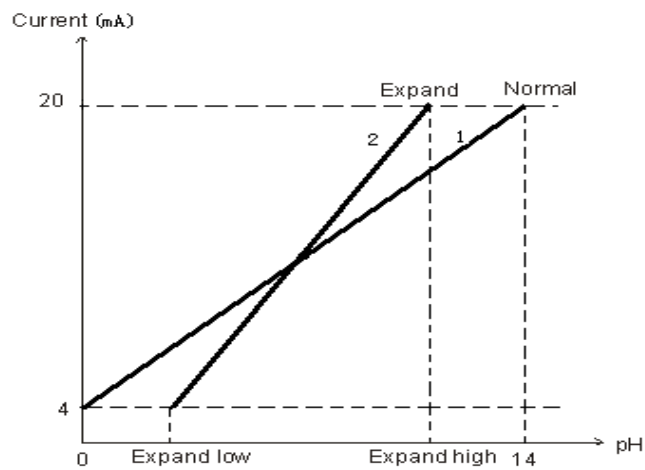
Figure 10   Current span curve

The output can be set work over the whole of selected measurement range (curve1) or a portion of it by setting of the output start and end values (curve2).

Select "Current Output", press **ENTER** key to enter the next menu level.

```
Parameters
Set Alarm
Current Output      ⬍
▲/▼  "ENTER" to set
```

```
Set Current O/P     ⬍
Current Range
Cond Current O/P
▲/▼  "ENTER" to set
```

```
Set Current O/P
Current Range
Cond Current O/P
Temp Current O/P
```
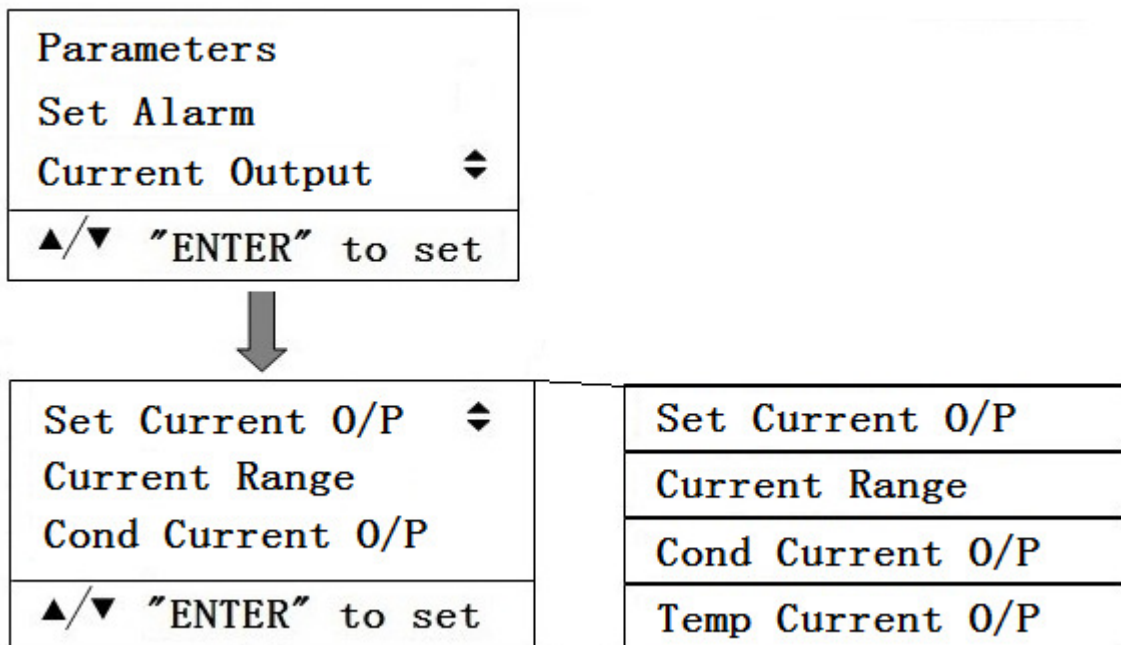
4.2.3.1 Select Current Tracking Signal

```
Set Current O/P    ⬍
Current Range
Cond Current O/P
───────────────────────
▲/▼  "ENTER" to set
```

Select "Set Current O/P", press **ENTER** key to enter the next menu level.

⬇

```
Set Current O/P
     Conductivity
───────────────────────
▲/▼  "ENTER" to set
```

Press **UP** and **DOWN** keys to select "Conductivity" "Temperature" or "No Output", press **ENTER** key to confirm.

4.2.3.2 Set Current Output Range

```
Set Current O/P
Current Range      ⬍
Cond Current O/P
───────────────────────
▲/▼  "ENTER" to set
```

Select "Current Range", press **ENTER** key to enter the next menu level.

⬇

```
Current O/P Zero   ⬍
Current O/P Span
───────────────────────
▲/▼  "ENTER" to set
```

When the character starts flashing, press **DOWN** key to select the digit, the **UP** key is to modify the selected digit. After modifying the value, press **ENTER** key to save and return to the previous menu.

⬇

```
Current O/P Zero
     4.00 mA
───────────────────────
▲/▼  "ENTER" to set
```

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4.2.3.3　Set Current Tracking Range

```
┌─────────────────────────────┐
│ Current Range               │
│ Cond Current O/P      ◆      │
│ Temp Current O/P            │
├─────────────────────────────┤
│ ▲/▼  "ENTER" to set        │
└─────────────────────────────┘
```

⬇

```
┌─────────────────────────────┐
│ Follow Cond Zero      ◆      │
│ Follow Cond Span            │
│                             │
├─────────────────────────────┤
│ ▲/▼  "ENTER" to set        │
└─────────────────────────────┘
```

⬇

```
┌─────────────────────────────┐    ┌─────────────────────────────┐
│ Follow Cond Zero            │    │ Follow Cond Span            │
│        0 uS/cm              │    │        9999 uS/cm           │
│                             │    │                             │
├─────────────────────────────┤    ├─────────────────────────────┤
│ ▲/▼  "ENTER" to set        │    │ ▲/▼  "ENTER" to set        │
└─────────────────────────────┘    └─────────────────────────────┘
```
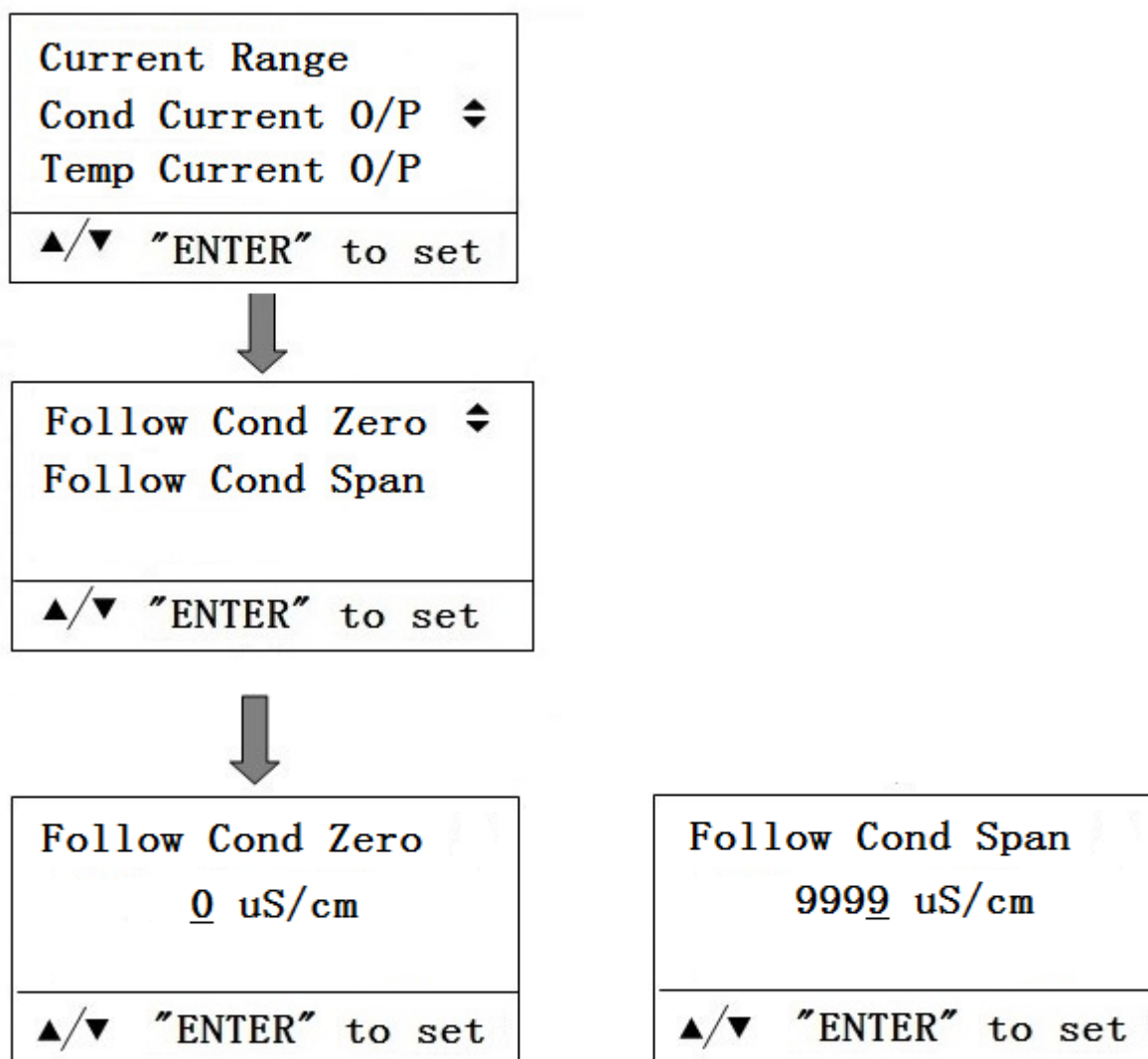
Press **UP** and **DOWN** keys to modify, then press **ENTER** key to save and return to the previous menu.

The factory default zero and span of the input source as below:

Input source	Zero	Span
Conductivity	0 uS/cm	9999 uS/cm
Temperature	0.0 ℃	100.0 ℃

4.2.4　Calibration

Calibration Intervals

The C370 Monitor and Sensor combination once calibrated will require calibration checking/recalibration at 3-6 monthly intervals, however this does depend on the application.
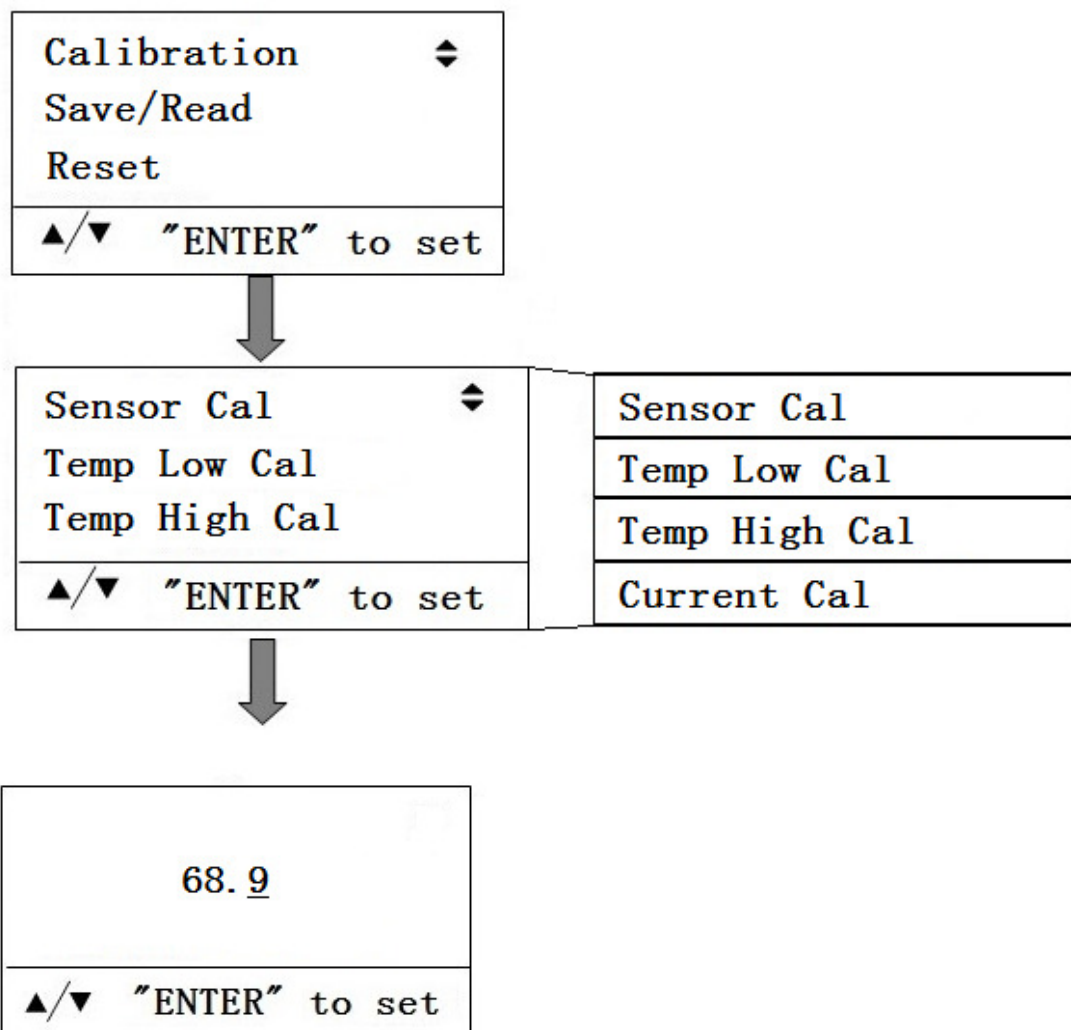
4.2.4.1　Sensor Calibration

```
┌─────────────────────────────┐
│ Calibration        ⬍        │
│ Save/Read                   │
│ Reset                       │
├─────────────────────────────┤
│ ▲/▼   "ENTER" to set        │
└─────────────────────────────┘
              │
              ▼
┌─────────────────────────┐     ┌─────────────────────────┐
│ Sensor Cal       ⬍      │     │ Sensor Cal              │
│ Temp Low Cal            │     ├─────────────────────────┤
│ Temp High Cal           │     │ Temp Low Cal            │
├─────────────────────────┤     ├─────────────────────────┤
│ ▲/▼   "ENTER" to set    │     │ Temp High Cal           │
└─────────────────────────┘     ├─────────────────────────┤
                                │ Current Cal             │
                                └─────────────────────────┘
              │
              ▼
┌─────────────────────────────┐
│                             │
│         68.9                │
│                             │
├─────────────────────────────┤
│ ▲/▼   "ENTER" to set        │
└─────────────────────────────┘
```

Specific operations:

● Set temperature compensation to automatic.

● Rinse the sensor with distilled water, and then dry the surface of it.

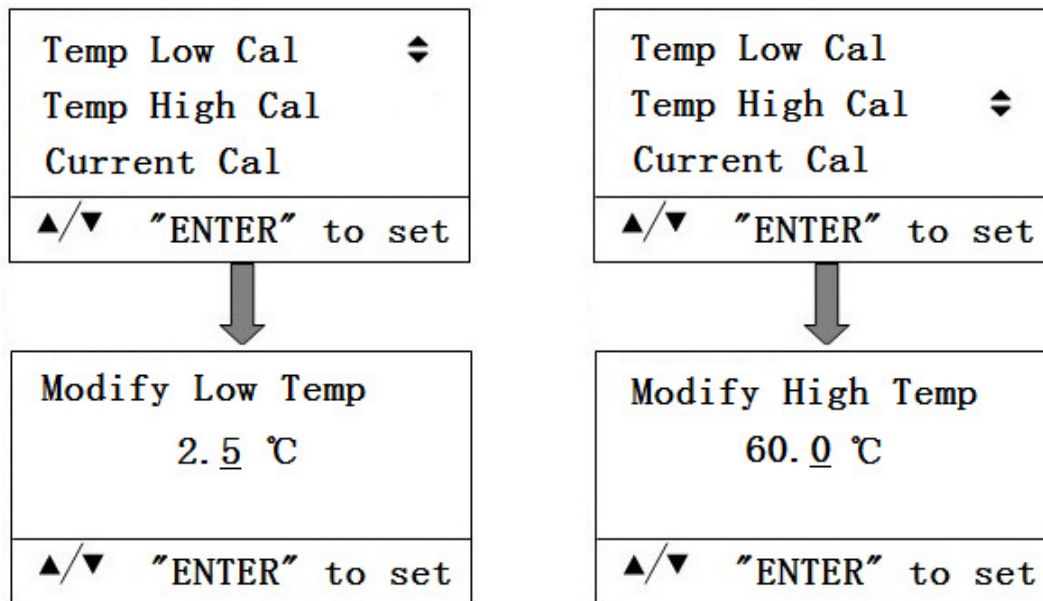● Keep the sensor into the solution of known conductivity value.

- Enter "Sensor Cal", waiting for the flashes display value is stable for about 5 to 10 minutes, press **DOWN** key to select the digit, the **UP** key is to modify the selected digit. After modifying the display as the known conductivity value, press **ENTER** key to save and return to the previous menu.

4.2.4.2 temperature manual calibration

C370 has temperature measurement function, for the automatic temperature compensation, and also can be displayed on the monitor. Temperature auto calibration requires a high and a low constant temperature environment. Such as ice water (about 2℃) and warm distilled water (about 60℃).

Specific operations: Select "Temp Low Cal" in the menu and put the sensor into low temperature environment, press **UP** and **DOWN** keys to modify, then press **ENTER** to store the calibration data, and return to the previous menu.

The Method of calibrate high temperature is as same as low temperature calibration.

```
┌─────────────────────────────┐      ┌─────────────────────────────┐
│ Temp Low Cal       ⬍        │      │ Temp Low Cal                │
│ Temp High Cal               │      │ Temp High Cal      ⬍        │
│ Current Cal                 │      │ Current Cal                 │
├─────────────────────────────┤      ├─────────────────────────────┤
│ ▲/▼  "ENTER" to set         │      │ ▲/▼  "ENTER" to set         │
└─────────────────────────────┘      └─────────────────────────────┘
              │                                     │
              �▼                                     ▼
┌─────────────────────────────┐      ┌─────────────────────────────┐
│ Modify Low Temp             │      │ Modify High Temp            │
│        2.5 ℃                │      │       60.0 ℃                │
│                             │      │                             │
├─────────────────────────────┤      ├─────────────────────────────┤
│ ▲/▼  "ENTER" to set         │      │ ▲/▼  "ENTER" to set         │
└─────────────────────────────┘      └─────────────────────────────┘
```

4.2.4.3   current output calibration

When there is a deviation of current output, it can be calibrated. The operation of current output calibration and temperature current output calibration is the same.

Specific operations: Select "Current Cal" in the menu, properly connected the Current Meter to the terminals 13, 14 of C370. Observe the reading of Current Meter, adjust the output value to be equaled to the value of your setting.

```
┌─────────────────────────┐
│ Temp Low Cal            │
│ Temp High Cal           │
│ Current Cal          ⬍  │
├─────────────────────────┤
│ ▲/▼   "ENTER" to set    │
└─────────────────────────┘
```

⬇

```
┌─────────────────────────┐
│ Enter Current O/P       │
│         4mA             │
│                         │
├─────────────────────────┤
│ ▲/▼   "ENTER" to set    │
└─────────────────────────┘
```

⬇

```
┌─────────────────────────┐
│                         │
│         118             │
│                         │
├─────────────────────────┤
│ ▲/▼   "ENTER" to set    │
└─────────────────────────┘
```

⬇

```
┌─────────────────────────┐
│ Enter Current O/P       │
│         10mA            │
│                         │
├─────────────────────────┤
│ ▲/▼   "ENTER" to set    │
└─────────────────────────┘
```

⬇

```
┌─────────────────────────┐
│                         │
│        1180             │
│                         │
├─────────────────────────┤
│ ▲/▼   "ENTER" to set    │
└─────────────────────────┘
```

For example, calibrate 4mA to 10mA in current output. Select "Current Cal", press **ENTER** key to enter.

First enter "4mA", press ENTER key.

Use **UP** and **DOWN** keys to adjust until the reading of Current Meter is "4mA", then press **ENTER** key to save and continue.

Enter the second point "10mA", press ENTER key.

Use **UP** and **DOWN** keys to adjust until the reading of Current Meter is "10mA", then press **ENTER** key to save and return to the previous menu.

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*Note: The second enter current output value can not smaller than the first enter. If they are equal, the calibration is the one-point calibration.

4.2.5 Save and Read Data

C370 has measurement data storage function, the data can be saved by timer or manual. The saved content is including conductivity/TDS measurements, temperature, date and time. Total 2520 groups of data can be saved, for the user inquiry at any time.

4.2.5.1 switch timing save

```
Timing Save          ⬍       Timing Save
Save Interval                Save Interval
Read Data                    Read Data
▲/▼ "ENTER" to set           Delete Data
```

```
Timing Save
    ON / OFF

▲/▼   "ENTER" to set
```

Press **UP** and **DOWN** keys to switch "ON / OFF", press **ENTER** to confirm.

4.2.5.2 set save interval

```
Save Interval
    60 min

▲/▼   "ENTER" to set
```

Press **UP** and **DOWN** keys to modify the save interval (Unit is min), press **ENTER** key to confirm. Thus, a data will be saved at the time you set intervals.

4.2.5.3 read data

Access this menu, you can view the stored measurement data records, including the PH or ORP, temperature, time, date

```
MANUAL  SAVE
READ  DATA          ⬍
DELETE  DATA
─────────────────────
▲/▼   "ENTER"  to set
```

Select "READ DATE", press **ENTER** key to enter the next menu level.

```
No:    1
  700uS/cm   09-12-18
   18.8℃          10:18
─────────────────────
▲/▼   "ENTER"  to set
```

Press **UP** and **DOWN** keys to view the previous data or the next data. Press **MENU** key to exit.

4.2.5.4 delete all data

```

      Are You Sure?

─────────────────────
▲/▼   "ENTER"  to set
```

Select "DELETE DATE".
Press **ENTER** key to delete all data.
Press **MENU** key to exit.

```
Please Wait
Remain        98%


─────────────────────
▲/▼   "ENTER"  to set
```

Began to delete all data, wait for a few seconds, it will return to the previous menu automatically until display remaining 0%.

4.2.6 Restore Factory Setting

```
Calibration
Save/Read
Reset          ⬍
─────────────────────
▲/▼  "ENTER" to set
```

Select "RESET", press **ENTER** key to enter the next menu level.

⬇

```
 
    Are You Sure?
 
─────────────────────
▲/▼  "ENTER" to set
```

Press **ENTER** key to restore factory setting.
Press **MENU** key to exit.

⬇

```
Please Wait
 
 
─────────────────────
▲/▼  "ENTER" to set
```

Began to restore the factory settings, wait for a few seconds, it will return to the previous menu automatically.

After this process, all value the user set before becomes the factory calibration value. This function is generally used for replace with new sensor or data confusion. Generally after restored factory setting, it need recalibration before using.

5. SENSOR

We use foreign advance technology to manufacture our conductivity sensor. The quality of the sensor is excellence and it can be used in industry province with all kind of conductivity monitor.

5.1 Sensor Features

✧ High sensitivity and accuracy with reliability and durability

✧ Stainless material

✧ Quickly response(within two seconds) and stability

✧ Unique structure preventing the sensor from pollution and blockage

✧ Easy to assemble and clean

5.2 Sensor Parameters

Table10   sensor parameters

	con0.01	con0.1	con1.0	con10
Parameter	Resistivity	Conductivity	Conductivity	Conductivity
Medium	Pure Water	Sewage Water	Sewage Water	Sewage Water
cell constant	0.01	0.1	1.0	10
Range	0~18MΩ or 0~19.99us/cm	0~999.9us/cm	0~9999 us/cm	0~20ms/cm
Temp. range	0~60℃	0~60℃	0~60℃	0~60℃
Temperature Measurement	0~60℃	0~60℃	0~60℃	0~60℃
Compensation Resistor	PT100	PT100	PT100	PT100
Quantity of threads	1 or 2	1 or 2	1 or 2	2
Thread Size	3/4″NPT	3/4″NPT	3/4″NPT	3/4″NPT
Max pressure	0.6MPa	0.6MPa	0.6MPa	0.6MPa
Cables Length	5m	5m	5m	5m
Max Length	50m	20m	20m	20m

5.3 The Use Situation of Conductivity Sensor

Table11   the conductivity of different liquid in 25℃

situation	conductivity
Pure water	0.05 us/cm
Boiler water	0.05~1 us/cm
Deionized water	0.5 us/cm
Distilled water	0.1~10 us/cm
Softened water	1~80 us/cm
Mineral water	10 us/cm
Beverages	0. 5~1 ms/cm
Waste water	0. 9~9 ms/cm
KCL Solution	1.4ms/cm
Brine	1~80ms/cm
Industrial process water	7~140ms/cm
Seawater	53 ms/cm
10%NaOH	355 ms/cm
31%HNO3	865 ms/cm

5.4 Sensor Dimension (Unit: mm)

3/4"NPT

120mm

60mm

Φ16
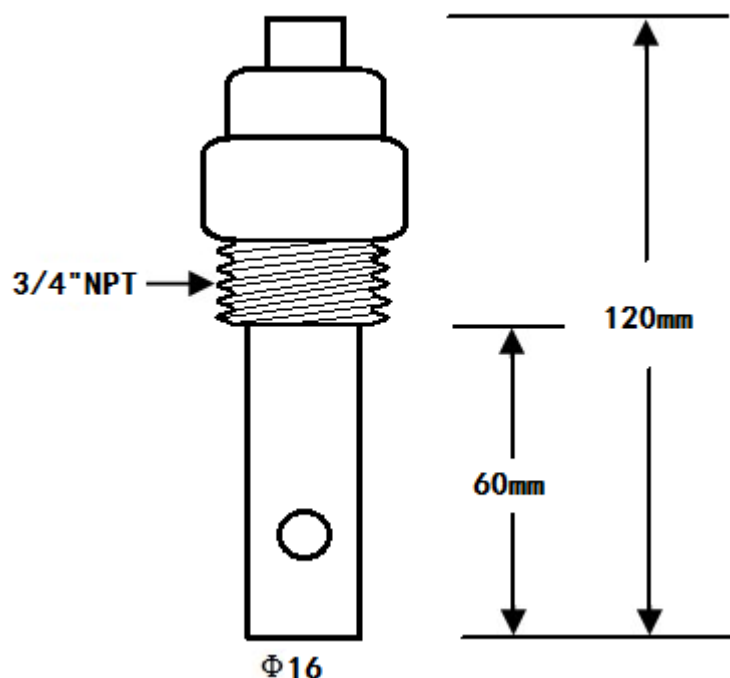
Figure 7   sensor dimension for k=0.01/0.1/1.0

(sensor dimension for k=10 please reference the pH sensor dimension)

6. MAINTENANCE

(1)   Attaching sensors are precision devices, can not disassemble in order to avoid changing the cell constant, causing measurement errors.

(2)   Sensors can not be immersed in the strong acid or alkali to avoid surface damage of the sensors, affecting the cell constant and sensitivity.
Correct method: When the sensor is dirty, immerse in the 10% hydrochloric acid for a short time, then rinse with pure water that maintain the sensor surface clean.

(3)   Sensors cable is a dedicated cable, can not be replaced or extended by users self.

(4)   Instrument should be installed in a relatively dry environment or the control box, to avoid instrument failure or measurement error caused by damp.

7. WARRANTY

Products manufactured by GOLDPOINT company Ltd. are guaranteed for a period of one year from the date of delivery. Goods for attention under guarantee must be returned to the factory carriage paid and, if accepted for free repair, will be returned to the customer's address free of charge.

All sensors made by GOLDPOINT company Ltd. are thoroughly tested to their published specification before delivery. As we have no control over the conditions in which their sensors are used, no further guarantee is given.

8. STANDARD CONFIGURATION

➢ C370 monitor
➢ Mounting fixing of monitor
➢ Operation guide
➢ Inspection report

9. OPTIONAL CONFIGURATION

➢ Conductivity sensor con0.1/con1.0/con10/con30(cable length 5 meters)
➢ Resistivity sensor con0.01 (cable length 5 meters)
➢ Sink sensor stand
➢ Flow cell
➢ Cable for extend

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