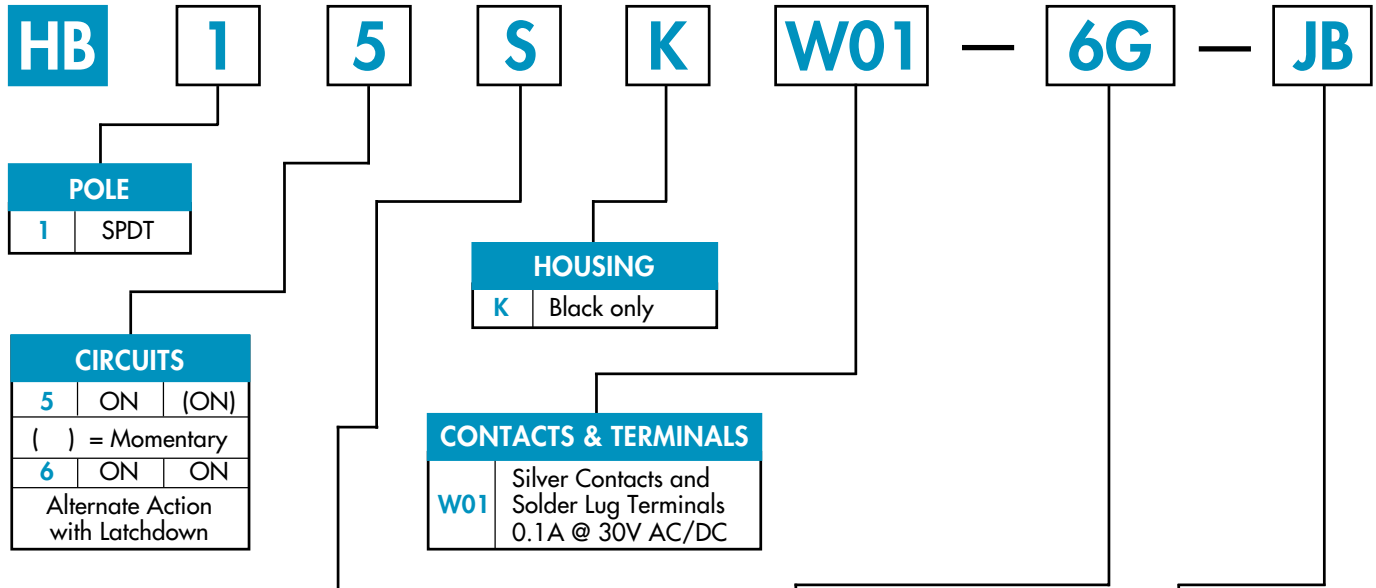


TYPICAL SWITCH ORDERING EXAMPLE



POLE		
1	SPDT	

CIRCUITS		
5	ON	(ON)
() = Momentary		
6	ON	ON
Alternate Action with Latchdown		

HOUSING	
K	Black only

CONTACTS & TERMINALS	
W01	Silver Contacts and Solder Lug Terminals 0.1A @ 30V AC/DC

SHAPES	
S	Square
C	Round

LEDS	
Bright	
5C	Red
5D	Amber
5F	Green

CAP TYPES & COLORS	
LED Cap: Lens/Diffuser Color	
AB	Black Cap/White Window for Spot Illuminated (Square only)
CB	Red/White
DB	Amber/White
FB	Green/White
JB	Clear/White

Super Bright	
6B	White
6F	Green
6G	Blue

LED Cap: Lens/Diffuser Color	
JB	Clear/White

Nonilluminated	
N	No Lamp

Cap Colors for Nonilluminated	
A	Black (Square only)
B	White
C	Red
E	Yellow
F	Green
G	Blue

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

DESCRIPTION FOR TYPICAL ORDERING EXAMPLE
HB15SKW01-6G-JB



GENERAL SPECIFICATIONS

Electrical Capacity (Resistive Load)

Power Level (code W): 0.1A maximum @ 30V AC/DC

Other Ratings

Contact Resistance: 50 milliohms maximum
Insulation Resistance: 100 megohms minimum @ 500V DC
Dielectric Strength: 500V AC minimum
Mechanical Life: 100,000 operations minimum
Electrical Life: 50,000 operations minimum
Nominal Operating Force: 350 grams
Contact Timing: Nonshorting (break before make)
Travel: 2.2mm (.087") pretravel; 0.8mm (.031") overtravel; 3.0mm (.118") total travel

Materials & Finishes

Housing: Glass fiber reinforced polyamide
Base: Glass fiber reinforced polyamide
Movable Contact: Phosphor bronze with silver plating
Stationary Contacts: Phosphor bronze with silver plating
Common Terminal: Phosphor bronze with silver plating
End Terminals: Phosphor bronze with silver plating
Lamp Terminals: Phosphor bronze with silver plating

Environmental Data

Operating Temp Range: -25°C through +50°C (-13°F through +122°F) for Illuminated
 -25°C through +70°C (-13°F through +158°F) for Nonilluminated
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 acceleration (tested in 6 right angled directions, with 5 shocks in each direction)

Installation

Mounting Torque: 5.0 kg/cm (4.34 lb/in) for round mounting nut
Cap Installation Force: 1.0 kg (2.2 lb) maximum
Soldering Time & Temperature: 3 seconds @ 350°C or 5 seconds @ 270°C
Process Seal: Not available

Standards & Certifications

UL Recognized: All models recognized at 0.1A @ 30V AC/DC; UL File No. E44145

POLES & CIRCUITS

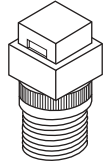
		Plunger Position () = Momentary		Connected Terminals		Throw & Power/Lamp Schematics
Pole	Model	Normal	Down	Normal	Down	Notes: Terminals are marked with NO, NC, C, L. LED circuit is isolated and requires external power source.
SP	HB15 HB16*	ON	(ON)	1-3	1-2	SPDT

*When in latchdown position for the alternate circuit, cap position is 1.3mm (.051") above the built-in bezel.

SHAPES

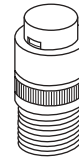
S .354" Square

The bezel is an integral part of the switch body.



C .354" Round

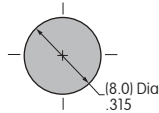
The bezel is an integral part of the switch body.



Panel Cutout & Mounting

Recommended Panel Thickness:

0.5mm ~ 5.0mm (.020" ~ .197")



Overtightening the mounting nut may damage the switch housing.

HOUSING

K Housing available in black only.

CONTACT MATERIALS, RATINGS, & TERMINALS

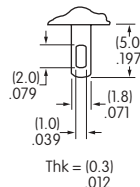
W01 Silver Contacts

Power Level

0.1A maximum @ 30V AC/DC

Solder Lug



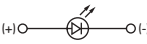
The .039" x .079" oblong hole accommodates one solid or one stranded 20-gauge wire or two 22-gauge wires.



PCB Mounting

Solder lug terminals are spaced .100" X .200". This enables PCB mounting which can be accomplished by elongating PC board holes to .080".

LED COLORS & SPECIFICATIONS

Bright AT633 	 Super Bright LEDs are electrostatic sensitive.	 Color	Bright			Super Bright			Unit
			5C	5D	5F	6B	6F	6G	
Super Bright AT624G Blue AT629B White AT630F Green T-1 Bi-pin	Forward Peak Current	I_{FM}	30	30	25	30	30	30	mA
	Continuous Forward Current	I_F	20	20	20	20	20	20	mA
	Forward Voltage	V_F	1.85	2.0	2.2	3.6	3.5	3.6	V
	Reverse Peak Voltage	V_{RM}	5	5	5	5	5	5	V
	Current Reduction Rate Above 25°C	ΔI_F	0.40	0.42	0.38	0.50	0.50	0.50	mA/°C
	Ambient Temp Range		-25°C ~ +50°C			-25°C ~ +50°C			

Electrical specifications are determined at a basic temperature of 25°C. LED circuit is independent of switch operation. Single element LED is colored in OFF state. For dimension drawings see the Accessories & Hardware Index (page Y1).
 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).

N **No Lamp** Code N indicates that no lamp is used with AT4035 and AT4036.

CAP TYPES & COLORS

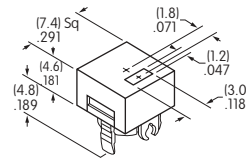
Color Codes: **A** Black **B** White **C** Red **D** Amber **E** Yellow **F** Green **G** Blue

Colored Cap for Bright LED

Cap Colors Available:

AB Black Cap/
White Translucent Window

AT4052
Spot Illuminated



Square only

Material: Polycarbonate
Finish: Matte

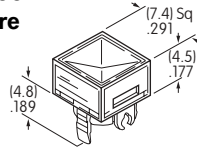
Lens/Diffuser Colors Available:

CB Red/White

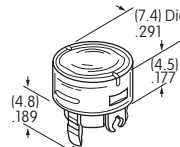
DB Amber/White

FB Green/White

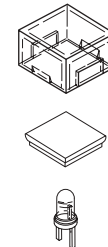
AT4166
Square



AT4167
Round



Material: Polycarbonate Finish: Glossy



Transparent Colored Lens

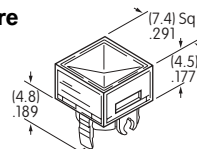
Translucent White Diffuser

Colored LED AT633

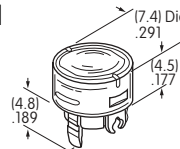
White Cap for Bright & Super Bright LED

JB Clear Lens/
White Diffuser

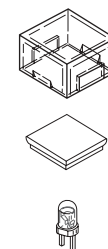
AT4031
Square



AT4032
Round



Material: Polycarbonate
Finish: Glossy



Transparent Clear Lens

Translucent White Diffuser

Colored LEDs AT624, AT629, AT630, or AT633

NONILLUMINATED CAP

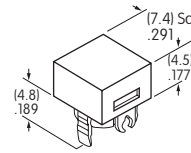
Cap Colors Available:



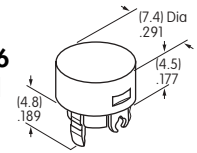
Material: Polycarbonate

Finish: Glossy

AT4035
Square

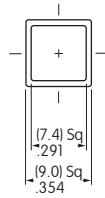


AT4036
Round



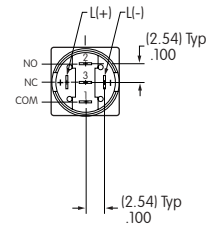
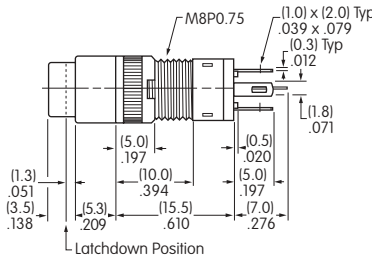
TYPICAL SWITCH DIMENSIONS

Square

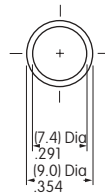


HB15SKW01-5C-CB

Single Pole

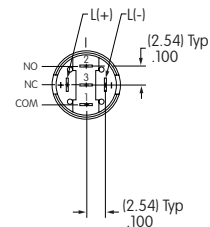
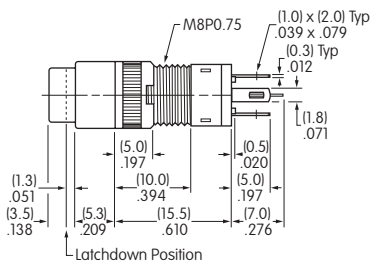


Round



HB16CKW01-5C-CB

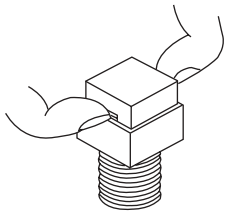
Single Pole



ASSEMBLY INSTRUCTIONS

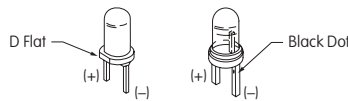
Cap Removal

1. Have cap in extended position (not latchdown) for alternate action models.
2. Use the grip slots on the sides of the cap and pull it out of the switch.



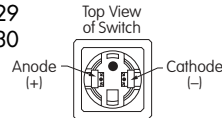
LED Polarity & Orientation in Lamp Socket

For AT624, AT629, AT630: Insert the LED with the D flat opposite the black dot molded inside the switch lamp socket. For AT633: Insert the LED with the Black Dot on the terminal to the right.



AT624
AT629
AT630

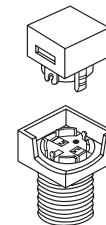
AT633



Super Bright LEDs AT624, AT629, & AT630 are electrostatic sensitive.

Cap Replacement

1. Match the prongs on the cap base with the projections in the switch, at the same time aligning the spring clips on the cap with the indentations in the switch.
2. Press firmly in place.



AT111 Lamping Tool

Lamping Tool AT111 may be used to remove and replace LED.



AT110 Socket Wrench

Socket Wrench AT110 may be used to tighten the mounting nut.

