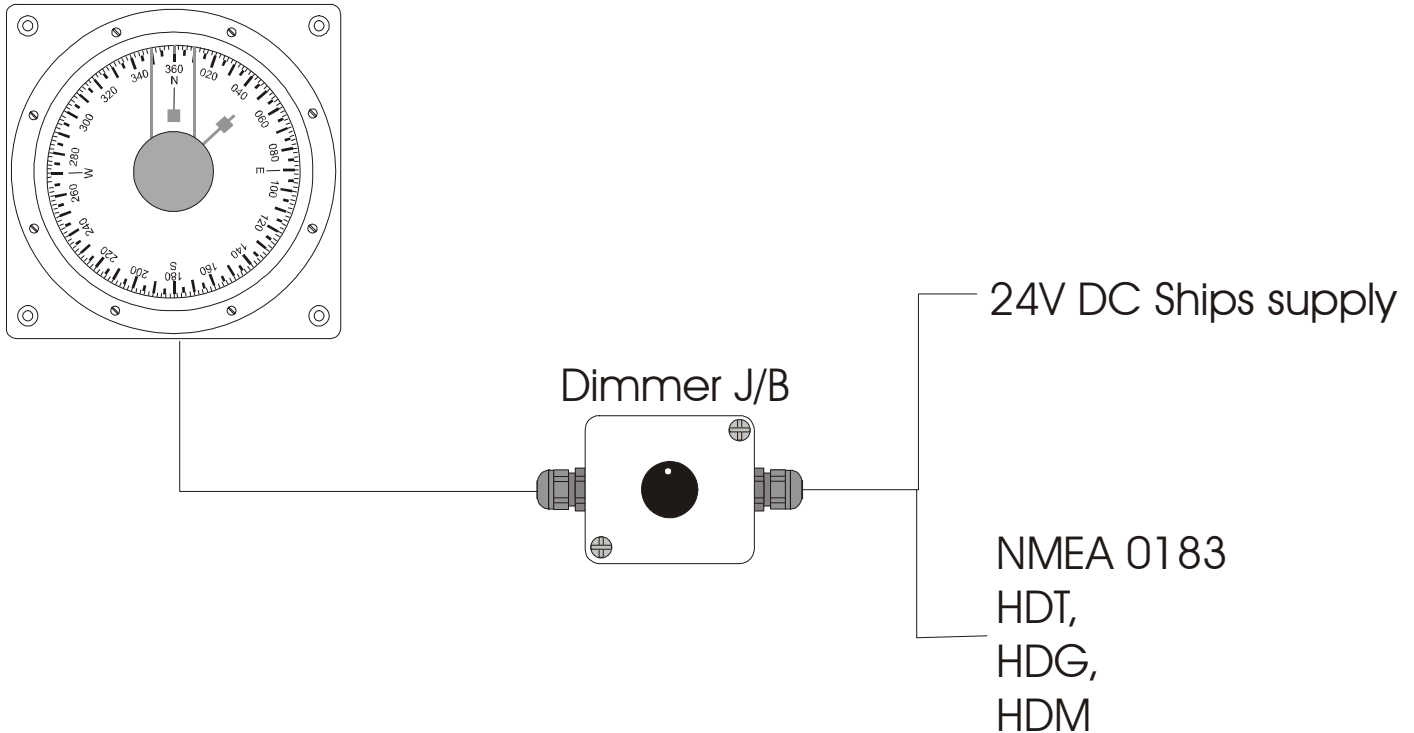


# MD12/8/HR

## DIAL REPEATER

### MD12/8/HR



Typical System Application

- **Introduction**

The MD12/8/HR is a compact dial repeater suitable for console mounting where space is limited. The unit has an easily to read dial marked to 2 degrees, white on black background. In addition to a lubber line it has a highly visible steering grid and movable pointer that allows the user to set the desired heading to be steered to.

The MD12/8/HR is operated from a digital input (NMEA) and supply of 24V DC.

- **Operators Controls**

**Lighting:-** There is provision for a dimmer rotary control that can be mounted in a suitable position via a fly lead and junction box that serves as power and data connections.

To adjust the illumination level of the display on the MD12/8/HR, rotate the control until the desired lighting level is obtained. Rotate clockwise will increase the lighting level, rotate counter clockwise will decrease. The lighting is not visible under day light conditions but provides low-level lighting.

**Set heading knob:-** This allows the operator to set the heading or mark that they wish to steer by simply pulling the knob towards you and rotating to the desired mark.

- Installation**

Tools required: basic hand tools; D.V.M; megger

Step	Description	Remarks
1	Inspect the packing for contents.	Note any damage or exclusions.
2	Inspect the mounting position for suitable clearance and cable access.	Panel mounting option, (see specification for details).
3	Mechanically install the MD12/8/HR.	
4	Locate all incoming cables and terminate them.	Ensure all incoming supply and signal cables are either suitably isolated and connected or bonded to ships earth as per connection table below.
5	Installation is complete.	Do not apply power.

### MD12/8/HR Connection Tables

**Table 1** - Connections Power and Signal

Description	D-Type Pin Number	Wire Colour	Ship's Cable (To be completed by installer)
TDA	3	Green	
TDB	11	Blue	
+24V DC	1	+DC Supply	
Supply Return	9	-VE DC Supply	
Screen	8	Yellow/Green	

**Table 2** - Connections External Dimmer (if fitted)

Description	D-Type Pin Number	Wire Colour	Ship's Cable (To be completed by installer)
Dimmer 1	2	Purple	
Dimmer 2	10	Yellow	

*Note:* The screen of the cable is connected to pin 15 of the D-type connector. This must be connected to local ground for EMC protection.

- System Commissioning**

Step	Description	Remarks
1	Ensure the installation is satisfactory.	
2	Apply system and signal power (+24V DC) to the repeater.	Power is derived from a suitable ships supply.
3	The repeater will rotate to 360 degrees and then rotate to current ships heading.	If the repeater fails to respond to ships heading and just sits at 360 degrees, then the digital word is incorrect or the data lines are swapped.
4	Slew the ships compass.	Ensure that the MD12/8/HR follows correctly.
5	Fill out and return commissioning form.	Send copy to Marine Data Limited, failure to do so may affect warranty conditions.

- **Maintenance and Fault Finding**

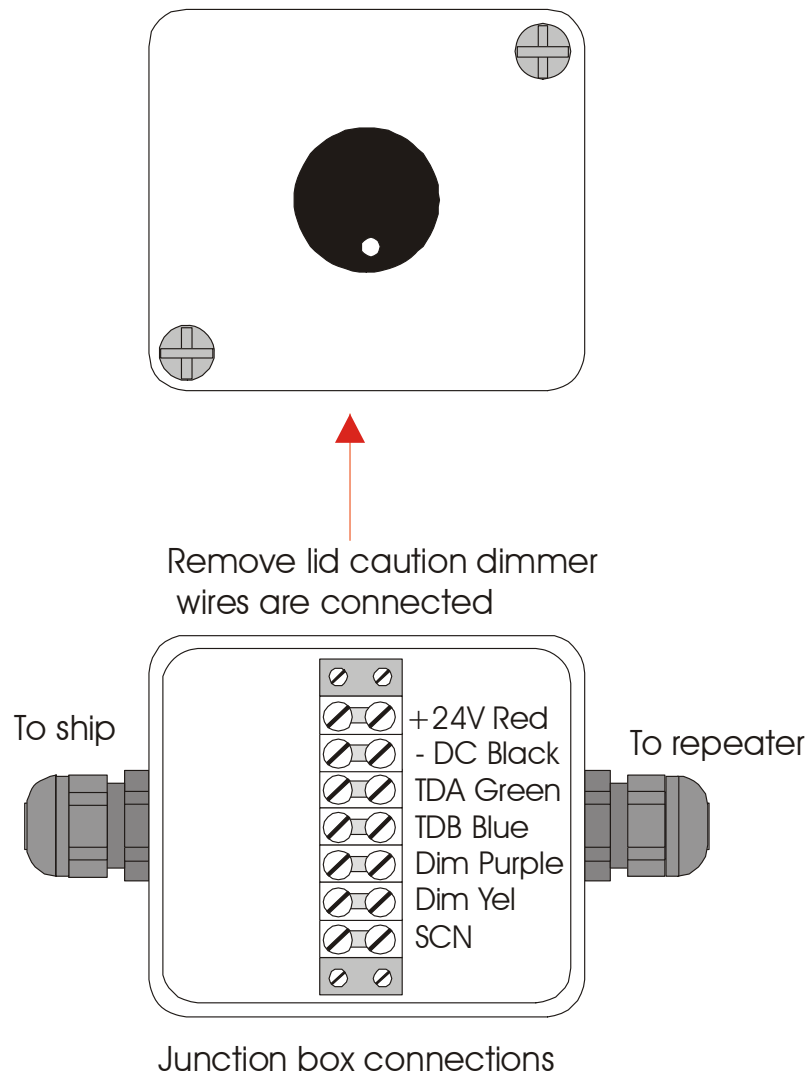
No maintenance is required beyond periodically wiping dust from the MD12/8/HR.

Symptom	Probable Fault	Remedy
MD12/8/HR does not operate.	No power.	Check incoming power supply.
Lighting not visible.	Damaged pcb.	Return for repair.
Does not respond to heading input.	Incorrect wiring - TDA and TDB may be swapped. Incorrect sentence being sent. Incorrect baud rate.	Check using a suitable data test meter.

- **Available Finished Items and Spare Parts**

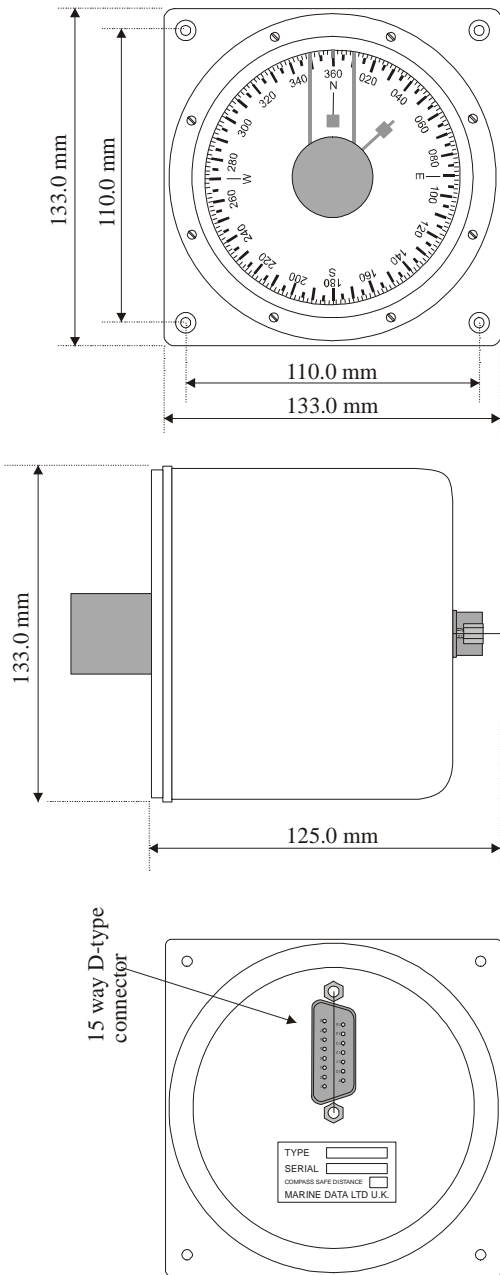
In the event that spare parts are needed, please contact either your dealer or Marine Data Limited direct.

- **Dimmer and Junction Box Connections**



● **SPECIFICATION FOR MD12/8/HR**

● **Physical**



- **Weight**

Repeater	1.00 Kg.
Control Box	2.00 Kgs.
- **Mounting** Repeater + Dimmer Panel
- **Finish** Black/Grey
- **Connections** D-type 15-way connector and 4-way cable, 2.5m supplied
- **Construction** Aluminium Enclosure

● **Electrical**

- **Power Supply** 24V DC (300 mA)
- **Data Input** NMEA 4800 Baud  
All of the following sentences:-  
\$xxHDM,XXX.X,M<CR><LF>  
\$xxHDG,XXX.X,<CR><LF>  
\$xxHDT,XXX.X,T<CR><LF>
- **Data Outputs** None.

● **Operational**

- **Performance** ±1/10° resolution
- **Follow up rate** >12°/sec
- **Display Resolution** Dial marked to 2°, black on white numbering. Graduations at 2°, 5° and 10°.

● **Environmental**

- **Rating** IP54
- **Temperature** -10°C to +70°C

● **Additional Information**

- A dimmer control is provided.  
This is suitable for console mounting.