

# MRK・MRKC

## キースイッチ Key Switches



RoHS 指令対応 RoHS Compliant

### ■Features

#### 1. For PCB Mounting

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

#### 2. High Contact Reliability

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

#### 3. Smooth Operation

Steel ball adopted to click mechanism for smooth operation.

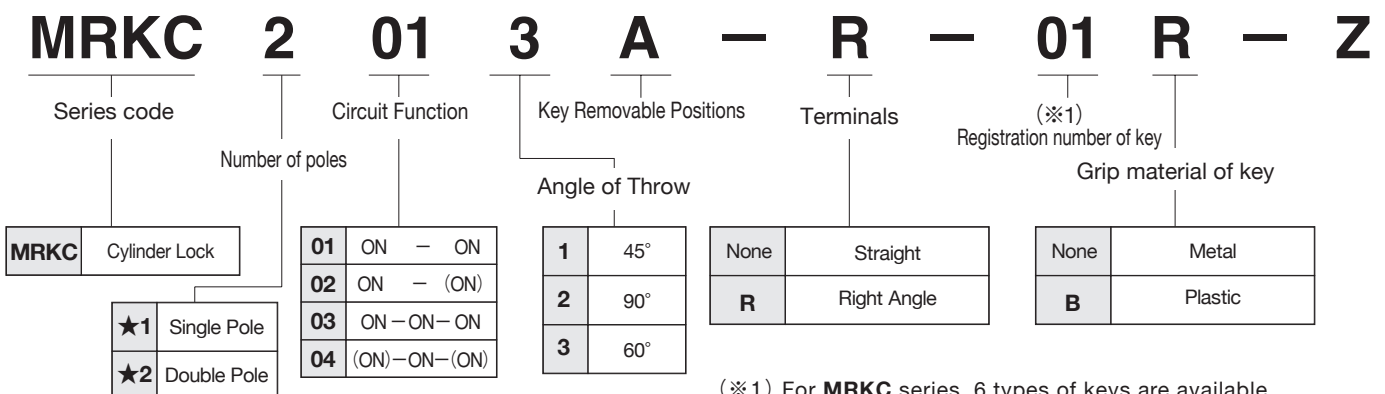
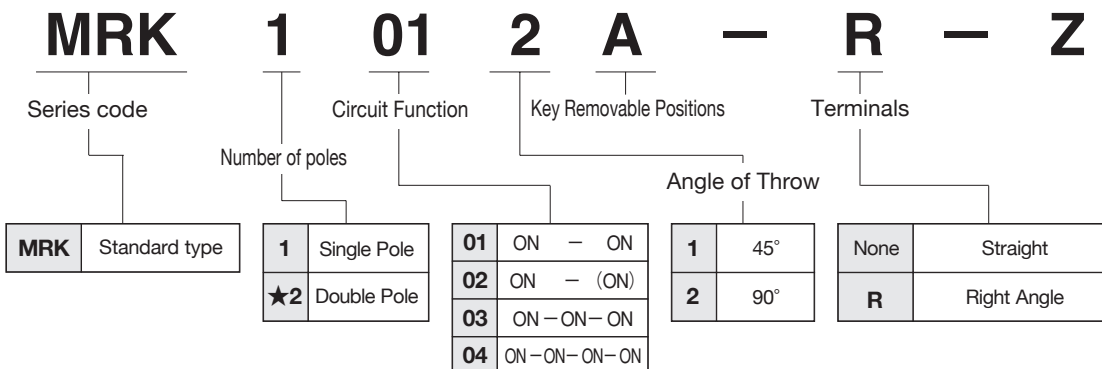
#### 4. Improved Resistance to Soldering Heat

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



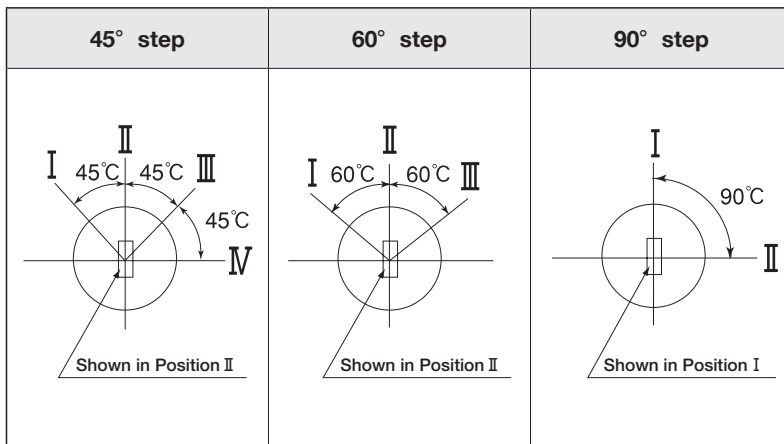
(※1) For MRKC series, 6 types of keys are available. (01~03, 01B~03B)

# 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

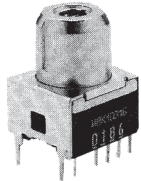
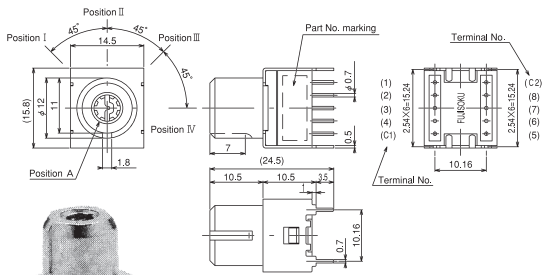
《Supplied with switch》

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

● Each switch comes with two keys.

● PC type  
Straight

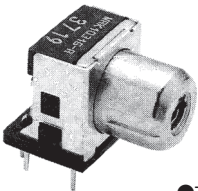
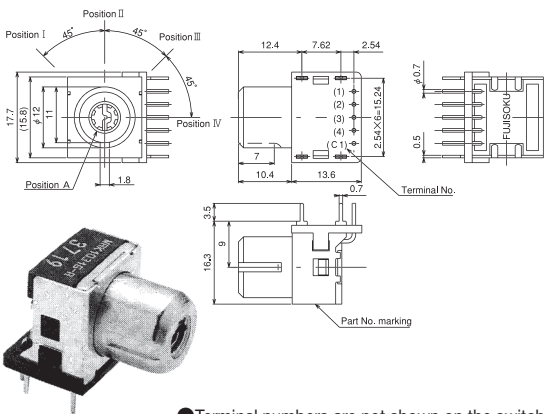
Single Pole, Double Pole



- 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.

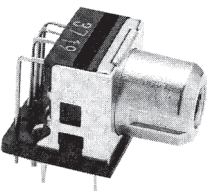
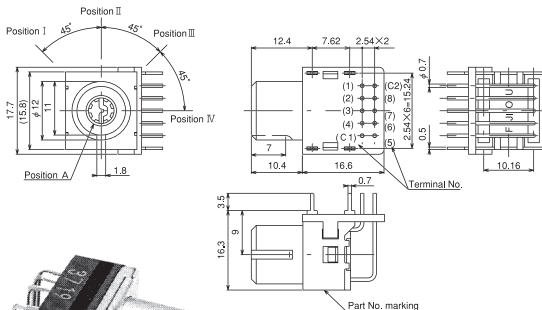
● Right Angle

Single Pole



- Terminal numbers are not shown on the switch.

Double Pole



- Terminal numbers are not shown on the switch.

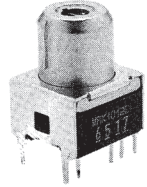
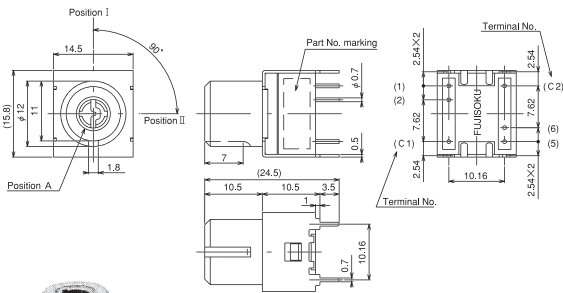
Part No.	Key removable position				A portion	Circuit function				Circuit diagram			
	I position	II position	III position	IV position		Connecting position							
						I position	II position	III position	IV position				
★MRK1031D-Z ★MRK2031D-Z ★MRK1031D-R-Z ▲MRK2031D-R-Z	○	○	○	—									
▲MRK1031E-Z ▲MRK2031E-Z ▲MRK1031E-R-Z ▲MRK2031E-R-Z		○	○	—									
▲MRK1031F-Z ▲MRK2031F-Z ★MRK1031F-R-Z ▲MRK2031F-R-Z			○	—									
★MRK1031G-Z ▲MRK2031G-Z ▲MRK1031G-R-Z ▲MRK2031G-R-Z	○	○	—	—	ON	ON	ON	—					
▲MRK1031H-Z ▲MRK2031H-Z ▲MRK1031H-R-Z ▲MRK2031H-R-Z	○		○	—									
★MRK1031K-Z ▲MRK2031K-Z ▲MRK1031K-R-Z ▲MRK2031K-R-Z	○		—	—									
★MRK1031L-Z ▲MRK2031L-Z ★MRK1031L-R-Z ▲MRK2031L-R-Z		○	—	—									
★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	C2-8

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

# MRK (90° step 2-position)

## ●PC type Straight

### Single Pole, Double Pole



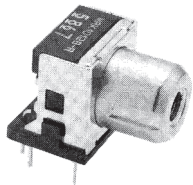
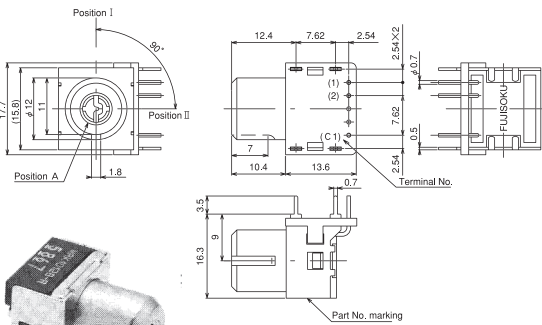
- In single pole versions, terminals (C2), (5), and (6) are not provided.
- Terminal numbers are not shown on the switch.

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

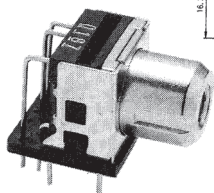
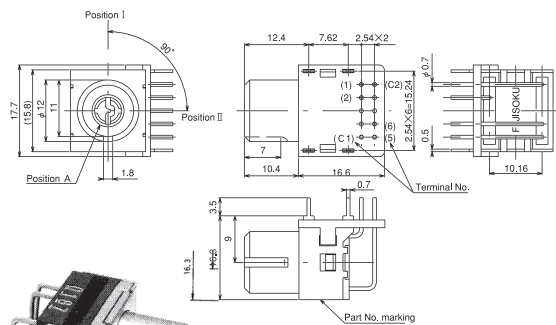


- Terminal numbers are not shown on the switch.

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.

★ : Made to order products.

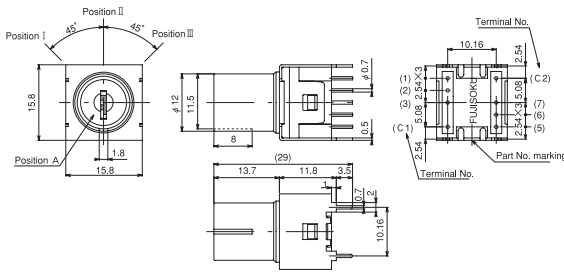
☆ : Semi-standard products.

▲ : Inquiry products.

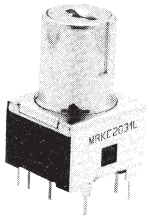
(ON) : Momentary.

●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.

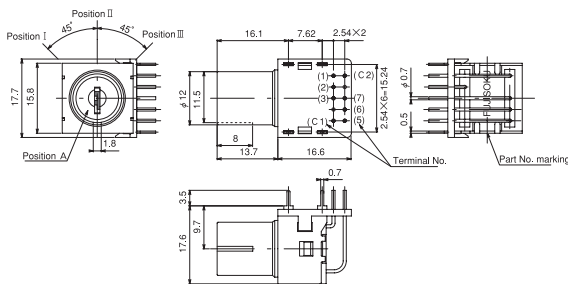


Part No.	Key removable position			A portion	Circuit function			(*) Circuit diagram
	Connecting position							
	I position	II position	III position					
★MRKC1031L-01-Z ▲MRKC1031L-☒-Z ▲MRKC2031L-☒-Z		○			ON	ON	ON	
★MRKC1041L-01-Z ★MRKC1041L-01B-Z ▲MRKC1041L-☒-Z ▲MRKC2041L-☒-Z		○			(ON)	ON	(ON)	
Connecting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

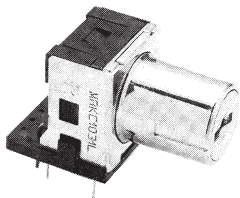
(\*): C2 is not available in single pole versions.  
(ON):Momentary

●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
	Connecting 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—poles			C1-1 C2-5	C1-2 C2-6	C1-3 C2-7	

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

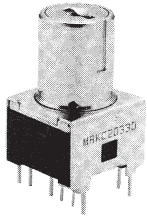
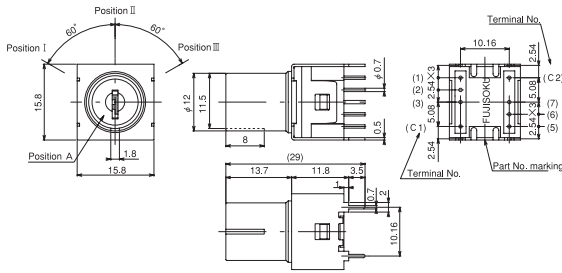
The box ☒ should show Key Registration No. and Key Grip Material Code.

▲ : Inquiry products. (ON) : Momentary. ★ : Made to order products.

# MRKC (60° step 3-position)

## ●PC type Straight

### Single Pole, Double Pole



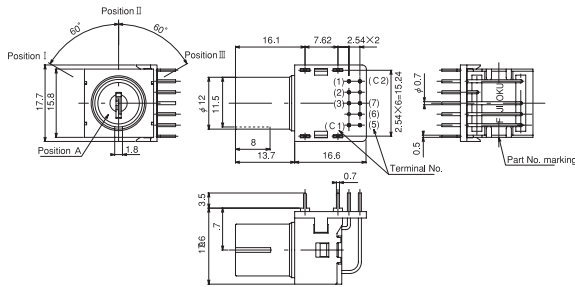
- In single pole versions, terminals (C2), (5), (6), and (7) are not provided.
- Terminal numbers are not shown on the switch.

Part No.	Key removable position			A portion	Circuit function			*) Circuit diagram
	I position	II position	III position		Connecting position			
					I position	II position	III position	
▲MRKC1033D-☒-Z ▲MRKC2033D-☒-Z	○	○	○		ON	ON	ON	
▲MRKC1033L-☒-Z ▲MRKC2033L-☒-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	

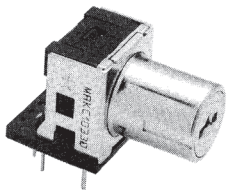
(\*) : C2 is not available in single pole versions.  
(ON) : Momentary

## ●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位置 I position	II位置 II position	III位置 III position		Connecting 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	○	○	○		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

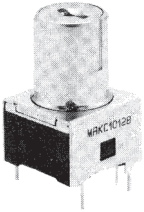
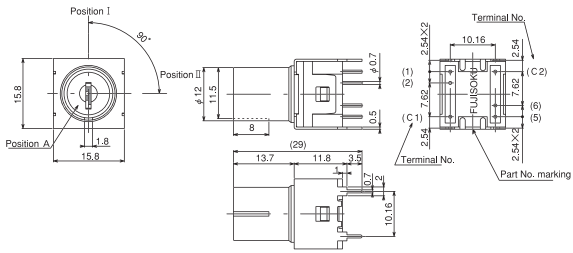
☒には、キー登録番号、キーグリップ材質記号が入ります。

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

★(黒星)は、受注生産品です。 ▲は、お問い合わせ品です。  
★ : Made to order products. ▲ : Inquiry products.

● PC type Straight

Single Pole, Double Pole



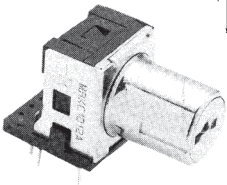
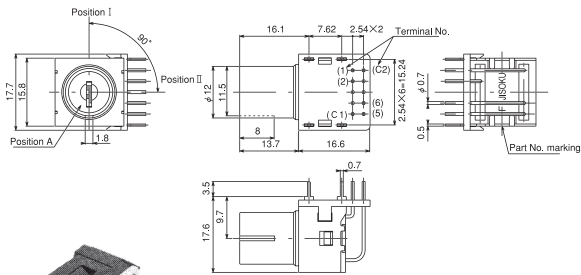
- In single pole versions, terminals (C2), (5), (6), and (7) are not provided.
- Terminal numbers are not shown on the switch.

Part No.	Key removable position		A portion	Circuit function		(*) Circuit diagram
	I position	II position		Connecting position		
				I position	II position	
★MRKC1012A-01-Z ▲MRKC1012A-□-Z ▲MRKC2012A-□-Z	○	○		ON	ON	
▲MRKC1012B-□-Z ▲MRKC2012B-□-Z	○			ON	ON	
▲MRKC1022B-□-Z ▲MRKC2022B-□-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 ▲MRKC1012A-R-□-Z ▲MRKC2012A-R-□-Z	○	○		ON	ON	
▲MRKC1012B-R-□-Z ▲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)

Poles Steps Terminals	Single pole · Double poles		
	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.