

# HALL EFFECT ENCODER SWITCH

## BTME14 SERIES

### 14mm hall effect encoder switch

NEW



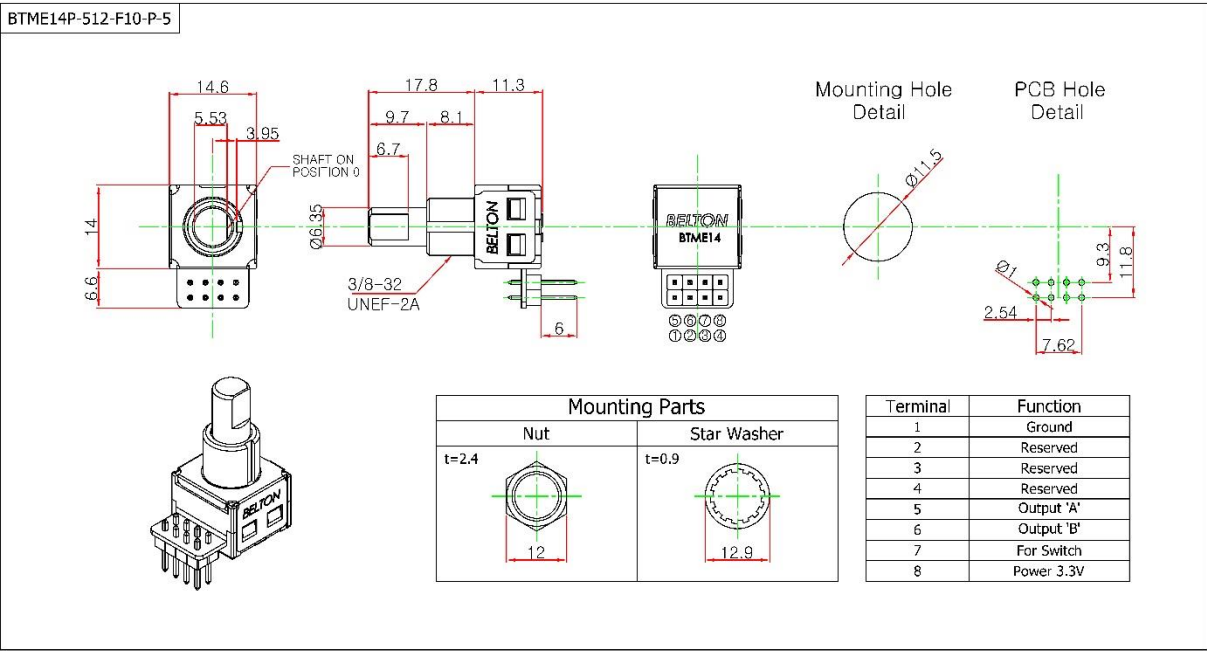
#### Features

- Plastic housing with Metal shaft
- 14 X 14 Economical Size
- Quadrature output, 12-bit resolution max.
- Debris resistant Hall effect sensor technology
- Over 1 million rotational cycles
- Push function included

#### Applications

- All kinds of level control, tuning and position setting in the digitalized medical, measuring, radio, and communication equipment.
- Test & Measurement equipment
- Audio / Visual equipment
- Rotary position sensor

#### Standard Dimensions



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### Electrical specifications

- Supplying voltage : DC 3.3V or DC 5V  $\pm$  10%
- Supplying current : 6mA  $\pm$  1mA
- Resolution : 2, 4, 8, 16, 32, 64, 128, 256, 512 pulses per 1 Rotation (refer to the followings)
- Output wave form : incremental quadrature A / B (refer to the followings), 12-bit resolution max.
- Continuous Power Dissipation : 50mW
- Electrical life : Over 1,000,000 cycles

### Mechanical specifications

- Rotational torque : 25 gf·cm  $\pm$  10 gf·cm
- Maximum rotational speed : 100 rpm
- Mechanical life : Over 1,000,000 cycles of operation  
(1 cycle is a rotation through all positions and a full return.)
- Operating force of Push-button switch : 500 gf·cm  $\pm$  100 gf·cm
- Mechanical life of Push-button switch : Over 1,000,000 cycles

### Durability characteristics

- Over 1,000,000 cycles of operation shall be performed under operating temp. range continuously at rate of 15 ~ 20 cycles/minute with load

### Humidity characteristics

- During 48 hours, put specimen in the chamber which is controlled at temp. 40  $\pm$  2°C, moisture 90 ~ 95% condition, and then exposure to normal atmospheric condition for 1 hour

### Soldering recommendation

- Hand solder only per IPC J-STD-001

### Operating temperature range

- - 40°C ~ +85°C

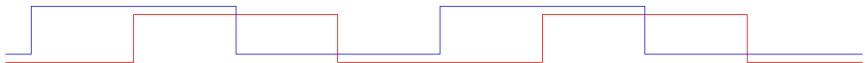

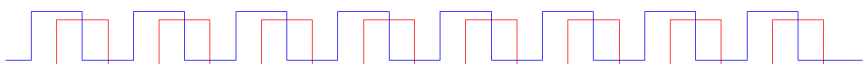
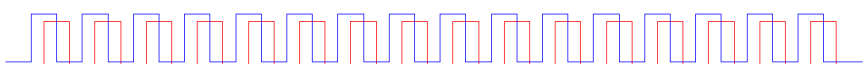
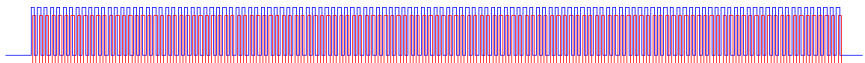
### Storage temperature range

- - 55°C ~ +85°C

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### Output wave form / No. of pulses 1 rotation

|            |  |
|------------|--|
| 2 pulses   |  |
| 4 pulses   |  |
| 8 pulses   |  |
| 16 pulses  |  |
| ⋮          | ⋮  |
| 512 pulses |  |

### Mechanical construction

- A magnet holder with a magnet attached on its shaft is enclosed to place on the surface of one-chip IC. This IC is a programmable Hall-based rotary magnetic position sensor with incremental quadrature (A/B) and 12-bit digital output. Additionally, the PUSH output indicates fast airgap changes between IC and magnet which can be used to implement a contactless pushbutton function.

### Suggested Ordering Code

