



A

Pushbutton

AP Series Industrial Pushbutton Switch

NEW!

Features/Benefits

- IP67 sealed
- 1,000,000 life cycle
- Illumination / non-illumination
- Multiple colored caps
- Threaded or snap-in mounting
- 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

OPERATING LIFE: 1,000,000 cycles
TOTAL TRAVEL: 2.1 ± 0.2 mm
OPERATING POINT 1.55 ± 0.25 mm
OVER TRAVEL: 0.6 min.
OPERATING FORCE: $4N \pm 1N$ standard configuration; other force
option $2N \pm 0.5N$
VIBRATION: 10-500 Hz 10g Max
SHOCK: 60g 11ms sawtooth wave

Electrical

CONTACT RATING:
200mA @ 24 V DC resistive (500,000 cycles)
100mA @ 50 V DC resistive (500,000 cycles)
400mA @ 32 V AC resistive (500,000 cycles)
125mA @ 125 V AC resistive (1,000,000 cycles)
DIELECTRIC STRENGTH: 1000 V AC min.
INSULATION RESISTANCE: $1 \text{ G } \Omega$ @ 500 VDC
INITIAL CONTACT RESISTANCE 50 m Ω 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)
ESD PROTECTION: 20 KV min.

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 7 Blue	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)	Termination Z Solder Lug W 12" Wire Leads 22 AWG C**** PC Terminals	Bushing Style** S Snap-in plastic T*** Threaded plastic	Contact Material B Gold	Terminal Seal E Epoxy All models are epoxy sealed
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Please contact Customer Service for additional colors and paint / laser etched button options.

* No LED available in short body only

** 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.



Specifications and dimensions subject to change

NEW!

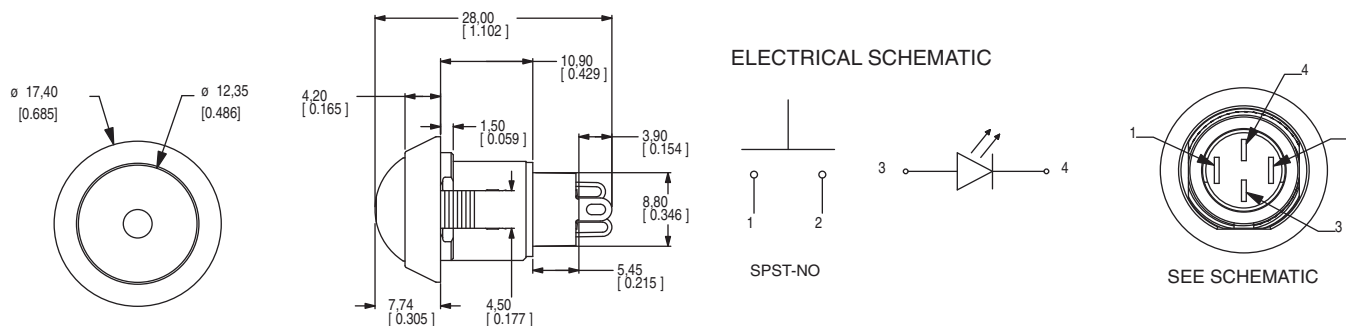
AP Series Industrial Pushbutton Switch



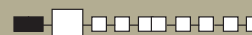
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STANDARD VIEW

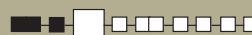


OPERATING FORCE

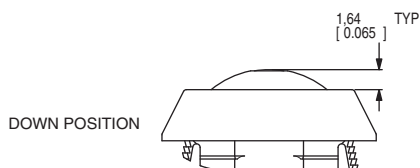
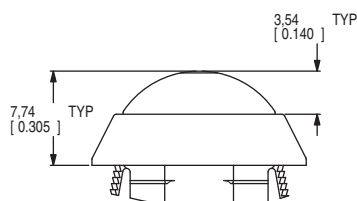


OPTION CODE	OPERATING FORCE
2	2 N, 200 g
4	4 N, 400 g

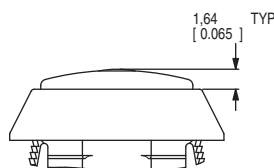
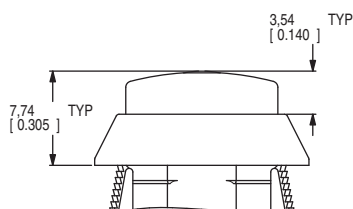
ACTUATOR STYLE



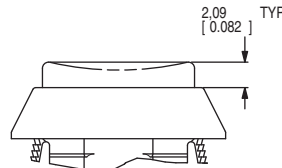
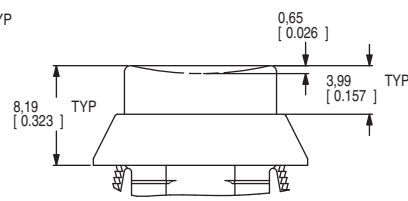
D DOME / CONVEX



E EXTENDED DOME



C CONCAVE

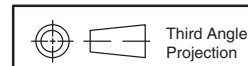


ACTUATOR COLOR



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

For additional colors please contact Customer Service.



Third Angle Projection



Dimensions are shown: mm (inches)
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ILLUMINATION



OPTION CODE	ILLUMINATION TYPE	TYPICAL INTENSITY*		PEAK WAVELENGTH	Vf Forward Voltage
		MIN	MAX		
		(mcd)		(nm)	
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

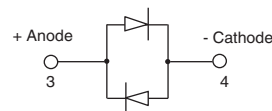
LED FORWARD VOLTAGE: see chart above

LED REVERSE VOLTAGE: 5.0 V MAX

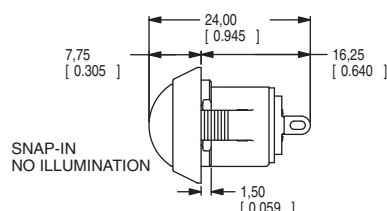
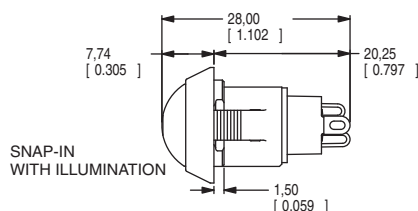
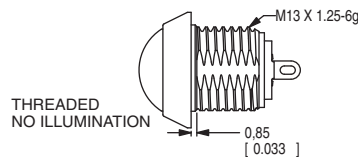
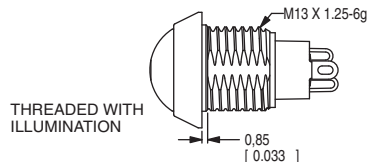
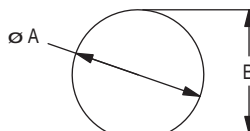
* For information on specific and custom LED, please contact Customer Service.

NOTE:

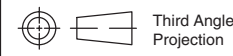
For bi-color LED's the polarity must be reversed to alternate the color



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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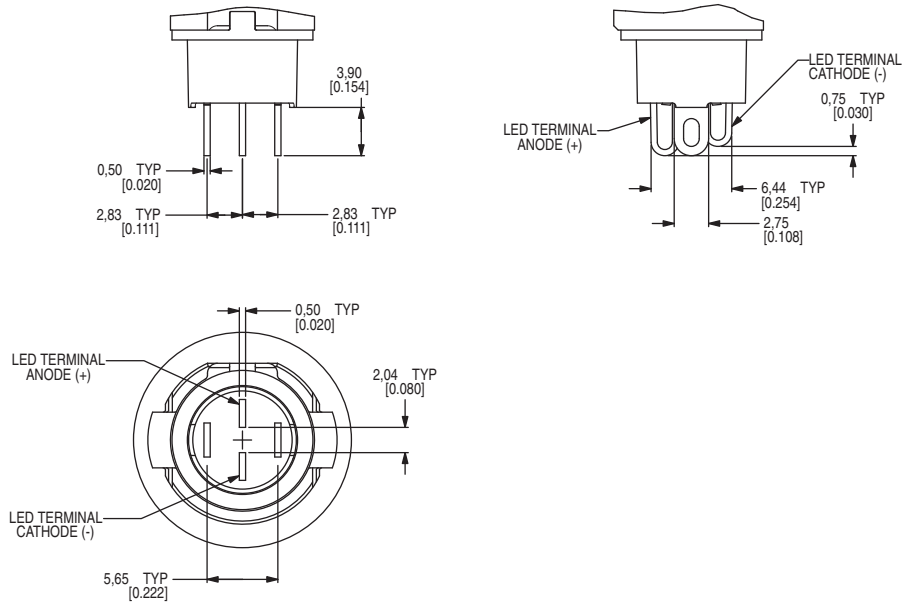
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TERMINATION

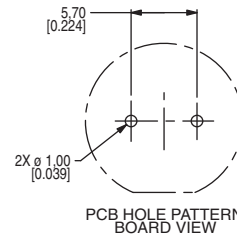
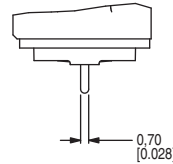
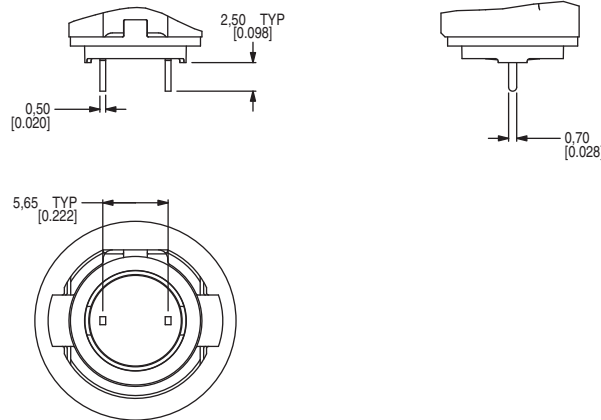


Z SOLDER LUG

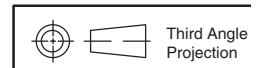
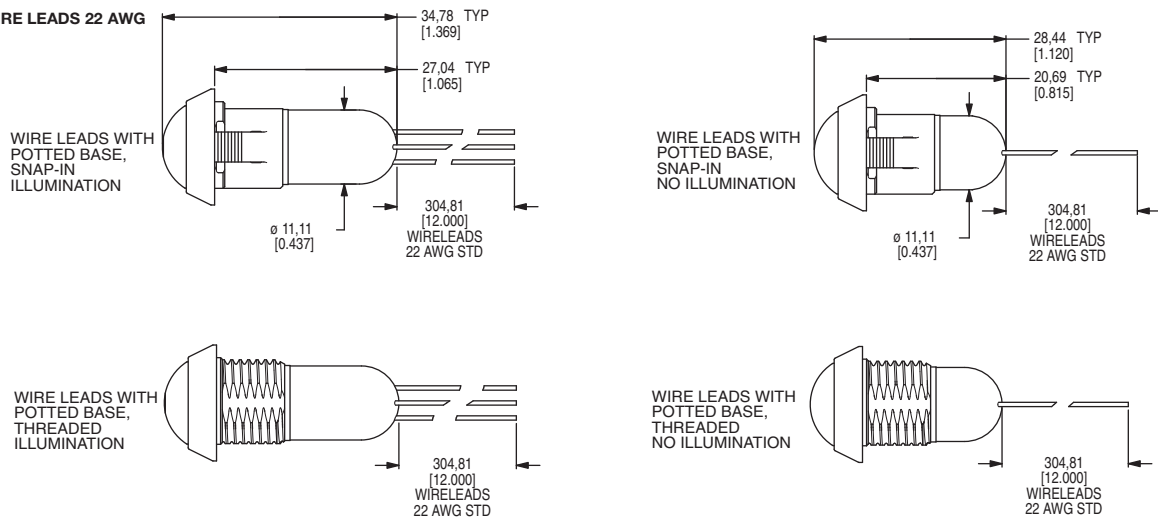


C PC TERMINALS

**** Illumination not available with PC Terminals



W 12" WIRE LEADS 22 AWG



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CONTACT MATERIAL



B GOLD

OPTION CODE	CONTACT MATERIAL
B	Gold

TERMINAL SEAL



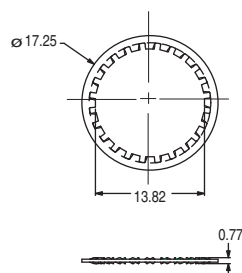
E EPOXY

All models are epoxy sealed

HARDWARE

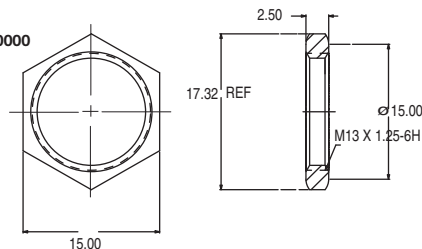
LOCK WASHER

Part Number 647D00000



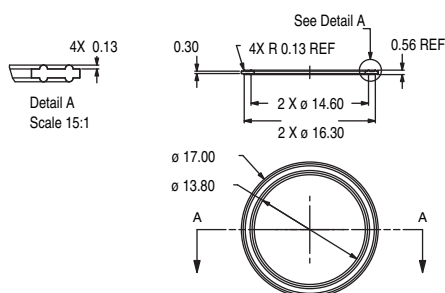
HEX NUT

Part number 515D00000



PANEL SEAL

Part Number 655D00000



Caps available on next page



Third Angle
Projection



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AVAILABLE CAPS

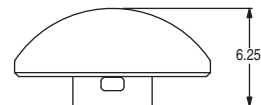
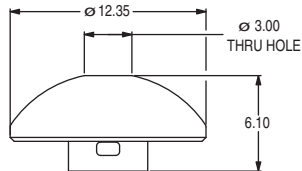


481 X XX 00X
Cap
Actuator Style
Cap Color
Hole / No Hole

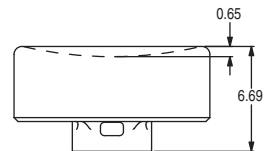
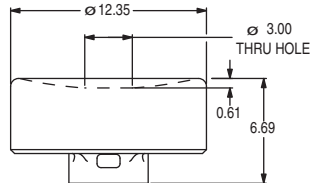
OPTION	CAP COLOR
02	BLACK
03	RED
04	ORANGE
05	YELLOW
06	GREEN

PART NUMBER	HOLE	ACTUATOR STYLE
481DX000	NO	DOME
481DX001	YES	DOME
481CX000	NO	CONCAVE
481CX001	YES	CONCAVE
481EX000	NO	EXTENDED DOME
481EX001	YES	EXTENDED DOME

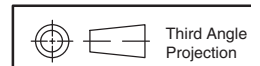
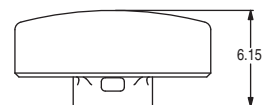
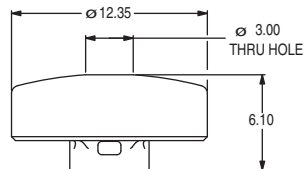
D DOME



C CONCAVE



E EXTENDED DOME



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