

EC10E Series



A series of compact and long-life encoders with unique hollow shaft design.



Typical Specifications

Items	Specifications
Rating	1mA 5V DC
Operating life	100,000cycles
Operating temperature range	-30℃ to +85℃

Product Line

Mount height (mm)	Detent torque (mN·m)	Number of detent	Number of pulse	Operating direction	Minimum order unit (pcs.)	Product No.
7	5±3	24	12	Horizontal	3,200	EC10E1220505
9						EC10E1220501
11						EC10E1220503
7	6±3	12				EC10E1260502

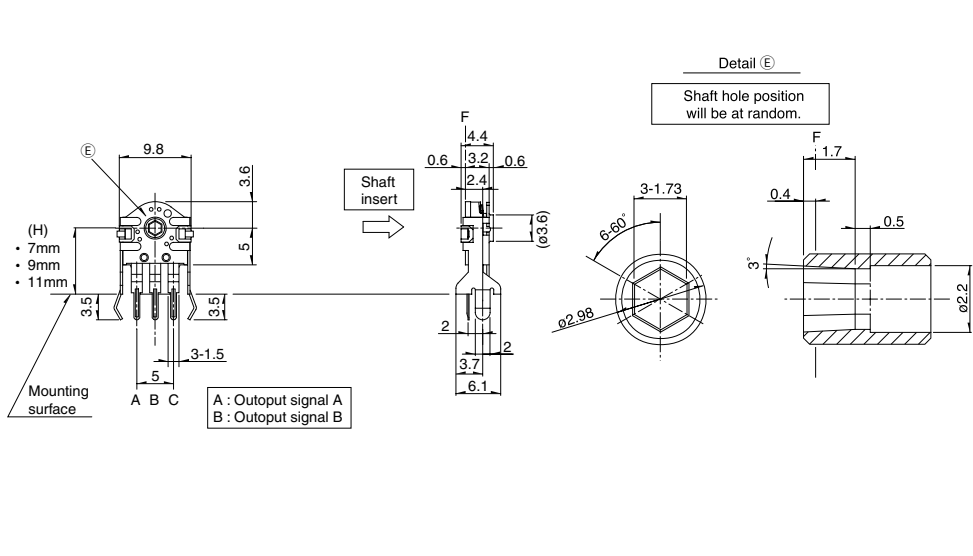
Packing Specifications

Bulk

Number of packages (pcs.)		Export package measurements (mm)
1 case /Japan	1 case /export packing	
1,600	3,200	270×360×155

Dimensions

Unit:mm

Style	PC board mounting hole dimensions
 Technical drawing of the 'Style' component, showing top, side, and detail views with dimensions and labels. Top View: Dimensions include 9.8, 3.6, 5, 3.5, 3.5, 5, 3-1.5, and 5. Labels A, B, and C are present. A note indicates (H) with values 7mm, 9mm, and 11mm. A 'Mounting surface' is indicated. Side View: Dimensions include 0.6, 4.4, 3.2, 0.6, 2.4, (ø3.6), 2, 3.7, 6.1, and 2. Detail E: Shows a shaft hole position. Dimensions include 1.7, 0.4, 0.5, and ø2.2. A note states 'Shaft hole position will be at random.' Other Views: A cross-section shows a 6.60° angle and a 3-1.73 dimension. A top view of the shaft hole shows a 3° angle and a 3-1.73 dimension. A bottom view shows 3-ø1 holes with dimensions 10.8, 1.8, 2, 5, and 2-2.1. Legend: A : Output signal A B : Output signal B	

Note

Please place purchase orders per minimum order unit N (integer).

Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line
Package Type

TACT Switch™

Custom-Products

Metal Shaft

Insulated Shaft

Hollow Shaft

Ring
TypeAutomotive
Use

List of Varieties

Type		Hollow Shaft		Absolute type
		5mm size	10mm size	Hollow shaft
Series		EC05E	EC10E	SRGA
Photo				
Output		Incremental		Absolute type
Outline specifications	Shaft types	Hollow shaft		Hollow shaft
	Operating direction	Vertical/Horizontal	Horizontal	Vertical
	Number of pulse/ Number of detent	12/12	12/24	—
	Push switch (Travel mm)	Without		Without
	Changeover angle	—		15°, 30°, 45°
Dimensions (mm)	W	5.7	9.8	18
	D	2.7	4.4	
	H	7.3	12.6	8
Soldering	Manual soldering	350°C max. 3s max.		350±10°C, 3 +1s
	Dip soldering	—	260±5°C, 3±1s	260±5°C, 10±1s
	Reflow soldering	Please see P.225	—	Please see P.229
Operating temperature range		-30°C to +85°C		-10°C to +70°C
Automotive use		—	○	●
Electrical performance	Maximum operating current (Resistive load)	0.55mA	1mA	—
	Output signal	Output of A and B signals, proportionate to phase difference		—
	Initial contact resistance	—		1Ω max.
	Insulation resistance	50MΩ min. 50V DC		100MΩ min. 100V DC
	Voltage proof	50V AC for 1minute		100V AC for 1minute
Mechanical performance	Rotational torque	—		Shall be in accordance with individual specifications.
	Defent torque	1.6±1.3mN·m	5±3mN·m	—
	Terminal strength	—		5N for 1minute
	Push-pull strength	—		100N
	Vibration	—		10 to 55 to 10Hz/min., the amplitude is 1.5mm for all the frequencies, in the 3 direction of X, Y and Z for 2 hours respectively
Environmental performance	Cold	-40±3°C for 240h		-20±2°C for 96h
	Dry heat	85±3°C for 240h		85±2°C for 96h
	Damp heat	40±2°C, 90 to 95%RH for 240h		40±2°C, 90 to 95%RH for 96h
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Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line
Package Type

TACT Switch™

Custom-
ProductsMetal
ShaftInsulated
ShaftHollow
ShaftRing
Type

- Encoders Attached Parts229
- Encoders Cautions244, 245

Notes

- ※ The operating temperature range for automotive applications can be raised upon request. Please contact us for details.
- marks in "Available for automotive use" indicate that some of the series products can work at the operating temperature range from -40°C to +85°C, ●marks in "Available for automotive use" indicate that all of the series products can work at the operating temperature range from -40°C to +85°C.