ID-200-3P-02

High-precision three-axis motorised turntable

This high-precision three-axis electric gimbal comprises three mutually perpendicular axes: pitch, roll and yaw. It is capable of precisely replicating the spatial angular motion of moving objects such as aircraft and missiles, and is used for performance verification of core inertial components, the development of navigation control systems, and simulation testing of complete platforms.

Product Features

- Three mutually perpendicular axes
- High-precision angular motion repeatability
- High dynamic motion capability
- For testing inertial devices
- Supports the development of navigation systems
- Suitable for production, commissioning and calibration

Suitable scenarios

Suitable for the aerospace, defence and military industries, as well as the research and development of navigation equipment, it is primarily used for the testing, calibration and maintenance of gyroscopes, accelerometers, inertial measurement units (IMUs) and complete inertial navigation systems (INSs).

Technical Specifications

Parameter categories	Parameter items	Parameter values
Accuracy Performance	Angular position accuracy	±5″ (arc sec)
	Angular position repeatability	±2″
	Speed smoothness	2×10^{-3} (1° averaging method, ω ≤ 1°/s) 2×10^{-4} (10° averaging method, 1°/s < ω ≤ 10°/s) 5×10^{-5} (360° averaging method, ω > 10°/s)
Dynamic Performance	Maximum angular velocity	Inner frame: ±300°/s Middle frame/Outer frame: ±200°/s
	Maximum angular acceleration	Inner frame: ±300°/s Middle frame/Outer frame: ±200°/s
Range of Motion	Range of movement (lateral/vertical)	Three-axis continuous rotation (360° × 360° × 360°)
Mechanical Specifications	Load capacity	≥20 kg
	Table diameter/dimensions	200 mm
Environmental Protection	Protection rating	Ip20
	Operating temperature	20℃±8℃
Power and Communications	Power supply requirements	220VAC±10% / 50Hz
	Control interface	Ethernet/serial port (RS422/RS232)