

HBD546 – In-line & Submersible pH Electrode Series HBD Specifications

70-82-03-68 July 2013



Overview

Honeywell's HBD Series of pH electrodes are for applications with high pressure and temperature as well high and low pH ranges. They are intended for the harshest of applications where traditional glass sensors and reference electrode technology do not stand up. The HBD Series combines the superior stability and ruggedness of the Durafet sensor with a unique reference technology that resists poisoning and fouling.

The **HBD546** is:

- intended for threaded in-line and submersible operations
- rugged, versatile and simple to use
- compatible with most industrial transmitters and analyzers

Honeywell's HBD Series of electrode mountings utilize the patented Unique Reference Cell Technology.

The Unique Reference Technology:

- prevents sensor poisoning
- prevent internal leaks
- prevent internal plugging
- allows extreme temperature and pressure tolerance
- allows for long life in low and high pH applications



Description

The HBD546 offers a reliable combination style pH electrode with measuring and reference electrode together with an temperature sensor in a 1-piece corrosion resistant Kynar body.

The HBD546 electrode has two 3/4" NPT male threads for various mounting configurations. One can be used to thread the electrode into a pipe tee for in-line mounting. The other can be used with a pipe coupling and support pipe for submersion mountings.



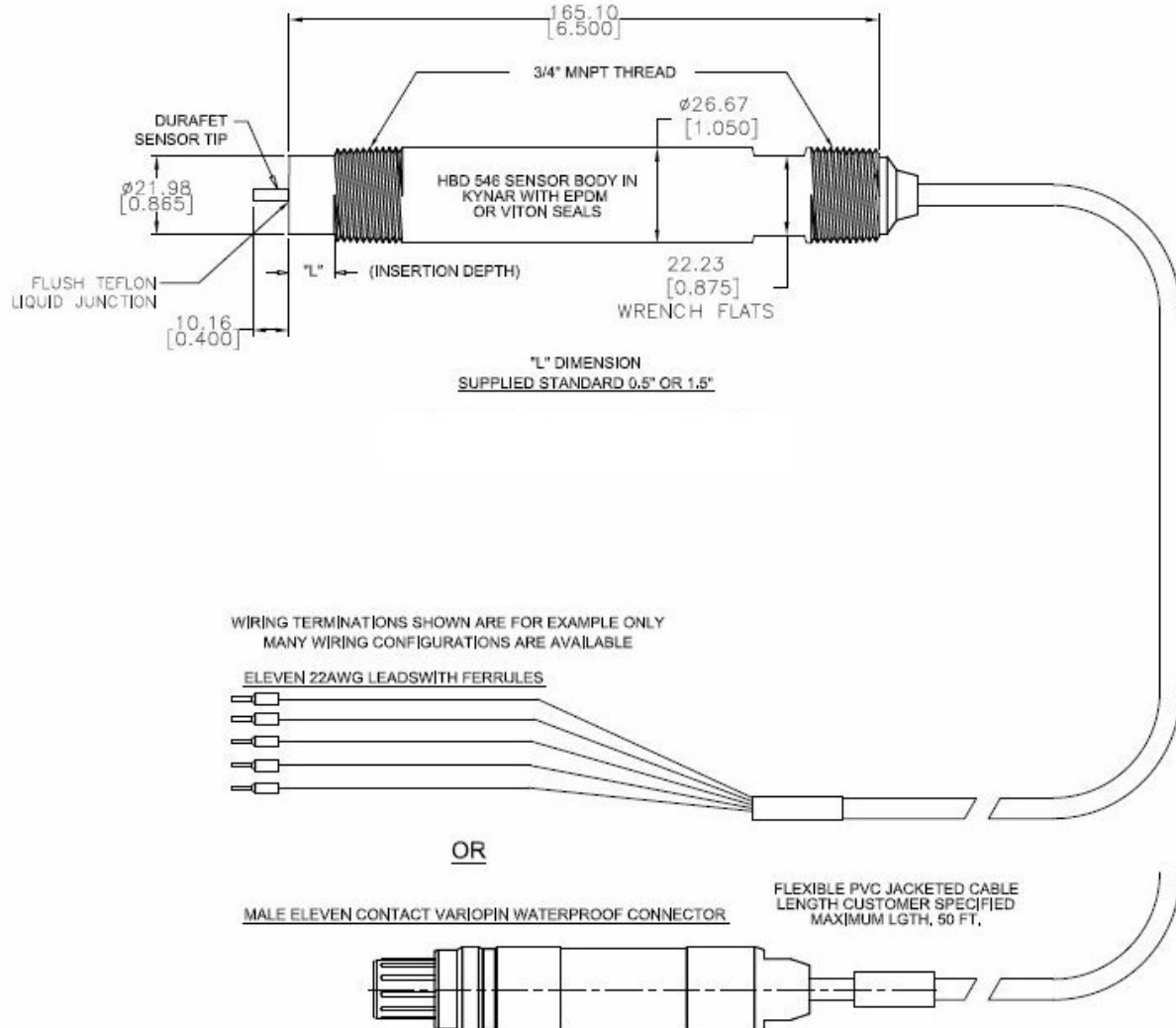
Unique Reference Technology

Like other rugged semi-solid state references, the reference is formed by a series of wood segments impregnated with KCL. The difference with the HBD Series technology is where others utilize an epoxy or impermeable barrier between each of the wood segments; the HBD Series uses a pair of formed discs.

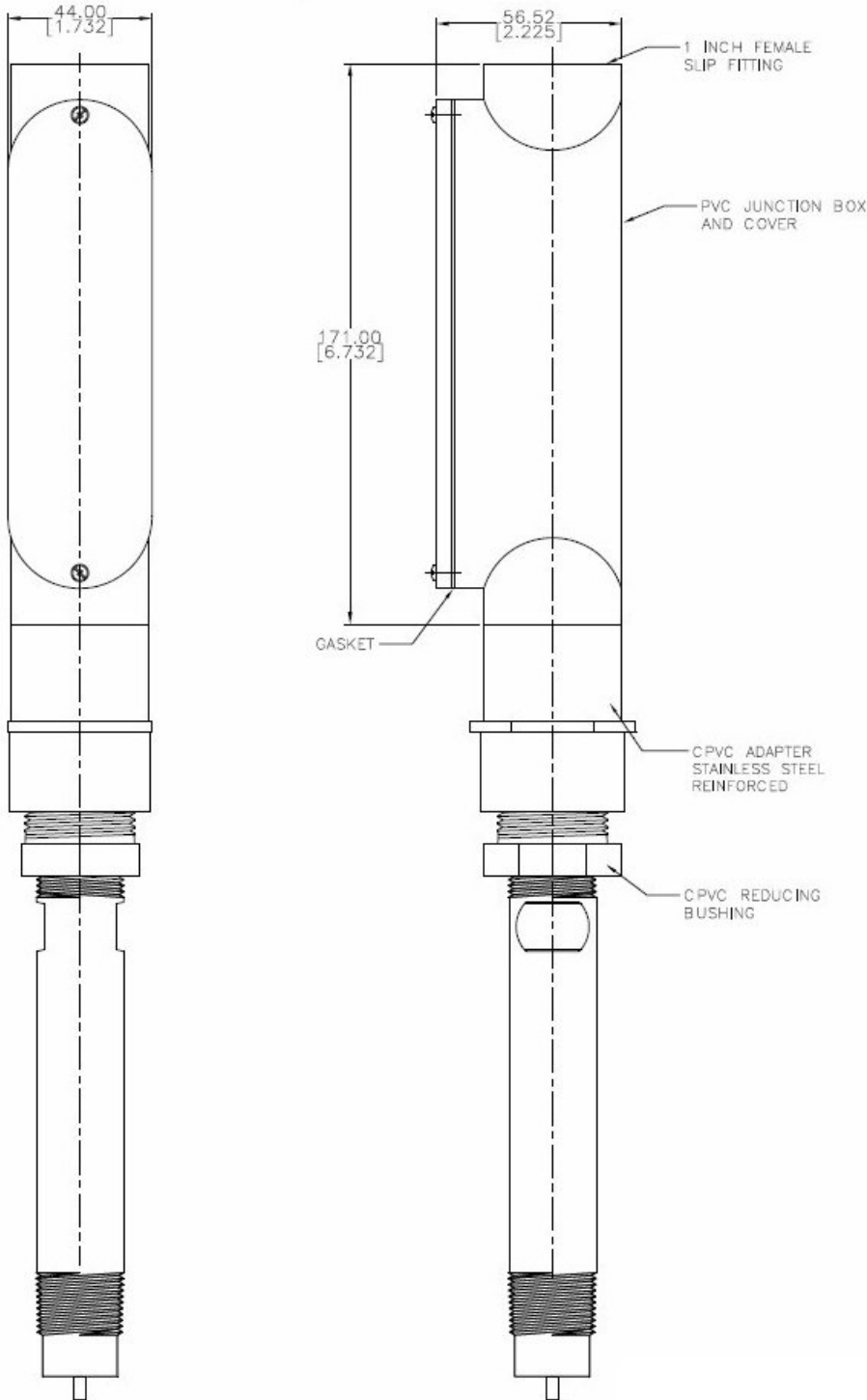
When the two formed disc faces are positioned adjacent to one another they form a tortuous path (filled with electrolyte) between each of the segments. This path provides a more complete transition of KCl ions between the wood segments forward and creates a difficult and longer distance for poisons traveling back into the reference from the specimen fluid.

The reference junction is made of Teflon and acts as the interface between the process fluid and the reference electrode. This is a porous surface, which passes ions between the reference and measurement fluid. The primary function is to allow very small amounts of KCl to leach from the reference and provide the millivolts necessary for pH measurement. The secondary function is to maintain a barrier between the measurement fluid and the reference so that the measurement fluid does not rapidly poison or foul the reference.

Dimension Drawing



Dimension Drawing



HBD546 with optional junction box

Features

HBD546 Electrode

- Non-Glass Ion Sensitive Field Effect Transistor (ISFET) pH sensor
- Rugged, virtually non-breakable
- Long lasting stability in the harshest of application environments Integral automatic temperature compensator
- Chemically resistant Kynar body
- Great for high temperature and high pressure applications
- Can be used in both low and high pH conditions
- Rugged, quick-change, quick-clean
- Compatible with most industrial transmitters and analyzers

Specifications

Electrode	
Pressure and Temperature Rating	50 psig, 100°C 100 psig, 50°C
Operating Range	0-14 pH
Mounting	Threaded in-line: 3/4" MNPT threaded nose for installation into process, sample line or automatic cleaning system. Submerged: 3/4" MNPT threaded top for connection to 3/4" FNPT coupling and extension pipe.
Wetted Materials	Kynar, porous Teflon, Viton, Ryton, EPDM & Silicon
Cable Options	20 ft (6.1 m) and 50 ft (15.2 m) integral ferrule terminated leads or 10 inch integral VarioPin connector
Temperature Sensor	8550 Ohm Thermistor, Pt1000 RTD
Weight	Approximately 0. 23 kg (0.5 lb)

Specifications are subject to change without notice.

Sales and Service

For application assistance, current specifications, pricing, or name of the nearest Authorized Distributor, contact one of the offices below.

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For More Information

Learn more about how Honeywell's HBD546 – In-line & Submersible pH Electrodes are designed for high temperature, high pressure and harsh chemical applications, visit our website

www.honeywellprocess.com/analytical-instruments-and-sensors or contact your Honeywell account manager.

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