



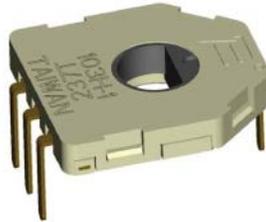
# Featured Products Bulletin

## ROTARY POSITION SENSORS

### Bourns® Resistive Products Division

Riverside, California - June 8, 2009 - Bourns® Trimpot® Product Line is pleased to announce additions to the [3382 rotary position sensor](#) model. The 3382, initially released in July 2008, has been a popular new model for Bourns and has garnered a good deal of customer interest.

The 3382 will now be available with a through-hole option (H pin style). The original was only available as a surface mount device.



We have also increased the standard rotor slot offering to accommodate 4 mm (-1) and 3.5 mm (-2) diameter D-shafts.



And last but not least, we have increased the number of available resistance values from one to six; ranging from 2.5K ohms to 100K ohms. These additional resistances give engineers the freedom and flexibility to design various components into their circuits without limiting their choices to 10K ohms, which is the only value currently available in the marketplace.

**Standard Resistance Table**

Resistance (Ohms)	Resistance Code
2,500	252
5,000	502
10,000	103
25,000	253
50,000	503
100,000	104

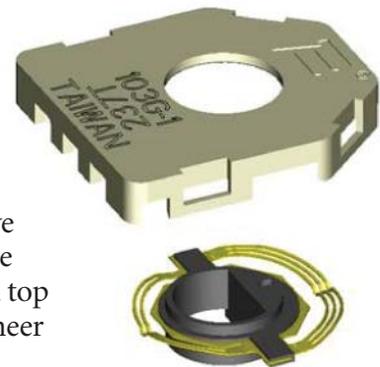
Backed by Bourns' commitment to quality, reliability, and value, Bourns® Rotary Position Sensors deliver high quality and reliability at competitive prices. With its 2.1 mm slim profile, Model 3382 is well suited for applications with space constraints and has the following features:

- D-slot rotor
- Electrical Angle: 330 °
- Independent Linearity:  $\pm 2$  %
- Low profile
- 1,000,000 rotational cycles
- Lead free board process compatible\*
- Various resistance values
- Surface mount design
- Embossed tape carrier packaging (G style)
- Tube packaging (H style)

\*Refer to Bourns recommendations for soldering and cleaning processes in the Library of the Bourns website.

### Internal Components

The rotary position sensor is composed of three key parts: housing, rotor assembly, and the resistive element as shown in Figure 1. The molded housing acts as a dust cover meeting IP40 requirements. The rotor assembly is built with a direct-drive mechanism that consists of the rotor and wiper. The wiper is mechanically driven by rotation of the shaft. The D-slot rotor is designed to provide an anti-slip feature, providing positive mechanical engagement of the shaft. The resistive element utilizes conductive polymer thick film technology to reduce wear and achieve high cycle life. The terminal pads are part of the resistive element assembly where the center and top terminals are both connected to the wiper. This feature gives the design engineer greater flexibility when laying out the circuit board.



### Electromechanical Function

As a rotary position sensor, there is a direct correlation between the shaft position and the output signal. The output voltage changes proportionally to the angle of rotation.

### Board Processing

Model 3382 is RoHS compliant\* and compatible with RoHS board soldering profiles. Visit the [Bourns library](#) for additional information regarding soldering profiles and cleaning processes.

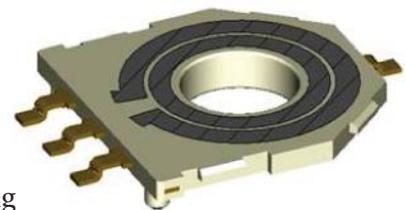


Figure 1:  
Exploded View of Model 3382

### Markets

Bourns® Rotary Position Sensors are suitable for various applications in a wide variety of markets including general electronics, robotics and white goods.

#### General Electronics:

- Portable electronic equipment
- Digital cameras
- Industrial equipment and controls
- Volume control on audio equipment
- Onboard control panel
- Operating mode adjustment

\*RoHS Directive 2002/95/EC Jan.27, 2003 including Annex.

*Robotics:*

- Detection of robot joint angles
- Joystick controllers
- Motor wheelchair
- Motion controllers
- Automation systems for motion and control functions

*White Goods:*

- Mechanical compartment systems for home appliances
- Kitchen clapboard opening systems
- Dishwasher control systems
- Detection of air conditioner damper angles
- Washer and dryer control systems
- In-wall temperature control systems
- Motherboard control for heating systems

**Technical Support**

For technical support, please feel free to contact any of our Bourns Sales Representatives in your area, or customer service as follows:

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