

**Opto-Mechanical Trackballs**Instruction Number **811543**

Revision 12/20/04

**Shock and Vibration:**

Diameter	Resolution	Shock		Vibration
1.3 inch	416 cts/rev	100g	11ms - 1/2 sine	5-55HZ @ 0.013" DA
1.5 inch	480 cts/rev	30g	11ms - 1/2 sine	5-55HZ @ 0.013" DA
2.0 inch	640 cts/rev	10g	11ms - 1/2 sine	5-55HZ @ 0.013" DA
3.0 inch	640 cts/rev	6g	11ms - 1/2 sine	5-55HZ @ 0.013" DA

**Environmental:**

- Operating: Up to 40,000 ft with conformal coating option
- Humidity: reliable operation from 0 to 95% relative humidity.
- Sealed to NEMA 12 (indoor use)

**Temperature Ratings: (Operational)**

- Standard: 0 – 70 degrees C
- Optional: -25 – 80 degrees C
- Optional: -40 – 80 degrees C

**Mechanical:**

- Micro etched metal encoder wheels allow for greater resolution than possible with plastic
- Precision instrument grade, shielded, bearings (ABEC Grade 7), rated @ 20 years continuous rolling life
- No rubber or foam on rollers, no cleaning of shaft required
- Precision ground and hardened stainless steel shaft
- Precision ground ball to +/- .002" tolerance
- Formed Teflon sealing ring in an aluminum housing cleanable with alcohol

**Photo Detectors:**

- Redundant photo detectors for each axis. Not sensitive to LED fading
- Guarantees longest reliability beyond 10 years without the need for re-calibration

**Reliability:**

- MTBF (Mean Time between Failures): greater than 100,000 hours per MIL-HDBK-217F

**Power Requirements:**

- +5VDC supply
- 40mA @ 5V OEM version without Interface PCB
- 70mA @ 5V OEM version with Interface PCB

**Certifications:**

- Meets FCC Class A
- Meets CE Requirements

**Options:**

- Sealed switch assemblies
- Low temperature versions
- Vibration dampening
- Conformal coating
- Microprocessor interface PCB