

## 12 mm Square GS Encoders

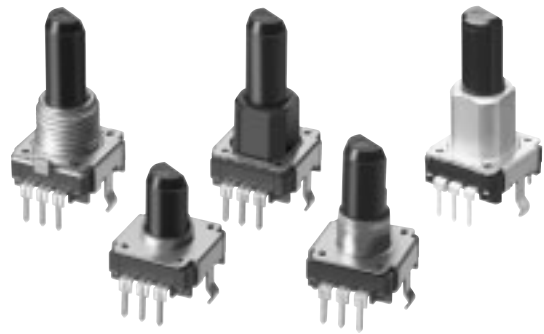
Type: **EVEG/EVEH/EVEK/EVEL**

### ■ Features

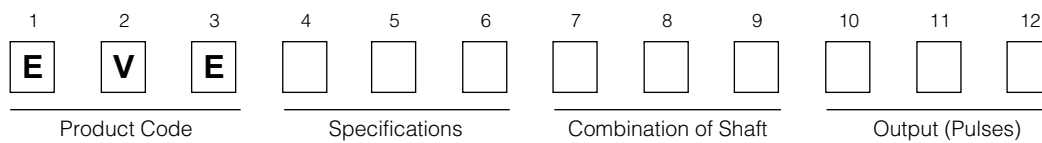
- Lineup of high rotation-torque-type (50 mN·m)
- A wide range of standard products

### ■ Recommended Applications

- Volume for audio/visual equipment
- Tuner for communication units
- Mode selection for measurement instruments



### ■ Explanation of Part Numbers



### ■ Product Chart

| Torque type                                   | Combination of Bushing | Thickness | Height  |         |         |         |         | Detents (Resolution/Pulses) |                       |                       |  |
|---|------------------------|-----------|---------|---------|---------|---------|---------|-----------------------------|-----------------------|-----------------------|--|
|   |                        |           | 15.0 mm | 17.5 mm | 20.0 mm | 22.5 mm | 25.0 mm | 30.0 mm                     | 12 points (12 pulses) | 24 points (24 pulses) | Without detents (12 pulses, 24 pulses) |
| Heavy-rotation torque<br>(10 mN·m to 50 mN·m) | Die-cast (7.0,12.0 mm) | 5.5 mm    |         |         |         |         | ○       | ○                           |                       |                       | ○                                      |
|   | Sleeve (7.0,12.0 mm)   | 5.5 mm    |         |         |         |         | ○       | ○                           |                       |                       | ○                                      |
| Standard type<br>(3 mN·m to 20 mN·m)          | Barling (5.0 mm)       | 5.0 mm    |         | ○       | ○       | ○       | ○       |                             | ○                     | ○                     | ○                                      |
|   | Barling (1.6 mm)       | 5.0 mm    | ○       |         |         |         |         |                             | ○                     | ○                     | ○                                      |
|   | Die-cast (7.0 mm)      | 5.5 mm    |         |         | ○       | ○       | ○       |                             | ○                     | ○                     | ○                                      |
|   | Sleeve (7.0 mm)        | 5.5 mm    |         |         | ○       | ○       | ○       |                             | ○                     | ○                     | ○                                      |

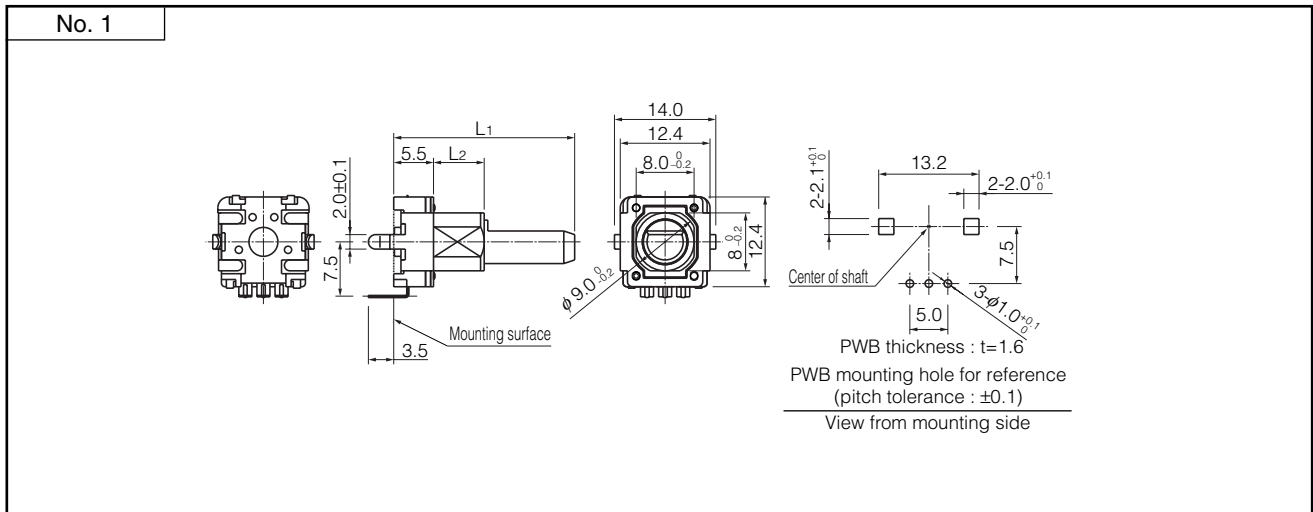
### ■ Specifications

|                               |                                 |  |                         |                                 |           |                                 |  |  |  |  |  |
|-------------------------------|---------------------------------|--|-------------------------|---------------------------------|-----------|---------------------------------|--|--|--|--|--|
| Mechanical                    | Rotation Angle                  |  | 360 ° (Endless)         |                                 |           |                                 |  |  |  |  |  |
|                               | Shaft Pull/Push Strength        |  | 80 N min.               |                                 |           |                                 |  |  |  |  |  |
|                               | Shaft Wobble                    |  | 0.7xL/30 mm max.        |                                 |           |                                 |  |  |  |  |  |
|                               | Rotation Torque                 | Standard Type  | 3 mN·m to 20 mN·m       |                                 |           |                                 |  |  |  |  |  |
|                               |                                 | Heavy Rotation Torque  | 10 mN·m to 50 mN·m      |                                 |           |                                 |  |  |  |  |  |
| Detents                       |                                 | 12 points, 20 points, 24 points, without detents (Heavy rotation-torque without detents) |                         |                                 |           |                                 |  |  |  |  |  |
| Electrical                    | Output Signals                  |  | Phase A and B           |                                 |           |                                 |  |  |  |  |  |
|                               | Resolution                      |  | 12, 20, 24 pulses/360 ° |                                 |           |                                 |  |  |  |  |  |
|                               | Rating                          |  | 1 mA 5 Vdc, 1 mA 10 Vdc |                                 |           |                                 |  |  |  |  |  |
|                               | Contact Resistance              |  | 1 Ω max.                |                                 |           |                                 |  |  |  |  |  |
|                               | Chattering                      |  | 2 ms max.               |                                 |           |                                 |  |  |  |  |  |
|                               | Insulation Resistance           |  | 10 MΩ min. (at 50 Vdc)  |                                 |           |                                 |  |  |  |  |  |
|                               | Dielectric Withstanding Voltage |  | 50 Vac for 1 minute     |                                 |           |                                 |  |  |  |  |  |
|                               | Bouncing                        |  | 5 ms max.               |                                 |           |                                 |  |  |  |  |  |
| Endurance                     | Operating Life                  | Standard Type  | 30000 cycles min.       |                                 |           |                                 |  |  |  |  |  |
|                               |                                 | Heavy Rotation Torque  | 15000 cycles min.       |                                 |           |                                 |  |  |  |  |  |
|                               | Operating Temperature           |  | -10 °C to +60 °C        |                                 |           |                                 |  |  |  |  |  |
| Storage Temperature           |                                 | -40 °C to +85 °C   |                         |                                 |           |                                 |  |  |  |  |  |
| Minimum Quantity/Packing Unit |                                 |  | L≤25.0 mm               | 100 pcs. Polyethylene Bag(Bulk) | L>26.0 mm | 200 pcs. Polyethylene Bag(Bulk) |  |  |  |  |  |
| Quantity/Carton               |                                 |  | L≤25.0 mm               | 1000 pcs.                       | L>26.0 mm | 2000 pcs.                       |  |  |  |  |  |

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use. Should a safety concern arise regarding this product, please be sure to contact us immediately.

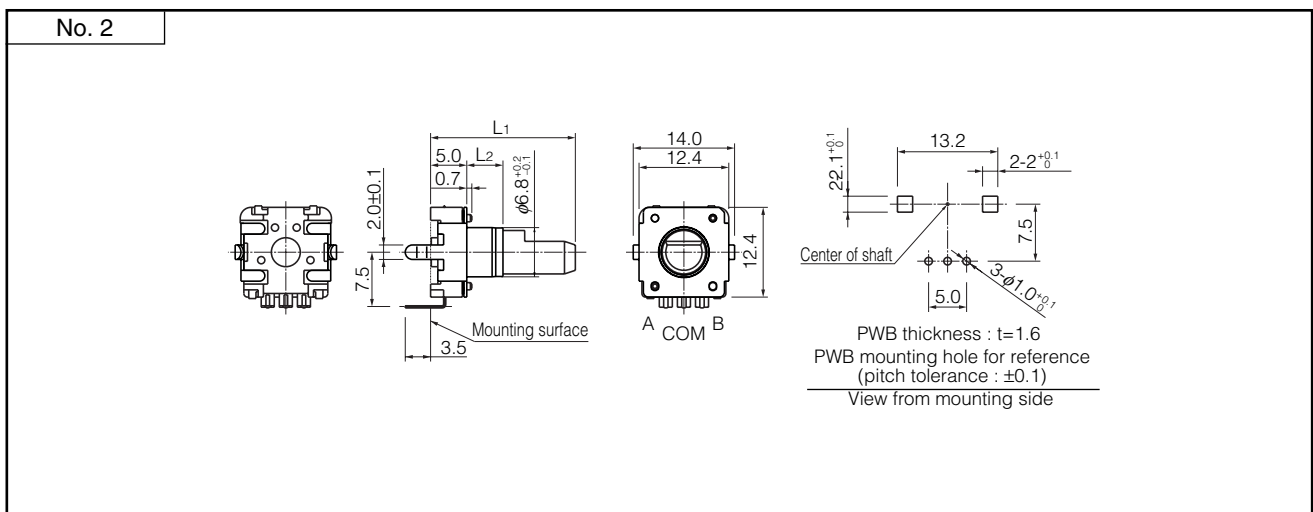
■ Dimensions in mm (not to scale)

- High rotation-torque / Bushing Type with Sleeve ..... Without detents : EVEKE2



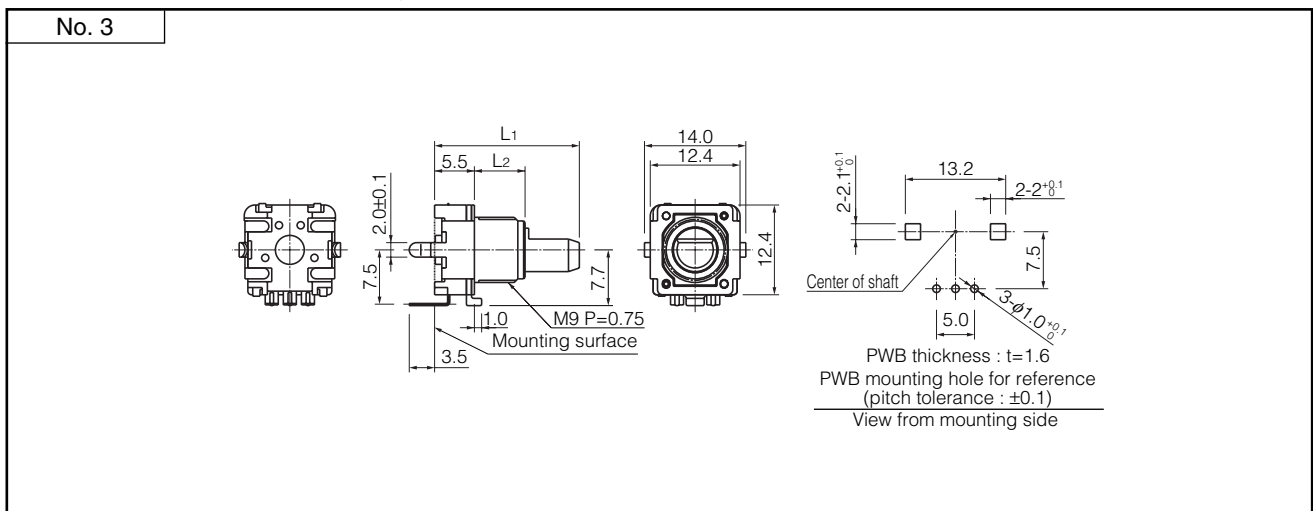
- Standard rotation-torque / Bushing Type with Barling ..... Without detents : EVEGA2

With detents : EVEGA1



- Standard rotation-torque / Bushing Type with Die-cast ..... Without detents : EVEGC2

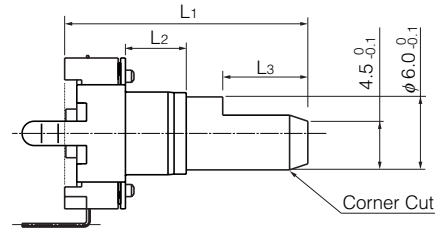
With detents : EVEGC1



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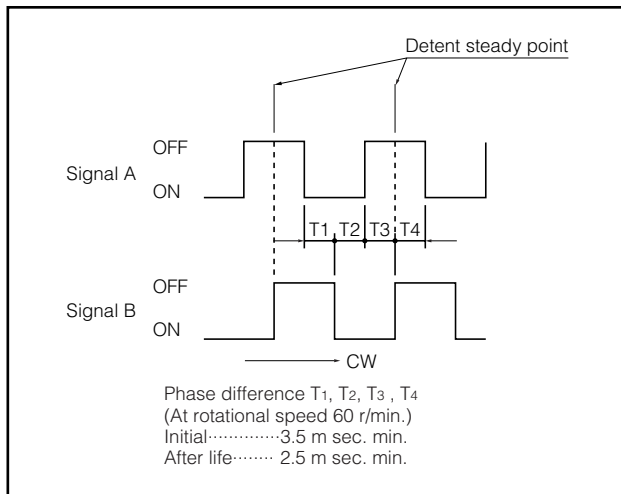
## ■ Shaft Trims and Dimensions in mm

| Bushing Type | Dimensions     |                |                |            |
|--------------|----------------|----------------|----------------|------------|
|              | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | Corner Cut |
| Barling      | 15.0 mm        | 1.6 mm         | 7.0 mm         | 1.5 mm     |
|              | 17.5 mm        | 5.0 mm         | 5.0 mm         | 1.5 mm     |
|              | 20.0 mm        | 5.0 mm         | 7.0 mm         | 1.5 mm     |
|              | 22.5 mm        | 5.0 mm         | 7.0 mm         | 1.5 mm     |
|              | 25.0 mm        | 5.0 mm         | 12.0 mm        | 1.5 mm     |
| Sleeve       | 20.0 mm        | 7.0 mm         | 7.0 mm         | 1.5 mm     |
|              | 22.5 mm        | 7.0 mm         | 7.0 mm         | 1.5 mm     |
|              | 25.0 mm        | 7.0 mm         | 12.0 mm        | 1.5 mm     |
|              | *30.0 mm       | 7.0 mm         | *12.0 mm       | *1.5 mm    |
| Die-cast     | 20.0 mm        | 7.0 mm         | 7.0 mm         | 1.5 mm     |
|              | 22.5 mm        | 7.0 mm         | 7.0 mm         | 1.5 mm     |
|              | 25.0 mm        | 7.0 mm         | 12.0 mm        | 1.5 mm     |
|              | *30.0 mm       | 12.0 mm        | *12.0 mm       | *1.5 mm    |

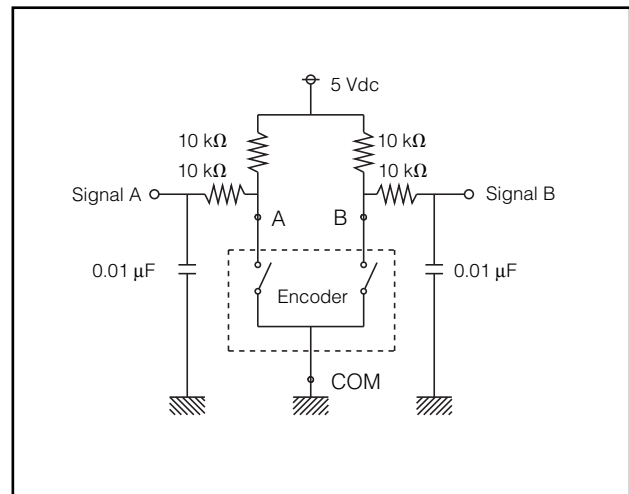


\*High-rotation torque

## ■ Phase Difference



## ■ Test Circuit Diagram



## Данный компонент на территории Российской Федерации

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Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

moschip.ru\_6

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