

# Inductive Cable Coupler (Version 4)

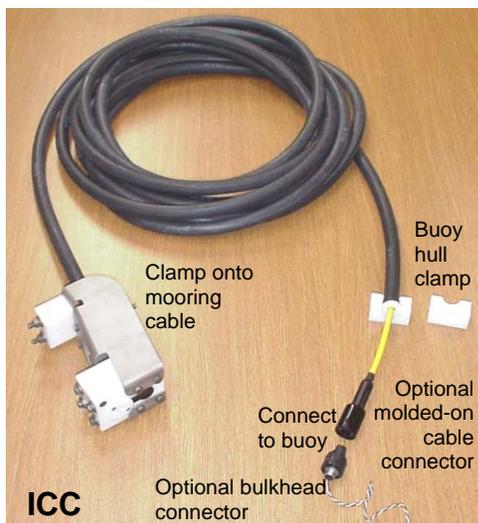
# ICC



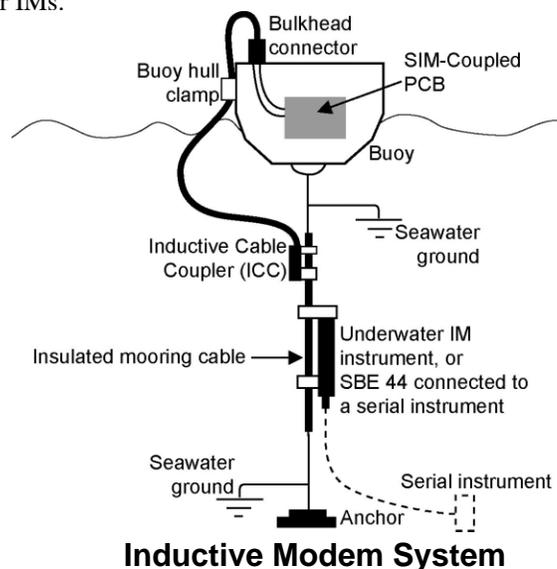
The ICC is a link in Sea-Bird's inductive modem (IM) telemetry systems. The ICC is used in applications where the plastic-jacketed wire termination is grounded to seawater (at a chain, for example). The ICC clamps to the jacketed mooring wire, and makes electrical connection with the Surface Inductive Modem (SIM) via a cable housed in reinforced-rubber conduit. The conduit's upper end is fixed to the buoy hull with the provided clamps. The conduit/cable must be long enough to prevent buoy motion from pulling it completely straight and putting tension on the ICC.

An IM telemetry system typically includes:

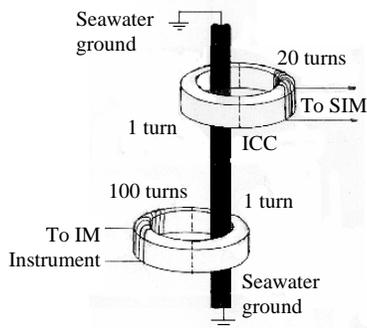
- **Surface Inductive Modem (SIM)**, housed in a buoy or on land. The SIM provides the link between the underwater IM instruments and computer / buoy controller.
- **Inductive Cable Coupler (ICC)**, which links the underwater IM and SIM for typical buoy applications.
- **Underwater IM instruments**, up to 100 inductively coupled instruments on a jacketed mooring wire. Compatible instruments include:
  - SBE 37-IMP (or 37-IM) MicroCAT C-T (optional pressure) Recorder.
  - SBE 39-IM Temperature (optional pressure) Recorder
  - SBE 16plus-IM SEACAT C-T (optional pressure) Recorder, which can acquire additional data from optional auxiliary sensors (oxygen, fluorescence, etc.).
  - SBE 44 Underwater IM, which links to a current meter, Doppler profiler, etc. with a standard serial interface.
  - Instruments by other manufacturers with built-in Sea-Bird underwater IMs.



Note: ICC includes pigtail cable, conduit, and buoy hull clamp; molded-on cable connector and bulkhead connector optional.



**Inductive Modem System**



## PRINCIPLES OF INDUCTIVE COUPLING

A transformer has two or more coils that share a magnetic field. Materials such as ferrite can be used to form a transformer core that ensures the necessary sharing of magnetic fields.

When using the ICC with Sea-Bird's IM telemetry system, the ends of the mooring cable are grounded to the seawater. This causes a current to flow through the mooring wire and seawater. The ICC senses this current, providing a voltage for presentation to the SIM.

## ICC CONFIGURATION CHOICES

- Mooring cable diameter - 1/4 inch, 5/16 inch, 3/8 inch, 1/2 inch, 6 mm, 8 mm, 10 mm, 12 mm, or 16 mm (5/8 inch)
- Cable length specified up to 10 meters (32.8 feet); longer lengths available – over 50 meters (164 feet) not recommended
- ICC comes with pigtail cable, conduit, and buoy hull clamp. Optional molded-on cable connector and matching bulkhead connector can be ordered; consult factory for availability.

## ICC DEPTH RATING

To 7000 meters (23,000 ft).

## ADDITIONAL INFORMATION

See SBE 37-IMP, SBE 37-IM, SBE 39-IM, SBE 16plus-IM, SBE 44, and SIM datasheets.

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