2867 series
pH and Redox (ORP) industrial dip electrode systems
Measurement made easy

- Simple, robust design in three dip lengths
- Positive salt-bridge flow from integral reservoir
- Easily-replaced, reliable combination electrode
- Built-in sight glass for salt-bridge reservoir
- Simple installation on wall or tank
Introduction

2867 series industrial dip electrode systems are designed for pH and Redox measurement in channels and open tanks. They are particularly suitable for use in effluent treatment applications where automatic temperature compensation is not required. The 2867 series incorporate a specially designed combination electrode, providing reliable measurement in a wide variety of samples.

The systems are constructed from plastic throughout; the dip stem, of nominal 0.46, 0.92 or 1.83 m (18, 36 or 72 in.) length, is manufactured from ABS that is chemically resistant to most samples and withstands temperatures of up to 70 °C (158 °C). The stem is filled with salt-bridge solution, forming an integral reservoir for the reference element mounted in the upper end of the electrode assembly. A liquid junction with the sample is made at a ceramic plug fitted in the wall of the stem at its lower end; two sizes of plug are provided, giving the option of a higher flow of salt-bridge solution in samples that could block the ceramic or contaminate the reference element.

Electrodes available for the system

Glass combination pH electrode:
- 1912-400 (BNC plug termination)
- 1912-500 (tag terminations)

Antimony combination pH electrode:
(for samples containing hydrofluoric acid)
- 1990-400 (BNC plug termination)
- 1990-500 (tags)

Platinum combination Redox electrode:
- 19800-400 (BNC plug termination)
- 1980-500 (tags)

Each electrode assembly screws into the lower end of the system and is sealed by means of an O-ring to prevent saltbridge solution loss. The fitted cable of 6 m (19.5 ft.) length passes out of the top of the system through a split rubber bung. The cable terminates in either a BNC plug (~400 electrodes) for connection to an extension cable, or tags (~500 electrodes) for direct connection to 4500, 4600 and AX400 series transmitters.

Mounting of the systems is achieved by using either the supplied flange or wall-mount bracket, with immersion depth adjustable by means of O-rings.

Extension cables for use with 9140, 9160, 4500 and 4600 series

To connect model 4630/35, 4500 or AX400 series transmitters to a 19XX type electrode over a distance of more than 6 m (19.5 ft.), the 19XX-400 type electrodes should be specified together with an extension cable (part no. 9170-300) which has a BNC socket on one end and tags on the other end. 19XX-500 electrodes, with tag ends to their leads, are designed for direct connection to 4500, 4600 and AX400 series transmitters.

The recommended maximum cable run is 100 m (325 ft.).
Specification

Construction material
ABS (Acrylonitrile Butadiene Styrene) with perspex sight tube

Resistance of ABS to common chemicals at 25 °C (77 °F)
- Sulphuric acid (<50%) Good
- Nitric acid (<50%) Good
- Hydrochloric acid Good
- Phosphoric acid Good
- Common alkalis Excellent
- Alcohols Good
- Hydrocarbon solvents Unsuitable
- Detergents Excellent

Sample temperature range
0° to 70°C (32 to 158°F)

Mounting
By wall bracket or flange supplied, located by O-rings

Nominal stem lengths and weights
- 2867-500 0.46 m (18 in.) 750 g (29.5 lb.)
- 2867-600 0.92 m (3 ft.) 850 g (33.5 lb.)
- 2867-700 1.83 m (6 ft.) 1350 g (53 lb.)

pH (glass) combination electrodes
- 1912-400 (BNC plug)
- 1912-500 (tags)

pH range
0 to 14

Temperature range
–5 to 70 °C (23 to 158 °F)

Lead
6 m (19.5 ft.) length

pH (antimony) combination electrodes
- 1900-400 (BNC plug)
- 1900-500 (tags)

pH range
0 to 10

Temperature range
–5 to 70 °C (23 to 158 °F)

Lead
6 m (19.5 ft.) length

Redox (platinum) combination electrodes
- 1980-400 (BNC plug)
- 1980-500 (tags)

Temperature range
–5 to 70 °C (23 to 158 °F)

Lead
6 m (19.5 ft.) length

Electrolyte
3.8M KCl (part number 0400-170)

Service pack (2867-041)
Comprising:
1 x neoprene O-ring
4 x rubber O-rings
Bung
1 x 1.5 mm ceramic plug
1 x 3.5 mm ceramic plug
Ceramic plug spanner

Spare ceramic plugs can be ordered separately using part numbers:
- 1.5 mm 2867-540
- 3.5 mm 2867-550
Overall dimensions

Dimensions in mm (in.)

<table>
<thead>
<tr>
<th>Dim. A</th>
<th>Dim. B</th>
<th>Dim. C</th>
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<tbody>
<tr>
<td>0.46 (18)</td>
<td>2867-500</td>
<td>458 (18)</td>
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<tr>
<td>0.92 (36)</td>
<td>2867-600</td>
<td>855 (33¾)</td>
</tr>
<tr>
<td>1.83 (72)</td>
<td>2867-700</td>
<td>1768 (69¾)</td>
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Notes