

Datasheet

iUSBL Transceiver (Inverted)



Description

Inverted USBL, or iUSBL, builds on the success of Sonardyne's Fusion platform and utilises a 7,000 metre rated inverted transceiver located on the vehicle, to offer high performance subsea positioning for ROVs, AUVs and deep-tow bodies.

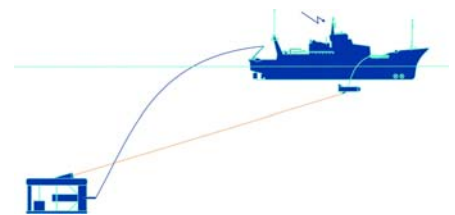
Sonardyne's family of Fusion Ultra-Short Base Line (USBL) transceivers support the use of modern Wideband™ signal technology, offering improved noise immunity, increased dynamic range and greater accuracy.

As well as providing all the standard features of Sonardyne's well proven USBL technology (see separate datasheets for Type 8021 & Type 8023 transceivers), the Type 8091 Inverted USBL transceiver provides the added flexibility of being able to mount the transceiver on an AUV, ROV, or deep towed body for use up to full ocean depth. Mounting the

transceiver in this way offers many operational benefits. Installation is simple when compared with installing a through-hull or over-the-side USBL transceiver.

The transceiver can be mounted at any angle from horizontal to vertically upwards allowing innovative, previously difficult tracking operations to be carried out, e.g. towed body to streamer tracking, ROV to ship tracking etc.

Closely coupled attitude sensors eliminate the need for repeated system calibration, whilst the accuracy and repeatability of the acoustic signals are improved, as the transceiver is located in a low noise, dynamically stable environment.



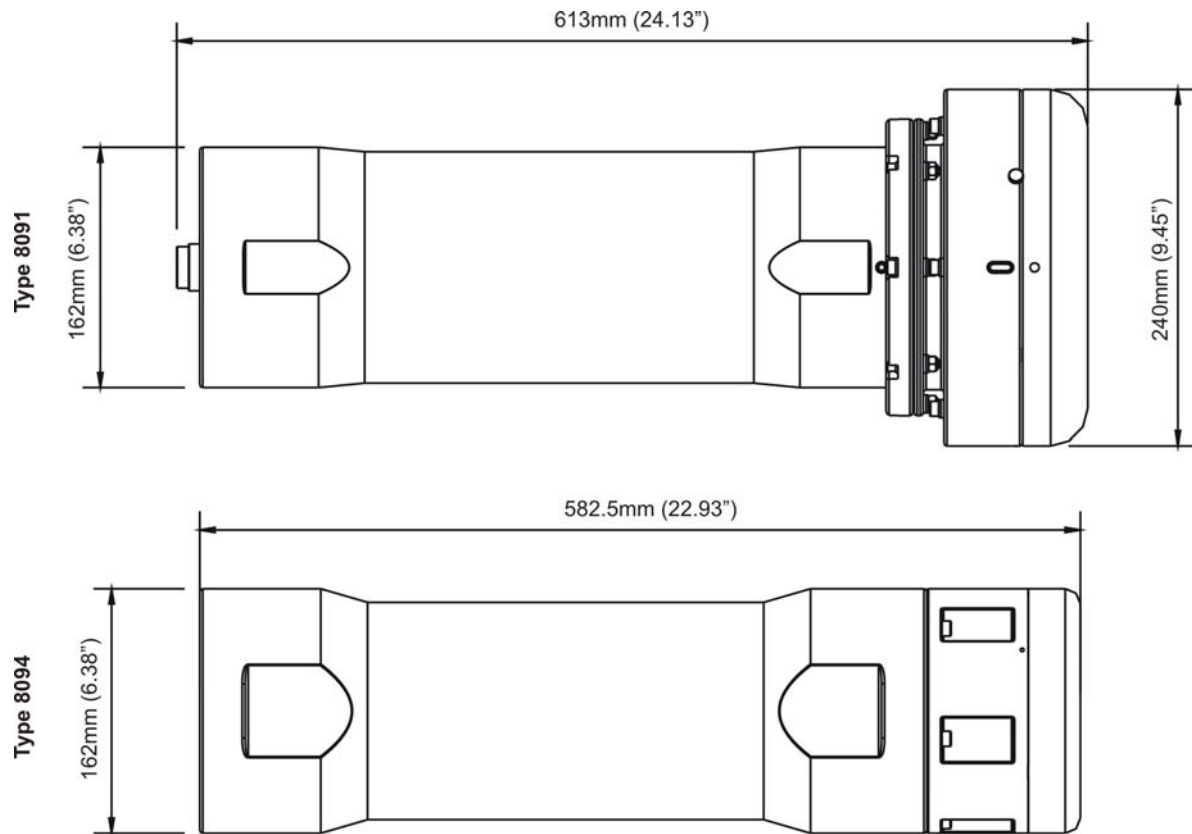
iUSBL Positioning Technique
Vehicle mounted transceiver positioning a vessel mounted transponder

Key features

- Full ocean depth rated USBL transceiver
- Can be mounted on an AUV, ROV or deep towed body
- Incorporates Sonardyne's latest Wideband Technology
- Optional HF version available
- Non-Sonardyne frequencies supported
- No need for second vessel to position the towfish

Specifications

iUSBL Transceiver (Inverted)



Feature	Type 8091	Type 8094
Operational Frequency	MF (18-36kHz)	HF (33-55kHz)
Electrical	+48VDC (38V to 50V), can operate on +24VDC (18V to 30V) Typical 15W, Max 50W	
Communication	RS485 or RS232, baud rate switchable	
Transceiver Performance	Operating Range Acoustic Cover Range Accuracy Positioning Repeatability	Up to 7,000 Metres $\pm 80^\circ$ Better than 0.2 metres All transceivers tested to better than 0.1% of slant range 1 Drms
		Up to 2,000 Metres $\pm 80^\circ$ Better than 0.2 metres All transceivers tested to better than 0.5% of slant range 1 Drms
Dimensions (LxDia)	613mm x 240mm	583mm x 162mm
Weight in Air	27.2kg	17.0kg
Weight in Water	13.0kg	6.4kg
Depth Rating	7,000 Metres	7,000 Metres
Note	The absolute accuracy of the system is dependent upon the quality of attitude and heading sensors, beacon source level, vessel (towfish / ROV) noise, water depth, mechanical rigidity of the transceiver mounting, accurate survey of the offset between the transceiver acoustic face and the AHRS.	