



4.03 Wet-End Installation

4.03.01 Wet-End Mounting

Take care that the sonar head assembly is electrically isolated from the structure to avoid corrosion problems.

NOTE: The sonar head is not designed to be hydrodynamic at speeds in excess of two knots. Vibration and oscillation will become evident if the projector and receiver are not rigidly mounted. To minimize the unsupported length, place a support as close to the waterline as possible. Fairings can also be used to improve hydrodynamic performance.

4.03.02 Link Control Unit (LCU) Installation

The LCU should be mounted in a convenient location within easy reach of the projector-to-LCU and receiver-to-LCU cables. The pressure housing may be secured using straps.

4.03.03 EM 7200 Receiver Unit Installation

The mounting flange on the front of the EM 7200 receiver unit is designed to accommodate four M8 machine screws in a rectangular pattern.

4.03.04 TC 2160 Projector Unit Installation

The TC 2160 projector unit mounts to the vehicle or mounting plate using four M10 machine screws of appropriate length, arranged in a rectangular pattern.

4.03.05 TC 2163 Projector Unit Installation

The TC 2163 projector unit mounts to the vehicle or mounting plate using four M10 machine screws of appropriate length, arranged in a rectangular pattern.

4.03.06 Sonar Head Assembly Orientation

The sonar head assembly should be mounted with the faces of the arrays oriented vertically downwards. Ideally, the receive array is mounted across-track, while the transmit array is mounted along track and aft of the receive array. If necessary, the projector may be oriented forward or the head rotated away from vertical, however allowances must be made in the processor setup. In addition, an alternate mounting makes the projector more susceptible to impact damage and collection of trailing debris.

4.03.06.01 Critical Orientation Notes

- The faces of the projector and receiver must be aligned in the vertical ("Z") plane within ± 2.0 mm.
- The alignment along ship ("Y") plane and across ship ("X") plane should be within ± 250.0 mm.
- To ensure proper beam forming, the receiver unit must be mounted with the connector oriented to the port (left) side of the vessel or vehicle on which it has been installed.

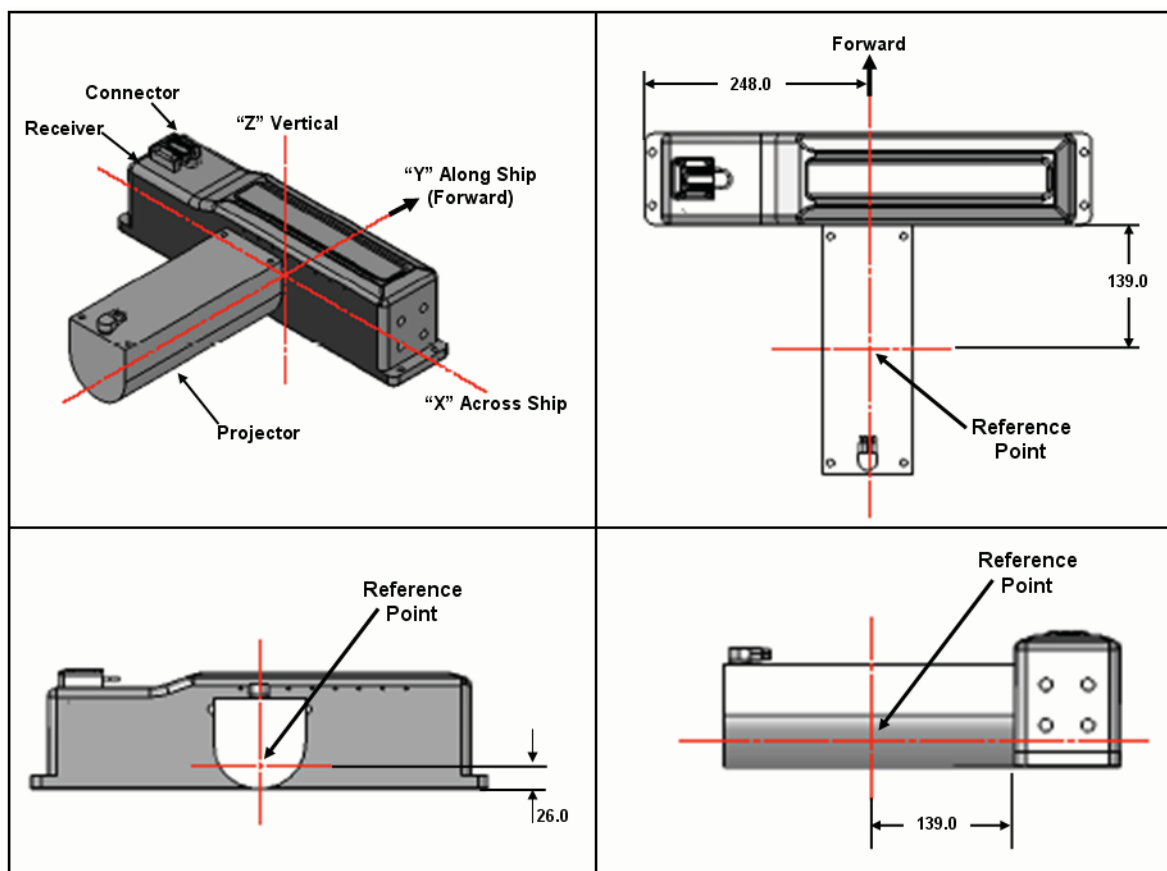


Figure 11: Sonar Head Assembly Orientation

4.03.07 Wet-End Cable Connections

The cable connections from the receiver unit and projector unit(s) to the LCU should be made prior to immersing the unit in water. A light coating of grease on the connector face will ensure sealing.

Ensure that cables are securely fastened and that strain relief is provided to prevent cable damage. Standard cable length between the sonar head assembly and the LCU bottle is three meters.

Take care to avoid impact to the projector unit and receiver unit faces, as damage could degrade system performance.

4.03.07.01 LCU Connections

The LCU connections **must** be made as follows:

- **Connector J1:** LCU-to-SPU cable
- **Connector J2:** Receiver-to-LCU cable
- **Connector J3:** 400 kHz Projector-to-LCU cable
- **Connector J4:** 200 kHz Projector-to-LCU cable (optional)

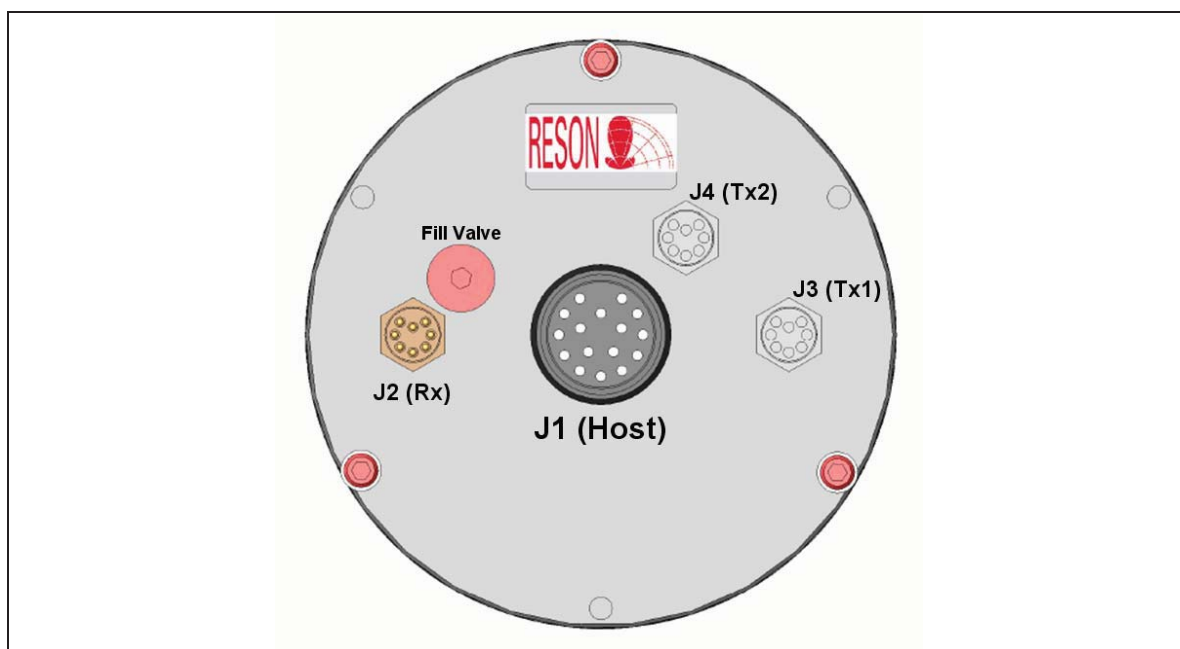


Figure 12: LCU Cable Connections

WARNING: Use a minimum bend radius of 90 mm or a minimum bend diameter of 180 mm when positioning the cables. These cables are very stiff, and a smaller bend radius will damage the cable.