

pH Sensor



The SBE 18 pH Sensor uses a pressure-balanced glass-electrode / Ag/AgCl-reference pH probe to provide *in-situ* measurements at depths up to 1200 meters (3900 ft). The replaceable pH probe is permanently sealed and is supplied with a soaker bottle attachment that prevents the reference electrode from drying out during storage. The sensor and associated interface electronics is a modular, self-contained package that is easy to install, service, and calibrate.

The SBE 18 is intended for use as an add-on auxiliary sensor for profiling CTDs (SBE 9*plus*; SBE 19, 19*plus*, and 19*plus* V2 SEACAT; and SBE 25 SEALOGGER). Power / signal interface cables and mounting hardware are available separately.

The SBE 18's interface circuits buffer and offset the differential glass-electrode/reference potential to produce a high-level, pH-dependant, output voltage. Computation of pH in engineering units is typically done using our SEASOFT[®] software.

Sea-Bird calibrates the pH sensor against precision buffer solutions (4, 7, and 10 pH ± 0.02 pH). These calibration results are tabulated on a certificate furnished with each sensor.

SPECIFICATIONS

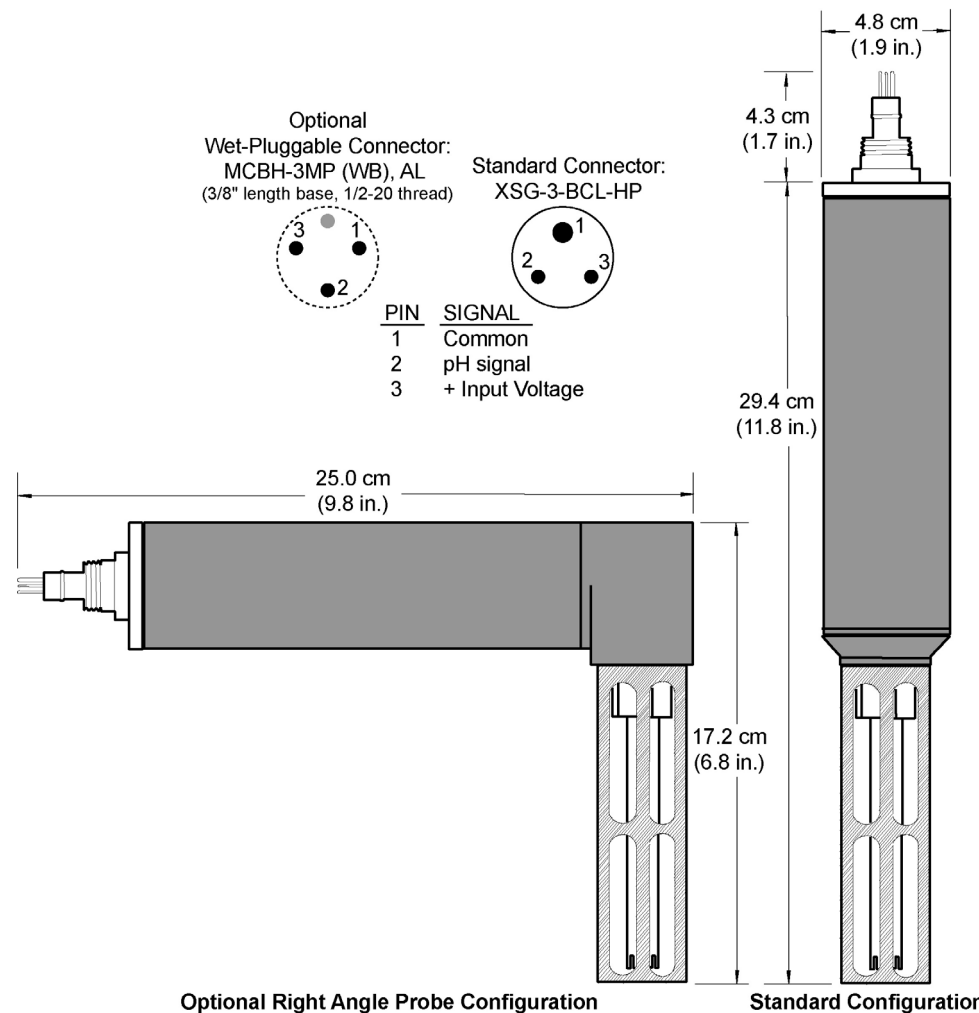
Measurement range 0 – 14 pH
Accuracy¹ 0.1 pH
Time response² 1 second

ELECTRICAL / MECHANICAL

Power required 6 - 24 VDC, 7 mA
Signal output 0 to +5 V
Materials Anodized aluminum (6061-T6), stainless steel
Operating depth 1200 meters (3900 ft)
Weight 0.7 kg (1.5 lbs) in air, 0.4 kg (0.8 lbs) in water

¹ Stated accuracy achievable with frequent field calibrations.

² Time to reach 63% of final value following step change in pH.



Note: SBE 18 must always be mounted with the pH probe in a vertical orientation, as shown in drawings at left. A right angle probe configuration is typically required for applications where the CTD is mounted horizontally (for example, in an extension stand below an SBE 32 Carousel Water Sampler), and the SBE 18 is mounted to the CTD.