

Pressure Sensor



The SBE 29 is a modular sensor consisting of a mechanical strain-gauge pressure transducer with thermistor temperature compensation. The SBE 29 measures absolute pressure in one of seven full-scale pressure ranges from 20 to 7,000 meters depth.

The sensor elements and their interface electronics are modular and self-contained, providing easy installation, service, and calibration. The SBE 29 is primarily used on Sea-Bird's SBE 25 SEALOGGER CTD, but may also be suited to some custom instrumentation applications. Power/signal interface cables and mounting hardware are available separately.

The SBE 29 interface electronics provide a pressure-dependent output voltage (+5 to -5) and a temperature-compensation voltage of 0 to +5 VDC (30K ohm thermistor at 25° C). Temperature-corrected pressure in engineering units [Pnum] is computed using the following equation:

$$P_{num} = V_p * 819 - (TC * T/1024)$$

where

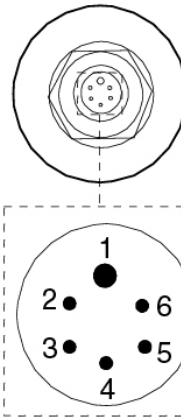
V_p = the pressure signal voltage,

TC = compensation value (from SBE 29 calibration sheet), and

T = temperature [°C]: $T = -V_t * 21.02373 + 40.293$ [°C];
where V_t is the TC signal voltage.

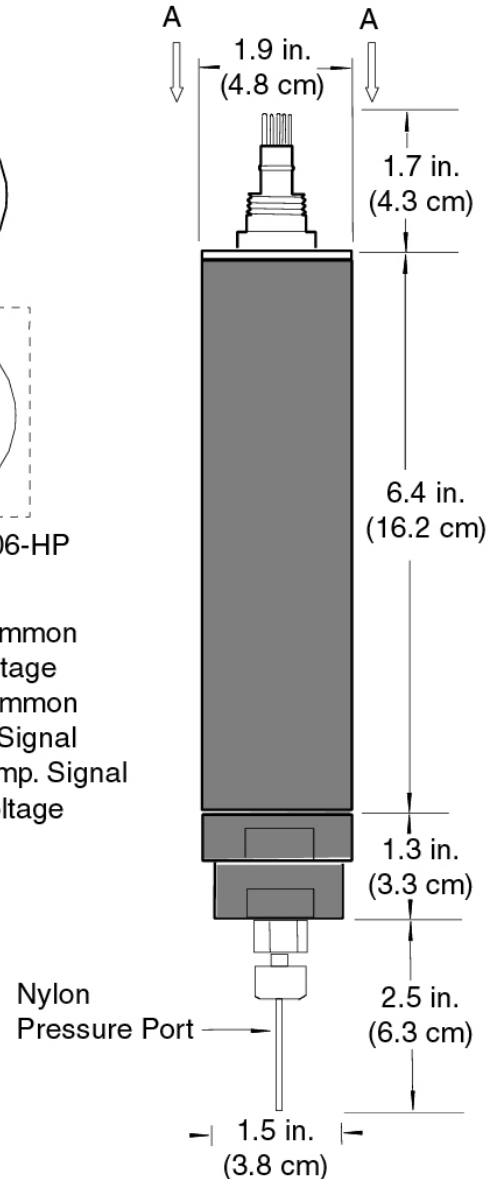
Each sensor is calibrated over its full scale range using a dead weight tester. Calibration results are tabulated on a certificate furnished with each sensor.

View A A



Connector: AG-306-HP

PIN	SIGNAL
(1)	Power Common
(2)	- Input Voltage
(3)	Signal Common
(4)	Pressure Signal
(5)	Temp. Comp. Signal
(6)	+ Input Voltage



SPECIFICATIONS

Measurement Range	20/100/350/1000/2000/3500/7000 meters
Accuracy	0.1% of full scale
Resolution	0.002% of full scale
Typical Stability (per month)	0.004% of full scale
Power Required	+10 and -10 VDC at 15 ma
Housing Materials	<i>Less than 3500 meters:</i> anodized aluminum (6061) <i>3500 meters and above:</i> anodized aluminum (7075)
Weight	0.7 kg (1.6 lbs) in air; 0.3 kg (0.7 lbs) in water



Sea-Bird Electronics, Inc.
1808 136th Place NE, Bellevue, Washington 98005 USA
Website: <http://www.seabird.com>

Fax: (425) 643-9954
Tel: (425) 643-9866
Email: seabird@seabird.com