

EC10E 10mm Size Through Shaft Type

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



Encoders



Typical Specifications

Items	Specifications
Rating	1mA 5V DC
Operating life	100,000 cycles
Operating temperature range	-5°C to +45°C -40°C to +85°C (For Automotive)

Product Line

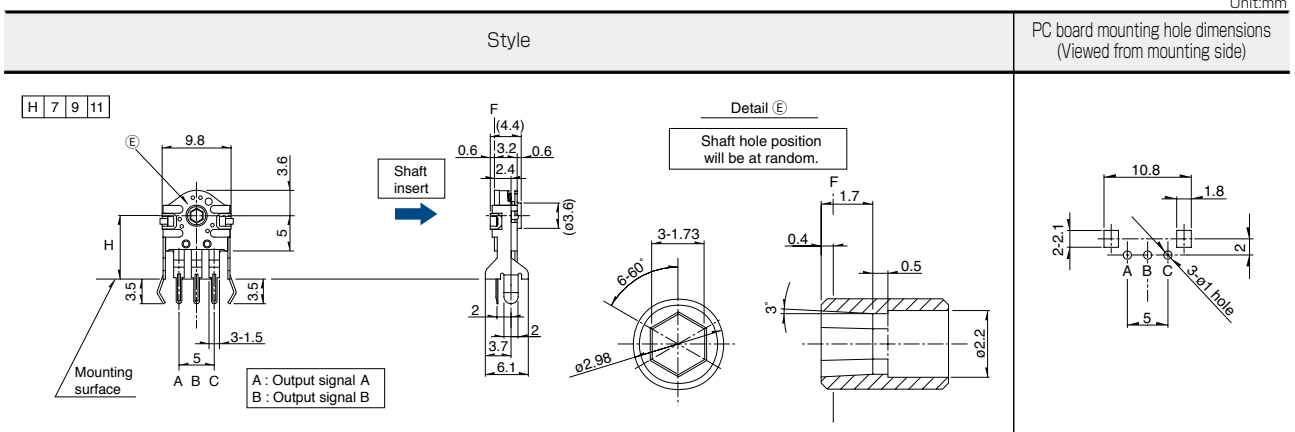
Mount height H(mm)	Detent torque (mN·m)	Number of detent	Number of pulse	Operating direction	Minimum order unit (pcs.)		Product No.
					Japan	Export	
7	5±3	24	12	Horizontal	3,200	3,200	EC10E1220505
9							EC10E1220501
11							EC10E1220503
7	6±3	12	24				EC10E1260502
11		EC10E1260507					

Packing Specifications

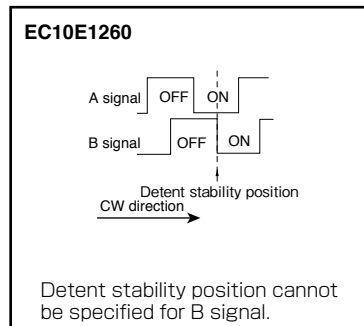
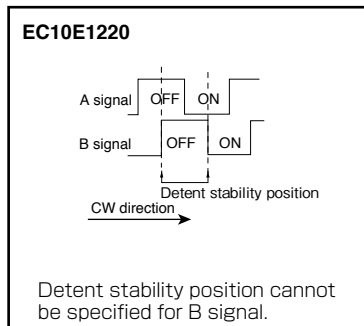
Bulk

Number of packages (pcs.)		Export package measurements (mm)
1 case /Japan	1 case /export packing	
3,200	3,200	374×254×166

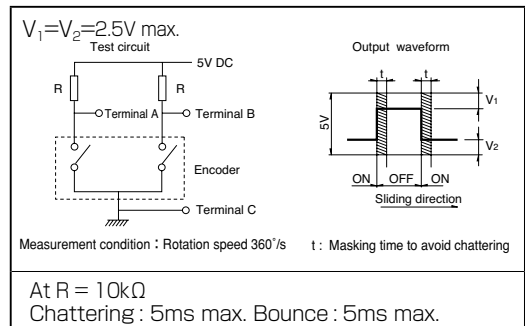
Dimensions



Output Wave

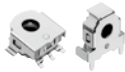









Sliding Noise



Encoders

List of Varieties

Type		Through shaft type			Ring type			
		5mm size		10mm size	21mm size			
Series		EC05E		EC10E	EC21A	EC21C		
Photo								
Output		Incremental (Two phase A and B)						
Shaft types		Through shaft			Ring type			
Operating direction		Vertical	Horizontal	Horizontal	—	—		
Number of pulse / Number of detent		12/12		12/24 12/12	9/18 15/30	15/30		
Features		Surface mount type		—	—	—		
Dimensions (mm)		W	5.7	7.5	9.8	21.6	22	
		D	6	3.3	4.4		21.6	
		H	2.7	7.25	10.6/12.6/14.6	4		
Operating temperature range		-30°C to +85°C		-5°C to +45°C -40°C to +85°C (For Automotive)	-40°C to +85°C			
Operating life		100,000 cycles			50,000 cycles			
Automotive use		—	○	●	●	●		
Life cycle (availability)								
Electrical performance		Rating	0.55mA 5.5V DC		1mA 5V DC	10mA 5V DC		
		Max./min. operating current (Resistive load)	0.55mA / —		—	10mA / 1mA		
		Insulation resistance	50MΩ min. 50V DC				100MΩ min. 250V DC	
		Voltage proof	50V AC for 1 minute			300V AC for 1minute or 360V AC for 2s	300V AC for 1minute or 360V AC for 1s	
Mechanical performance		Rotational torque (Without detent)	—	—	—	—		
		Detent torque	1.6±1.3mN·m	5±3mN·m 6±3mN·m	7±5mN·m 12±5mN·m 16±7mN·m	17±8mN·m (Initial) 12±4mN·m (After reflow)		
		Push-pull strength	—	—	100N			
Shaft configuration		Through shaft			Ring type			
Terminal type		Reflow	Insertion	Insertion				
Switch Specifications		Switch type	—	—	—	—		
		Contact arrangement	—	—	—	—		
		Travel (mm)	—	—	—	—		
		Operating force (N)	—	—	—	—		
		Rating	—	—	—	—		
		Contact resistance	—	—	—	—		
		Operating life	—	—	—	—		
Page		282		284	285			

Encoders Soldering Conditions	299
Encoders Cautions	300

Notes

- The operating temperature range for automotive applications can be raised upon Request. Please contact us for details.
- Indicates applicability to all products in the series, while ○ indicates applicability to some products in the series.