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**Components/EVEG/H/K/L**

**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**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>V</td>
<td>E</td>
<td>Specifications</td>
<td>Combination of Shaft</td>
<td>Output (Pulses)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Product Chart**

<table>
<thead>
<tr>
<th>Torque type</th>
<th>Combination of Bushing</th>
<th>Thickness</th>
<th>Height</th>
<th>Detents (Resolution/Pulses)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy-rotation torque</td>
<td>Die-cast (7.0, 12.0 mm)</td>
<td>5.5 mm</td>
<td>15.0 mm, 17.5 mm, 20.0 mm, 22.5 mm, 25.0 mm, 30.0 mm</td>
<td>12 points (12 pulses), 24 points (24 pulses), Without detents (12 pulses, 24 pulses)</td>
</tr>
<tr>
<td></td>
<td>Sleeve (7.0, 12.0 mm)</td>
<td>5.5 mm</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Standard type</td>
<td>Barling (5.0 mm)</td>
<td>5.0 mm</td>
<td>5.5 mm</td>
<td>○ ○ ○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td></td>
<td>Barling (1.6 mm)</td>
<td>5.0 mm</td>
<td>○</td>
<td>○ ○ ○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td></td>
<td>Die-cast (7.0 mm)</td>
<td>5.5 mm</td>
<td>○ ○ ○ ○ ○ ○ ○ ○</td>
<td></td>
</tr>
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<td></td>
<td>Sleeve (7.0 mm)</td>
<td>5.5 mm</td>
<td>○ ○ ○ ○ ○ ○ ○ ○</td>
<td></td>
</tr>
</tbody>
</table>

**Specifications**

**Mechanical**

- Rotation Angle: 360 ° (Endless)
- Shaft Pull/Push Strength: 80 N min.
- Shaft Wobble: 0.7 × L/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**

| Lg25.0 mm | 100 pcs. Polyethylene Bag(Bulk) |
| Lg26.0 mm | 200 pcs. Polyethylene Bag(Bulk) |

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--- EV49 ---
Dimensions in mm (not to scale)

- High rotation-torque / Bushing Type with Sleeve

  Without detents: EVEKE2

  - EVEKE2

- Standard rotation-torque / Bushing Type with Barling

  Without detents: EVEGA2

  - EVEGA2

- Standard rotation-torque / Bushing Type with Die-cast

  Without detents: EVEGC2

  - EVEGC2

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