



when reliability is critical™

## Opto-Mechanical Industrial Trackballs

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### Shock and Vibration:

Diameter	Resolution	Operating Shock	Shafts	Encoder Wheel	Vibration
3.0 inch	640 counts/rev	6g @ 11ms - 1/2 sine	0.1875" Dia.	0.73" Dia.; 40 Slots	5-55HZ @ 0.013" DA

### Environmental:

- Operating: Up to 40,000 ft with low temperature and conformal coating options
- Horizontal Mounting: Recommended 0° to 30° Maximum (with Vibration Dampening Material)
- Humidity: reliable operation from 0 to 95% relative humidity per MIL-STD-810G.
- Sealed to NEMA 12 (IP54), for indoor use.
- Sealed switch assemblies
- Conformal coating of PCB

### Temperature Ratings: (Operational)

- Operating Temperature: 0° to 70° C
- Operating Temperature (Optional): -40° to 80° C (Typical Military & Aerospace Applications)
- Storage Temperature: -40° to 80° C

### Interface:

- Standard USB or PS/2 interface
- Microsoft Serial Mouse interface (RS-232)

### 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 with quadrature output 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
- Max. 70mA @ 5V OEM version with Interface PCB

### Certifications:

- Meets FCC Class A
- Meets CE Requirements
- ESD rated to 15KV

### Options:

- Vibration Dampening Material – Silicone based
- RoHS – Special Order