

DSMG1310T is an online pH electrode with automatic temperature compensation in the interior of the electrodes. This allows for real time temperature compensation. The sensor is based on the electrochemical ion selective method, which converts the changes of ions in water into continuous electrical signals.



Application

It can be widely applied to turbidity monitoring in sewage treatment plant, water plant, water station, surface water, industry and other fields.

Working Principle

PH refers to the concentration of hydrogen ions (H⁺) in the solution. This is measured by an instrument, known as the pH sensor. A pH sensor consists of 2 electrodes:

Electrode	Measurement	Reference
Solution	pH 7 buffer	3.8 M KCl
Membrane	Permeable glass membrane	Non permeable membrane
Material	Ag/AgCl wire	Ag/AgCl wire

Essentially, pH is the potential difference between the measuring system and the reference system.

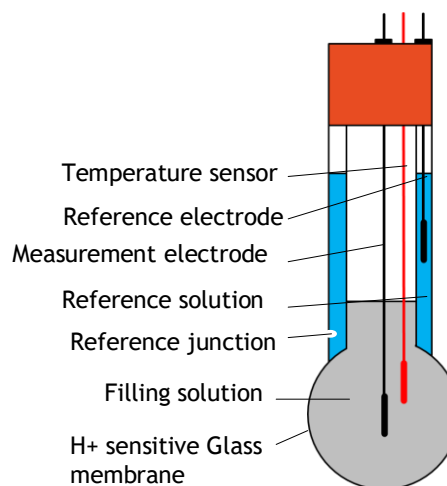
When immersed in a sample solution, the H⁺ ions accumulate around the sensor bulb and interact with the measurement electrode through ion exchange. This ion exchange results in an electric flow that is detected by the silver wire. This electric flow voltage is compared against the reference electrode before being converted and displayed as a pH value.

Hence, the pH reading is the comparison of H⁺ ions concentration between the sample and reference solution.

For better accuracy and reliability of results across time, TGI utilizes the gel-filled type reference electrode instead of the liquid-filled type. This allows for the installation in pressurized pipes, tanks and other process lines since the reference electrode is well sealed above the gel, preventing process liquid from contaminating the sensor.

Features

- Self-cleaning function can be selected according to the use environment.
- Stable data and reliable performance
- Built-in self-diagnosis function to ensure accurate data.

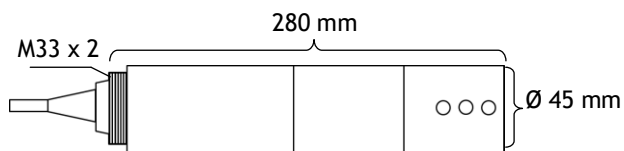


H ⁺ in sample	PH	Sample
Higher	>7	BASIC
Lower	<7	ACIDIC
Same	7	NEUTRAL

Technical Specification

Specification	
Method	Potentiometry using double salt bridge reference design
Measuring range	pH: 0-14.00 pH Temp: 0-60 °C
Accuracy	pH: ±0.01 pH
Pressure	≤0.3Pa ≤2.5m/s
Power supply	12 VDC
Communication interface	RS485 (Modbus RTU)
Dimension	280 mm x Ø 45 mm
Weight	1.65 kg
Material	PVC Oring: Fluororubber Cable: TPU
Cable Length	10 meters (Can be modified by 100m)
Waterproof	IP68/NEMA6P
Calibration	Buffer solution calibration
Reference electrode	Ag/AgCl
Reference electrolyte	3.8M KCl

Dimensions



Wiring Diagram

