

MRK・MRKC

Key Switches



RoHS Compliant



■ Features

1. For PCB Mounting

Direct mounting to PC board. The terminal pin layout is in inch pitch.

3. Smooth Operation

Steel ball adopted to click mechanism for smooth operation.

2. High Contact Reliability

Gold-plated contact with self-cleaning, twin contact mechanism provides high contact reliability.

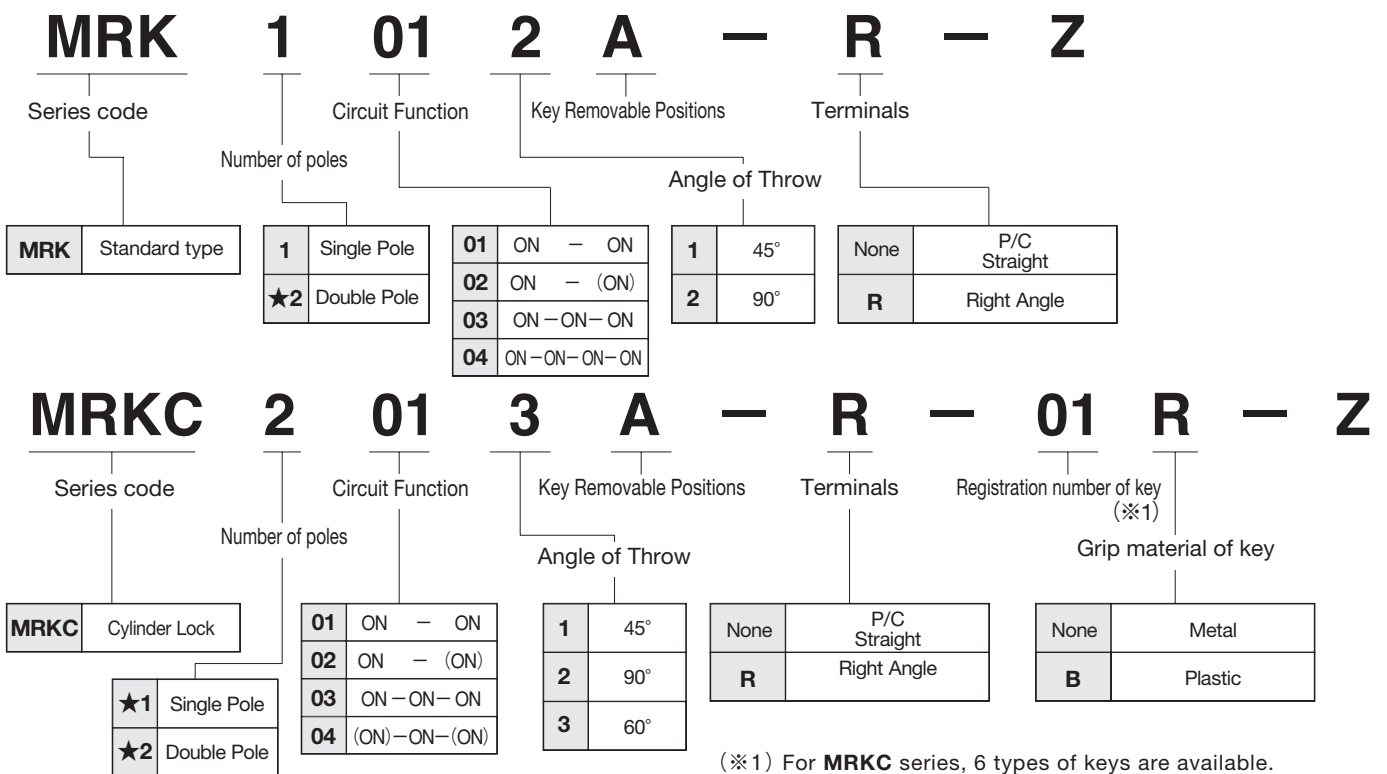
4. Improved Resistance to Soldering Heat

The resistance to soldering heat of contacts is improved by blocking heat from terminals by using the printed circuit board.

5. Cylinder Lock Type (MRKC)

Cylinder lock mechanism is adopted, enabling choice of various types of key.

■ Part Numbering

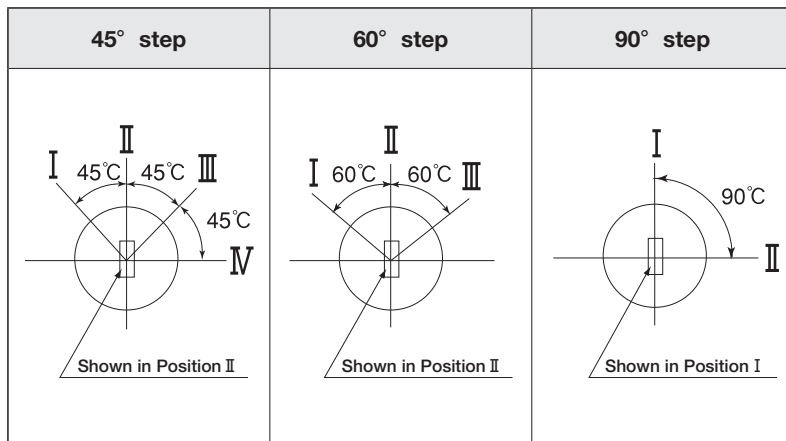


MRK•MRKC

■ Specifications

Rating	0.4VA max. (20VDC max.)	
Initial contact resistance	200mΩ max. (0.5mA 200μVAC)	
Dielectric strength	250VAC 1 minute	
Insulation resistance	100MΩ min. (100VDC)	
Electrical life	10,000 cycles	
Operating force	MRK	2.94±0.98N•cm
	MRKC	2.94±1.47N•cm
Operating temperature range	-20°C~+70°C	
Storage temperature range	-40°C~+80°C	

■ Angle of Throw



■ Key Removable Position

Code	Key position			
	I	II	III	IV
A	○	○	—	—
B	○	×	—	—
C	×	○	—	—
D	○	○	○	○
E	×	○	○	—
F	×	×	○	—
G	○	○	×	—
H	○	×	○	—
K	○	×	×	—
L	×	○	×	—

○ : Removable

× : Not removable

■ Standard Accessories

〈Supplied with switch〉

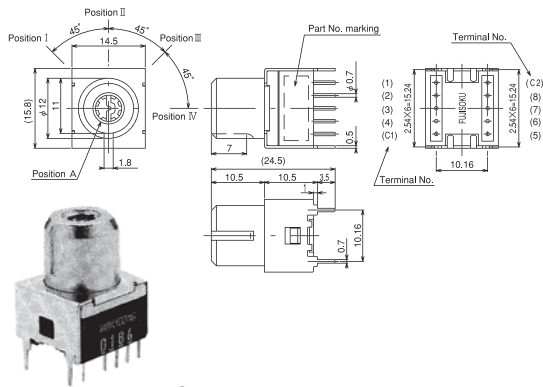
Part name	Key		
	MRK	MRKC	
Series			
Part No.	140007050010	140009002602	140009003061
Dimensions	<p>Plastic Metal</p>	<p>Metal</p> <p>Key type "01"</p>	<p>Plastic Metal</p> <p>Key type "01B"</p>
Grip material	Plastic	Metal	Plastic

● Each switch comes with two keys.

MRK (45° step 3&4-position)

● PC type Straight

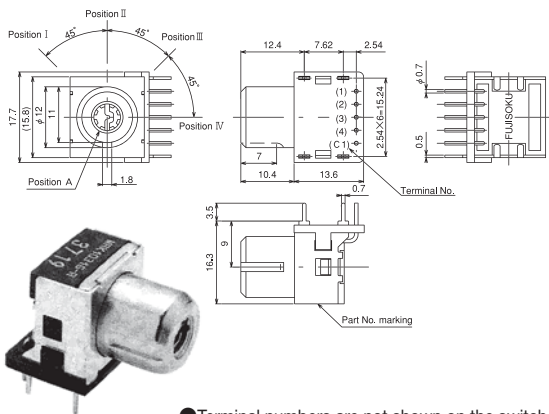
Single Pole, Double Pole



- In single pole versions, terminals (C2), (5), (6), and (7) are not provided.
- Terminal numbers are not shown on the switch.
- In switches with switching function D, E, F, G, H, K, and L, terminals (4) and (8) are not provided.

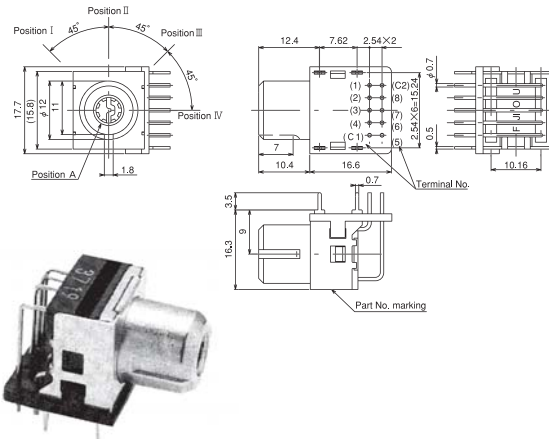
● Right Angle

Single Pole



- Terminal numbers are not shown on the switch.

Double Pole



- Terminal numbers are not shown on the switch.

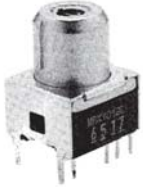
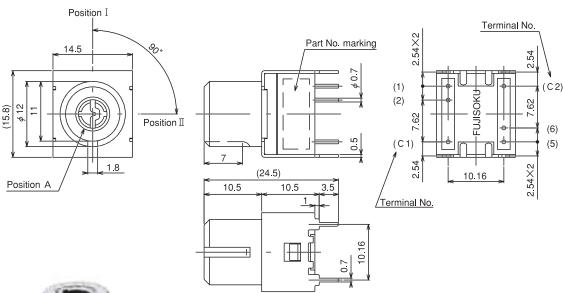
Part No.	Key removable position				A portion	Circuit function				Circuit diagram		
	I position	II position	III position	IV position		Connecting position						
						I position	II position	III position	IV position			
★MRK1031D-Z ★MRK2031D-Z ★MRK1031D-R-Z ▲MRK2031D-R-Z	○	○	○	—		ON	ON	ON	ON			
▲MRK1031E-Z ▲MRK2031E-Z ▲MRK1031E-R-Z ▲MRK2031E-R-Z	○	○	○	—		ON	ON	ON	ON			
▲MRK1031F-Z ▲MRK2031F-Z ★MRK1031F-R-Z ▲MRK2031F-R-Z	○	○	○	—		ON	ON	ON	ON			
★MRK1031G-Z ▲MRK2031G-Z ▲MRK1031G-R-Z ▲MRK2031G-R-Z	○	○	○	—		ON	ON	ON	ON			
▲MRK1031H-Z ▲MRK2031H-Z ▲MRK1031H-R-Z ▲MRK2031H-R-Z	○	○	○	—		ON	ON	ON	ON			
★MRK1031K-Z ▲MRK2031K-Z ▲MRK1031K-R-Z ▲MRK2031K-R-Z	○	○	○	—		ON	ON	ON	ON			
★MRK1031L-Z ▲MRK2031L-Z ★MRK1031L-R-Z ▲MRK2031L-R-Z	○	○	○	—		ON	ON	ON	ON			
★MRK1041D-Z ▲MRK2041D-Z ▲MRK1041D-R-Z ▲MRK2041D-R-Z	○	○	○	○		ON	ON	ON	ON			
Connecting terminals	Single Pole					C1-1	C1-2	C1-3	C1-4			
	Double Pole					C1-1	C1-2	C1-3	C1-4	C2-5	C2-6	C2-7

(*):C2 is not available in single pole versions.

MRK (90° step 2-position)

● PC type Straight

Single Pole, Double Pole



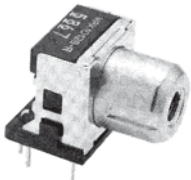
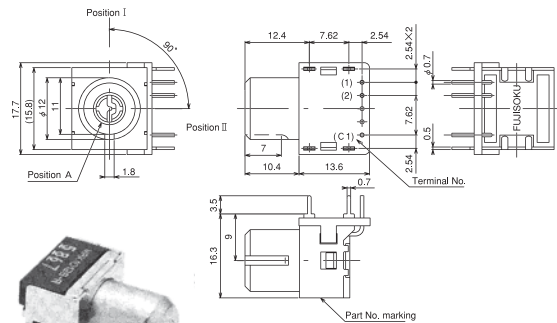
- In single pole versions, terminals (C2), (5), and (6) are not provided.
- Terminal numbers are not shown on the switch.

Part No.	Key removable position		A portion	Circuit function		Circuit diagram
	I position	II position		Connecting position		
				I position	II position	
☆ MRK1012A-Z ▲ MRK2012A-Z	○	○				
☆ MRK1012B-Z ▲ MRK2012B-Z	○			ON	ON	
★ MRK1012C-Z ▲ MRK2012C-Z		○				
★ MRK1022B-Z ▲ MRK2022B-Z	○			ON	(ON)	
Connecting terminals			Single Pole	C1-1	C1-2	
			Double Pole	C1-1 C2-5	C1-2 C2-6	

(*): C2 is not available in single pole versions.
 (ON): Momentary

● Right Angle

Single Pole

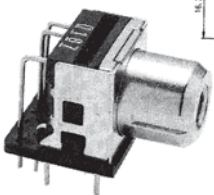
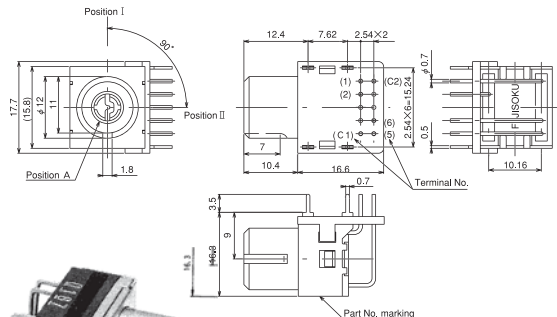


- Terminal numbers are not shown on the switch.

Part No.	Key removable position		A portion	Circuit function		Circuit diagram
	I position	II position		Connecting position		
				I position	II position	
★ MRK1012A-R-Z ★ MRK2012A-R-Z	○	○				
☆ MRK1012B-R-Z ★ MRK2012B-R-Z	○			ON	ON	
▲ MRK1012C-R-Z ▲ MRK2012C-R-Z		○				
▲ MRK1022B-R-Z ▲ MRK2022B-R-Z	○			ON	(ON)	
Connecting terminals			Single Pole	C1-1	C1-2	
			Double Pole	C1-1 C2-5	C1-2 C2-6	

(*): C2 is not available in single pole versions.
 (ON): Momentary

Double Pole

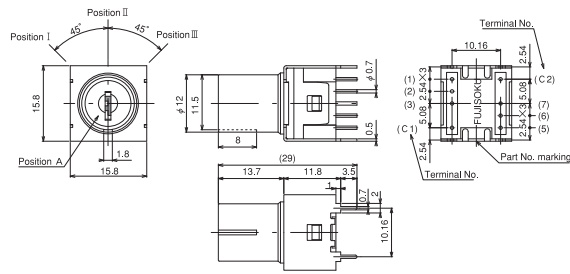


- Terminal numbers are not shown on the switch.

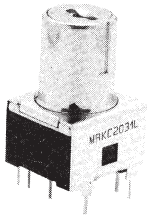
MRKC (45° step 3—position)

● PC type Straight

Single Pole, Double Pole



- In single pole versions, terminals (C2), (5), (6), and (7) are not provided.
- Terminal numbers are not shown on the switch.

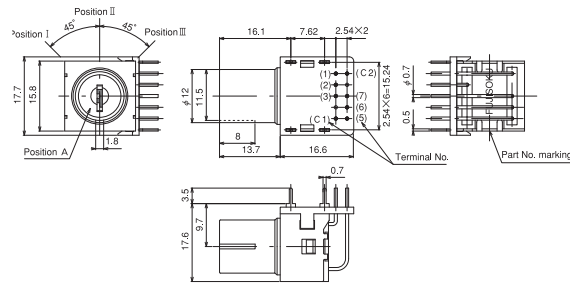


Part No.	Key removable position			A portion	Circuit function			Circuit diagram (*)
	I position	II position	III position		I position	II position	III position	
★MRKC1031L-01-Z ▲MRKC1031L-☒-Z ▲MRKC2031L-☒-Z		○			ON	ON	ON	
★MRKC1041L-01-Z ★MRKC1041L-01B-Z ▲MRKC1041L-☒-Z ▲MRKC2041L-☒-Z		○			(ON)	ON	(ON)	
Connecting terminals	Single Pole			C1-1	C1-2	C1-3		
	Double Pole			C1-1 C2-5	C1-2 C2-6	C1-3 C2-7		

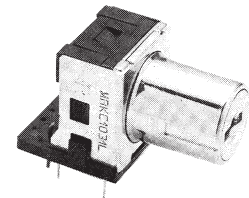
(*):C2 is not available in single pole versions.
(ON):Momentary

● Right Angle

Single Pole, Double Pole



- In single pole versions, terminals (C2), (5), (6), and (7) are not provided.
- Terminal numbers are not shown on the switch.



Part No.	Key removable position			A portion	Circuit function			Circuit diagram
	I position	II position	III position		I position	II position	III position	
▲MRKC1031L-R-01-Z ▲MRKC1031L-R-☒-Z ▲MRKC2031L-R-☒-Z		○			ON	ON	ON	
▲MRKC1041L-R-☒-Z ▲MRKC2041L-R-☒-Z		○			(ON)	ON	(ON)	
Connecting terminals	1—pole			C1-1	C1-2	C1-3		
	2—pole			C1-1 C2-5	C1-2 C2-6	C1-3 C2-7		

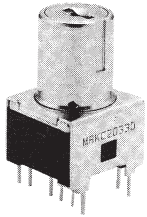
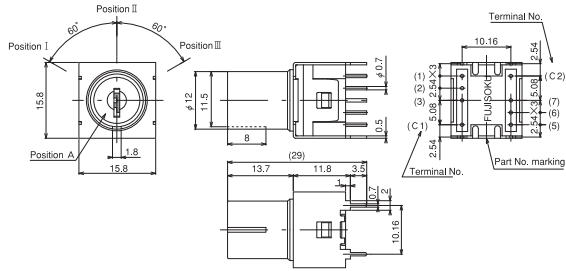
(*):C2 is not available in single pole versions.
(ON):Momentary

The box ☒ should show Key Registration No. and Key Grip Material Code.

MRKC (60° step 3-position)

● PC type Straight

Single Pole, Double Pole



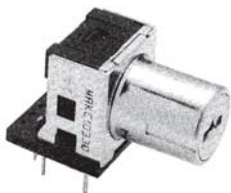
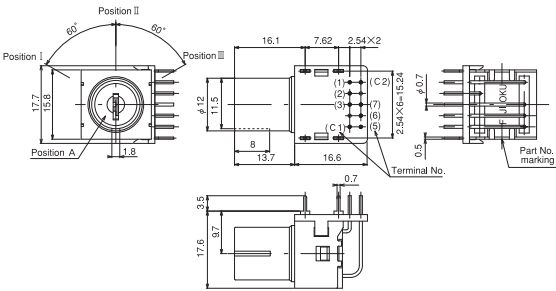
- In single pole versions, terminals (C2), (5), (6), and (7) are not provided.
- Terminal numbers are not shown on the switch.

Part No.	Key removable position			A portion	Circuit function			Circuit diagram (*)
					Connecting position			
	I position	II position	III position		I position	II position	III position	
▲MRKC1033D--Z ▲MRKC2033D--Z	○	○	○		ON	ON	ON	
▲MRKC1033L--Z ▲MRKC2033L--Z	○							
Connecting terminals				Single Pole	C1-1	C1-2	C1-3	
				Double Pole	C1-1 C2-5	C1-2 C2-6	C1-3 C2-7	

(*):C2 is not available in single pole versions.
(ON):Momentary

● Right Angle

Single Pole, Double Pole



- In single pole versions, terminals (C2), (5), (6), and (7) are not provided.
- Terminal numbers are not shown on the switch.

Part No.	Key removable position			A portion	Circuit function			Circuit diagram (*)
					Connecting position			
	I position	II position	III position		I position	II position	III position	
★MRKC1033D-R-01-Z ▲MRKC1033D-R--Z ▲MRKC2033D-R--Z	○	○	○		ON	ON	ON	
▲MRKC1033L-R--Z ▲MRKC2033L-R--Z	○							
Connecting terminals				Single Pole	C1-1	C1-2	C1-3	
				Double Pole	C1-1 C2-5	C1-2 C2-6	C1-3 C2-7	

(*):C2 is not available in single pole versions.
(ON):Momentary

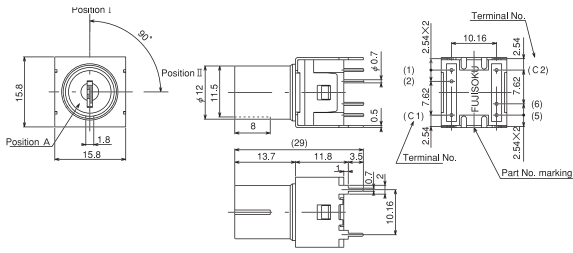
The box should show Key Registration No. and Key Grip Material Code.

★ : Made to order products. ▲ : Inquiry products.

MRKC (90° step 2—position)

● PC type Straight

Single Pole, Double Pole



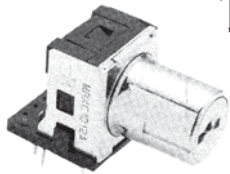
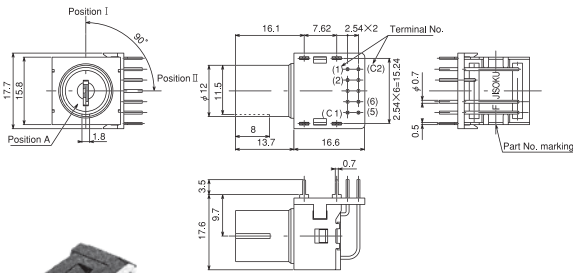
- In single pole versions, terminals (C2), (5), (6), and (7) are not provided.
- Terminal numbers are not shown on the switch.

Part No.	Key removable position		A portion	Circuit function		Circuit diagram (*)
	I position	II position		Connecting position		
				I position	II position	
★MRKC1012A-01-Z	○	○		ON	ON	
▲MRKC1012A-☒-Z	○	○		ON	ON	
▲MRKC2012A-☒-Z	○	○		ON	ON	
▲MRKC1012B-☒-Z	○			ON	(ON)	
▲MRKC2012B-☒-Z	○			ON	(ON)	
Connecting terminals			Single Pole	C1-1	C1-2	
			Double Pole	C1-1 C2-5	C1-2 C2-6	

(*) :C2 is not available in single pole versions.
(ON) :Momentary

● Right Angle

Single Pole, Double Pole



- In single pole versions, terminals (C2), (5), (6), and (7) are not provided.
- Terminal numbers are not shown on the switch.

Part No.	Key removable position		A portion	Circuit function		Circuit diagram (*)
	I position	II position		Connecting position		
				I position	II position	
▲MRKC1012A-R-01-Z	○	○		ON	ON	
▲MRKC1012A-R-☒-Z	○	○		ON	ON	
▲MRKC2012A-R-☒-Z	○	○		ON	ON	
▲MRKC1012B-R-☒-Z	○			ON	(ON)	
▲MRKC2012B-R-☒-Z	○			ON	(ON)	
Connecting terminals			Single Pole	C1-1	C1-2	
			Double Pole	C1-1 C2-5	C1-2 C2-6	

(*) :C2 is not available in single pole versions.
(ON) :Momentary

The box ☒ should show Key Registration No. and Key Grip Material Code.

(ON) : Momentary.

▲ : Inquiry products.

★ : Made to order products.

PC Hole Layouts

(Top View)

Terminals	Poles	Single pole • Double poles		
	Steps	2-step (90°)	3-step (45° • 60°)	4-step (45°)
PC type Straight				
Right angle				
PC type Straight				
Right angle				

◆ For stand-off pins
⊕ For terminal pins

Key Mounting Dimensions

Series	MRK		MRKC	
Grip Material	Plastic		Metal	Plastic
Dimensions				

Precautions

1. Soldering

- (1) Manual Soldering
 - Device : Solder iron.
 - 360°C Max. 3 sec. Max.
- (2) Auto Soldering
 - Method : Jet wave or dip type
 - 275°C Max. 6 sec. Max
- Preheat should be within 80-120°C, 120sec.

2. Flux Cleaning

- (1) Solvent : Alcohol type.
- (2) MRK and MRKC series are not washable. To wash the PC board, clean the soldering surface of the PC board with a brush so that the switch is not exposed to the cleaning solution.