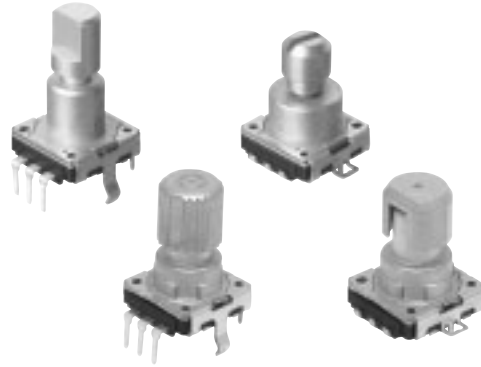


## 11 mm Square GS Encoders

Type: **EVER/EVEU/EVEV/EVEY**

### ■ Features

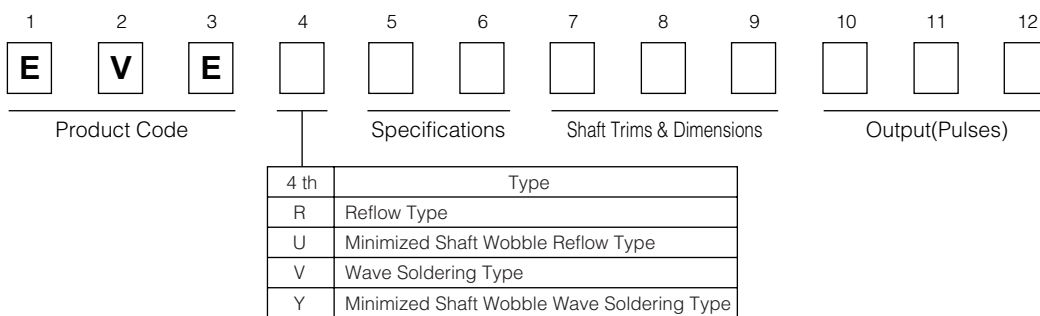
- Low Profile : Reflow Type 3.5 mm,  
Wave Soldering Type 4 mm
- Minimized shaft wobble type is also available
- The reflow type allows the product to be automatically mounted and reflow-soldered



### ■ Recommended Applications

- Car audio, car navigation, car air conditioners

### ■ Explanation of Part Numbers



### ■ Specifications

		EVER (Reflow Type)	EVEV (Wave Soldering Type)	EVEU (Minimized Shaft Wobble Reflow Type)	EVEY (Minimized Shaft Wobble Wave Soldering Type)
Mechanical	Rotation Angle	360 ° (Endless)			
	Shaft Pull/Push Strength	100 N min.			
	Shaft Wobble	0.6xL/30 (mm) max.		0.35xL/30 (mm) max.	
	Rotation Torque	3 mN·m to 20 mN·m			
	Detents	16 points, 24 points, 32 points			
	Shaft Length Range	L <sub>1</sub> =15 to 20 mm	L <sub>1</sub> =15 to 30 mm	L <sub>1</sub> =16 to 20 mm	
Electrical	Output Signals	Phase A and B			
	Resolution	8, 12, 16 pulses/360 °			
	Rating	1 mA 10 Vdc (at each bit)			
	Contact Resistance	1 Ω max.			
	Chattering	3 ms max.			
	Insulation Resistance	50 MΩ min. (at 250 Vdc)			
	Dielectric Withstanding Voltage	300 Vac for 1 minute			
	Bouncing	5 ms max.			
Switch Part	Type	SPST Push-on			
	Rating	20 mA 16 Vdc			
	Contact Resistance	100 mΩ max.			
	Operating Force	0.4 mm travel type : 3 N, 4 N , 6 N 1.5 mm travel type : 4 N			
	Travel	0.4 mm, 1.5 mm			
Endurance	Rotation Life (Encoder)	30000 cycles min.			
	Operating Life (Switch)	30000 cycles min.			
Minimum Quantity/Packing Unit		50 pcs. (Tray Pack)	100 pcs. (Tray Pack)	50 pcs. (Tray Pack)	100 pcs. (Tray Pack)
Quantity/Carton		250 pcs. or 300 pcs.	500 pcs.	250 pcs. or 300 pcs.	500 pcs.

## ■ Dimensions in mm (not to scale)

**No. 1**

**EVER**  
(Reflow Type)

Material: Zinc alloy for die casting

Shaft shape and dimension

Switch circuit diagram. S.P.S.T.

(Notice) Commonness of encoder.

Bushing length	L <sup>1</sup>	(L <sup>2</sup> )
B	5.0 mm	15.0 mm to 17.0 mm
	7.0 mm	17.0 mm to 20.0 mm

**No. 2**

**EVEU**  
(Minimized Shaft Wobble Reflow Type)

Material: Zinc alloy for die casting

Shaft shape and dimension

Switch circuit diagram. S.P.S.T.

(Notice) Commonness of encoder.

L <sup>1</sup>	(L <sup>2</sup> )	(L <sup>3</sup> )
16.0 mm to 20.0 mm	12.5 mm to 16.5 mm	6.5 mm to 10.5 mm

**No. 3**

**EVEV**  
(Wave Soldering Type)

Material: Zinc alloy for die casting

Shaft shape and dimension

Switch circuit diagram. S.P.S.T.

(Notice) Commonness of encoder.

Bushing length	L <sup>1</sup>	(L <sup>2</sup> )
B	5.0 mm	15.0 mm to 17.0 mm
	7.0 mm	17.0 mm to 30.0 mm

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.

Apr. 2008

## ■ Dimensions in mm (not to scale)

**No. 4**

**EVEY**  
(Minimized Shaft Wobble  
Wave Soldering Type)

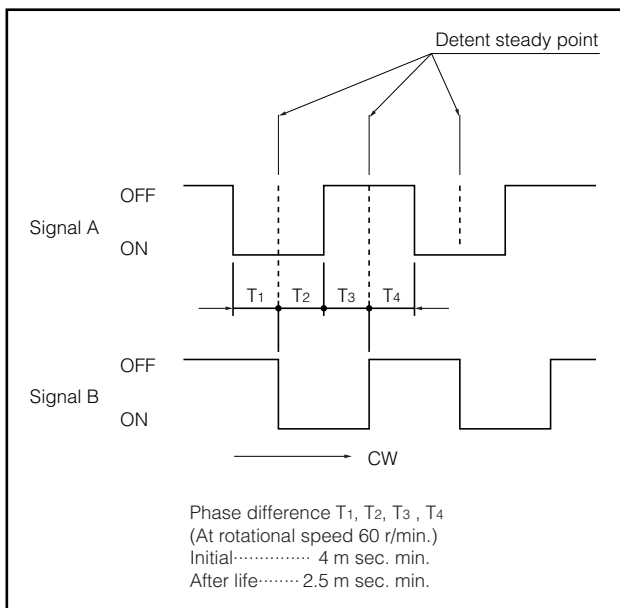
Material: Zinc alloy for die casting

Switch circuit diagram.  
S.P.S.T.  
(Notice) Commonness of encoder.

L <sup>1</sup>	(L <sup>2</sup> )	(L <sup>3</sup> )
16.0 mm to 20.0 mm	12.0 mm to 16.0 mm	6.0 mm to 10.0 mm

PWB mounting hole for reference  
(Pitch tolerance : ±0.1)  
View from mounting side  
PWB thickness t=1.6

## ■ Phase Difference



## ■ Test Circuit Diagram

