Introduction

This publication details part numbers and installation procedures for sensor dip pole accessories (ABB-supplied pole and customer-supplied pole) for use with 100 GP, 100 ULTRA and 500 PRO series pH / Redox (ORP) sensors.

Tools required

- Small flat-headed screwdriver
- Solvent cement
- PTFE tape

For more information

Publications for the associated sensors multi-input transmitters are available for free download from:

www.abb.com/measurement

or by scanning this code:
1 Safety

Potential safety hazards

The sensor operates on 3.3 V DC. There are no hazardous voltages present in the sensor.

**WARNING**

Before removing a sensor from the process, reduce process pressure to zero and ensure the sensor is cool enough to handle.

**WARNING**

Potential high pressure/high temperature

- These procedures must be carried out by suitably trained personnel and in accordance with any local regulations and practices.

2 Specification

ABB-supplied dip pole materials

- Lower mounting adapter: ABS
- Dip pole: ABS
- O-ring: Nitrile
- End cap: ABS
- Gland nut: Nylon
- Screw: stainless Steel

3 Accessory part numbers/kits

<table>
<thead>
<tr>
<th>Description</th>
<th>Part number</th>
<th>Qty</th>
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<tbody>
<tr>
<td>2.5 m dip pole assembly – 1¼ in. NB comprising: dip pole, pole mounting adaptor, end cap assembly</td>
<td>3KXA163000L0021</td>
<td>1</td>
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<tr>
<td>1.0 m dip pole assembly – 1¼ in. NB comprising: dip pole, pole mounting adaptor, end cap assembly</td>
<td>3KXA163000L0022</td>
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<td>Pole mounting adaptor kit – comprising: pole mounting adaptor, end cap assembly, O-ring (excludes dip pole)</td>
<td>3KXA163000L0023</td>
<td>1</td>
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<tr>
<td>Wall mounting accessory</td>
<td>ATS4000700</td>
<td>1</td>
</tr>
<tr>
<td>Rail mounting kit for 40mm or 1.25 in. dia dip pole, suitable for 42 or 51 mm (1.7 or 2.0 in.) dia handrail (tilt only)</td>
<td>ATS4000760</td>
<td>1</td>
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<tr>
<td>Open tank flanged dip mount (for mounting on user-supplied mounting bracket)</td>
<td>ATS4000785</td>
<td>1</td>
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<tr>
<td>Guard for ¼ in style bodies</td>
<td>3KXA163000L0024</td>
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Table 1 Dip pole assemblies and pole mounting adaptor kit

4 Overview

![Dip pole assembly overview](image)

5 Dimensions

![Dip pole dimensions](image)

*Dimensions for ABB-supplied pole only.*
6 Fitting the sensor

Fitting the sensor to ABB-supplied pole
Referring to Figure 3:
1. Unscrew self-tapping screw \( A \) and remove end cap \( B \) and O-ring \( C \) from upper end of dip pole \( D \).
2. Pass cable \( E \) through lower mounting adaptor \( F \) and dip pole \( D \).
3. Wrap PTFE tape (or similar) around thread \( G \) and screw sensor \( H \) into lower mounting adaptor \( F \). Ensure cable \( E \) is not twisted.
   **Note.** Do not overtighten to prevent damage to sensor or adaptor.
4. Unscrew gland nut \( I \) and remove internal (split) rubber grommet and plastic seat (not shown) from split gland body \( J \).
5. Pass cable \( E \) through O-ring \( C \), end cap \( B \) and split gland body \( J \).
6. Refit O-ring \( C \) and end cap \( B \) over upper end of dip pole \( D \) and secure using self-tapping screw \( A \).
7. Position (split) rubber grommet and plastic seat over cable \( E \), slide them into split gland body \( J \) and refit gland nut \( I \).

![Figure 3  Fitting the sensor to ABB-supplied pole](image1)

Fitting the sensor customer-supplied pole
Referring to Figure 4:
1. Clean mating surfaces of mounting adaptor \( A \) and customer-supplied dip pole \( B \) thoroughly and use solvent cement (not supplied) to bond the 2 items together.
   **Note.** Leave solvent cement to cure for at least 12 hours.
2. Pass cable \( C \) through mounting adaptor \( A \) and dip pole \( B \).
3. Wrap PTFE tape (or similar) around thread \( D \) and screw sensor \( E \) into mounting adaptor \( A \). Ensure cable \( C \) is not twisted.
   **Note.** Do not overtighten to prevent damage to sensor or adaptor.
4. Unscrew gland nut \( F \) and remove internal (split) rubber grommet and plastic seat (not shown) from split gland body \( G \).
5. Pass cable \( C \) through O-ring \( H \), end cap \( I \) and split gland body \( G \).
6. Fit O-ring \( H \) and end cap \( I \) over upper end of dip pole \( B \) and secure using self-tapping screw \( J \).
7. Position (split) rubber grommet and plastic seat over cable \( C \), slide them into split gland body \( G \) and refit gland nut \( F \).

![Figure 4  Fitting the sensor to customer-supplied pole](image2)