

# Trackball Miniature All-direction Scanning Switch

## Features/Benefits

- 8 mm ball ergonomic design allows ease of use in all directions
- Positive tactile feedback
- Integrated lighting (up to 2 LEDs)
- Extensive lighting color choice
- Customized number of pulses per rotation
- ESD protected
- RoHS compliant
- IP54

## Typical Applications

- Mobile phones
- Remote controls
- Navigation systems
- Keyboards, notebooks, PC mouse
- Cameras, camcorders
- PDA's
- Game controllers

NEW!



## Construction

FUNCTION: All-direction scanning + select  
CONTACT TYPE: Normally open  
TERMINALS: Flex with 11 terminals

## Mechanical

SCANNING  
ROTATING FORCE:  $0.35 \text{ N} \pm 0.1 \text{ N}$   
SELECT  
SELECTING FORCE:  $2.2 \text{ N} \pm 25\%$   
TACTILE FEELING:  $\geq 30\%$   
ELECTRICAL TRAVEL (Te):  $0.24 \text{ mm} \pm 0.05 \text{ mm}$   
SIMULTANEITY (Tm - Te):  $\leq 0.12 \text{ mm}$   
TOTAL TRAVEL:  $0.33 \text{ mm} \pm 0.05 \text{ mm}$

## Physical Data

DIMENSIONS & LAYOUT: According to drawing on next page  
MASS:  $1.2 \text{ g} \pm 0.1 \text{ g}$

**NOTE:** For the latest information regarding RoHS compliance, please go to: [www.itccannon.com/rohs](http://www.itccannon.com/rohs).

**Note:** Specifications listed above are for switches with standard options.  
For information concerning design integration, please contact your local ITT representative.

## Electrical (select function)

MAXIMUM POWER:  $0.20 \text{ VA}$   
MIN./MAX. VOLTAGE.:  $20 \text{ mVdc} - 32 \text{ Vdc}$   
MIN./MAX. CURRENT:  $1.0 \text{ mA} - 50 \text{ mA}$   
DIELECTRIC STRENGTH:  $> 200 \text{ Vrms}$   
CONTACT RESISTANCE:  $< 1000 \text{ m}\Omega$   
BOUNCE TIME:  $\leq 3 \text{ ms}$   
CAPACITY:  $\leq 5 \text{ pF}$

## Environmental

OPERATING TEMPERATURE:  $-30^\circ\text{C}$  to  $+85^\circ\text{C}$   
RELATIVE HUMIDITY: 90 to 95% HR  
According to NF EN 60068-2-30  
SCANNING OPERATING LIFE: 300,000 cycles in each 4 main directions  
SELECT OPERATING LIFE:  $\geq 500,000$  cycles  
VIBRATIONS: 10 to 500Hz - 5G - 23 min. per axis  
MECHANICAL SHOCKS: According to NF EN 60068-2-27  
OVERLOAD: 20 N

## Additional Data: Storage and handling environment

PACKAGING CONDITIONS: Standard ITT trays  
TRANSPORT CONDITIONS: According to specification NF H00-060  
STORAGE TEMPERATURE:  $-30^\circ\text{C}$  to  $+85^\circ\text{C}$   
SHEAR TEST (SWITCH/PCB): N/A

## How To Order

To order, simply select desired option from each category and place in the appropriate box. For additional options not shown in catalog, consult our Customer Service Center.

COMMON (has to be the same for both LEDs)	Code	Status
Anode	0	No Led
	1	Green
	2	Orange
	3	Blue
Cathode	4	Red
	O	No Led
	G	Green
	A	Orange
	B	Blue
	R	Red

**Designation**  
TB

**Color of Ball**  
W White

**Pulse Number**  
B 12

**Dome Force**  
2  $2.2 \text{ N} \pm 25\%$

**Flex**  
A

**2nd LED**

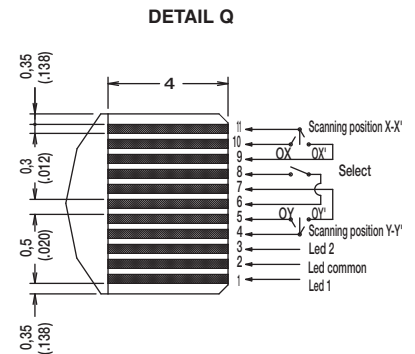
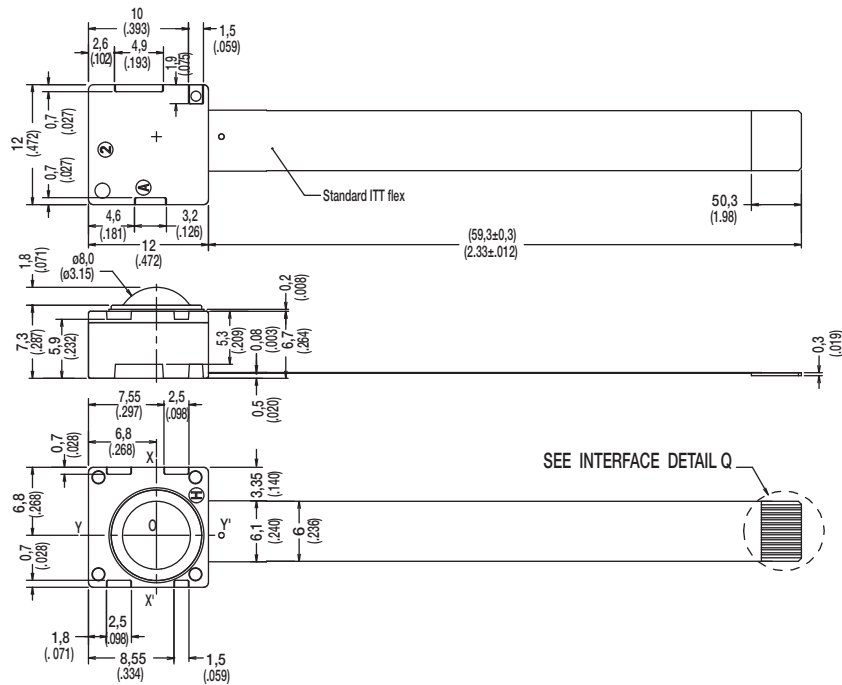
**1st LED**  
For each LED, once the common wiring is defined (Cathode or Anode).



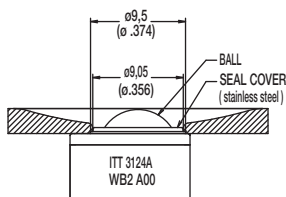
Navigation

# Trackball

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### INTEGRATION EXAMPLE



Each piece is date code printed:

1st Line: 3124A = 3 is Year, 124 is day in the year,

A is shift identification

2nd Line: WB2 A00 = Reference of the product.