

Ring Sensor Data Sheet

Rotary Membrane Potentiometer

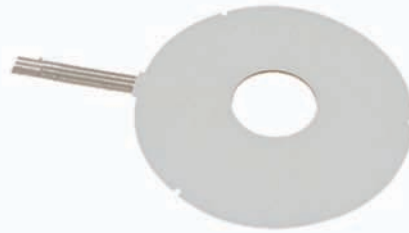
Features and Benefits

- Rugged design - Over 1M touch activations over entire sensor area with no degradation observed.
- Measures position along a circular path
- Easy to integrate

Description

The Ring Sensor is Interlink's solution for capturing position in compact applications. The sensor's tough, moisture resistant surface can be used with a finger, stylus, or glove; even in harsh environments.

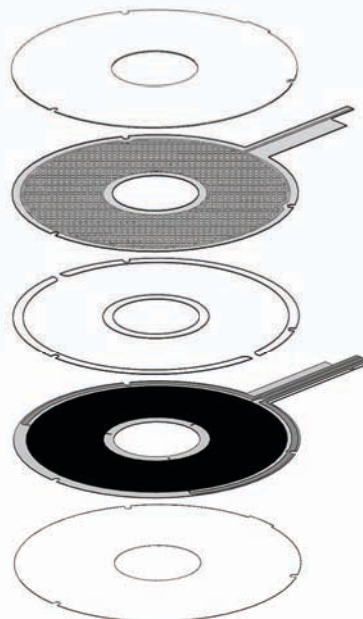
The Ring Sensor simplifies input design, saves critical room, and helps save battery life. A battery operated demo is available. Call us or visit our website for more information.



Sensor Construction

Ring Sensor (Rotary Membrane Potentiometer) is constructed of several layers:

- A protective graphic layer with adhesive
- A top conductive mesh sense layer
- A membrane switch spacer layer
- A bottom adhesive layer



P/N: PDS-10017-A

Device Characteristics

Actuation Force	0.2N
Position Resolution	Continuous (analog)
Non-Actuated Resistance	>10MΩ
Long Term Drift	No measureable change
Operating Temperature	Sensor is functional before, during, and after the following conditions”
Cold	-20°C for 48 hours
Hot	50°C for 48 hours
Hot Humid	50°C 85%RH for 48 hours
Hot Extended	70°C 85%RH for 48 hours
Storage Temperature	Sensor is functional before and after the following conditions:
Cold	-35°C for 4 hours
Hot	85°C for 4 hours
Hot Humid	85°C 95%RH for 4 hours
Tap Durability	Functional after 2M taps of 500g
Cycle Test	Functional after 1M strokes at 245g
Standing Load Durability	Functional after 24 hours of 50N loading
Chemical Resistance	Graphic layer surface resistant to most common cleaners and spills for 24 hours. These include: water, soap, bleach, alcohol, ammonia NH ₄ OH based window cleaner, acetic acid, CH ₃ COOH based cleaner, cola, coffee with sugar and creamer.
Linearity	Measureable to +/-3° of touch position
EMI	Generates no EMI
ESD	Not ESD sensitive
UL	All materials UL grade 94 V-1 or better
RoHS	Compliant

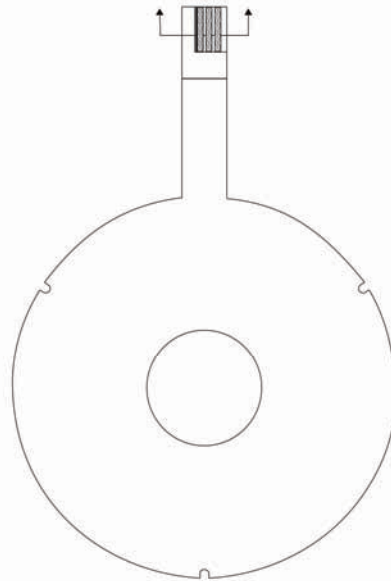
Rotary Membrane Potentiometer

Connector Information

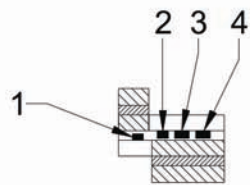
Recommended tail connector:
JST 4-pin SMT connector
(JST PN# 04FM-1.0SP-1.9TF),
or equivalent.

Application Information

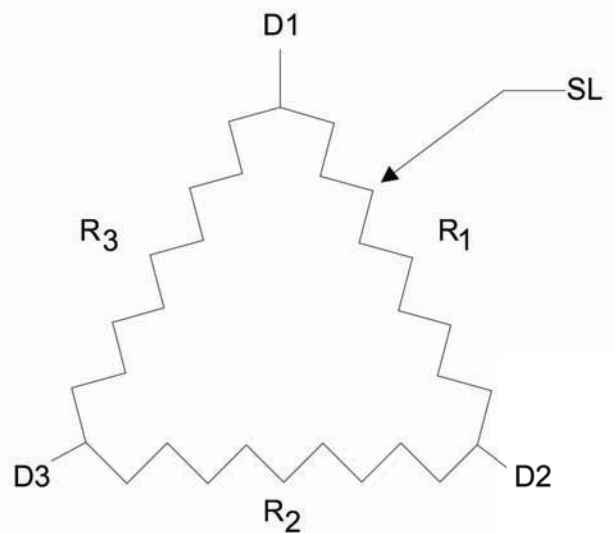
The Interlink Electronics Ring Sensor can measure position along the circular sensor path. The connection to the measuring microprocessor is very simple and requires only a few external components. For a detailed explanation on how to connect and program the Ring Sensor, see the Ring Sensor Integration Guide.



PINOUT	
PIN #	REF
1	SENSE LINE (SL)
2	DRIVE LINE 1 (D1)
3	DRIVE LINE 2 (D2)
4	DRIVE LINE 3 (D3)



PIN-OUT



Rotary Membrane Potentiometer

Orderable Part Numbers

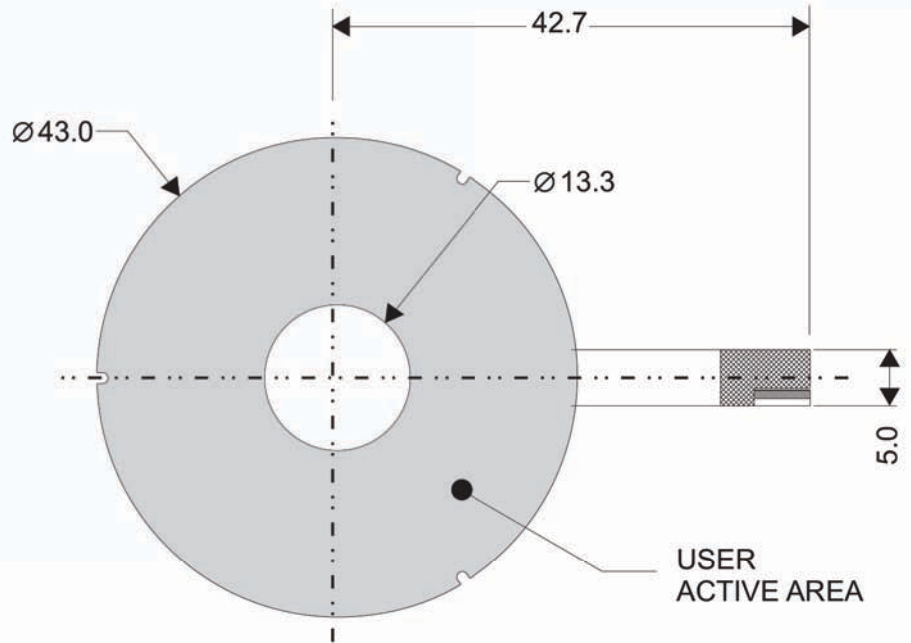
Hardware Development Kit, 54-00024

This Hardware Development Kit includes:

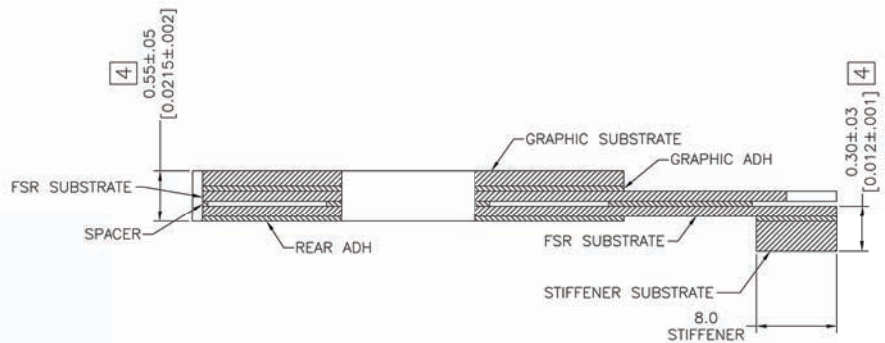
- Ring Sensor Demo Board (Qty. 1)
- Ring Sensor (Qty. 10)
- 4-Pin Connector (Qty. 5)
- USB Flash drive with product literature (Qty. 1)

Ring Sensor, 40-24131

Sensor Mechanical Data



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