



Toggles

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

F

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

Accessories

Supplement



CK SeriesF3

16mm & 19mm High Security
3A Power Level
Solder Lug
Bushing Mount



SK SeriesF9

12mm Low & Medium Security
3A & 1A Power Level
Solder Lug
Bushing Mount



SK SeriesF15

Antistatic Process Sealed Subminiature
0.4VA Logic Level
Straight & Right Angle PC
PCB Mount



SK SeriesF19

Process Sealed
0.4VA Logic Level
Straight & Right Angle PC
PCB Mount



SK SeriesF25

Antistatic Snap-in
0.4VA Logic Level
Solder Lug
Snap-in Mount

General Specifications

Electrical Capacity (Resistive Load)

Power Level: 3A @ 250V AC

Other Ratings

- Contact Resistance:** 20 milliohms maximum
- Insulation Resistance:** 1,000 megohms minimum @ 500V DC
- Dielectric Strength:** 1,000V AC minimum between contacts for 1 minute minimum;
1,500V AC minimum between contacts & case for 1 minute minimum
- Mechanical Life:** 30,000 cycles minimum
- Electrical Life:** 10,000 cycles minimum
- Static Capability:** Withstands 15 kilovolts minimum ESD minimum (for CKM models only)
- Nominal Operating Torque:** 1.6mm Bushing (CKM models):
.04 mNm (5.67 oz•in) for Flat Key
.08 mNm (11.33 oz•in) for Tubular Key
1.9mm Bushing (CKL models):
.05 mNm (7.08 oz•in) for Flat Key
.07 mNm (9.91 oz•in) for Tubular Key
- Contact Timing:** Break-before-make
- Angle of Throw:** 90° for 2-position & 45° for 3-position

Materials & Finishes

- Keys for CKM:** Brass with nickel plating with ABS handle
- Keys for CKL:** Brass with nickel plating for tubular key;
brass with chrome plating for flat key
- Housing/Bushing:** Glass fiber reinforced PBT for CKM models;
zinc alloy with chrome plating for CKL
- Base:** LCP (Liquid Crystal Polymer)
- Contact Terminals:** Copper with silver plating
- Common Terminals:** Copper with silver plating
- Movable Contactor:** Copper
- Movable Contacts:** Silver

Environmental Data

- Operating Temperature Range:** -25°C through +70°C (-13°F through +158°F)
- Humidity:** 90 ~ 95% humidity for 240 hours @ 40°C (104°F) for CKM;
90 ~ 95% humidity for 96 hours @ 40°C (104°F) for CKL
- Vibration:** 10 ~ 55Hz with peak-to-peak amplitude of 1.5mm for CKM or 0.7mm for CKL traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours
- Shock:** 50G (490m/s²) acceleration for CKM; 30G (294m/s²) acceleration for CKL; (CKM & CKL tested in 6 right angled directions, with 5 shocks in each direction)

Installation

- Mounting Torque:** 1.5 Nm (13.28 lb•in) maximum
- Soldering Time & Temperature:** Manual Soldering: See Profile A in Supplement section.

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Distinctive Characteristics

High insulating material for 16mm CKM models withstands over 15 kilovolts of electrostatic discharge, thus providing antistatic feature.

Rugged, die cast housing 19mm CKL models designed for higher security requirements.

Vertically rotating switching mechanism combines with self-cleaning sliding contacts for high reliability and long operating life.

16mm and 19mm diameter bushings available.

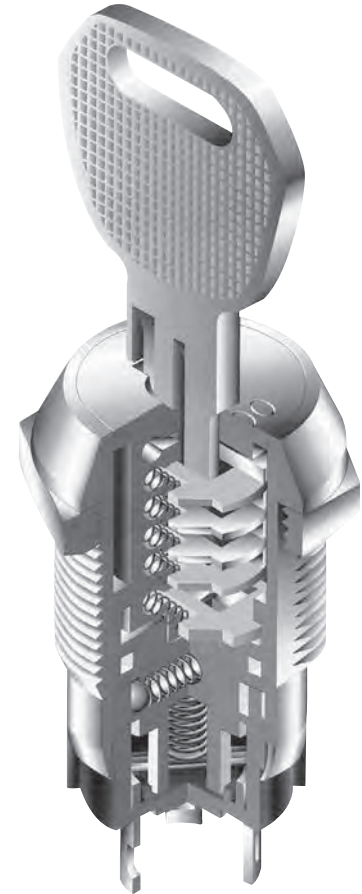
CKL and CKM on-off-on models with tubular keys have push-and-lock mechanism which allows contactor to drop and slide over stationary contacts.

Available in both flat and tubular key styles; flat key is reversible for easier setting.

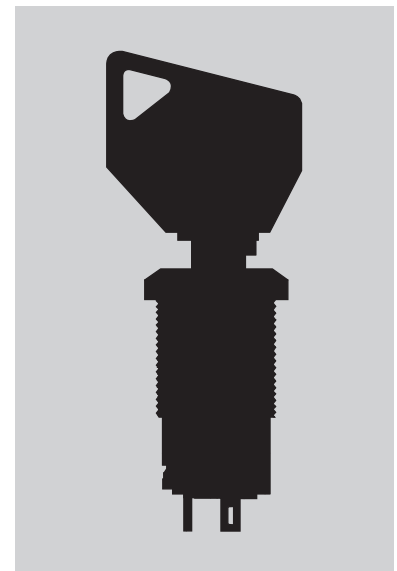
Epoxy sealed terminals prevent entry of flux and other contaminants.

Interior construction provides seal for contact area.

High dielectric strength of 1,500 volts between contacts and case.



Actual Size CKM with Tubular Key



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Slides

Tactiles

Tilt

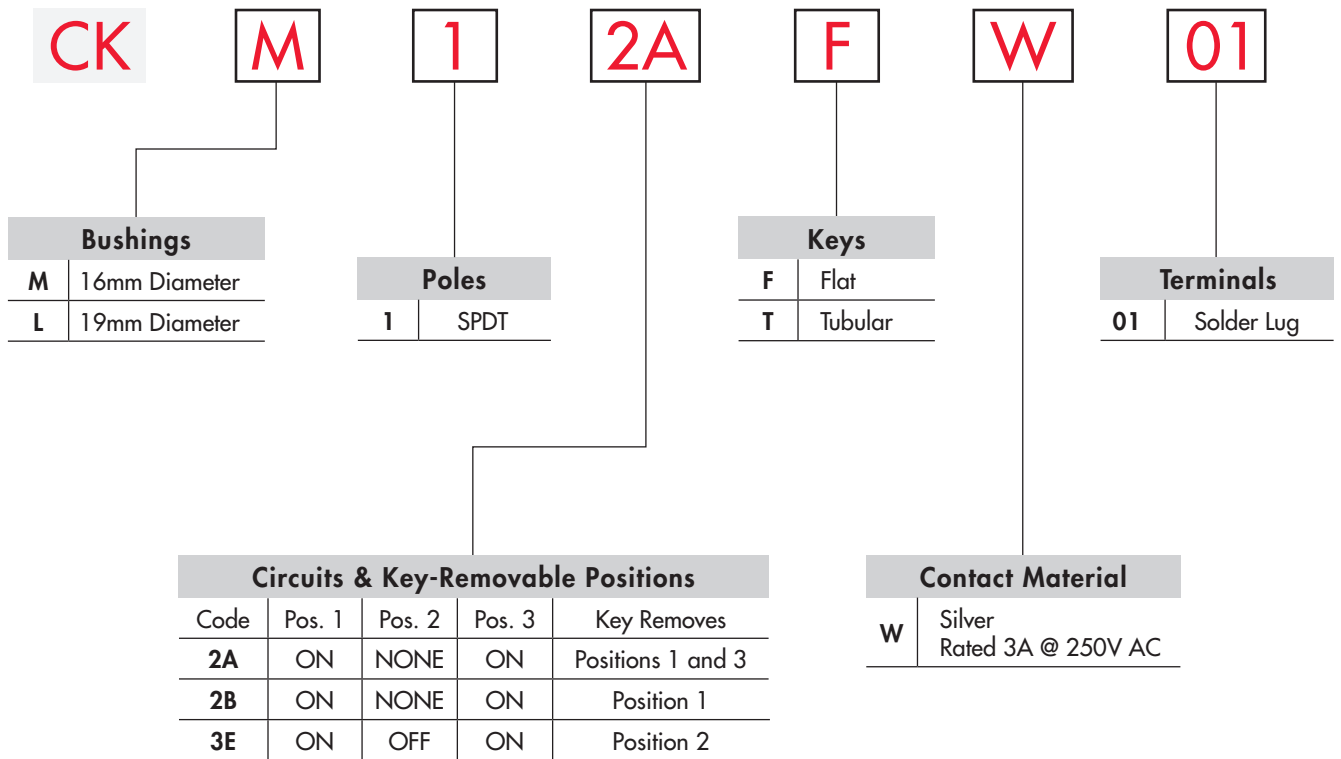
Touch

Indicators

Accessories

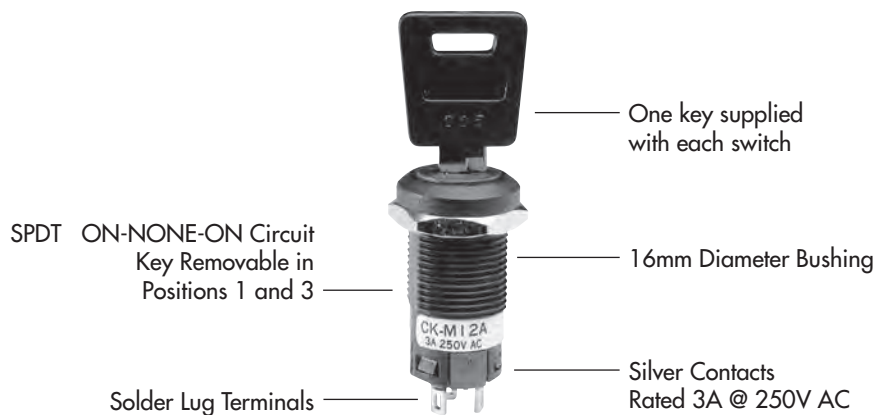
Supplement

TYPICAL SWITCH ORDERING EXAMPLE



DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

CKM12AFW01



POLES, CIRCUITS & KEY-REMOVABLE POSITIONS

Pole & Throw	Model	Key Positions			Connected Terminals (Terminal numbers are on switch)			Schematic	⊙ = Key Removable ● = Not Removable ✓ = Maximum Arc
		Pos 1	Pos 2	Pos 3	Pos 1	Pos 2	Pos 3		
SPDT	CKM12A CKL12A	ON	NONE	ON	COM-1	—	COM-2		
SPDT	CKM12B CKL12B	ON	NONE	ON	COM-1	—	COM-2		
SPDT	CKM13E CKL13E	ON	OFF	ON	COM-1	OPEN	COM-2		

KEYS

F Flat Key

- AT4147 for CKM 16mm**
Brass with Nickel Plating key base & ABS key handle
- AT4153 for CKL 19mm**
Brass with Chrome Plating (crosshatch texture on handle)

One key provided with each switch (no master key available)
For ordering additional keys, indicate the same key number that is engraved on the face of your switch.

Randomly assigned key number (001 through 010 for CKM models & 001 through 025 for CKL models).

Typical Key Ordering Example: AT4153-001

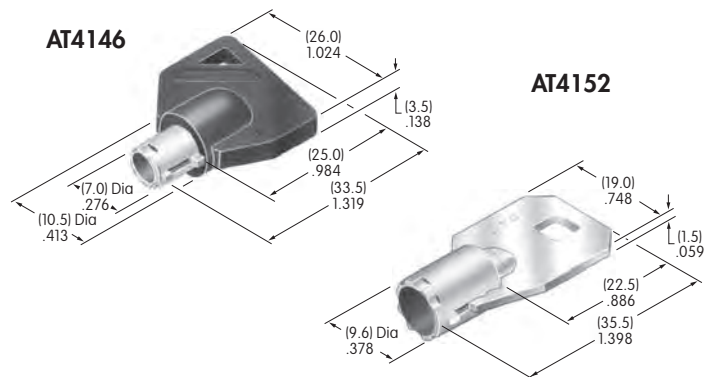
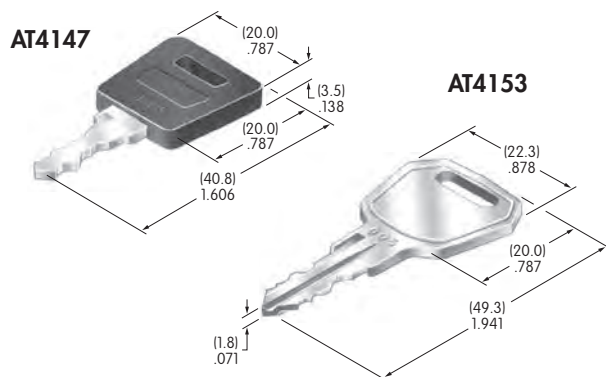
T Tubular Key (must be pressed inward to actuate)

- AT4146 for CKM 16mm**
Brass with Nickel Plating key base & ABS key handle
- AT4152 for CKL 19mm**
Brass with Nickel Plating (smooth)

One key provided with each switch (no master key available)
For ordering additional keys, indicate the same key number that is engraved on the face of your switch.

Randomly assigned key number (001 through 025 for CKM models & 001 through 050 for CKL models).

Typical Key Ordering Example: AT4146-001

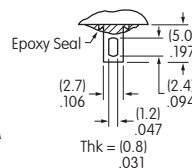


CONTACT MATERIALS, RATINGS & TERMINALS

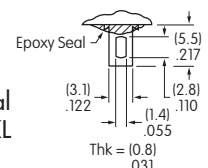
W Silver over Silver
Power Level 3A @ 250V AC

01 Solder Lug Terminals

Solder Lug Terminal for CKM



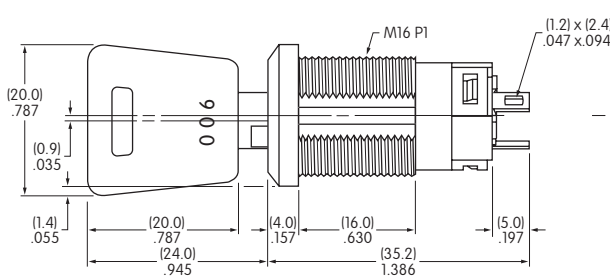
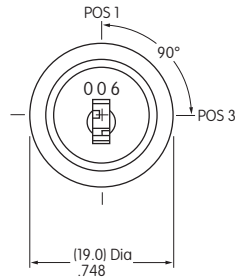
Solder Lug Terminal for CKL



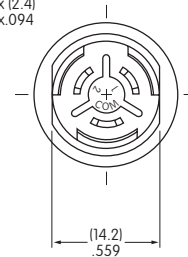
Toggles
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TYPICAL SWITCH DIMENSIONS

**90°
Angular
Throw**

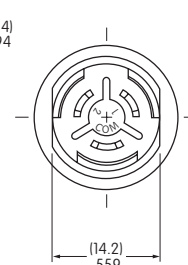
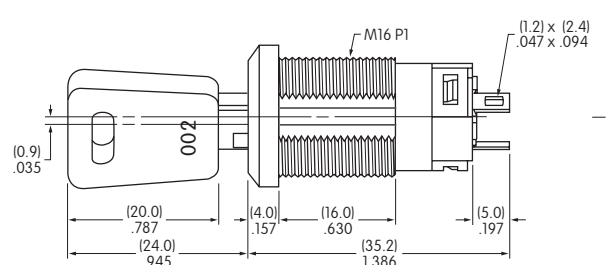
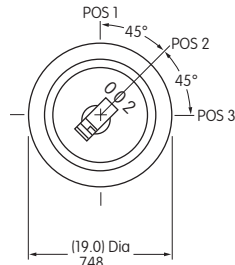


16mm Bushing • Flat Key



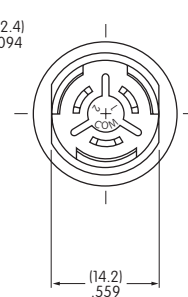
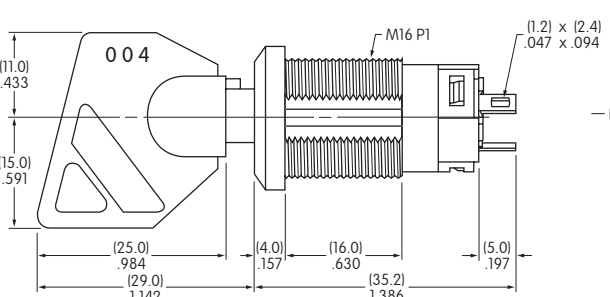
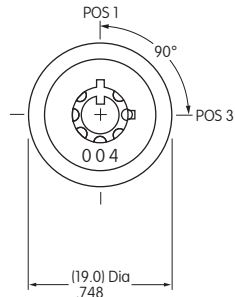
CKM12AFW01

**45°
Angular
Throw**



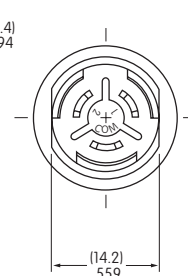
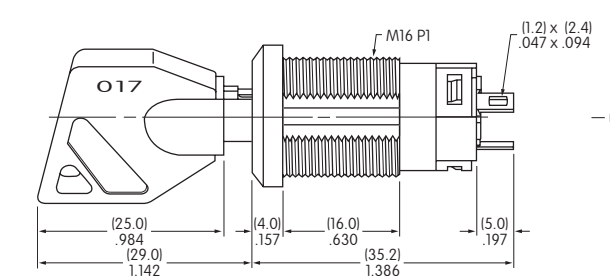
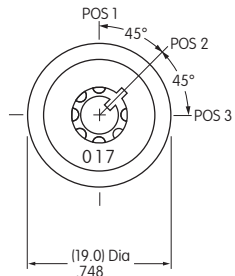
Toggles
Rockers
Pushbuttons
Illuminated PB
Programmable
F Keylocks

**90°
Angular
Throw**



CKM13ETW01

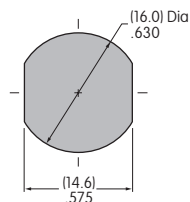
**45°
Angular
Throw**



Rotaries
Slides
Tactiles
Tilt
Touch

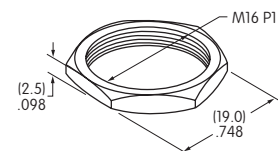
PANEL CUTOUT & STANDARD HARDWARE FOR 16MM BUSHING

Maximum Effective
Panel Thickness:
.469" (11.9mm)



AT016
16mm Hex Mounting Nut
for CKM

1 included with each switch
Steel with nickel plating



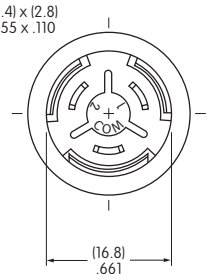
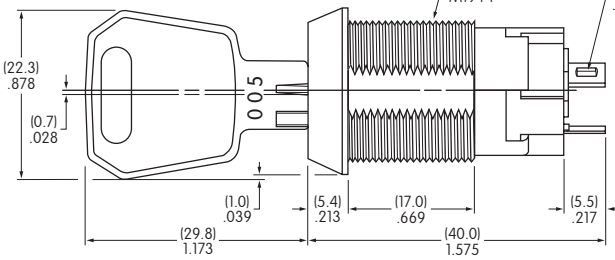
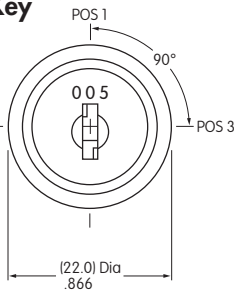
Indicators
Accessories
Supplement

TYPICAL SWITCH DIMENSIONS

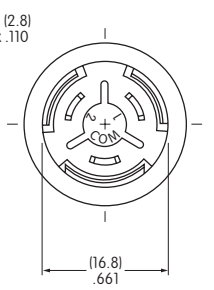
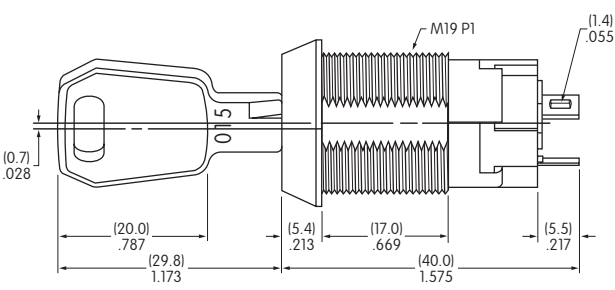
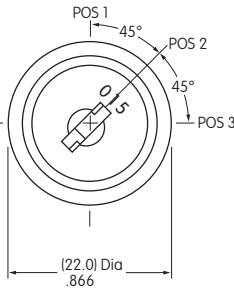
19mm Bushing • Flat Key



**90°
Angular
Throw**



**45°
Angular
Throw**

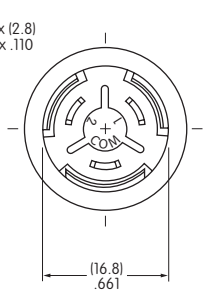
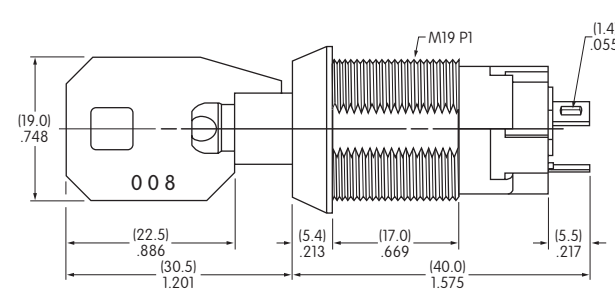
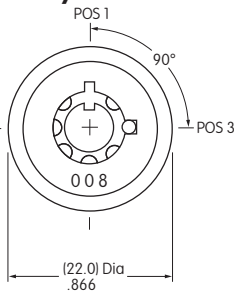


CKL12AFW01

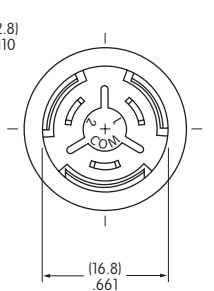
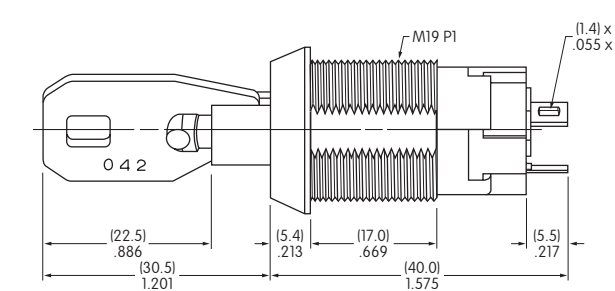
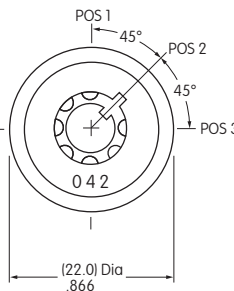
19mm Bushing • Tubular Key



**90°
Angular
Throw**



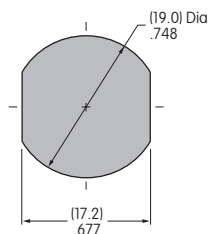
**45°
Angular
Throw**



CKL13ETW01

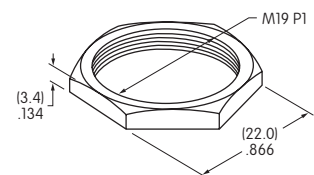
PANEL CUTOUT & STANDARD HARDWARE FOR 19MM BUSHING

Maximum Effective
Panel Thickness:
.496" (12.6mm)



**AT019
19mm Hex Mounting Nut
for CKL**

1 included with each switch
Steel with nickel plating



General Specifications

Electrical Capacity (Resistive Load)

Power Level (silver): 3A @ 125V AC for low & medium security; 1A @ 250V AC for low security

Other Ratings

Contact Resistance: 10 milliohms maximum
Insulation Resistance: 1,000 megohms minimum @ 500V DC
Dielectric Strength: 1,000V AC minimum between contacts for 1 minute minimum;
 1,500V AC minimum between contacts & case for 1 minute minimum
Mechanical Life: 30,000 cycles minimum
Electrical Life: 10,000 cycles minimum
Nominal Operating Torque: .026Nm (.234 lb•in) for low & medium security
Contact Timing: Break-before-make
Angle of Throw: 90° for 2-position & 45° for 3-position

Materials & Finishes

Key: Zinc alloy with chrome plating (matte) for low security models;
 brass with nickel plating (shiny) for medium security models
Tumbler Barrel: Zinc alloy with chrome plating (matte) for low security models;
 zinc alloy with chrome plating (shiny) for medium security models
Housing/Bushing: Zinc alloy with chrome plating (matte) for low security models;
 zinc alloy with chrome plating (shiny) for medium security models
Base: Phenolic resin (thermoset)
Movable Contactor: Silver
Stationary Contacts: Silver capped copper with silver plating
Terminals: Copper or brass with silver plating

Environmental Data

Operating Temperature Range: -25°C through +70°C (-13°F through +158°F)
Humidity: 90 ~ 95% humidity for 96 hours @ 40°C (104°F)
Vibration: 10 ~ 55Hz with peak-to-peak amplitude of 1.5mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours
Shock: 50G (490m/s²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)

Installation

Mounting Torque: 1.5Nm (13.28 lb•in) maximum
Soldering Time & Temperature: Manual Soldering: See Profile A in Supplement section.

Standards & Certifications

UL: **File No. E44145 - Recognized only when ordered with marking on switch.**
 Add "/U" or "/CUL" to end of part number to order UL recognized switch.
 All low security models recognized at 3A @ 125V AC or 1A @ 250V AC
 & all medium security models recognized at 3A @ 125V AC
CSA: **File No. 023535_0_000 - Certified only when ordered with marking on switch.**
 Add "/C" to end of part number to order CSA certified switch.
 All low security models certified at 3A @ 125V AC or 1A @ 250V AC

Distinctive Characteristics

12mm diameter bushing for easy panel cutout preparation and high density mounting.

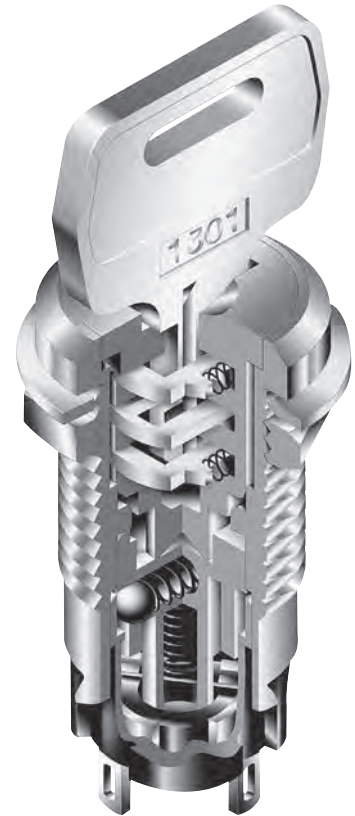
Epoxy sealed terminals prevent entry of flux and other contaminants.

Short behind panel dimension - only 1.063" (27.0mm).

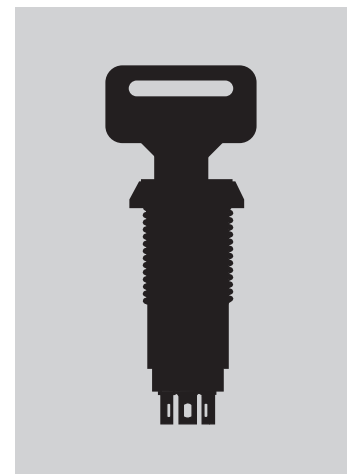
High dielectric strength of 1,500 volts between contacts and case.

Detent mechanism gives crisp, positive action for accurate switch setting.

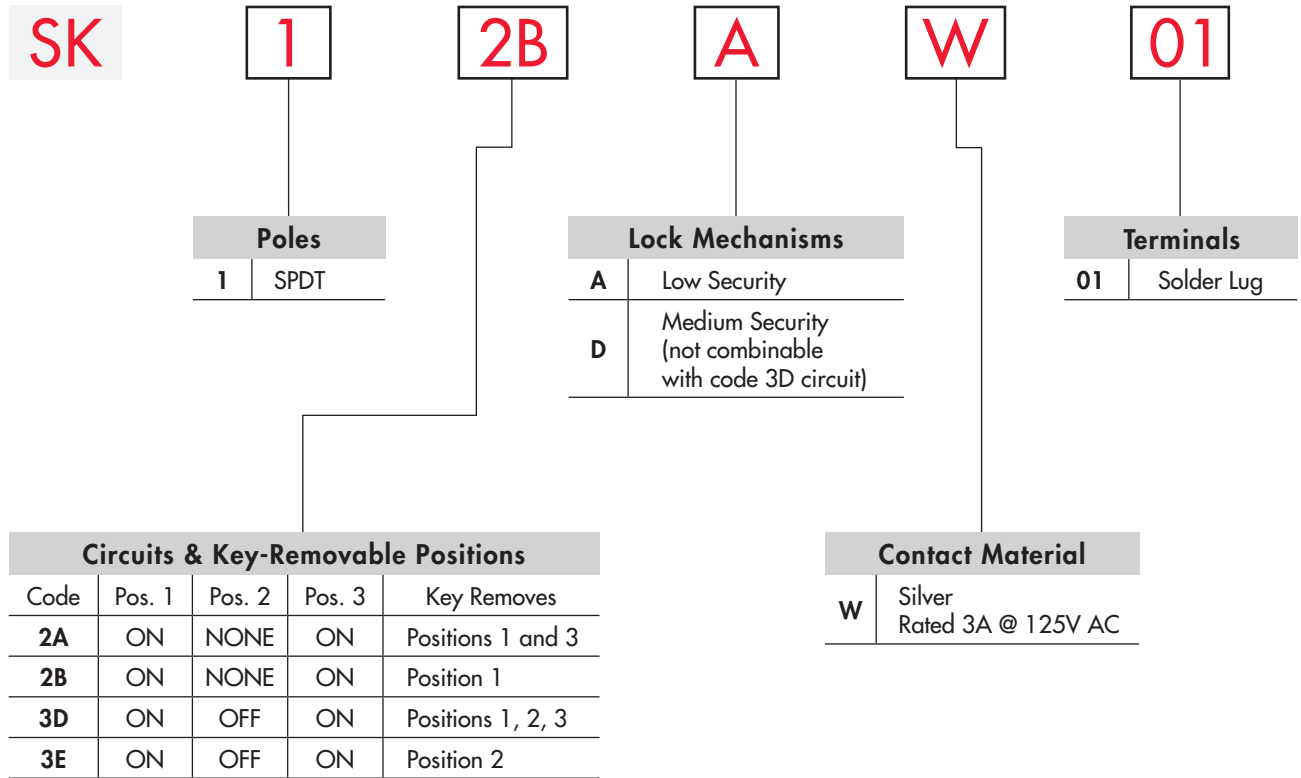
Dust resistant interior construction protects contacts.



Actual Size



TYPICAL SWITCH ORDERING EXAMPLE



IMPORTANT:



Switches are supplied without UL, cULus & CSA marking unless specified. **UL, cULus & CSA recognized only when ordered with marking on the switch.** Specific models, ratings, & ordering instructions are noted on the General Specifications page.

DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

SK12BAW01



POLES, CIRCUITS & KEY-REMOVABLE POSITIONS

Pole & Throw	Model	Key Positions			Connected Terminals (Terminal numbers are on switch)			Schematic	⊙ = Key Removable • = Not Removable ✓ = Maximum Arc
		Pos 1	Pos 2	Pos 3	Pos 1	Pos 2	Pos 3		
SPDT	SK12A	ON	NONE	ON	COM-1	—	COM-2		
SPDT	SK12B	ON	NONE	ON	COM-1	—	COM-2		
SPDT	*SK13D	ON	OFF	ON	COM-1	OPEN	COM-2		
SPDT	SK13E	ON	OFF	ON	COM-1	OPEN	COM-2		

* Available with low security only

KEY REMOVABLE

A Positions 1 & 3
90° Angular Throw

B Position 1
90° Angular Throw

D Positions 1, 2 & 3
45° Angular Throw

E Position 2
45° Angular Throw

LOCK MECHANISMS & KEYS

A Low Security Mechanism

Zinc Alloy with Chrome Plating (matte finish)

Two keys provided with each switch
(no master key available)

For ordering additional keys:
AT4081 for SK12A and SK12B, marked "1201"
AT4082 for SK13D and SK13E, marked "1301"

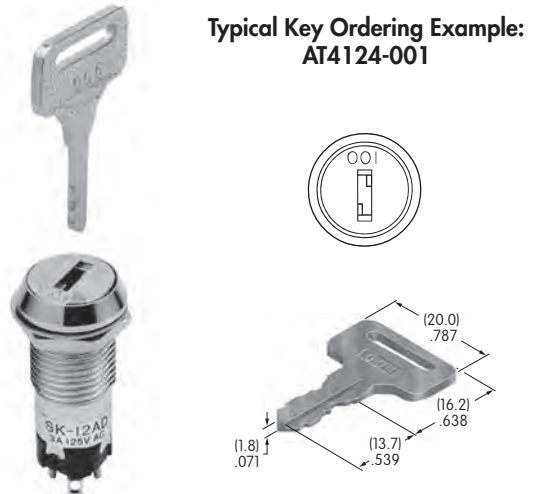
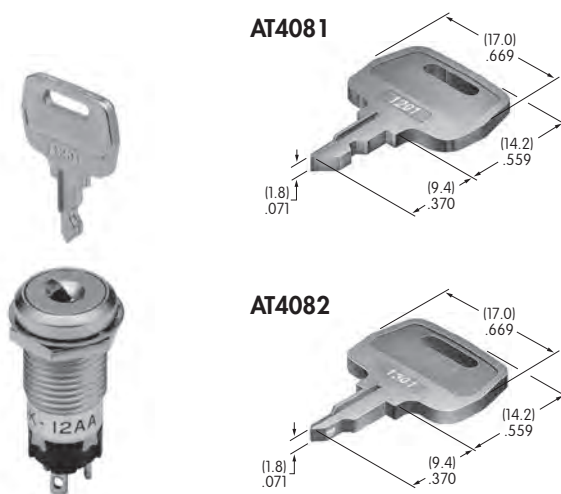
D Medium Security Mechanism

Brass with Nickel Plating (shiny finish)

One key provided with each switch
(no master key available)

For ordering additional keys, indicate the same key number that is engraved on the face of your switch.

Key numbers (001 through 010) randomly assigned.



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CONTACT MATERIALS, RATINGS, & TERMINALS

W

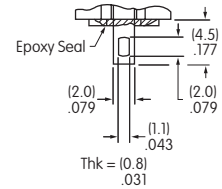
Silver over Silver

Power Level

3A @ 125V AC

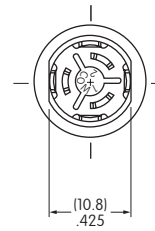
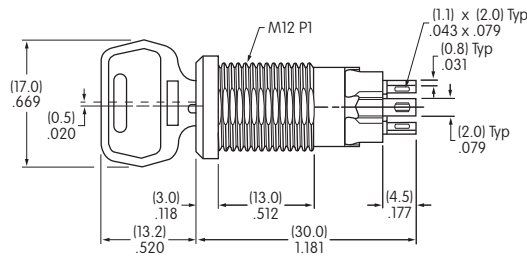
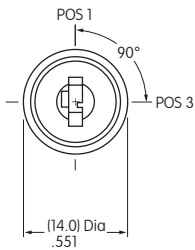
01

Solder Lug Terminals



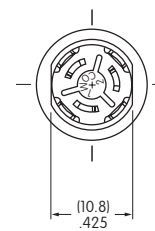
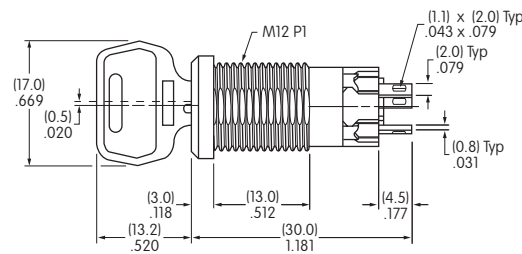
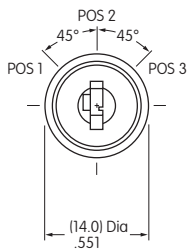
TYPICAL SWITCH DIMENSIONS

Low Security • 90° Angular Throw



SK12BAW01

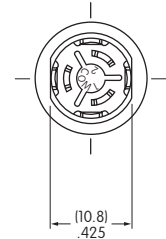
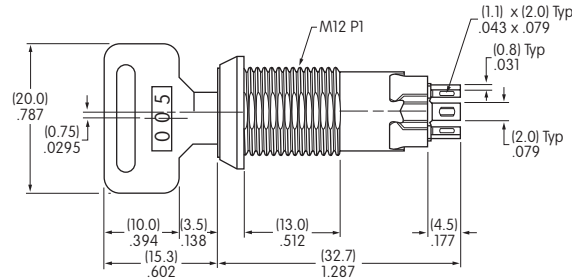
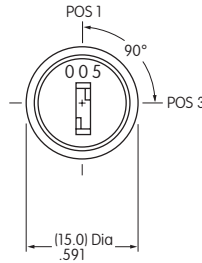
Low Security • 45° Angular Throw



SK13EAW01

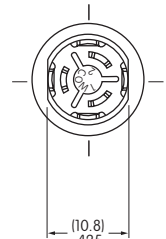
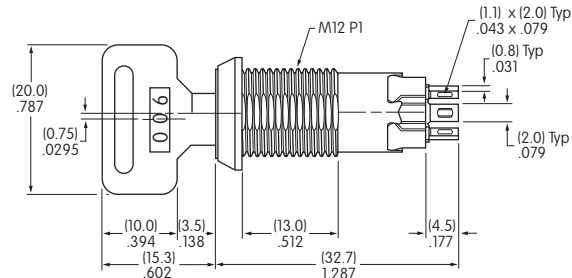
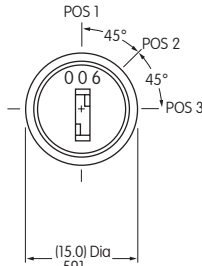
TYPICAL SWITCH DIMENSIONS

Medium Security • 90° Angular Throw



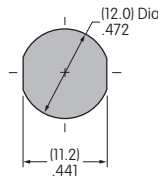
SK12ADW01

Medium Security • 45° Angular Throw



SK13EDW01

PANEL CUTOUT & THICKNESS



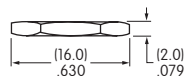
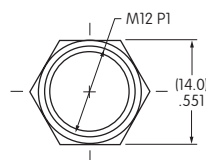
The 12mm bushing is .512" (13.0mm) long. It allows mounting these devices in a maximum effective panel thickness of .315" (8.0mm).

STANDARD HARDWARE

AT527M Hex Mounting Nut

1 included with each switch

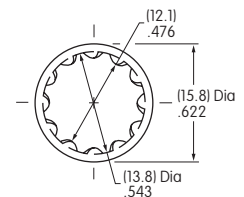
Steel with nickel plating



AT508 Internal Tooth Lockwasher

1 included with each switch

Steel with zinc/chromate plating



Toggles
Rockers
Pushbuttons
Illuminated PB
Programmable
Keylocks
Rotaries
Slides
Tactiles
Tilt
Touch
Indicators
Accessories
Supplement

General Specifications

Electrical Capacity (Resistive Load)

Logic Level: 0.4VA maximum @ 28V AC/DC maximum
(Applicable Range 0.1mA ~ 0.1A @ 20mV ~ 28V)
Note: Find additional explanation of operating range in Supplement section

Other Ratings

Contact Resistance: 100 milliohms maximum
Insulation Resistance: 100 megohms minimum @ 500V DC
Dielectric Strength: 500V AC minimum for 1 minute minimum
Mechanical Life: 30,000 cycles minimum
Electrical Life: 20,000 cycles minimum
Static Capability: Withstands 15 kilovolts ESD
Nominal Operating Torque: .0002Nm (.0017 lb•in)
Contact Timing: Break-before-make
Angle of Throw: 45° for 3-position & 5-position

Materials & Finishes

Key: Polyacetal
Housing/Bushing: Glass fiber reinforced polyester (PBT)
Base: Glass fiber reinforced polyamide
Rotor & Stopper: Polyacetal
Tumbler Plate: Brass
Movable Contactor: Beryllium copper with gold plating
Stationary Contacts: Phosphor bronze with gold plating
Terminals: Phosphor bronze with gold plating
Mounting Bracket: Steel with tin plating

Environmental Data

Operating Temperature Range: -25°C through +70°C (-13°F through +158°F)
Humidity: 90 ~ 95% humidity for 240 hours @ 40°C (104°F)
Vibration: 10 ~ 55Hz with peak-to-peak amplitude of 1.5mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours
Shock: 50G (490m/s²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)

PCB Processing

Soldering: Wave Soldering Recommended. See Profile A in Supplement section.
Manual Soldering: See Profile A in Supplement section.
Cleaning: Automated cleaning. See Cleaning specifications in Supplement section.

Standards & Certifications

The SK Series devices have not been tested for UL recognition or CSA certification. These switches are designed for use in a low-voltage, low-current, logic-level circuit. When used as intended in a logic-level circuit, the results do not produce hazardous energy.

Distinctive Characteristics

Housing and bushing of high insulating material withstands over 15 kilovolts of electrostatic discharge, thus providing antistatic protection.

Totally sealed construction with internal o-ring, with gasket between base and housing, and with insert-molded terminals, gives protection for automated processing techniques.

Subminiature size allows high density mounting.

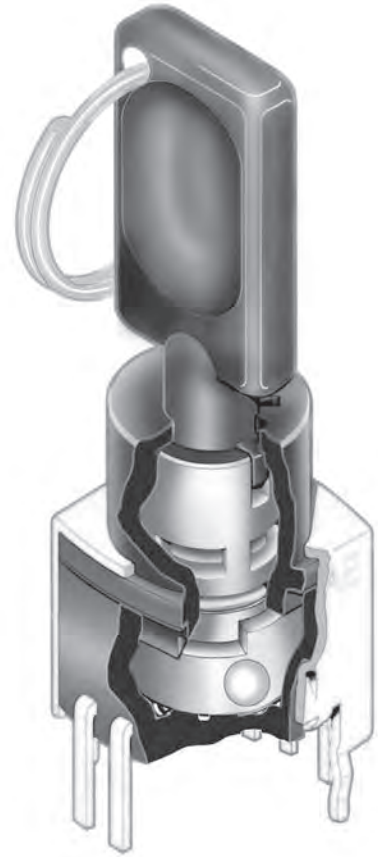
Molded-in terminals prevent entry of flux and other contaminants.

Crimped bracket legs ensure secure PCB mounting and prevent dislodging during automated wave soldering.

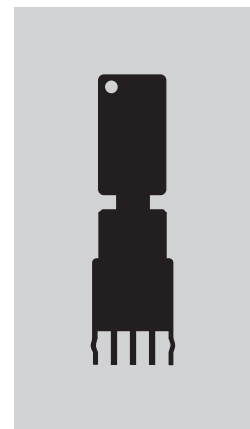
Bifurcated, self-wiping contact mechanism provides unequalled logic-level reliability and smoother, positive detent actuation.

Detent mechanism, with its spring-operated steel ball, gives distinct feel and crisp actuation for accurate switch setting.

.100" x .100" (2.54mm x 2.54mm) terminal spacing conforms to standard PC board grid spacing.



Actual Size



Toggle

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

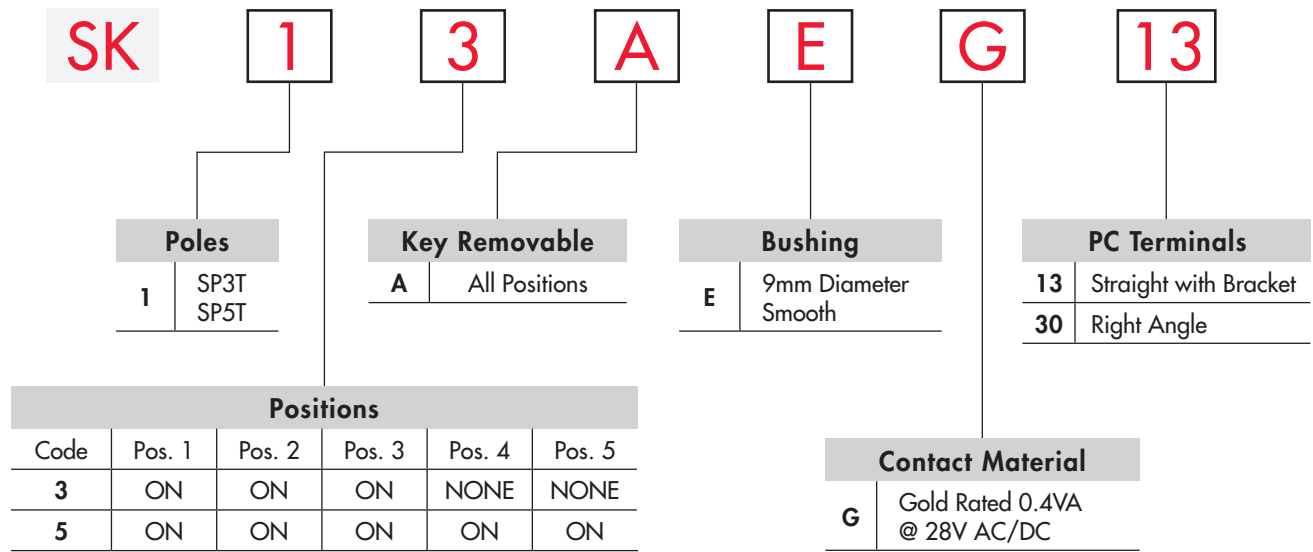
Touch

Indicators

Accessories

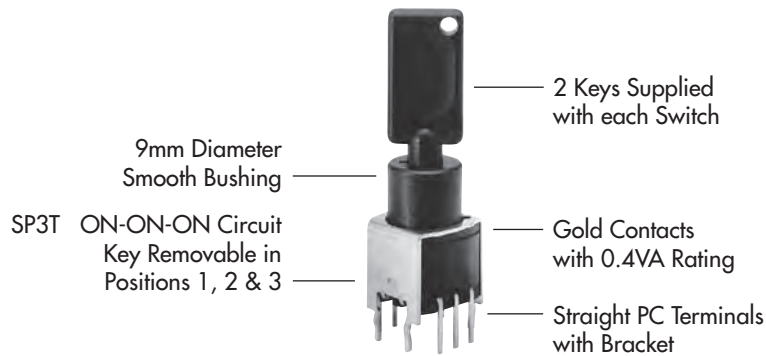
Supplement

TYPICAL SWITCH ORDERING EXAMPLE



DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

SK13AEG13



POLES, CIRCUITS & KEY-REMOVABLE POSITIONS

Pole & Throw	Model	Key Positions					Connected Terminals (Terminal numbers are not on switch)					Schematic	⊙ = Key Removable ● = Not Removable ✓ = Maximum Arc
		Pos 1	Pos 2	Pos 3	Pos 4	Pos 5	Pos 1	Pos 2	Pos 3	Pos 4	Pos 5		
SP3T	SK13A	ON	ON	ON	----	----	C1-2	C1-3	C1-4	----	----		
SP5T	SK15A	ON	ON	ON	ON	ON	C1-1	C1-2	C1-3	C1-4	C1-5		

KEY REMOVABLE

BUSHING

A All Positions
45° Angular Throw

E 9mm Diameter Smooth

CONTACT MATERIAL & RATING

G

Gold over Bronze or Copper

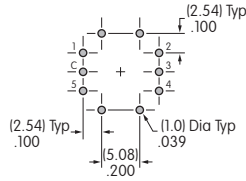
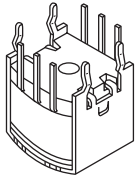
Logic Level

0.4VA @ 28V AC/DC maximum

TERMINALS

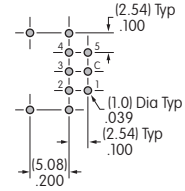
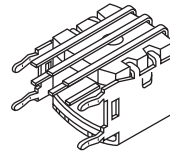
13

Straight PC with Bracket



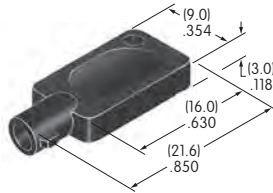
30

Right Angle PC



KEY

AT4094
Tubular Key

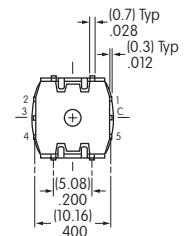
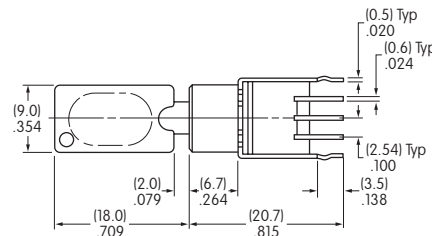
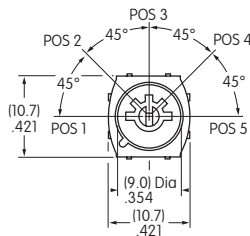
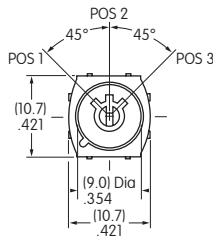


Material: Polyacetal

2 keys provided with each switch

TYPICAL SWITCH DIMENSIONS

Straight PC with Bracket



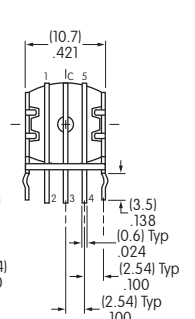
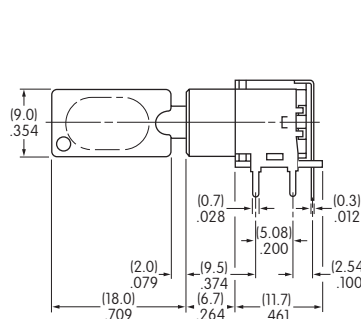
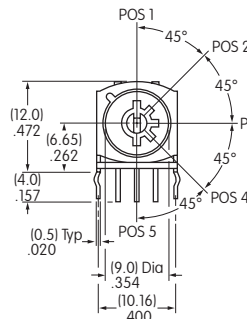
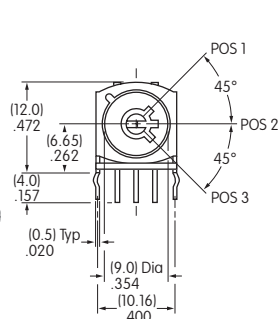
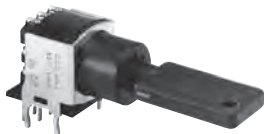
SK13AEG13

3 Position

5 Position

On 3-position models terminals 1 & 5 are support pins.

Right Angle PC



SK15AEG30

3 Position

5 Position

On 3-position models terminals 1 & 5 are support pins.

General Specifications

Electrical Capacity (Resistive Load)

Logic Level: 0.4VA maximum @ 28V AC/DC maximum
(Applicable Range 0.1mA ~ 0.1A @ 20mV ~ 28V)
See Supplement section to find explanation of operating range

Other Ratings

Contact Resistance: 80 milliohms maximum
Insulation Resistance: 100 megohms minimum @ 500V DC
Dielectric Strength: 500V AC minimum for 1 minute minimum
Mechanical Life: 30,000 cycles minimum
Electrical Life: 10,000 cycles minimum
Nominal Operating Torque: .026Nm (.234 lb•in) for momentary action models
 .020Nm (.182 lb•in) for maintained action models
Contact Timing: Break-before-make
Angle of Throw: 90° for 2-position & 45° for 3-position

Materials & Finishes

Boot: Polyvinyl chloride
Key: Brass alloy with bright nickel plating;
 brass alloy with bright nickel plating & ABS resin handle
Tumbler Barrel: Polyacetal
Bushing: Zinc alloy with nickel plating
Bracket: Steel with tin plating
Base: Glass fiber reinforced polyamide
Movable Contactor: Beryllium copper with gold plating
Stationary Contacts: Copper with gold plating
Terminals: Brass with tin plating

Environmental Data

Operating Temperature Range: -25°C through +70°C (-13°F through +158°F)
Humidity: 90 ~ 95% humidity for 240 hours @ 40°C (104°F)
Vibration: 10 ~ 55Hz with peak-to-peak amplitude of 1.5mm traversing the frequency range & returning
 in 1 minute; 3 right angled directions for 2 hours
Shock: 50G (490m/s²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)

PCB Processing

Soldering: Wave Soldering recommended: See Profile B in Supplement section.
 Manual Soldering: See Profile B in Supplement section.
Cleaning: Automated cleaning. Boot must be on switch during processing.
 See Cleaning specifications in Supplement section.

Standards & Certifications

These SK Series devices have not been tested for UL recognition or CSA certification. These switches are designed for use in a low-voltage, low-current, logic-level circuit. When used as intended in a logic-level circuit, the results do not produce hazardous energy.

Toggles

Rockers

Pushbuttons

Programmable Illuminated PB

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

Accessories

Supplement

Distinctive Characteristics

Sealed body construction plus disposable boot protect contacts and allow automated processing.

Molded-in terminals seal out flux, solvents, and other contaminants.

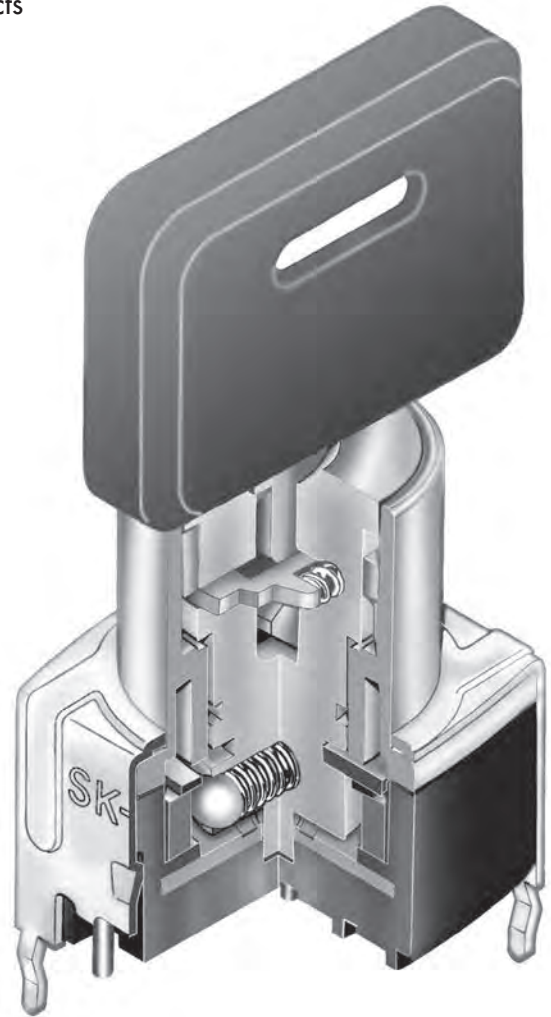
Short body size for space-saving, behind panel dimensions.

Detent mechanism, with its spring-operated steel ball, gives crisp, positive action for accurate switch setting.

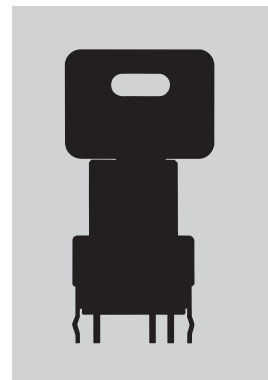
Bifurcated, self-wiping contact mechanism provides unequalled logic-level reliability and smoother, positive detent actuation.

Crimped bracket legs ensure secure PCB mounting and prevent dislodging during automated wave soldering.

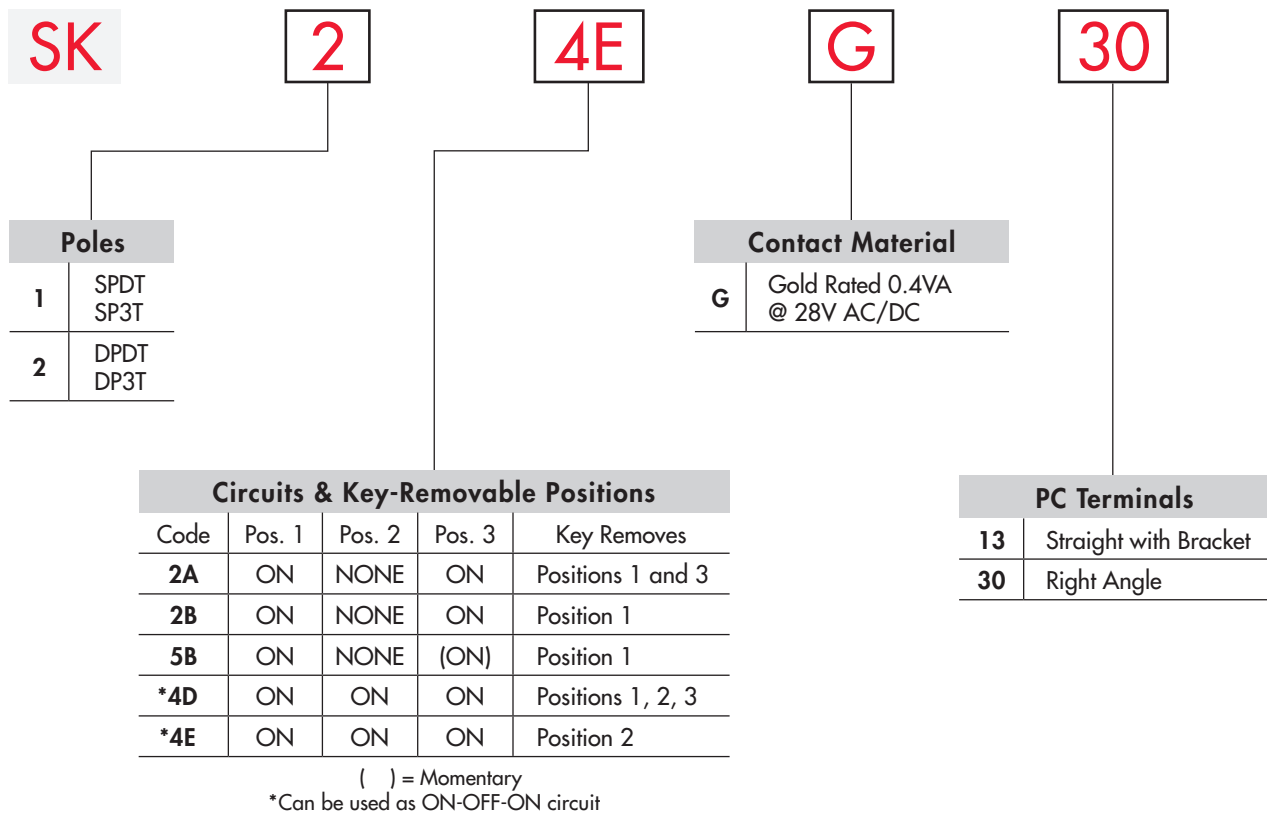
.100" x .100" (2.54mm x 2.54mm) terminal spacing conforms to standard PC board grid spacing.



Actual Size



TYPICAL SWITCH ORDERING EXAMPLE



DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

SK24EG30



POLES, CIRCUITS & KEY-REMOVABLE POSITIONS

Pole & Throw	Model	Key Positions			Connected Terminals (Terminal numbers are not on switch)			Schematic	⊙ = Key Removable ● = Not Removable ✓ = Maximum Arc
		Pos 1	Pos 2	Pos 3	Pos 1	Pos 2	Pos 3		
SPDT	SK12A	ON	NONE	ON	C1-1	—	C1-2		
SPDT SPDT	SK12B SK15B	ON ON	NONE NONE	ON (ON)	C1-1	—	C1-2		
DPDT	SK22A	ON	NONE	ON	C1-1 C2-4	—	C1-2 C2-5		
DPDT DPDT	SK22B SK25B	ON ON	NONE NONE	ON (ON)	C1-1 C2-4	—	C1-2 C2-5		
SP3T	SK14D	ON	ON	ON	C1-1	C1-2	C1-3		
SP3T	SK14E	ON	ON	ON	C1-1	C1-2	C1-3		
DP3T	SK24D	ON	ON	ON	C1-1 C2-4	C1-2 C2-5	C1-3 C2-6		
DP3T	SK24E	ON	ON	ON	C1-1 C2-4	C1-2 C2-5	C1-3 C2-6		

KEY REMOVABLE

A Positions 1 & 3
90° Angular Throw

B Position 1
90° Angular Throw

D Positions 1, 2 & 3
45° Angular Throw

E Position 2
45° Angular Throw

CONTACT MATERIAL & RATING

G Gold over Copper

Logic Level

0.4VA maximum @ 28V AC/DC maximum

TERMINALS

13 Straight PC Terminals with Bracket

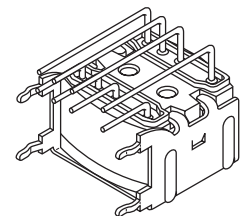
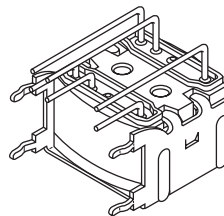
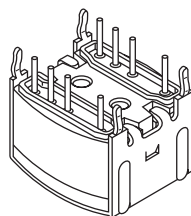
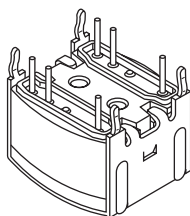
30 Right Angle PC Terminals

Double Throw Model

Three Throw Model

Double Throw Model

Three Throw Model

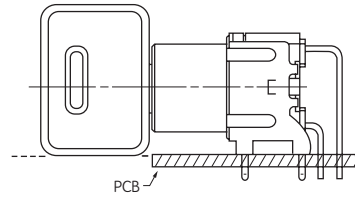
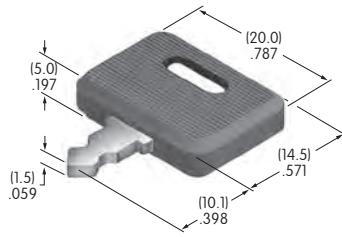


KEYS

AT4080 Standard Antistatic Plastic Handle

Brass Alloy with Bright Nickel Plating
& ABS Resin Handle

2 keys supplied with each switch

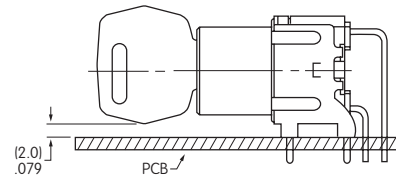
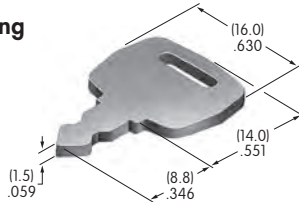


Suitable for all Straight PCB mount and for Right Angle PCB mount where clearance for key is obtainable.

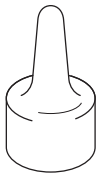
AT4079 for Right Angle Mid-board Mounting (Optional) All Metal

Brass Alloy with Bright Nickel Plating

Contact factory if metal keys needed



Disposable Boot



Each switch is supplied with a boot that provides protection from automated soldering and the cleaning process. Attach the boot without the key installed in the switch.

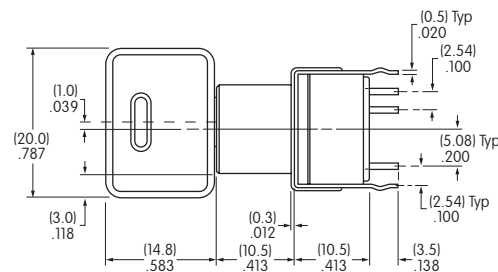
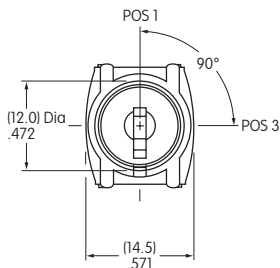
The boot is not reusable; discard after the washing procedure.

Polyvinyl Chloride



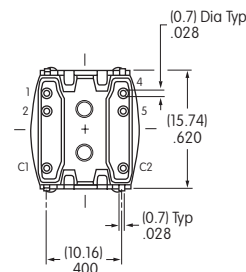
TYPICAL SWITCH DIMENSIONS

Single & Double Pole



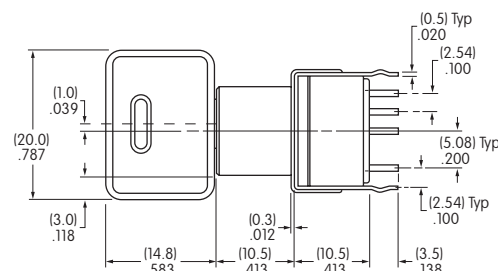
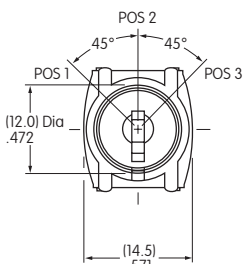
Single Pole models have only terminals 1, 2 & C1

Straight PC with Bracket • Double Throw



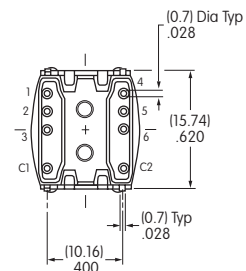
SK12AG13

Single & Double Pole



Single Pole models have only terminals 1, 2, 3 & C1

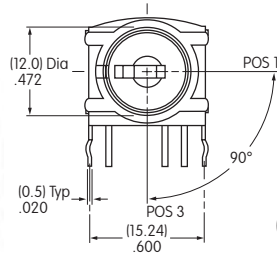
Straight PC with Bracket • Three Throw



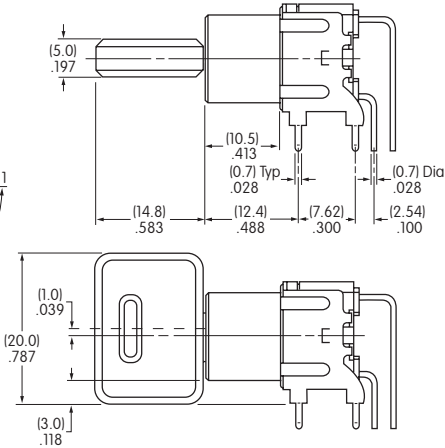
SK24DG13

TYPICAL SWITCH DIMENSIONS

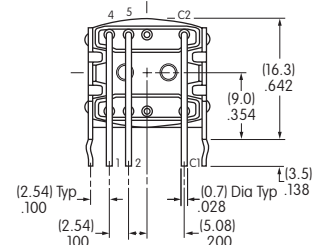
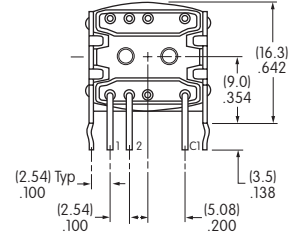
Right Angle
PC Terminals
Double Throw



Key in Position 1



Single Pole

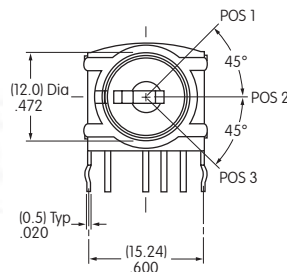


SK15BG30

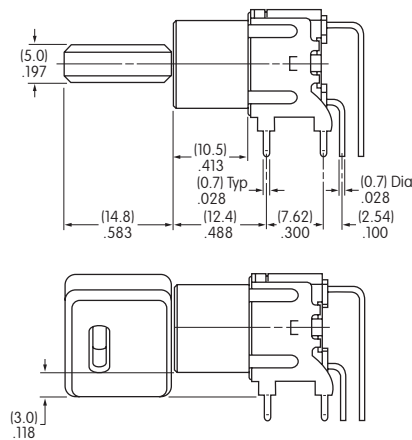
Key in Position 3

Double Pole

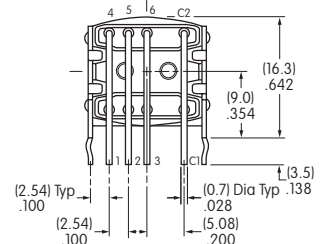
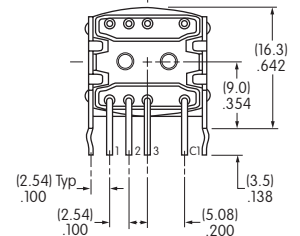
Right Angle
PC Terminals
Three Throw



Key in Position 2



Single Pole

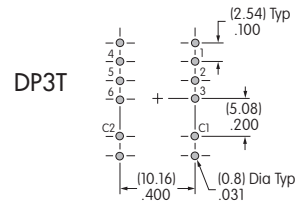
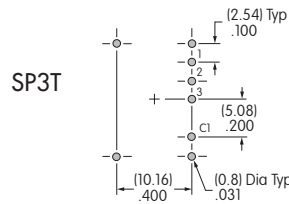
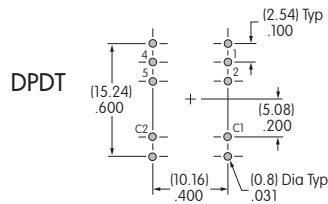
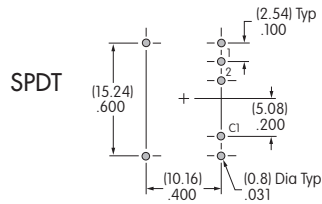


SK24EG30

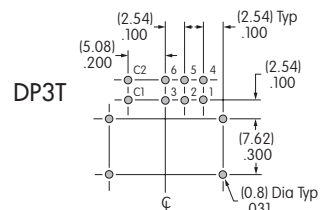
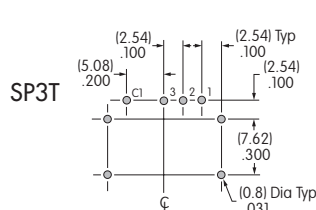
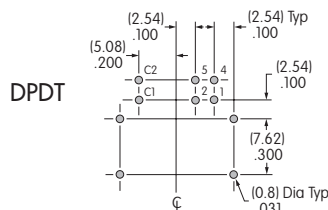
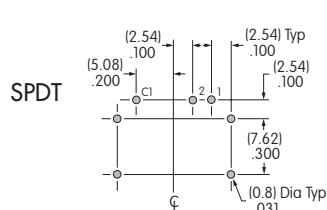
Key in Position 1

Double Pole

Straight PC Footprints



Right Angle PC Footprints



General Specifications

Part Number: SK14DGMG01

Electrical Capacity (Resistive Load)

Logic Level: 0.4VA maximum @ 28V AC/DC maximum
(Applicable Range 0.1mA ~ 0.1A @ 20mV ~ 28V)

Other Ratings

Contact Resistance: 100 milliohms maximum
Insulation Resistance: 100 megohms minimum @ 500V DC
Dielectric Strength: 500V AC minimum between contacts for 1 minute minimum
Mechanical Life: 30,000 operations minimum
Electrical Life: 10,000 operations minimum
Static Capability: Withstands 15 kilovolts ESD
Nominal Operating Force: 0.02Nm (0.18 lb•in)
Contact Timing: Break-before-make
Angle of Throw: 45°

Materials & Finishes

Key: Brass alloy with bright nickel plating and ABS resin handle
Housing: Polyamide
Base: Glass fiber reinforced polyamide
Rotor: Glass fiber reinforced polyamide
Tumbler Plate: Brass
Movable Contacts: Beryllium copper with gold plating
Stationary Contacts: Brass with gold plating
Switch Terminals: Brass with gold plating

Environmental Data

Operating Temperature Range: -40°C through +85°C (-40°F through +185°F)
Humidity: 90 ~ 95% humidity for 240 hours @ 60°C (140°F)
Vibration: 10 ~ 55Hz with peak-to-peak amplitude of 1.5mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours
Shock: 50G (490m/s²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)

PCB Processing

Soldering: Manual Soldering: lead-free, see profile below. Do not exceed these specifications.
Cleaning: Hand clean locally using alcohol based solution.

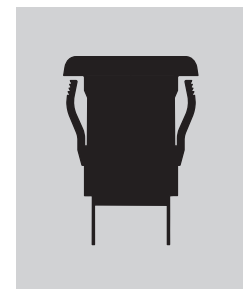
Solder Iron Tip Temperature 370°C
 Time on Terminal 4 seconds
 Cycles 2

Standards & Certifications

These devices have not been tested for UL recognition or CSA certification.
 These devices are designed for use in a low-voltage, low-current, logic-level circuit.
 When used as intended in a logic-level circuit, the results do not produce hazardous energy.



Actual Size



Toggle

Rockers

Pushbuttons

Illuminated PB

Programmable

F Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

Accessories

Supplement

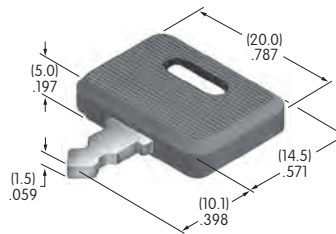
POLES, CIRCUITS & KEY-REMOVABLE POSITIONS

Pole & Throw	Key Positions			Connected Terminals (Terminal numbers are on switch)			Schematic	⊙ = Key Removable ✓ = Maximum Arc
	Pos 1	Pos 2	Pos 3	Pos 1	Pos 2	Pos 3		
SP3T	ON	ON	ON	C-1	C-2	C-3		

KEY

AT4080 Standard Antistatic Plastic Handle

Material:
Brass Alloy with Bright Nickel Plating
& ABS Resin Handle



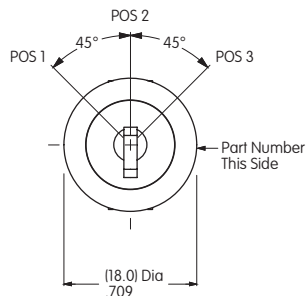
2 keys supplied with each switch

TYPICAL SWITCH DIMENSIONS

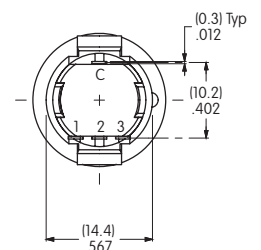
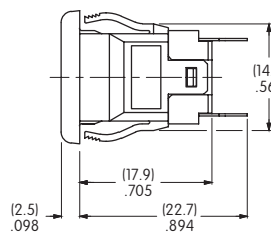
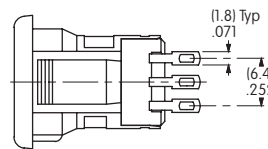
Antistatic Snap-in • Flat Key



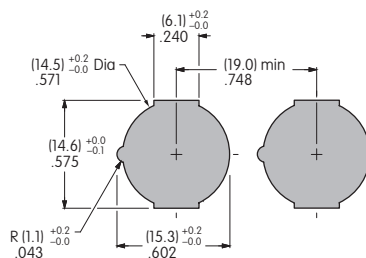
SK14DGMG01



Single Pole Three Throw



PANEL CUTOUT



Panel Thickness Range
.039" ~ .079"
(1.0mm ~ 2.0mm)

Toggles
 Rockers
 Pushbuttons
 Illuminated PB
 Programmable
 Keylocks F
 Rotaries
 Slides
 Tactiles
 Tilt
 Touch
 Indicators
 Accessories
 Supplement



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NKK's sales and engineering teams are dedicated to providing technical expertise and outstanding customer support.

Our manufacturing centers are ISO 9001 and ISO 14001 certified and feature state-of-the-art production and testing facilities to assure the highest quality products.

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- ▶ ISO Certified Facilities



Warranty: All NKK products are warranted against defects in workmanship, material and construction for a period of one (1) year from the date of shipment if the products have been properly installed, used, and maintained. There are no express warranties of merchantability or fitness for a particular purpose. Materials, finishes, and component parts are subject to change without notification.



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