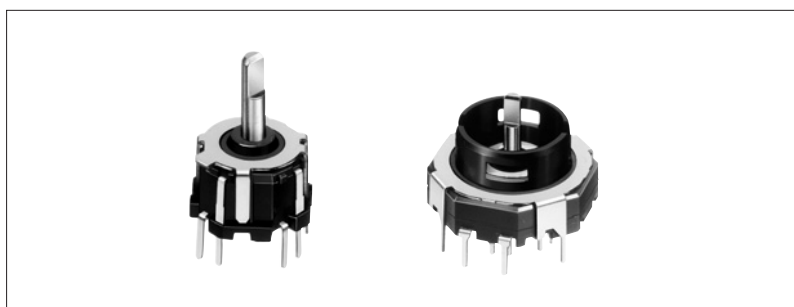


8-directional Switch + Center Push with an Encoder

RKJXM Series

Single and dual shaft structured device contributes to simple operation and space saving.

- Power
- Push
- Slide
- Rotary
- Encoders
- Detector
- Dual-in-line Package Type
- Multi Control Devices
- TACT
- Custom-Products



Car Use

Features

- Excellent operationality is achieved as tactile feeling is attached to an eight-directional stick switch.
- Provides different operating angles and force for each operating direction (four "+" directions and four "x" directions) for improved blind-touch operation.
- The two axis structural type allows a stick switch (inside axis) and an encoder (outside axis) to be placed into one unit in an external size of 20 mm.
- The encoder achieves a smooth rotation feeling by an original click structure.

Applications

- For a volume or a mode change of car audio, car navigation, and for a cursor control
- For various other level controlling applications
- For remote controllers of the aboveproducts

Typical Specifications (Inner-shaft Stick Switches)

Items		Specifications
Rating (max.) (Resistive load)		10mA 5V DC
Contact resistance	Lever operation	1 Ω max.
	Push operation	
Operating force		A·B·C·D direction : 30±20mN·m AB·BC·CD·DA direction : 25±20mN·m
Operating angle (lever operation)		A·B·C·D direction : 10° max. AB·BC·CD·DA direction : 12° max.
Travel (Push operation)		0.3±0.2mm
Operating life	8-direction	100,000 cycles
	Center push	

Typical Specifications (Outer-shaft Encoders)

Items		Specifications
Rating (max.) (Resistive load)		10mA 5V DC
Detent torque		12±8mN·m
Operating life		15,000 cycles

Products Line

Shaft	Maximum resolution		Products No.	Minimum packing unit (pcs.)	Drawing No.
	Direction	Encoder			
1	8	—	RKJXM1015001	1,000	1
2		15-pulses/15-detents	RKJXM2E13001		2

For other detailed specifications, see P.340

Dimensions

Unit:mm

No.	Style	PC board mounting hole dimensions
1	<p>Operating direction of lever.</p>	
2	<p>Operating direction of lever.</p>	

Power

Push

Slide

Rotary

Encoders

Detector

Dual-in-line
Package Type

Multi Control
Devices

TACT

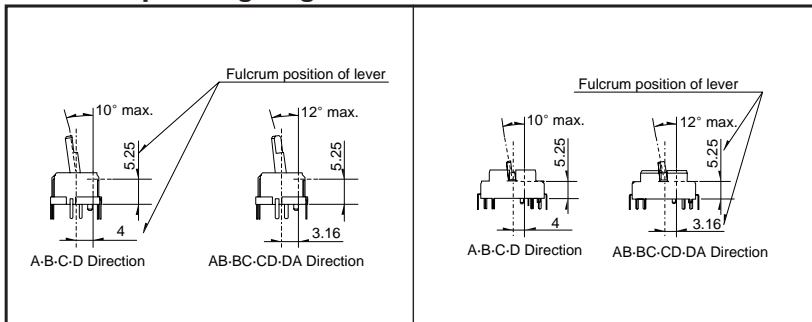
Custom-
Products

Variable
Resistor Type

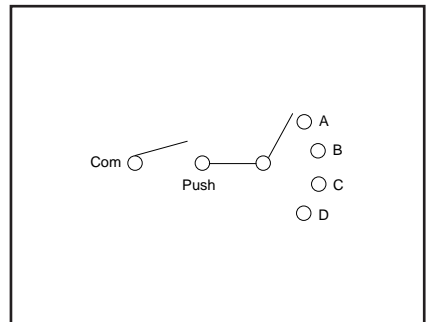
Switch
Type

Lever Operating Angle

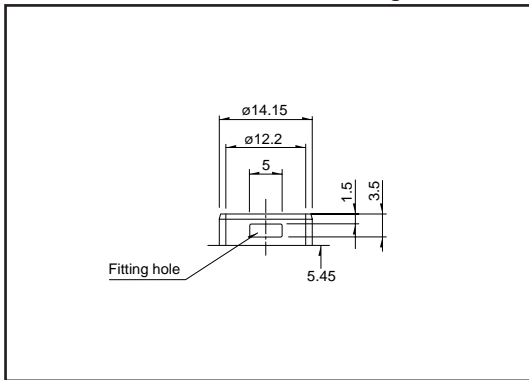
Unit:mm



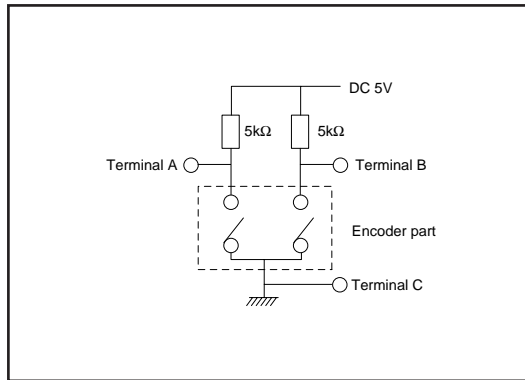
Switch Circuit



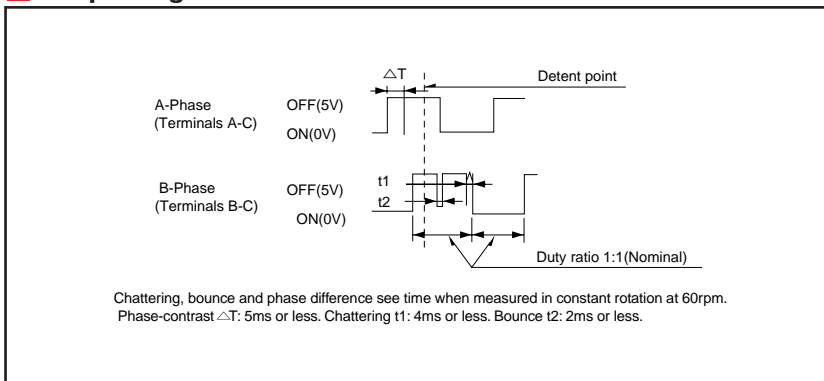
Detail Dimension for Knob Fitting Unit:mm



Test Circuit

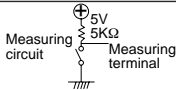


Output Signal



- Power
- Push
- Slide
- Rotary
- Encoders
- Detector
- Dual-in-line Package Type
- Multi Control Devices
- TACT
- Custom-Products
- Variable Resistor Type
- Switch Type

Products Specifications

Items		RKJXT	RKJXM	RKJXL	RKJXS	SLLB	SLLB5	SLLQ	
Operating temperature range		-30°C to +70°C			-20°C to +70°C	-10°C to +60°C		-40°C to +85°C	
Power	Rating (max.) (Resistive load)	10mA 5V DC							
Push	Electrical performance	Output voltage			1V max. at 1mA 5V DC (Resistive load)				
Slide		Directional resolution				8-directional			
Rotary		Insulation resistance			100MΩ min. 250V DC	50MΩ min. 50V DC	100MΩ min. 100V DC		
Encoders		Voltage proof			300V AC for 1min.	50V AC for 1min.	100V AC for 1 min.		
Detector	Mechanical characteristics	Direction application force		40±25mN·m	Direction A, B, C, D 30±20mN·m Direction AB, BC, CD, DA 25±20mN·m	10±7mN·m	0.8±0.5N	_____	
Dual-in-line Package Type		Push application force		4.5±2N	3±1.5N	4.5±1N	2.5±1.5N	_____	
Multi Control Devices		Encoders Detent torque		15±8mN·m	12±8mN·m	_____			
TACT		Robustness of terminal		_____			3N for 1 min.		
Custom-Products		Robustness of actuator	Pushing direction		_____		30N	50N	30N
			Operating direction		_____		20N	10N	
Variable Resistor Type		Solder heat resistance	Manual soldering		300°C max. 3s max.		350±10°C 3 ¹ / ₂ s	350±5°C 3s max.	
			Dip soldering		260±5°C, 5±1s		_____		
			Reflow soldering		_____		Please see P.341		
Switch Type	Vibration		8.3 to 200 to 8.3Hz, 4.4G fixed (for 15 minutes/1 cycle), 3 angles each 2 hours			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			
	Endurance	Operating life	Directions	50,000 cycles	100,000 cycles	500,000 cycles	_____		
			Center detent	_____					
		Encoder	15,000 cycles			_____			
		Operating life without load		_____			100,000 cycles		
	Operating life with load (Load : As rating)		_____			100,000 cycles			
Environmental test	Cold		-40±2°C for 500h		-40±2°C for 96h	-20±2°C for 96h	-40±2°C for 96h		
	Long-term heat resistance		85±2°C for 500h		85±2°C for 96h				
	Moisture resistance		90 to 95%RH for 500h, 60±2°C		90 to 95%RH for 96h, 60±2°C	90 to 95%RH for 96h, 40±2°C			

Note

Shall be in accordance with individual specifications.