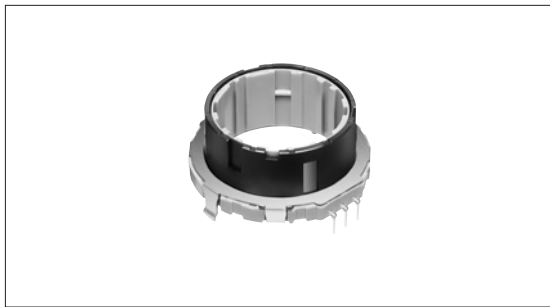


Encoder 35mm Size Hollow Shaft ABC Switch

EC35AH Series

Hollow-center shaft type capable of composite control.



Features

- Hollow-center allows combination with other components.
- Three-phase code switch avoids errors caused by chattering.

Applications

- For controlling volume in car audio, volume and menu selection in car navigation systems and car AV equipment
- For adjusting temperature, fan speed, switching modes in car air conditioners and various in-car component control

Typical Specifications

Items		Specifications
Maximum operating current (Resistive load)		10mA
Output signal		Three phase of A, B and C
Electrical performance	Output wave	
	Sliding noise	<p>At R = 5 kΩ Chattering : 5ms max. Bounce : 5ms max.</p>

Products Line

Mount style	Operating section style	Length of operating section (mm)	Resolution	Number of detents	Switch travel (mm)	Detent torque (mN·m)	Minimum packing unit (pcs.) ※	Products No.
Vertical	—	15	10	30	—	18 \pm 7	800	EC35AH220403

Dimensions

Unit:mm

Style	PC board mounting hole dimensions (View from mounting face)

Note

※The minimum packing unit means the basic unit of order. Place your purchase order in N minimum package units (N: integer). Ask us for the export packaging unit.

Refer to P.214 for product specifications.

Product Specifications

Type		EC40A	EC45A	RK45A RK45B	EC60A	EC35B	EC35AH	
Items								
Operating temperature range		-40°C to +85°C						
Detector	Rating	0.5mA 5V DC		0.05W	0.5mA5V DC	10mA5V DC		
Push	Electrical performance	Output voltage		2.5V max. at 5V DC, 0.5mA (resistive load)	2.5V max. at 5V DC, 0.5mA (resistive load)	2.5V max. at 5V DC, 1mA (resistive load)		
Slide		Insulation resistance		10MΩ min. 50V DC		100MΩ min. 250V DC	250V DC 100MΩ min.	
Rotary		Voltage proof		50V AC for 1minute		500V AC for 1minute	300V AC for 1minute	
Encoders	Mechanical performance	Detent torque		20±11mN·m	Shall be in accordance with individual specifications.	40±20mN·m	20±10mN·m	
Power		Terminal strength		3N for 10s		5N for 1minute		
Dual-in-line Package Type		Actuator strength	Pushing direction		100N			
Multi Control Devices			Pulling direction		50N		100N	
TACT Switch™		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				
Custom-Products		Resistance to soldering heat	Manual soldering		350°C max. 3s max.			
Incremental Type	Dip soldering		260°C max. 5s max.		260±5°C, 5±1s			
Absolute Type	Reflow soldering							
Durability	Operating life without load		30,000cycles				50,000cycles	
	Operating life with load		30,000cycles				50,000cycles	
Environmental performance	Cold		-40±3°C for 240h					
	Dry heat		85±3°C for 240h					
	Damp heat		40±2°C, 90 to 95% RH for 240h			60±2°C, 90 to 95% RH for 240h		

Self-return Switch Specifications

Items	EC35B
circuit · number of contacts	Single pole and single throw (Push-on)
Travel(mm)	2.8±0.5
Push operating force(N)	3.8±1.5
Switch ON position	15±5°
Ratational torque	40±25mN·m
Rating	10mA 5V DC
Contact resistance	200mΩ max.
Operating life	15,000cycles