



**Toshniwal  
Industries Pvt. Ltd.**  
Experience • Expertise  
MG Toshniwal Group

# Online pH/ORP meter

**Model:T-PH200**

## Features



- Easy operation
- NEMA 4X enclosure for field mounting and panel mounting
- Automatically Temperature Compensation
- Directly switchable to PH or ORP
- Large LCD display with background lighting
- Using the setup program: user-friendly programming
- RS485 & relay Output

## Product Overview

The device is designed for use on site. A rugged housing protects the electronics and the electrical connections from corrosive environmental conditions. As an alternative, the device can also be installed in a control panel.

Truly unique is the pH meter in the Human Machine Interface. The high resolution digital display and LCD screen make the measurements clearly legible and the keyboard operation makes it easier for the user to configure the device. The instructions on screen assure that the best configuration for the application is obtained. Universal application in water and waste water engineering, service/process water and drinking water and well/surface water, leakage monitoring in refrigeration plants.



## Microprocessor based pH meter Technical Specifications

Parameter	Description
Measure Range	PH(0-14) ; ORP(-1500~+1500Mv)
Resolution	PH: 0.01 ORP: 1Mv
Stability	PH: ≤0.01PH/week; ORP: ≤3Mv/week
Accuracy	PH: ±0.01PH; ORP: ±1Mv
Resolution	±0.01PH
Input impedance	≥10 <sup>12</sup>
Temperature compensation	Automatic with Inbuilt temperature sensor & Manual
Inbuilt Temperature sensor	NTC 10K or PT100 or PT1000
Temperature range	-10-130°C
Power Supply	AC230V±10%, 50Hz or DC 24V
Enclosure	IP65
Mounting	Panel mounting
<b>Output Signal:</b>	
Communication	RS485, MODBUS-RTU
Transmission signals	4-20 mA isolated ,Maximum load 500 ohms
Process alarm	High/Low process alarms, selected from pH, ORP+
Relay output	2 Nos ,AC250V, 3A freely configurable relays
<b>Other</b>	
Panel Front Size (mm)	96(W) x 96(H) x Approx.112 (D)
Display	LCD with back lights
Calibration	Semi-automatic 3 points calibration using pre-configured buffer tables 4, 7& 10, or 4, 6.18& 9.18
Color	Black

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Ambient temperature	-20 to +55°C (-5 - 130 °F).
Storage temperature	-30 to +70°C (-20 - 160 °F).
Humidity	10 to 90% RH at 40°C (100 °F)

## pH sensor specifications ,Model:pH-5019:

Parameter	Description
pH range	0-14 pH
pH zero point	7.00±0.25pH
Sample temperature range	0 to 80°C
Housing material	PPS
Waterproof grade	IP68
Cable length	5 mtr/10 mtr/ 15 mtr or Customized
Accuracy	±0.01pH
Pressure resistance	≤ 6 bar
Temperature compensation	NTC10K,PT100,PT1000 (Optional)
Installation thread	NPT3/4"
pH sensor mounting	Flow through type
Sensor chamber material	SS304,SS316 or PP
Sensor chamber process connection	¼" NPT ,Intet at bottom and outlet at Top (connection size customized as per requirements)
Application	Drinking water monitoring and treatment Swimming pools Aquariums( also marine aquariums) Lightly polluted service water Process water and wastewater Rainwater,pond water and surface water



\*The images used are indicative and Technical Specifications & Shape can change without any prior notice.

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# Dual channel pH & conductivity meter for Scrubber Slurry application

## T-pH-EC-100



### INTRODUCTION

Slurry water, a mixture of solid particles and liquid, is commonly encountered in various industrial processes, including mining, mineral processing, and wastewater treatment. Maintaining precise pH and conductivity levels in slurry water is critical to process efficiency, product quality, and environmental compliance. This application note explores the significance of liquid analyzers in measuring pH and conductivity in slurry water, highlighting their importance, benefits, and role in ensuring optimal process control.

### IMPORTANCE OF LIQUID ANALYZERS IN SLURRY WATER MEASUREMENT

1. **Process Efficiency:** pH and conductivity values directly impact chemical reactions, flocculation, and particle settling in slurry water systems. Precise control ensures optimal process efficiency.
2. **Product Quality:** Slurry water is often a precursor to product formation. Accurate pH and conductivity measurement help maintain product quality and consistency.
3. **Environmental Compliance:** Monitoring and controlling pH and conductivity are essential for preventing environmental damage and complying with regulatory standards.



## CHALLENGES IN SLURRY WATER MEASUREMENT

Measuring pH and conductivity in slurry water presents unique challenges:

1. **Abrasive Particles:** Solid particles in slurry can damage sensors, leading to inaccurate measurements.
2. **High Solids Concentration:** High solids content can affect electrode stability and sensor performance.
3. **Variable Composition:** Slurry water composition can change rapidly, requiring real-time measurement to ensure control.

## KEY PARAMETERS MONITORED BY LIQUID ANALYZERS

1. **pH:** Measures the acidity or alkalinity of slurry water, influencing chemical reactions and product quality.
2. **Conductivity:** Reflects the concentration of dissolved ions in the slurry, providing insights into its electrical conductivity.

## BENEFITS OF LIQUID ANALYZERS IN SLURRY WATER MEASUREMENT

1. **Process Optimization:** Real-time pH and conductivity data enable precise control, improving process efficiency and reducing chemical usage.
2. **Product Consistency:** Accurate measurement ensures consistent product quality, reducing rejects and enhancing customer satisfaction.
3. **Environmental Responsibility:** Monitoring and controlling pH and conductivity mitigate the risk of environmental damage and regulatory violations.

## CONCLUSION

Liquid analyzers for slurry water pH and conductivity measurement are indispensable tools in industries where slurry water is a critical component of processes. These analyzers provide real-time data that enable proactive control, process optimization, and regulatory compliance. As industries continue to focus on environmental responsibility and product quality, liquid analyzers play a crucial role in achieving these objectives while ensuring efficient and sustainable operations.

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## TRANSMITTER SPECIFICATIONS

Parameter	Description
Measuring range	pH:2-16 ; EC:0~2000 ms/cm
Measurement unit	pH,us/cm,ms/cm
Accuracy	pH:±0.01pH; EC:±1%FS;
Resolution	pH:0.01pH; EC:0.01us/cm
Temperature	-10 ~150 dec. C (based on sensor)
Temperature Resolution	0.1 deg. C
Temperature Accuracy	± 0.3 deg. C
Temp. compensation	0 ~150 dec. C
Temp. compensation	Manual & automatic
Current isolated output	Two 4~20mA,20~4mA,0~20mA
Single output	RS485 Modbus RTU
Working temperature	-10 ~60 dec. C
Waterproof rating	IP65
Installation type	Panel & wall mounted or pipeline
power supply	85~265VAC,9~36VDC,power consumption≤3W
Dimensions	144×144×118mm ; Hole Size: 138×138mm

## pH SENSOR TECHNICAL SPECIFICATIONS

Parameter	Description
Measurement principle	POTENTIOMETRIC
Model	pH-5000

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Housing material	PPS
Waterproof grade	IP68
Temperature compensation	PT100,NTC10K,PT1000 (Optional)
Measurement range	0-14pH
Accuracy	±0.01pH
Pressure resistance	≤ 10 bar
Temperature range	0-130°C
Calibration	Sample calibration, standard liquid calibration
Cable length	Standard 5m cable, can be extended to 100m
Installation thread	NPT3/4"

## CONDUCTIVITY SENSOR TECHNICAL SPECIFICATIONS

Parameter	Description
Model No	TOR-EC-2000
Sensor Type	TOROIDAL INSERTION
Measuring Mode	Electromagnetic
Sensor Material	PFA (Perfluoroalkoxy alkanes)
Range	0~2000 ms/cm (Customized)
Accuracy	±0.01%F.S
Temperature range	-20°C-130°C(Limited by the sensor body material and installation hardware only)
Pressure resistance	≤16 bar
Temperature compensation	PT1000
Calibration	Standard solution calibrate and field calibration
Waterproof Rating	IP68

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Calibration	Sample calibration, standard liquid calibration
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