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ABB MEASUREMENT & ANALYTICS | DATA SHEET

## **2867 series**

pH and Redox (ORP) industrial  
dip electrode systems



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## 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**

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## 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.

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## 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.

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## 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

- 1990-400 (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:

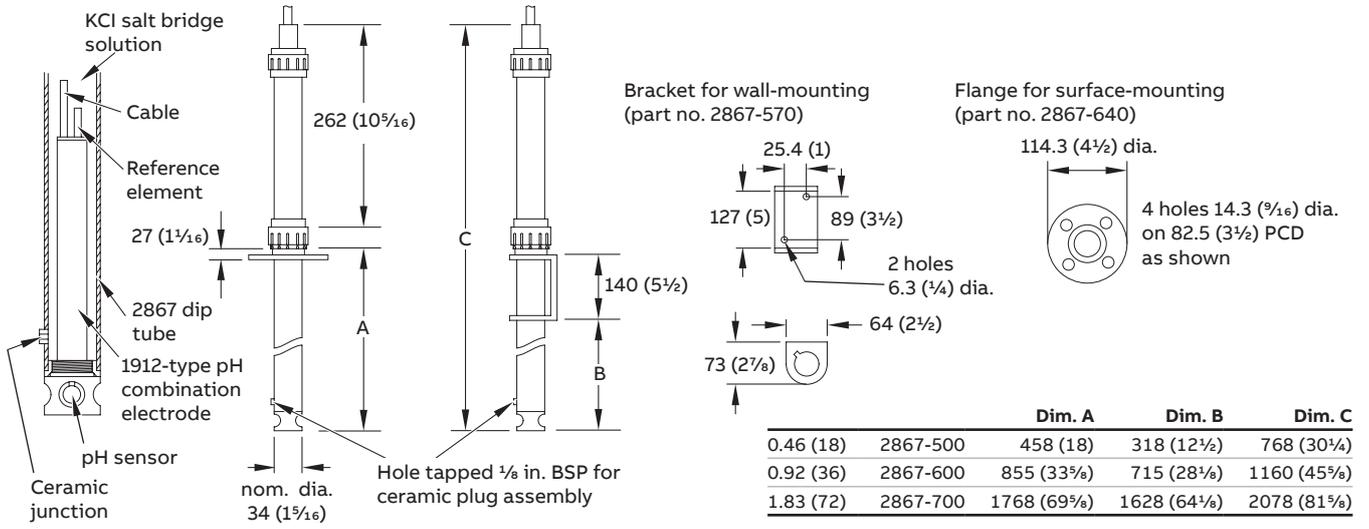
- 1 x neoprene O-ring
- 4 x rubber O-rings
- Bung
- 1 x 1.5 mm ceramic plug
- 1 x 3.5 mm ceramic plug
- Ceramic plug spanner

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.)



Sales



Service



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## Notes



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**ABB Limited****Measurement & Analytics**

Oldends Lane, Stonehouse  
Gloucestershire, GL10 3TA  
UK

Tel: +44 (0)1453 826 661

Fax: +44 (0)1453 829 671

**ABB Inc.****Measurement & Analytics**

125 E. County Line Road  
Warminster, PA 18974

USA

Tel: +1 215 674 6000

Fax: +1 215 674 7183

**[abb.com/measurement](http://abb.com/measurement)**

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