

# GYROCOMPASS

## CMZ900 series



More reliable with  
**CMZ900**



Yokogawa Denshikiki Co., Ltd.

# CMZ900 GYROCOMPASS

*is highly reliable and long life.*



CONTROL BOX  
(MKC 326/327)

MASTER COMPASS  
(MKM 026)

A gyrocompass detects the true north by means of a fast-spinning rotor, which is suspended with no friction and is influenced by gravity and rotation of the Earth. A gyrocompass consequently indicates a ship's heading.  
 CMZ900 series has been type approved in accordance with International Maritime Organization (IMO) standards, resolution A.424(XI).

## FEATURES

- A modular design saves the space. MASTER COMPASS can be integrated in the autopilot steering stand.
- Manual and automatic speed error correction
- External heading sensor can back up the heading outputs.
- Serial data output IEC 61162-2 (high-speed transmission)
- A unique anti-vibration mechanism enhanced by the velocity damping effect of high viscous oil, provides superior damping of vibration and decoupling of shock at sea.
- A small and lightweight container enhances the follow up speed. The gyrocompass reading changes smoothly and does not lag when a small ship rapidly changes course.
- Easy maintenance and long maintenance periods

Titanium capsule and electrodes are employed for GYROSPHERE. Purity is maintained inside of the container, and maintenance interval is then longer-dated.

The container is divided into two pieces at bottom when overhauled. Ship's crew can replace GYROSPHERE in case of emergency.



Easy maintenance

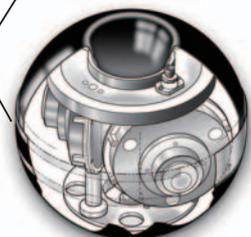
## PERFORMANCE SPECIFICATIONS

- Accuracy:
  - Static:  $\pm 0.25^\circ \times \text{sec Lat.}$
  - Dynamic:  $\pm 0.75^\circ \times \text{sec Lat.}$
- Settling time: Within 5 hours
- Follow up accuracy:  $0.1^\circ$  or less
- Max. follow up speed:  $30^\circ/\text{sec}$
- Permissible roll and pitch angle:  $\pm 40^\circ$
- Permissible ambient temperature:
  - Operation:  $-10^\circ\text{C}$  to  $+55^\circ\text{C}$



Anti-vibration mechanism (top) and Container (bottom)

Titanium capsule and electrodes (lower hemisphere)



GYROSPHERE (MKT 007)

# SYSTEM CONFIGURATIONS

Three types of system configuration are provided on CMZ900 series as per specification requirements of functionality, the amount of signal outputs and redundancy.

- CMZ900B:Single-unit model, suitable for small vessels
- CMZ900S:Single-unit model, suitable for all types of merchant vessels
- CMZ900D: Dual-unit model for extra reliability

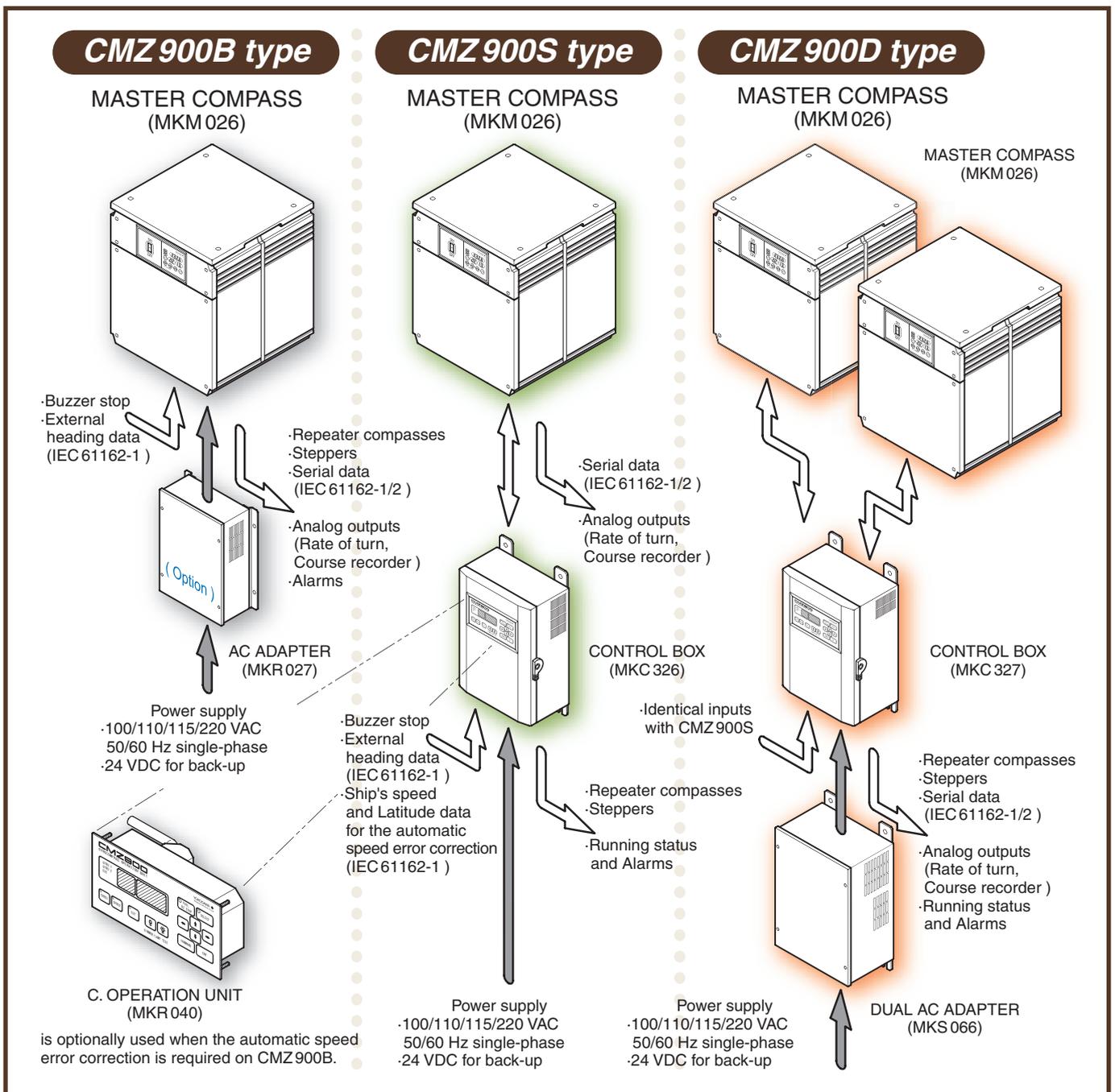
Basic configuration of each type of CMZ900 series is illustrated below. Viewing enhancement of the system capability, optional instruments are available in order to increase the signal outputs of the gyrocompass. Other navigation equipment such as repeater compasses, course recorder are available as a part of the system.

MASTER COMPASS (MKM 026) runs on 24 VDC power supply. It is easily adopted to the power supply requirements, and all signal outputs can then be maintained during AC power interruption if 24 VDC is provided.

Serial data output IEC 61162-1 or -2 (high-speed transmission) is selective, and contains the ship's heading and rate of turn (ROT) information.

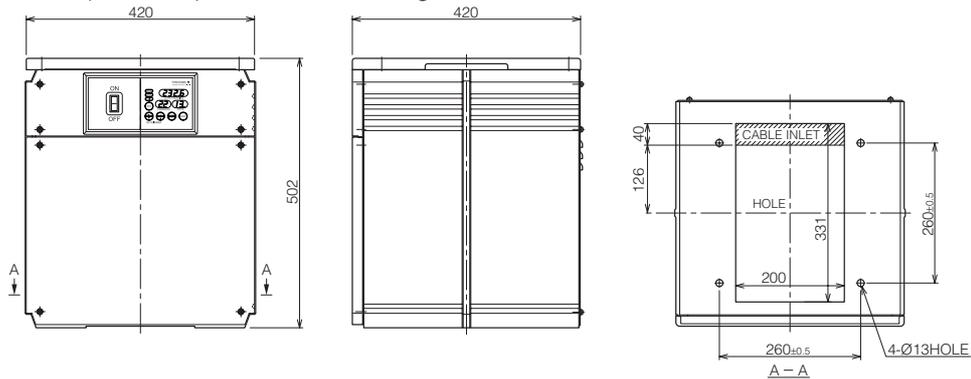


GYROSPHERE (MKT 007) is incorporated in MASTER COMPASS.

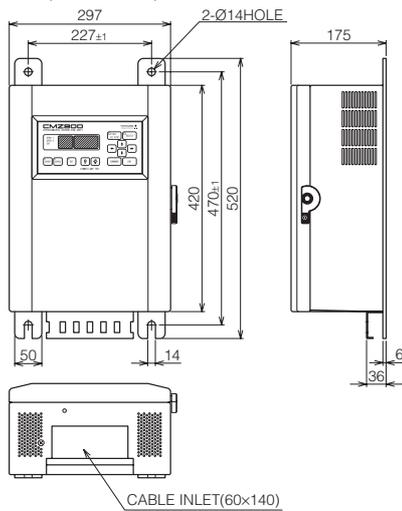


# OUTLINE DIMENSIONS

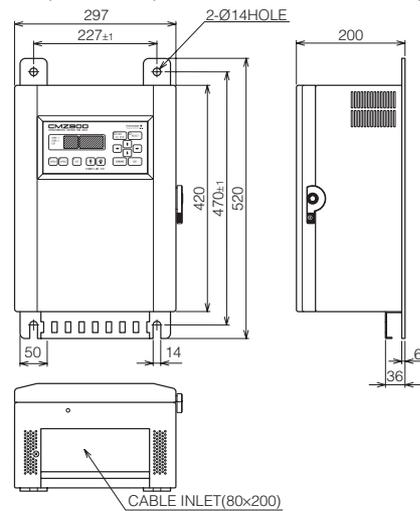
**MASTER COMPASS (MKM026)** MASS: 43 kg



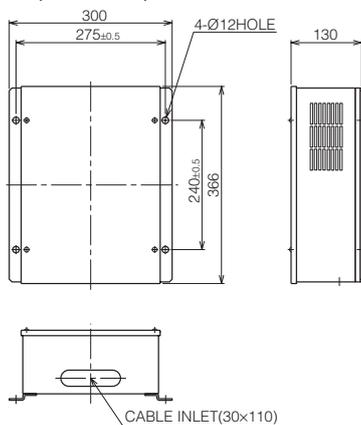
**CONTROL BOX (MKC 326)** MASS: 17 kg



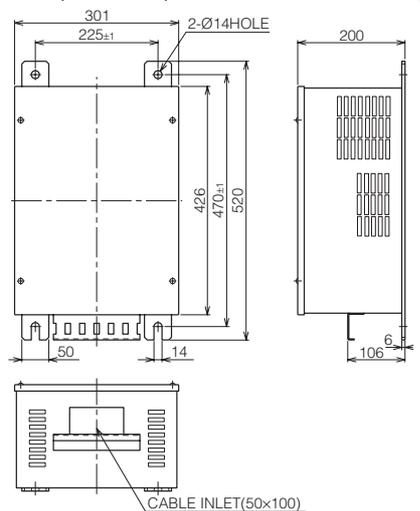
**CONTROL BOX (MKC 327)** MASS: 16 kg



**AC ADAPTER (MKR027)** MASS: 10.5 kg



**DUAL AC ADAPTER (MKS066)** MASS: 20 kg



Dimensions in mm  
Flush mounting type of CONTROL BOX and DUAL AC ADAPTER are available.

**YOKOGAWA** 

Yokogawa Denshikiki Co., Ltd.

URL : <http://www.yokogawa.com/ydk/>



**Caution:** Please read the manual before using this product.

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