



MIDAS

MARINE INSTRUMENTS

INFORMATION MANUAL

FOR

S SERIES

DEPTH SOUNDERS

SETS 12 & 12D

with square plastic cases.

GENERAL NOTES

MIDAS marine instruments are designed and manufactured for use in yachts and pleasure launches, they are sold with a 24 month guarantee from the date of sale.

The performance of any instrument depends on:

- (a) the selection of an instrument suitable for the intended use,
- (b) the quality of its design and manufacture and,
- (c) the standard of workmanship used in its installation.

MIDAS instruments are not difficult to install and providing some simple rules are followed during installation excellent performance will be obtained from the installed instrument.

All cables carrying power must be at least 0.5 sq mm cross section. Cables larger than this are not recommended as they are difficult to terminate on the instrument.

If long cable runs to the instruments are necessary then it is advisable to run separate power supplies to each of them, otherwise voltage drops can occur and make one instrument react with another.

No instrument can function for ever without some service, check the instrument regularly particularly at the rear where the circuitry is mounted and keep it clean.

The lighting in the instruments can be dimmed by inserting a potentiometer in the 12 volt supply to Pin 6.

The principal of a meter type echo-sounder is such that it **MUST** operate off the first pulse received back from the sea bed. If no pulse returns the meter **MUST** go full scale. This can occur on occasions if for example the sea bed is soft mud, the bottom is at a steep angle, or if the boat is heeled at a steep angle (in excess of 20 degrees). There is no way of avoiding the phenomena so it is sometimes a matter of reading the shallowest depth indicated and ignoring any flickering of the needle, IT WILL NEVER READ TOO LOW.

Having said the above we are always here to give advice, so before installing the instrument if you are in any doubt at all please ring us so that your problem can be solved before installation, rather than later when you should be sailing not fixing faults. Your retailer will have our telephone number.

TRANSDUCER INSTALLATION

The transducer may be externally mounted in most hulls and internally mounted in hulls of solid construction such as fibreglass or aluminium.

POSITION

When positioning the transducer the following points should be considered:

- * Avoid areas of high turbulence and aeration,
- * Locate away from deep keels,
- * Do not coat the face of the transducer with copper based anti-fouling paints,
- * When mounted internally the maximum thickness of fibreglass must be less than 20 mm to obtain reliable deep water readings.

EXTERNAL HULL MOUNTING

In timber and foam cored fibreglass hulls the transducer must be mounted externally. To ensure the face of the transducer is perpendicular to the surface of the water a fairing block may be necessary, see figure 1.

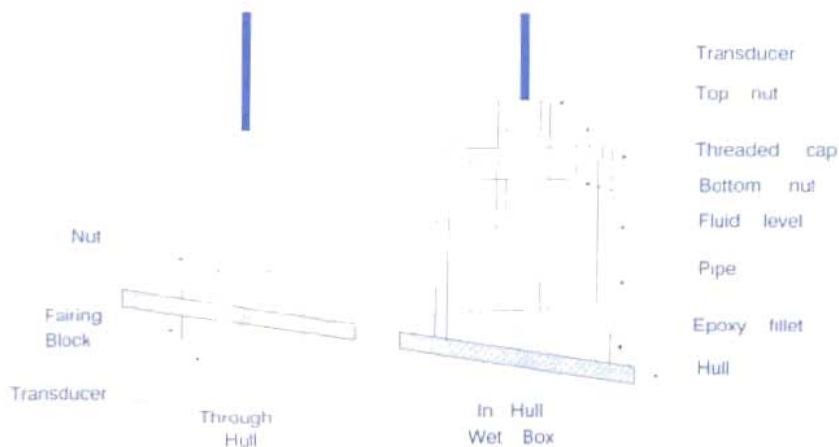


Figure 1

IN HULL MOUNTING

In single skin fibreglass or aluminium hulls the transducer can be mounted internally in a wet-box or glued directly to the hull where the hull is flat and parallel with the surface of the water.

If glued directly to the hull, the hull should be well cleaned and sanded flat, care should be taken that no air bubbles are allowed to remain trapped in the layer of glue separating the face of the transducer and the hull.

When mounting in a wet-box the wet-box should be constructed as illustrated in figure 1 and filled with paraffin oil or glycol. Alternatively a wet-box kit may be purchased from Marine Instruments Ltd which consists of a 100 mm plastic pipe with a screw on lid.

FITTING THE INSTRUMENT

The instrument case can be mounted by cutting a 105 mm diameter hole in a bulkhead or console. Seal the instrument in place with a bead of silicon rubber on the back of the front flange. The case may then be secured using the supplied self tapping screws or bolts if desired.

ELECTRICAL CONNECTIONS

Wire the installation in accordance with the circuit diagram. DO NOT make the final connections to the battery until all the cable connections and parts have been re-checked. CHECK with a meter that the positive is actually positive.

The connecting wires carrying power must be at least 14 X 0.2 mm, 7 X 0.3 mm or 0.5 sq mm. Cables larger than this are not recommended as they are difficult to terminate on the instrument plug. Cables smaller than this can be used for other wiring but they may not last long in the corrosive environment of a yacht or launch. The wires can be brought out of the instrument through a knockout in the back cover or by drilling a hole in the instrument case at the desired point.

The light in the meter is red LED. The light circuit could be connected to an instrument light circuit, the navigation light circuit or the instrument power circuit.

Lightly grease all connections with a waterproof grease or petroleum jelly.

The ships battery should be in a charged condition but it can be as low as 11.5 volts. A lower voltage or a battery in poor condition will result in erratic operation of the depth sounder.

OPERATION

SENSITIVITY ADJUSTMENT: Sensitivity is set by a potentiometer at the rear of the instrument, it should be set to approximately the middle of its range and is turned anticlockwise to increase sensitivity. If the sensitivity is set to high the depth sounder will sense fish and debris in the water, while if it is set too low it will not always receive a reading from the bottom.

ALARM SETTINGS: Switches 1 to 4 of the 8-way dual in line (DIL) switch, at the rear of the instrument, set the display for reading the anchor watch and low alarm settings.

Switch "on"	Instrument Displays
SW1	Depth,
SW2	Anchor Watch Low Setting,
SW3	Anchor Watch High Setting,
SW4	Low Alarm.

To adjust the alarms, switch SW1 "off" and the appropriate alarm switch "on", then adjust the alarm control to give the required setting. When finished adjusting the alarms, switch SW1 "on" and check that switches SW2 - 4 are in the "off" position.

KEEL OFFSET ADJUSTMENT (DIGITAL ONLY): This facility enables the display to indicate the depth below the keel instead of the depth below the transducer. It is controlled with DIL switch positions 5 - 8 which are switched "off" to eliminate keel offset.

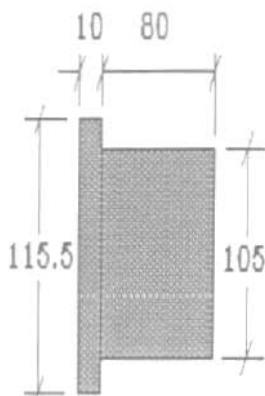
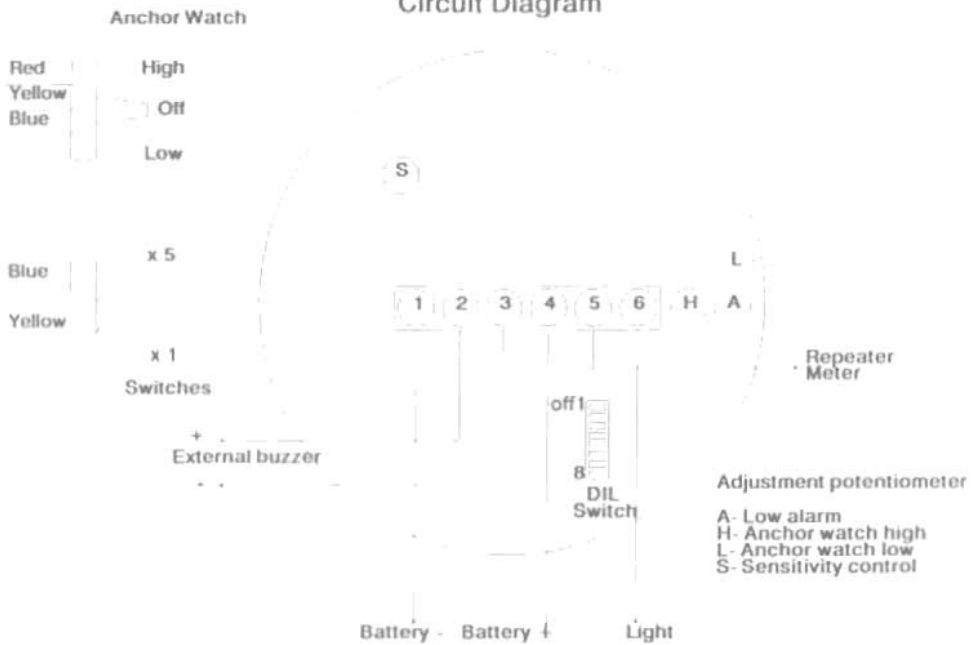
Switch "off"	Keel Offset (meters)
SW5	0.15
SW6	0.3
SW7	0.6
SW8	1.1

To set a keel offset of 1.4 (i.e. $0.3 + 1.1 = 1.4$) meters switch both SW6 and SW8 to off.

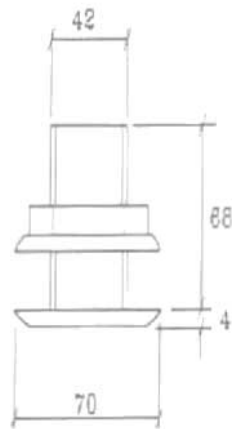
EXTERNAL ALARM

Provision is made for an external buzzer or an integrated alarm system to be connected to the instrument at pin 3 (-) and pin 2 (battery +) if desired.

Circuit Diagram



Meter Crosssection



Transducer

Manufactured by
MARINE INSTRUMENTS LIMITED
 23 Wapiti Avenue, Epsom, Auckland, N.Z.
 Phone (09) 520-1815 Fax (09) 520-6659