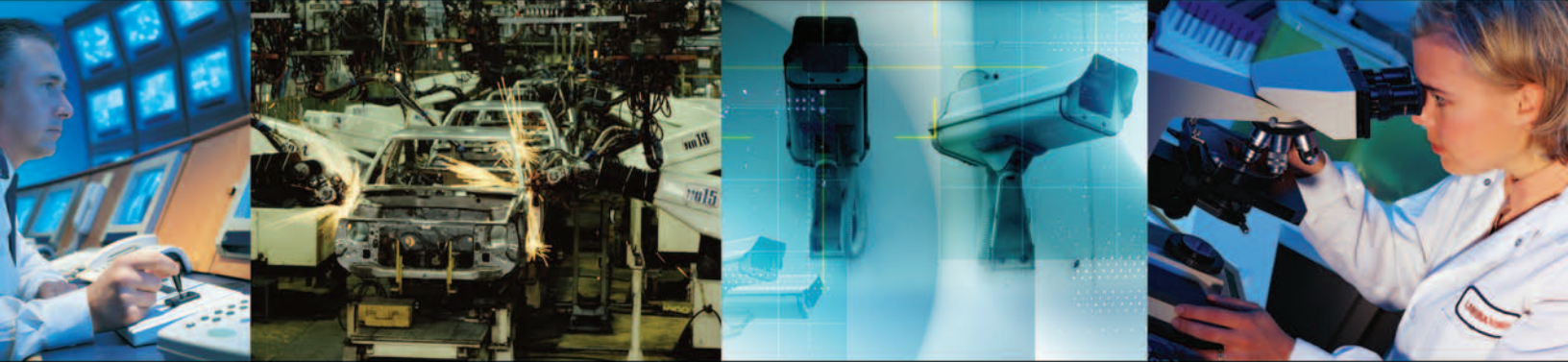


# CH Products



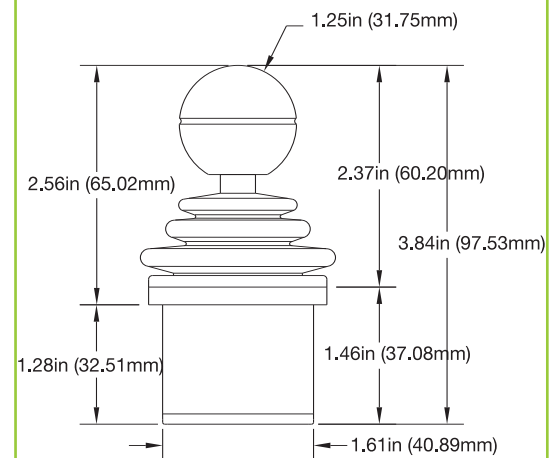
## Finger Operated HFX Series I

Hall Effect Joysticks



## Model 1100

### Option 0



# Finger Operated HFX Series I Joysticks

The HFX Series I joystick is a contactless, multi-axis controller providing long life fingertip positioning control. A compact, low-profile joystick utilizing non-contact Hall effect technology, the HFX Series I joystick is designed for low operating force, clean environment applications requiring enduring accuracy and precision. Available with several ergonomic handles and in single, dual or triple axis configurations, typical uses include CCTV equipment, robotics, factory automation, electric wheelchairs and medical devices.

## Available Models

**Model 1100: Two axis**

**Model 1200: Two axis with buttons**

**Model 1300: Three axis**

**Model 1400: Three axis with buttons**

## Physical Specifications

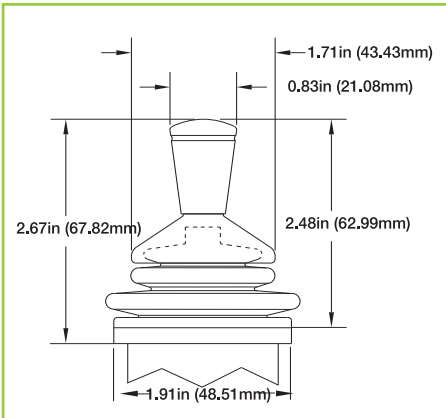
- Joystick travel: 36° (18° from center)
- Centering: Single spring, omnidirectional
- Housing: High impact glass-filled nylon
- Breakout force: .109 Nm
- Operational force: .151 Nm
- Maximum force: .169 Nm
- Operating temperature: -40°C to +85°C
- Life cycles: 3,000,000

## Electrical Specifications

- Supply voltage: 5V
- Center voltage: 2.5V
- Supply current: 6mA max/axis
- Output current: 2mA max/axis
- Output tolerance: ± 2%

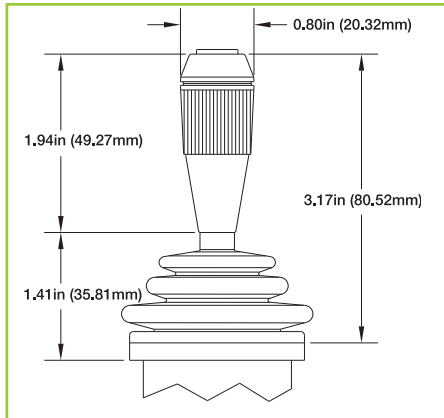
## Model 1100

### Option 1



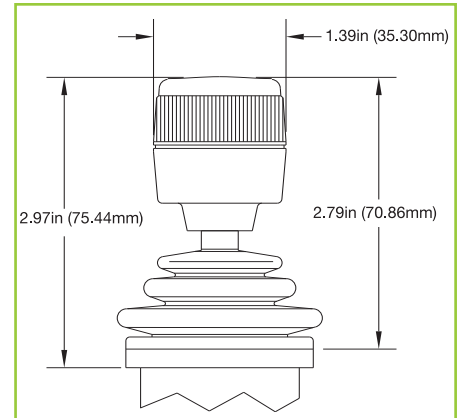
## Model 1200

### Option 2



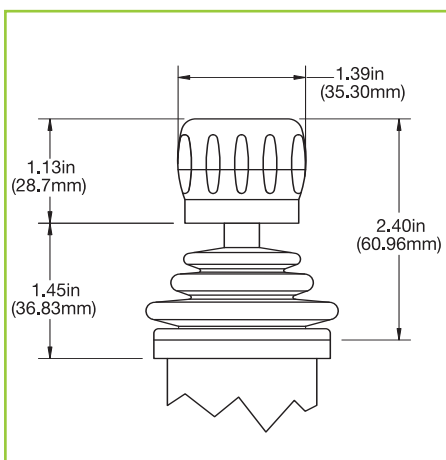
## Model 1300

### Option 3



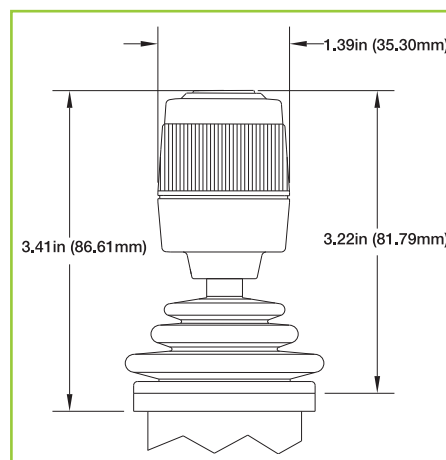
## Model 1300

### Option 6



## Model 1400

### Options 4 & 5



# Configuration Options

## Sensor Output Options

- 0V to 5.0V
- 0.25V to 4.75V

## Optional Features

### USB

Universal Serial Bus provides USB 1.1 interface. No driver is needed.

### Analog Deadband

Assures return to center voltage.

### Center Detect/Fault Detect

Produces an electrical HI signal when stick is moved off center and produces an electrical LO signal if the sensor output voltage deviates from range ( $<0.5V$  or  $>4.5V$ ).

### Dual Decode

Provides center detect function and monitors dual sensors. If the sum and the difference of the sensor outputs vary by more than 9%, the circuit becomes electrically LO. Requires dual sensors.

### Joyball

Cursor emulation available with USB or Sun.

### Voltage Regulator

Used when input or output voltage is greater than 5V or when bipolar output is required. Contact factory for available configurations.

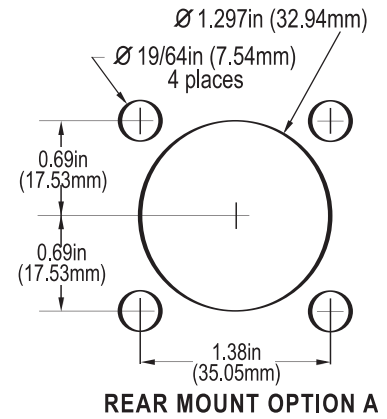
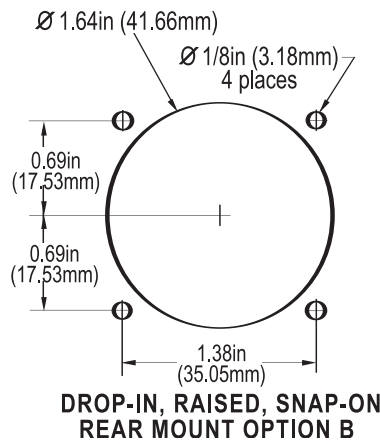
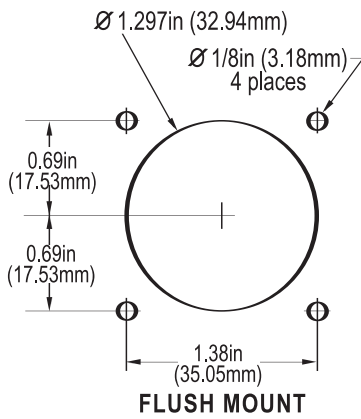
### Centering Plate

Increases mechanical return to center and repeatability.

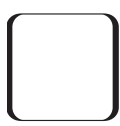
### Friction Clutch

The joystick does not mechanically return to center, maintains present position.

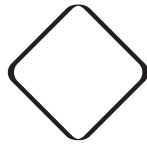
## Panel Cutout Dimensions



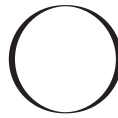
## Limiter Plate Options



**SQUARE**



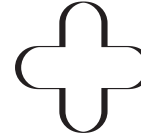
**DIAMOND**



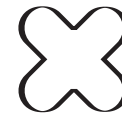
**ROUND**



**SLOTTED  
(X OR Y AXIS)**

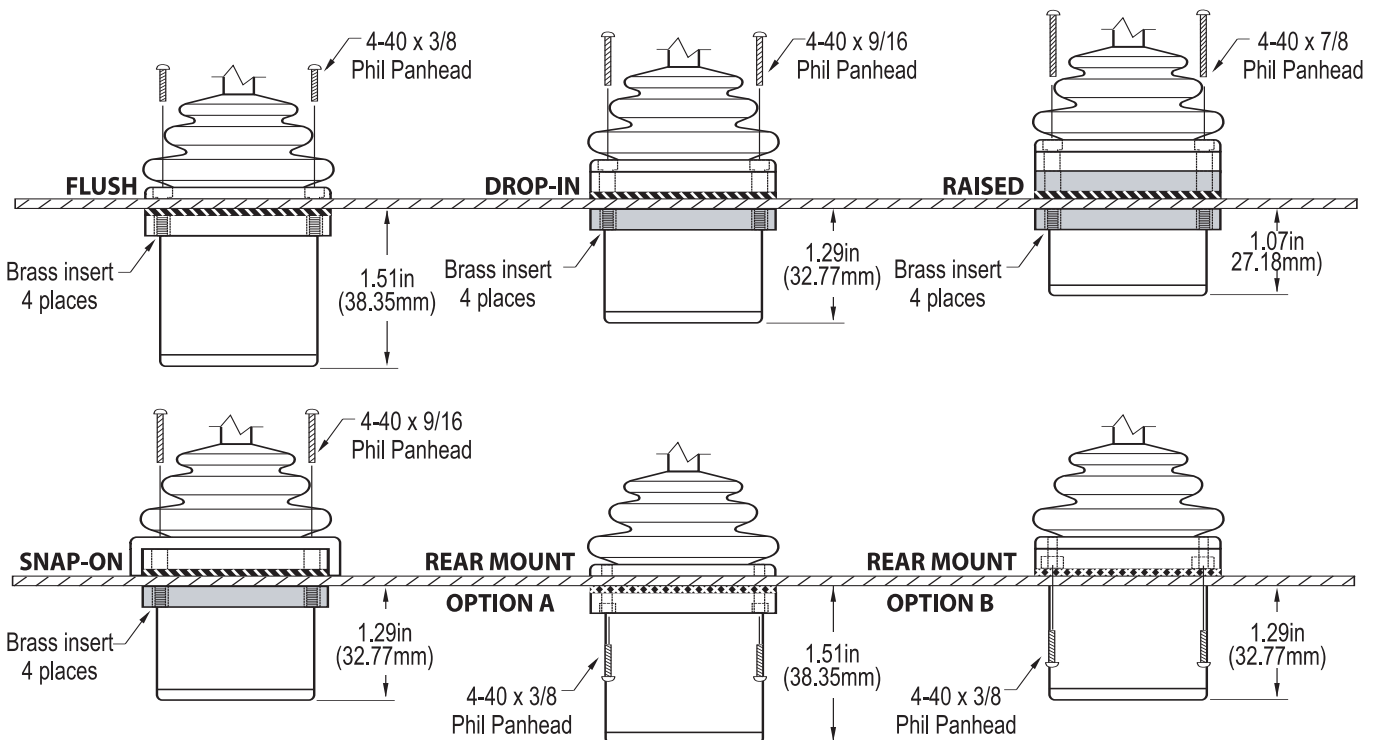


**PLUS**



**CROSS**

## Mounting Options



- Panel
- 6mm spacer (0.24in)
- Standard gasket
- Rear mount gasket

**Notes** - The panel thickness can be 0.046in to 0.125in (1.17mm to 3.17mm), except for the Rear Mount Option A, where the maximum panel thickness is 0.063in (1.6mm).  
 - A panel thickness of 1/16" (0.063in, 1.6mm) was considered for all the below-panel depth values.  
 - The below-panel depth is extended by 0.40in (10.15mm) with the USB option.

# CH Products



## Finger Operated HFX Series I Hall Effect Joysticks

### Typical Applications

CCTV Camera Control  
Remote Control  
Robotic Systems  
Factory Automation  
Simple Machine Control  
Automated Conveyor Systems  
Medical Devices

Optical Devices  
Targeting Systems  
Electric Wheelchairs  
Military Robotics  
Unmanned Vehicle Control  
Electron Microscopes

