

INSTALLATION INSTRUCTIONS

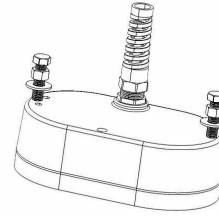
Pocket/Keel Mount

Depth Transducer

with Temperature Sensor

Models: PM260, PM265LH, PM265LM, PM270W, PM275LH-W

U.S. Patent No. 7,369,45; 8,582,393. UK Patent No. 2 414 077



WARNING: The transducer must be professionally installed using accepted practices. The pocket must be strong and watertight to reduce the risk of property damage, personal injury, and/or death.

Follow the precautions below for optimal product performance and to reduce the risk of property damage, personal injury, and/or death.

WARNING: Always wear safety goggles and a dust mask when installing.

WARNING: Immediately check for leaks when the boat is placed in the water. Do not leave the boat unchecked for more than three hours. Even a small leak may allow considerable water to accumulate.

CAUTION: CHIRP transducer—Do not install in the engine compartment or other hot place. The transducer may fail if it overheats.

CAUTION: CHIRP transducer—Always operate the transducer in water. Operating in air will allow the transducer to overheat resulting in failure.

CAUTION: The transducer must be flush with the bottom of the hull for good performance. Dry fit the transducer in the pocket before installing.

CAUTION: Never install a metal housing on a vessel with a positive ground system.

CAUTION: Never mount a bronze transducer in a metal hull, because electrolytic corrosion will occur.

CAUTION: Never pull, carry, or hold the transducer by the cable. This may sever internal connections.

CAUTION: Never strike the transducer.

CAUTION: Never use solvents. Cleaners, fuel, sealant, paint and other products may contain solvents that can damage plastic parts, especially the transducer's face.

IMPORTANT: Please read the instructions completely before proceeding with the installation. These instructions supersede any other instructions in your instrument manual if they differ.

Applications

- Recommended for fiberglass hulls
- Recommended for high-speed boats

Tools & Materials

Safety goggles

Dust mask

Scissors

Masking tape

Electric drill (some installations)

Drill bits and hole saws: (some installations)

Bolt holes 11 mm or 7/16"

Pilot hole for cable 8mm or 5/16"

Cable hole 35mm or 1-3/8"

Sandpaper (some installations)

Mild household detergent or weak solvent (such as alcohol)

Marine sealant (suitable for below waterline)

Torque wrench

Grommet(s) (some installations)

Cable ties

Water-based anti-fouling paint (**mandatory in salt water**)

NOTE: Making a fiberglass pocket in the hull requires additional tool and materials not listed.

Installation: Pre-molded Pocket in the Hull

Metal Template Available

If the boat hull has a molded pocket to accept a pocket mounted transducer, a metal template is available from the marine dealers listed on page 3.

Order a PM265 Template. This template is the correct size for all of the models listed on this owner's guide.

Dry Fitting the Transducer

The transducer must be flush with the bottom of the hull for good performance. Dry fit the transducer in the pocket before installing.

Bedding & Installing (see Figure 1)

CAUTION: Be sure the surfaces to be bedded are clean and dry.

1. Cut out the template on page 4.
2. Position the template within the hull pocket and tape it in place.
3. Using the appropriate drill bits and hole saw, drill the holes through the hull at the marked locations.
4. Sand and clean the area around the holes, inside and outside, to ensure that the marine sealant will adhere properly. Remove any petroleum residue with a mild household detergent or a weak solvent such as alcohol.
5. Apply a 2mm (1/16") thick layer of marine sealant to the following surfaces to seal the hull and hold the transducer firmly in place:
 - Surface of the transducer that will contact the hull
 - Cable fitting, being sure the sealant extends 6mm (1/4") into the hull
 - Threads of the bolts
 - Surface of the washers that will contact the hull
6. From outside the hull, thread the transducer cable through the hole in the hull. Push the transducer into the mounting pocket.
7. From inside the hull, screw a nut onto each bolt. Place one washer against each nut so that the side with the sealant will be against the hull when installed. Then screw each bolt into a threaded hole in the transducer. Tighten the bolts using a torque wrench with a force not exceeding 6N-m (5ft.-lb.).
8. Lightly tighten the nuts against the hull using a torque wrench with a force not exceeding 3.5N-m (3ft.-lb.).
9. Remove any excess marine sealant on the outside of the hull to ensure smooth water flow under the transducer.

Installation: Fiberglass the Transducer to Hull

Mounting Location

Boat Types (see Figure 2)

- **Displacement hull powerboats**—Locate amidships near the centerline. The starboard side of the hull where the propeller blades are moving downward is preferred.
 - **Planing hull powerboats**—Mount well aft, on or near the centerline, and *well inboard of the first set of lifting strakes* to ensure that the transducer will be in contact with the water at high speeds. The starboard side of the hull where the propeller blades are moving downward is preferred.
- Outboard and I/O**—Mount just forward of the engine(s).
Inboard—Mount well ahead of the propeller(s) and shaft(s).
Stepped hull—Mount just ahead of the first step.

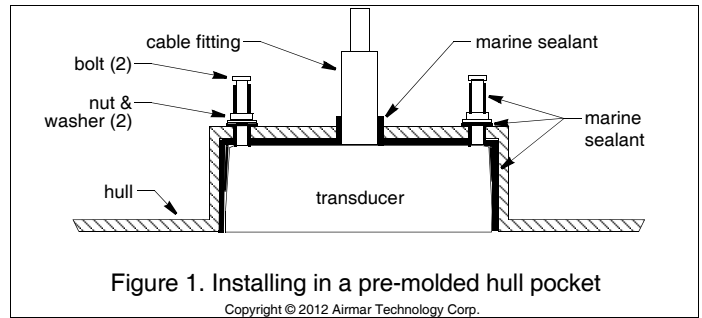
Guidelines

CAUTION: Do not mount in line with or near water intake or discharge openings or behind strakes, fittings, or hull irregularities that will disturb the water flow.

CAUTION: Do not mount in line with trailer rollers or bunks that may damage the transducer's face.

Choose a Location:

- Where the hull is flat or nearly flat, so the transducer beam will be aimed straight down.
- Where the transducer will be in contact with the water at all times.
- Where the water flowing under the hull is smooth with a minimum of bubbles and turbulence (especially at high speeds). Where the transducer beam will not be blocked by the keel or propeller shaft(s).
- Away from interference caused by power and radiation sources such as: the propeller(s) and shaft(s), other machinery, other



echosounders, and other cables. The lower the noise level, the higher the echosounder gain setting that can be used.

- Where there is working space inside the vessel.
- **CHIRP transducer**—Mount in a cool well-ventilated area away from the engine to avoid overheating.

Installing the Bolts in the Transducer

Screw a nut onto each bolt. Place one washer against each nut. Screw the two bolts with the nuts and washers in place into the threaded holes in the transducer. Tighten the bolts using a torque wrench with a force not exceeding 6N-m (5ft.-lb.).

Fiberglassing the Transducer

The transducer must be professionally installed using accepted practices. The pocket must be strong and watertight to reduce the risk of property damage, personal injury, and/or death. The transducer must be flush with the bottom of the hull for good performance. Use the template on page 4 to cut the hole in the hull.

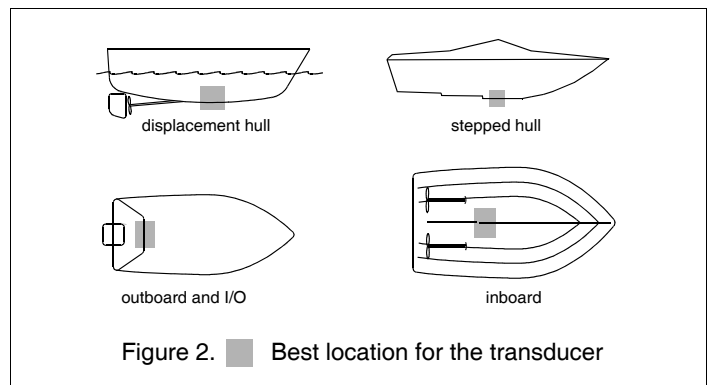
Tightening the Nuts

After the transducer has been fiberglassed to the hull, lightly tighten the nuts using a torque wrench with a force not exceeding 3.5N-m (3ft.-lb.).

Cable Routing & Connecting

CAUTION: If the transducer came with a connector, do not remove it to ease cable routing. If the cable must be cut and spliced, use Airmar's splash-proof Junction Box No. 33-035 and follow the instructions provided. Removing the water-proof connector or cutting the cable, except when using water-tight junction box, will void the transducer warranty.

1. Route the cable to the echosounder being careful not to tear the cable jacket when passing it through the bulkhead(s) and other parts of the boat. Use grommet(s) to prevent chafing. To reduce electrical interference, separate the transducer cable from other electrical wiring and the engine(s). Coil any excess cable and secure it in place with cable ties to prevent damage.
2. Refer to your echosounder owner's manual to connect the transducer to the instrument.



Checking for Leaks

When the boat is placed in the water, **immediately** check around the transducer for leaks. Note that very small leaks may not be readily observed. Do not leave the boat in the water for more than 3 hours before checking it again. If a leak is observed, repeat the installation procedures **immediately**.

Maintenance, Parts, & Replacement

Anti-fouling Paint

Surfaces exposed to salt water must be coated with anti-fouling paint. Use *water-based* anti-fouling paint only. Never use ketone based anti-fouling paint, since ketones can attack many plastics possibly damaging the transducer. Reapply anti-fouling paint every 6 months or at the beginning of each boating season.

Cleaning

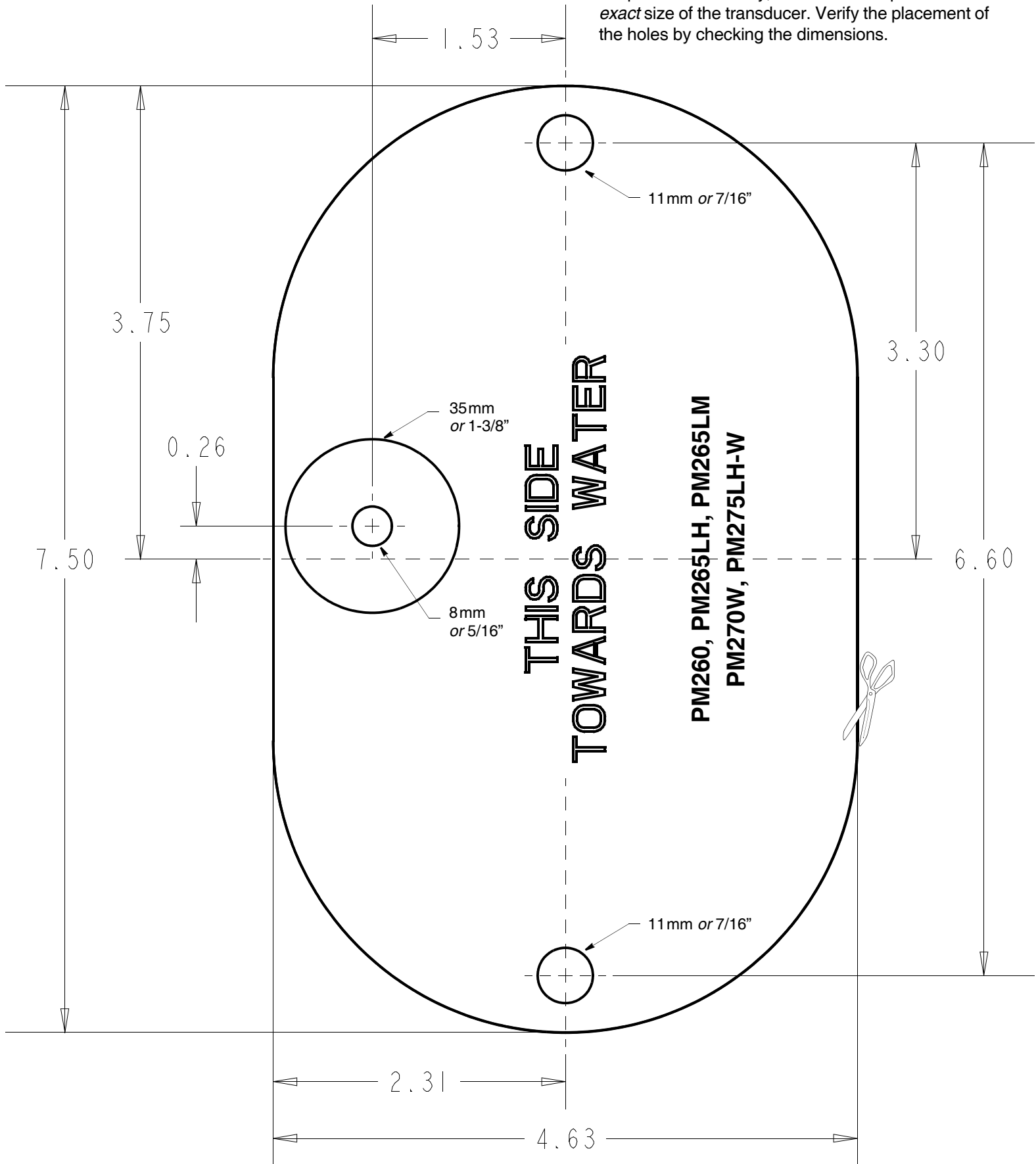
Aquatic growth can accumulate rapidly on the transducer's surface, reducing its performance within weeks. Clean the surface with a Scotch-Brite® scour pad and mild household detergent, *being careful* to avoid making scratches. If fouling is severe, lightly wet sand it with fine grade wet/dry paper.

Transducer Replacement & Parts

The information needed to order a replacement Airmar transducer is printed on the cable tag. Do not remove this tag. When ordering, specify the part number, date, and frequency in kHz. For convenient reference, record this information near the top of page one.

IMPORTANT

Some printers and print settings may alter the size of this template. Before cutting, verify the template's size by placing the transducer on top of the template. If necessary, redraw the template to the *exact* size of the transducer. Verify the placement of the holes by checking the dimensions.

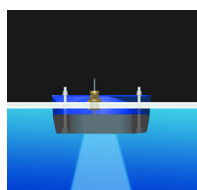


AVOID OVERHEATING

Installation Supplement: *CHIRP Transducers*

CAUTION: Follow the instructions that came with your transducer. To install a CHIRP transducer in a way other than intended by the manufacturer may lead to the transducer overheating, resulting in transducer failure.

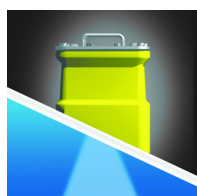
Due to the nature of CHIRP technology, CHIRP transducers generate more heat than traditional tone-burst transducers operating at the same frequency. CHIRP transducers have heat sinks in their construction to dissipate heat. Airmar's CHIRP transducers have been designed to be installed in specific ways according to the number and placement of these heat sinks.



External Thru-Hull Mount

Models: B765LH/LM, B265LH/LM, R109LH/LM, R509LH/LM

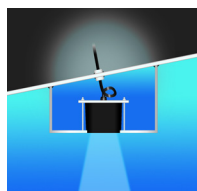
Transducer is installed entirely outside of the hull. A stem or stuffing tube hole is drilled through the hull for the transducer cable. The active face and sides of the transducer are immersed in seawater.



In-Hull Mount

Models: M265LH/LM, R111LH/LM, R599LH/LM

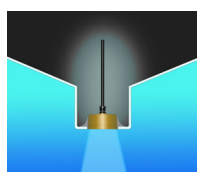
Transducer is installed within a wetbox/yellow plastic tank affixed inside the hull at a cool location. It must be away from the engine compartment and other hot places. No holes are drilled in the hull, however this installation is suitable for a solid fiberglass hull only. The active face and the sides of the transducer are immersed in propylene glycol (non-toxic marine/RV anti-freeze).



Tank Mount

Models: CM265LH/LM, CM199LH/LM, CM599LH/LM

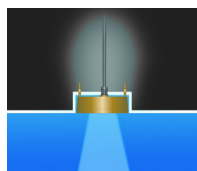
Transducer is installed within a seawater-filled tank outside of the hull. A stem or stuffing tube hole is drilled through the hull for the transducer cable. The active face and sides of the transducer are immersed in seawater.



Keel Mount

Models: PM265LH/LM, PM111LH/LM, CM599LH/LM

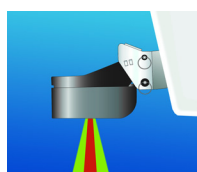
Transducer is fibreglassed into the keel at a cool location away from the engine compartment. The active face of the transducer is flush with the outside of the hull and exposed to seawater.



Pocket Mount

Models: PM265LH/LM, PM111LH/LM, CM599LH/LM

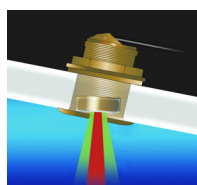
Transducer is bolted into a pocket formed in the hull at a cool location away from the engine compartment. The active face of the transducer is flush with the outside of the hull and exposed to seawater.



Transom Mount

Models: TM130M, TM150M, TM210H, TM265LH/LM

Transducer is bolted to the outside of the boat on the transom. During operation, the active face of the transducer is immersed in seawater.



Low-Profile Thru-Hull Mount

Models: B75H/M/L, B150M, B175H/M/L, SS150M, SS175H/M/L

Transducer is installed in a hole drilled through the hull at a cool location away from the engine compartment. During operation, the active face of the transducer is exposed to seawater.