



when reliability is critical™

Opto-Mechanical Industrial Trackballs

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Shock and Vibration:

Diameter	Resolution	Operating Shock	Shafts	Encoder Wheel	Vibration
1.3 inch	416 cts/rev	100g @ 11ms - 1/2 sine	0.125" Dia.	0.73" Dia.; 40 Slots	5-55HZ @ 0.013" DA
1.5 inch	480 cts/rev	30g @ 11ms - 1/2 sine	0.125" Dia.	0.73" Dia.; 40 Slots	5-55HZ @ 0.013" DA
2.0 inch	640 cts/rev	10g @ 11ms - 1/2 sine	0.125" Dia..	0.73" Dia.; 40 Slots	5-55HZ @ 0.013" DA

Environmental:

- Operating: Up to 40,000 ft with conformal coating option
- Horizontal Mounting: Recommended 0° to 30° Maximum (with Vibration Dampening Material)
- Humidity: reliable operation from 0 to 95% relative humidity per MIL-STD-810G.
- Trackball and Switch Assemblies sealed to NEMA 12 (IP54), for indoor use.

Temperature Ratings: (Operational)

- Operating Temperature: 0° to 70° C
- Operating Temperature (Optional): -25° to 80° C
- Operating Temperature (Optional): -40° to 80° C (Typical Military & Aerospace Applications)
- Storage Temperature: -40° to 80° 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 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. 40mA @ 5V OEM version without Interface PCB
- Max. 70mA @ 5V OEM version with Interface PCB

Certifications:

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

Options:

- Low temperature operation
- Vibration Dampening Material – Silicone based
- Conformal coating of PCB
- Microprocessor interface PCB
- RoHS – Special Order

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