

# Manual Encoder for CNC Machine Tool (ISMM8060)

Suitable for manual pulse input type such as NC or Milling machinery  
 High reliability, terminal connection type

## 1. ELECTRICAL SPECIFICATIONS

- A). Output wave: Square wave
- B). Output signals: A, B,
- C). Current consumption:  $\leq 100\text{mA}$
- D). Response Frequency: 0~20KHz
- E). Output phase difference: 90°
- F). Supply voltage: DC 5V, DC 5-12V DC 12-24V DC 5-24V
- G). Signal level:  $V_{He85\%V_{cc}}$ ,  $V_{Ld0.3V}$
- H). Number of pulses: 100 (Other number of pulse available on request)
- I). Output circuit: Open collector NPN, Push pull, Line driver, Voltage

## 2. MECHANICAL SPECIFICATIONS

- A). Signal position: 4 kind
- B). Speed without sealing: 500rpm
- C). Starting torque without sealing:  $2.0 \times 10^{-2} \sim 6.0 \times 10^{-2}\text{Nm}$  (+25°C)
- D). Shock resistance: 980m/s<sup>2</sup>, 6ms, 2 times each on XYZ
- E). Vibration proof: 50m/s<sup>2</sup>, 10~200Hz, 2 hours each on XYZ
- F). Working life: MTBF $\geq 10000\text{h}$  (+25°C, 2000rpm)
- G). Weight: Appraisal 270g

## 3. ENVIRONMENTAL SPECIFICATIONS

- A). Working humidity: 30~85% (No condensation)
- B). Storage temperature: -30°C~85°C
- C). Working temperature: -10°C~70°C
- D). Protection class: IP54

### \* Wiring Table:

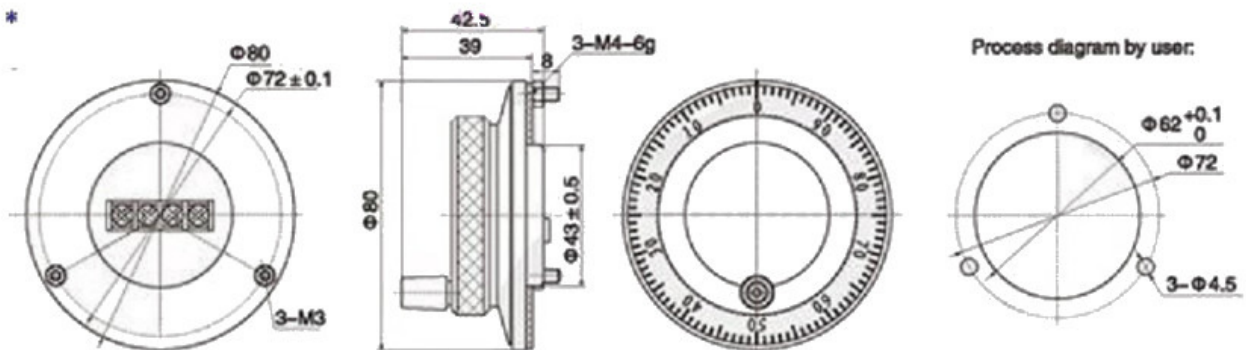
| Code                 | 1   | 2  | 3     | 4     | 5     | 6     |
|----------------------|-----|----|-------|-------|-------|-------|
| Line driver output   | +5V | 0V | SIG A | SIG A | SIG B | SIG B |
| Other Output circuit | +5V | 0V | SIG A | SIG B | -     | -     |

### \* Ordering code

| Series  | Sequence Number | Number of Pulses | Output Signals | Supply Voltage | Output Circuit |
|---------|-----------------|------------------|----------------|----------------|----------------|
| ISM8060 | 002             | 100              | B              | 24             | C              |

Series: ISM8060, Number of pulses: 100 p/r, Output signals: AB, Supply voltage: 24V DC, Output circuit: Open collector NPN,  
 Record: ISM8060-002-100B-24C

\*



## Technical parameters:

|                         |  |
|-------------------------|--|
| Electrical parameters   | Square wave  |
| Output waveform         | A, B two-phase   |
| Current consumption     | $\leq 100\text{mA}$  |
| Response frequency      | $0 \sim 20\text{KHz}$                                      |
| Contained air ratio     | $0.5T \pm 0.1T$  |
| Phase                   | $90^\circ \pm 45^\circ$                                    |
| Supply voltage          | DC 5V, DC 5-12V DC 12-24V DC 5-24V                         |
| Output voltage          | High $V_H \geq 85\% V_{CC}$ , low $V_L \leq 0.3V$          |
| Pulses                  | 25 100 p / r   |
| Circuit characteristics | C-open collector, F-complementary, E-voltage, L-long drive |

## Mechanical parameters

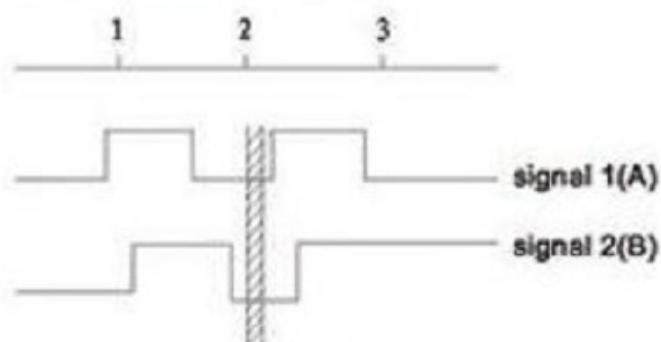
|                  |   |
|------------------|---|
| Position signal  | 4   |
| Maximum speed    | 500rpm  |
| Starting torque  | $1 \times 10^{-2} \text{ Nm}$ (+25 °C)                    |
| Axis of max load | Radial 20N; axial 10N                                     |
| Impact           | $980/\text{S}^2$ , 6ms, XYZ 2 times each direction        |
| Anti-vibration   | $50\text{m}/\text{S}^2$ , 10-200HZ, XYZ each direction 2h |
| Working life     | MTBF $\geq 10000\text{h}$ (+25 °C, 2000rpm)               |
| Weight           | about 0.27kg  |

## Environmental parameters :

|                       |                            |
|-----------------------|----------------------------|
| Operating temperature | 30-85% non-condensing      |
| Storage temperature   | -30 °C ~ 85 °C             |
| Operating temperature | -10 °C ~ 70 °C             |
| Protective            | Waterproof, oil, dust IP50 |

### \* Output waveform

90° Output phase difference, CW rotation  
(CW rotation as seen from fit surface)



A leads B clockwise when viewing the encoder shaft end.  
Click-stop position falls within hatched area.