

Rosemount™ 385+

General Purpose pH/ORP Sensors



High performance for your process pH/ORP needs

The Rosemount 385+ pH/ORP combination sensors are used for reliable pH or oxidation/reduction potential measurements of aqueous solutions in pipelines, open tanks, or ponds. Rosemount 385+ sensors feature a triple junction reference that extends sensor life in processes containing poisoning ions.

Overview



A Robust Sensor Design

- Extended sensor life and protection against poisoning ions using a triple junction reference.
- Enhanced performance and increased life with cracking resistant glass.
- High pH glass option for greater performance and linearity at high process pH levels.
- Operates in pressures up to 100 psig at 100 °C.

Versatile Installation Options

- The sensor features both a submersion/insertion and a retractable version.
- Safely remove and replace retractable sensors under pressure without the need to shutdown your process.
- Compatible for use with a 1-1/2 in. ball valve assembly.

SMART Preamplifier

- Automatic recognition of pH sensors by Rosemount transmitters: 1066, 1057, 1056, and 56
- pH calibration data is stored which allows sensors to be calibrated in advance for “Plug and Play” installations in the field.

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Ordering Information



The Rosemount 385+ pH/ORP sensor features a Tefzel sensor body with a triple junction gel filled reference electrode and automatic temperature compensator housed in a titanium tube. The retractable version of this sensor comes with an integral sensor head junction box, a process connector, and integral preamplifier. Interconnecting cable from sensor junction box to transmitter is sold separately (PN 23646-01 or 9200273; see Accessories).

Table 1. Rosemount 385+ General Purpose pH/ORP Sensor ordering information

Model	Sensor type
385+	pH/ORP sensor
Body Configuration	
02	Retractable with Integral Preamplifier ⁽¹⁾
03	Insertion/Submersion with Integral Preamplifier and 25 ft. Integral Cable ⁽¹⁾
04	Insertion/Submersion without Integral Preamplifier and 15 ft. Integral Cable
Measuring Electrode	
10	pH - General Purpose Low Resistivity (GPLR) pH glass
11	High pH Glass
12	Platinum ORP
Typical Model Number: 385+-02-10	

1. Preamplifier is SMART with -10 and -11 options and a standard preamplifier if with -12 option.

Specifications

Table 2. Rosemount 385+ General Purpose pH/ORP Sensor specifications

Measured Range	
pH range	0 to 14 pH
ORP range	-1500 mV to 1500 mV
Maximum Pressure at Retraction or Insertion (ball valve version)	
542 KPa abs (64 psig)	
Maximum Process Pressure and Temperature	
790 KPa abs (100 psig) at 100 °C (212 °F)	
Temperature Compensation	
(pH only) 0 to 100°C (32 to 212°F)	
Wetted Materials	
Tefzel, titanium, EPDM, 316 SS and Teflon (Code 02), Viton, glass, ceramic and (ORP only) platinum.	

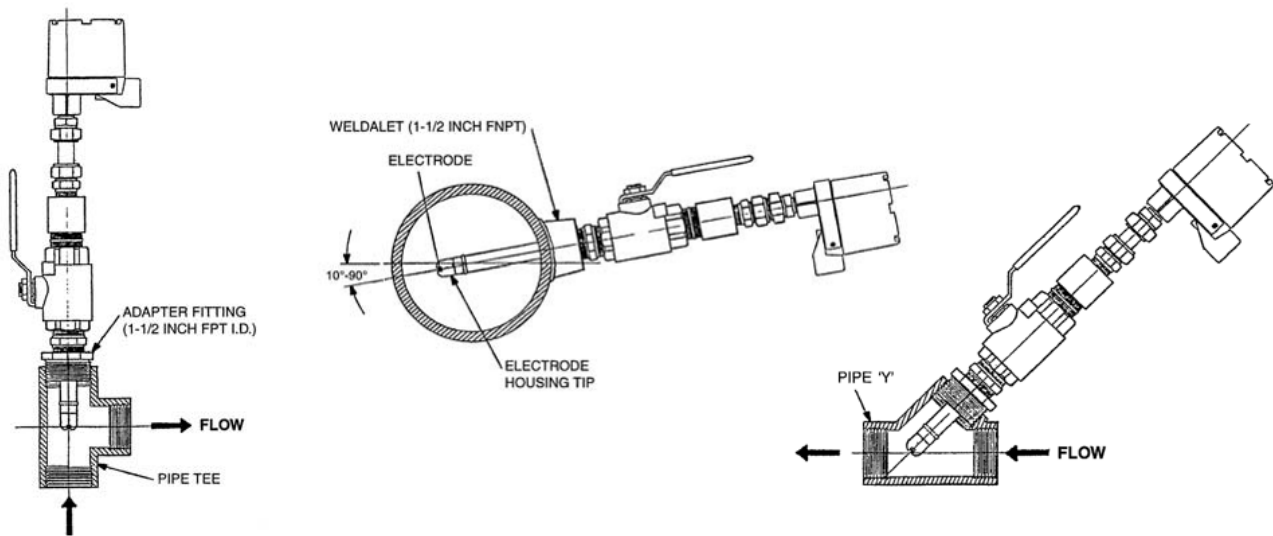
Table 2. Rosemount 385+ General Purpose pH/ORP Sensor specifications

Weight/Shipping Weight	
Submersion/insertion	1.6 lb/2.8 lb (0.7 kg/1.25 kg)
Retraction	6 lb/11 lb (2.7 kg/5.0 kg)
Ball Valve	5 lb/10 lb (2.25 kg/4.5 kg)
Process Connections	
With ball valve	1-1/2 in.
Without ball valve	1 in.
Cable Length	
Code 02	Requires interconnecting cable P/N 9200273 (Unprepped) or P/N 23646-01 (Prepped)
Code 03	25 ft. Integral Cable
Code 04	15 ft. Integral Cable

Table 3. Percent Linearity Over pH Range

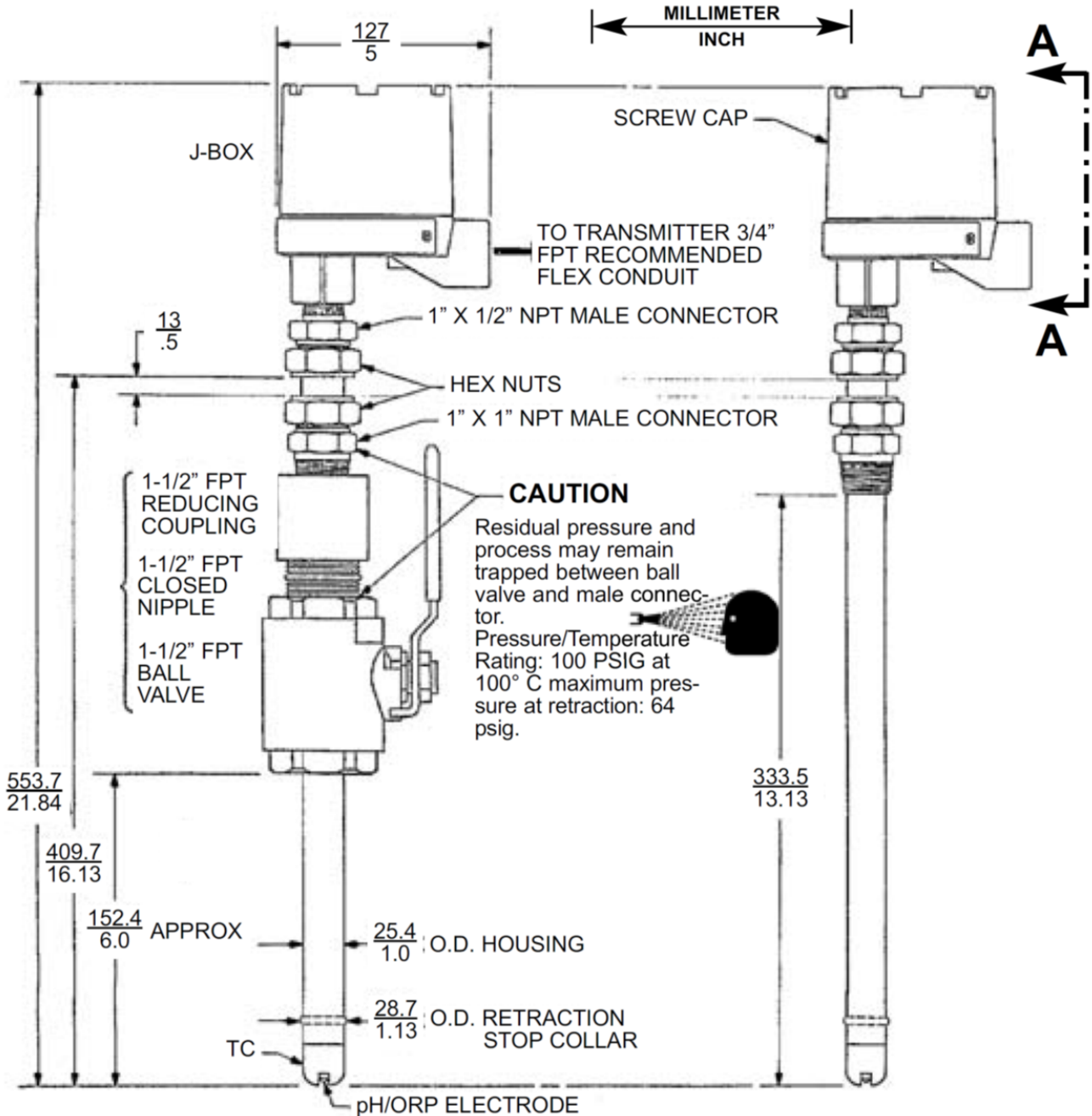
pH Range	Option 10	Option 11
0-2 pH	94%	94%
2-12 pH	99%	97%
12-13 pH	97%	98%
13-14 pH	92%	98%

Figure 1. Typical mounting configurations for the Rosemount 385+ Sensor



Dimensional Drawings

Figure 2. Rosemount 385+-02 sensor dimensions (shown with and without ball valve kit PN 23240-00)



(Ball valve kit includes 1-1/2 in. coupling, 1-1/2 in. nipple, and 1-1/2 in. ball valve)

Figure 3. Rosemount 385+-03/-04 sensor dimensions (shown in handrail mounting assembly PN 11275-01)

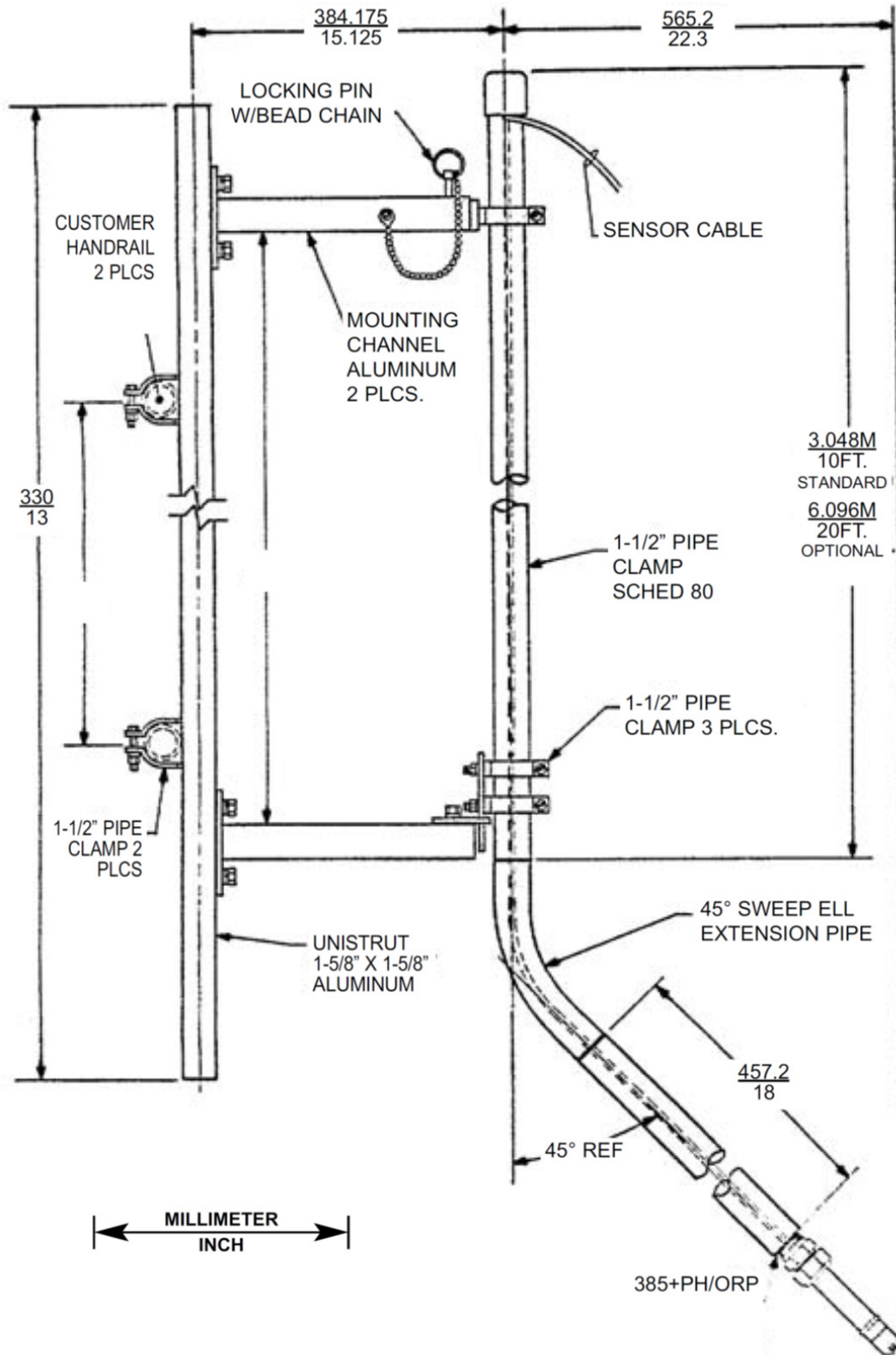
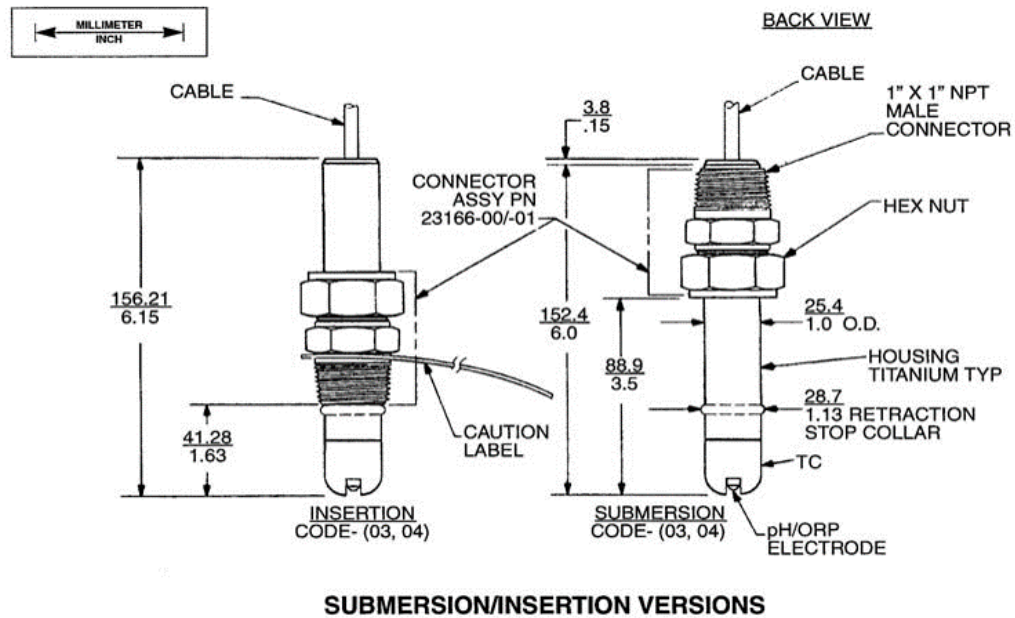


Figure 4. Dimensional drawing for submersion/inversion version (code -03, -04)



Accessories

Table 4. Rosemount 385+ Sensor accessories information

Part number	Description
23166-00	1 in. x 1 in. NPT 316 SS process connector
23166-01	1 in. x 1 in. NPT titanium process connector
23594-01	EPDM O-ring for process connector (23166-01/-01), Qty 4
9510066	1 in. x 1 in. NPT nylon process connector
915240-03	2 in. PVC flow through Tee, 3/4 in. NPT process connection
915240-04	2 in. PVC flow through Tee, 1 in. NPT process connection
915240-05	2 in. PVC flow through Tee, 1-1/2 in. NPT process connection
11275-01	Handrail mounting assembly
23555-00	Remote junction box with preamplifier
23550-00	Remote junction box without preamplifier
23646-01	Extension cable for junction box, 11 conductor, shielded, prepped
9200273	Extension cable for junction box, 11 conductor, shielded, unprepped
23240-00	1-1/2 in. ball valve assembly, 316 SS (Process connector required)
9210012	4.01 pH buffer solution, 16 oz
9210013	6.86 pH buffer solution, 16 oz
9210014	9.18 pH buffer solution, 16 oz

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