Distinctive Characteristics

Square or rectangular models.

Combination of PCB mountability and short body allows use in compact applications.

Small behind panel dimension for snap-in mounting in tight spaces.

Snap-acting contact mechanism provides sensitive actuation with audible feedback; quick-make, quick-break characteristic limits arcing and prolongs electrical life.

Latchdown mechanism, independent of switching mechanism, gives visible and tactile indication of circuit status.

Terminals are epoxy sealed to lock out flux, solvents, and other contaminants.
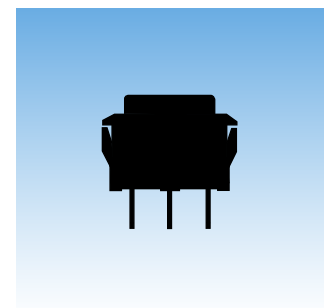
Momentary and alternate action circuits available in the same space-saving body size.

Illuminated models available and shown in Illuminated Pushbutton section.

Matching indicators available and shown at the end of Section M.

Actual Size

NKK®
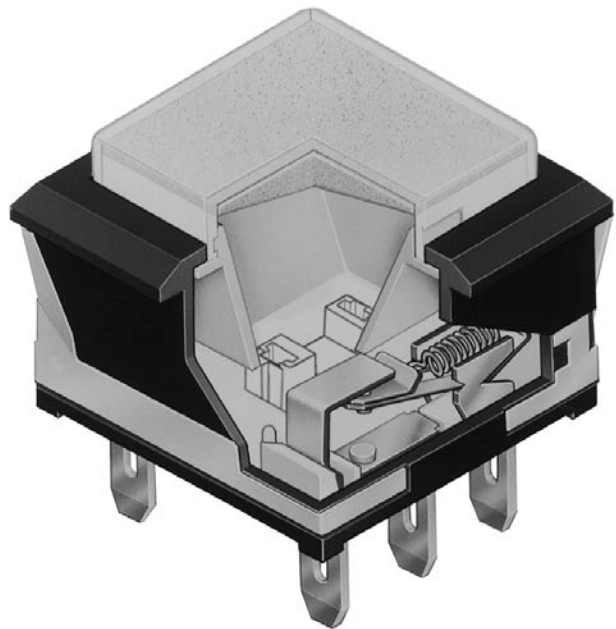
General Specifications

Electrical Capacity (Resistive Load)

Power Level (code W): 5A @ 125/250V AC or 5A @ 30V DC

Logic Level (code G): 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: 50 milliohms maximum for silver; 100 milliohms maximum for gold

Insulation Resistance: 200 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: 1,000,000 operations minimum for momentary;
200,000 operations minimum for alternate action

Electrical Life: 10,000 operations minimum for silver;
100,000 operations minimum for silver with resistive load of 3A @ 125V AC
200,000 operations minimum for gold

Nominal Operating Force: Single Pole: 1.57N for Square & 1.9N for Rectangular
Double Pole: 2.55N for Square & 3.1N for Rectangular

Contact Timing: Break before make

Travel: Pretravel .067" (1.7mm); Overtravel .024" (0.6mm); Total Travel .091" (2.3mm)

Materials & Finishes

Housing/Bezel: Glass fiber reinforced polyamide (UL94V-0)

Snap-in Frame: Stainless steel

Movable Contactor: Phosphor bronze

Movable Contacts: Silver alloy or copper with gold plating

Stationary Contacts: Silver alloy or copper with gold plating

Terminals: Phosphor bronze with silver or gold plating

Base: Glass fiber reinforced liquid crystal polymer (UL94V-0)

Environmental Data

Operating Temp Range: −20°C through +70°C (−4°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/s^2) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)
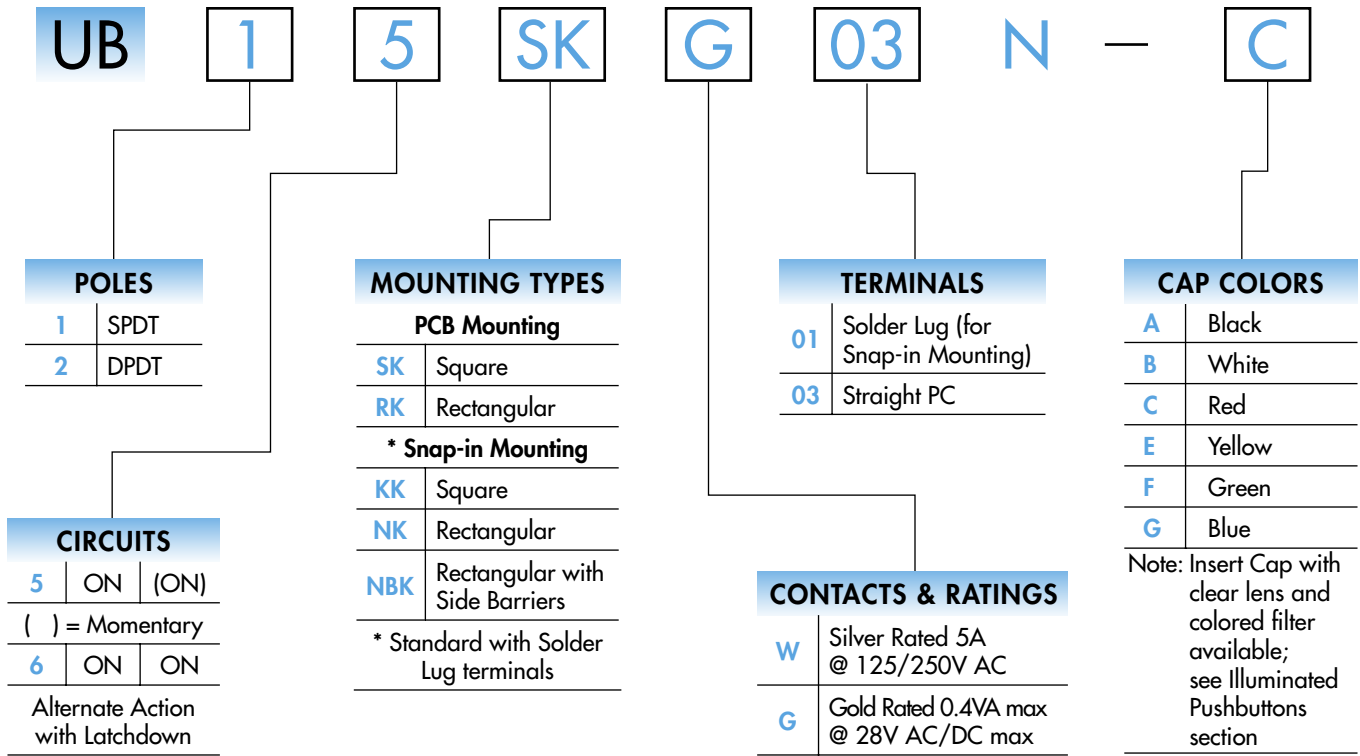
Installation

Cap Installation Force: 7.55N (1.70 lbf) maximum downward force on cap

Soldering Time & Temp: Wave Soldering (PC version): See Profile A in Supplement section.
Manual Soldering: See Profile A in Supplement section.

Cleaning: These devices are not process sealed. Hand clean locally using alcohol based solution.

Standards & Certifications

Flammability Standards: UL94V-0 housing/bezel of GFR polyamide & base of GFR liquid crystal polymer

UL & C-UL Recognized: All single & double pole models recognized at 5A @ 125/250V AC or 0.014A @ 28V DC;
UL File No. WOYR2.E44145; add "/U" to end of part number to order UL mark on switch;
C-UL File No. WOYR8.E44145; add "/C-UL" to end of part number to order C-UL mark on switch.

CSA Certified: All single & double pole models certified at 5A @ 125/250V AC or 5A @ 30V DC or
0.4VA maximum @ 28V AC/DC maximum; CSA File No. 023535-0-000;
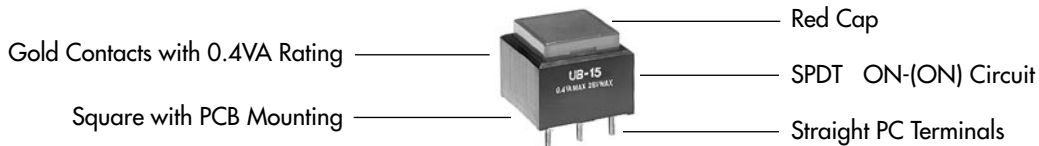add "/C" to end of part number to order CSA mark on switch.

TYPICAL SWITCH ORDERING EXAMPLE

UB 1 5 SK G 03 N — C

POLES

1	SPDT
2	DPDT

CIRCUITS

5	ON	(ON)
( ) = Momentary		
6	ON	ON

Alternate Action with Latchdown

MOUNTING TYPES

PCB Mounting

SK	Square
RK	Rectangular

* Snap-in Mounting

KK	Square
NK	Rectangular
NBK	Rectangular with Side Barriers

* Standard with Solder Lug terminals

TERMINALS

01	Solder Lug (for Snap-in Mounting)
03	Straight PC

CONTACTS & RATINGS

W	Silver Rated 5A @ 125/250V AC
G	Gold Rated 0.4VA max @ 28V AC/DC max

CAP COLORS

A	Black
B	White
C	Red
E	Yellow
F	Green
G	Blue

Note: Insert Cap with clear lens and colored filter available; see Illuminated Pushbuttons section

DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

UB15SKG03N-C

Gold Contacts with 0.4VA Rating ——— Red Cap

Square with PCB Mounting ——— SPDT   ON-(ON) Circuit

——— Straight PC Terminals

IMPORTANT:

Switches are supplied without UL, C-UL, & CSA markings unless specified. Specific models & ratings noted on General Specifications page.

POLES & CIRCUITS

Pole	Model	Plunger Position ( ) = Momentary Normal	Down	Connected Terminals Normal	Down	Throw & Schematics
						Note: Switch is marked with NC, NO, COM, L+ & L– even though nonilluminated models have no lamp terminals.
SP	UB15 *UB16	ON ON	(ON) ON	1-3	1-2	SPDT — 1 ● COM 3 ● NC 2 ● NO
DP	UB25 *UB26	ON ON	(ON) ON	1-3 4-6	1-2 4-5	DPDT — 1 ● COM 4 ● COM 3 ● NC 2 ● NO 6 ● NC 5 ● NO

* When in latchdown position for the alternate circuit, cap position is .039" (1.0mm) above the housing.

MOUNTING TYPES & SHAPES

PCB Mounting

SK Square

(5.08) .200 (5.08) Typ .200 (1.2) Dia Typ .047

(5.08) .200 (5.08) Typ .200 (1.2) Dia Typ .047

Single Pole   Double Pole

RK Rectangular

(7.62) .300 (5.08) Typ .200 (1.2) Dia Typ .047

(7.62) Typ .300 (5.08) Typ .200 (1.2) Dia Typ .047

Single Pole   Double Pole
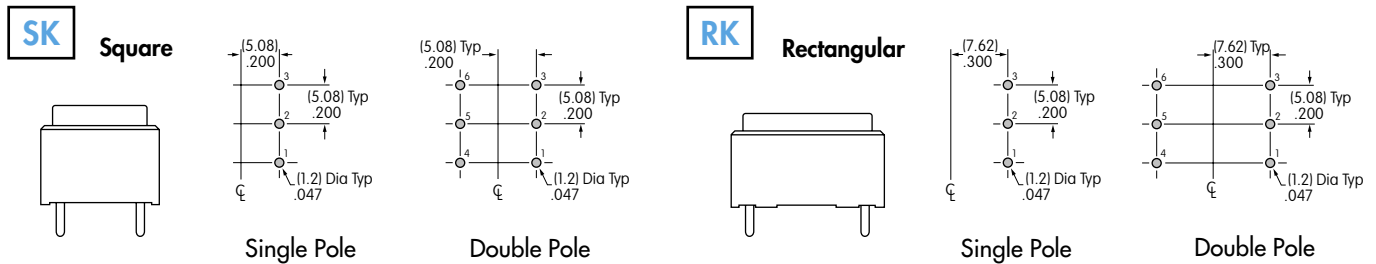
Snap-in Mounting (Solder Lug)

KK Square with Built-in Bezel

(16.2) Sq .638

NK Rectangular with Built-in Bezel

NBK Rectangular with Built-in Side Barriers

(16.2) .638   (22.4) .882
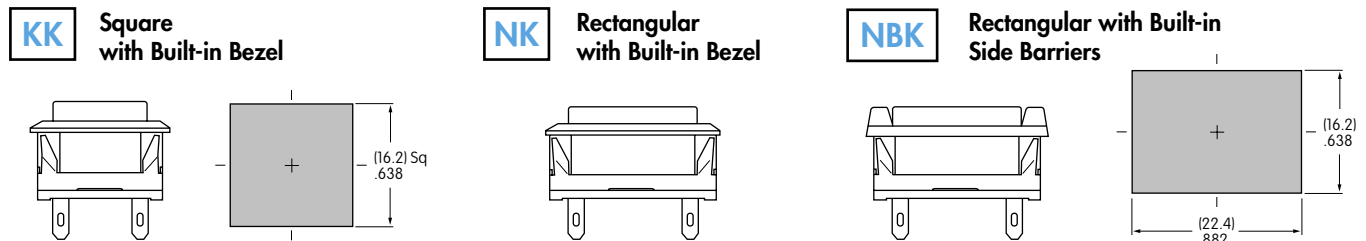
Snap-in Mounting with Solder Lug terminals is the standard combination. Panel Thickness: .039 ~ .126" (1.0 ~ 3.2mm)

CONTACT MATERIALS & RATINGS

W Silver Contacts   Power Level   5A @ 125V AC & 250V AC

G Gold Contacts   Logic Level   0.4VA maximum @ 28V AC/DC maximum

Complete explanation of operating range in Supplement section.

TERMINALS

01 Solder Lug

(0.2) .008 (5.0) .197 (1.6) .063 (2.0) .079 (0.8) .032 Thk = (0.5) .020

03 Straight PC

(0.2) .008 (4.0) .157 (1.0) .039 Thk = (0.5) .020

NKK®
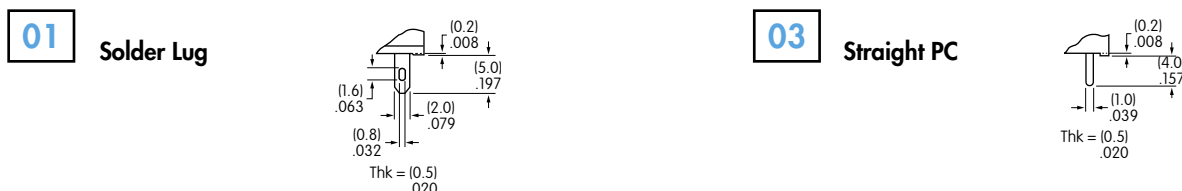
CAPS & COLORS

Colors Available:

A Black		**E** Yellow	
B White		**F** Green	
C Red		**G** Blue	

AT4073 Square Opaque

(3.0) .118
(12.0) Sq .472
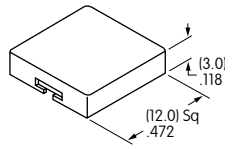
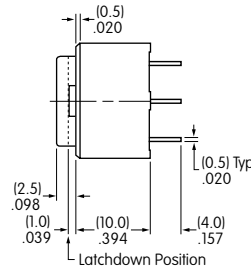**AT4116 Rectangular Opaque**

(3.0) .118
(12.0) .472
(17.0) .669
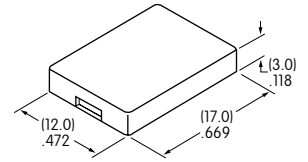
Material: Polycarbonate   Finish: Glossy

TYPICAL SWITCH DIMENSIONS

Square • PCB Mount

(12.0) Sq .472
(15.24) Sq .600

UB15SKG03N-C

Single & Double Pole

(0.5) .020
(2.5) .098
(1.0) .039
(10.0) .394
(4.0) .157
(0.5) Typ .020
Latchdown Position

3 6
2 5
1 4
(5.08) Typ .200
(1.0) Typ .039
(5.08) Typ .200
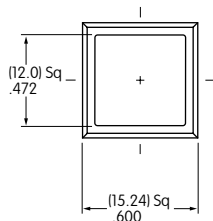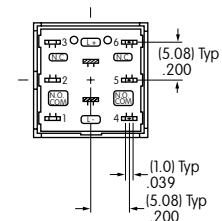
Single pole models do not have terminals 4, 5, & 6.

Rectangular • PCB Mount

(12.0) .472
(15.24) .600
(17.0) .669
(20.32) .800

UB26RKG03N-E

Single & Double Pole

(0.5) .020
(2.5) .098
(1.0) .039
(10.0) .394
(4.0) .157
(0.5) Typ .020
Latchdown Position

3 6
2 5
1 4
(5.08) Typ .200
(7.62) Typ .300
(1.0) Typ .039
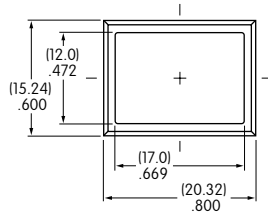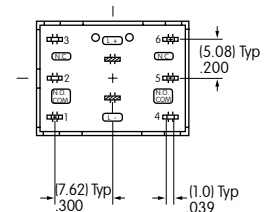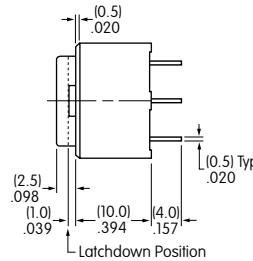
Single pole models do not have terminals 4, 5, & 6.

Square • Snap-in Mount • Built-in Bezel

(12.0) Sq .472
(17.8) Sq .701

UB25KKW01N-C

Single & Double Pole

(1.4) .055
(0.8) x (1.6) Typ .032 x .063
(2.5) .098
(1.0) .039
(10.0) .394
(5.0) .197
(0.5) Typ .020
Latchdown Position

3 6
2 5
1 4
(5.08) Typ .200
(15.8) .622
(2.0) Typ .079
(5.08) Typ .200
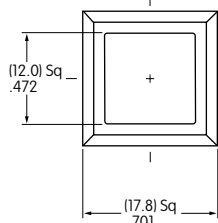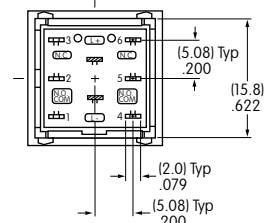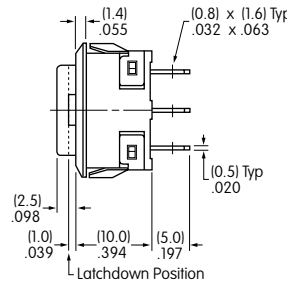
Single pole models do not have terminals 4, 5, & 6.

Rectangular • Snap-in Mount • Built-in Bezel

(12.0) .472
(17.8) .701
(17.0) .669
(24.0) .945

UB26NKW01N-F

Single & Double Pole

(1.4) .055
(0.8) x (1.6) Typ .032 x .063
(2.5) .098
(1.0) .039
(10.0) .394
(5.0) .197
(0.5) Typ .020
Latchdown Position

3 6
2 5
1 4
(5.08) Typ .200
(15.8) .622
(7.62) Typ .300
(22.0) .866
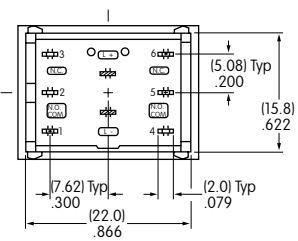(2.0) Typ .079
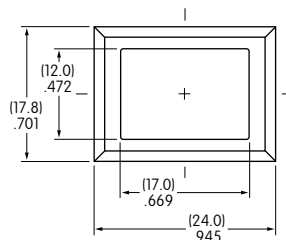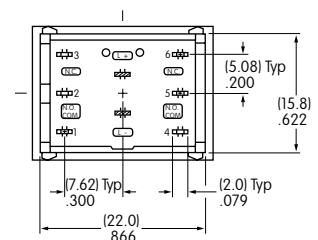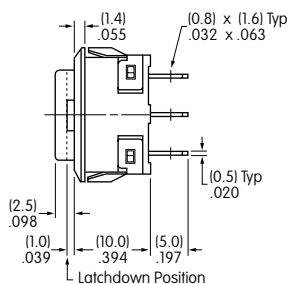
Single pole models do not have terminals 4, 5, & 6.

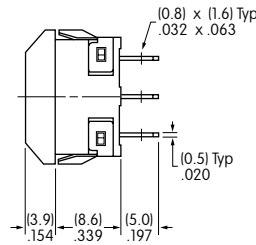# TYPICAL SWITCH DIMENSIONS

Rectangular • Snap-in Mount • Built-in Side Barriers

UB25NBKW01N-F

(12.0) .472
(17.8) .701
(17.0) .669
(24.0) .945

Single & Double Pole

(0.8) x (1.6) Typ .032 x .063
(0.5) Typ .020
(3.9) .154
(8.6) .339
(5.0) .197

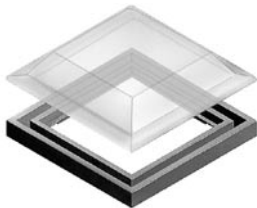(5.08) Typ .200
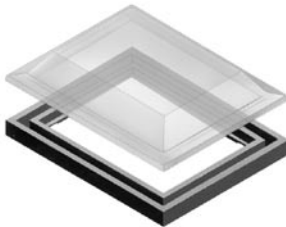(15.8) .622
(7.62) Typ .300
(22.0) .866
(2.0) Typ .079
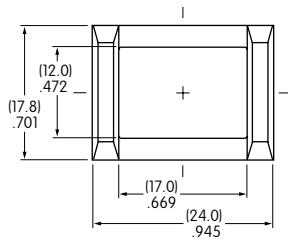
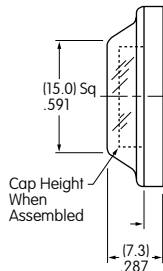Single pole models do not have terminals 4, 5, & 6.

OPTIONAL ACCESSORIES

AT4001
Square
Dust Cover

AT4011
Rectangular
Dust Cover

Not for use with barrier type models (mounting code NBK)

(15.0) Sq .591
Cap Height When Assembled
(2.5) .098
(7.3) .287

(16.5) .650
(24.0) Sq .945

(16.5) .650
(24.0) .945
(22.7) .894
(30.2) 1.189
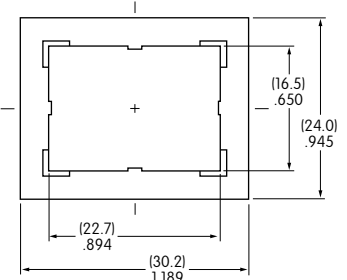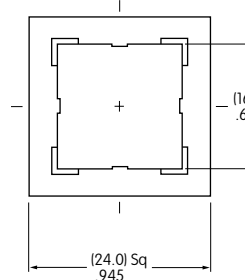
Materials: PVC with polyethylene gasket (PVC loses pliability below 0°C (32°F).)
Recommended Panel Thickness: .039" ~ .098" (1.0mm ~ 2.5mm)

Spring Loaded Protective Guard for Snap-in Mounting of Square PCB Model

AT4173
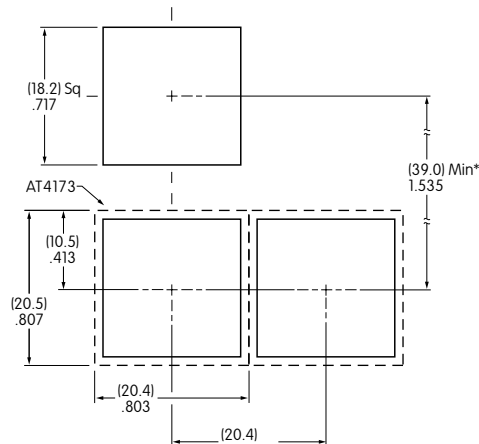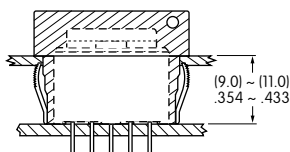**Square Protective Guard/**
Snap-in Frame

Opens 180°
Closes automatically

Materials:
Cover: Clear Polycarbonate
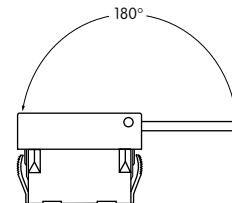Base: Black Polyamide
Coil Spring: Stainless Steel

Recommended
Panel Thickness:
.039" ~ .126"
(1.0mm ~ 3.2mm)

Recommended
Panel-to-PCB Range:
.354" ~ .433"
(9.0mm ~ 11.0mm)

(10.5) .413
(20.5) .807
(18.4) .724
(20.4) .803

(6.0) .236
(9.0) .354

(15.64) .616
(15.64) .616

(9.0) ~ (11.0) .354 ~ .433

(18.2) Sq .717
AT4173
(10.5) .413
(20.5) .807
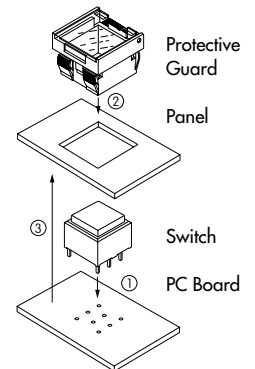(20.4) .803
(20.4) .803 (N)

(39.0) Min* 1.535

(N) = Number of switches
* Minimum dimension allows opening of cover to 180°

180°

Installation
1. Install switch onto PC board.
2. Snap protective guard into panel.
3. Join the two assemblies.
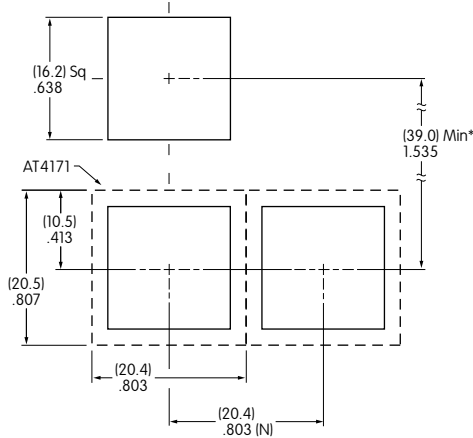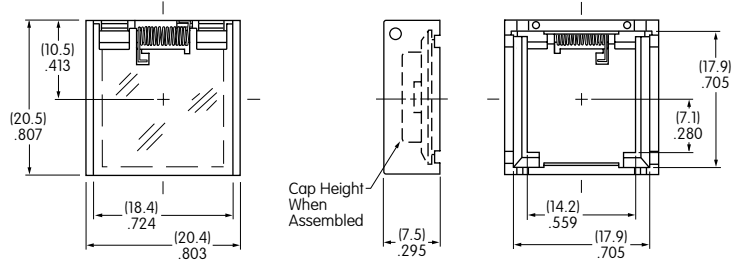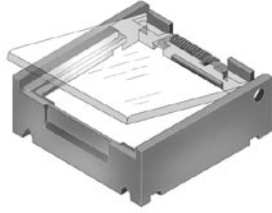
Protective Guard
Panel
Switch
PC Board

OPTIONAL ACCESSORIES

Spring Loaded Protective Guard for Square Snap-in Model

**AT4171
Square
Protective Guard**

Opens 180°
Closes automatically

(16.2) Sq
.638

(39.0) Min*
1.535

AT4171

(10.5)
.413

(20.5)
.807

(20.4)
.803

(20.4)
.803 (N)

(N) = Number of switches
* Minimum dimension allows opening of cover to 180°

(10.5)
.413

(20.5)
.807

(18.4)
.724

(20.4)
.803

Cap Height
When
Assembled

(7.5)
.295

(17.9)
.705

(7.1)
.280

(14.2)
.559

(17.9)
.705

Materials:
Cover: Clear Polycarbonate
Base: Black GFR Polyamide
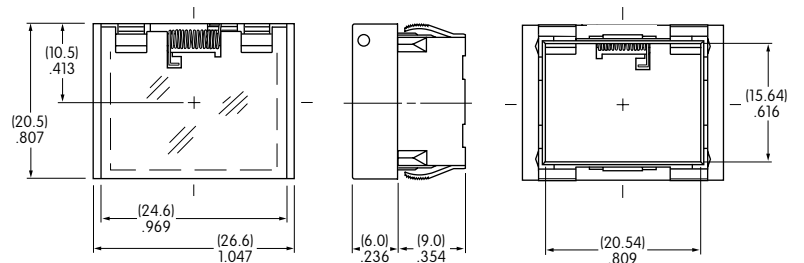Coil Spring: Stainless Steel

Recommended Panel Thickness:
.039" ~ .106" (1.0mm ~ 2.7mm)

180°
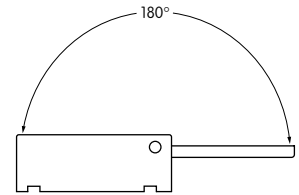
Spring Loaded Protective Guard for Snap-in Mounting of Rectangular PCB Model

**AT4174
Rectangular
Protective Guard/
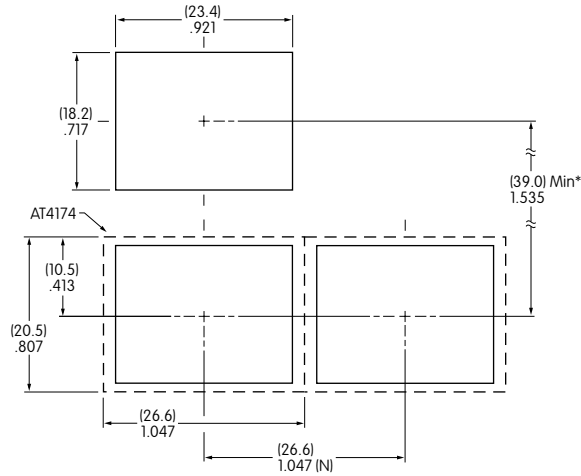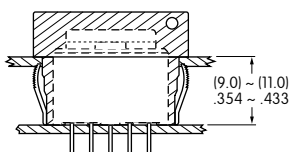Snap-in Frame**

Opens 180°
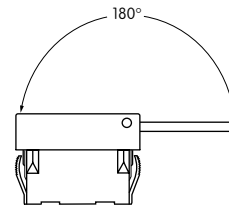Closes automatically

Materials:
Cover: Clear Polycarbonate
Base: Black Polyamide
Coil Spring: Stainless Steel

**Recommended
Panel Thickness:**
.039" ~ .126"
(1.0mm ~ 3.2mm)

**Recommended
Panel-to-PCB Range:**
.354" ~ .433"
(9.0mm ~ 11.0mm)

(9.0) ~ (11.0)
.354 ~ .433

(10.5)
.413

(20.5)
.807

(24.6)
.969

(26.6)
1.047

(6.0)
.236

(9.0)
.354

(20.54)
.809

(15.64)
.616

(23.4)
.921

(18.2)
.717

(39.0) Min*
1.535

AT4174

(10.5)
.413

(20.5)
.807

(26.6)
1.047

(26.6)
1.047 (N)

(N) = Number of switches   * Minimum dimension allows opening of cover to 180°

180°

Installation

① Install switch onto
PC board.
② Snap protective
guard into panel.
③ Join the two
assemblies.

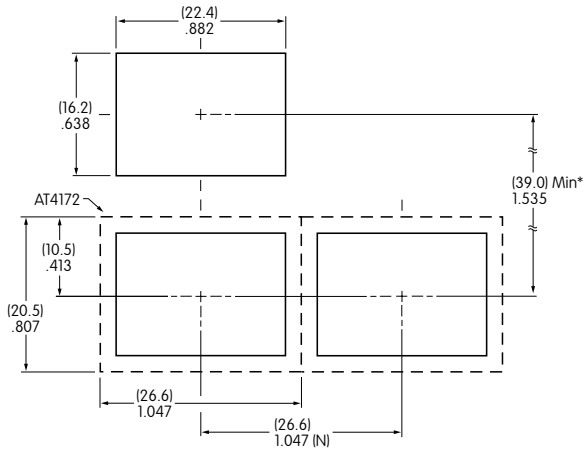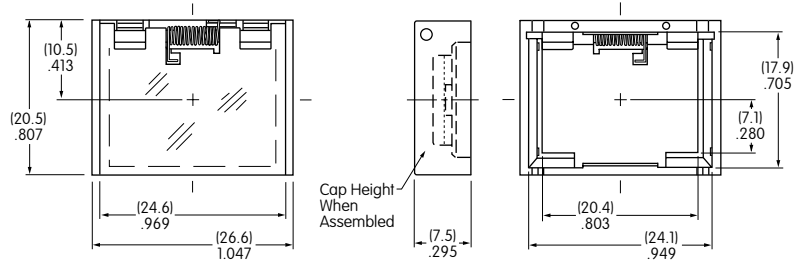Protective
Guard

Panel

Switch

PC Board
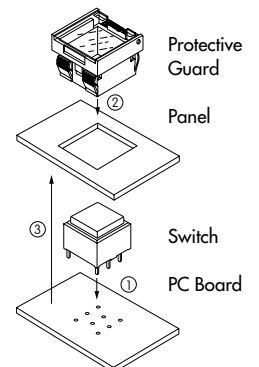
OPTIONAL ACCESSORIES

Spring Loaded Protective Guard for Rectangular Snap-in Model

**AT4172
Rectangular
Protective Guard**

Opens 180°
Closes automatically

(10.5) .413
(20.5) .807
(24.6) .969
(26.6) 1.047

Cap Height
When
Assembled

(7.5) .295

(17.9) .705
(7.1) .280
(20.4) .803
(24.1) .949

(22.4) .882
(16.2) .638
(39.0) Min* 1.535

AT4172
(10.5) .413
(20.5) .807
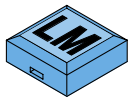(26.6) 1.047
(26.6) 1.047 (N)

180°

Materials:
Cover: Clear Polycarbonate
Base: Black GFR Polyamide
Coil Spring: Stainless Steel

Recommended Panel Thickness:
.039" ~ .106" (1.0mm ~ 2.7mm)

(N) = Number of switches   * Minimum dimension allows opening of cover to 180°
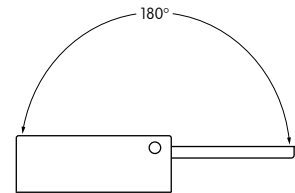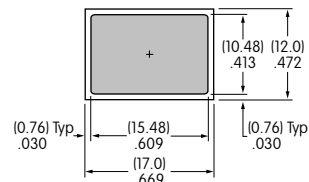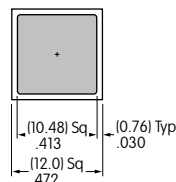
LEGENDS

Easily create and submit your own legends using our new on-line Legend Maker.

Visit www.nkkswitches.com

For other legend support options, customers may either contact the factory and request the UB/UB2 Legend Packet,
or utilize the general information and basic specifications presented below.

Suggested Printable Area for UB Lens

Recommended Methods: Laser Etch on clear lens; Screen Print or Pad Print on lens.
Epoxy based ink is recommended.

(10.48) Sq .413
(12.0) Sq .472
(0.76) Typ .030

(10.48) .413
(12.0) .472
(0.76) Typ .030
(15.48) .609
(17.0) .669
(0.76) Typ .030

Shaded areas are printable areas.