

## Full 360° Smart Sensor (Hall Effect Technology)



### FEATURES

- Absolute ratiometric output over 360° range with no dead band
- Self-contained package not requiring external electronic interface
- Contactless technology
- Reverse polarity protection
- Non volatile positioning output
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

### QUICK REFERENCE DATA

|                  |                                     |
|------------------|-------------------------------------|
| Sensor type      | ROTATIONAL, single turn hall effect |
| Output type      | Output by pins (connector)          |
| Market appliance | Industrial                          |
| Dimensions       | 33 mm x 44 mm x 20 mm               |

The model 601-HE represents a new generation of smart sensors in contactless technology based on the hall effect principle. This unique electronic device is a self-contained package which provides an analog electrical output over a full 360° without the need of external electronics. The low power consumption and non-volatile output makes this universal sensor the real cost-effective alternative to encoders.

### STANDARD ELECTRICAL SPECIFICATIONS

| PARAMETER               |   |
|-------------------------|---|
| Supply                  | 4.5 V <sub>DC</sub> to 5.5 V <sub>DC</sub>                            |
| Supply current          | 16 mA max.  |
| Over voltage protection | 10 V  |
| Independent linearity   | ± 1 %   |
| Electrical track        | 360° continuous   |
| Analog voltage output   | 5 % to 95 % of supply (ratiometric) CW or CCW see graphs on next page |
| Output ramp slope       | Electrically switchable - see graphs                                  |
| Temperature coefficient | V <sub>out</sub> /ΔT 125 μV/°C typ.                                   |
| Hysteresis static       | 0.8° max.   |

### MECHANICAL SPECIFICATIONS

|                         |                       |
|-------------------------|-----------------------|
| Rotation                | 360° continuous       |
| Rotational speed (max.) | 120 RPM               |
| Operating torque max.   | 0.25 oz.-in (18 g-cm) |
| Weight                  | 30 g                  |

### ENVIRONMENTAL SPECIFICATIONS

|                             |                    |
|-----------------------------|--------------------|
| Operating life              | 5 000 000 Cycles   |
| Operating temperature range | - 45 °C to + 85 °C |
| Storage temperature range   | - 45 °C to + 85 °C |
| Sealing                     | IP54               |

### ORDERING INFORMATION/DESCRIPTION

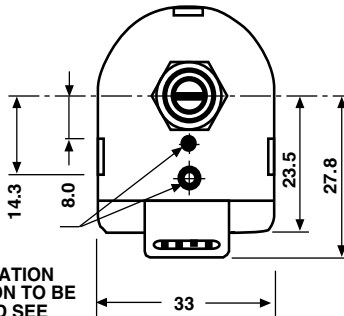
| 601 HE | 0000               | BO1            | e4          |
|--------|--------------------|----------------|-------------|
| MODEL  | CONFIGURATION CODE | PACKAGING      | LEAD FINISH |
|        |                    | Box of 1 piece |             |
|        | Product Number     |                |             |
|        | Ø 1.57 PIN         |                |             |
|        | Ø 3.18 PIN         |                |             |
|        | 0000               |                | Yes         |
|        | 0001               |                | Yes         |
|        | 0002               |                | -           |
|        | 0003               |                | Yes         |
|        |                    |                | -           |

### SAP PART NUMBERING GUIDELINES

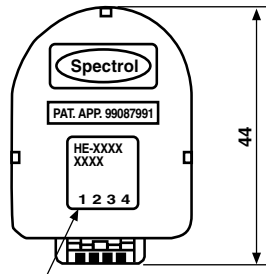
| 601 HE | 0001              | B01       |
|--------|-------------------|-----------|
| MODEL  | PIN CONFIGURATION | PACKAGING |



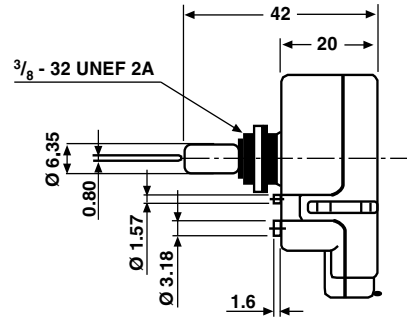
**DIMENSIONS** in millimeters



ANTI-ROTATION PIN OPTION TO BE SPECIFIED SEE ORDERING INFORMATION



PRODUCT NO. DATE CODE AND TERMINAL I.D. LABEL

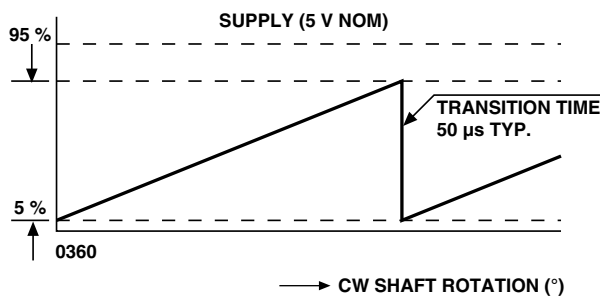


| PIN CONNECTIONS | FUNCTION  |
|-----------------|---|
| 1 + 5 V         | Supply  |
| 2 0 V           |   |
| 3 Output        | O/P voltage   |
| 4 Direction     | Connected to 0 V: CCW<br>Open circuit or connected to 5 V: CW |

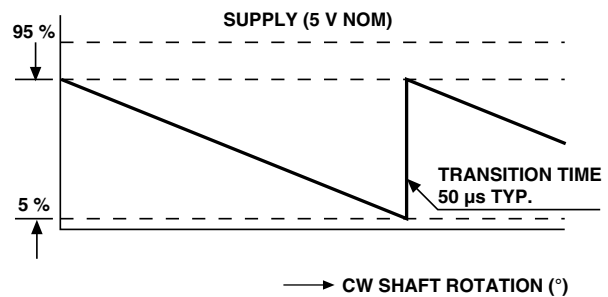
| MATERIAL SPECIFICATIONS                            |   |
|--|---|
| Housing  | Plastic   |
| Bushing  | Brass, nickel plated  |
| Shaft  | Stainless steel   |
| Pin terminal connector                             | Gold plated   |
| Output connection                                  | Pin header to suit IDC connectors. e.g. Panduit C100 - F22 and Molex 7880 |
| Bushing mount hardware lock washer, internal tooth | Steel, nickel plated  |
| Panel nut  | Brass, nickel plated  |



| CABLE ASSEMBLY FOR CONNECTION |                       |
|-------------------------------|-----------------------|
| Part number                   | 601-1056-0000         |
| Description                   | Molex KK              |
|                               | 4-way crimp connector |
|                               | 4 wire (250 mm)       |



MODEL: 601 HE when pin 4 connected to 5 V or open circuit



MODEL: 601 HE when pin 4 connected to 0 V



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