

# 12mm Size Insulated Shaft Type Encoder Variety

## EC12E Series

Insulated shaft type with a push-on switch and other features has a wide variety of applications.

Power

Push

Slide

Rotary

Encoders

Jog Shuttle

Telephone-hook

Detector

Vibration/Tilt Sensors

Dual-in-line Package Type

Multi Control Devices

TACT

Incremental Type

Absolute Type



Lead Free

### Features

- A 12mm sized unit achieved high resolution, 12-pulse / 12-detent and 24-pulse / 24-detent.
- Used a new structure for the shaft and bushing, and achieved a high precision, responsive system.
- Also available with a 0.5mm push switch.
- Incremental type.

### Applications

- Controls for image and sound devices, including DVD players, mini component stereos, CD players, portable audio players and monitors.
- Controls for audio mixers and electronic instruments.

### Typical Specifications

| Items                          | Specifications |               |
|--------------------------------|----------------|---------------|
| Rating (max.) (Resistive load) | 5mA 5V DC      |               |
| Operating life                 | Without detent | 15,000 cycles |
|                                | Other          | 30,000 cycles |

### Products Line

With High Collar Type

| Length of operating section (mm) | Detent torque              | Number of detent | Resolution | Operating direction | Push-on switch | Travel of push-on switch (mm) | Minimum packing unit (pcs.) | Products No. | Drawing No. |  |  |  |  |  |  |  |  |  |  |
|----------------------------------|----------------------------|------------------|------------|---------------------|----------------|-------------------------------|-----------------------------|--------------|-------------|--|--|--|--|--|--|--|--|--|--|
| 15                               | Standard<br>3 to 20 mN·m   | 12               | 12         | Vertical            | Without        | —                             | 1,200                       | EC12E1220407 | 2           |  |  |  |  |  |  |  |  |  |  |
| 20                               |                            |                  |            |                     |                |                               |                             | EC12E1220406 | 1           |  |  |  |  |  |  |  |  |  |  |
| 25                               |                            |                  |            |                     |                |                               |                             | EC12E1220405 |             |  |  |  |  |  |  |  |  |  |  |
| 8.5<br>(Hollow shaft)            | Lightest (jog)<br>3±2 mN·m |                  |            |                     |                |                               |                             | EC12E1220301 | 3           |  |  |  |  |  |  |  |  |  |  |
| 20                               |                            |                  |            |                     |                |                               |                             | EC12E1240405 | 1           |  |  |  |  |  |  |  |  |  |  |
| 25                               |                            |                  |            |                     |                |                               |                             | EC12E1240406 |             |  |  |  |  |  |  |  |  |  |  |
| 8.5<br>(Hollow shaft)            | Standard<br>3 to 20 mN·m   | 24               | 24         |                     |                |                               |                             | EC12E1240301 | 3           |  |  |  |  |  |  |  |  |  |  |
| 15                               |                            |                  |            |                     |                |                               |                             | EC12E24204A2 | 2           |  |  |  |  |  |  |  |  |  |  |
| 20                               |                            |                  |            |                     |                |                               |                             | EC12E24204A8 | 1           |  |  |  |  |  |  |  |  |  |  |
| 25                               | EC12E24204A9               |                  |            |                     |                |                               |                             |              |             |  |  |  |  |  |  |  |  |  |  |
| 8.5<br>(Hollow shaft)            | Lightest (jog)<br>3±2 mN·m |                  |            |                     |                |                               |                             | EC12E2420301 | 3           |  |  |  |  |  |  |  |  |  |  |
| 20                               |                            |                  |            |                     |                |                               |                             | EC12E24404A8 | 1           |  |  |  |  |  |  |  |  |  |  |
| 25                               |                            |                  |            |                     |                |                               |                             | EC12E24404A6 |             |  |  |  |  |  |  |  |  |  |  |
| 8.5<br>(Hollow shaft)            | Standard<br>25±15 mN·m     | Without          |            |                     |                |                               |                             | EC12E2440301 | 3           |  |  |  |  |  |  |  |  |  |  |
| 20                               |                            |                  |            |                     |                |                               |                             | EC12E2430404 | 1           |  |  |  |  |  |  |  |  |  |  |
| 25                               |                            |                  |            |                     |                |                               |                             | EC12E2430401 |             |  |  |  |  |  |  |  |  |  |  |



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## Products Line

### With Bushing Type

| Length of operating section (mm) | Detent torque            | Number of detent | Resolution | Operating direction | Push-on switch | Travel of push-on switch (mm) | Minimum packing unit (pcs.) | Products No. | Drawing No. |
|----------------------------------|--------------------------|------------------|------------|---------------------|----------------|-------------------------------|-----------------------------|--------------|-------------|
| 20                               | Standard<br>3 to 20 mN·m | 12               | 12         | Vertical            | Without        | —                             | 950                         | EC12E1220801 | 4           |
| 25                               |                          | 24               | 24         |                     |                |                               |                             | EC12E2420802 |             |
| 20                               | Standard<br>25±15 mN·m   | Without          |            |                     |                |                               |                             | EC12E2420801 |             |
| 25                               |                          |                  |            |                     |                |                               |                             | EC12E2430804 |             |
|                                  |                          |                  |            |                     |                |                               |                             | EC12E2430803 |             |

### With Switch Type

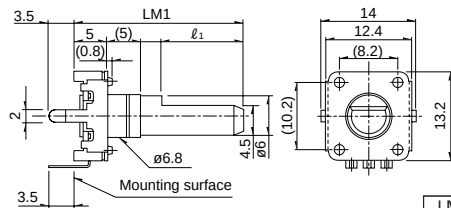
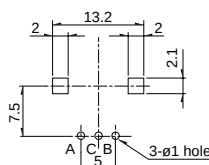
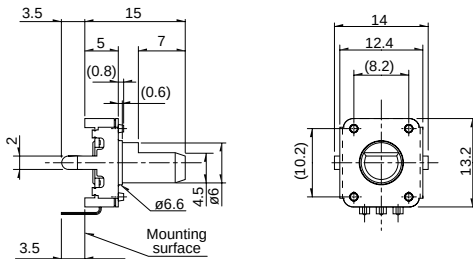
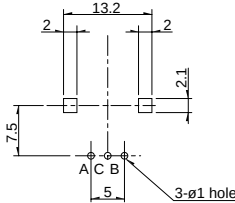
| Length of operating section (mm) | Detent torque              | Number of detent | Resolution | Operating direction | Push-on switch | Travel of push-on switch (mm) | Minimum packing unit (pcs.) | Products No. | Drawing No. |    |              |
|----------------------------------|----------------------------|------------------|------------|---------------------|----------------|-------------------------------|-----------------------------|--------------|-------------|----|--------------|
| 20                               | Standard<br>3 to 20 mN·m   | 12               | 12         | Vertical            | With           | 0.5                           | 1,200                       | EC12E12244A3 | 5           |    |              |
| 25                               |                            |                  |            |                     |                |                               |                             | EC12E12244A4 |             |    |              |
| 20                               | Lightest (jog)<br>3±2 mN·m |                  |            |                     |                |                               |                             | 24           |             | 24 | EC12E1244401 |
| 25                               |                            |                  |            |                     |                |                               |                             |              |             |    | EC12E1244403 |
| 20                               | Standard<br>3 to 20 mN·m   | 24               | 24         |                     |                |                               |                             |              |             |    | EC12E2424407 |
| 25                               |                            |                  |            |                     |                |                               |                             |              |             |    | EC12E2424404 |
| 20                               | Lightest (jog)<br>3±2 mN·m | 24               | 24         |                     |                |                               |                             | EC12E2444400 |             |    |              |
| 25                               |                            |                  |            |                     |                |                               |                             | EC12E24444A3 |             |    |              |

## Note

No nuts or washers attached. If necessary, contact us.

## Dimensions

Unit : mm

| No. | Model                                                                                              | Style                                                                                                                                                                                                        | PC board mounting hole dimensions<br>(Viewed from mounting face)                      |                |    |   |    |    |                                                                                       |
|-----|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------|----|---|----|----|---------------------------------------------------------------------------------------|
| 1   |                 |  <table><tr><th>LM1</th><th>l<sub>1</sub></th></tr><tr><td>20</td><td>7</td></tr><tr><td>25</td><td>12</td></tr></table> | LM1                                                                                   | l <sub>1</sub> | 20 | 7 | 25 | 12 |  |
| LM1 | l <sub>1</sub>                                                                                     |                                                                                                                                                                                                              |                                                                                       |                |    |   |    |    |                                                                                       |
| 20  | 7                                                                                                  |                                                                                                                                                                                                              |                                                                                       |                |    |   |    |    |                                                                                       |
| 25  | 12                                                                                                 |                                                                                                                                                                                                              |                                                                                       |                |    |   |    |    |                                                                                       |
| 2   | Short shaft<br> |                                                                                                                          |  |                |    |   |    |    |                                                                                       |

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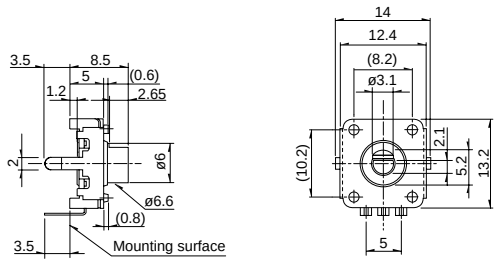
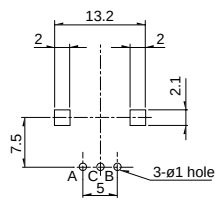
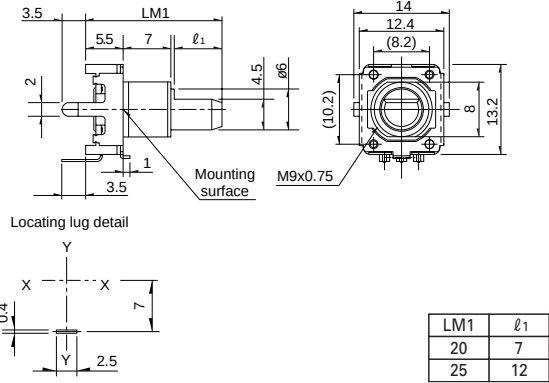
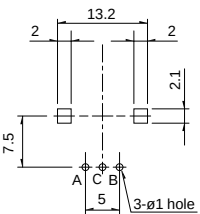
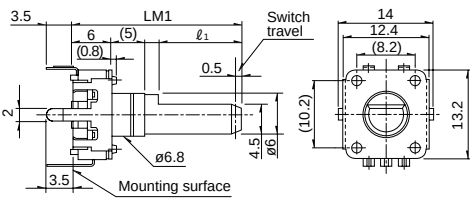
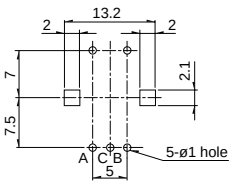
Incremental Type

Absolute Type

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Dimensions

Unit : mm

| No. | Model                                                                                                      | Style                                                                                | PC board mounting hole dimensions<br>(Viewed from mounting face)                      |
|-----|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 3   | Hollow shaft<br>          |    |    |
| 4   | With bushing<br>         |   |   |
| 5   | With push-on switch<br> |  |  |

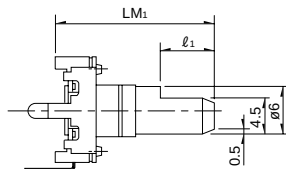
## Variety

### Shaft Dimensions

Flat Type

Unit : mm

With high collar type

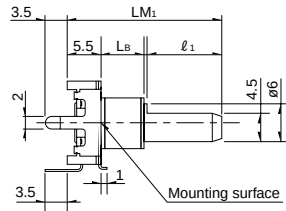


Vertical type

Detail dimensions

| LM <sub>1</sub> | l <sub>1</sub> |
|-----------------|----------------|
| 17.5            | 5              |
| 20              | 7              |
| 22.5            | 7              |
| 25              | 12             |
| 30              | 12             |

With bushing type



Detail dimensions

| LM <sub>1</sub> | L <sub>B</sub> | l <sub>1</sub> |
|-----------------|----------------|----------------|
| 20              | 7              | 7              |
| 25              | 7              | 12             |
| 30              | 12             | 12             |
| 35              | 12             | 12             |

Except 12 detent.

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