

The JH Series Joystick is designed around the rugged mechanism of a traditional 4-way hydraulic joystick, but it utilizes contactless Hall effect technology for increased life and more dependable performance in the field. This combination provides performance and features never before available in an electronic joystick. The JH series uses OTTO's field-proven dual magnet configuration found in OTTO's HPL Linear Output Hall Effect switches. The Hall effect sensors are fully protected against electromagnetic and radio frequency interference (EMI and RFI) up to 100V/M. Programmable sensors with built-in magnetic temperature compensation logic ensure consistent and repeatable operation. The JH series is designed for maximum flexibility in features and in tactile feel. A wide variety of input and output configurations are available to satisfy different applications. The modular electronic package can be configured for both standard and custom I/O requirements including CANbus and other output options available.

**Features:**

- **Adapts to a wide variety of shaft styles**
- **15 million cycle life in all directions**
- **300 lbs. static load strength at grip reference point (grp)**
- **Electronics sealed to IP68S**
- **Excellent EMI/RFI immunity**
- **Factory programmable pretravel & overtravel**
- **Analog, CANbus, USB & other custom output options available**
- **Redundant outputs available**
- **Fail safe & neutral indicator available**
- **Single and dual axis available**
- **Z axis available with universal grip only**
- **Programmable sensors**
- **5V standard regulator available to accommodate a 9-32VDC power supply input**
- **Various output configurations**
- **Available with a variety of grip & switch options**
- **RoHS compliant**



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JH Joystick Shown with OTTO Medium Universal Grip, K1 Rockers and P3 Pushbutton Switches

## HALL EFFECT TECHNOLOGY JOYSTICK

### Standard Characteristics/Ratings:

#### GENERAL:

**Sensor Type:** Hall effect analog, 1 or 2 outputs per axis

**Design:** Dual magnet

#### ELECTRICAL RATINGS: Rated at 5V @ 20°C Load = 1ma (4.7kΩ)

Electrical	Units	Min	Typ	Max
Output Voltage 0° to 2° Tolerance at Center @ 5V Vcc	Deflection VDC	-0.15	N/A	+0.15
Output Voltage 19° to 20° Tolerance at Full Load @ 5V Vcc	Deflection VDC	-0.15	N/A	+0.15
Supply Current Per Sensor	mA	N/A	N/A	10
Output Source Current Limit	mA	-1	N/A	1

#### MECHANICAL:

**Mechanical Life:** 5,000,000 min. up to 15,000,000 in all directions depending on configuration

**Travel Angle:** 20° typical

**Operating Force:** With bellows, 20°C to 85°C at grip, 1 lbs. min to 7 lbs. max  
With bellows, -40°C at grip, 13.0 lbs. min to 18.0 lbs. max depending on selected spring

#### ENVIRONMENTAL:

**Operating Temp Range:** -40°C to +85°C

**Humidity:** 96% RH, 70°C, 96 hours

**Vibration:** 10g, 24Hz to 2KHz swept sinusoidal

**Electronics:** Sealed to IP68S

**EMI/RFI:** Withstand per SAE J1113 (typical), contact factory for details

**Sand/Dust:** Without bellows, withstand per SAE J1455

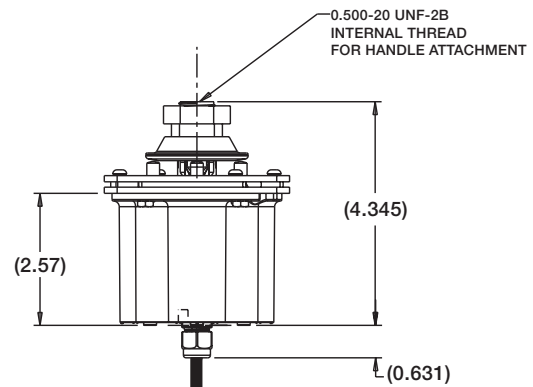
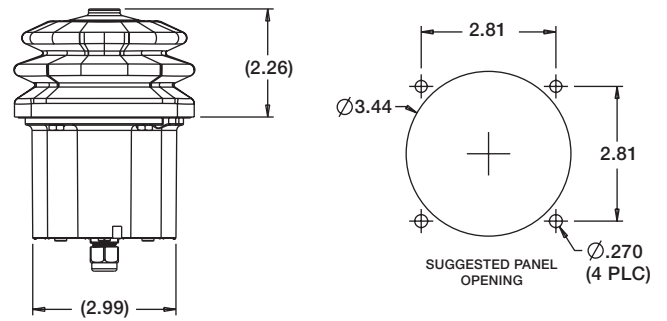
#### MATERIALS:

**Housing:** Polyester

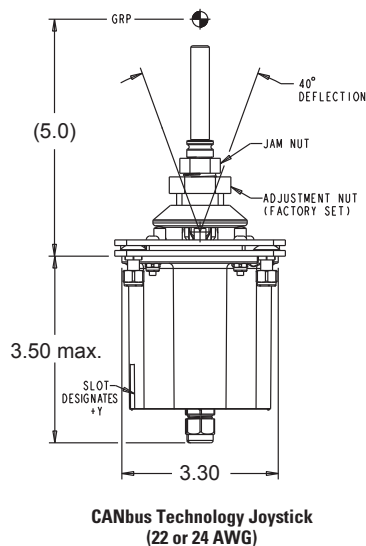
**Bellows:** EPDM, black

**Cable:** 22 AWG (19 strands of 34 AWG TSC)

**Mounting Hardware:** 1/4-20 x 3/4 carriage bolts, self-locking nuts



Analog Hall Joystick



CANbus Technology Joystick  
(22 or 24 AWG)

