

**Products**

Joysticks:

- Mini Force Joysticks
- Fingertip Displacement Joysticks (Pot Output)
- Fingertip Displacement Joysticks (Hall Effect)

Grips:

- Aluminum Std ambidextrous
- Plastic Std ambidextrous
- Custom Ergonomic Shapes

Hand

Controls:

- Single Grip
- Dual Grip
- Pot Output
- Hall Effect Output

Trackballs:

- Desktop
- Sub Panel
- MAGTRAK Waterproof

Encoders:

- Sealed Optical Encoders
- Low Friction

Systems:

- Custom Panels
- Bullnose Panels
- Multiple Input Devices
- Cockpit Systems
- Ground Stations
- Fire Control Panels

## Model 501C Hall Effect Joystick

A two axis non-contacting precision displacement fingertip operated control which has revolutionized the HMI (Human Machine Interface) Industry by providing high performance and high reliability at low cost. Standard Model 501C joysticks produce analog output voltages proportional to angle of joystick vs. input voltage (digital outputs available). This Hall effect technology was first patented and introduced by Ultra MSI in 1998 (U.S. Patent No. 5850142). The Model 501C offers many benefits over traditional potentiometer and inductive joystick designs.



**Model 501C**

### Applications:

- Robotics
- Construction Equipment
- Hydraulic Controls
- Forklifts, Conveyor Systems
- Video Arcade
- Medical Surgery/Cursor
- Security Cameras, Video Cameras
- Vehicle Control, Flight Control
- Remote Operated Vehicle (ROV) Control
- Electric Wheelchair
- Hoists, Cranes, Industrial Processing
- X-Y Inspection Table, Scientific Instrumentation

### Technical Info:

- Dual Mounting: Flange and Sub Panel styles
- Mounting Holes: (4) @ 2.5" Dia
- Overall Height: 2.83" Above Panel
- Overall Width: 2.9" Dia
- Joystick Deflection: 27 +/-3 deg.
- Weight: 6.0 Ounces (170g).
- Max. Non-Destructive Force – 30 lbs.
- Full Scale Output Force: 1.0 – 2.0 lbs.
- Power Requirements: 5.0 VDC @ <21mA
- Full Scale Output: 0.5 VDC to 4.5 VDC
- Operating Temp: -40C to +70C (IEC60068-2-1)
- Storage Temp: -55C to +100C (IEC60068-2-2)
- Sealing: NEMA 4; IP66 Above Panel; IP55 Below Panel
- Shock: 50g @ 11mSec (IEC60068-2-27)

### Technical Info (Cont'd):

- Vibration: 2gS RMS, 10 Hz to 1,000 Hz (IEC60068-2-64)
- ESD Immunity: >15KV at Handle and Boot
- Life: 20 Million Cycles

### Features:

- Overall simplicity of design
- Min. 20,000,000 Cycle Reliability
- Small package
- Excellent temperature stability
- Low power dissipation
- Linear output with uniform force gradients in all directions
- EMI immunity superior to all inductive style joysticks
- Can be integrated into a full system
- Performs without loss of precision throughout operational life

### Options:

- Dual Redundancy
- Custom Designs available to suit application requirements, including full system/console capabilities at MSI (Consult Factory for More Information)
- Digital Outputs

**Consult Factory for more options**

