



## Description

AquaMetrix pH and ORP differential sensors stay in service and provide accurate measurements under conditions that often render conventional ORP 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 R65 ORP 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 ORP. 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 R65 series has been offering direct 4-20 mA output for years. As versatile as these sensors are they can only transmit the temperature compensated ORP value. They cannot output the temperature. The AquaMetrix RT65R8 ORP 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
- Gold electrode available (ORP)

## Applications

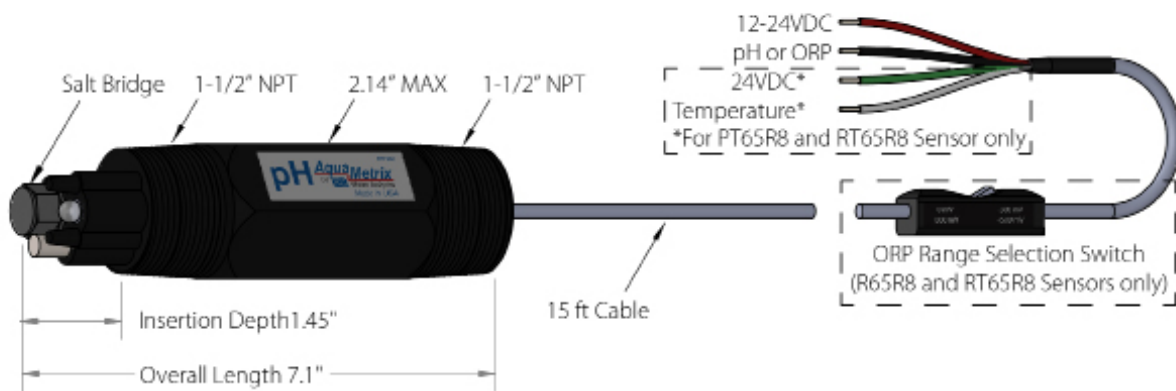
- Process Control
- Industrial and Municipal Water Treatment and Neutralization
- Fume Scrubbers
- Mining
- Power Generation
- Food and Beverage
- Pharmaceutical Industry
- Pulp and Paper

# AquaMetrix R65R8 Differential 4-20mA Output Sensor

## Technical Data

Measuring Range	-500 to +500 mV or 0 mV to +1000 mV, field selectable	Stability	2 mV per day, non-cumulative
Wetted Materials	Ryton, Kynar, glass, titanium palladium alloy and Viton, Platinum	Sensitivity	0.1 mV
Temperature Limits	-5 to 95°C (23 to 203°F)	Accuracy	± 5 mV
Maximum Pressure	100 psig at 65°C maximum	Sensor Cable	4 conductor. Default length 15ft. (4.6m)
Maximum Flow Rate	10 ft./sec maximum (3 metres/sec)		
Temperature Compensation	N/A		

## Dimensions



## Related Products

### ANALYZERS

AM-2300 Multi-Input Controller

### ACCESORIES

- AM-JB1 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-SBK-8 Salt Bridge Kit, package of 3
- AM-CBL65 Extension cable for 65 series

### CALIBRATION SOLUTIONS

- AM-R200-1P ORP Buffer, 200 mV, 1 pint (500 mL)
- AM-R600-1P ORP Buffer, 600 mV, 1 pint (500 mL)

## Ordering Information

- R65R8-015 ORP Flow-through or submersion; Ryton, body threaded 1-1/2" both ends
- R65R8G-015 ORP probe with Gold electrode, Ryton, body threaded 1-1/2" both ends
- RT65R8-015 ORP & Temperature, Flow-through or submersion applications; body threaded 1-1/2" both ends