

October 1 2008

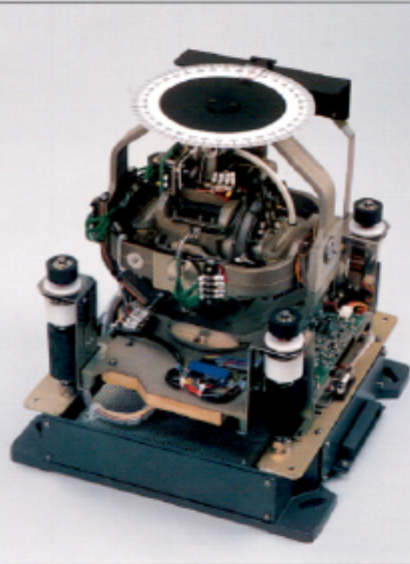


The company name  
was changed to  
**TOKYO KEIKI INC.**

2-16-46, Minami-Kamata, Ohta-Ku,  
Tokyo 144-8551, JAPAN  
TEL.+81-3-3732-2111  
FAX.+81-3-3736-0261  
<http://www.tokyo-keiki.co.jp/>

# Compact Gyrocompass ES-160

Meets IMO Regulation A-424  
Step Motor Output



Model ES-160, the newest type of ES series, is a compact gyrocompass and exceeds the requirements of IMO.

It is especially designed for use on board any vessel, by TOKIMEC's latest mechatronics and computer technology.

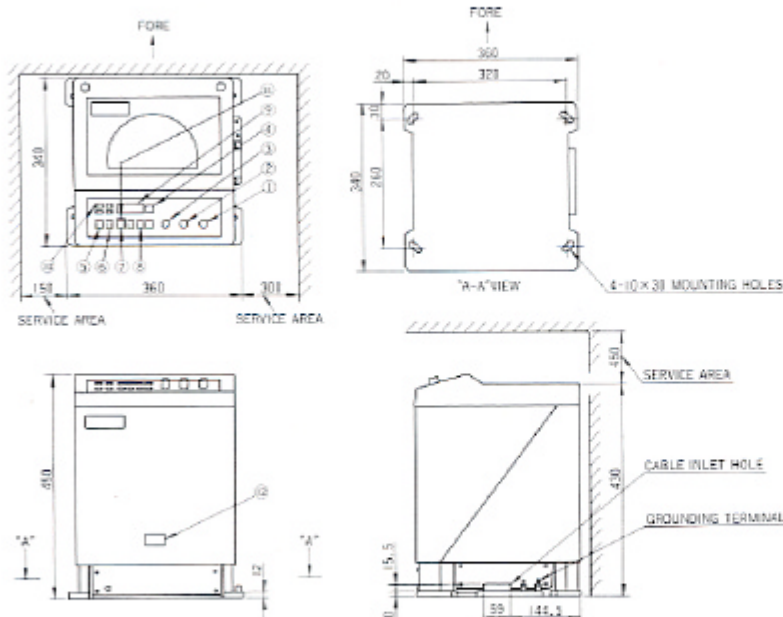
ES-160 gyrocompass can also be used as a direction sensor for a lot of navigational equipment.

Safe navigation is assured by this highly reliable gyrocompass.

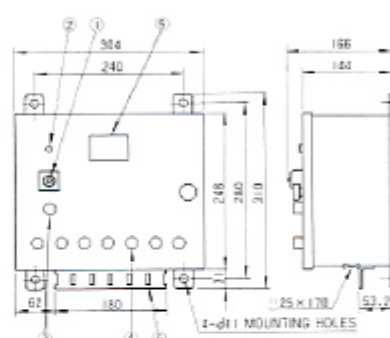
# Compact Gyrocompass ES-160

## ● Dimensions

Master Compass MASS 32 kg



Power Supply Unit MASS 7 kg



| No. | NAME                  |
|-----|-----------------------|
| 1   | POWER SWITCH          |
| 2   | RUNNING LAMP          |
| 3   | FUSE FOR POWER SUPPLY |
| 4   | FUSE FOR REPEATER     |
| 5   | NAME PLATE            |
| 6   | CABLE CLAMP           |

| No. | NAME               | No. | NAME                 | No. | NAME               | No. | NAME             |
|-----|--------------------|-----|----------------------|-----|--------------------|-----|------------------|
| 1   | POWER SWITCH       | 4   | MODE SWITCH          | 7   | BUZZER STOP SWITCH | 10  | INDICATING LAMPS |
| 2   | LAT. CORRECT KNOB  | 5   | DIMMER SWITCH ON/OFF | 8   | SETTING SWITCHES   | 11  | ALARM LAMP       |
| 3   | SPEED CORRECT KNOB | 6   | DIMMER SWITCH        | 9   | DISPLAY            | 12  | NAME PLATE       |

## ● Basic Specifications

|                           |  |
|---------------------------|--|
| Main Power Supply         | DC24 V for Master Compass<br>at starting 300 VA<br>in normal operation 150 VA<br>DC24 V 1 A for one Repeater Compass<br>Voltage Fluctuation -20 ~ +30 %<br>Emergency Power supply DC24 V |
| Ambient Temperature       | -10 ~ 50 °C (at operation)   |
| Settling Time             | within 4 hours at Latitude 35°   |
| Settle Point Error        | less than ±0.75°   |
| Follow-Up Speed           | 24°/sec  |
| Gimbal Freedom            | ±40° for both rolling and pitching   |
| Latitude Error Correction | Automatic (0 ~ ±70°)   |
| Speed Error Correction    | Automatic and Manual (0 ~ 50 knot)<br>(correct on repeater compass)  |
| Repeater Type             | DC24 V Step Motor 6 steps/deg. (7 circuits)  |
| Optional Output           | RS-422   |



Before operating this equipment, you should first thoroughly read the operation manual.

Design and specifications are subject to change without prior notice, and without any obligation on the part of the manufacturer.

# TOKIMEC

## TOKIMEC INC.

CONTROL SYSTEMS DIVISION

Head Office: 2-16-46, Minami-Kamata, Ohta-ku, Tokyo 144-8551, Japan

Tel: 81-3-3737-8631 Fax: 81-3-3737-8666

TOKIMEC EUROPE B.V.: Beurs-World Trade Center, Room No.410,  
Beursplein 37, P.O. BOX 30210, 3001 DE Rotterdam,  
The Netherlands  
Tel: 31-10-4051260 Fax: 31-10-4055042

<http://www.tokimec.co.jp/>