

KM Series Miniature Key Lock Switches

Miniature, light-weight, plastic housing Withstands electrostatic voltage of 15 kV

- Miniature, light-weight body
Depth behind the panel: 25.5 mm (Housing: 19.5 mm),
Weight: Approx. 10g (excluding key)
- Electrostatic withstand voltage of 15 kV
- For mounting in $\varnothing 19$ -mm oval hole
- High-performance microswitch contacts (gold or silver)
- Two keys are supplied.



KM 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
KM	90° 2-Position	Maintained	A	SPDT	KM2C-10A	KM2C-11A	SPDT	NO NC C1	—	NO NC C1
				DPDT	KM2C-20A	KM2C-21A				
			B	SPDT	KM2C-10B	KM2C-11B	DPDT	Left Contact NO NC C1	—	Right Contact NO NC C2
				DPDT	KM2C-20B	KM2C-21B				
			C	SPDT	KM2C-10C	KM2C-11C		Left Contact NO NC C1	—	Right Contact NO NC C2
				DPDT	KM2C-20C	KM2C-21C				
	45° 3-Position	Maintained	A	DPDT	KM3C-20A	KM3C-21A	DPDT	Left Contact NO NC C1		Right Contact NO NC C2
			B	DPDT	KM3C-20B	KM3C-21B				
			C	DPDT	KM3C-20C	KM3C-21C		Left Contact NO NC C1		Right Contact NO NC C2
			D	DPDT	KM3C-20D	KM3C-21D				
			E	DPDT	KM3C-20E	KM3C-21E		Left Contact NO NC C1		Right Contact NO NC C2
			G	DPDT	KM3C-20G	KM3C-21G				
			H	DPDT	KM3C-20H	KM3C-21H		Left Contact NO NC C1		Right Contact NO NC C2

- The key slot (the front of the key cylinder) is made of black plastic.
- Two keys are supplied. (For ordering spare keys, see page 173.)
- Different keys (different key nos.) are not available for KM series.

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	30,000 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 ² Operating Extremes: 100 m/s ²
Terminal Style	Solder terminal (Connectable wire: 0.75 mm ² × 2 wires max.)
Degree of Protection	IP40 (IEC 60529)
Housing Color	Black (plastic)
Weight	10g (excluding key)

Contact Ratings (Microswitch)

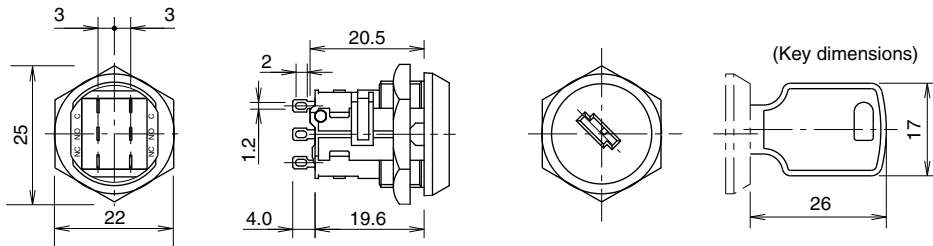
Insulation Voltage	125V
Thermal Current	3A
Operating Voltage & Current	Silver contact microswitch: 125V AC, 1A (resistive load) 30V DC, 1A (resistive load) Gold contact microswitch: 30V DC, 0.1A (resistive load)
Operating Frequency	1,800 operations/hour

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

KM Series Miniature Key Lock Switches

Dimensions

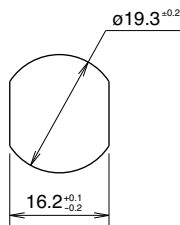
KM



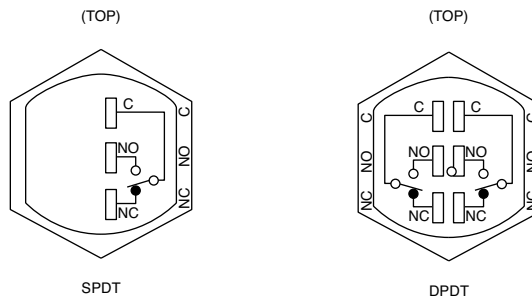
Terminal dimensions: terminal width 2.2

Spare Key
Ordering No.: KG9Z-SK-231PN02
Package Quantity: 2
(2.0 mm thick, Material: Nickel-plated brass)
Different keys (different key nos.) are not available.

Panel Cut-out



Terminal Arrangement (Bottom View)



Flush
Silhouette

Switches &
Pilot Lights

Display
Lights

LED
Illumination
Units

Display
Units

Safety
Products

Terminal
Blocks

Comm.
Terminals

AS-Interface

Relays &
Timers

Sockets

Circuit
Protectors

Power
Supplies

PLCs &
SmartRelay

Operator
Interfaces

Sensors

Control
Stations

Explosion
Protection

References

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 0.39 N·m. Do not use pliers. Do not tighten with excessive force, otherwise the switch may be damaged.

Wiring

- Solder the terminal at 330°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.

- 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.

Contacts