

NEW!

AP Series Industrial Pushbutton Switch



Features/Benefits

- IP67 sealed
- 1,000,000 life cycle
- Illumination / non-illumination
- Multiple colored caps
- Threaded or snap-in mounting
- SPST, normally open
- Caps available separately
- RoHS compliant

Typical Applications

- Harsh environments
- Off-Road
- Industrial
- Medical
- Transportation
- Joystick control modules
- Gaming
- Military



Specifications

FUNCTION: SPST Momentary, double break
 CONTACT ARRANGEMENT: N.O.
 MOUNTING TYPE:
 Snap-in (panel front) or threaded (nut with locking washer and panel gasket)

Mechanical

TOTAL TRAVEL: 2.1 ± 0.2 mm
 OPERATING POINT 1.55 ± 0.25 mm
 OVER TRAVEL: 0.6 ± 0.2 mm
 OPERATING FORCE: 4N ± 0.5N standard configuration; other force option 2N ± 0.5N
 VIBRATION: 10-500 Hz 10g Max
 SHOCK: 60g 11ms sawtooth wave

Electrical

CONTACT RATING:
 200mA @ 24 V DC resistive
 100mA @ 50 V DC resistive
 400mA @ 32 V AC resistive
 125mA @ 125 V AC resistive
 DIELECTRIC STRENGTH: 1000 V AC min.
 INSULATION RESISTANCE: 1 G Ω @ 500 VDC
 INITIAL CONTACT RESISTANCE 50 mΩ max (without wire leads)
 BOUNCE TIME: <5 ms

Materials

HOUSING: PBT
 BASE: PBT
 CAP: PBT
 ACTUATOR:
 Illuminated: Clear polycarbonate
 Non-illuminated: PBT
 INTERNAL SEAL: Silicone rubber
 TERMINALS: Copper alloy, gold over silver plating
 MOVABLE CONTACT: Copper alloy, gold over silver plating
 TERMINAL SEAL: Epoxy

Operating Environment

OPERATING TEMPERATURE: -40°C to 85°C (+105°C non-illuminated)
 OPERATING LIFE: 1,000,000 cycles

Process Environment

SEALING: IP67

NOTE: Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, please contact Customer Service.

Build-A-Switch

To order, simply select desired option from each category and place in the appropriate box.



Designation

AP AP Series

Operating Force

2 2 Newtons
 4 4 Newtons

Actuator Style

D Dome / Convex
 C Concave
 E Extended Dome
 N None

Actuator Color

0 No Cap
 2 Black
 3 Red
 4 Orange
 5 Yellow
 6 Green

Illumination

00 No LED*
 01 Super White
 02 Bi-color; Red (Green)
 03 Red
 05 Amber
 06 Green
 07 Super Blue
 08 Bi-color; Amber (Green)

Bushing Style**

S Snap-in plastic
 T*** Threaded plastic

Terminal Seal

E Epoxy
 All models are epoxy sealed

Contact Material

B Gold

Termination

Z Solder Lug
 W 12" Wire Leads 22 AWG
 C**** PC Terminals

Please contact Customer Service for additional colors and paint / laser etched button options.

** Metal threaded bushing available, contact Customer Service

*** T bushing style includes: 1 lockwasher, 1 hex nut & 1 panel seal washer

**** Illumination not available with PC Terminals

Contact Customer Service for additional hardware options.

* No LED available in short body only

Specifications and dimensions subject to change





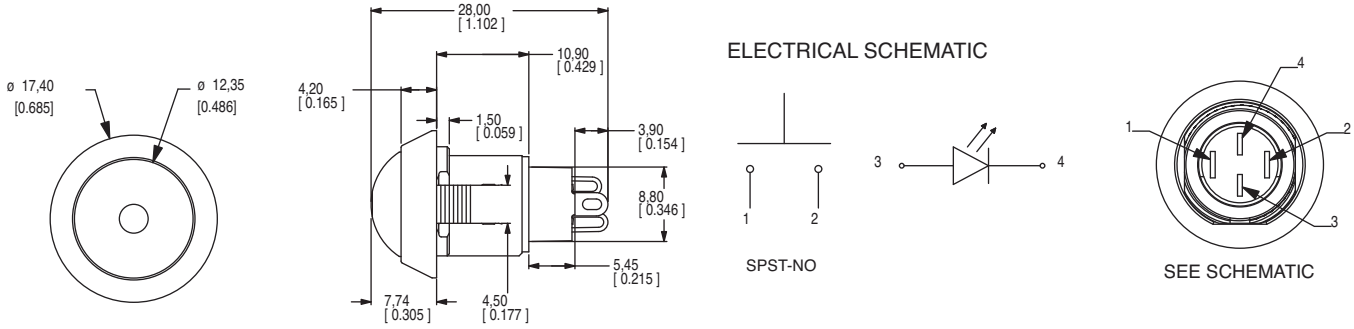
AP Series Industrial Pushbutton Switch

NEW!

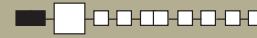
STANDARD VIEW

A

Pushbutton

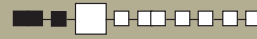


OPERATING FORCE



OPTION CODE	OPERATING FORCE
2	2 N, 200 g
4	4 N, 400 g

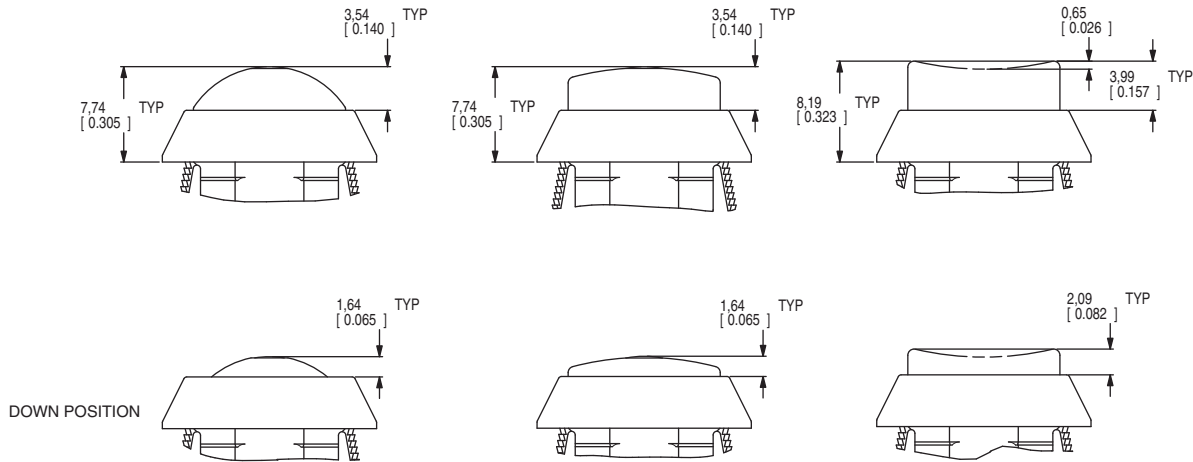
ACTUATOR STYLE



D DOME / CONVEX

E EXTENDED DOME

C CONCAVE

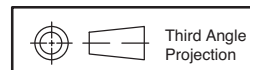


ACTUATOR COLOR



OPTION CODE	ACTUATOR COLOR
0	No Cap
2	Black
3	Red
4	Orange
5	Yellow
6	Green

For additional colors please contact Customer Service.



C&K

Dimensions are shown: mm (inches)
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A

Pushbutton

ILLUMINATION



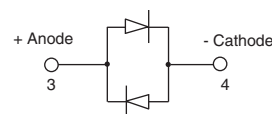
OPTION CODE	ILLUMINATION TYPE	TYPICAL INTENSITY* MIN MAX		PEAK WAVELENGTH (nm)	Vf Forward Voltage
		(mcd)			
00	Model without illumination	N/A		N/A	
01	LED Super White	4,000	5,000	N/A	3.5
02	LED Bi-Color – Red (Green)	10	20	635/565	2.0
03	LED Red	4	8	700	2.0
05	LED Amber	35	50	610	2.0
06	LED Green	35	50	565	2.0
07	LED Super Blue	800	1,500	470	3.8
08	LED Bi-Color – Amber (Green)	10	10	585/565	2.0

*LED FORWARD CURRENT: 20 mA
LED FORWARD VOLTAGE: see chart above
LED REVERSE VOLTAGE: 5.0 V MAX

* For information on specific and custom LED, please contact Customer Service.

NOTE:

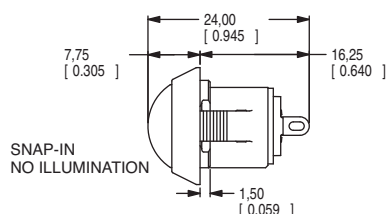
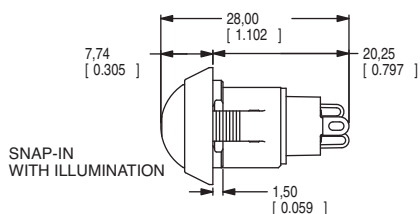
For bi-color LED's the polarity must be reversed to alternate the color



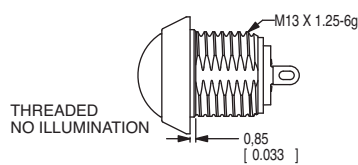
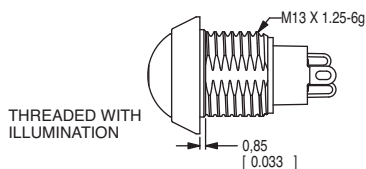
BUSHING STYLE



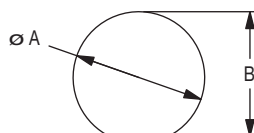
S SNAP-IN



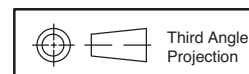
T THREADED PLASTIC



PANEL CUTOUT



PANEL THICKNESS	DIM A (± 0.05 mm)	DIM B (± 0.05 mm)
1 mm [0.039 in]	13.70 mm [0.539 in]	13.00 mm [0.512 in]
2 mm [0.079 in]	13.80 mm [0.539 in]	13.00 mm [0.512 in]
3 mm [0.118 in]	13.90 mm [0.547 in]	13.10 mm [0.516 in]
THREADED BODY MIN PANEL THICKNESS 1 mm	13.70 mm [0.539 in]	13.00 mm [0.512 in]



Third Angle Projection



A 0.1mm min. chamfer on the leading edge of the mounting hole is recommended for snap-in version.

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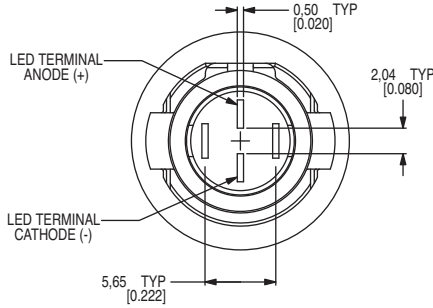
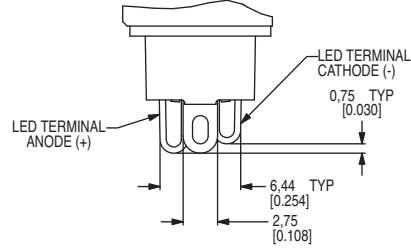
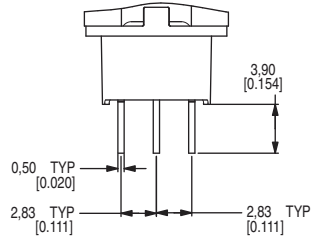
TERMINATION



A

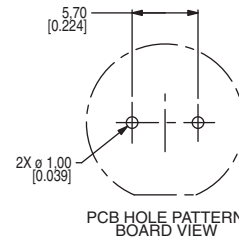
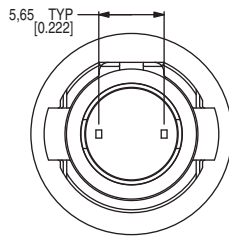
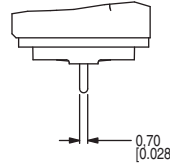
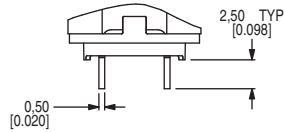
Pushbutton

Z SOLDER LUG

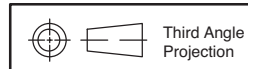
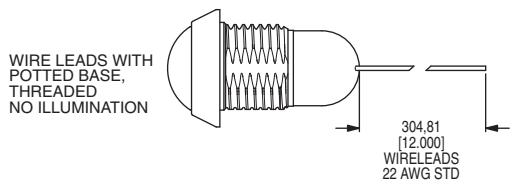
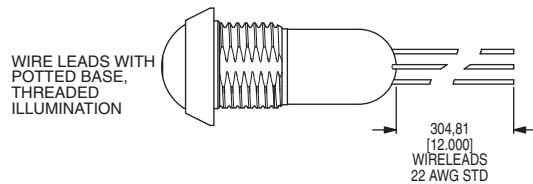
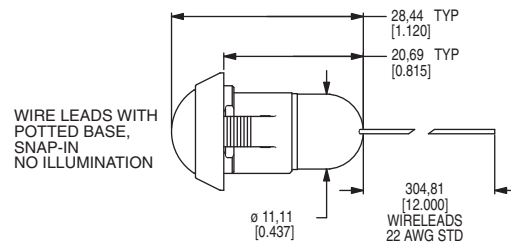
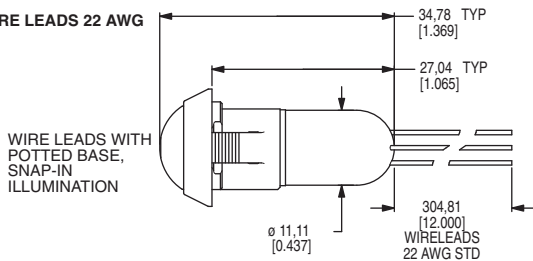


C PC TERMINALS

**** Illumination not available with PC Terminals



W 12" WIRE LEADS 22 AWG



Dimensions are shown: mm (inches)
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A

Pushbutton

CONTACT MATERIAL



B GOLD

OPTION CODE	CONTACT MATERIAL
B	Gold

TERMINAL SEAL

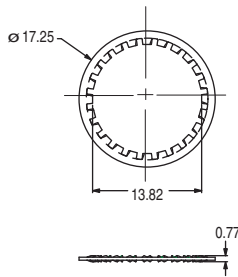


E EPOXY

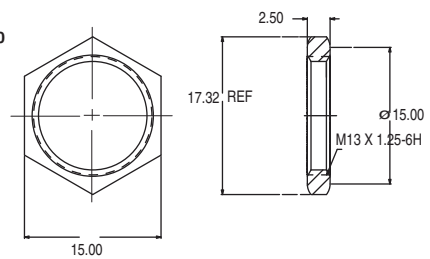
All models are epoxy sealed

HARDWARE

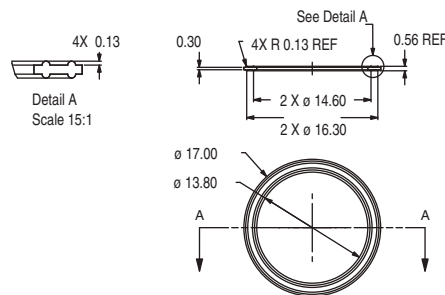
LOCK WASHER
Part Number 647D00000



HEX NUT
Part number 515D00000



PANEL SEAL
Part Number 655D00000



Caps available on next page



Dimensions are shown: *mm (inches)*
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AVAILABLE CAPS

A

Pushbutton

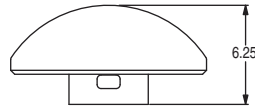
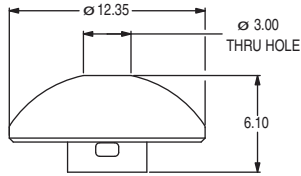


481 X XX 00X
 Cap ———|
 Actuator Style ———|
 Cap Color ———| Hole / No Hole

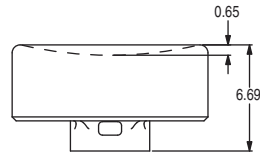
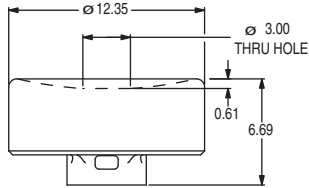
OPTION	CAP COLOR
02	BLACK
03	RED
04	ORANGE
05	YELLOW
06	GREEN

PART NUMBER	HOLE	ACTUATOR STYLE
481DXX000	NO	DOME
481DXX001	YES	DOME
481CXX000	NO	CONCAVE
481CXX001	YES	CONCAVE
481EXX000	NO	EXTENDED DOME
481EXX001	YES	EXTENDED DOME

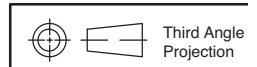
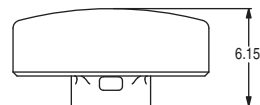
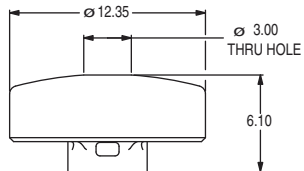
D DOME



C CONCAVE



E EXTENDED DOME



Dimensions are shown: Inches (mm)
 Specifications and dimensions subject to change