



## Description

AquaMetrix pH and ORP differential sensors stay in service and provide accurate measurements under conditions that often render conventional pH sensors inoperable. Now for added versatility, these sensors, field-proven in hundreds of installations, are available with an integral encapsulated 4-20 mA two-wire transmitter to feed directly to a PLC or a DCS.

The P65 pH sensor employs a differential measurement technique. Unlike conventional combination sensors, the differential sensor has two measurement circuits with each containing a common titanium return electrode. One circuit includes the process measurement electrode. The second circuit includes an internal measurement electrode immersed in a stable buffer solution. The difference between the two circuits is the true process pH. Because both circuits have the same ground rod in common any inaccuracies caused by ground loops between process and instrument grounds are virtually eliminated.

As a result a differential sensor maintains its accuracy and stability in aggressive process applications long after a combination-style sensors performance begins to deteriorate.

The internal reference electrode is electrically connected to the process solution by means of a field-replaceable double junction salt bridge which greatly reduces the rate of contamination of the buffer solution in the reference circuit. The reference solution may be easily replaced by removing the screw-out salt bridge. The salt bridge itself is meant to be replaced every several months. An inexpensive salt bridge and buffer kit is all that is needed to keep the differential sensor working like new for many years.

The P65 series has been offering direct 4-20 mA output for years. As versatile as these sensors are they can only transmit the temperature compensated pH value. They cannot output the temperature. The AquaMetrix PT65R8 pH sensor removes this constraint. A second RTD temperature element is coupled to a miniature PCB that converts the RTD reading to a 4-20 mA current. The two outputs feed connect directly to a PLC or the AquaMetrix 2300.

## Features

- Two-Wire Transmitter built in
- Integral 4-20mA transmitter can be fed directly to a PLC
- Replaceable Salt Bridge
- Long-lasting
- Low Maintenance Cost
- Field-proven
- Semi-flush face: reduced buildup
- Chemically resistant Ryton body
- Automatic temperature compensation
- Flow-through and submersion

## Applications

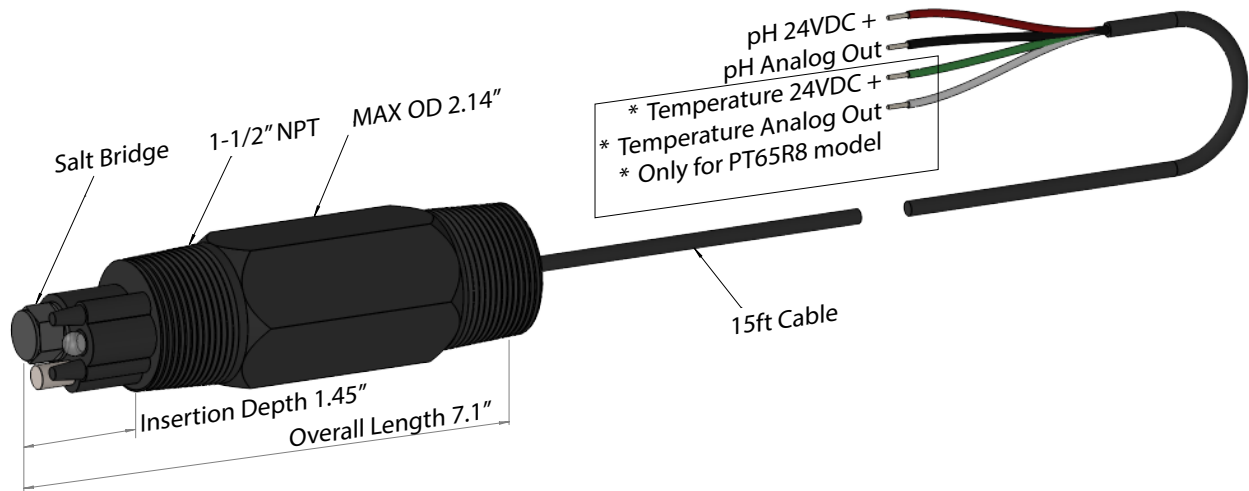
- Process Control
- Industrial and Municipal Water Treatment and Neutralization
- Fume Scrubbers
- Mining
- Power Generation
- Food and Beverage
- Pharmaceutical Industry
- Pulp and Paper

# AquaMetrix P65R8 Differential 4-20mA Output Sensor

## Technical Data

Measuring Range	0 to 14 pH (Consult factory for applications below 2 or above 12).	Stability	0.03 pH per day, non-cumulative
Wetted Materials	Ryton, CPVC, Kynar, glass, titanium palladium alloy, Viton, *PVC (cable jacket), *Dynaflax (cable strain relief). * when fully submerged	Sensitivity	0.001 pH
Temperature Limits	-5 to 75°C (23 to 167°F)	Accuracy	± 0.02 pH
Maximum Pressure	100 psig at 65°C maximum	Sensor Cable	Default length 15ft. (4.6m)
Maximum Flow Rate	10 ft./sec maximum (3 metres/sec)		2-wire for P65R8
Temperature Compensation	Automatic		4-wire for PT65R8

## Dimensions



## Related Products

### ANALYZERS

AM-2300 Multi-Input Controller

### ACCESORIES

- AM-JB2 NEMA 4X junction box
- AM-TEE-8 2" Union Tee with adaptor for -8 series
- AM-SFL-8 2" Sanitary Flange for -8 series
- AM-ARM-8 Submersion hardware for tank mounting
- AM-JET-8 Jet cleaner for -8
- AM-PTR-8 Electrode protector for -8
- AM-SBK3-R8 Salt Bridge Kit, package of 3
- AM-SBK10-R8 Salt Bridge Kit, package of 10
- AM-CBL Extension cable

### CALIBRATION SOLUTIONS

- AM-PH4-1P pH 4 Buffer, 1 pint (500 mL)
- AM-PH7-1P pH 7 Buffer, 1 pint (500 mL)
- AM-PH10-1P pH 10 Buffer, 1 pint (500 mL)

## Ordering Information

P65R8-015	pH Flow-through or submersion; Ryton, body threaded 1-1/2" both ends
P65R8H-015	Hardened glass electrode, pH sensor, Ryton body, threaded 1-1/2" both ends
P65R8F-015	Flat-Face pH electrode, Ryton body, threaded 1-1/2" both ends
P65R8A-015	Antimony pH electrode, Ryton, body threaded 1-1/2" both ends
PT65R8-015	pH & Temperature, Flow-through or submersion applications; body threaded 1-1/2" both ends