

MV103DG Compass

emcore®

The Military-standard Digital Compass
for Marine Navigation



Key Features

- Automatic compensation ensures an accuracy better than $\pm 2^\circ$
- Easy-to-read LCD display with adjustable backlighting
- Solid-state, maintenance-free, modular components for optimal location of controls, sensor electronics, and display
- Variable electronic damping control for use in rough seas
- Optional capability of dual compensation for degaussing on and degaussing off
- The MV103DG is a Commercial Off-the-Shelf, non-ITAR product

MV103DG - The fully automatic, self-calibrating compass for all classes of naval vessels

The MV103DG digital compass system meets the magnetic directional requirements of amphibious craft, small boats, and naval ship applications. And since the system is accurate, self-calibrating, and requires no maintenance, the U.S. Navy has authorized replacing magnetic card compasses with the MV103DG system on all of their ships.

The digital compass system consists of three main components: a processor unit (which includes the compass sensor), an LCD display unit, and a junction box with operator controls. With this modular design, the processor unit can be mounted in a stable magnetic location, while the display and junction box are mounted conveniently for vessel piloting and navigation. The MV103DG has the advanced capability of interfacing with the vessel's degaussing system and correcting for the altered magnetic distortions that occur during degaussing mode.

EMCORE Industries produces the most sophisticated digital magnetic compasses available. Tens of thousands have been fielded in military and commercial applications.

Precision Navigation

MV103DG is the ideal compass for any size vessel



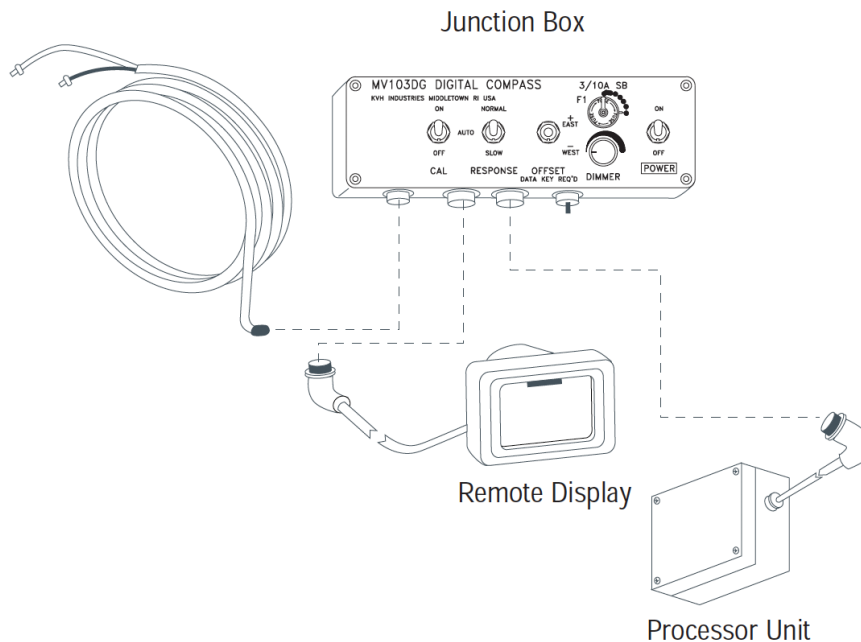
Rugged Design

Meets demanding military standards for years of reliable performance



MV103DG Compass Specifications

Processor Unit	6.3" x 6.6" x 3.6" (160mm x 168mm x 91mm)
Junction Box	4.0" x 9.9" x 3.4" (102mm x 251mm x 86mm)
Remote Display	3.6" x 4.8" x 1.8" (91mm x 122mm x 46mm)
Accuracy	Free magnetic field (factory delivered) accuracy of 0.5 °. Typical accuracy after self-calibration on a ship is ± 2.0 degrees
Repeatability	±1.0°
Resolution	1.0° for LCD display. Digital output resolutions to 0.1°
Power	24 VDC ± 6 VDC not to exceed 225 mA.
Tilt Angle	30° (Typical accuracy over the full tilt range is ±3.0°).
Dip Angle	Operates to specified accuracy after on-location self-calibration up to 80° n/s magnetic dip angle (latitude).
Compensation	Microprocessor-controlled calibration occurs after a slow (1 to 2 minute) turn of the host vessel with the cal function activated (or continuously in the background).
Damping	Two selectable levels for varying sea states.
Ruggedization	The system completed years of extensive trials and successful demonstrations on a wide range of amphibious craft and capital ships of the U.S. Navy. The system was designed to survive vibration to MIL-STD-810D, Method 514.3, Categories 8 and 9. Mil quality housings, connectors, and cabling are adequate to protect this system from salt fog, sand, dust, and 0-100% humidity.
Temperature	Tested to operate from -25°C to +70°C, industrial components used throughout, temperatures rated from -40°C to +85°C.
Digital Interface	RS232 digital output is available from the junction box interface connector. Standard interface is 4800 baud, 1 Hz update rate. The MV103DG model stores two separate calibrations, one for normal operation and one for operation when the vessel's degaussing mode is active. Whenever the degaussing system is turned on, the MV103DG automatically switches to the Degaussing On calibration.
Warranty	One Year



For More Information

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