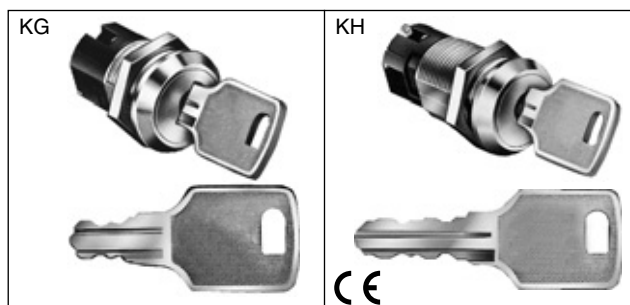


# KG/KH series Miniature Key Lock Switches

**Miniature, cylindrical, unibody key lock switches for mounting in ø19 mm oval hole**  
**Metal housing, and high-performance microswitch contacts**

- Space-saving design: Panel depth: 29.9 mm (KG series) / 39.5 mm (KH series)
- Reliable and smooth operation
- Silver or gold contacts
- Reversible key (non-directional key)
- Two keys are supplied.
- For the KH series, different keys (different key nos.) are available (made to order). Master key is not available.



## KG/KH Series

Series	Position		Key Retained at ●	No. of Contacts	Part No.		Operator Position and Contact Operation (Top View)			
					Silver Contact	Gold Contact	No. of Contacts	Left	Center	Right
KG	90° 2-Position	Maintained	A	SPDT	KG2C-10A	KG2C-11A	SPDT	NO NC	—	NO NC
				DPDT	KG2C-20A	KG2C-21A		C1		C1
			B	SPDT	KG2C-10B	KG2C-11B	DPDT	Left Contact NO NC Right Contact NO NC	—	Left Contact NO NC Right Contact NO NC
				DPDT	KG2C-20B	KG2C-21B		C1 C2		C1 C2
			C	SPDT	KG2C-10C	KG2C-11C				
				DPDT	KG2C-20C	KG2C-21C				
	45° 3-Position	Maintained	A	DPDT	KG3C-20A	KG3C-21A	DPDT	Left Contact NO NC Right Contact NO NC	Left Contact NO NC Right Contact NO NC	Left Contact NO NC Right Contact NO NC
			B	DPDT	KG3C-20B	KG3C-21B		C1 C2	C1 C2	C1 C2
			C	DPDT	KG3C-20C	KG3C-21C				
			D	DPDT	KG3C-20D	KG3C-21D				
			E	DPDT	KG3C-20E	KG3C-21E				
			G	DPDT	KG3C-20G	KG3C-21G				
			H	DPDT	KG3C-20H	KG3C-21H				
KH	90° 2-Position	Maintained	A	SPDT	KH2C-10A	KH2C-11A	SPDT	NO NC	—	NO NC
				DPDT	KH2C-20A	KH2C-21A		C1		C1
			B	SPDT	KH2C-10B	KH2C-11B	DPDT	Left Contact NO NC Right Contact NO NC	—	Left Contact NO NC Right Contact NO NC
				DPDT	KH2C-20B	KH2C-21B		C1 C2		C1 C2
			C	SPDT	KH2C-10C	KH2C-11C				
				DPDT	KH2C-20C	KH2C-21C				
	45° 3-Position	Maintained	A	DPDT	KH3C-20A	KH3C-21A	DPDT	Left Contact NO NC Right Contact NO NC	Left Contact NO NC Right Contact NO NC	Left Contact NO NC Right Contact NO NC
			B	DPDT	KH3C-20B	KH3C-21B		C1 C2	C1 C2	C1 C2
			C	DPDT	KH3C-20C	KH3C-21C				
			D	DPDT	KH3C-20D	KH3C-21D				
			E	DPDT	KH3C-20E	KH3C-21E				
			G	DPDT	KH3C-20G	KH3C-21G				
			H	DPDT	KH3C-20H	KH3C-21H				

- Two keys are supplied. (For ordering spare keys, see page 175.)
- For the KH series, different keys (different key nos.) are available (made to order). Master key is not available.
- Different keys (different key nos.) are not available for KG series.

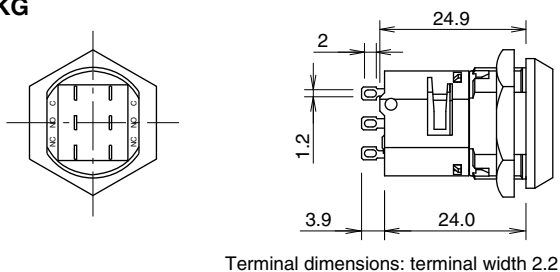
# KG/KH Series Miniature Key Lock Switches

## Specifications

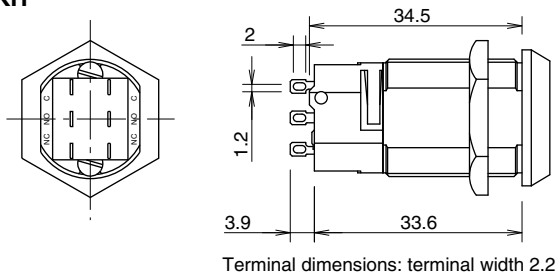
Standard Operating Conditions	Operating temperature: -25 to +50°C (no freezing) Storage temperature: -30 to +70°C (no freezing) Operating humidity: 45 to 85% RH (no condensation)
Contact Resistance	50 mΩ maximum (initial value)
Insulation Resistance	100 MΩ minimum (500V DC megger)
Dielectric Strength	Between live and dead parts: 2,500V AC, 1 minute Between live parts of different poles: 1,000V AC, 1 minute
Mechanical Life	50,000 operations minimum
Electrical Life	30,000 operations minimum
Vibration Resistance	Damage Limits/Operating Extremes: 5 to 55 Hz, amplitude 0.5 mm
Shock Resistance	Damage Limits: 1,000 m/s <sup>2</sup> Operating Extremes: 100 m/s <sup>2</sup>
Terminal Style	Solder terminal (Connectable wire: 0.75 mm <sup>2</sup> × 2 wires max.)
Degree of Protection	IP40 (IEC 60529)
Housing Color	Chrome-plated (metallic)
Weight	KG series: 30g, KH series: 40g (excluding key)

## Dimensions

### KG



### KH

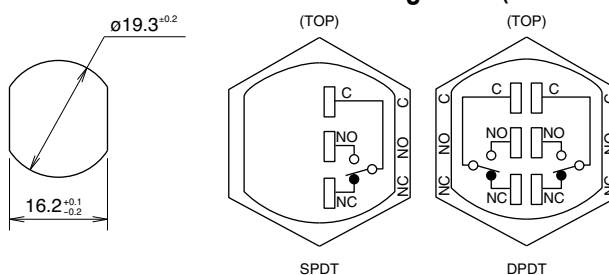


## Contact Ratings (Microswitch)

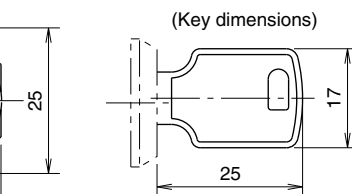
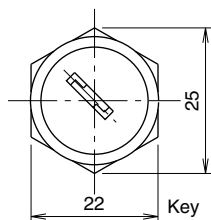
Insulation Voltage	125V
Thermal Current	3A
Operating Voltage & Current	Silver contact microswitch: 125V AC, 1A (resistive load) 30V DC, 1A (resistive load) Gold contact microswitch: 30V DC, 0.1A (resistive load)
Operating Frequency	1,800 operations/hour

- Minimum applicable load (reference value): Gold contact microswitch 24V AC/DC, 1 mA

## Panel Cut-out Terminal Arrangement (Bottom View)

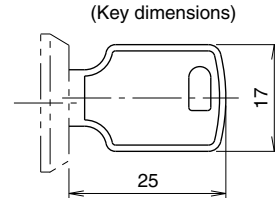
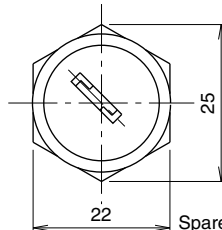


Top marking



Ordering No.: KG9Z-SK-231PN02  
Package Quantity: 2 (2.0 mm thick, Material: Nickel-plated brass)

Top marking



Spare Key  
Ordering No.: KH9Z-SK-H100PN02  
Package Quantity: 2 (2.0 mm thick, Material: Nickel-plated brass)

## Safety Precautions

- Turn off power to the switch before installation, removal, wiring, maintenance, and inspection. Failure to turn power off may cause electrical shocks or fire hazard.
- For wiring, use wires of proper size to meet the voltage and current requirements. Improper soldering may cause overheating and fire.

## Instructions

### Notes on Panel Mounting

- Use an optional locking ring wrench to mount the switch in a panel cut-out. Tightening torque should not exceed 2.94 N·m.

### Wiring

- Solder the terminal at 350°C within 3 seconds, using a 60W soldering iron. Sn-Ag-Cu solder is recommended.
- When soldering, do not touch the switch housing with the soldering iron. Also ensure that no tensile force is applied to the terminals. Do not bend the terminals or apply excessive force to the terminals.
- Use a non-corrosive rosin flux.

### Contacts

- When switching inductive loads, contact resistance is increased by arcing. Therefore, it is recommended to connect a contact protection circuit to ensure contact reliability.
- When using NO and NC contacts of the same microswitch, avoid connections of different voltages, or connections of different types of power supplies. Failure to observe this instruction may cause a short-circuit.

### Different Keys (Different Key Nos.)

- If a key of a different No. is inserted, the switch does not work with normal operating force. However, if the switch is forcibly operated, or if the key is incompletely inserted, the switch may operate.