

# DynaLabs

**Model DYN-G-7000**

**Measurement Range [°/s]: 75, 150, 300, 900**

**Product Manual**

## Product Support

If at any time you have questions or problems with the DYN-G-7000 sensors, please contact a Dynalabs engineer at:

Phone: +90 312 386 21 89 (9 a.m. to 5 p.m., UTC +3)

E-mail: [info@dynamalabs.com.tr](mailto:info@dynamalabs.com.tr)

## Warranty

Our products are warranted against defective materials and workmanship for one year. Defects arising from user errors are not covered by the warranty.

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## 1) Introduction

Dynalabs MEMS based gyroscopes are designed by micro-mechanical silicon structures. Thus, gyroscopes are insensitive to external impacts and vibrations. For harsh environmental conditions Dynalabs gyroscopes are preferred. 7000 Series Triaxial Gyroscopes feature a lightweight, reliable aluminum housing and they have an integrated cable with configurable length and connectors.

### **DYN-G-7000 sensors offer the following options;**

- Custom Cable Length (5m standard cable)
- Custom Housing Material
- Custom Connector
- Base plate



## 2) General Information

### 2.1) Unpacking and Inspection

Dynalabs products provide adequate protection for undamaged products to be transported. Document the damages that occur indirectly during the transport and contact the customer representative.

### 2.2) System Components

The DYN-G-7000 has the following components:

- MEMS Sensor
- Calibration Certificate
- Product Manual

## 2.3) Specifications

Table 1: Specifications datasheet

Full scale angular velocity	(°/s)	DYN-G-7075 ±75	DYN-G-7150 ±150	DYN-G-7300 ±300	DYN-G-7900 ±900
Frequency range	(Hz)	0-150	0-150	0-150	0-150
Non-linearity (full scale)	(%)	0.06	0.06	0.06	0.06
Noise (in band)	(°/s/√Hz)	0.0075	0.0075	0.0075	0.0075
Scale Factor (nominal)	(V/°/s)	0.012	0.006	0.003	0.001
Scale factor var. overtemp.	(%)	0.5	0.5	0.5	0.5
Bias variation with temp.	(°/s)	±1	±2	±3	±4
Shock survivability	(g)	10,000	10,000	10,000	10,000

## Environmental

Table 2 Environmental specifications datasheet

Protection Level	IP 68
Operating Voltage	6V – 35 V
Operating Temperature	-40 °C to +100 °C
Operating Current Consumption mA	21 mA
Isolation	Case isolated

## Physical

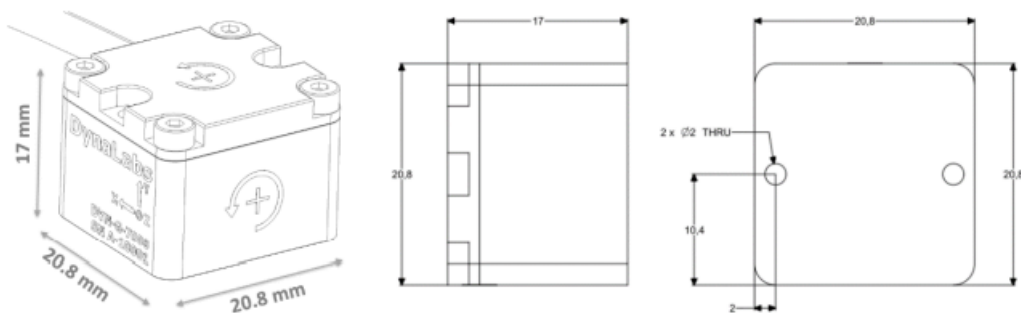
Table 3 Physical specifications datasheet

Sensing Element	MEMS Gyroscopes
Housing Material	Aluminum or steel
Connector (Optional)	D-Sub 9 or 15 pin, Lemo, Binder
Mounting	Adhesive or screw mount
Base plate (Optional)	Aluminum
Weight (without cable)	12g (aluminum) 29 g (steel)

### 2.4) Outline Drawing

The dimensional properties of DYN-G-7000 sensors are given below.

#### Technical Drawing:



## 3) Operation and Installation

### 3.1) General

The general sensor connector configuration is given below;

#### Cable Code/Pin Configuration:

- Red : V + Power supply voltage +6 V to +35 VDC
- Black : Ground Power GND
- RX : Yellow : Gyro Signal X-Axis: Analog output voltage signal for single-ended mode
- RY : Blue : Gyro Signal Y-Axis: Analog output voltage signal for single-ended mode
- RZ : White : Gyro Signal Z-Axis: Analog output voltage signal for single-ended mode

### **WARNING**

Never connect the power supply and/or the power ground to yellow, blue and/or white cables.

Never connect the power supply to the power ground. Always use a clean power source and check the voltage range.

## 5) Declaration of Conformity

# DynaLabs



*This declaration of conformity is issued under the sole responsibility of the manufacturer.  
The product(s) are developed, produced and tested according to following EC- directives:*

- 2014/35/EU – Low Voltage Directive (LVD)
- 2006/42/EU – Machinery Safety Directive
- 2015/863/EU – RoHS Directive

*Applied standards:*

- EN 61010-1:2010
- EN ISO 12100:2010
- MIL-STD-810-H-2019 (Test Methods: 501.7 - High Temperature, 502.7 - Low Temperature, 514.8 - Vibration, 516.8 – Shock)

*DYNALABS MÜHENDİSLİK SANAYİ TİCARET LİMİTED ŞİRKETİ declares  
that above mentioned products meet all the requirements of the above mentioned  
standards and regulations.*

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Canan Karadeniz, General Manager

Ankara, 15.07.2021