

ER-DTG-E1 Small-Size (21.4mm) DTG Gyroscope

Introduction

ER-DTG-E1 Small-Size (21.4mm) DTG Gyroscope is designed for dynamical positioning and orientation in the drilling field, with small dimension, light weight, and high working temperature, which is mainly used in borehole gyro survey tools, wellbore logging tools, and many other system for north seeking or orientation.

Features

Strong shock resistance

Very small Size

Widely used in gyro borehole survey tools and well logging tools

Dynamical orientation and positioning

Specifications

No.	Item	Specification
1	Dimensions	$\Phi 21.4 \times 30$ 21.5×21.5 (flange)
2	Weight	<45g
3	Motor Power Supply	12V 500Hz three-phase sine wave or square wave Power consumption $\leq 3W$
4	Motor starting time	$\leq 1.5s$ (normal temperature) $\leq 12s$ (-55 °C); $\leq 4s$ (above -20 °C)
5	Annunciator power supply	3.5V 8kHz single-phase sine wave Power consumption $\leq 0.1W$
6	Range	$\pm 200^\circ/s$
7	Random Drift	0.3-0.8°/h (σ)
8	Drift Repeatability	1-1.5°/h (σ)
9	Torque scale factor	$\geq 1600(^\circ/h)/mA$ or $\leq 1.7 mA/ (^\circ/s)$
10	G-independent	60°-120 °/h
11	G-dependent	10-15 (°/h)/g
12	Rate Linearity	$\leq 0.15\%(F \cdot S)$

13	Cross Coupling	$\leq 0.2\%$
14	Operating Temperature	$-45^{\circ}\text{C} \sim +70^{\circ}\text{C}$
15	Vibration Power Density	0.12g ² /Hz
16	Shock	150g 6ms
17	Lifetime	$\leq 2000\text{h}$