# Ultra Slimline Rotary Encoder with Push Switch 

 <br> \section*{Series <br> \section*{Series <br> <br> Outline} <br> <br> Outline}RE29 series pack compact rotary encoder with dual-functional resin shaft into the space-saving resin enclosure. RE29 is recommended for wide range of machines including measurement components, medical and telecommunication devices.

## Features

- Extremely thin (6.6mm) and lightweight (7g)
- Multi-functional with 2 way acting - push switch function and rotating function - shaft
- Eco friendly:

1) Low cost and lesser parts by VA design
2) RoHS compliant

- Designed to be soldered to printed circuit board


## Specifications

| 1. Electrical and Mechanical specifications |  |  |  |
| :---: | :---: | :---: | :---: |
| Items |  |  | Rated Value |
| Rotary Encoder | Number of Pulses |  | 6 PPR |
|  | Number of Clicks |  | 24 Clicks |
|  | Supply Voltage |  | DC3.3V $\pm 5 \% \leqq 20 \mathrm{~mA} 6 \mathrm{~mA}$ TYP |
|  |  |  | DC5V $\pm 5 \% \leqq 10 \mathrm{~mA} 4 \mathrm{~mA}$ TYP |
|  | Output Signals |  | Channel A/B: Square Wave CMOS chip |
|  | Output Voltage | High | $($ Supply Voltage $-2.5 \mathrm{~V}) \leqq$ |
|  |  | Low | $\leqq 0.5 \mathrm{~V}$ |
|  | Response <br> Frequency |  | 100 Hz |
|  | Rotational Torque |  | $4 \pm 2 \mathrm{mN} \cdot \mathrm{m}$ |
| Push switch | Rating of contact |  | $\leqq \mathrm{DC} 12 \mathrm{~V} \quad 0.1 \sim 10 \mathrm{~mA}\binom{\text { Resistance }}{\text { load }}$ |
|  | Travel of switch |  | $0.2 \pm 0.1 \mathrm{~mm}$ |
|  | Operational Force |  | $5 \pm 2 \mathrm{~N}$ |
| Weight |  |  | 7 g |


| 2. Reliability and Environmental Specifications |  |  |
| :---: | :---: | :---: |
| Items |  | Rated Value |
| Durability of operating area | Thrust Push | 100N |
|  | direction Pull | 50N |
|  | Radial | $1 \mathrm{~N} \cdot \mathrm{~m}$ |
| Rotational durability |  | 1 million strokes (No load) |
| Screw Torque |  | Not more than $1 \mathrm{~N} \cdot \mathrm{~m}$ |
| Heat resistance of solder | Solder bit temp.: <br> MAX $350^{\circ} \mathrm{C}$ | Within 3 seconds for each terminal |
| Operating temperature |  | $\begin{gathered} -0^{\circ} \mathrm{C} \sim{ }^{+55^{\circ} \mathrm{C}} \\ 32 \mathrm{~F} \end{gathered}{ }^{3} 31 \mathrm{~F}$ |
| Storage temperature |  | $\begin{array}{r} -40^{\circ} \mathrm{C} \\ -40 \mathrm{~F} \end{array} \sim \begin{gathered} +85^{\circ} \mathrm{C} \\ 185 \mathrm{~F} \end{gathered}$ |

## Output Waveform

1) Turning the shaft clockwise will generate the signal $A$ when the signal $B$ outputs a low voltage (0);
2) Rotating the shaft counter-clockwise will generate the signal $A$ when the signal B outputs a high voltage(1);
3) Either signal A or B switches from $0 \rightarrow 1$ or $1 \rightarrow 0$ for every single click (Quad edge evaluation spec).



## Dimensions (mm)



## Precautions

| Wiring | Use buffering amplifier when extending <br> lead wire over 30cm. |
| :--- | :--- |
| Soldering | Do not put a load on the terminal area <br> during and immediately after soldering. |
| Operation | Do not use flow/reflow soldering <br> machines. |
| Power | Use under specified power voltage and <br> connect properly. |

## Warranty

- 1 year from the date of shipment

