

# ERGO-NAV EGN-J Series Analog Joystick Navigation Device

**NEW!**



## Features/Benefits

- **Omni-directional analog control**
- **Variable speed (rate and control)**
- **Small form factor**
- **Low power (instant wake-up)**
- **Integrated switch (center click)**
- **True deflection device (pointing device)**
- **Simple electrical interface**
- **Environmental protection**
- **Long life**

## Typical Applications

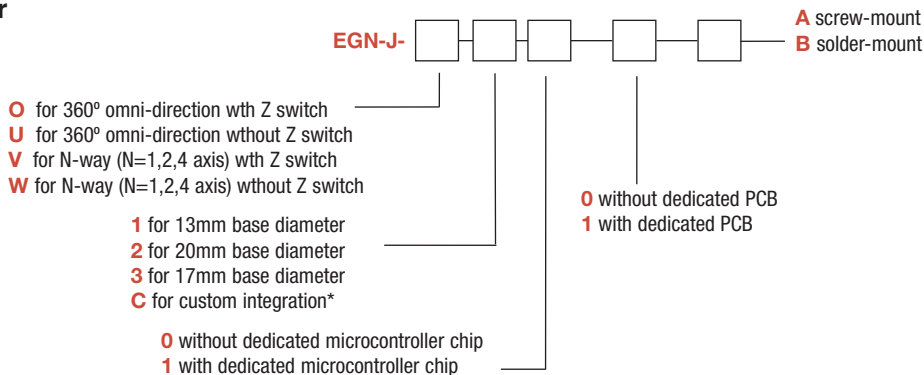
- **Cell phones**
- **Gaming devices**
- **MP3 players**
- **PDA's**
- **GPS devices**
- **Remote controls**
- **Laptops**
- **Convergent devices**
- **Others**

	Series Values	EGN-Jx3x-xx	EGN-Jx2x-xx
PCB FOOTPRINT REQUIREMENT (mm):	17.3-20.3	16.3 topside, 17.3 bottom	19.3 topside 20.3 bottom
PCB TO ACTUATOR TIP HEIGHT (mm):	5.8-7.5	5.8	7.5
MIN ACTUATION ANGLE (deg):	less than 2	less than 2	less than 2
MAX DEFLECTION FROM VERTICAL (deg):	25	25	25
LATERAL FORCE @ MIN ACTUATION (g force):	23-24	23 or less	24 or less
LATERAL FORCE @ MAX ACTUATION (g force):	74-120	74	120
MIN VERTICAL FORCE TO ACTIVATE (g force):	9-20	9	20
DOMES SWITCH ACTUATION FORCE (g force):	210-380	210	380
SINGLE LARGE LATERAL FORCE SURVIVABLE (g force):	2000	2000	2000

## User Interface

NUMBER OF AXIS PROVIDED:	1, 2, 4 & continuous
DIRECTIONS/VECTORS:	>360
NUMBER OF RATE STEPS FROM FULL:	Up to 1024
SOUTH to FULL NORTH DEFLECTION	64 standard
POSITION SAMPLING RATE:	25-40hz
	40hz standard
SIGNAL LATENCY:	< 4ms

## How To Order



\*Custom Integration - ErgoNav EGN-J Series can be customized per the design rules and limitations:

- Joystick footprint and actuator height (scalable per the design rules)
- Joystick top cap (plastic or silicone; color & fashion)
- Joystick plastic retainer (reference retainer integratable to device chassis per the design rules)
- Dedicated microcontroller (contains firmware for quick I/O interface, or firmware compiled into device controller)

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## ELECTRICAL/SOFTWARE

LINEARITY OF DEVICE OUTPUT:  
 REPEATABILITY OF SINGLE DEVICE OUTPUT:  
 SETTING TIME OF SIGNAL VOLTAGE IN DEVICE:  
 RESISTANCE FOR NS OR EW AXIS:  
 JOYSTICK NOT ACTUATED RESISTANCE:  
 DOME SWITCH OPEN/CLOSED RESISTANCE:  
 POWERING VOLTAGES:  
 # OF A/D INPUTS REQUIRED:  
 # OF GPIO INTERFACE NEEDED:  
 ROM REQUIREMENTS:  
 CONTINUOUS USE CURRENT PEAK\*  
 TYPICAL/WORST CASE:  
 CONTINUOUS USE CURRENT AVERAGE\*  
 TYPICAL/WORST CASE:  
 SLEEP POWER CONSUMPTION:

### Series Values

$R^2 > 0.97$   
 $\pm 2\%$   
 Negligible  
 400-10,000 $\Omega$   
 10M $\Omega$   
 500k $\Omega$  / 250 $\Omega$   
 1.8-5  
 One 8 bit ADC  
 5  
 10kb max  
 3.1/8.3 mA  
 62/165 $\mu$ A  
 0 $\mu$ W

\* Typical transducers are 800-1600 ohms, worse case current is for 400 ohm transducer

## RELIABILITY

### Series Values

OPERATING LIFE (DEFLECTIONS): >3M  
 DOME SWITCH OPERATING LIFE, (CYCLES): 500,000  
 VIBRATION: No Effects  
 PULLOUT FORCE: 2kgf/4.5lbf  
 DROP TEST: Pass  
 EMI/EMC: Pass  
 ESD RATING: Pass

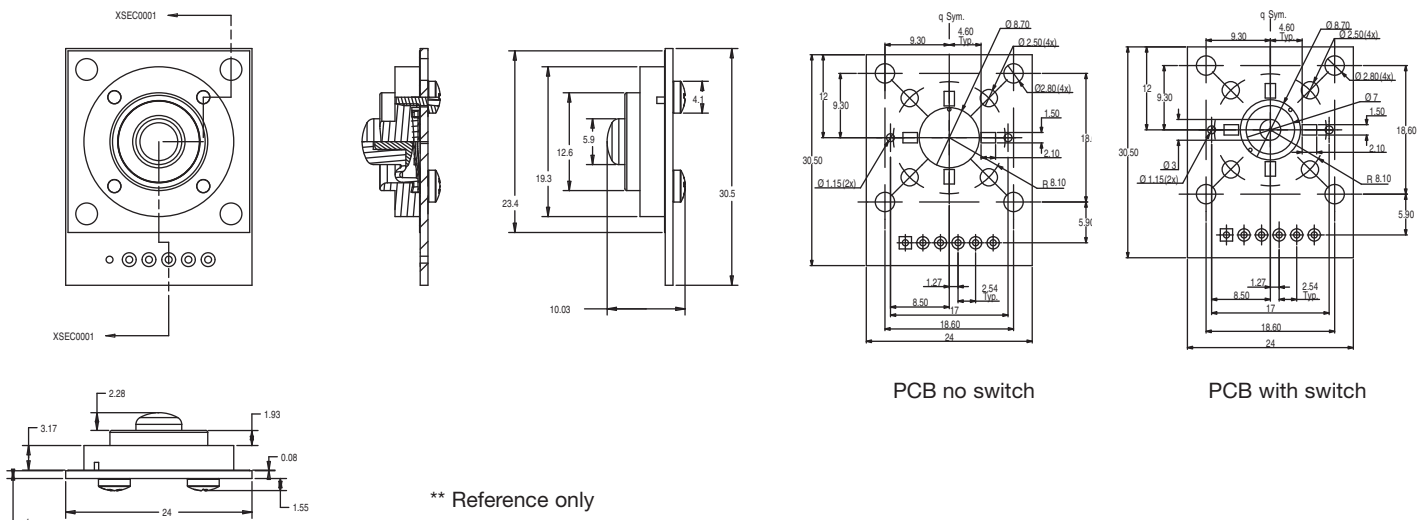
## ENVIRONMENTAL

### Series Values

OPERATING TEMP (deg C): -10 TO 45  
 STORAGE TEMP (deg C): -30 TO 70  
 SHIPPING ALTITUDE (feet): 40,000ft (0.2 atm)  
 RELATIVE HUMIDITY: 0-85%  
 DUST PROTECTION: IP5X  
 CONTAMINATION RESISTANCE: BABY  
 OIL, HAND CREAM: No effect  
 ROBUST CONTAMINANT RESISTANCE; WATER,  
 SUGAR WATER, SALT WATER, COFFEE: IPX4

Specific test reference / method is available upon request

## EGN-J-X-2

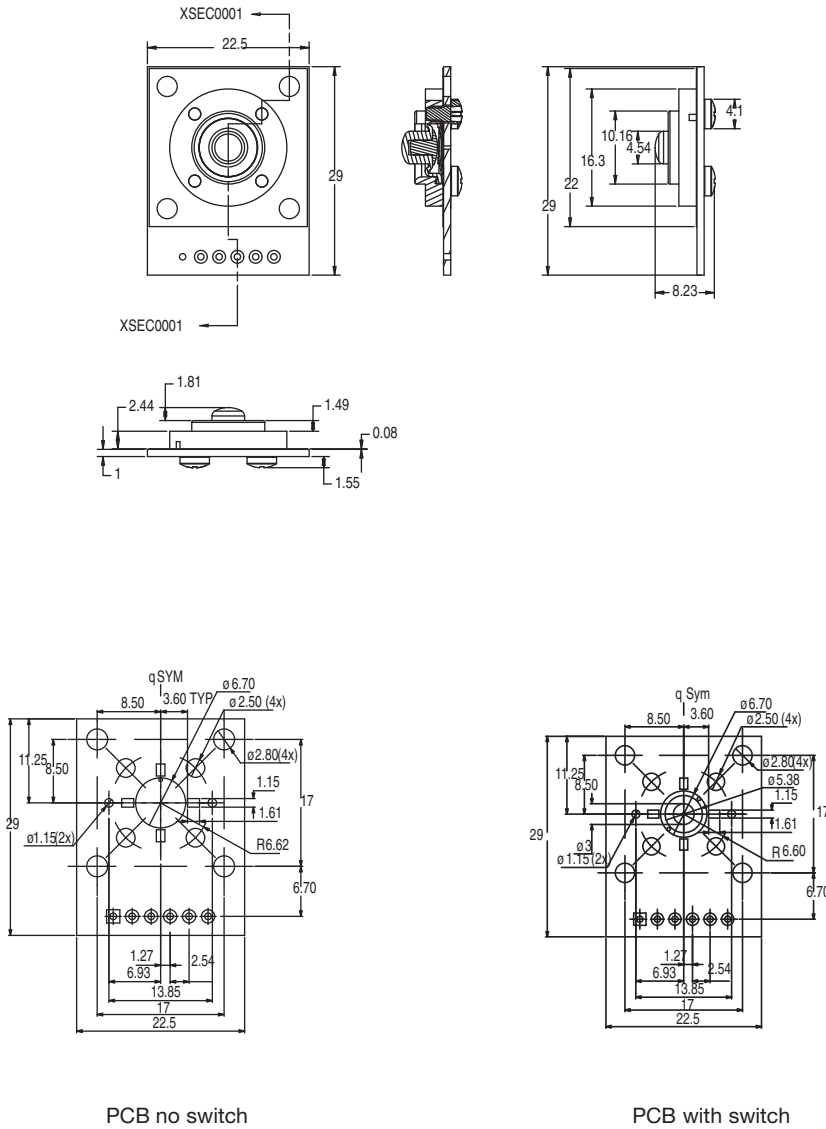


Dimensions are shown: mm (inch)  
 Specifications and dimensions subject to change

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## EGN-J-X-3



\*\* Reference only