

731-997



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**Specification**

**of**

**GYROSTAR<sup>®</sup>**

**- Piezoelectric Vibratory Gyroscope -**

**MODEL: ENV-05H-01**

**Support Sensor for  
GPS Navigation**

⊙ replaces previous preliminary model part number ENX-0031A

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## Gyrostar® ENV-05H-01

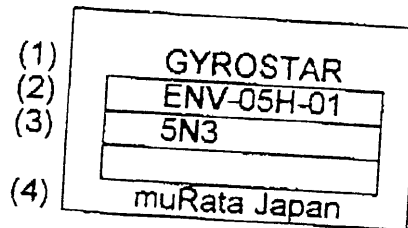
### Piezoelectric Vibratory Gyroscope

#### Structural characteristics

External Dimensions	24 x 40 x 48 mm max. (details of mechanical construction see figure 1)
Material of case	molded resin case (black)
Weight	50 gr. max.
Length of connecting cable	150 mm
Connector	Co. SMK, Japan : Type W-A2503-IN (3 terminal type)

#### Marking

- (1) Commodity name
- (2) Model name
- (3) Serial number
- (4) Manufacturing company



#### Terminal connections

Terminal wire colour	Terminal No.	Description	Symbol
red	①	Supply voltage	Vcc
black	②	Ground	GND
white	③	Sensor output	Out

#### Mounting

Use 4 pcs. machine screws M3, max. 10 mm long



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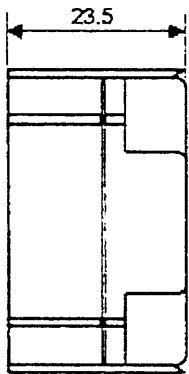
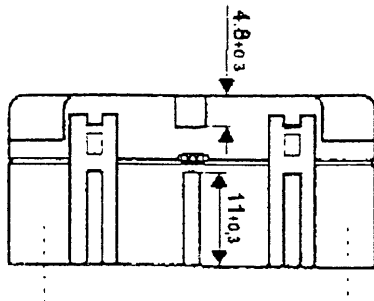
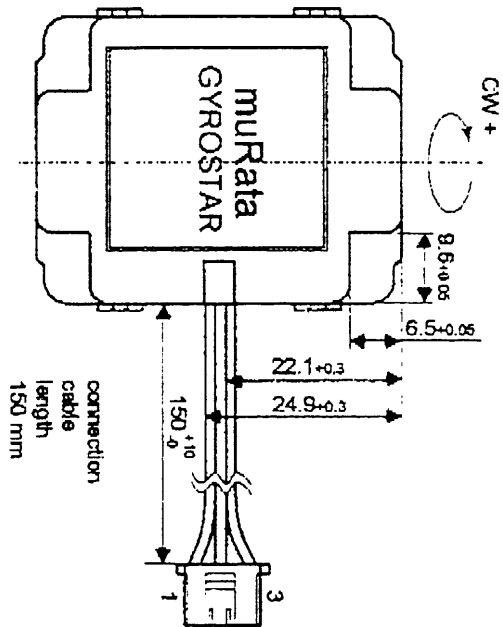
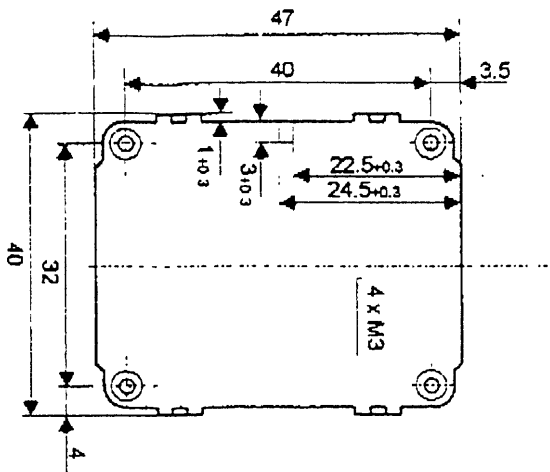
## Gyrostar® ENV-05H-01

### Piezoelectric Vibratory Gyroscope

#### Technical Specification

1. Supply voltage $V_{cc}$	+5.0 VDC $\pm$ 0.5 VDC
2. Current consumption $I_{cc}$	15 mA max.
3.1 Angular velocity $\omega$	$\pm$ 90 deg./sec @ 25°C $\pm$ 3°C
3.2 Max. angular velocity $\omega$ max.	$\pm$ 60 deg./sec @ -30°C to 80°C
4. Output Voltage $V_o$	+2.5 V $\pm$ 300 mV @ $\omega = 0$ (within temperature range -30°C to 80°C)
5. Scale factor $S_v$	22.2 $\pm$ 0.67 mV/deg/sec @ 25°C $\pm$ 3°C 22.2 $\pm$ 2.90 mV/deg/sec @ -10°C to 60°C 22.2 $\pm$ 4.00 mV/deg/sec @ -30°C to 80°C
6. Linearity	within $\pm$ 0.5% FS of max. angular velocity range
7.1. Resolution	0.1 deg/sec. max.
7.2. Asymmetry CW & CCW	3 deg/sec. max
8. Response	7 Hz (Phase delay 90°)
9. Offset drift	23 deg./sec max (equiv.: 500 mV <sub>pp</sub> ) (@ operating temperature range -30°C to 80°C)
10. Zero point stability (start-up)	Within $\pm$ 20 mV/10 min. ( $V_o$ measured after 5 sec @ stable temp. 25°C $\pm$ 3°C)
11. Operating temperature range $T_{opr}$	-30°C to 80°C
12. Storage temperature range $T_{stg}$	-40°C to 85°C
13. Dependence on Supply voltage	$\Delta$ Scale factor (%) = (1.1 $\pm$ 0.2) $\Delta V_{cc}$ (%) $\Delta$ Output voltage (%) = (1.0 $\pm$ 0.2) $\Delta V_{cc}$ (%) (@ $V_{cc} = 5.0$ V)
14. Output noise level	$\leq$ 10 mV <sub>rms</sub> @ 8 kHz

# EXTERNAL DIMENSIONS OF GYROSTAR ENV-05H-01 and ENV-05H-02



Connector:

1	Vcc
2	GND
3	Vout

red  
 black  
 white

Measurement Tolerance = ± 0.2  
Unit: mm

Figure 1