

# Rotary Position Sensor

PHS11 Series

**OBSOLETE**  
use PHS11R



## Features:

- Dust proof construction protects the interior from dust, which maintains stable characteristics
- Excellent resistance materials and high reliability wiper achieves 1,500,000 cycles
- Ultra-thin size (2.2mm height)



## Description:

The PHS11 series is a rotary position sensor that features dust proof construction, an ultra thin size, and a life cycle of 1,500,000 cycles. Some applications are HVAC sensors and motor drive units.

## Applications:

- Rotary angle sensor
- Electric motor-driven bicycle
- Motor drive unit
- HVAC sensor

| Electrical Characteristics ( $T_A = 25^\circ \text{C}$ unless otherwise noted) |                                                               |     |            |         |                       |                 |
|--------------------------------------------------------------------------------|---------------------------------------------------------------|-----|------------|---------|-----------------------|-----------------|
| SYMBOL                                                                         | PARAMETER                                                     | MIN | TYP        | MAX     | UNITS                 | TEST CONDITIONS |
| $\Omega$                                                                       | Resistance                                                    | 1K  |            | 100K    | Ohms                  |                 |
|                                                                                | Total resistance tolerance                                    |     | $\pm 20\%$ |         |                       |                 |
|                                                                                | Power rating                                                  |     |            | 0.1W    |                       |                 |
|                                                                                | Linearity (electrical angle $< 180^\circ$ )                   |     | $\pm 5$    |         | %                     |                 |
|                                                                                | Linearity ( $180^\circ \leq$ electrical angle $< 300^\circ$ ) |     | $\pm 3$    |         | %                     |                 |
|                                                                                | Linearity (electrical angle $\geq 300^\circ$ )                |     | $\pm 2$    |         | %                     |                 |
|                                                                                | Rotational noise                                              |     |            | $< 80$  | mV                    |                 |
|                                                                                | Effective Electrical Angle                                    |     | 333        | $\pm 3$ | Degrees               |                 |
|                                                                                | TCR                                                           |     | $\pm 500$  |         | ppm/ $^\circ\text{C}$ |                 |

## General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

# Rotary Position Sensor

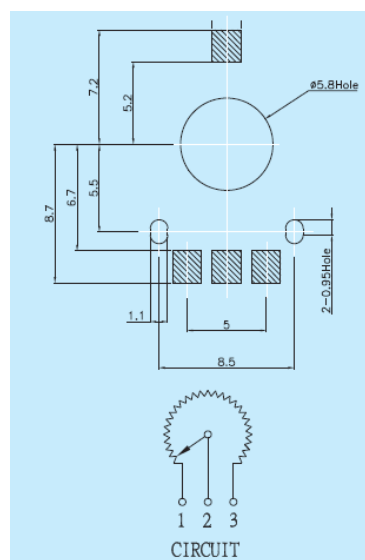
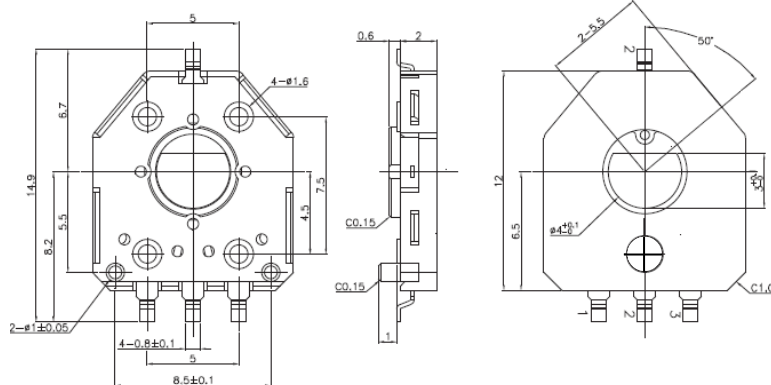
PHS11 Series

**OBSOLETE**



| Mechanical Characteristics |                                                             |
|----------------------------|-------------------------------------------------------------|
| Rotational Angle           | 360°                                                        |
| Rotational torque          | 0-30gf-cm                                                   |
| Shaft push/pull strength   | > 1.0kgf for 10 sec min                                     |
| Storage Temperature        | -40°C to +120°C                                             |
| Operating Temperature      | -40°C to +120°C                                             |
| Life Cycles                | 1,500,000 cycles min                                        |
| Dry Heat                   | 120 ± 3°C, 250 ± 8H<br>ΔTR ± 20%, Linearity: ±2%            |
| Cold                       | -40 ± 3°C, 168 ± 4H<br>ΔTR ± 20%, Linearity: ±2%            |
| Humidity                   | 60 ± 2°C, 90 to 95RH, 250 ± 8H<br>ΔTR ± 20%, Linearity: ±2% |
| Temperature Cycles         | -40°C to +120°C, 5 cycles<br>ΔTR ± 20%, Linearity: ±2%      |

## Packaging



### General Note

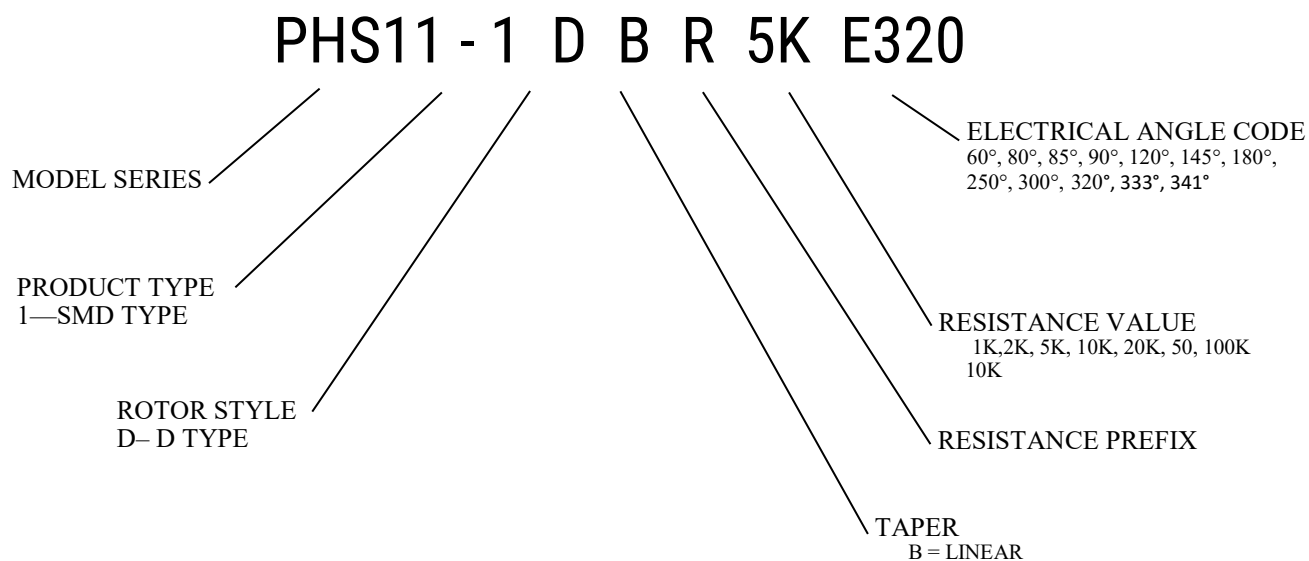
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### ORDERING INFORMATION



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