

Distinctive Characteristics

Bright, full face, or spot illumination with red, amber, or green single-element LEDs (an integral part of the switch), plus 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.

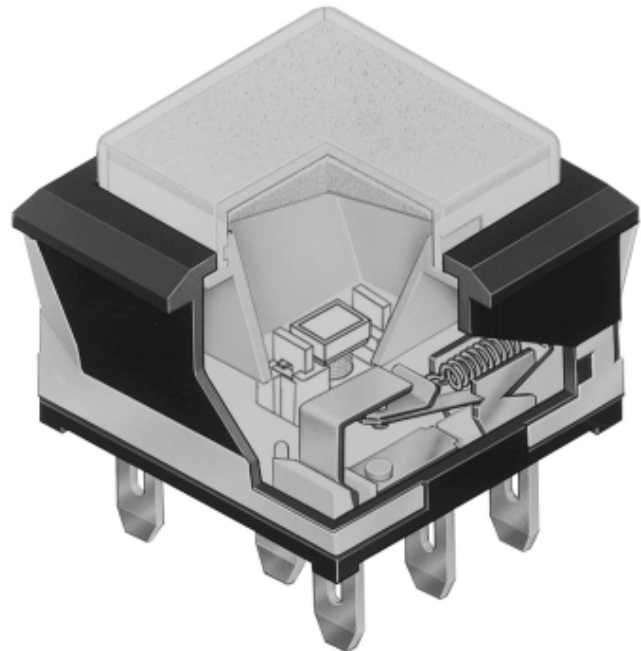
Latchdown mechanism, independent of switching mechanism, gives visible and tactile indication of circuit status.

Terminals are epoxy sealed to lock out flux, solvents, and other contaminants.

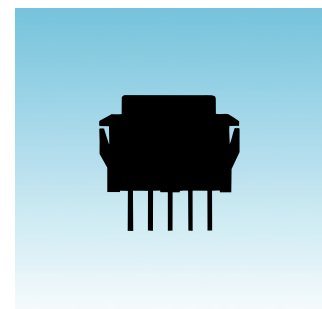
Momentary and alternate action circuits available in the same space-saving body size.

Nonilluminated models available and shown in Pushbutton section.

Matching indicators available and shown in Indicator section.



Actual Size



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
 Note: See Supplement Index (page Z1) to find explanation of operating range.

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: 160 grams for Square & 194 grams for Rectangular
 Double Pole: 260 grams for Square & 316 grams for Rectangular
Contact Timing: Break before make
Travel: 1.7mm (.067") pretravel; 0.6mm (.024") overtravel; 2.3mm (.091") total

Materials & Finishes

Housing/Bezel: Glass fiber reinforced polyamide
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
Switch Terminals: Phosphor bronze with silver or gold plating
Lamp Terminals: Brass with silver plating
Base: Glass fiber reinforced liquid crystal polymer

Environmental Data

Operating Temp Range: -25°C through +50°C (-13°F through +122°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

Cap Installation Force: 7.55N (1.70 lbf) maximum downward force on cap
Soldering Time & Temperature: 3 seconds @ 350°C or 5 seconds @ 270°C
Process Seal: Not available

Standards & Certifications

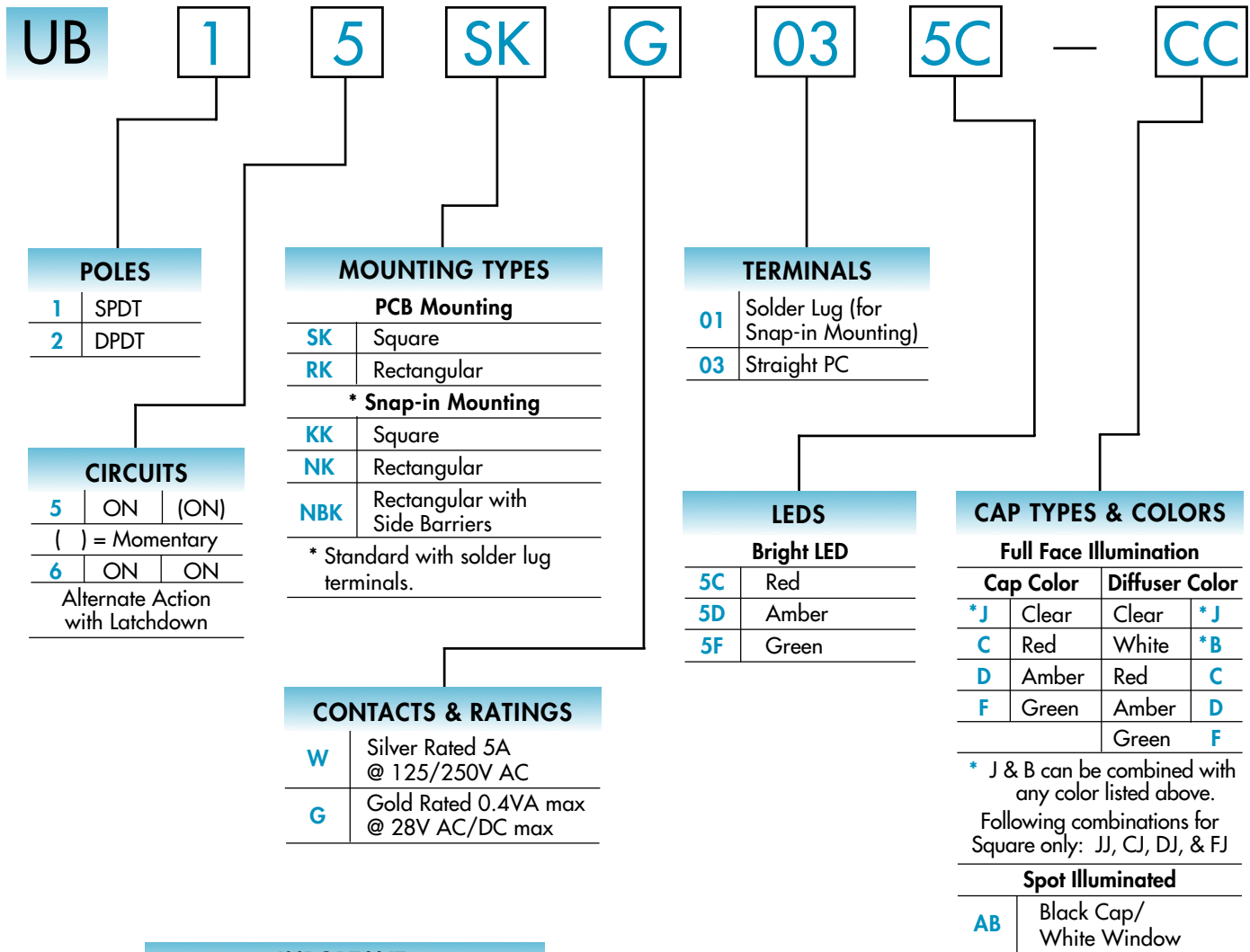


Flammability Standards: UL94V-0 housing/bezel of GFR polyamide & base of GFR liquid crystal polymer
UL Recognized: All single & double pole models recognized at 5A @ 125/250V AC or 0.014A @ 28V DC;
 UL File No. WOYR2.E44145; add "/U" to end of part number to order UL mark on switch.



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



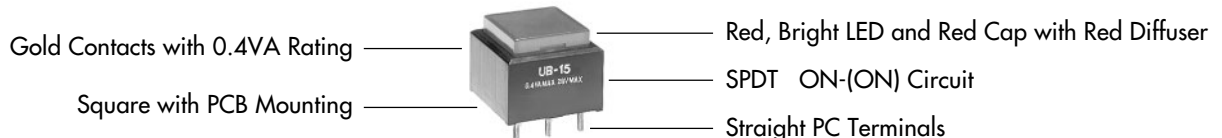
IMPORTANT:



Switches are supplied without UL & CSA marking unless specified. Specific models & ratings noted on General Specifications page.

DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

UB15SKG035C-CC



POLES & CIRCUITS

Pole	Model	Plunger Position () = Momentary		Connected Terminals		Throw & Power/Lamp Schematics
		Normal	Down	Normal	Down	
SP	UB15 UB16*	ON ON	(ON) ON	1-3	1-2	SPDT Notes: Switch is marked with NC, NO, COM, L+ & L-. Lamp circuit is isolated and requires external power source.
DP	UB25 UB26*	ON ON	(ON) ON	1-3 4-6	1-2 4-5	DPDT

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

SHAPES & MOUNTING TYPES

PCB Mounting

SK

Square

Single Pole

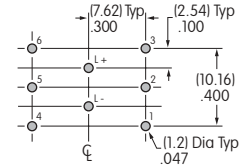
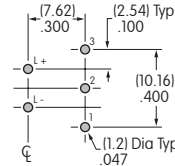
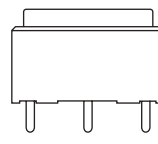
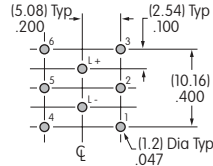
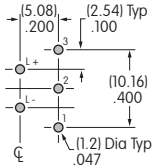
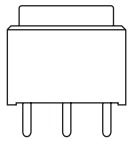
Double Pole

RK

Rectangular

Single Pole

Double Pole



Snap-In Mounting (Solder Lug)

KK

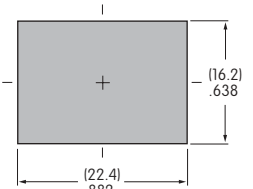
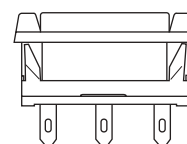
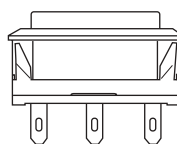
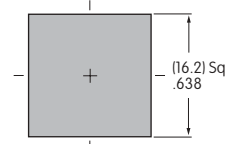
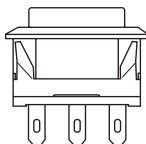
Square with Built-in Bezel

NK

Rectangular with Built-in Bezel

NBK

Rectangular with Built-in Side Barriers



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

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

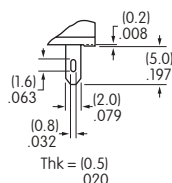
See Supplement Index (page Z1) for complete explanation of operating range.

TERMINALS

01

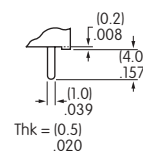
Solder Lug

The .032" x .063" oblong hole accommodates two solid or stranded 24-gauge wires.



03


Straight PC



LED COLORS & SPECIFICATIONS

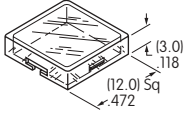
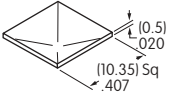
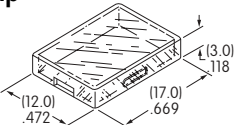
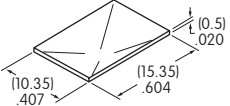
Electrical specifications are determined at a basic temperature of 25°C.
 LED circuit is independent of switch operation. If the source voltage is greater than rated voltage, a ballast resistor is required.
 The ballast resistor calculation and more lamp detail are shown in the Supplement; see Supplement Index (page Z1).

Bright LED

LEDs are an integral part of the switch and not available separately.			5C	5D	5F	Unit
	Color		Red	Amber	Green	
	Forward Peak Current	I_{FM}	30	30	25	mA
	Continuous Forward Current	I_F	20	20	20	mA
	Forward Voltage	V_F	1.85	2.0	2.1	V
	Reverse Peak Voltage	V_{RM}	5	5	5	V
	Current Reduction Rate Above 25°C	ΔI_F	0.40	0.42	0.46	mA/°C
Ambient Temperature Range		-25°C ~ +50°C				

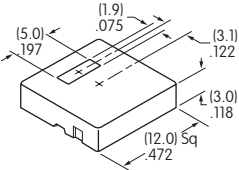
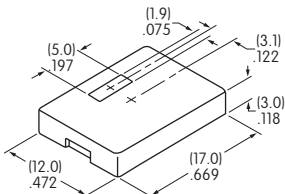
CAP TYPES & COLOR COMBINATIONS

Transparent Cap with Diffuser for Full Face Illumination

Caps		Diffusers	
J Clear	AT4074 Square Cap 	J Clear (for square only)	AT4075 Diffuser for AT4074 Square Cap 
C Red		B White	
D Amber	AT4117 Rectangular Cap 	C Red	AT4118 Diffuser for AT4117 Rectangular Cap 
F Green		D Amber	
		F Green	

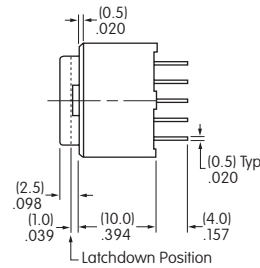
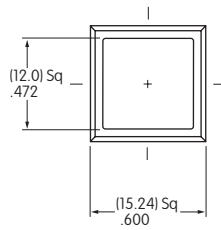
Cap & Diffuser Material: Polycarbonate Cap Finish: Glossy Diffuser Finish: Textured
 Note: Both cap & diffuser colors must be selected. J & B can be combined with any color.
 Combinations JJ, CJ, DJ, & FJ are for Square only.

Spot Illuminated Cap

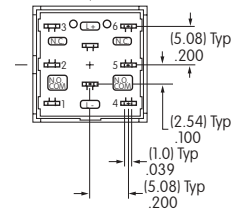
AB Black Cap with Translucent White Window for LED Display Material: Polycarbonate Finish: Matte	AT4119 Square 	AT4120 Rectangular 
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TYPICAL SWITCH DIMENSIONS

Square • PCB Mount



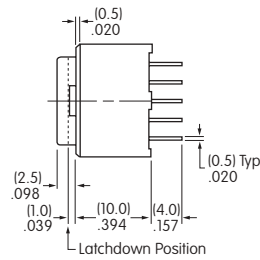
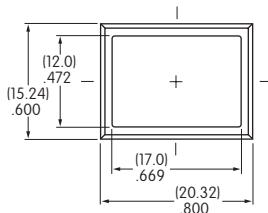
Single & Double Pole



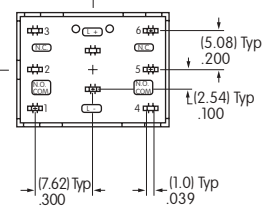
UB15SKG035C-CB

Single pole models do not have terminals 4, 5, & 6. Nonilluminated models do not have lamp terminals.

Rectangular • PCB Mount



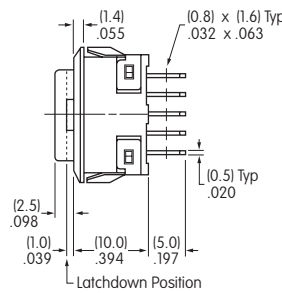
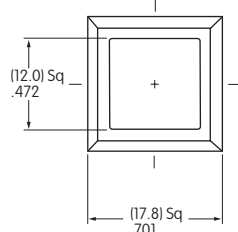
Single & Double Pole



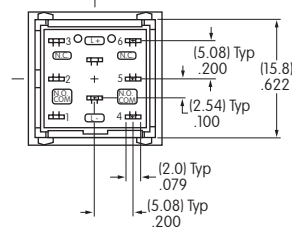
UB26RKG035D-DD

Single pole models do not have terminals 4, 5, & 6. Nonilluminated models do not have lamp terminals.

Square • Snap-in Mount • Built-in Bezel



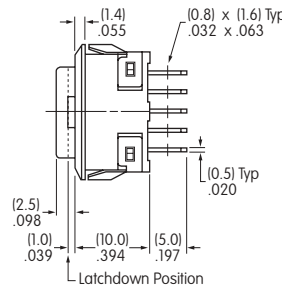
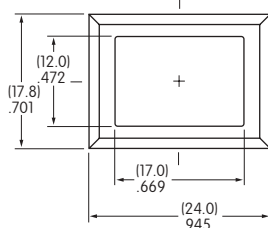
Single & Double Pole



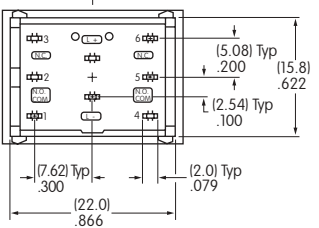
UB25KKW015C-CB

Single pole models do not have terminals 4, 5, & 6. Nonilluminated models do not have lamp terminals.

Rectangular • Snap-in Mount • Built-in Bezel



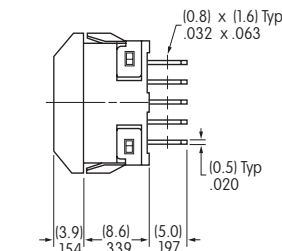
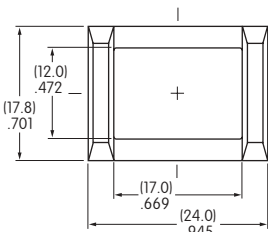
Single & Double Pole



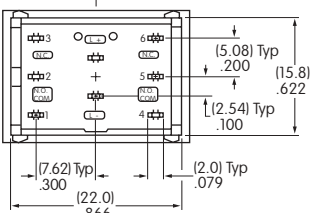
UB26NKKW015F-CB

Single pole models do not have terminals 4, 5, & 6. Nonilluminated models do not have lamp terminals.

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



Single & Double Pole



UB25NBKW015F-FB

Single pole models do not have terminals 4, 5, & 6. Nonilluminated models do not have lamp terminals.

OPTIONAL ACCESSORIES

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

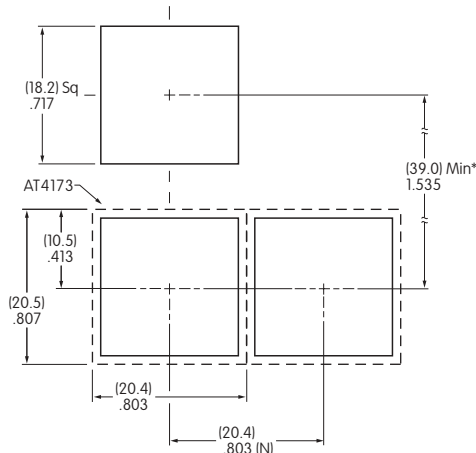
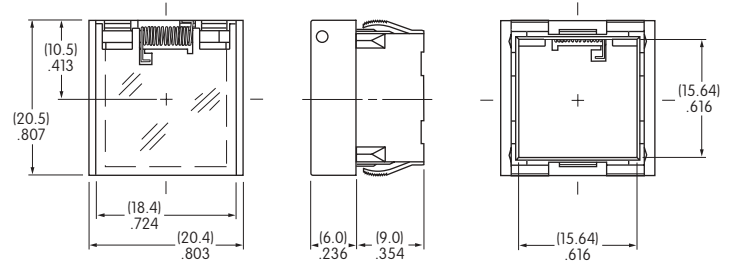
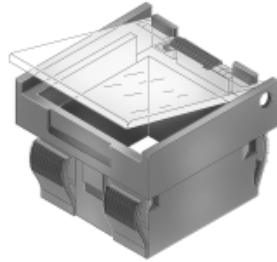
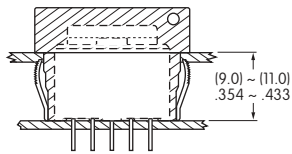
AT4173 Square Protective Guard/ Snap-in Frame

Opens 180°
Closes automatically

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

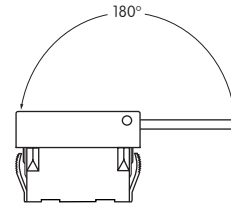
Recommended Panel Thickness:
1.0mm ~ 3.2mm (.039" ~ .126")

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



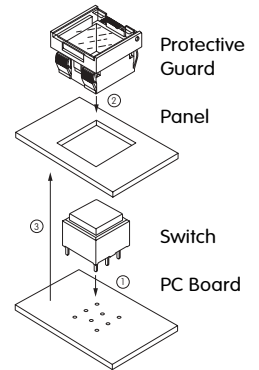
(N) = Number of switches

* Minimum dimension allows opening of cover to 180°



Installation

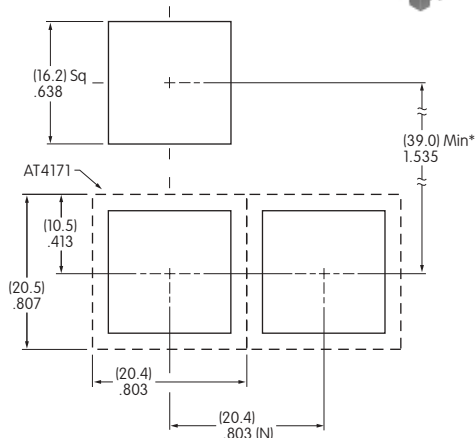
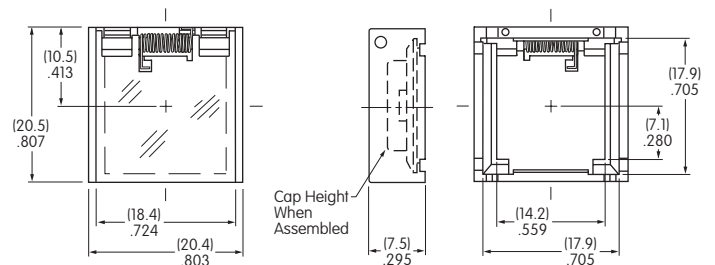
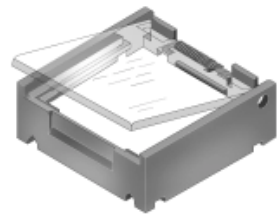
1. Install switch onto PC board.
2. Snap protective guard into panel.
3. Join the two assemblies.



Spring Loaded Protective Guard for Square Snap-in Model

AT4171 Square Protective Guard

Opens 180°
Closes automatically

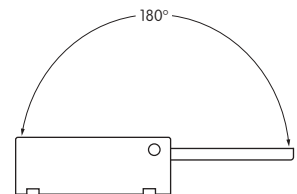


(N) = Number of switches

* Minimum dimension allows opening of cover to 180°

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

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



OPTIONAL ACCESSORIES

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

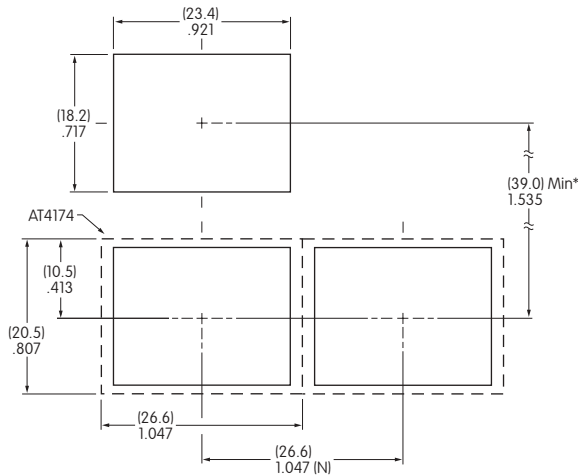
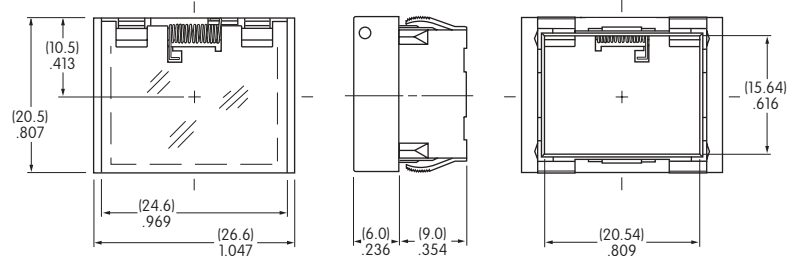
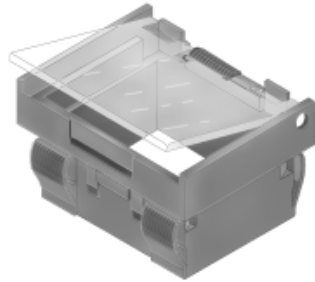
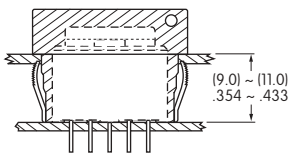
AT4174 Rectangular Protective Guard/ Snap-in Frame

Opens 180°
Closes automatically

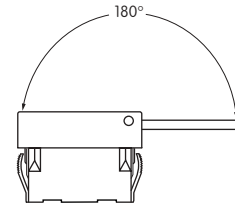
Materials:
Cover: Clear Polycarbonate
Base: Black Polyamide
Coil Spring: Stainless steel

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

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

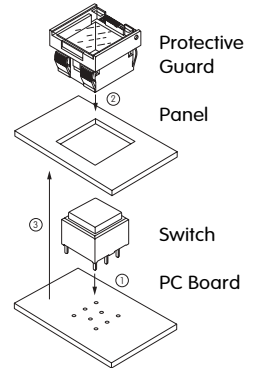


(N) = Number of switches * Minimum dimension allows opening of cover to 180°



Installation

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



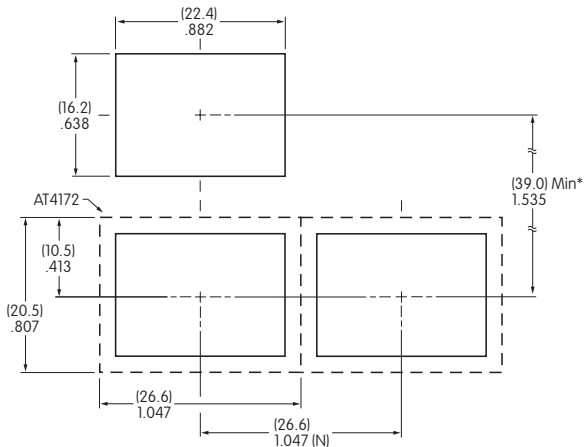
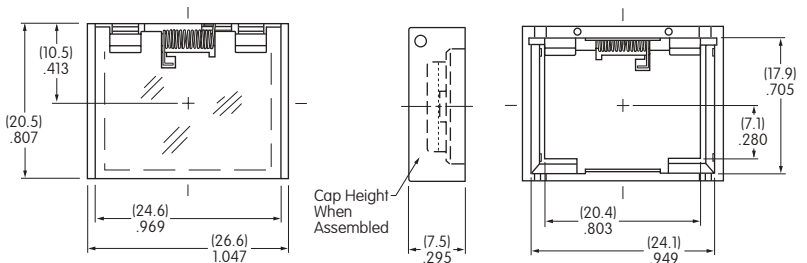
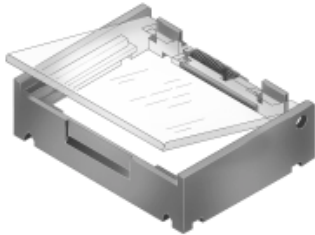
Spring Loaded Protective Guard for Rectangular Snap-in Model

AT4172 Rectangular Protective Guard

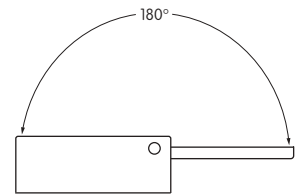
Opens 180°
Closes automatically

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

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



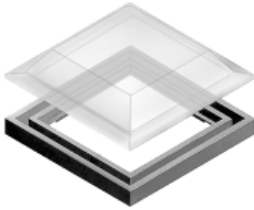
(N) = Number of switches * Minimum dimension allows opening of cover to 180°



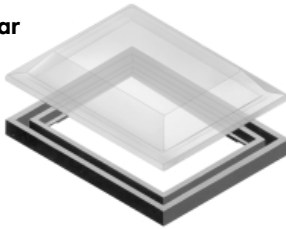
OPTIONAL ACCESSORIES

Splash Covers

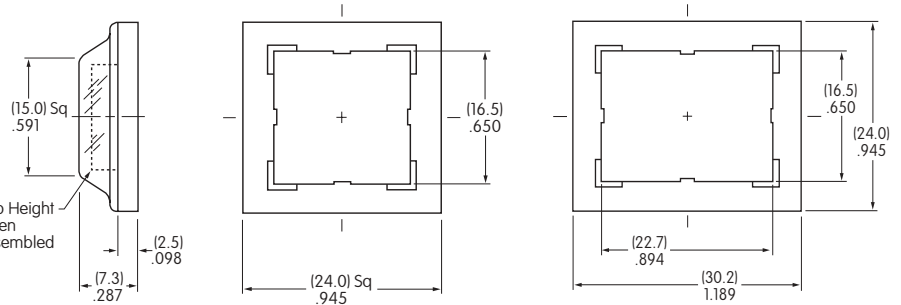
AT4001
Square



AT4011
Rectangular



Not for use with barrier type models.



Materials:
PVC with polyethylene gasket
(PVC loses pliability below 0°C (32°F).)

Panel Thickness 1.0mm ~ 2.5mm (.039" ~ .098")

LEGENDS

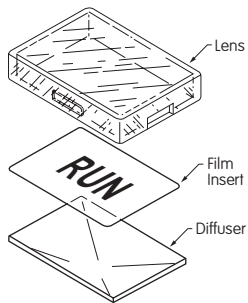
General information and basic specifications are presented here for customers who want to do their own legends.

Suggested Printable Area for UB Lens & Film Insert

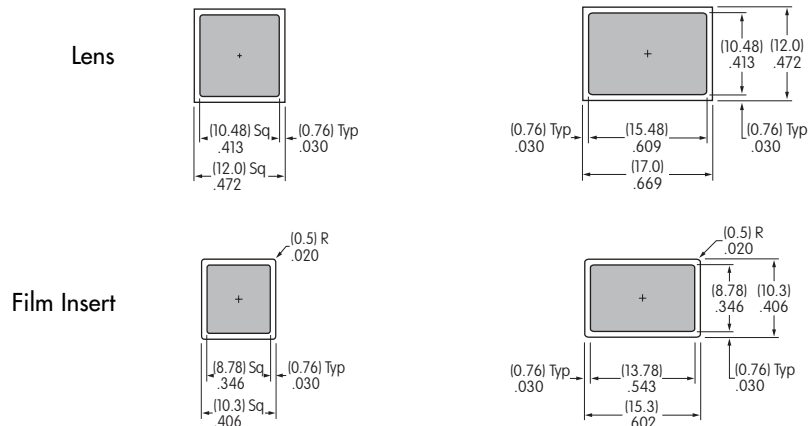
Square Cap



Rectangular Cap



Shaded areas are printable areas.



Recommended Print Methods:

Screen Print on Lens or Film Insert; Pad Print on Lens. Epoxy based ink is recommended.

Film Insert: Clear Polyester
4 mil max. thickness

LEGEND PACKET



1. To order caps with legends contact the factory and request the UB/UB2 Legend Packet.
2. Once you determine your desired legend, fill out the ordering work sheet included in the packet.
3. Return the completed work sheet to receive a quotation.