

# M3

## ULTRA-COMPACT HALL-EFFECT JOYSTICK CONTROLLER

### Construction:

The **TYPE M3** compact and light weight finger operated joystick controller features a glass-filled zytel housing and non-ferrous components making it suitable for corrosive and hostile environments.

1 & 2 Axis Control is available as well a handle activated auxiliary functions. Separate and simultaneous handle travel is achieved with standard gate patterns.

### Application:

For use in radio control systems and portable consoles. For mobile machinery on and off-highway and for in-plant process control.

### Features:

- Ultra-compact and rugged construction
- Environmentally sealed mounting and corrosion resistant components
- Conformal coated electronics to resist moisture
- Non-biasing smooth operation with high life compression style spring return
- Single and dual axis operation
- Long life Hall-effect technology
- Meets or exceeds CE EMC requirements

### Options:

- Sealed push-button
- Mechanical interlock for non-simultaneous operation
- Cross gate
- Redundant output



## M3 ORDERING INFORMATION

<b>Drive Arrangement:</b>	Single axis and double axis
<b>Basic Assembly:</b>	2.0" [52 mm] shaft length and boot supplied standard
<b>Handle:</b>	0.8" [20 mm] dia. Round ball
<b>Handle Action:</b>	Spring Return
<b>Output:</b>	Proportional – Hall-effect
<b>Immunity:</b>	Meets or exceeds CE EMC requirements

## M3 TECHNICAL DATA

### Mechanical:

- **Mechanical Life:** 20 million cycles
- **Handle Deflection:**  $\pm 20^\circ$
- **Gear Ratio:** Direct drive
- **Mounting Footprint:** 1.9" [49mm] x 1.9" [49mm]

### Environmental:

- **Operating Temperature:** -25 to +70°C
- **Storage temperature:** -40 to +70°C
- **Degree of protection above the panel:** IP55
- **EMC Emissions:**  
Complies with **EN61000-6-4:2007**  
Class A Group 1, 80 – 1000 MHz
- **EMC Immunity:**  
Complies with or exceeds  
**EN61000-6-2:2005** expanded to include:  
RFI Immunity of 100 V/M @ 80 – 1000 MHz  
ESD Immunity of 15 Kv air, 8 Kv contact

### Electrical:

- **Hall-Effect:**
  - **Supply Voltage:** 4.5 to 5.5VDC
  - **Output Voltage:** Ratiometric 0.5 – 2.5 – 4.5V  $\pm 0.15V$  @ 5.0V supply
  - **Output Current:** 10 mA
  - **Power Consumption:** 20 mA @ full load
  - **Connections:**  
20 AWG, UL1430 wire with Molex mini-fit socket connector (39-01-2100), 6" lead length
- **Pushbutton (Optional):** Sealed pushbutton, momentary, 1 N.O., 2 A @ 24VDC

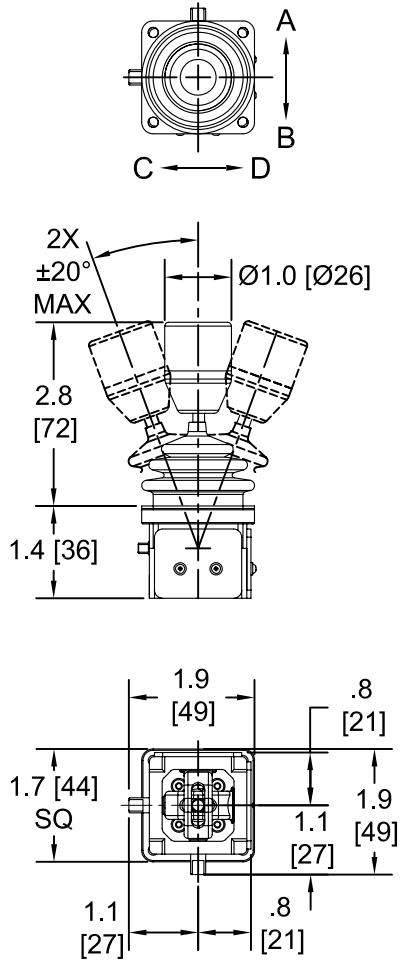
### Options:

- **Handle:** Tapered, 2 piece, pushbutton, and Mechanical Interlock
- **Gates:** Cross gate
- **Hall-Effect:**  
Output Voltage: Redundant - Ratiometric: 0.5 – 2.5 – 4.5V  $\pm 0.15V$  complementary @5V supply

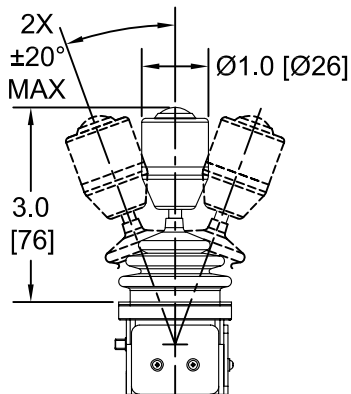
**Please consult factory for other available options not listed.**

# M3 OVERALL DIMENSIONS

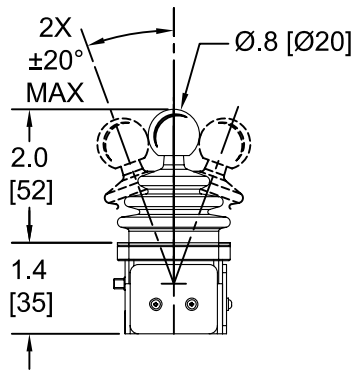
## 2 PIECE HANDLE



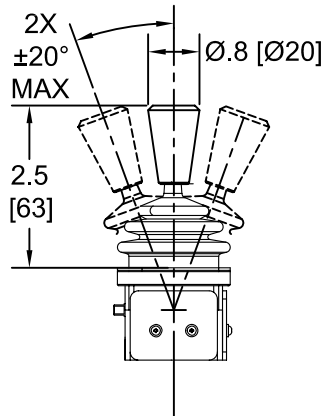
## 2 PIECE HANDLE & PUSH-BUTTON



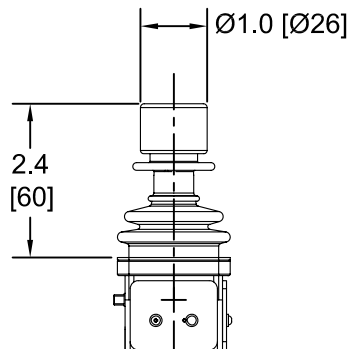
## ROUND BALL HANDLE



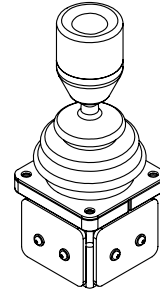
## TAPERED KNOB



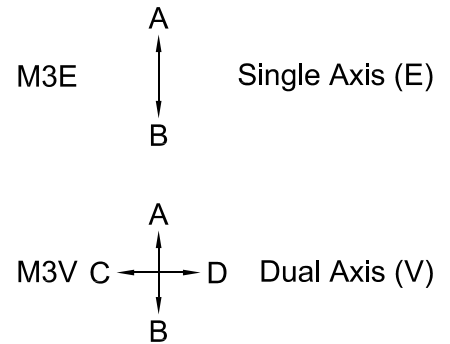
## MECHANICAL INTERLOCK



## M3 HALL-EFFECT



## ARRANGEMENT



## PANEL MOUNTING DIMENSIONS

