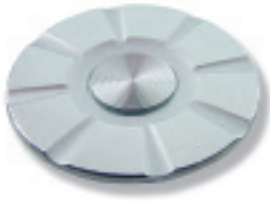


ERGO-NAV EGN-D Series Analog Navigation Disc

NEW!



Features/Benefits

- **Omni-directional analog control**
- **Variable speed (rate and control)**
- **Low profile**
- **Low power (instant wake-up)**
- **Integrated switch (center click)**
- **Force/deflection 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**

Mechanical

OVERALL HEIGHT (mm): < 2
ACTUATOR DIAMETER (mm): 20
NOMINAL PCB AREA REQUIRED (cir. mm²): 615
NOMINAL DEFLECTION TO FIRST CONTACT (mm): 0.25
MAX. DEFLECTION (mm): <0.75
MIN. FORCE TO FIRST CONTACT (g force): < 30
MAX. OPERATIONAL FORCE (g force): 1000
DOME SWITCH ACTUATION FORCE (g force): 300 typ.

Interface/Output

POINTING MODES: Relative or Absolute
ANGULAR DIRECTIONS: 360°
ANGULAR RESOLUTION (deg): 1.8° (8 bit)
RATE STEPS: 32
SNAP TO AXIS: Optional
POSITION SAMPLING RATE: 25-40hz
REPEATABILITY: ±2%

Electrical

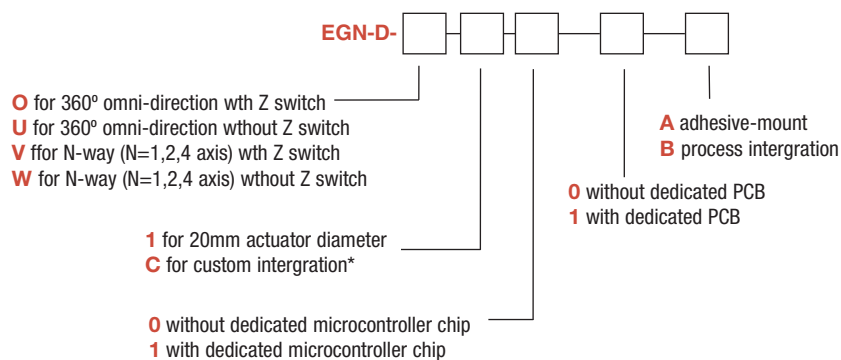
TRANSDUCER RESISTANCE: 600 Ω ± 200 Ω
OUT OF CONTACT RESISTANCE: >10M Ω
REFERENCE RESISTOR VALUE (R): 1,500 Ω ± 5%
DOME SWITCH RESISTANCE: Open>500k Ω
Closed<250 Ω
POWERING VOLTAGES: ≤8 - 12 Vdc
OF A/D INPUTS REQUIRED: One 8 bit ADC
OF GPIO INTERFACE NEEDED: 4
CONTINUOUS USE CURRENT PEAK
TYPICAL/WORST CASE: 1.1mA/1.7 mA
CONTINUOUS USE CURRENT AVERAGE
TYPICAL/WORST CASE: 22μA/34μA
SLEEP POWER CONSUMPTION: 0μW



C

Navigation

How To Order



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

- Nav-disc diameter and actuator height (scalable per the design rules)
- Nav-disc actuator (plastic or silicone; color, surface texture, fashion; process Integration)
- _Nav-disc plastic retainer (integratable to device chassis per the design rules)
- _Nav-disc silicone sensor pill and pad (process integratable to device membrane elements per the design rules)
- Dedicated microcontroller (contains firmware for quick I/O interface, or firmware compiled into device controller)

ERGO-NAV EGN-D Series Analog Navigation Disc

RELIABILITY

Operating life

LIFE CYCLING: >3,000,000
ACCELERATED USE CYCLING: >28,000
DOME SWWITCH OPERATING LIFE, (cycles): >500,000

Mechanical Stress

MAXIMUM SINGLE VERTICAL FORCE (grams) : >5,000
MAXIMUM REPEAT VERTICAL FORCE (grams): >2,000
VIBRATION: Pass
DROP TEST: IPXX5

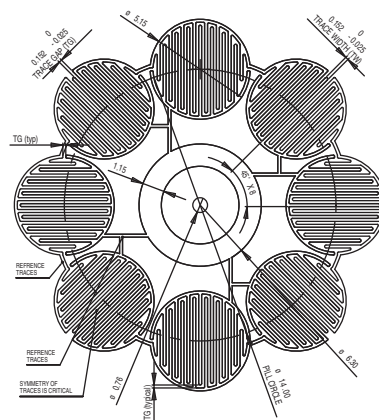
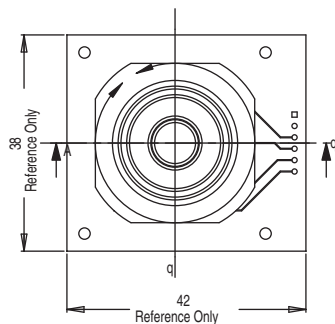
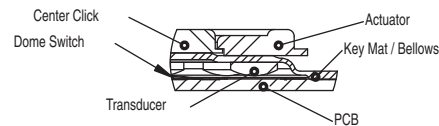
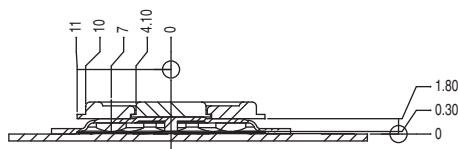
Environmental

OPERATING TEMP (deg C) : -10 to 55
STORAGE TEMP (deg C): -40 to 85
SHIPPING ALTITUDE (feet/m): 40,000/12,200
OPERATING HUMIDITY (%RH): 5<>98

Contamination/Ingress protection

DUST PROTECTION: IP5XX
CONTAMINATION RESISTANCE: HUMAN SKIN
OILS, HAND CREAM: no effect
ROBUST CONTAMINANT RESISTANCE; WATER, SUGAR
WATER, SALT WATER, COFFEE, COLA,
GASOLINE: IPX4X
EMI/EMC/RFI: N/A
ESD RATING: Pass

Specific test reference / method is available upon request



Note: Trace pattern must retain a flatness to within 0.10 mm across 8 span of the pill circle. See included FEA for more information.