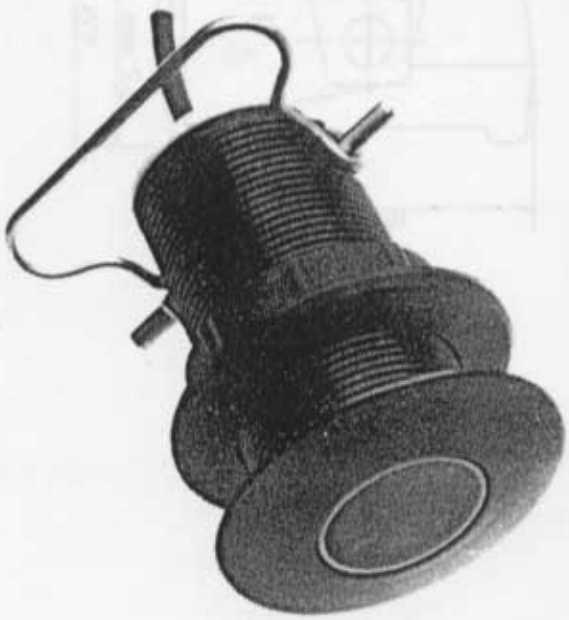
SILVA 320/325

DIGITALT EKOLOD • DIGITAL DEPTH SOUNDER
DIGITALES ECHOLOT • SONDEUR DIGITAL



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2

SILVA 320/325 depth sounder

1. General Description:

The SILVA 320 indicates the depth of water from the waterline in either feet, metres or fathoms. The instrument is programmed to assume that the transducer is located on the hull 18" (0.4 m) below the water's surface.

An alarm function gives visual and audible notification when the water depth is less than the pre-selected limit.

Selection of depth measurement and of the alarm setting are made by using a series of switches located at the rear of the instrument.

The high contrast LCD display is red-illuminated for optimal readibility and night vision enhancement.

The transducer is designed for through-hull mounting. However, as an option, an internal mounting kit (so-called "wet-box") is available (part number 9038). If the hull is constructed of good quality GRP, internal mounting can give good results.

The SILVA 320 Depth Sounder utilises an advanced micro-processorised measuring circuit to achieve stable, reliable indications in all conditions. For further information, see the section entitled "What You Should Know About Depth Sounders" at the end of these instructions.

The SILVA 325 is a flush mount version of the echo sounder for installation in a dash board.

2. Contents list för the SILVA 320/325 depth sounder

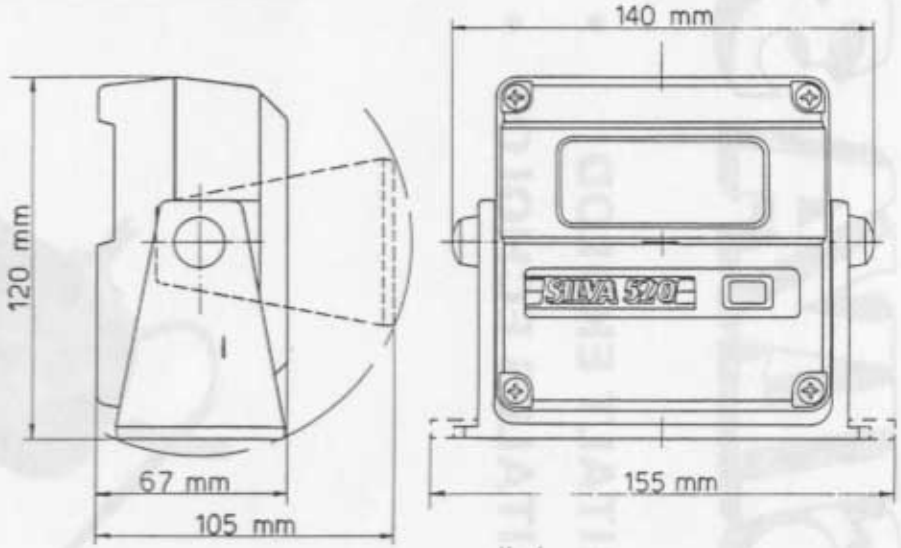
The SILVA 320/325 comes complete with all necessary fittings and attachments for almost all installations. Included in this box are the following items. Check now to become familiar with each part prior to installation.

- 1 Instrument
- 1 Gasket
- 4 Stainless steel screws
- 1 Buzzer
- 1 Transducer with cable

In addition to this a two-wire cable from the fuse box is also required.

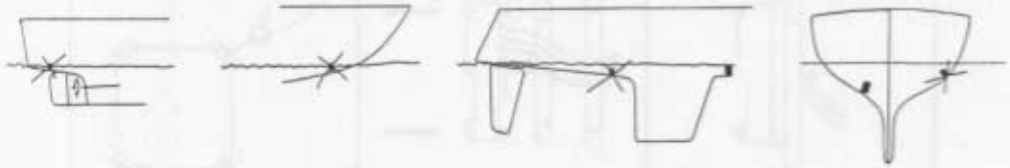
3. Optional accessories

The SILVA 320 Depth Sounder may be ordered with an optional dash-mount bracket. (Part number 8934.)



4. Correct location of through-hull fitting

The correct positioning of the depth sounder transducer will directly affect the sensitivity and accuracy of the readings. The transducer should be located on an area of the hull that will be under water at all times, and free from bubbles or turbulence that result from water flow from the keel or the propeller.



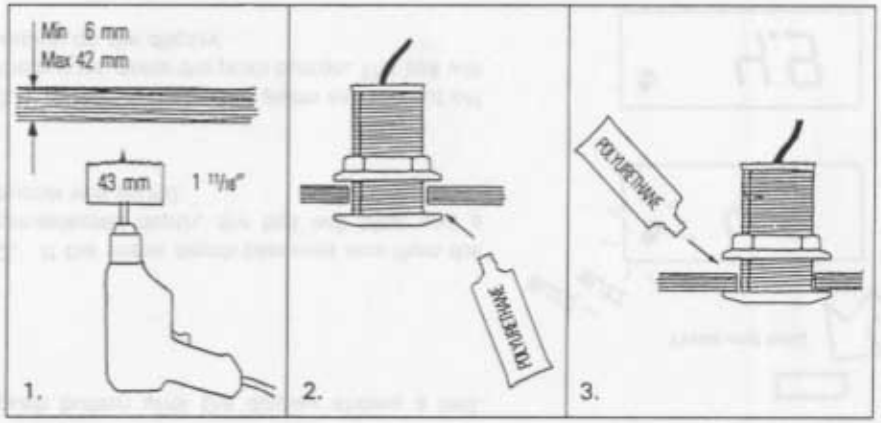
Aviod placing the transducer near the edge of sharp hull chines. Transverse water flow in these areas may be turbulent and thus may affect the accuracy of measurements.

Although the transducer sends out a signal at various angles, it is always best to attempt an installation that keeps the transducer as vertical as possible. For this reason, a location close to the centreline is preferred.

If you have questions about the location of the through-hull, contact your builder, yacht dealer, or other Silva owners with similar boats for advice. Always remember to account for accessibility from the inside of the yacht when determining the final location!

5. Installing the through-hull fitting

1. Use a 43 mm (1 11/16") hole cutter to cut through the hull. (See section concerning correct location of through-hull fitting).
2. Apply polyurethane sealing compound on the outer flange of the transducer, and tighten the nut on the inside by hand.
3. When this outer sealant has cured, remove the nut and apply sealant on the inside. Tighten the nut again by hand.



6. Installing the instrument display

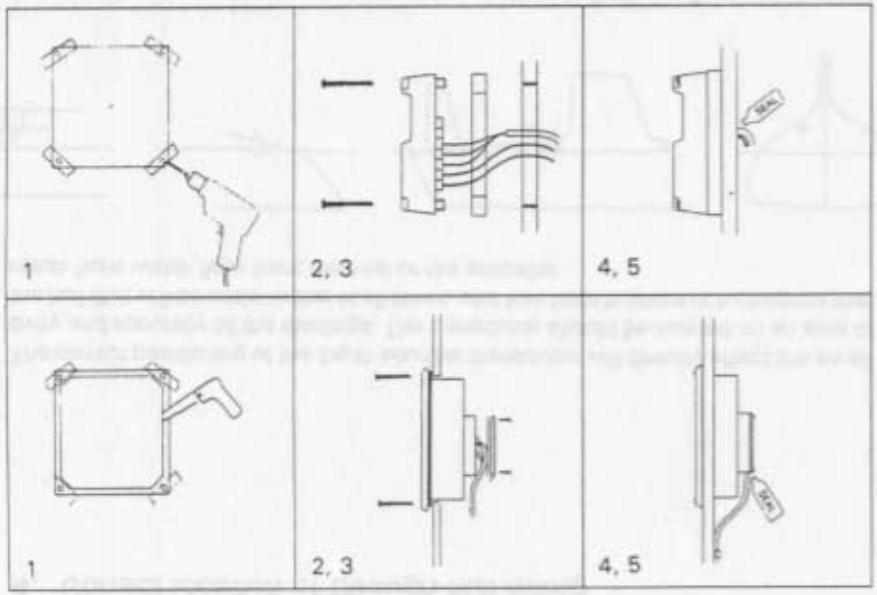
Bulkhead mount

1. Locate the position of the display using the template supplied with this handbook. Drill the holes as indicated, one in each corner, and one for the instrument cables to pass through the bulkhead.
2. Pass the instrument cables through the hole and through the rubber gasket. Attach the cable wires to the terminals as indicated in section 9.
3. Calibrate the instrument in accordance to section 8.
4. Use the screws supplied to attach the instrument and gasket onto the bulkhead.
5. Seal the hole where the instrument cables pass through the inside of the bulkhead. This will prevent warm cabin air from escaping into the instrument case where it may condense on the display glass.

Flush mount

1. Locate the position of the display using the template supplied with this handbook. Drill the holes as indicated, one in each corner and use a hacksaw to take up the hole for the instrument box.
2. Attach the cable wires to the terminals as indicated in section 9.
3. Calibrate the instrument in accordance to section 8.
4. Use the screws supplied to attach the instrument and gasket onto the bulkhead.
5. Seal the hole where the cables pass into the instrument. This will prevent warm cabin air from escaping into the instrument case where it may condence on the display glass.

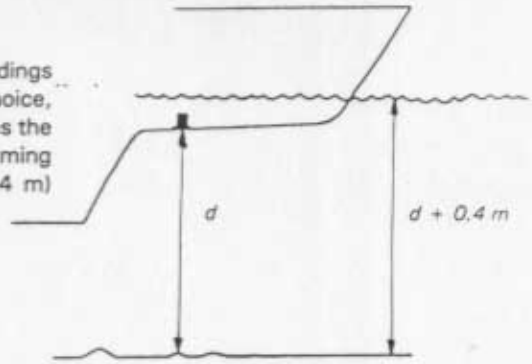
Under no circumstances should you shorten or lengthen the cables. Coil up any excess. If the length is too short, contact your dealer for assistance.



7. Operating instructions for the SILVA 320 depth sounder

Depth readings:

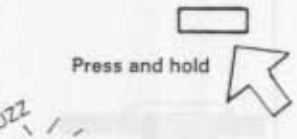
The Silva 320 Depth Sounder will give readings in the measurement method of your choice, either feet, metres or fathoms. It measures the depth of water from the waterline, assuming that your transducer is located 18" (0.4 m) under the surface.



Activating the depth alarm:

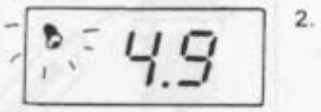
1. The depth alarm can be set for one of four pre-selected depths. See Section 8 for instructions concerning alarm depth selection.
To activate the depth alarm, press and hold the push button until the display shows a bell.

1.



2. If the water depth becomes less than the pre-selected depth, the bell will blink and a buzzer will sound.

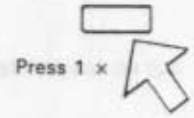
BUZZ – BUZZ



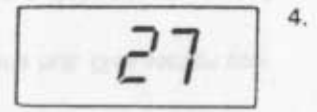
2.

3. To acknowledge the alarm and to shut off the buzzer, press the push button. The bell will appear on the display.

3.



4. To disconnect the depth alarm, press the push button. The bell will disappear.



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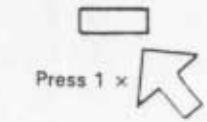


8. Selection of measurement method and alarm depth

Measurement Method:

Using the chart below, set the switches located on the back of the instrument so that they correspond to either feet, metres or fathoms. This is done using switches number 5 and 6.

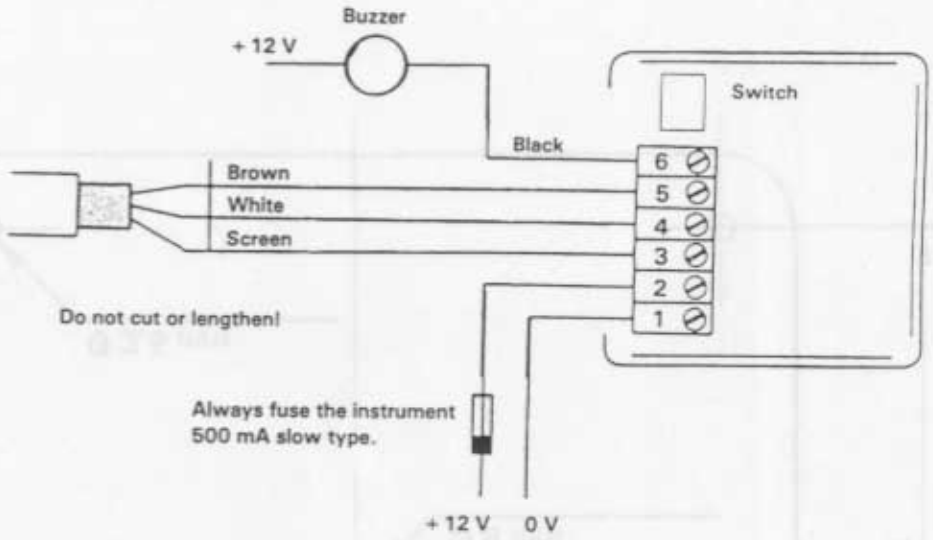
Depth Selection:

Using the chart below, set the switches on the back of the instrument so that they correspond to desired alarm depth. You have a choice of 2, 3 4 or 5 metres. One metres equals 3.28 feet. This is done using switches number 1, 2, 3 and 4.

	m	fa	ft	2 m	3 m	4 m	5 m
6	OFF	OFF	ON				
5	OFF	ON	OFF				
4				ON	OFF	OFF	OFF
3				OFF	ON	OFF	OFF
2				OFF	OFF	ON	OFF
1				OFF	OFF	OFF	ON

	6	
	5	
ON (closed)	4	OFF (open)
	3	
	2	
	1	

9. Connection diagram



10. What you should know about digital echo sounders

The principal of an echo sounder is simple. You measure the time it takes for a short accoustical signal to go from the transducer to the bottom and back again to the transducer.

The echo changes due to bottom character, heavy layers of salt and temperature, irregular bottom vegetation, fish etc. Thanks to an advanced signal treatment these variations will not influence the depth measurement.

You can in some circumstances, however, get transitory disturbances.

Below are listed some explanations for disturbances to the measurement of depth and how it is expressed on the instrument.

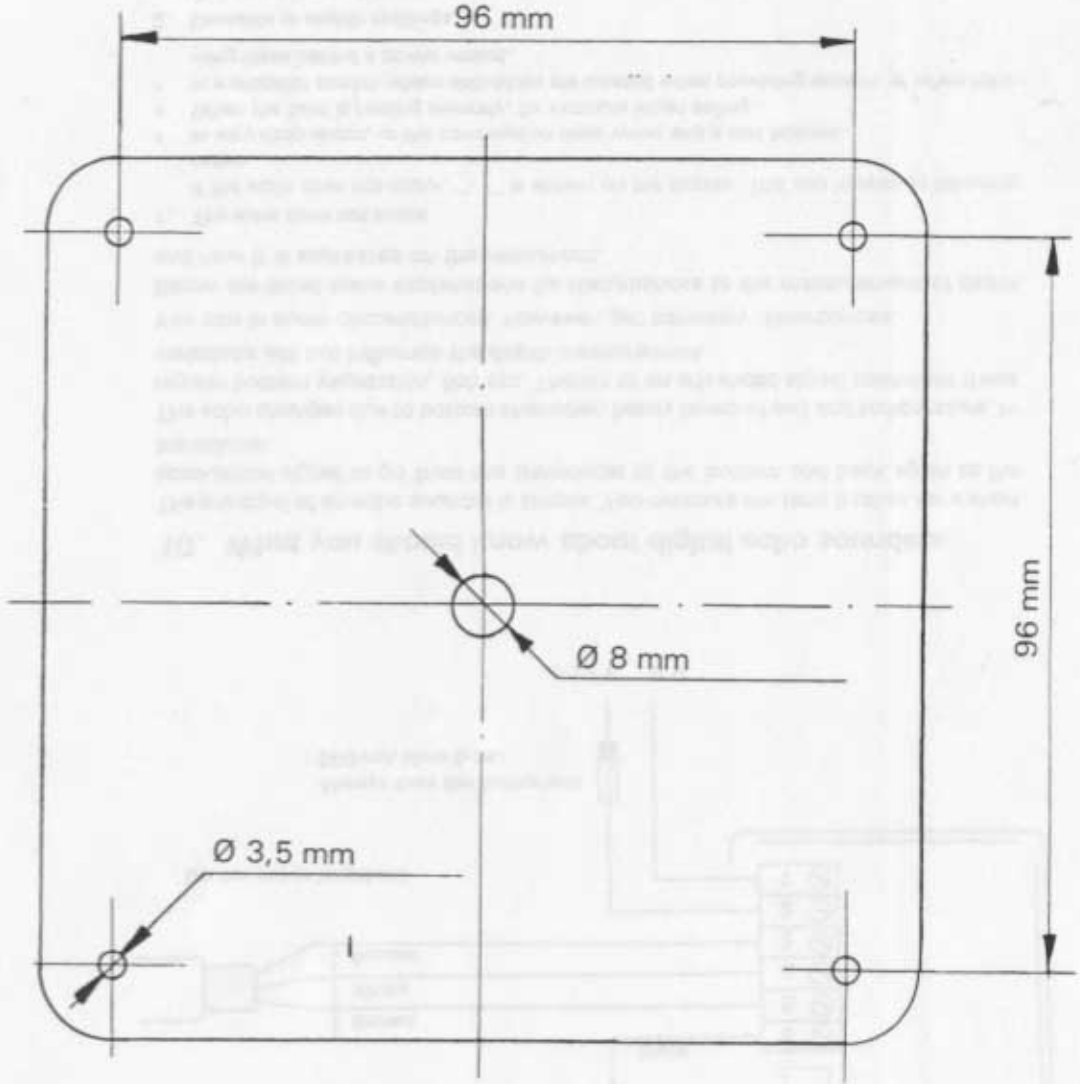
1. **The echo does not occur**
   If the echo does not occur, "- -" is shown on the display. This can happen in following cases:
   - In very deep water, or the combination deep water and a soft bottom.
   - When the boat is heeling severely, for example when sailing.
   - In a propeller stream where airbubbles are created when powering astearn, or when following close behind a power vessel.
2. **Unstable or erratic readings**
   Can take place in following cases:
   - When going over shoal water with uneven and high bottom vegetation.
   - In heavy layers of salt or noticeable ranges of water temperatures.
   - In heavily agitated water containing particles of sand or some other contamination.
   - When the boat is moored to a bridge which has been anchored with chains or piles.

11. Technical data

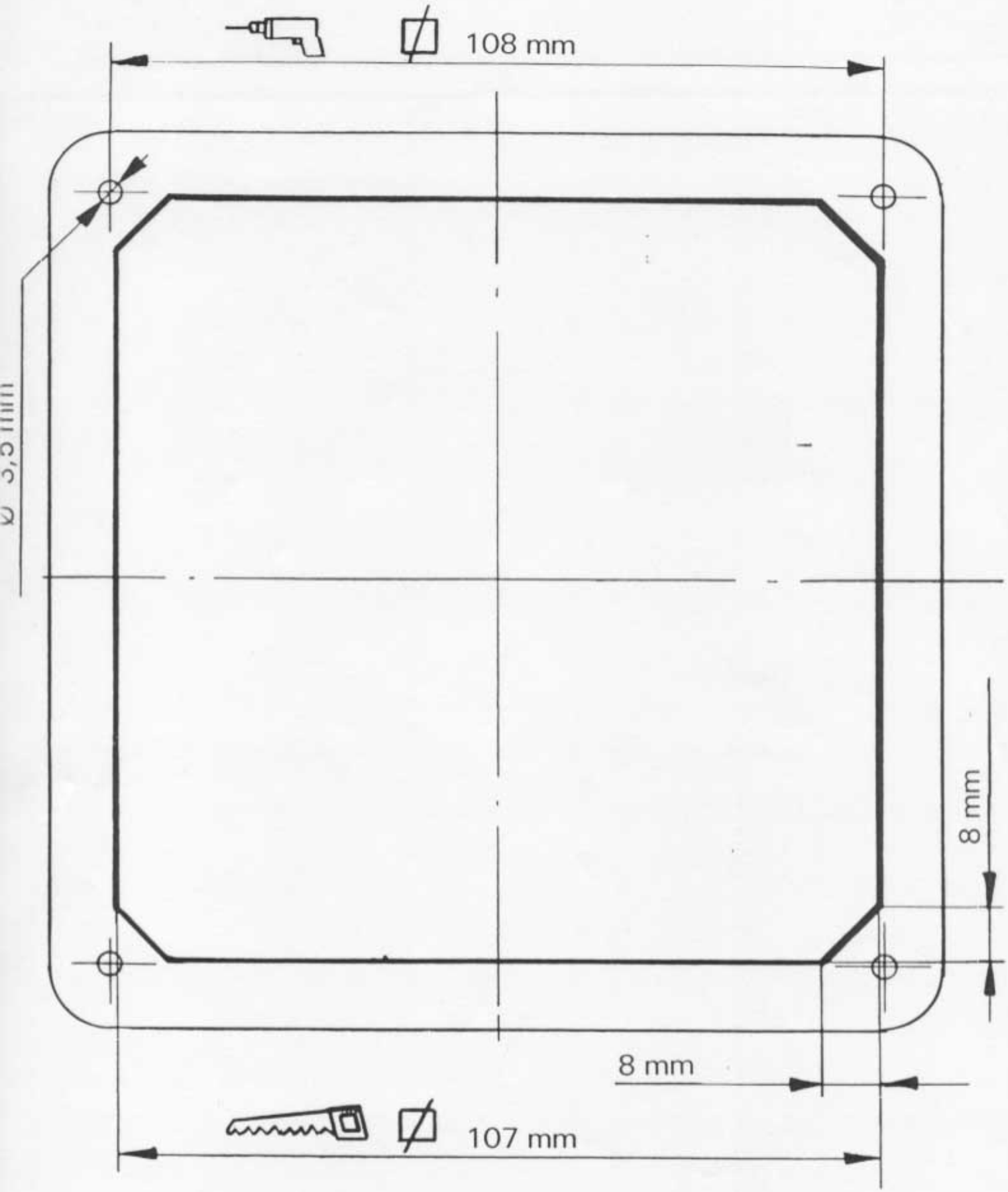
Depth from the water surface	1.0–100 m 0.5–50 fa 3–199 fot
Transducer	200 kHz ±20°
Display	LCD 17.5 mm
Temperature range	−5 to +70° C
Voltage	9–15 V DC
Current consumption	80 mA

TEMPLATE

Bulkhead mount



TEMPLATE Flush mount



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