

## Model 500 Miniature Hall Effect Joysticks

The Model 500 is a two axis, displacement style, precision fingertip or thumb joystick control which converts the operator input to analog output voltages proportional to applied displacement travel of the joystick and input voltage. Using the same patented Hall effect technology introduced by Ultra MSI in 1998 (U.S. Patent No. 5850142), these joysticks provide a high integrity precision displacement alternative to Ultra MSI's revolutionary Miniature Force Joysticks.

These miniature Hall effect joystick controls are available either as stand alone devices for customer integration, installed in Ultra MSI Control Grips for a thumb-operated grip control or integrated into custom input systems and panels per customer requirements.

Their small size and weight make them ideal solutions where precision control is required and joystick displacement is preferred but a larger device is not practical.



**Grip Style Model 500**



**Panel Mount Model 500**

### Applications:

- Computer Graphics/Cursor Control
- Mapping, X-Y Inspection Table
- Robotics, Medical Surgery/Cursor
- Security Cameras, Video Cameras
- Vehicle Control, Flight Control
- Electric Wheelchair
- Hoists, Cranes, Industrial Processing

### Technical Info:

- Panel Mount Hole Configuration: (4) @ 1.1"
- Overall Width: 1.15" Dia for Grip Mount, 1.40" Dia for Panel Mount
- Depth Below Panel: 1.54"
- Height Above Panel: 0.98"
- Power Requirements: 5.0 VDC @ <10mA
- Full Scale Output: 0.40 VDC to 2.9 VDC
- Null Repeatability: +-3% of total electrical travel
- Operating Temp: -25C to +80C
- Storage Temp: -40C to +85C
- Sealing: IP67 Above Panel; IP55 Below Panel
- Shock: 200gS RMS @ 1mSec
- Vibration: 2gS RMS, 20 Hz to 2,000 Hz
- ESD Immunity: >15KV at Handle and Boot
- Life: 20 Million Cycles

### Features:

- Overall simplicity of design
- 20,000,000 Cycle Reliability Rating
- Small package
- Excellent temperature stability
- Programmable for null, sensitivity and temperature
- Low power dissipation
- Linear outputs with uniform force gradients in all directions
- High EMI immunity
- Engineered to meet most stringent environmental requirements
- Can be integrated into a full system
- Cost effective

### Options:

- Knobs – A variety of knobs are available including Concave Thumb, Coolie Hat Thumb and Fingertip Handles
- Boot Seals
- Single Axis
- Dual Redundant
- Haptic Version – Force Feedback

Refer to Options Matrix for more options

