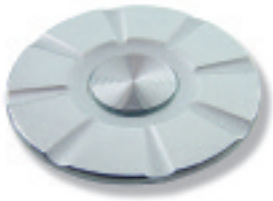


ERGO-NAV EGN-D Series Analog Navigation Disc

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%

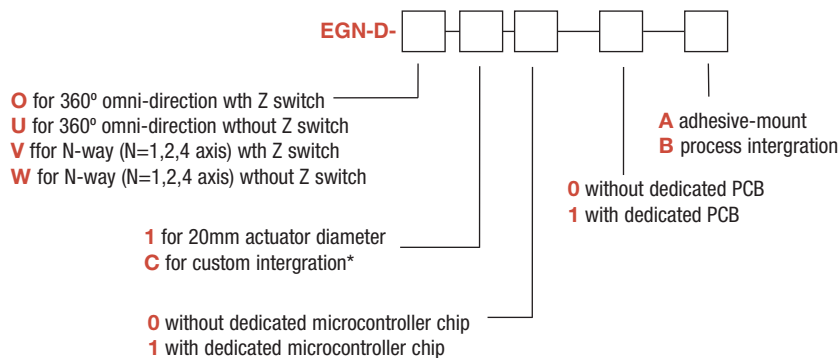
Electrical

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



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)



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

ERGO-NAV EGN-D Series Analog Navigation Disc

RELIABILITY

Operating life

LIFE CYCLING: >3,000,000
 ACCELERATED USE CYCLING: >28,000
 DOME SWITCH 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

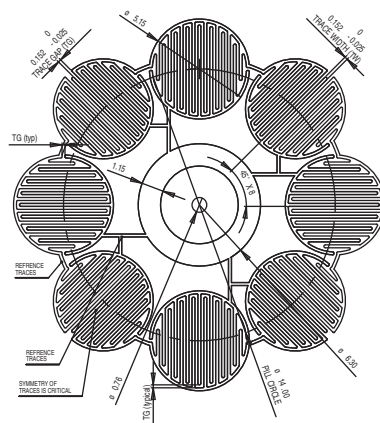
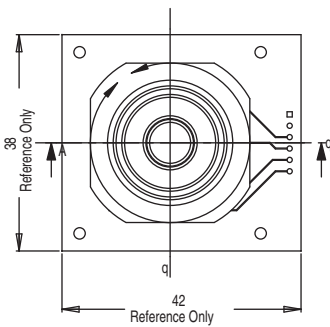
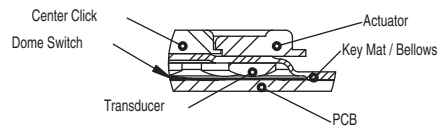
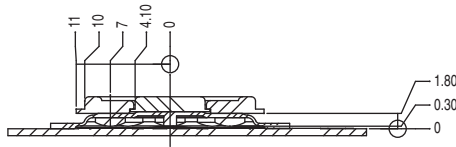
Contamination/Ingress protection

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



Navigation



Note: Trace pattern must remain as flatness to within 0.10 mm across the span of the pad circle. See included PFA for more information.



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