P14 Series

Process pH Sensor

Operating Manual



ICON™ PROCESS CONTROLS Corrosion-Free Instrumentation Equipment

Preface

Please read this manual carefully before use.

When receiving the instrument, please open the package carefully, check to ensure the instrument and accessories have not been damaged during transportation. If any issues are found, please contact our after-sales service department or regional customer service center. Ensure item is returned in the original packaging.

Only properly skilled authorized personnel should carry out installation, setup and operation. Ensure that the power cable is physically separated from the power supply during the initial wiring connection or repair.

For example,

1. Apparent damage to the sensor
2. The sensor does not work properly or provides specified measurements
3. The sensor has been stored for a long time in an environment where the temperature exceeds 70°C

The sensor must be installed by licensed professionals in accordance with relevant local specifications, and instructions are included in the operation manual. Comply with the technical specifications and input requirements of the controller.

Preparation before measurement

Important

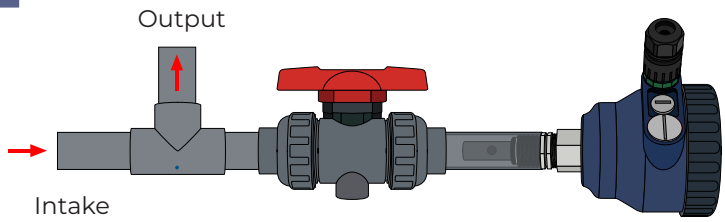
Be sure to calibrate your sensor prior to use.
For calibration details, please refer to the operating instructions of your ProCon® Controller

Electrode Installation

Connect the wires from the sensor to the appropriate ProCon® controller. All ProCon®F pH sensors come with a PT1000 temperature electrode.

Prepare electrode maintenance before measurement When using the electrode, the protective bottle at the top shall be screwed off and placed at a place where it is not easy to touch. Then, the protective bottle cap shall be removed and the electrode bulb and liquid interface shall be immersed in the measured liquid.

Typical Installation



PH Sensor Calibration SimplCal®

1. Select two – three pH buffers, whose values are consistent with the pH value to be measured.
   USA 4.0
   NIST
2. Unscrew the sensor protection cap and wash the sensing electrode with distilled water
3. Select the calibration mode in the controller (See manual for ProCon® SimplCal® for step by step simple instruction)
4. Insert the sensor into the first reference solutionensure the sensor tip is covered.
5. Stir
6. Wait for the reading to stabilize
7. Press the Enter button on the ProCon® Controller
8. Wait until the DONE is display on screen
9. Insert sensor into 2nd, 3rd reference solutions and follow the above procedure
10. Once the sensor has been calibrated rinse with distilled water.

In order to ensure a fast response time, the electrode glass sensing membrane film should always be kept wet. After the measurement or calibration is completed and the electrode is properly cleaned,store the sensor in a 3mol KCI Potassium Chloride solution. This can be done by filling the protection cap with the KCI liquid.

After use it is important to inspect the sensor glass membrane to ensure there are no deposits and the glass is transparent and not translucent. If deposits or the glass is hazy the sensor can be washed with a dilute HCL acid wash.

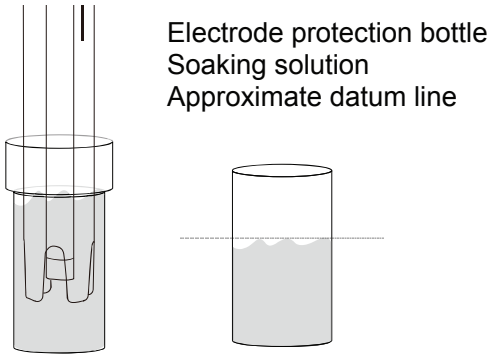
It is not recommended to store the sensor in distilled , or deionized water.

What is the difference between liquid filled electrode and gel electrode?

The gel filled electrode sensors is an electrolyte consisting of a 3mol / L potassium chloride mixture, no supplementary solution is required.

Please note that the gel will also be consumed over time.

When an electrode is used, the protective bottle at the top should be unscrewed first.



Electrode preservation:

1. Clean the electrode correctly after use
2. Place the electrode in the electrode storage bottle for storage
3. The solution in the protective bottle is 3 mol / L KCI solution

pH/ORP Process Sensor	
P14S	Seawater Environment
P14C	Strong Acid,Strong Base, chemical process
P14D	Flue Gas Desulfurization
P14P	Pure Water Low Ion Concentration
P14F	Hydrofluoric Acid Environmental Applicable Concentration < 1000 ppm
P14H	Hydrofluoric Acid Environmental Applicable Concentration > 1000 ppm
P14G	General Application, Industrial Wastewater
P14E	Light Duty Applications

Wiring

4-20mA 2-wire

❶ Blue: mA-

❷ Brown: mA+



4-20mA 4-wire

❶ Transparent: (+) Sensor

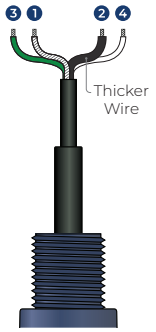
❷ Black (thick): (+) Sensor

❸ Green: (+) Temperature

❹ White: (-) Temperature

Connects directly to ProCon® controller





4-20mA + RS485 Output

❶ Red: 9-24VDC +

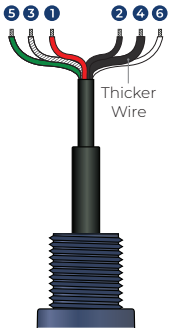
❷ Black: 9-24VDC -

❸ Transparent: 4-20mA

❹ Black (thick): Ref

❺ Green: RS 485 A

❻ White : RS 485 B





Warranty

Icon Process Controls warrants this product to be free from significant deviations in material and workmanship for a period of one year from the date of purchase. If repair is necessary and has not been the result of abuse or misuse within the warranty period, please return to **Icon Process Controls** and amendment will be made without any charge. **Icon Process Controls** Customer Service Center will determine if product problem is due to deviations or customer abuse. Out of warranty products will be repaired on a charge basis.

Authorization must be obtained from **Icon Process Controls** Customer Service Center to issue a RIR number before returning items for any reason. When applying for authorization, please include date requiring the reason of return. Instruments must be carefully packed to prevent damage in shipment and insured against possible damage or loss. **Icon Process Controls** will not be responsible for any damage resulting from careless or insufficient packing.

Warning: Damage as a result of inadequate packaging is the User / distributor's responsibility. Please follow the guidelines below before transporting.

Use the original packaging material if possible, when transporting back the unit for repair. Otherwise wrap it with bubble pack and use a corrugated box for better protection. Include a brief description of any faults suspected for the convenience of Customer Service Center, if possible. If there are any questions, feel free to contact our Customer Service Center or distributors.

Need a great Controller?

Pair your C Series sensor with the industry's most innovative and standard feature rich controllers

iconprocon.com

Use with any of the following controllers — NO PREAMP REQUIRED



SINGLE INPUT





DUAL INPUT





FIVE INPUT

Industrial Analytical Equipment

ProCon®
Sensing Tomorrow's Innovations Today

ICON™ PROCESS CONTROLS Corrosion-Free Instrumentation Equipment