## ELECTRICAL SPECIFICATIONS

| output waveform | Square wave |
| :--- | :--- |
| output signals | $\mathrm{A}, \mathrm{B}$ phase |
| current consumption | 10 mA |
| output phase difference | $\mathrm{T} 1, \mathrm{~T} 3 \geq 3.5 \mathrm{~ms}$ |
| supply voltage | 5 V dc at 10 mA |
| resistance load | 12 V dc at 50 mA |
| output resolution (ppr) | 20 |
| contact resistance | $200 \mathrm{~m} \Omega$ max. (voltage step-down test at $5 \mathrm{~V} \mathrm{dc}, 10 \mathrm{~mA})$ |
| insulation resistance | 300 V dc, $100 \mathrm{M} \Omega$ min. |
| withstand voltage | 300 V ac for 1 minute |

## MECHANICAL SPECIFICATIONS

| max shaft load, axial: | $\geq 8 \mathrm{kgf}$ |
| :--- | :--- |
| rotational torque | $30 \sim 200 \mathrm{gf} \bullet \mathrm{cm}$ |
| detent angle | $18^{\circ} \pm 3^{\circ}(20$ detent points $)$ |
| switch circuit and number of pulses | single pole, single throw |
| push switch operational force | $300 \sim 500 \mathrm{gf} \bullet \mathrm{cm}$ |
| push switch cycle life | 50,000 cycles |
| rotational life | 30,000 cycles |

ENVIRONMENTAL SPECIFICATIONS

| operating temp | $-10^{\circ}$ to $+75^{\circ} \mathrm{C}$ |
| :--- | :--- |
| storage temp | $-20^{\circ}$ to $+85^{\circ} \mathrm{C}$ |
| heat resistance* | $85 \pm 3^{\circ} \mathrm{C}$ for $240 \pm 10$ hours |
| moisture resistance* | $40 \pm 2^{\circ} \mathrm{C}, 90 \sim 95 \% \mathrm{RH}$, for $240 \pm 10$ hours |
| low temperature resistance* | $-40 \pm 3^{\circ} \mathrm{C}$ for $240 \pm 10$ hours |

## OUTPUT PHASE DIFFERENCE

A: A-C
B: B-C


## CHATTERING

Measurements will be made by rotating the shaft at a speed of $360^{\circ} /$ second. Chattering is specified by the signal's passage of time from 3.5 to 1.5 V or from 1.5 to 3.5 V of each switching position (code $\mathrm{OFF} \rightarrow \mathrm{ON}$ or $\mathrm{ON} \rightarrow \mathrm{OFF}$ ).


## MECHANICAL DRAWING



