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APPLICATION NOTE NO. 33

March 2001

DC OPTO-ISOLATED JUNCTION BOX P/N 90118 INSTRUCTIONS FOR APPLICATION AND USE

Description

The Sea-Bird Electronics DC Opto-Isolated Junction Box is a multi-purpose accessory that provides a convenient power and/or data interface between many Sea-Bird instruments and the user's computer serial port. The junction box is DC powered (10 to 35 VDC) and features optical data coupling and an isolated power supply to permit working without interference from shipboard power circuits and grounds. It can supply up to 2 amperes at +15 volts DC to power a SBE 16 or SBE 19 and auxiliary sensors, SBE 21 Thermosalinograph, or SBE 26 Seagauge.

The DC Opto Box is intended for the following uses:

1. It optically isolates a user's AC-powered computer from a CTD or other real-time instrument with underwater cables no more than 100 meters long.
2. It provides power to SBE 16, 19, 20, or 26 (when not equipped with internal opto-isolated line driver option) and associated auxiliary sensors, without relying on internal batteries. The maximum cable length will be limited by the voltage drop due to the cable's resistance and the operating current requirement.

Sea-Bird's instruments, when not equipped with the internal opto-isolated line driver option, can receive external power through a data I/O connector with an external power pin which is diode-OR'd with the internal battery supply. Since the 15 volts from the junction box is greater than the normal battery voltage, the instrument will automatically draw power from the junction box, not its internal batteries. The Thermosalinograph does not have batteries, so it is always powered from the junction box.

Cables

Two cables are supplied with the junction box:

- 1) 2.5 m (8.2 ft) cable with 4-pin MS type connector to 4-pin RMG type underwater connector (P/N 80437) used to connect the instrument directly to the junction box.
- 2) 1.5 m (4.9 ft) cable with DB-25P to DB-25S (P/N 80072) for connecting the junction box to a computer's serial interface (a 25-pin to 9-pin adapter [P/N 17030] is supplied for use with 'AT' and laptop computers).

DC power (10 to 35 VDC) is connected to the junction box via the two-pin MS style connector on the junction box. A mating connector (P/N 17315) with clamp and boot has been supplied with the unit. Connect positive power to pin B and negative power to pin A.

Operation

To operate your instrument with the DC Opto-Isolated Junction Box:

1. Connect the instrument to the junction box.
2. Connect the junction box to the computer and connect DC power.
3. Turn the junction box power ON with the toggle switch (the red LED should light up).
4. Run the terminal program and communicate with the instrument via the computer keyboard.

DC Opto-Isolated Junction Box

