Specifications are subject to change. Please refer to the current datasheet on www.grayhill.com for the most current published specifications for this product.



Joysticks

SERIES 67A Hall Effect Joystick

FEATURES

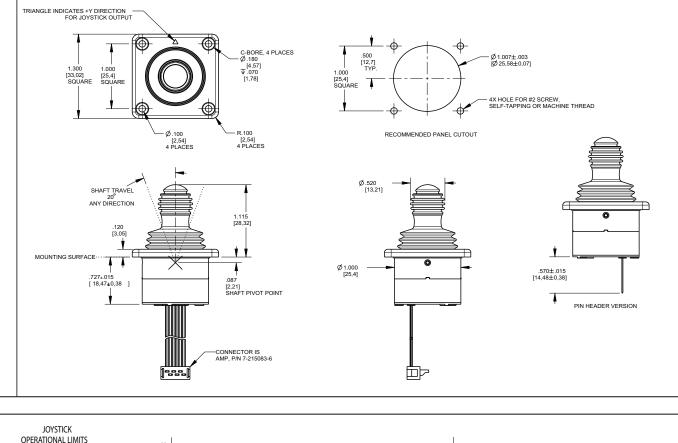
- Proportional output
- Shaft and panel seal to IP67
- Compact: 1-inch square flange
- Long operational life
- RoHS compliant

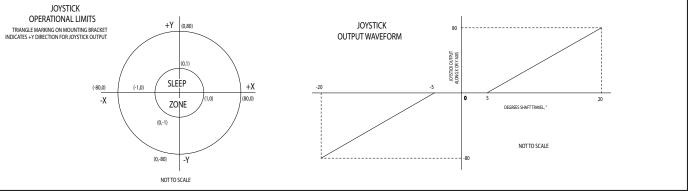
APPLICATIONS

- Medical
- · Military vehicles and devices
- Mobile electronics for outdoor use









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Joysticks

SPECIFICATIONS

Electrical Ratings

Supply Voltage (VVD): $3.3V \pm .0.3V$ High Level Input Voltage (VIH, Min): 0.7*VDD on SCL & SDA / 0.25*VDD+0.8 on Aln

Low Level Input Voltage (VIL, Max): 0.3*VDD on SCL & SDA / 0.15*VDD on Aln Current Draw In Active Mode (IDDI): 3mA Maximum @ VDD = 3.3V

Current Draw In Sleep Mode (IDD2): 100uA Maximum @ VDD = 3.3V

Maximum Current Sunk By Any I/O Pin: 25mA

Leakage Current: ±5 nA Typ., ±125 nA Max Low Level Output Voltage (VOL): 0.6V On INTn & SDA @ IOL = 6mA, @ VDD = 3.3V Measurement Frequency (Active Mode): 50 Samples/Sec

Response Time, Active Mode (T1): 20ms* Response Time, Sleep Mode (T2): 80ms* Output @ Maximum Joystick Deflection (XMax, YMax): 80 Units

Output With Joystick Shaft Released (Center Position): (0,0)

Nominal Startup Time (TP, W): 300ms, Max

Physical & Mechanical Ratings

Vibration: Random, Tested per MIL-STD-810G, Method 514.6, Procedure I Mechanical Shock: Tested per MIL-STD 202, Method 213B Test Condition A Transit Drop: Tested per MIL-ST-810G, Method 516.6, Procedure II

Terminal Strength: 10 lbs. Minimum, Tested per MIL-STD-202, Method 211A Push-Out Force: 60 lbs. Minimum Pull-Out Force: 60 lbs. Minimum Shaft Impact: 0.5 lbs. Weight dropped 20x from height of 1m Shaft Side-Load: 45 lbs. Minimum Mounting Torque: 3-5 in-lbs recommended, 8 in-lbs. Maximum Joystick Life: 1 million cycles minimum**

Environmental Ratings

Seal: IP67, Tested per IEC 60529 Altitude: Tested per MIL-STD 202, Method 105C Thermal Shock: Tested per MIL-STD 202, Method 107G Operating High Temperature: +85°C,

Tested per IEC 68-2-14, Test Na **Operating Low Temperature:** -40°C, Tested per IEC 68-2-14, Test Na

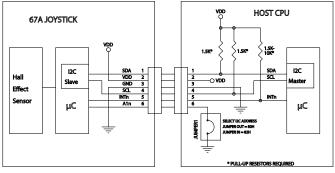
Storage High Temperature: +100°C, Tested per IEC 68-2-2, Method Ba Storage Low Temperature: -55°C, Tested per IEC 68-2-1, Method Aa Humidity: Tested per MIL-STD 202, Method 103B Humidity, 85/85: Tested per MIL-STD 202, Method 103B, 500 hours Solar Radiation: Tested per MIL-STD 810G, Method 505.5, Procedure II Chemical Resistance: Tested per ISO 16750-5 Dielectric: Tested per MIL-STD 202G, Method 301 Insulation Resistance: Tested per MIL-STD 202G, Method 302

EMC Ratings

Radiated Immunity: Tested per IEC 61000-4-3 Conducted Immunity: Tested per IEC 61000-4-6 Radiated Emissions: Tested per ANSI C63.4 Conducted Emissions: Tested per EN 55022 Electrostatic Discharge: Tested per IEC 61000-4-2 Power Frequency Magnetic Field: Tested per IEC 61000-4-8



Block Diagram



*Response time is the time from joystick movement to when new X,Y position data is available.

