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AC Powered OPTO-ISOLATED RS-485 to RS-232 JUNCTION BOX P/N 80491
INSTRUCTIONS FOR APPLICATION AND USE

The Sea-Bird Electronics AC Opto-Isolated RS-485 to RS-232 Junction Box is a multi-purpose accessory that provides a convenient power and/or data interface between Sea-Bird instruments with a RS-485 interface and the user's computer serial RS-232 port. The junction box 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 SEACAT or MicroCAT.

The Opto Box RS-485 is intended for the following uses:

1. It provides an interface between the instruments RS-485 port and the user's computer serial RS-232 port.
2. It optically isolates a user's AC powered computer from a real-time instrument.
3. It provides power to the instrument 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 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 (SBE 37-SM and 37-SMP MicroCATs with firmware < 3.0 must have the external power option to use this box; newer SBE 37-SM and 37-SMP MicroCATs were sold with the external power capability as standard). 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.

Two cables are supplied with the junction box:

- 2.5 m 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.
- 1.5 m 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).

AC power (115 VAC) is connected to the junction box via the power cord PN 17015 provided.

To operate your RS-485 instrument with the AC Opto-Isolated Junction Box, connect it to the junction box, connect the junction box to the computer, and connect AC power. Turn the junction box power ON with the toggle switch (the red LED should light up). Run the terminal program and communicate with the instrument via the computer keyboard.