pH OR ORP Probes

P60C-6 / R60C-6



Description

The 60 series pH or ORP probes are dependable industrial grade sensors designed to provide accurate measurement and longer service life under the most demanding conditions. Some features of these probes include: differential measurement technology, replaceable salt bridge, mounting techniques, semi-flush face, and encapsulated preamp.

The 60C-6 incorporates all the benefits of differential measurement found in other models of the 60 series, field proven in thousands of installations. This technique uses two glass electrodes to make the measurement differentially with respect to a third metal electrode. The small, hemispheric domed glass process electrode is specially designed for tough applications. The second electrode is immersed in a pH7 buffer encapsulated in the probe.

This second electrode is protected from the process by a double junction replaceable salt bridge. The resulting true differential measurement has several advantages over conventional probes: ground loop problems are virtually eliminated, and the salt bridge is easily replaced.

If the internal solution becomes contaminated, the probe can be rejuvenated at modest cost by replacing the salt bridge and reference solution. Automatic temperature compensation is accomplished through the use of an exposed thermistor at the tip of the probe. This thermister placement provides rapid response for process temperature variations.

This unique pH probe mounts in a standard 1 1/4" NPT tee, or in a tank, through a specially designed CPVC compression fitting. This technology provides several important advantages: the probe enters straight into the fitting eliminating twisting of the cable; the pipe size is only 1 1/4" NPT; the insertion length is variable between 7/8" and 5"; one model is used for both flow-through and submersion tank-mount.

Installation does not require a pipe wrench, strap wrench or thread sealant on the probe. This helps to reduce down time for calibration.

Another advantage of the 60C-6 is the semiflush face which is more easily cleaned and avoids solution materials gathering on protrusions found in competitive probes. The domed glass electrode, the protective metal electrode and the temperature sensor protrude only about 1/8 inch while the salt bridge is flush. A flat-face version of the pH probe is also available.

The encapsulated preamplifier provides an output signal which can be transmitted 3000 feet over inexpensive cable. Another version encapsulates a blind 4-20 mA two-wire transmitter which can transmit a virtually unlimited distance over a twisted pair cable. (See P65 data sheet).

Advantages/Benefits

Differential Measurement
- Replaceable Salt Bridge
- Low Maintenance Cost
- Field-proven

Quick and Easy Mounting
- Easy in: no twisted cable
- Easy out: no special tools
- 1 1/4" Compression Fitting
- Adjustable insertion depth

Easy Cleaning
- Semi-flush face: reduced buildup

Encapsulated Preamp
- Transmits up to 3000 ft.

Options
- 4-20 mA two-wire blind transmitter version available
- Hot-Tap versions available
- Flat-faced version available for pH
- ORP available with gold electrode

Applications

- **Process Control**
- **Industrial and Municipal Water Treatment**
- **Industrial and Municipal Waste Treatment and Neutralization**
- **Fume Scrubbers**
- **Suitable for the Plating, Circuit Board Manufacturing, Food and Beverage, Chemical Processing, Pulp & Paper, Mining, Nuclear Energy and Pharmaceutical Industries**

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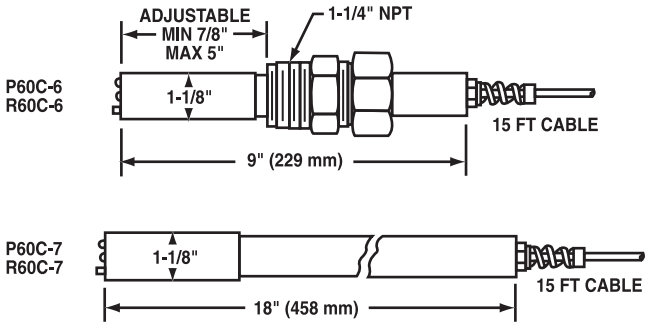
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Technical Data

Measuring Range	
pH	0 to 14.00 pH (Consult factory for applications below 2 and above 12)
ORP	-1000 mV to 1000 mV
Flow Rate	10 ft./sec maximum (3 metres/sec) Flow should be as low as possible in low conductivity water and in solutions with high suspended solids
Wetted Materials	CPVC, ceramic, glass, titanium palladium alloy and EPDM (platinum for ORP probe)
Transmission Distance	3000 ft. (900 m)
Sensitivity	
pH	0.01 pH
ORP	0.1 mV
Stability	0.03 pH per day, non-cumulative
Temperature Compensation	
Automatic	pH Only: -5 to 95°C (23 to 203°F)
Pressure Limit	100 psig at 65°C maximum
Temperature Limits	
CPVC	-5 to 95°C (23 to 203°F) The temperature limit of probes in flow-through applications is limited by pressure and by the pipe fitting material.
Probe cable	5 Conductor plus shield, 4.6m (15ft) long

Dimensions



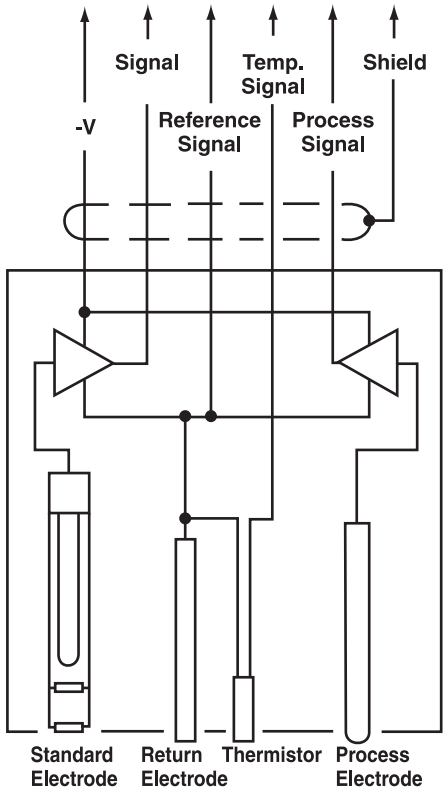
Related Products

CABLES & ACCESSORIES	
JB-1	NEMA 4X junction box
STC60-6	Mounting kit for submersion applications includes 1-1/4" NPT x 1" reducer, 4 feet of 1" CPVC pipe with watertight strain relief fitting and securing assembly
P60-HTC	Hot Tap Ball Valve assembly, (Probe not included)
C42-5PXXX	Interconnect cable; dressed both ends - specify length
C35-17	Salt bridge Kit for all -6 series probes, package of 3
C35-79	Compression fitting for all -6 series probes
C34-51	Adaptor for GLI installations
Protector-6	Protection shroud for submersion applications
CALIBRATION SOLUTIONS	
A35-13	pH 4 Buffer, 500mL.
A35-14	pH 7 Buffer, 500mL.
A35-24	pH 10 Buffer, 500mL.
A35-40	ORP Buffer, 200mV, 500mL
A35-41	ORP Buffer, 600mV, 500mL

Ordering Information

P60C-6	pH probe complete with universal installation fitting for flow-through or submersion applications
P60C-7 (pH)	Probe for use with Hot-Tap hardware
P60C-6-F	Flat-Face pH probe
R60C-6	ORP probe complete with installation fitting for flow-through or submersion applications
R60C-6-G	ORP probe with Gold Electrode
R60C-7 (ORP)	Probe for use with Hot-Tap hardware

Differential Measurement Technique



DIFFERENTIAL pH MEASUREMENT

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* NOT TESTED ON ANIMALS