



DynaLabs DYN-G-7000 Triaxial MEMS Gyroscopes Instruction Manual

[Home](#) » [DynaLabs](#) » DynaLabs DYN-G-7000 Triaxial MEMS Gyroscopes Instruction Manual 

DynaLabs

Model DYN-G-7000
75°/s / 150°/s / 300°/s / 900°/s
Product Manual

Contents

- [1 DYN-G-7000 Triaxial MEMS Gyroscopes](#)
- [2 Product Support](#)
- [3 Introduction](#)
- [4 General Information](#)
- [5 Operation and Installation](#)
- [6 Declaration of Conformity](#)
- [7 Documents / Resources](#)
- [8 Related Posts](#)

DYN-G-7000 Triaxial MEMS Gyroscopes

All rights reserved. Reproduction or issue to third parties in any form whatsoever is not permitted without written authority from the proprietors.

Product Support

If at any time you have questions or problems with the DYN-G-6000 sensors, please contact a Dynalabs engineer at:

Phone: +90 312 266 33 34 (9 a.m. to 5 p.m., UTC +3)

E-mail: info@dynalabs.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.

Copyright

All copyrights of this manual belonging to Dynalabs products are reserved. It cannot be reproduced without written consent.

Disclaimer

Dynalabs Ltd. provides this publication “as is” without warranty of any kind, express or implied, including but not limited to, the implied warranties of merchantability or fitness for a particular purpose. This document is subject to change without notice, and should not be construed as a commitment or representation by Dynalabs Ltd.

This publication may contain inaccuracies or typographical errors. Dynalabs Ltd. will periodically update the material for inclusion in new editions. Changes and improvements to the product described in this manual may be made at any time.

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



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/vHz)	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	5V – 20 V
Operating Temperature	-40 °C to +100 °C
Operating Current Consumption mA	21 mA
Isolation	Case isolated

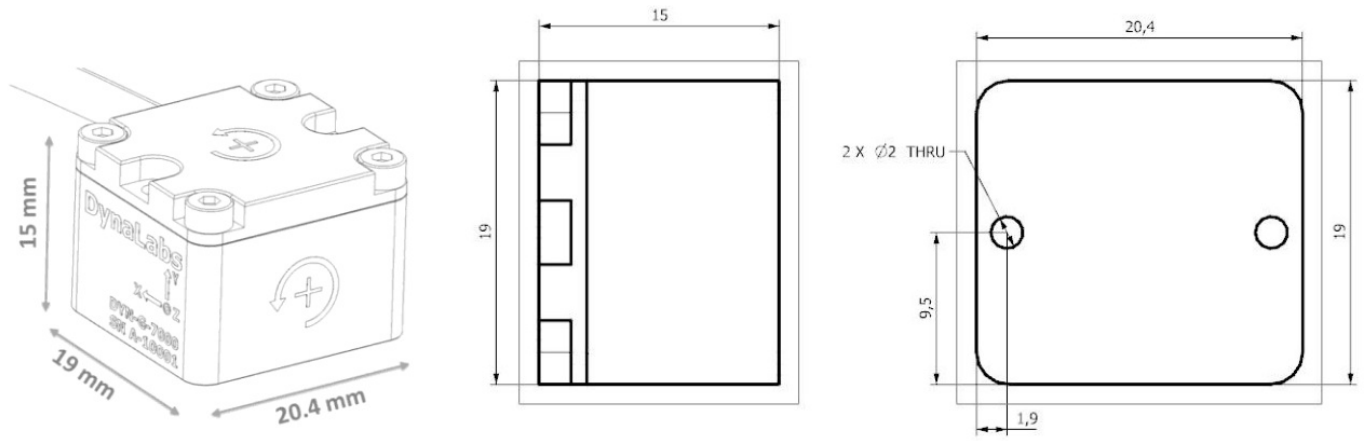
Physical

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.



Operation and Installation

3.1) General

The general sensor connector configuration is given below;

Cable Code/Pin Configuration:

• Red	: V +	Power supply voltage +5 V to +20 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.

Declaration of Conformity

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.



Murat Aykan, Technical Manager
Ankara, 15.07.2021

Documents / Resources

 <small>DYN-G-7000 Triaxial MEMS Gyroscopes Product Manual</small>	DynaLabs DYN-G-7000 Triaxial MEMS Gyroscopes [pdf] Instruction Manual DYN-G-7000, DYN-G-7000 Triaxial MEMS Gyroscopes, DYN-G-7000 Gyroscopes, Triaxial ME MS Gyroscopes, Triaxial Gyroscopes, MEMS Gyroscopes, Gyroscopes
--	---

Manuals+