

PRODUCT SERIES RP24	PRODUCT TITLE ROTARY SENSOR	SPECIFICATION NO. RP24-SPEC-001
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1 General information

1.1 Working temperature: $-30^{\circ}\text{C} \sim 85^{\circ}\text{C}$

1.2 Storage temperature: $-40^{\circ}\text{C} \sim 125^{\circ}\text{C}$

1.3 Test Conditions:

1.3.1 Unless otherwise specified, the standard range of atmospheric conditions for making measurements and tests is as follows:

Temperature: $5 \sim 35^{\circ}\text{C}$

Relative humidity: $45\% \sim 85\%\text{RH}$

Air pressure: $86 \sim 106\text{Kpa}$

1.3.2 If there are any doubtful points in judgment or reproductively is needed, the test conditions shall be in accordance as below.

Temperature: $5 \sim 35^{\circ}\text{C}$

Relative humidity: $45\% \sim 85\%\text{RH}$

Air pressure: $86 \sim 106\text{Kpa}$

2 Appearance and Dimension

2.1 Appearance : No damages in the visual inspection, such as deformation and breaks.

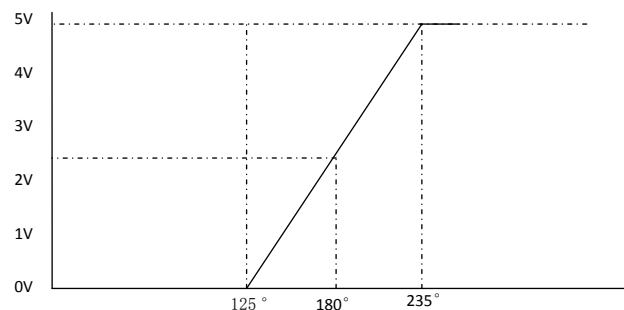
2.2 Dimension: Please view product drawing.

3 Electrical characteristics

3.1 Rated voltage: $\text{DC}5\text{V} \pm 0.5\text{V}$

3.2 Total resistance: $5\text{K}\Omega \pm 20\%$

3.3 Resistance taper: Linearity



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3.4 Effective electrical angles: $110^{\circ} \pm 3^{\circ}$

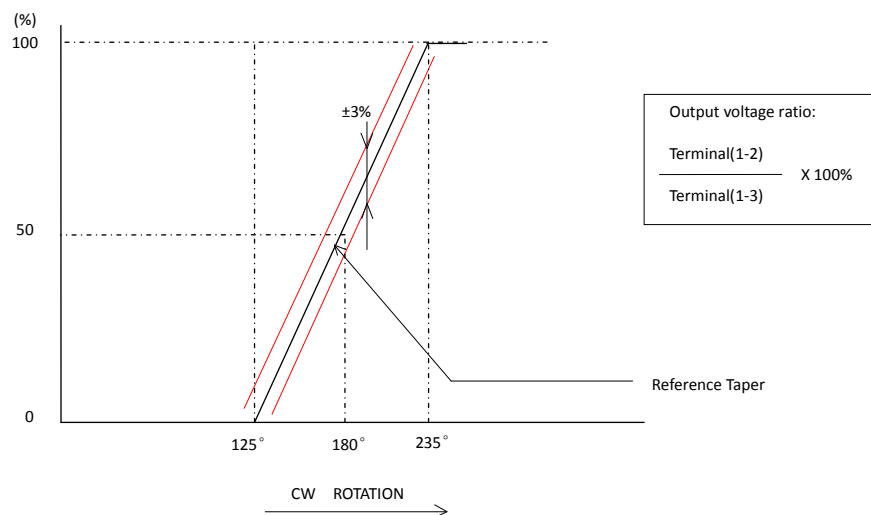
3.5 Power rating: 0.125W

3.6 Rotational noise: 200mv in initial, 500mv after 2,000K cycles life test

3.7 Insulation resistance: 100MQ@500VDC

3.9 Linearity: $\pm 3\%$

In the range of effective electrical angles. The output deflection of the way is shown by the percentage in assumption of considering the rated voltage applied between terminals 1~3 to be 100%



4 Mechanical characteristics

4.1 Operation torque: 0.3N • cm Max.

4.2 Stop strength: 10kgf • cm Min.

4.3 Shaft strength(push & pull): 13kgf

4.3 Mechanical Angles: 300°

4.4 IP Rating: IP65

5 Durability

After test, the product shall meet the initial specifications unless otherwise specified.

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5.1 Rotational life test:

SPEC: Total resistance value change lower than $\pm 10\%$ Max. after 2,000K life cycles. (1 cycle: Rotate the shaft from the end of CCW to the end of CW, then return to the end of CCW).

Test Condition as below:

5.1.1 Test expose temperature: Room temperature.

5.1.2 Test angles: between 125° to 235° .

5.1.3 Test speed: 2000 cycles /H.

5.1.4 Test cycle: 2,000K cycles.

5.1.5 No load test.

5.2 Dry heat test:

SPEC: Resistance value change within $\pm 10\%$, electrical & mechanical functions meet specs

Test Condition: 96hours at $125 \pm 2^{\circ}\text{C}$ and air dry 2hours .

5.3 Cold test:

SPEC: Resistance value change within $\pm 10\%$, electrical & mechanical functions meet specs

Test Condition: 96hours at $-40 \pm 2^{\circ}\text{C}$ and air dry 2hours.

5.4 Humidity test:

SPEC: Resistance value change within $\pm 20\%$, electrical & mechanical functions meet specs

Test Condition: 96hours at $40 \pm 2^{\circ}\text{C}$ & 95%RH and air dry 96hours.

6 Soldering

6.1 Hand soldering: $350^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 3 seconds Max.

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