












**langir**<sup>®</sup>

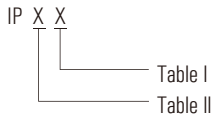
Anti vandal switch  
[www.langir.com](http://www.langir.com)

# Anti-vandal series comparison

Image	Model	Cutout Diameter / Depth	Functions available	Terminal type	Actuator options	Material Options		Illum. Options				Water resistant (IP65 Min.)	Bi-Color illumination	Ring illumination	DoF illumination	Anodized aluminum	Stainless steel	RoHS compliant (IP65 Min.)	RoHS compliant
						Nickel plated brass	Gold plated brass	•	•	•	•								
	<b>V19</b> <b>Vs19 short body</b>	Diameter: 19mm Max. Depth: 10mm	1 Pole: Off-(On) On-(Off)	Screw Solder	High Flat Domed	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	<b>V16</b>	Diameter: 16mm Max. Depth: 6mm	1 Pole: Off-(On) On-(Off)	Screw Solder	High Flat Domed	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	<b>L16</b>	Diameter: 16mm Max. Depth: 10mm	1 Pole: On-On On-(On) 2 Pole: On-On On-(On)	Solder	High Flat Concave Guarded	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	<b>L19</b> <b>L19A</b> <b>Ls19</b> <b>L19M Micro trip</b> <b>L19B High current</b> <b>L19Y High current for Marine</b>	Diameter: 19mm Max. current 21A Max. Depth: 10mm	1 Pole: On-On On-(On) 2 Pole: On-On On-(On) 1P Off-(On) + 1P On-(Off)	Screw Solder	Flat	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	<b>V22</b>	Diameter: 22mm Max. Depth: 10mm	1 Pole: Off-(On) On-(Off)	Screw Solder	High Flat Domed	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	<b>V12</b>	Diameter: 12mm Max. Depth: 6mm	1 Pole: Off-(On)	Screw Solder	Domed High	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	<b>Ls16</b>	Diameter: 16mm Max. Depth: 9mm	1 Pole: Off-(On)	Solder	Flat	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	<b>L22</b> <b>L22A</b> <b>L22B High current</b> <b>L22M Micro-trip</b>	Diameter: 22mm Max. current 21A Max. Depth: 10mm	2 Pole: 1P Off-(On) + 1P On-(Off)	Screw Solder	Flat	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	<b>L25</b>	Diameter: 25mm Max. Depth: 12mm	2 Pole: 1P Off-(On) + 1P On-(Off) 4 Pole: 2P Off-(On) + 2P On-(Off)	Solder	Flat	•	•	•	•	•	•	•	•	•	•	•	•	•	•

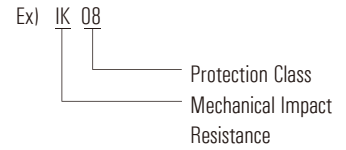
# Anti vandal switch

Degree of protection to EN60529/DIN 0470



## IP Ratings Guide

The IP classification system designates the degree of protection provided by an enclosure against solid objects or water ingress. Table shows degrees of protection against solid objects. Table II shows degrees of protection against water.



**Table I (1st characteristic numeral)**  
Degree of Protection against solid objects

Digit	Description
0	Non-protected
1	Protected against a solid object greater than 50mm, such as a hand.
2	Protected against a solid object greater than 12.5mm, such as a finger.
3	Protected against a solid object greater than 2.5mm, such as wire or a tool.
4	Protected against a solid object greater than 1.0mm, such as wire or thin strips.
5	Dust-protected. Prevents ingress of dust sufficient to cause harm.
6	Dust tight. No ingress of dust.

**Table II (2nd characteristic numeral)**  
Degree of Protection against water

Digit	Description
0	Non-protected
1	Protected against dripping water.
2	Protected against dripping water when tilted up to 15°.
3	Protected against spraying water at an angle of up to 60°.
4	Protected against splashing water from any direction.
5	Protected against jets of water from any direction.
6	Protected against heavy seas or powerful jets of water. Prevents ingress sufficient to cause harm.
7	Protected against the effects of temporary immersion in water.
8	Protected against the effects of continuous immersion in water.

IK CODE	MECHANICAL IMPACT RESISTANCE
00	Unprotected
01	Impact = 0.15 joule
02	Impact = 0.20 joule
03	Impact = 0.35 joule
04	Impact = 0.50 joule
05	Impact = 0.70 joule
06	Impact = 1 joule
07	Impact = 2 joule
08	Impact = 5 joule
09	Impact = 10 joule
10	Impact = 20 joule



Non-Illuminated

# Anti vandal switch $\phi$ 12mm

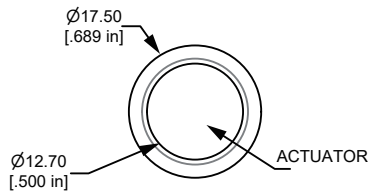


- Anti-Vandal IK09/ Sealed IP65
- 1,000,000 Cycles Momentary
- Variety Of Colors

## ORDER CODE

Series	Actuator Options	Terminal Options	Function Options	Material Options	Actuator Color Options
V12	B- Round	P- Solder lug(2.0x0.5) NONE- Screw	NONE- Momentary 1NO	S- Stainless steel N- Nickel plated brass A- Zn-Al alloy black color	W- White Y- Yellow B- Blue G- Green R- Red BK- Black

## DESCRIPTION



Panel Thickness: 1~4.0mm

## TECHNICAL DATA

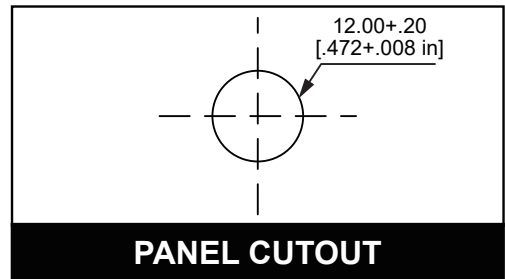
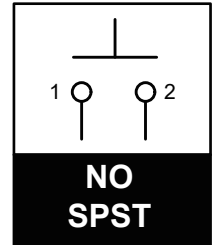
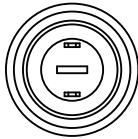
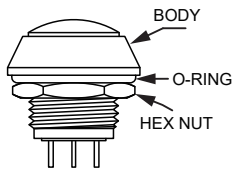
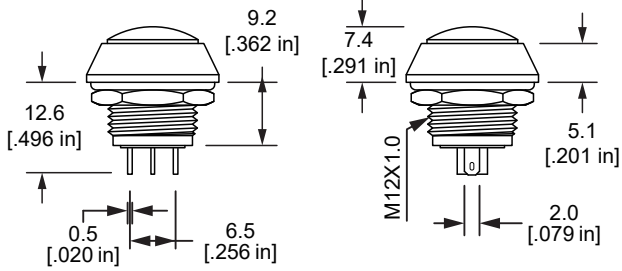
Type	V12-B-S	V12-B-N	V12-B-A
Illuminated Options	Non-illuminated		
Front Shape	Round		
Terminal	Screw/ Solder (2.0X0.5)		
Max. Switch Rating	2A 48VDC		
Contact Resistance	$\leq 50m\Omega$		
Insulation Resistance	$\geq 1000m\Omega$		
Dielectric Strength	2000VAC		
Operation Temp.	$-20^{\circ}C \sim +55^{\circ}C$		
Mechanical Life	1,000,000 Cycles		
Electrical Life	200,000 Cycles		
Contact Material	Silver Alloy		
Torque	5 ~ 14Nm		
Operation Pressure	approx. 5N		
Protection	IP65/ IK08		
Material			
Actuator	Stainless Steel/ Brass/ PBT		
Body	Stainless Steel	Nickel plated brass	Zin-Al Alloy
Base	PBT		
Color	R G Y O B W BK		

## APPLICATIONS / MARKETS

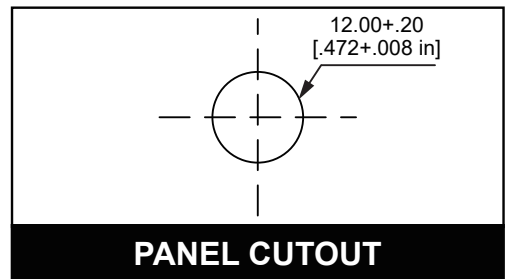
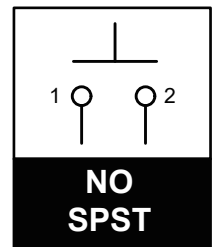
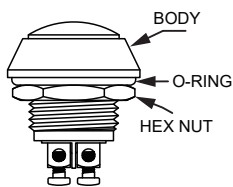
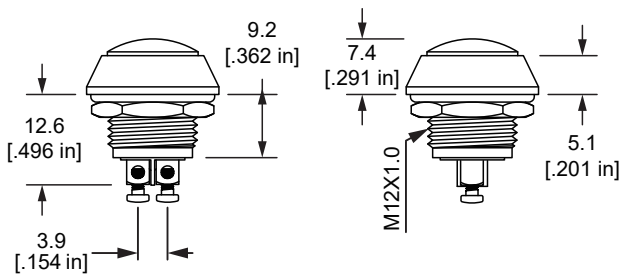


# Anti vandal switch $\phi 12\text{mm}$

## SOLDER TERMINAL

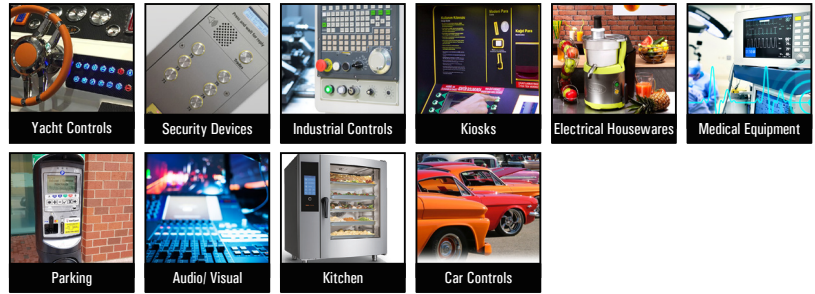


## SCREW TERMINAL



# Anti vandal switch $\varnothing 16\text{mm}$

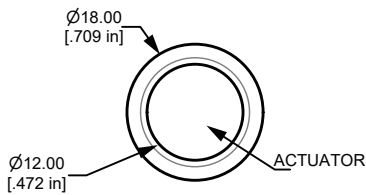
## APPLICATIONS / MARKETS



## ORDER CODE

Series	Actuator Options	Terminal Options	Function Options	Material Options	Graphic Options
V16	F- Flat H- High B- Domed	P- Solder lug (2.8x0.5) NONE- Screw	Momentary 1- NO 2- NC	S- Stainless steel N- Nickel plated brass A- Anodized aluminum G- Gold plated brass	NONE- Non-marking LE- Laser etched

## DESCRIPTION

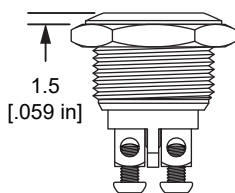


Panel Thickness: 1~10mm

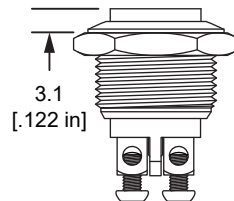
## TECHNICAL DATA

Type	V16-F	V16-B	V16-H
Actuator Options	Flat Actuator	Domed Actuator	High Actuator
Terminal	Screw/ Solder (2.8X0.5)		
Max.Switch Rating	2A 48VDC		
Contact Resistance	$\leq 50\text{m}\Omega$		
Insulation Resistance	$\geq 1000\text{m}\Omega$		
Dielectric Strength	2000VAC		
Operation Temp	$-20^\circ\text{C} \sim +55^\circ\text{C}$		
Mechanical Life	1,000,000 Cycles		
Electrical Life	200,000 Cycles		
Contact Material	Silver Alloy		
Torque	5 ~ 14Nm		
Operation Pressure	approx. 4N		
Protection	IP65/ IK08		
Material			
Actuator	Stainless steel/ Gold or Nickel plated brass/ Anodized aluminum		
Body	Stainless steel/ Gold or Nickel plated brass/ Anodized aluminum		
Base	PBT		

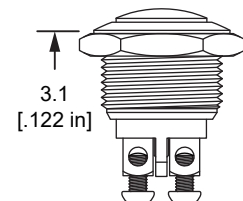
## ACTUATOR OPTIONS



Flat Actuator



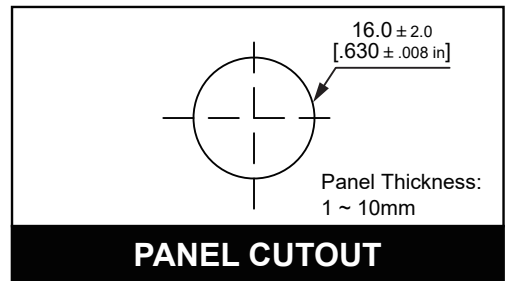
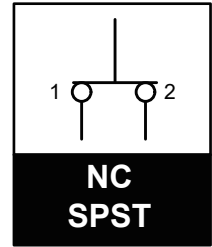
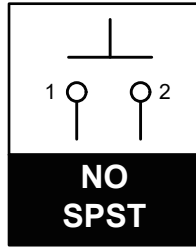
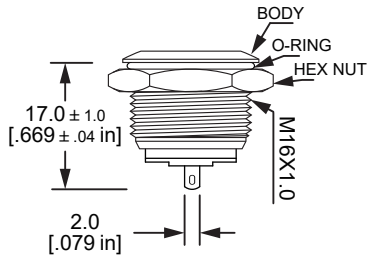
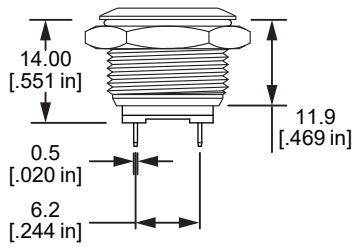
High Actuator



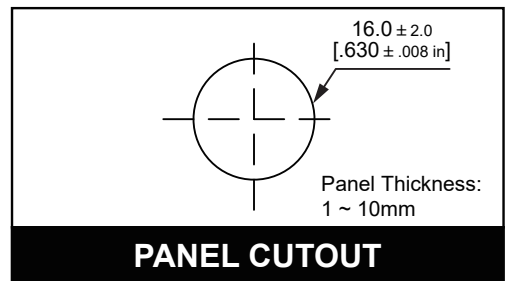
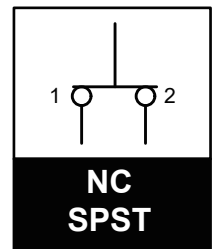
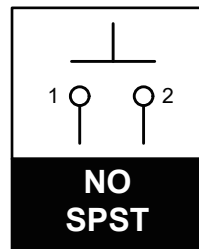
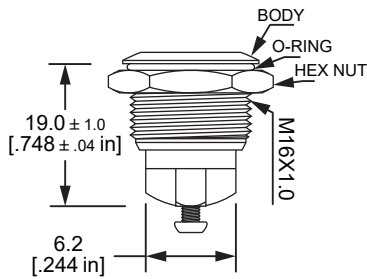
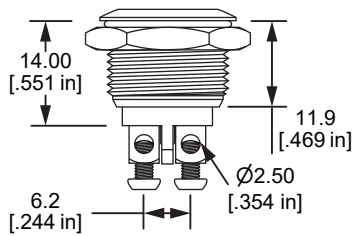
Domed Actuator

# Anti vandal switch $\phi 16\text{mm}$

## SOLDER TERMINAL



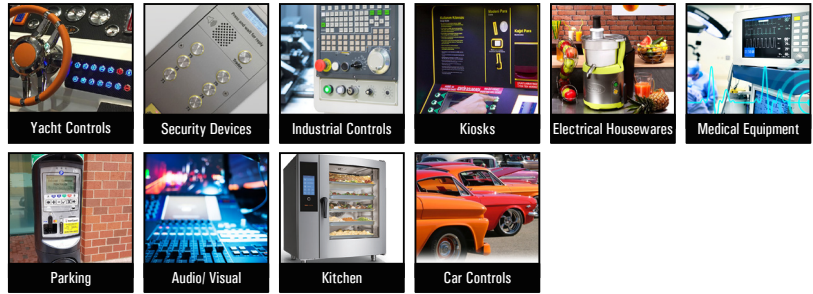
## SCREW TERMINAL





# Anti vandal switch $\varnothing 19\text{mm}$

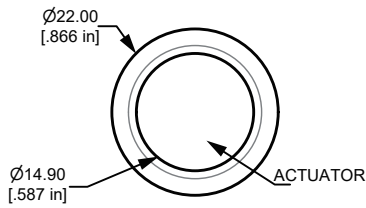
## APPLICATIONS / MARKETS



## ORDER CODE

Series	Actuator Options	Terminal Options	Function Options	Material Options	Graphic Options
V19	F- Flat H- High B- Domed	P- Solder lug (2.8x0.5) NONE- Screw	Momentary 1- NO	S- Stainless steel N- Nickel plated brass A- Anodized aluminum G- Gold plated brass	NONE- Non-marking LE- Laser etched

## DESCRIPTION

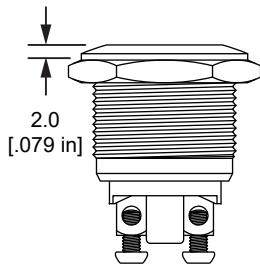


Panel Thickness: 1~8mm

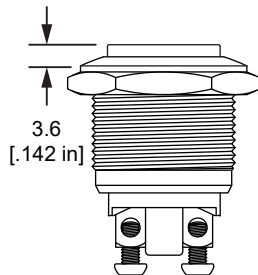
## TECHNICAL DATA

Type	V19-F	V19-B	V19-H
Actuator Options	Flat Actuator	Domed Actuator	High Actuator
Terminal	Screw/ Solder (2.8X0.5)		
Max.Switch Rating	2A 48VDC		
Contact Resistance	$\leq 50\text{m}\Omega$		
Insulation Resistance	$\geq 1000\text{m}\Omega$		
Dielectric Strength	2000VAC		
Operation Temp	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$		
Mechanical Life	1,000,000 Cycles		
Electrical Life	200,000 Cycles		
Contact Material	Silver Alloy		
Torque	5 ~ 14Nm		
Operation Pressure	approx. 4N		
Protection	IP65/ IK08		
Material			
Actuator	Stainless steel/ Gold or Nickel plated brass/ Anodized aluminum		
Body	Stainless steel/ Gold or Nickel plated brass/ Anodized aluminum		
Base	PBT		

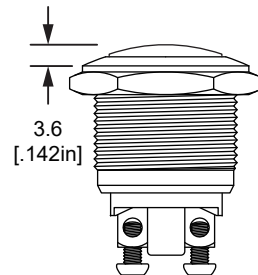
## ACTUATOR OPTIONS



Flat Actuator



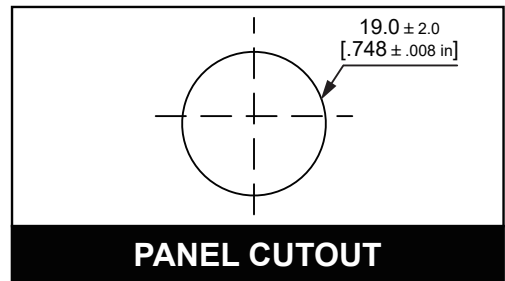
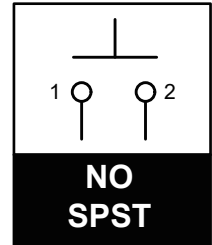
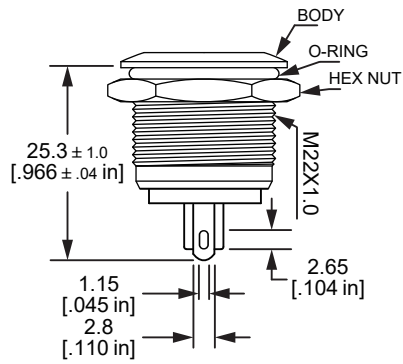
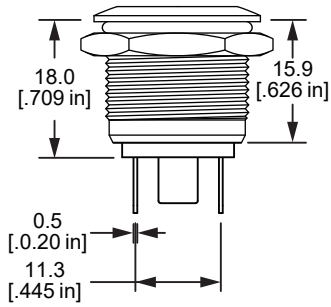
High Actuator



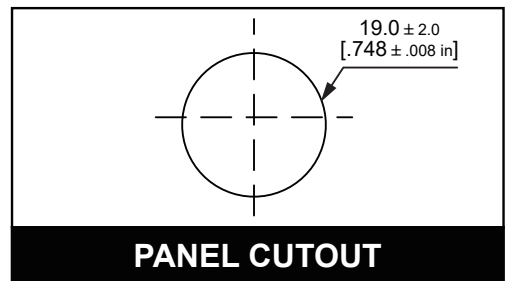
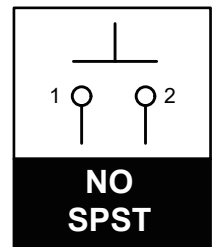
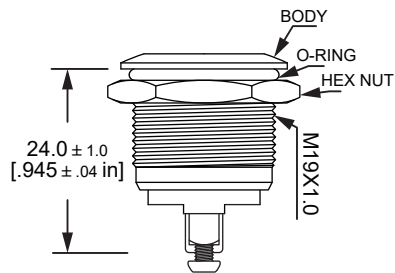
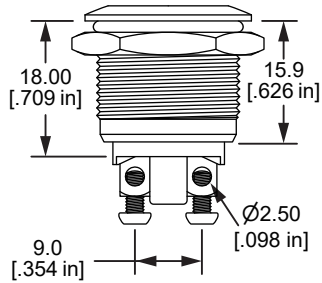
Domed Actuator

# Anti vandal switch $\phi 19\text{mm}$

## SOLDER TERMINAL



## SCREW TERMINAL



# Anti vandal switch $\phi$ 19mm(Short body)

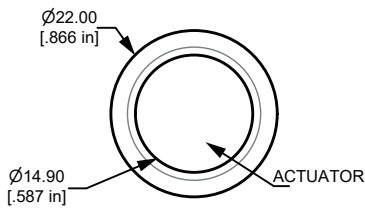
## APPLICATIONS / MARKETS



## ORDER CODE

Series	Actuator Options	Terminal Options	Function Options	Material Options	Graphic Options
Vs19	F- Flat H- High B- Domed	P- Solder lug (2.8x0.5) NONE- Screw	Momentary 1- NO 2- NC	S- Stainless steel N- Nickel plated brass A- Anodized aluminum	None LE- Laser etched

## DESCRIPTION

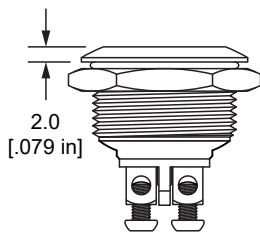


Panel Thickness: 1~6mm

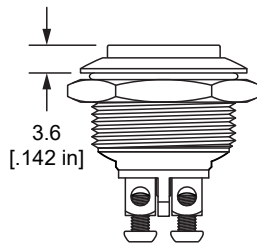
## TECHNICAL DATA

Type	Vs19-F	Vs19-B	Vs19-H
Actuator Options	Flat Actuator	Domed Actuator	High Actuator
Terminal	Screw/ Solder (2.8X0.5)		
Max.Switch Rating	2A 48VDC		
Contact Resistance	$\leq 50m\Omega$		
Insulation Resistance	$\geq 1000m\Omega$		
Dielectric Strength	2000VAC		
Operation Temp	$-20^{\circ}C \sim +55^{\circ}C$		
Mechanical Life	1,000,000 Cycles		
Electrical Life	200,000 Cycles		
Contact Material	Silver Alloy		
Torque	5 ~ 14Nm		
Operation Pressure	approx. 4N		
Protection	IP65/ IK08		
Material			
Actuator	Stainless steel/ Nickel plated brass/ Anodized aluminum		
Body	Stainless steel/ Nickel plated brass/ Anodized aluminum		
Base	PBT		

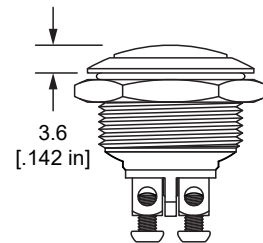
## ACTUATOR OPTIONS



Flat Actuator



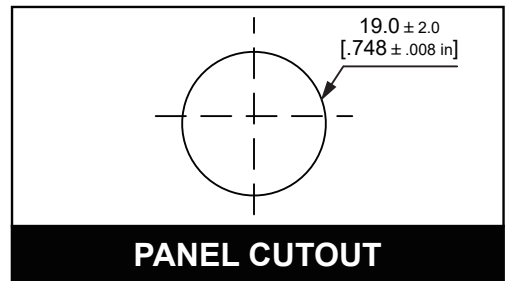
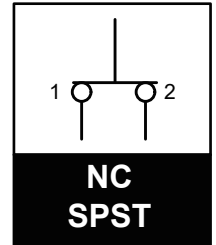
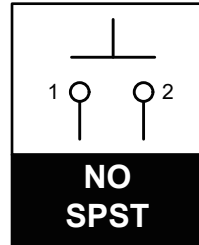
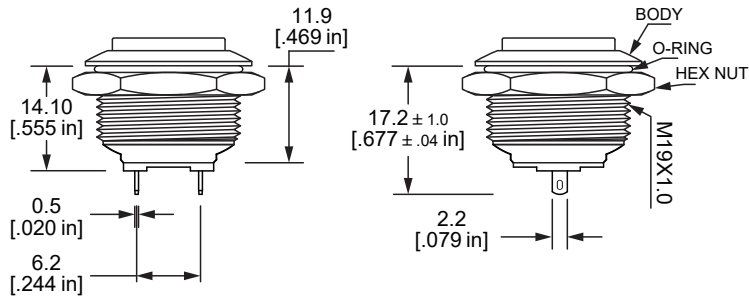
High Actuator



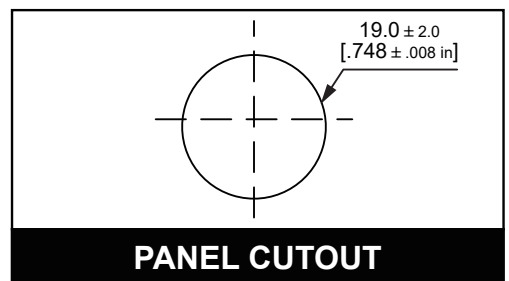
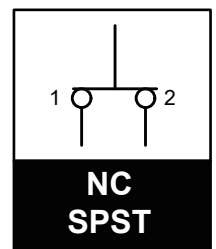
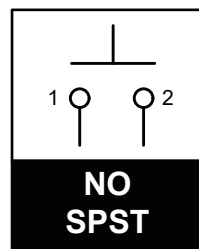
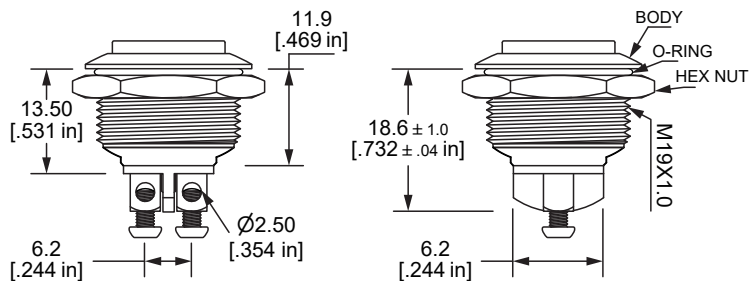
Domed Actuator

# Anti vandal switch $\phi 19\text{mm}$ (Short body)

## SOLDER TERMINAL

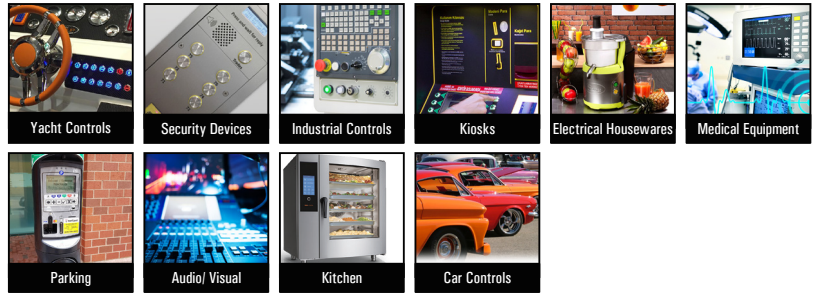


## SCREW TERMINAL



# Anti vandal switch $\varnothing 22\text{mm}$

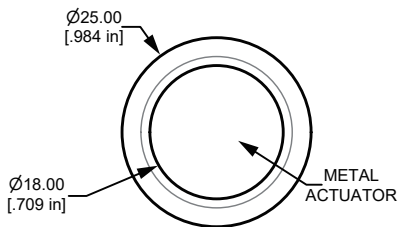
## APPLICATIONS / MARKETS



## ORDER CODE

Series	Actuator Options	Terminal Options	Function Options	Material Options	Graphic Options
V22	F- Flat H- High B- Domed	P- Solder lug (2.8x0.5) NONE- Screw	Momentary 1- NO	S- Stainless steel	NONE- Non-marking LE- Laser etched

## DESCRIPTION

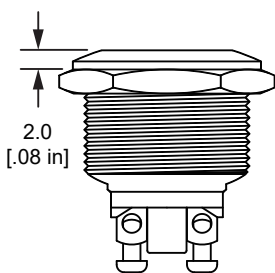


Panel Thickness: 1~8mm

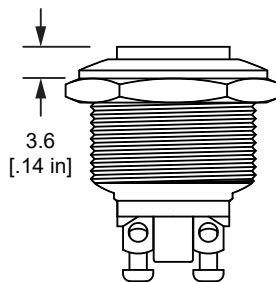
## TECHNICAL DATA

Type	V22-F	V22-B	V22-H
Front Shape	Flat	Domed	High Flat
Terminal	Screw/ Pin (2.8X0.5)		
Max.Switch Rating	2A 48VDC		
Contact Resistance	$\leq 50\text{m}\Omega$		
Insulation Resistance	$\geq 1000\text{m}\Omega$		
Dielectric Strength	2000VAC		
Operation Temp	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$		
Mechanical Life	1,000,000 Cycles		
Electrical Life	200,000 Cycles		
Contact Material	Silver Alloy		
Torque	5 ~ 14Nm		
Operation Pressure	approx. 5.5N		
Protection	IP65/ IK09		
Material			
Actuator	Stainless Steel		
Body	Stainless Steel		
Base	PBT		

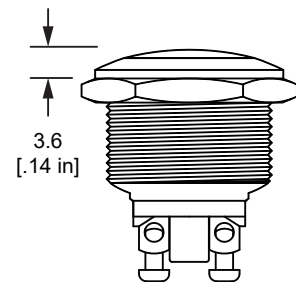
## ACTUATOR OPTIONS



Flat Actuator



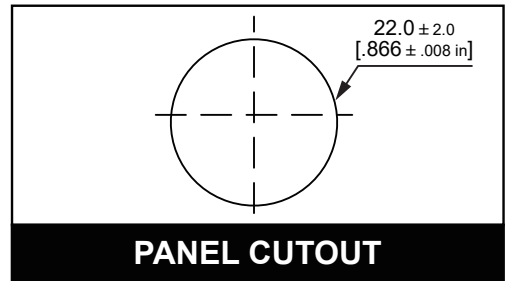
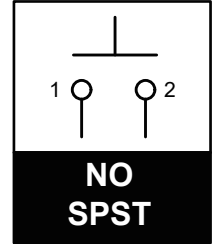
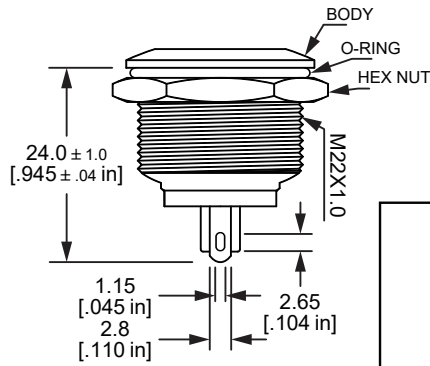
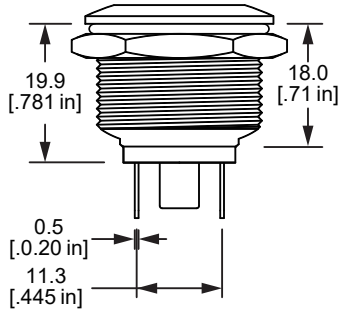
High Actuator



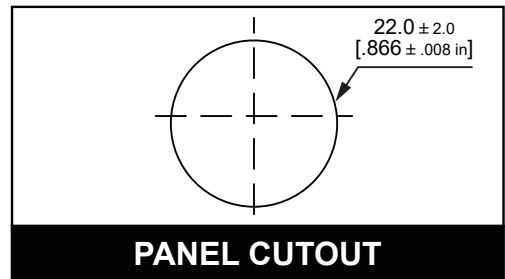
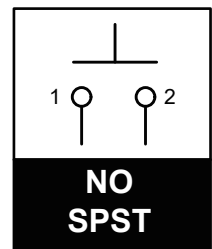
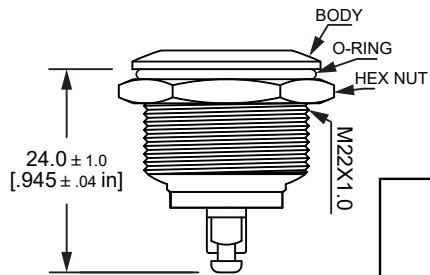
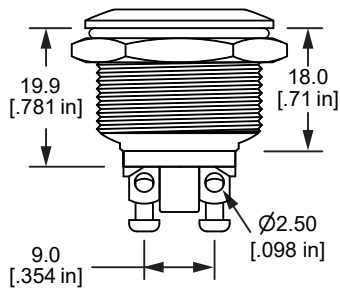
Domed Actuator

# Anti vandal switch $\phi 22\text{mm}$

## SOLDER TERMINAL



## SCREW TERMINAL





Illuminated

# Anti vandal switch $\varnothing$ 12mm

## Applications / Markets



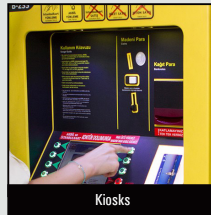
Yacht Controls



Security Devices



Industrial Controls



Kiosks



Electrical Housewares



Medical Equipment



## SPECIFICATIONS

**Electrical Rating:** 2A36VDC  
**Mechanical Life:** 200,000 Cycles  
**Electrical Life:** 50,000 Cycles  
**Contact Resistance:** 50m $\Omega$  Max.  
**Insulation Resistance:** 1000 M $\Omega$  Min.  
**Dielectric Strength:** 2,000VAC  
**Operating/Storage Temperature:** -20°C to 55°C  
**Travel:** 1.50mm  
**Moisture Protection:** IP65  
**Actuation Force:** 4N  
**Panel Thickness:** 1-11mm  
**Mounting Nut Torque:** 5-14Nm

## FEATURES & BENEFITS

- 12mm diameter panel cutout
- Variety LED option
- Dot, ring illumination available
- Multiple actuator options
- Pilot indicator option
- IP65 rated,
- Momentary Off-(On), Latching Off-On

## PART NUMBER CONFIGURATOR

Series	Actuator Options	Terminal Options	Function Options	Rating Options	Material Options	Illumination Style Options	Led-Color Options	Illumination Voltage Options
L12	<input type="checkbox"/> F - Flat <input type="checkbox"/> H - High	<input type="checkbox"/> Solder Lug	<input type="checkbox"/> M - Momentary Off-(On) <input type="checkbox"/> Z - Latching Off - On	<input type="checkbox"/> NONE - Max. 2A36VDC	<input type="checkbox"/> S - Stainless Steel <input type="checkbox"/> B - Nickel plated brass	<input type="checkbox"/> NONE - Non-Illuminated <input type="checkbox"/> D - Dot Illumination <input type="checkbox"/> R - Ring Illumination	<input type="checkbox"/> NONE - Non-Illuminated <input type="checkbox"/> W - White <input type="checkbox"/> R - Red <input type="checkbox"/> O - Orange <input type="checkbox"/> G - Green <input type="checkbox"/> B - Blue <input type="checkbox"/> Y - Yellow	<input type="checkbox"/> NONE - Base Voltage* 3.3V 6V 12V 24V

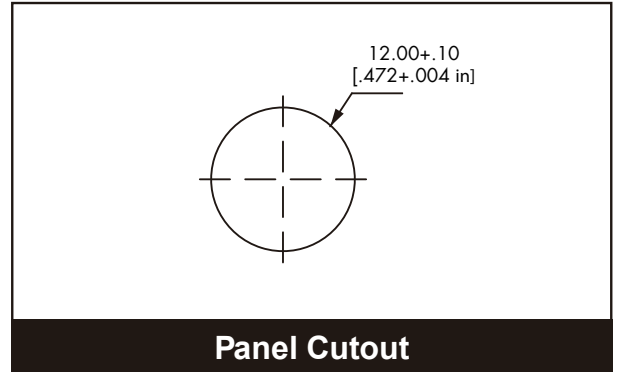
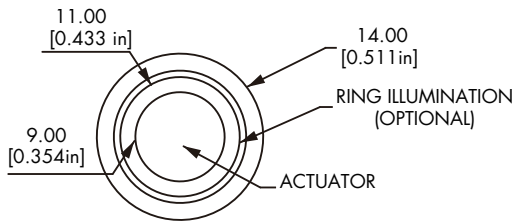
**NOTES:**

\* Base voltage on LEDs:  
 1.8V @ 20mA for Red, Yellow and Orange LED colors  
 2.8V @ 20mA for Blue, Green and White LED colors

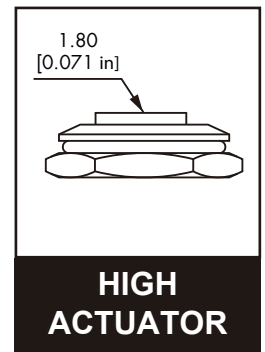
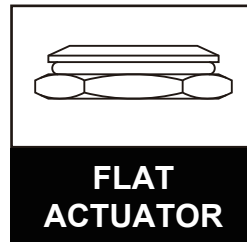
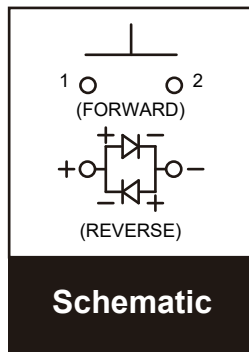
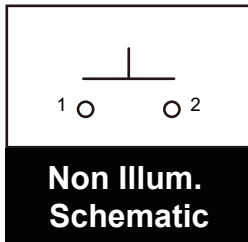
*Specifications subject to change without notice*



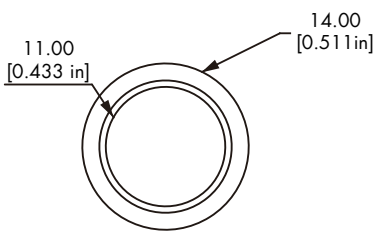
# Anti vandal switch $\varnothing 12\text{mm}$



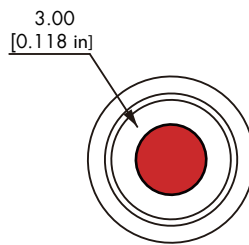
## Schematic & Actuator



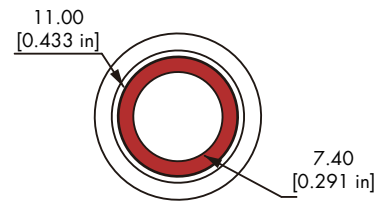
## Illumination Options



**Non-illuminated**



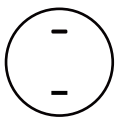
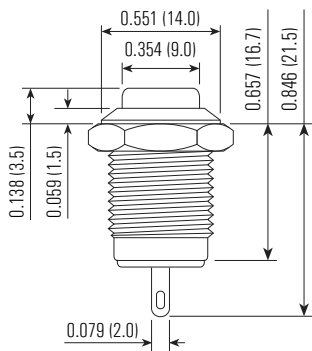
**Dot-illuminated**



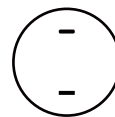
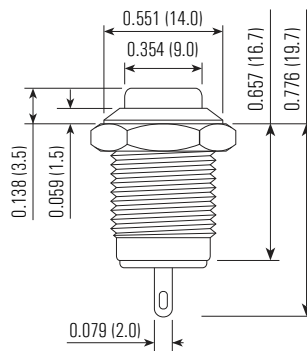
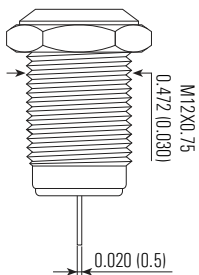
**Ring-illuminated**

# Anti vandal switch $\varnothing 12\text{mm}$

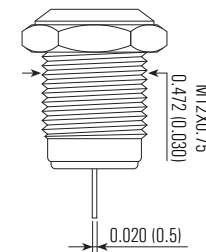
## Non-illuminated



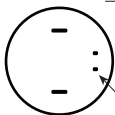
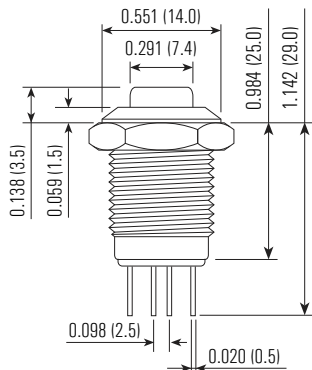
**Latching**



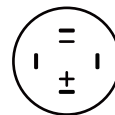
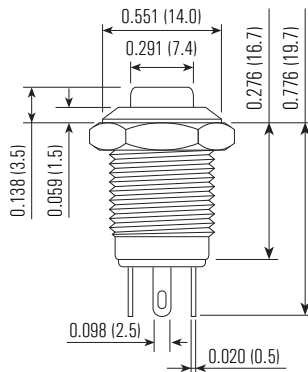
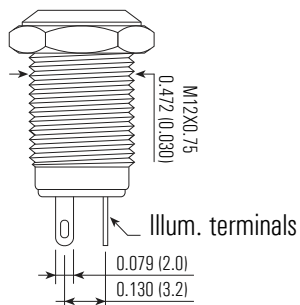
**Momentary**



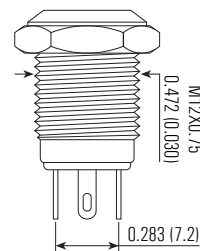
## Ring-illuminated



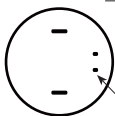
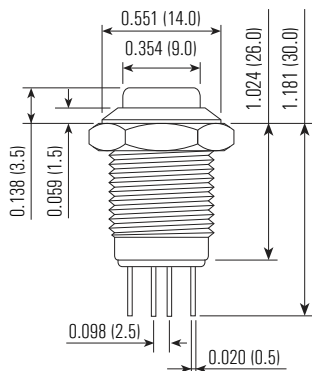
**Latching**  
Illum. terminals



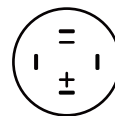
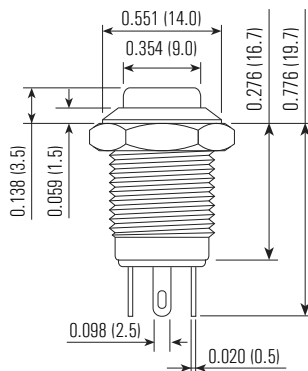
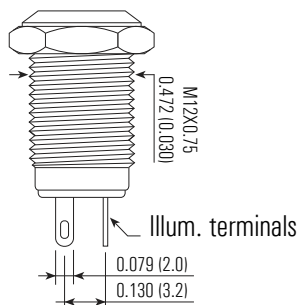
**Momentary**



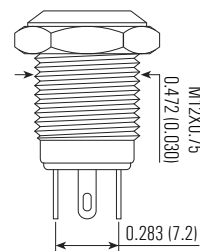
## Dot-illuminated



**Latching**  
Illum. terminals



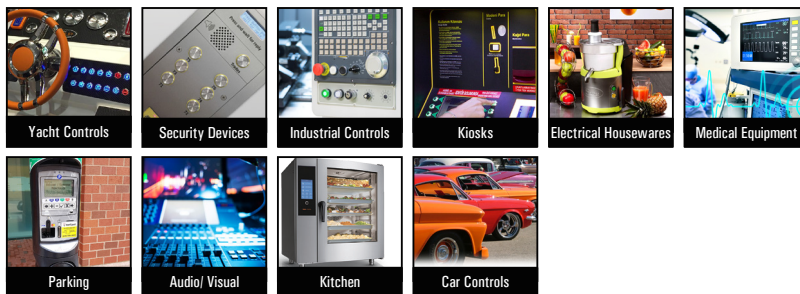
**Momentary**



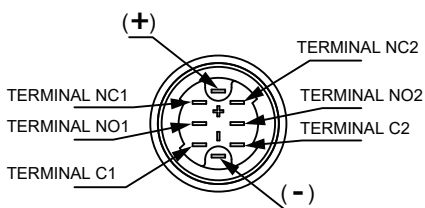
## Anti vandal switch $\varnothing 16\text{mm}$



### APPLICATIONS / MARKETS

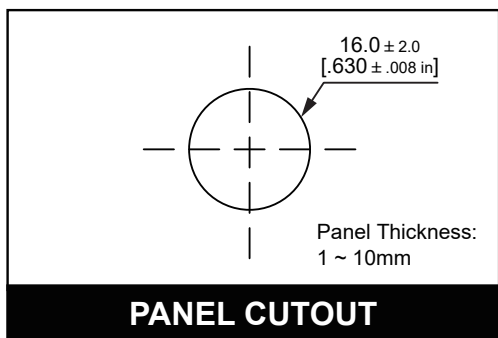
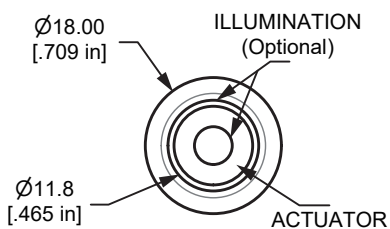


### DESCRIPTION



C = Common  
NO = Normally open  
NC = Normally closed

Terminals (-) and (+) used with Illum. option only



### ORDER CODE

Series	Actuator Options	Terminal Options	Function Options	Material Options	Illumination Style Options	Led-Color Options	Illumination Voltage Options	Protection	Graphic Options
L16	F- Flat H- Raised	NONE- Solder-lug (2.8x0.5)	M- Momentary 1- 1NO1NC 2- 2NO2NC Z- Latching 1- 1NO1NC 2- 2NO2NC	S- Stainless steel N- Nickel plated brass A- Anodized aluminum	D- Dot illum. R- Ring illum. NONE- non-illum.	W- White Y- Yellow B- Blue G- Green R- Red O- Orange	NONE- Base Voltage* 3.3V 6V 12V 24V 36V 110V 220V	NONE- IP40 IP65	NONE- Non-marking LP- Laser etched PS- Symbol translucent power only

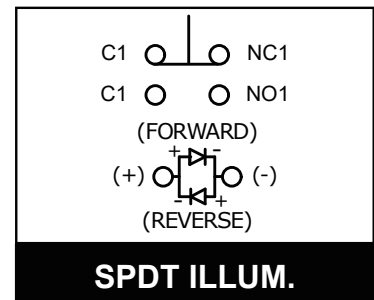
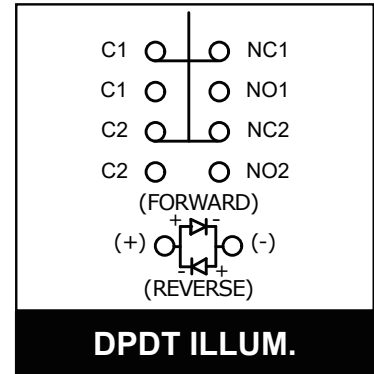
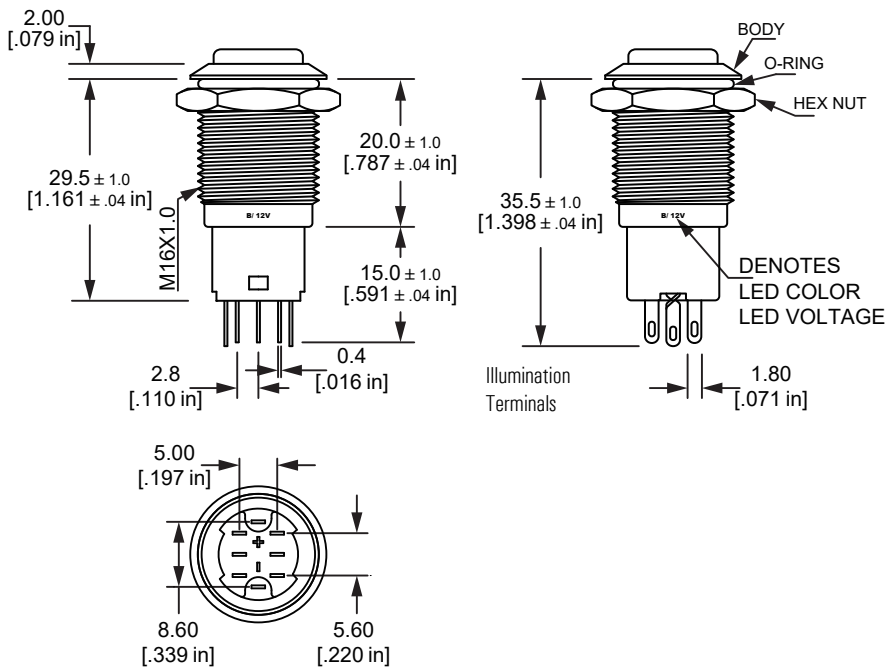
NOTES:  
\* Base voltage on LEDs:  
1.8V @ 20mA for Red, Yellow and Orange LED colors  
2.8V @ 20mA for Blue, Green and White LED colors

### TECHNICAL DATA

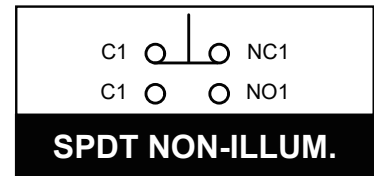
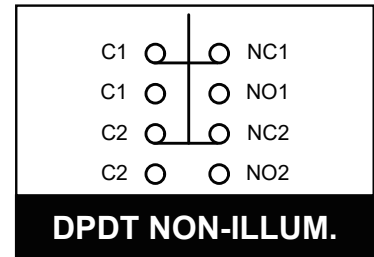
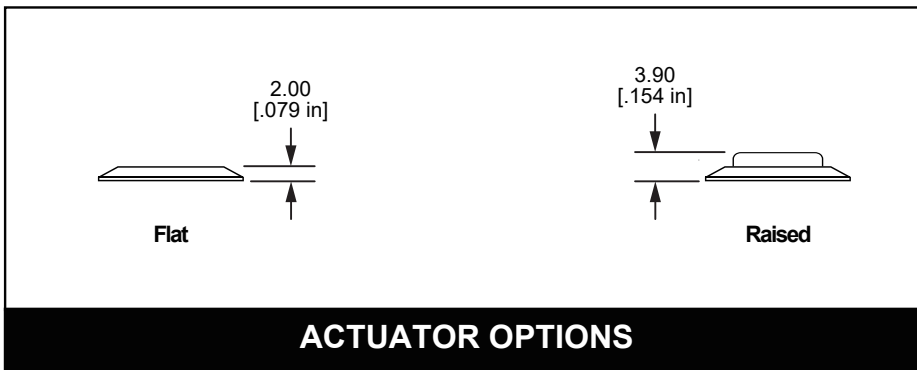
Type	L16-F	L16-F-R	L16-F-D
Illuminated Type	Non-Illuminated	Ring Illuminated	Dot Illuminated
Terminal	Solder lug (1.8X0.4)		
Max.Switch Rating	Ith: 3A Ui: 250VAC		
Contact Resistance	$\leq 50\text{m}\Omega$		
Insulation Resistance	$\geq 1000\text{m}\Omega$		
Dielectric Strength	2000VAC		
Operation Temp.	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$		
Mechanical Life	200,000 Cycles		
Electrical Life	$> 50,000$ Cycles		
Contact Material	Silver Alloy		
Torque	5 ~ 14Nm		
Operation Pressure	approx. 3 ~ 5N		
Protection	IP40, IP65/ IK09		
Material			
Button	Stainless steel/ Nickel plated brass/ Anodized aluminum		
Bodey	Stainless steel/ Nickel plated brass/ Anodized aluminum		
Base	PBT		
	LED		
Color	3.3V/ 6V/ 12V/ 24V/ 36V/ 110V/ 220V R G Y O B W		
	Approx, 40,000 hours		

# Anti vandal switch $\phi 16\text{mm}$

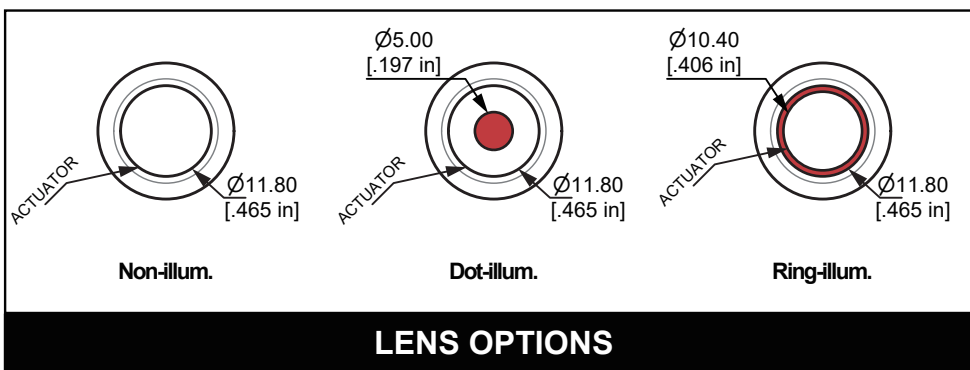
## DIMENSIONS



## ACTUATOR OPTIONS



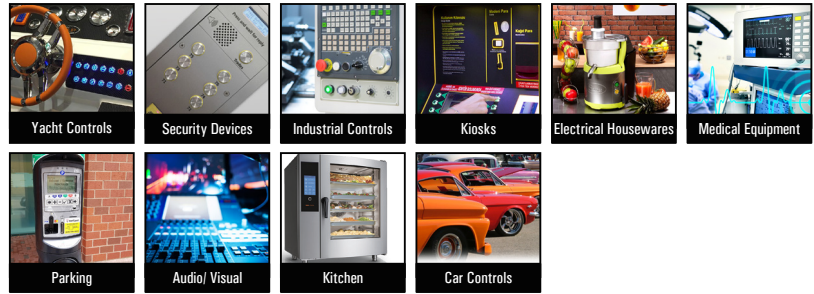
## ILLUM. OPTIONS



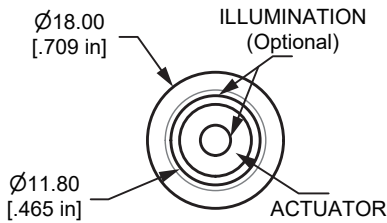
# Anti vandal switch $\varnothing 16\text{mm}$



## APPLICATIONS / MARKETS



## DESCRIPTION



## ORDER CODE

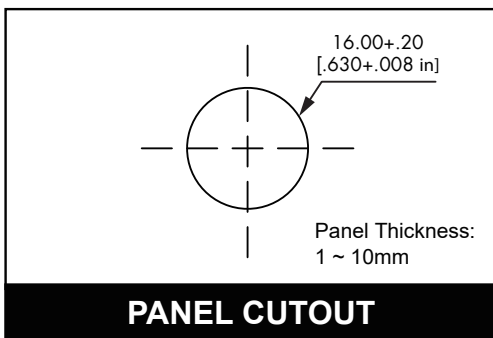
Series	Actuator Options	Terminal Options	Function Options	Material Options	Illumination Style Options	Led-Color Options	Illumination Voltage Options	Graphic Options
□	□	□	□	□	□	□	□	□ □ □
Ls16	F- Flat	NONE- Solder-lug (2.8x0.5)	M- Momentary 1- 1NO	S- Stainless steel N- Nickel plated brass A- Anodized aluminum	D- Dot illum. R- Ring illum. NONE- non-illum.	W- White Y- Yellow B- Blue G- Green R- Red O- Orange	NONE- Base voltage* 3.3V 6V 12V 24V 36V	NONE- Non-marking LE- Laser etched

NOTES:  
 \* Base voltage on LEDs:  
 1.8V @ 20mA for Red, Yellow and Orange LED colors  
 2.8V @ 20mA for Blue, Green and White LED colors

## TECHNICAL DATA

Type	Ls16-F	Ls16-F-R	Ls16-F-D
Illuminated Options	Non-Illuminated	Ring Illuminated	Dot Illuminated
Terminal	Solder lug (2.8X0.5)		
Max. Switch Rating	2A 36VDC		
Contact Resistance	$\leq 50\text{m}\Omega$		
Insulation Resistance	$\geq 1000\text{m}\Omega$		
Dielectric Strength	2000VAC		
Operation Temp	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$		
Mechanical Life	1,000,000 Cycles		
Electrical Life	200,000 Cycles		
Contact Material	Silver Alloy		
Torque	5 ~ 14Nm		
Operation Pressure	approx. 3 ~ 5N		
Protection	IP65/ IK08		
Material			
Actuator	Stainless Steel/ Nickel Plated Brass/ Anodized Aluminum		
Body	Stainless Steel/ Nickel Plated Brass/ Anodized Aluminum		
Base	PBT		
Color	LED 3.3V/ 6V/ 12V/ 24V/ 36V/ 110V/ 220V R G Y O B W Approx, 40,000 hours		

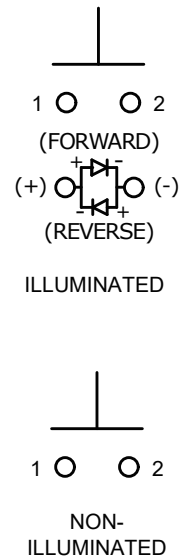
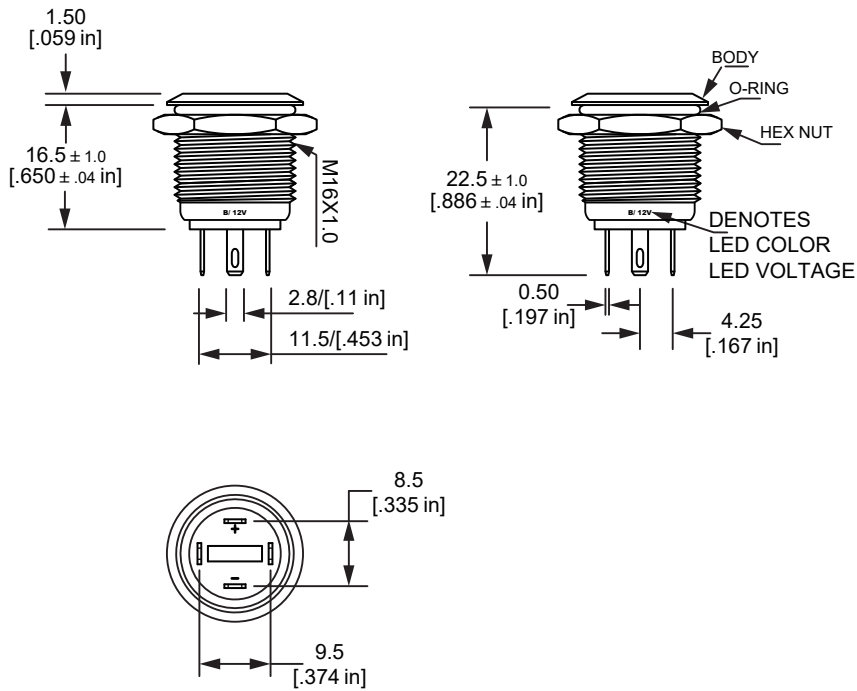
## PANEL CUTOUT



Current-limiting Resistance Configuration Table	Operating Voltage(U)				Formula
	6V	12V	24V	36V	
Current-limiting Resistance(R)	R Y O	210 $\Omega$ , 1/4W	510 $\Omega$ , 1/2W	1.2k $\Omega$ , 3/4W	$R = \frac{U-U_e}{I_e}$
	G B W	180 $\Omega$ , 1/4W	460 $\Omega$ , 1/2W	1.2k $\Omega$ , 3/4W	

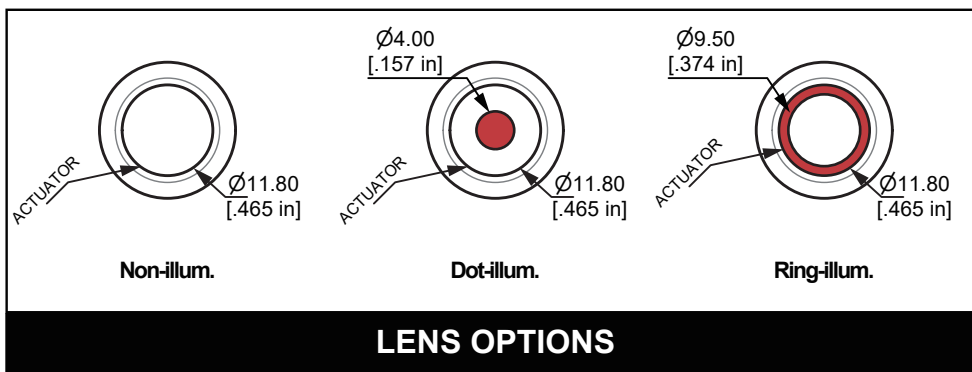
# Anti vandal switch $\varnothing 16\text{mm}$

## DIMENSIONS



## FUNCTIONS

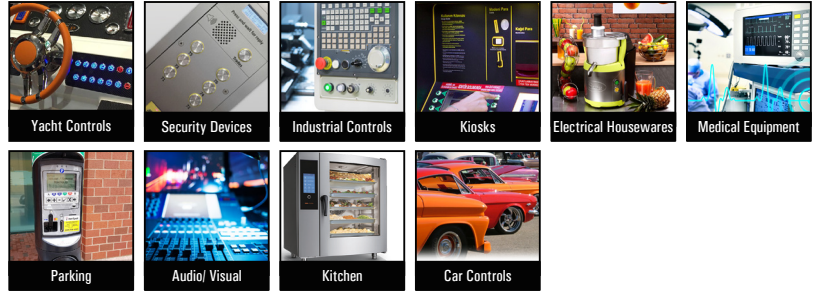
## ILLUM. OPTIONS



## LENS OPTIONS

# Anti vandal switch $\varnothing 19\text{mm}$

## APPLICATIONS / MARKETS



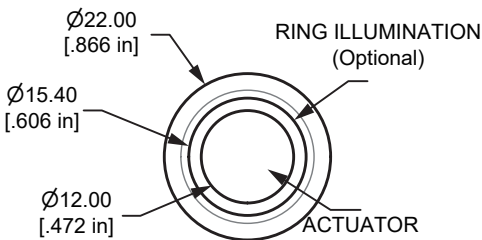
## ORDER CODE

Series	Actuator Options	Terminal Options	Function Options	Material Options	Illumination Style Options	Led-Color Options	Illumination Voltage Options	Graphic Options
L19	F- Flt X- Backlit	NONE- Solder-lug (2.8x0.5) N- Screw	M- Momentary 1- 1N01NC L- Alternated 1- 1N01NC	S- Stainless steel A- Anodized aluminum	D- Dot illum. R- Ring illum. NONE- non-illum.	W- White Y- Yellow B- Blue G- Green R- Red O- Orange	NONE- Base Voltage** 3.3V 6V 12V 24V 36V 110V 220V	NONE- Non-marking LE- Laser etched

### NOTES:

\* Base voltage on LEDs:  
1.8V @ 20mA for Red, Yellow and Orange LED colors / 2.8V @ 20mA for Blue, Green and White LED colors  
\*\* 5 ICON labels included check backlit label kit page, No illumination options(code examples: L19LM1SW)

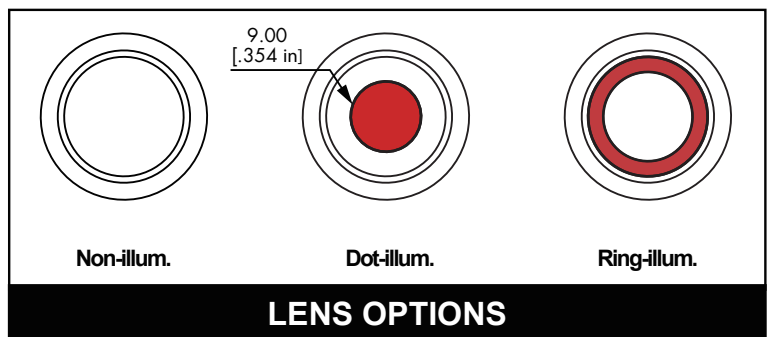
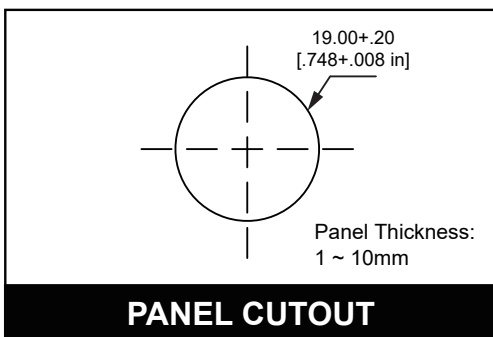
## DESCRIPTION



## TECHNICAL DATA

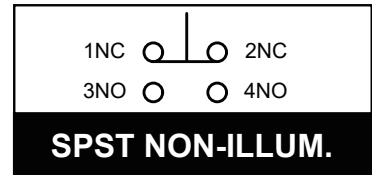
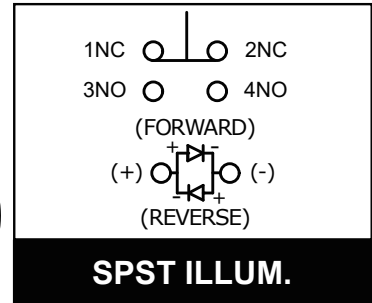
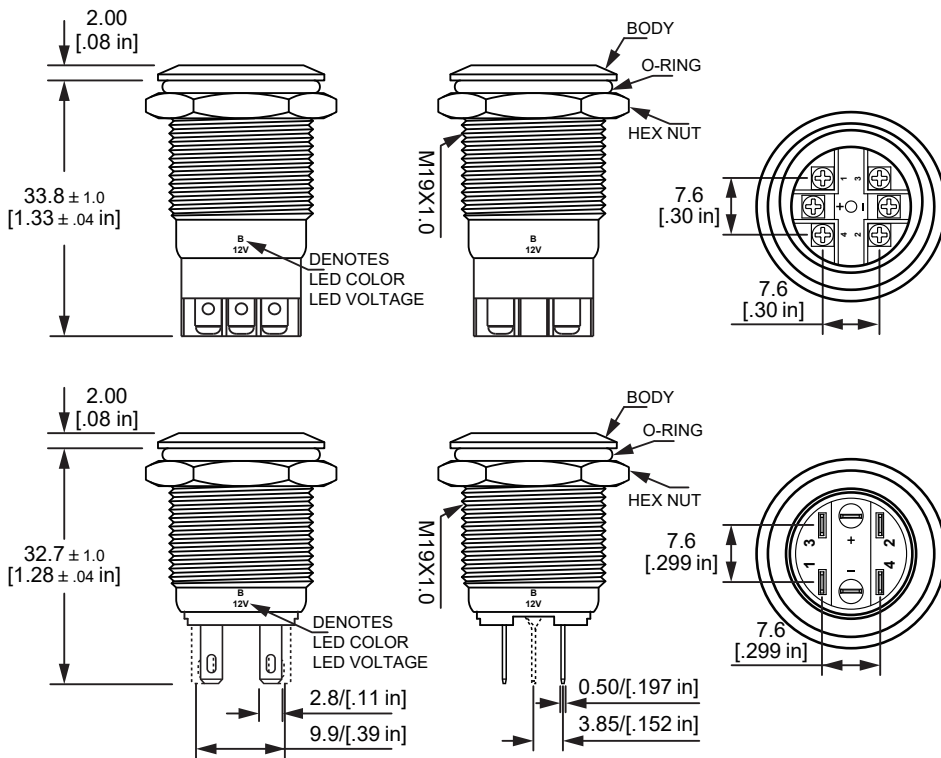
Type	L19-F	L19-F-R	L19-F-D
Illuminated Options	Non-Illuminated	Ring Illuminated	Dot Illuminated
Terminal	Screw and Solder lug (2.8X0.5)		
Max. Switch Rating	Ith: 5A Ui: 250VAC		
Contact Resistance	$\leq 50\text{m}\Omega$		
Insulation Resistance	$\geq 1000\text{m}\Omega$		
Dielectric Strength	2000VAC		
Operation Temp	$-20^\circ\text{C} \sim +55^\circ\text{C}$		
Mechanical Life	1,000,000 Cycles		
Electrical Life	>50,000 Cycles		
Contact Material	Silver Alloy		
Torque	5 ~ 14Nm		
Operation Pressure	approx. 8N		
Protection	IP65/ IK10		
Material			
Actuator	Stainless steel/ Anodized aluminum		
Body	Stainless steel/ Anodized aluminum		
Base	PA		
	LED		
Color	3.3V/ 6V/ 12V/ 24V/ 36V/ 110V/ 220V R G Y O B W		
	Approx, 40,000 hours		

## PANEL CUTOUT & ILLUMINATED OPTIONS

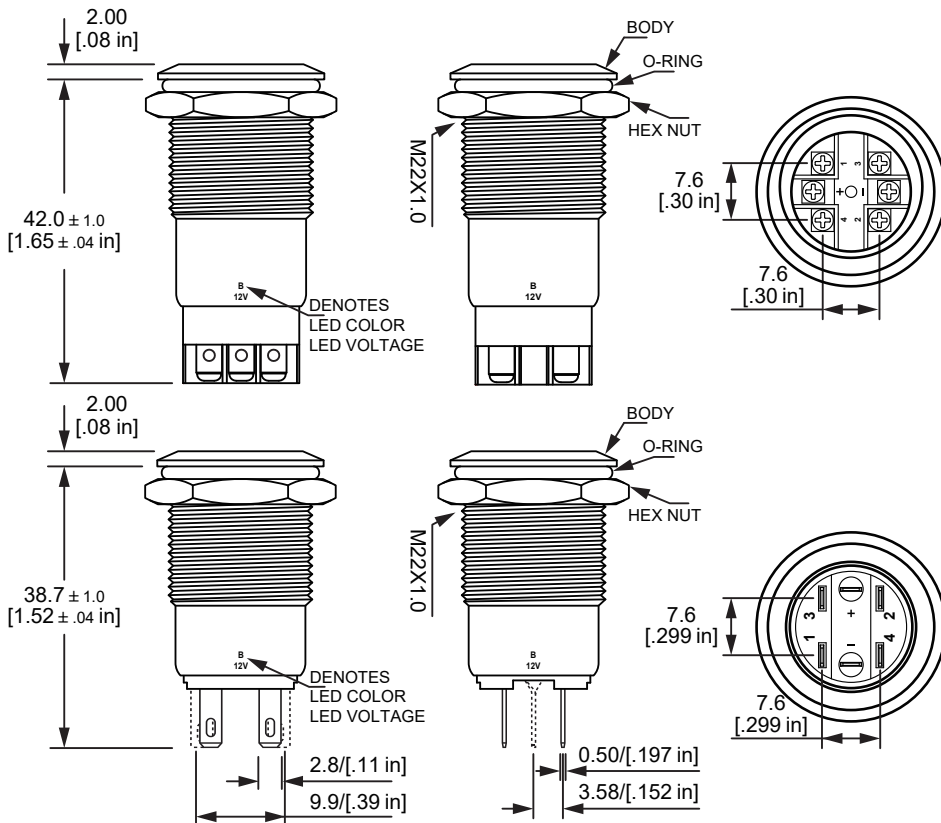


# Anti vandal switch $\phi 19\text{mm}$

## MOMENTARY



## ALTERNATED

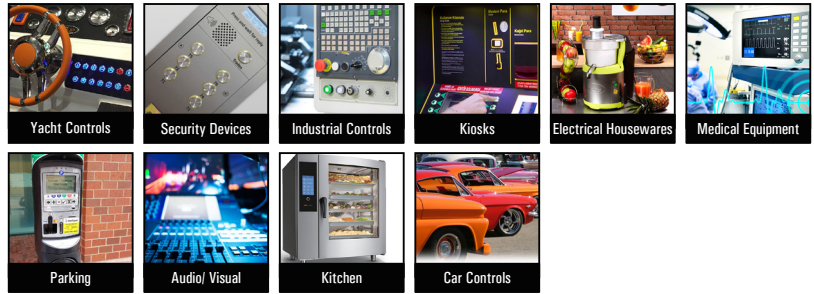




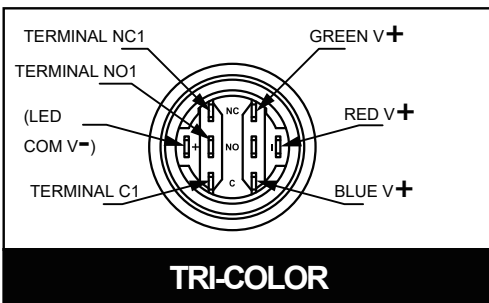
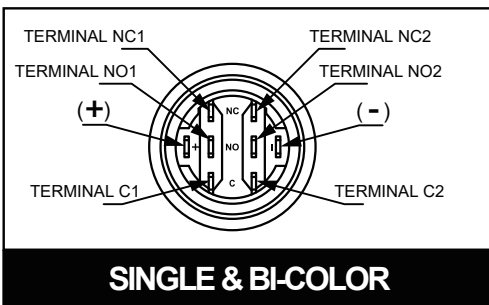
## Anti vandal switch $\varnothing 19\text{mm}$



### APPLICATIONS / MARKETS

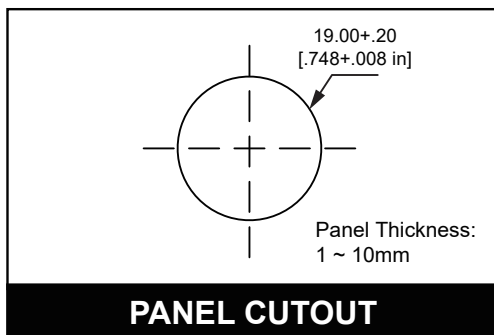


### DESCRIPTION



C = Common  
NO = Normally open  
NC = Normally closed

Terminals (-) and (+) used with Illum. option only



### ORDER CODE

Series	Actuator Options	Terminal Options	Function Options	Material Options	Illumination Style Options	Led-Color Options	Illumination Voltage Options	Graphic Options
L19A	F- Flat	NONE- Solder-lug (2.8x0.5)	M- Momentary 1- 1NO1NC 2- 2NO2NC Z- Alternated 1- 1NO1NC 2- 2NO2NC	S- Stainless steel	D- Dot illum. R- Ring illum. NONE- non-illum.	W- White Y- Yellow B- Blue G- Green R- Red O- Orange 3A- Red/ Green/ Blue	NONE- Base Voltage* 3.3V 6V 12V 24V 36V 110V 220V	NONE- Non-marking LE- Laser etched PS- Symbol translucent power only

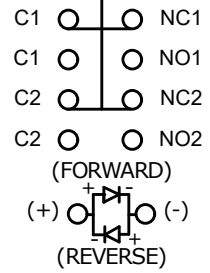
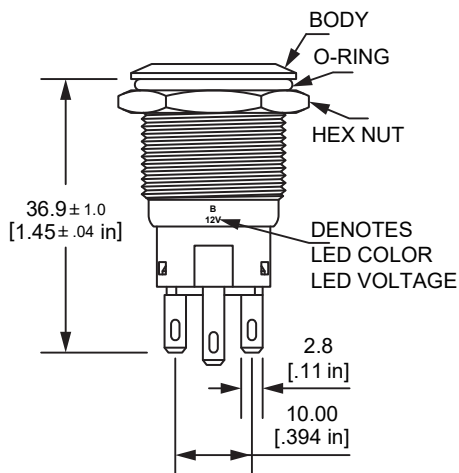
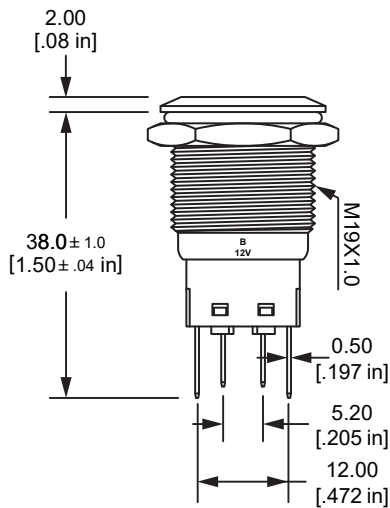
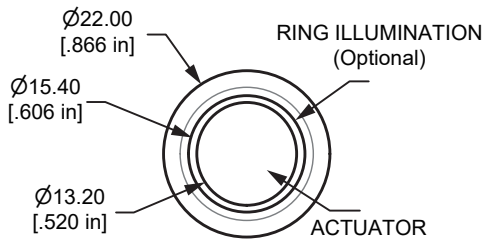
NOTES:  
\* Base voltage on LEDs:  
1.8V @ 20mA for Red, Yellow and Orange LED colors  
2.8V @ 20mA for Blue, Green and White LED colors

### TECHNICAL DATA

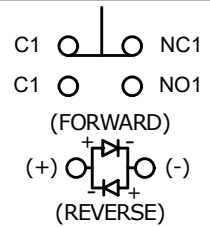
Type	L19A-F	L19A-F-R	L19A-F-D
Illuminated Options	Non-Illuminated	Ring Illuminated	Dot Illuminated
Terminal	Solder lug (2.8X0.5)		
Max. Switch Rating	Ith: 5A Ui: 250VAC		
Contact Resistance	≤50mΩ		
Insulation Resistance	≥1000mΩ		
Dielectric Strength	2000VAC		
Operation Temp	-20°C ~ +55°C		
Mechanical Life	1,000,000 Cycles		
Electrical Life	>50,000 Cycles		
Contact Material	Silver Alloy		
Torque	5 ~ 14Nm		
Operation Pressure	approx. 8N		
Protection	IP65/ IK10		
Material			
Actuator	Stainless steel		
Body	Stainless steel		
Base	PBT		
Color	LED 3.3V/ 6V/ 12V/ 24V/ 36V/ 110V/ 220V R G Y O B W Approx. 40,000 hours		

# Anti vandal switch $\phi 19\text{mm}$

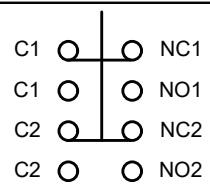
## MOMENTARY



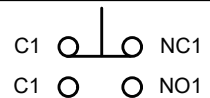
**DPDT ILLUM.**



**SPDT ILLUM.**

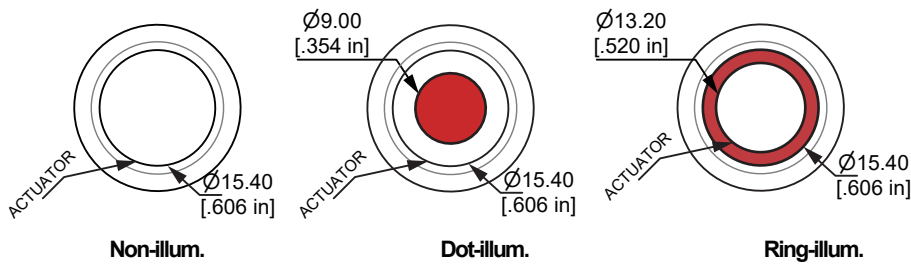


**DPDT NON-ILLUM.**

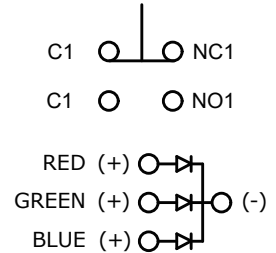


**SPDT NON-ILLUM.**

## ILLUM. OPTIONS



**LENS OPTIONS**

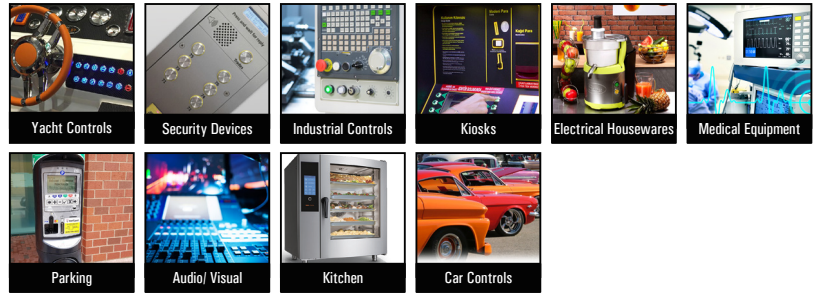


**SPDT RGB COLOR**

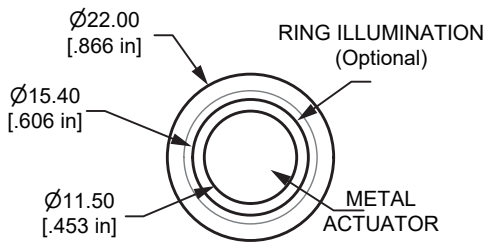
# Anti vandal switch $\varnothing 19\text{mm}$



## APPLICATIONS / MARKETS



## DESCRIPTION



## ORDER CODE

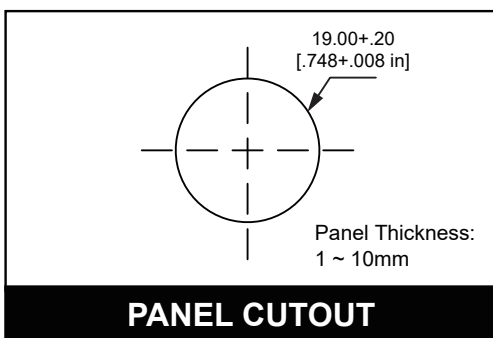
Series	Actuator Options	Terminal Options	Function Options	Material Options	Illumination Style Options	LED-Color Options	Illumination Voltage Options	Graphic Options
□	□	□	□	□	□	□	□	□ □ □
Ls19	F- Flat	NONE- Solder-lug (2.8x0.5)	M- Momentary 1- 1NO	S- Stainless steel	D- Dot illum. R- Ring illum. NONE- non-illum.	W- White Y- Yellow B- Blue G- Green R- Red O- Orange	NONE- Base voltage* 3.3V 6V 12V 24V 36V	NONE- Non-marking LE- Laser etched

NOTES:  
\* Base voltage on LEDs:  
1.8V @ 20mA for Red, Yellow and Orange LED colors  
2.8V @ 20mA for Blue, Green and White LED colors

## TECHNICAL DATA

Type	Ls19-F	Ls19-F-R	Ls19-F-D
Illuminated Options	Non-Illuminated	Ring Illuminated	Dot Illuminated
Terminal	Solder lug (2.8X0.5)		
Max. Switch Rating	2A 36VDC		
Contact Resistance	$\leq 50\text{m}\Omega$		
Insulation Resistance	$\geq 1000\text{m}\Omega$		
Dielectric Strength	2000VAC		
Operation Temp	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$		
Mechanical Life	1,000,000 Cycles		
Electrical Life	200,000 Cycles		
Contact Material	Silver Alloy		
Torque	5 ~ 14Nm		
Operation Pressure	approx. 3 ~ 5N		
Protection	IP65/ IK08		
Material	Actuator: Stainless steel Body: Stainless steel Base: PBT		
Color	LED: 3.3V/ 6V/ 12V/ 24V/ 36V R G Y O B W Approx, 40,000 hours		

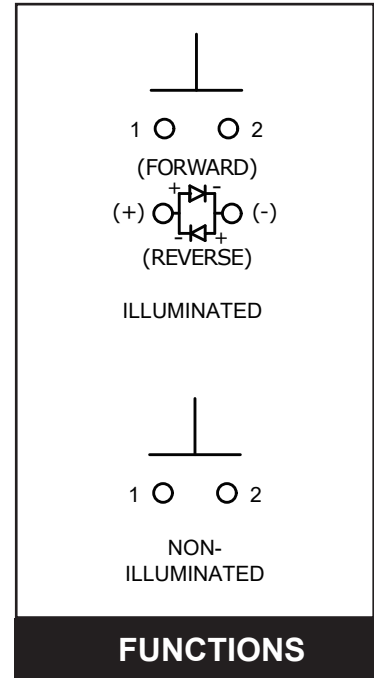
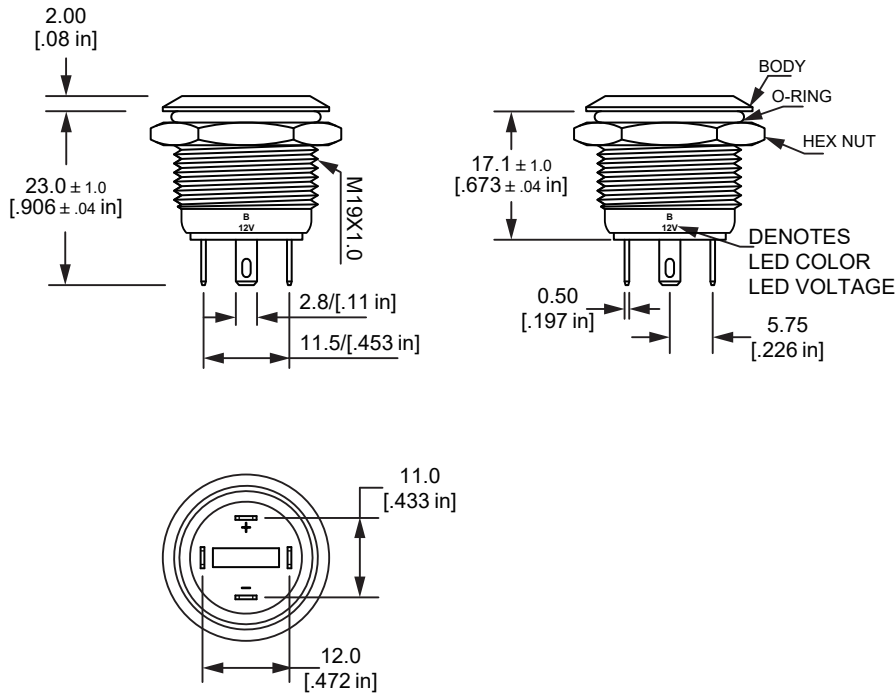
## PANEL CUTOUT



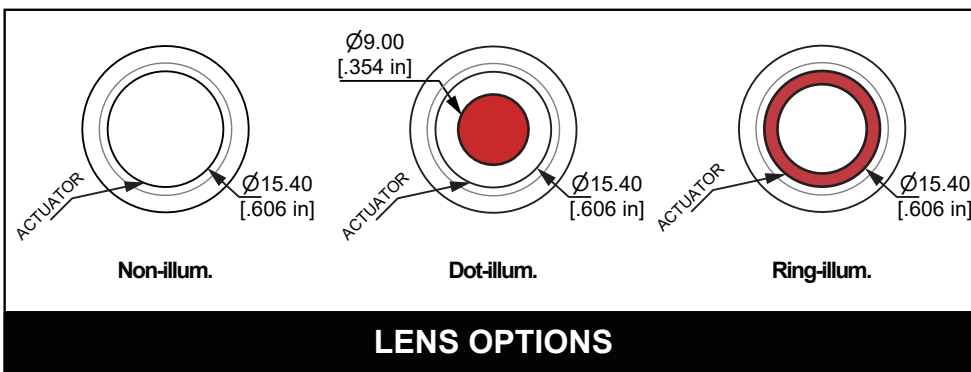
Current-limiting Resistance Configuration Table	Operating Voltage(U)				Formula
	6V	12V	24V	36V	
Current-limiting Resistance(R)	R Y O	210 $\Omega$ , 1/4W	510 $\Omega$ , 1/2W	1.2k $\Omega$ , 3/4W	$R = \frac{U-U_e}{I_e}$
	G B W	180 $\Omega$ , 1/4W	460 $\Omega$ , 1/2W	1.2k $\Omega$ , 3/4W	

# Anti vandal switch $\phi 19\text{mm}$

## DIMENSIONS

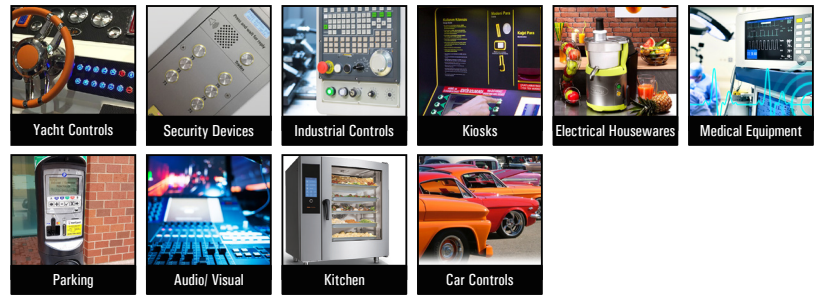


## ILLUM. OPTIONS

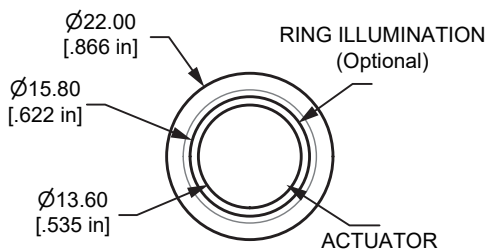


# Micro-trip anti vandal switch $\varnothing 19\text{mm}$

## APPLICATIONS / MARKETS



## DESCRIPTION



## ORDER CODE

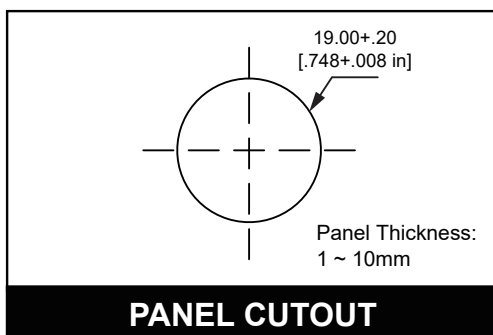
Series	Actuator Options	Terminal Options	Function Options	Material Options	Illumination Style Options	Led-Color Options	Illumination Voltage Options	Graphic Options
L19M Micro-trip	F- Flat	NONE- Solder-lug (2.8x0.5) N- Screw	M- Momentary 1- 1NO	S- Stainless steel	D- Dot illum. R- Ring illum. NONE- non-illum.	W- White Y- Yellow B- Blue G- Green R- Red O- Orange	NONE- Base voltage* 3.3V 6V 12V 24V 36V	NONE- Non-marking LE- Laser etched PS- Symbol translucent power only

NOTES:  
 \* Base voltage on LEDs:  
 1.8V @ 20mA for Red, Yellow and Orange LED colors  
 2.8V @ 20mA for Blue, Green and White LED colors

## TECHNICAL DATA

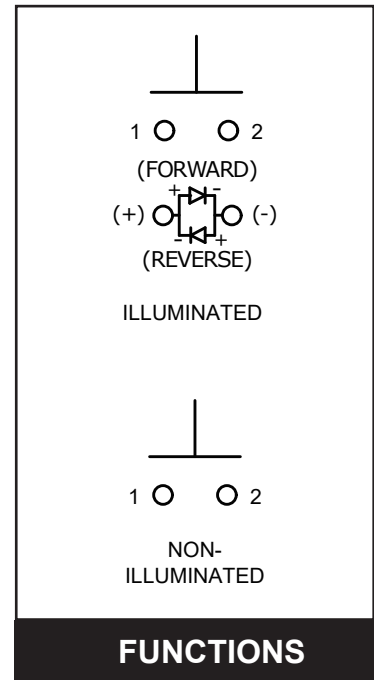
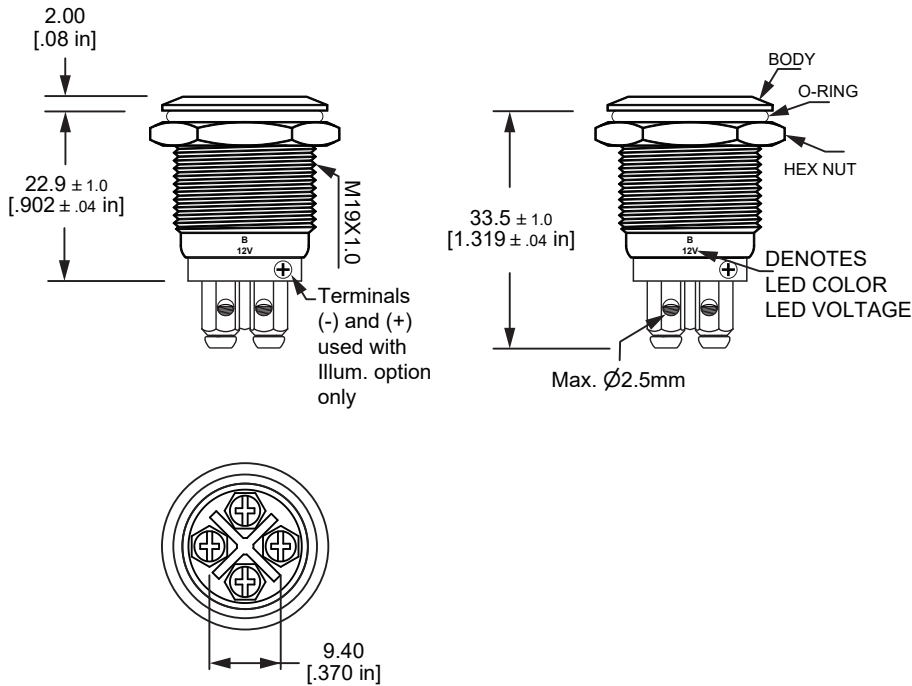
Type	L19M-F	L19M-F-R	L19M-F-D
Illuminated Options	Non-Illuminated	Ring Illuminated	Dot Illuminated
Terminal	Screw and Solder lug (2.8X0.8)		
Max. Switch Rating	50mA 24VDC		
Contact Resistance	$\leq 100\text{m}\Omega$		
Insulation Resistance	$\geq 1000\text{m}\Omega$		
Dielectric Strength	2000VAC		
Operation Temp	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$		
Mechanical Life	1,000,000 Cycles		
Electrical Life	50,000 Cycles		
Contact Material	Silver Alloy		
Rear Nut Fixing Torque	0.57Nm		
Operation Pressure	approx. 8N		
Protection	IP65/ IK09		
Material			
Switch Assembly	UL94V-0 Rated Polyamide (Nylon)		
Tags	Copper Alloy		
Terminals	Copper Alloy		
Switch Body & Button	Stainless Steel/ *Anodized Aluminum		
Lens and Lens Body	Polycarbonate		
Internal Seal	Silicone		
O Ring	Nitrile		
Color	LED 3.3V/ 6V/ 12V/ 24V/ 36V R G Y O B W Approx, 40,000 hours		

## PANEL CUTOUT

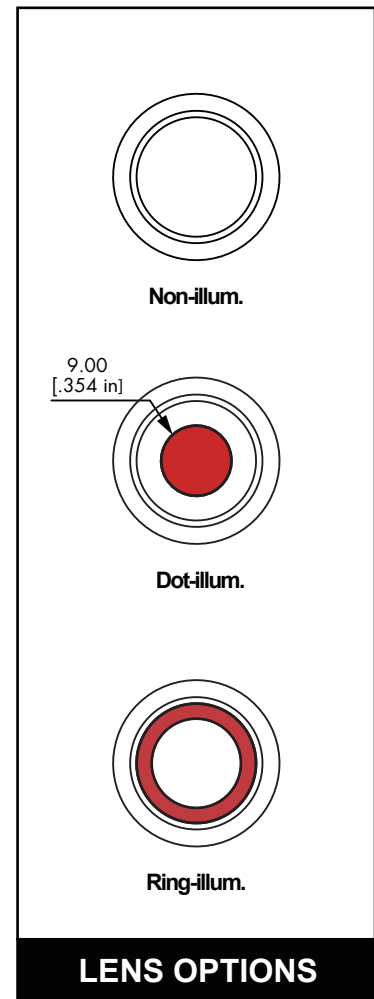
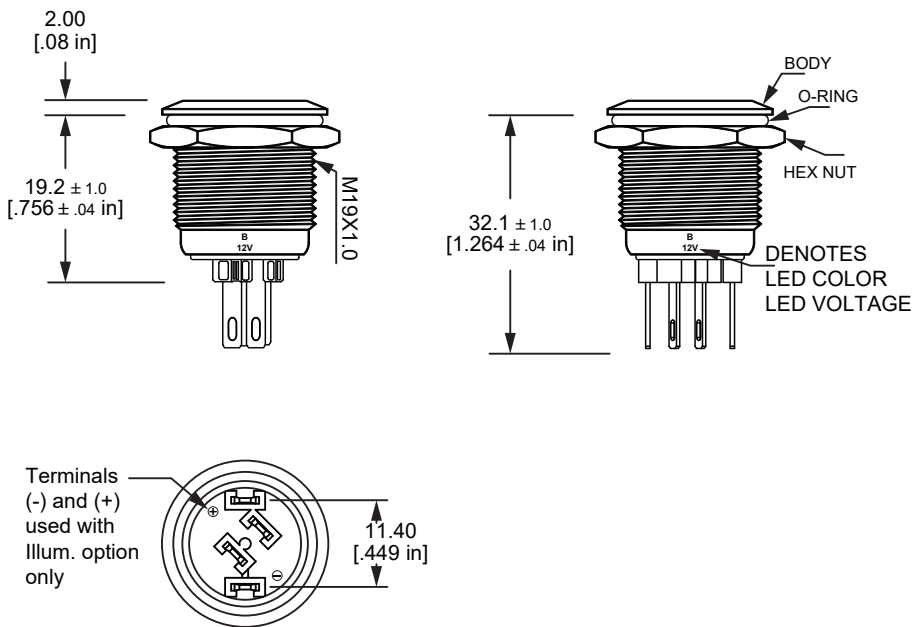


# Micro-trip anti vandal switch $\varnothing 19\text{mm}$

## SCREW TERMINAL

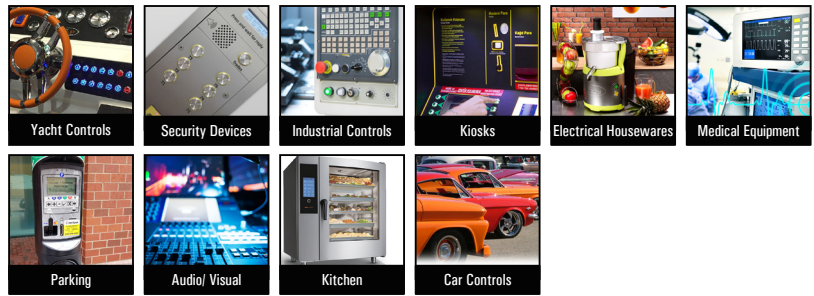


## SOLDER TERMINAL



# High current anti vandal switch $\varnothing 19\text{mm}$

## APPLICATIONS / MARKETS



## ORDER CODE

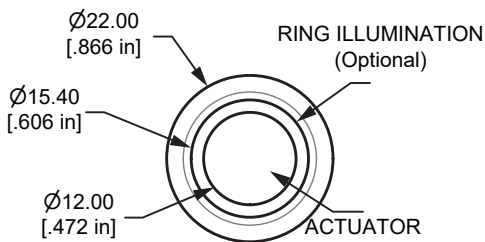
Series	Actuator Options	Terminal Options	Function Options	Current Options	Material Options	Illumination Style Options	Led-Color Options	Illumination Voltage Options	Graphic Options
L19B	F- Flat	NONE- quick connect terminal (6.35x0.8)	M- Momentary 1 1NO (SPST) 2 1NC (SPST) 3 1NO1NC (SPDT) Z- Alternated 1 1NO (SPST) 2 1NC (SPST) 3 1NO1NC (SPDT)	02- 2.5A 03- 3A 05- 5A 08- 8A 10- 10A 16- 16A 21- 21A 06- 0.6A/ 125VDC 03- 0.3A/ 250VDC	S- Stainless steel	D- Dot illum. R- Ring illum. NONE- non-illum.	W- White Y- Yellow B- Blue G- Green R- Red O- Orange	NONE- Base Voltage* 3.3V 6V 12V 24V 36V 110V 220V	NONE- Non-marking LE- Laser etched

### NOTES:

\* Base voltage on LEDs:

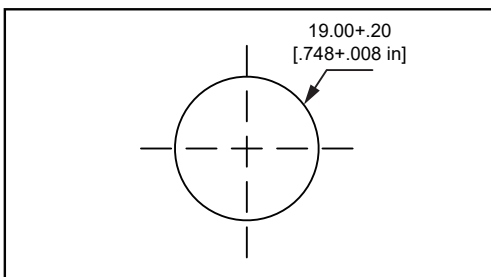
- 1.8V @ 20mA for Red, Yellow and Orange LED colors
- 2.8V @ 20mA for Blue, Green and White LED colors

## DESCRIPTION



Panel Thickness: 1-12mm

## PANEL CUTOUT



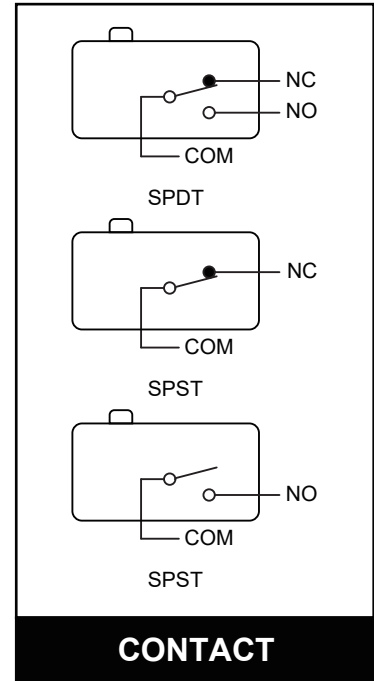
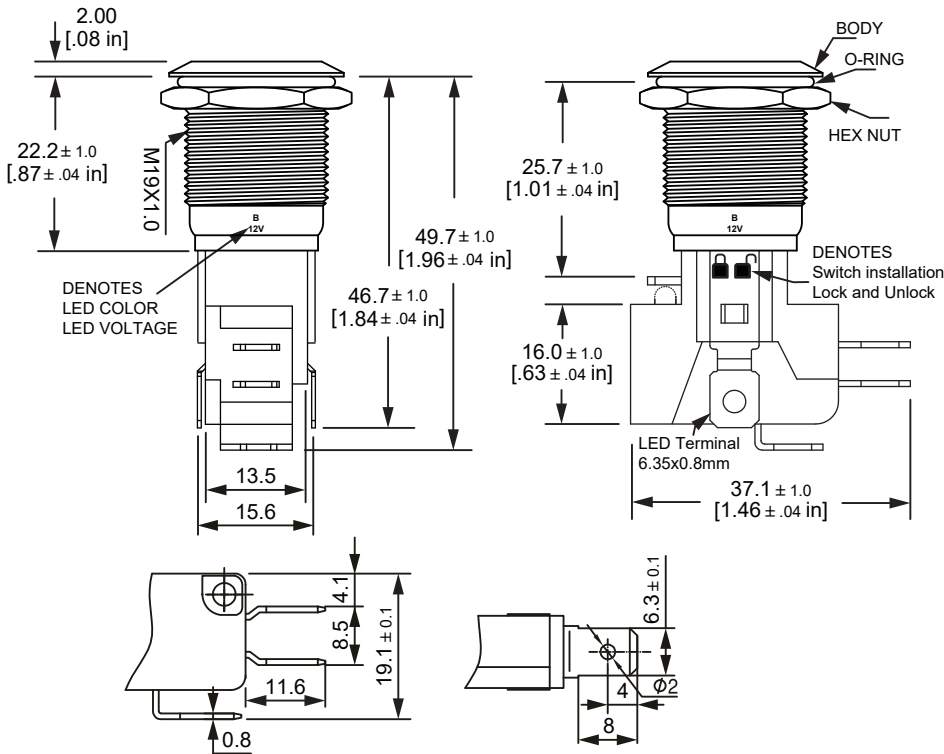
## PANEL CUTOUT

## TECHNICAL DATA

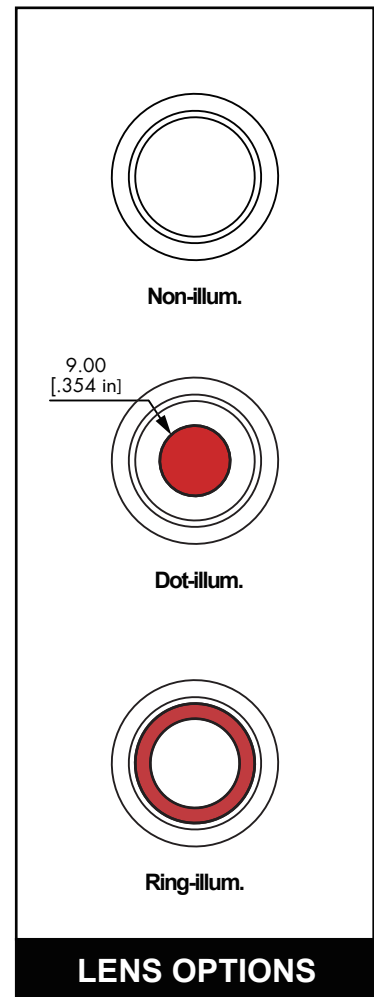
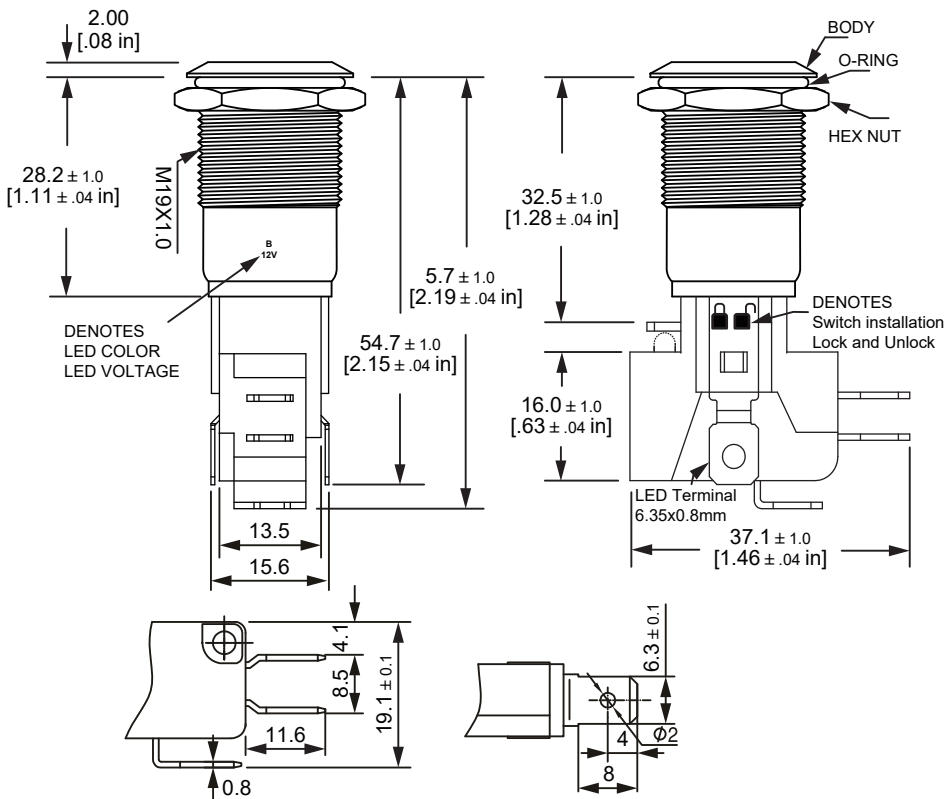
Type	L19B-F	L19B-F-R	L19B-F-D
Illuminated Options	Non-Illuminated	Ring Illuminated	Dot Illuminated
Terminal	Quick connect terminal (6.35x0.8)		
Max. Switch Rating	3A 5A 8A 10A 15A(16A) 20A(21A)/ 250VAC, 125VAC 0.6A/ 125VDC 0.3A/ 250VDC		
Contact Resistance	$\leq 25\text{m}\Omega$		
Insulation Resistance	$\geq 100\text{m}\Omega$		
Dielectric Strength	Between non-consecutive terminals 1,000Vrms, 50/60Hz for 1min Between non-current carrying metal parts and each terminal 1,500Vrms, 50/60Hz for 1min Between ground and each terminal 1,500Vrms, 50/60Hz for 1min		
Shock resistance	Detruction: O.F. > 0.5N: 1000m/s <sup>2</sup> (approx. 100g), O.F. $\leq$ 0.5N: 400m/s <sup>2</sup> (approx. 40g) Malfunction: O.F. > 0.5N: 200m/s <sup>2</sup> (approx. 20g), O.F. $\leq$ 0.5N: 100m/s <sup>2</sup> (approx. 10g)		
Vibration Resistance	10 - 50Hz, 1.5mm Double Amplitude		
Ambient Temp.	-25 C ~ +85 C		
Mechanical Life	2,000,000cycles		
Electrical Life	50,000cycles		
Contact Material	Silver Alloy		
Torque	5 ~ 14Nm		
Operation Pressure	10N		
Protection	IP65/ IK09		
Material			
Actuator	Stainless steel		
Body	Stainless steel		
LED			
Color	3.3V/ 6V/ 12V/ 24V/ 36V/ 110V/ 220V R G Y O B W Approx. 40, 000		

# High current anti vandal switch $\varnothing 19\text{mm}$

## MOMENTARY



## ALTERNATED





## Applications / Markets



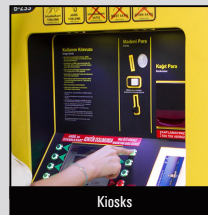
Yacht Controls



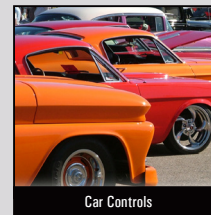
Security Devices



Industrial Controls



Kiosks



Car Controls



Medical Equipment



## SPECIFICATIONS

**Electrical Rating:** 21A, 24VDC  
**Mechanical Life:** 1,000,000 Cycles  
**Electrical Life:** 50,000 Cycles  
**Contact Resistance:** 50m $\Omega$  Max.  
**Insulation Resistance:** 1000 M $\Omega$  Min.  
**Dielectric Strength:** 2,000VAC  
**Operating/Storage Temperature:** -20 $^{\circ}$ C to 55 $^{\circ}$ C  
**Travel:** 1.50mm  
**Moisture Protection:** IP67  
**Actuation Force:** 4N  
**Panel Thickness:** 1-11mm  
**Mounting Nut Torque:** 5-14Nm  
**LED state for output image option :**  
 1 LED : the LED is ON when the output is closed.  
 2 LEDs : first color is ON when the output is open. Second color is ON when the output is closed.

## FEATURES & BENEFITS

- 19mm diameter panel cutout
- Backlit label kit option
- Variety LED option
- Dot, ring or power symbol illumination available
- Multiple actuator options
- Pilot indicator option
- IP65 rated,
- Momentary Off-(On), Latching Off-On

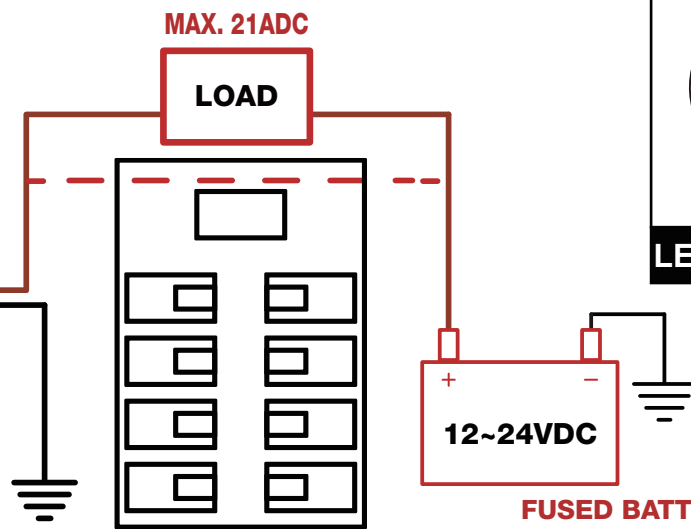
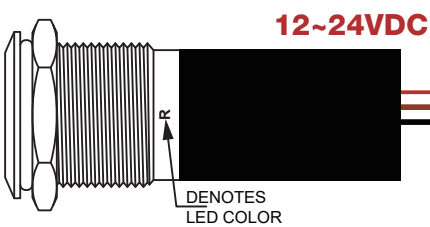
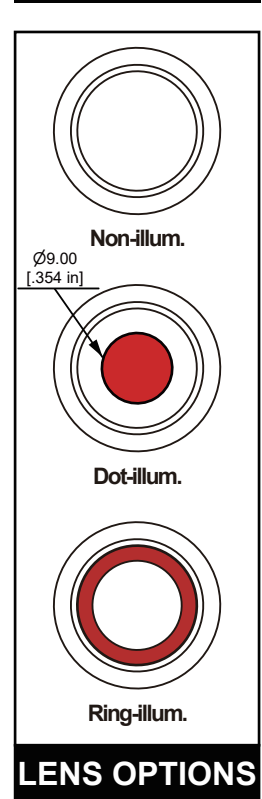
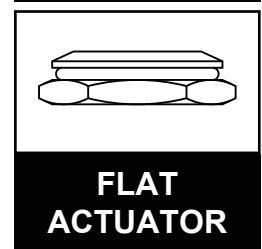
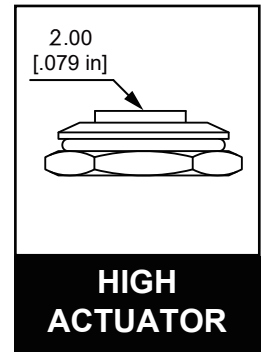
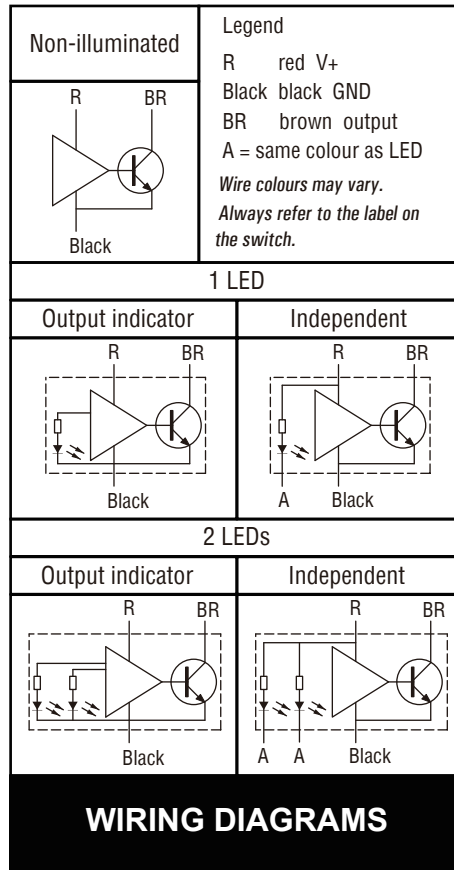
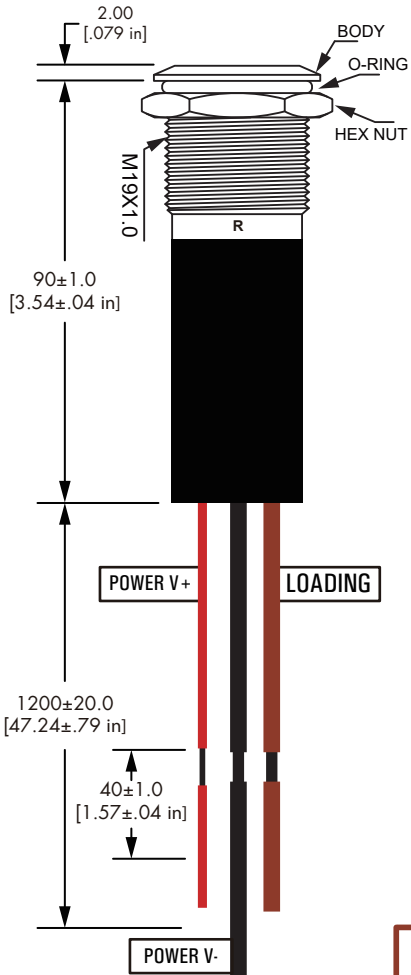
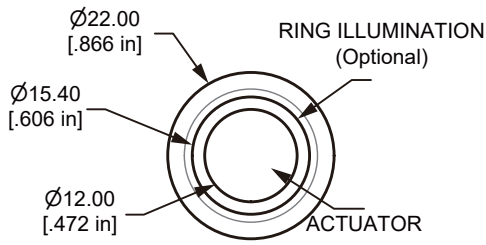
## PART NUMBER CONFIGURATOR

Series	Actuator Options	Terminal Options	Function Options	Rating Options	Material Options	Illumination Style Options	LED-Color Options	Illumination Voltage Options	LED Functions	Graphic (Optional)
L19Y	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	F - Flat H - High X - Backlit Label Kit***	C - Cable*	M - Momentary Off-(On) Z - Latching Off - On	NONE - Max. 21A24V DC	S - Stainless Steel A - Black Anodized	NONE - Non-Illuminated D - Dot Illumination R - Ring Illumination	NONE - Non-Illuminated W - White R - Red O - Orange G - Green B - Blue Y - Yellow RG - Red/Green RB - Red/Blue	NONE - Non-Illuminated 1 - Base Voltage**	S - Independent C - Output indicator	LE - Laser etched

**NOTES:**  
 ( ) denotes function is momentary  
 \* Cable length 1200mm  
 \*\* The base voltage for rating  
 \*\*\* 5 ICON labels included check backlit label kit page, No illumination options/code examples: L19YLCMSW)

Specifications subject to change without notice

# High current anti vandal switch $\varnothing 19\text{mm}$

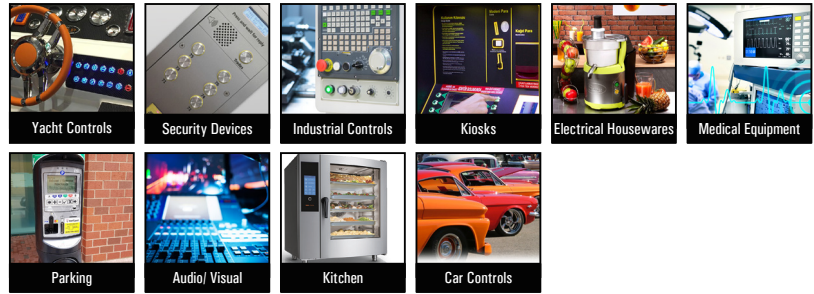


**!** Important: Proper wiring must be followed!  
Improper wiring may cause damage to switch

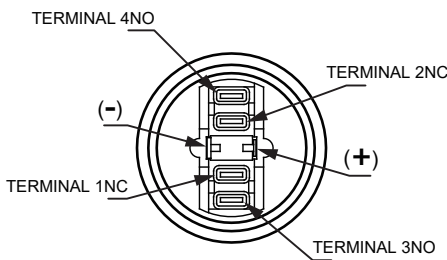
# Anti vandal switch $\varnothing 22\text{mm}$



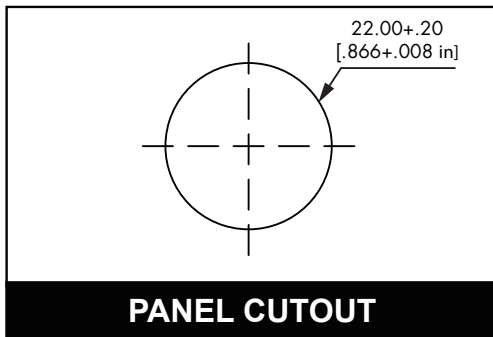
## APPLICATIONS / MARKETS



## DESCRIPTION



Terminals (-) and (+) used with Illum. option only



Panel Thickness:  
1-12mm for Alternated  
1-10mm for Momentary

## ORDER CODE

Series	Actuator Options	Terminal Options	Function Options	Material Options	Illumination Style Options	Led-Color Options	Illumination Voltage Options	Graphic Options
L22	F: Flat	NONE- Solder-lug (2.8x0.5)	M- Momentary 1- 1ND1NC Z- Alternated 1- 1ND1NC	S- Stainless steel A- Anodized aluminum*	D- Dot illum. R- Ring illum. NONE- non-illum.	W- White Y- Yellow B- Blue G- Green R- Red O- Orange	NONE- Base Voltage** 3.3V 6V 12V 24V 36V 110V 220V	NONE- Non-marking LE- Laser etched

### NOTES:

\* Anodized aluminum: variety of colors(MOO 500pcs/color), standard for black anodized

\*\* Base voltage on LEDs:

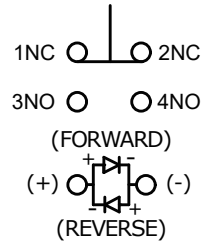
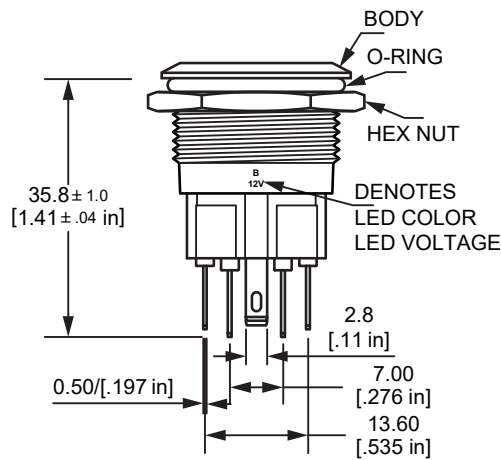
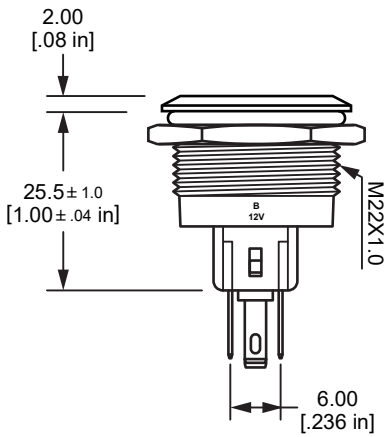
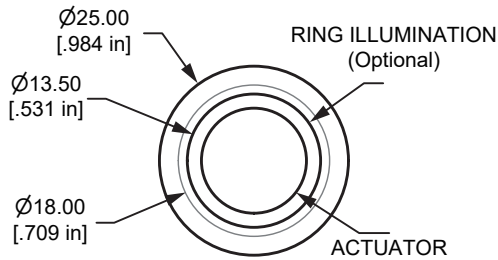
1.8V @ 20mA for Red, Yellow and Orange LED colors  
2.8V @ 20mA for Blue, Green and White LED colors

## TECHNICAL DATA

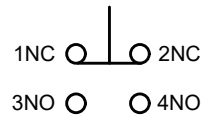
Type	L22-F	L22-F-R	L22-F-D
Illuminated Options	Non-Illuminated	Ring Illuminated	Dot Illuminated
Terminal	Solder lug (2.8X0.5)		
Max. Switch Rating	Ith: 5A Ui: 250VAC		
Contact Resistance	≤50mΩ		
Insulation Resistance	≥1000mΩ		
Dielectric Strength	2000VAC		
Operation Temp	-20°C ~ +55°C		
Mechanical Life	1,000,000 Cycles		
Electrical Life	>50,000 Cycles		
Contact Material	Silver Alloy		
Torque	5 ~ 14Nm		
Operation Pressure	approx. 8N		
Protection	IP65/ IK10		
Material			
Actuator	Stainless Steel/ *Anodized Aluminum		
Body	Stainless Steel/ *Anodized Aluminum		
Base	PA		
Color	LED		
	3.3V/ 6V/ 12V/ 24V/ 36V/ 110V/ 220V		
	R G Y O B W		
	Approx, 40,000 hours		

# Anti vandal switch $\phi 22\text{mm}$

## MOMENTARY



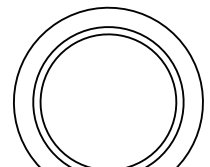
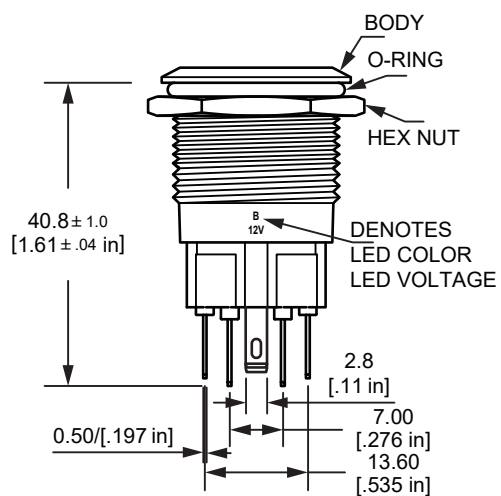
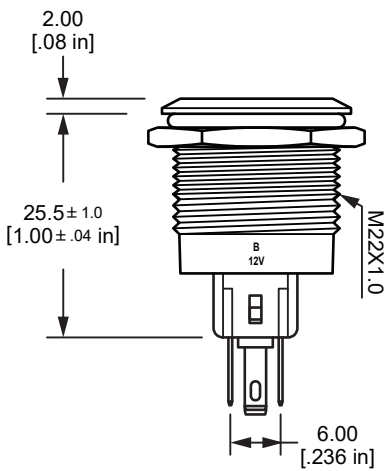
CONTACT CONFIGURATION  
ILLUMINATED



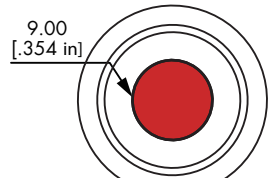
CONTACT CONFIGURATION  
NON-ILLUMINATED

## FUNCTIONS

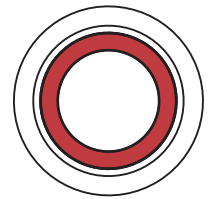
## ALTERNATED



Non-illum.



Dot-illum.



Ring-illum.

## LENS OPTIONS

# Anti vandal switch $\varnothing 22\text{mm}$



## APPLICATIONS / MARKETS



## ORDER CODE

Series	Actuator Options	Terminal Options	Function Options	Material Options	Illumination Style Options	Led-Color Options	Illumination Voltage Options	Graphic Options
L22A	F- Flat	NONE- Solder-lug (2.8x0.5) N- Screw	M- Momentary 1- 1NO1NC Z- Alternated 1- 1NO1NC	S- Stainless steel	D- Dot illum. R- Ring illum. NONE- non-illum.	W- White Y- Yellow B- Blue G- Green R- Red O- Orange	NONE- Base Voltage* 3.3V 6V 12V 24V 36V 110V 220V	NONE- Non-marking LE- Laser etched

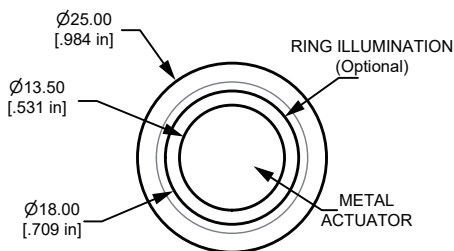
### NOTES:

\* Base voltage on LEDs:  
1.8V @ 20mA for Red, Yellow and Orange LED colors  
2.8V @ 20mA for Blue, Green and White LED colors

## TECHNICAL DATA

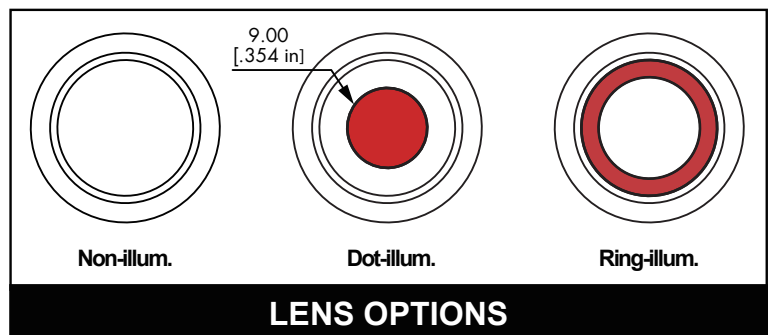
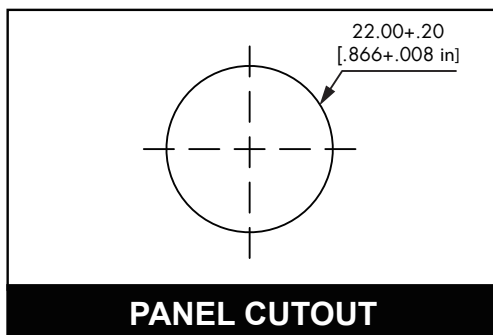
Type	L22A-F	L22A-F-R	L22A-F-D
Illuminated Options	Non-Illuminated	Ring Illuminated	Dot Illuminated
Terminal	Screw and Solder lug (2.8X0.5)		
Max. Switch Rating	Ith: 5A Ui: 250VAC		
Contact Resistance	$\leq 50\text{m}\Omega$		
Insulation Resistance	$\geq 1000\text{m}\Omega$		
Dielectric Strength	2000VAC		
Operation Temp	$-20^\circ\text{C} \sim +55^\circ\text{C}$		
Mechanical Life	1,000,000 Cycles		
Electrical Life	>50,000 Cycles		
Contact Material	Silver Alloy		
Torque	5 ~ 14Nm		
Operation Pressure	approx. 8N		
Protection	IP65/ IK10		
Material			
Actuator	Stainless Steel		
Body	Stainless Steel		
Base	PA		
	LED		
Color	3.3V/ 6V/ 12V/ 24V/ 36V/ 110V/ 220V R G Y O B W		
	Approx, 40,000 hours		

## DESCRIPTION



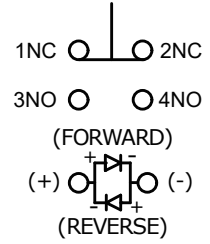
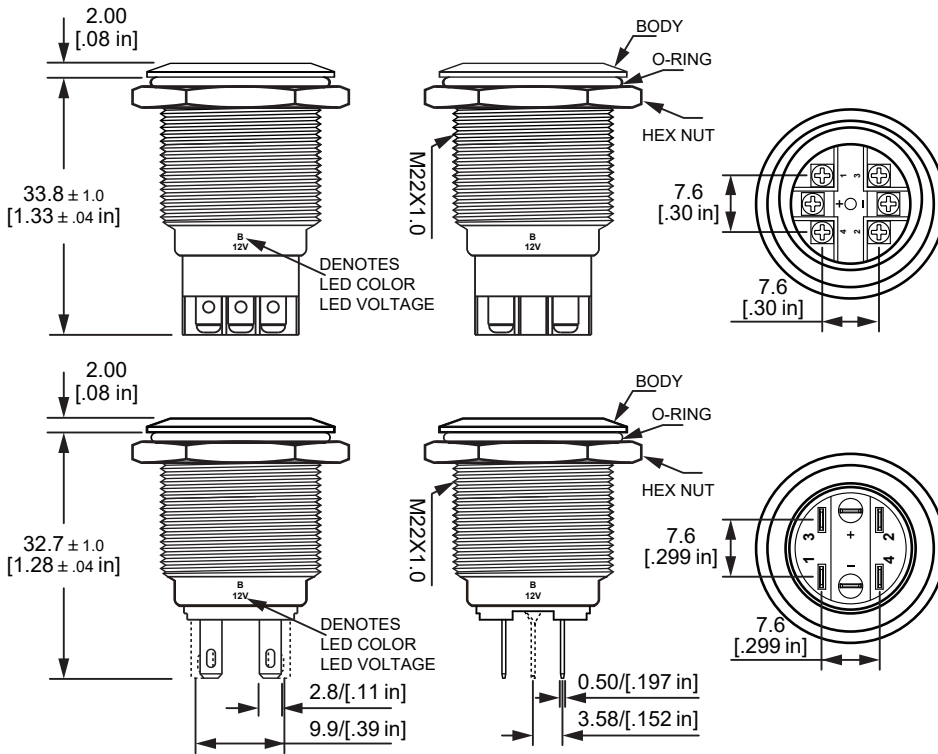
Panel Thickness:  
1-10mm for Momentary  
1-12mm for Alternated

## PANEL CUTOUT & ILLUMINATED OPTIONS

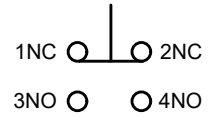


# Anti vandal switch $\varnothing 22\text{mm}$

## MOMENTARY



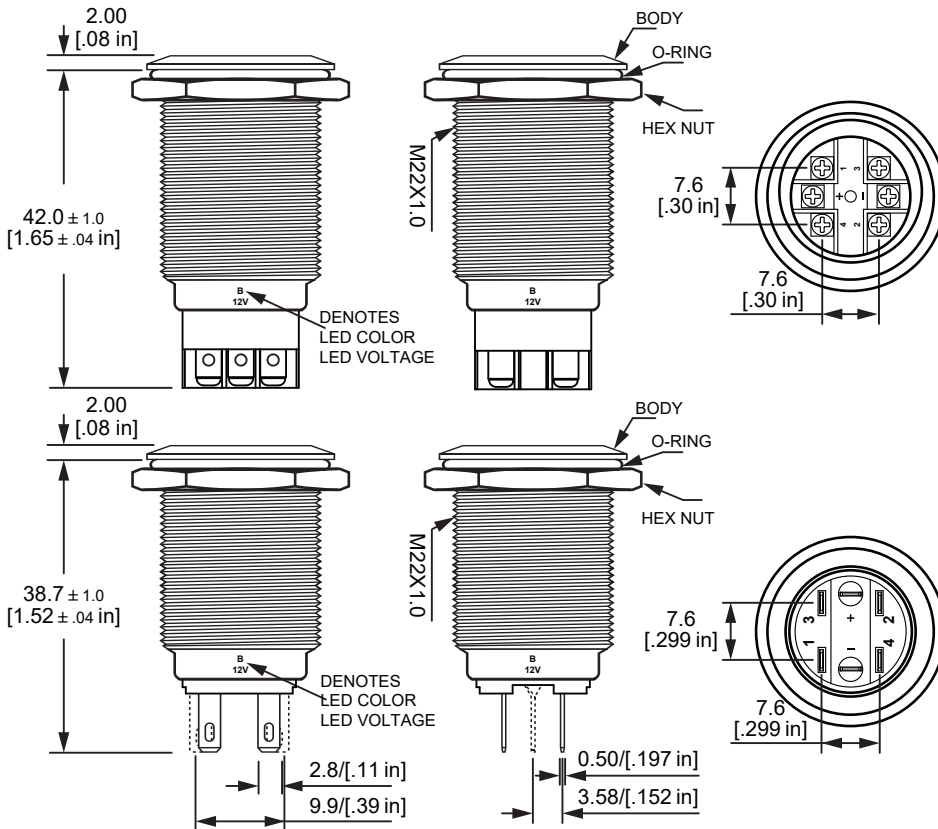
CONTACT CONFIGURATION  
ILLUMINATED



CONTACT CONFIGURATION  
NON-ILLUMINATED

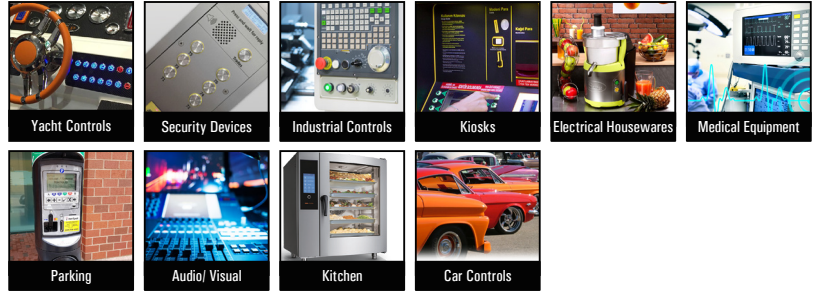
## FUNCTIONS

## ALTERNATED

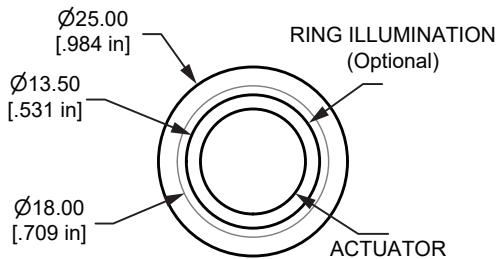


# Micro-trip anti vandal switch $\varnothing 22\text{mm}$

## APPLICATIONS / MARKETS

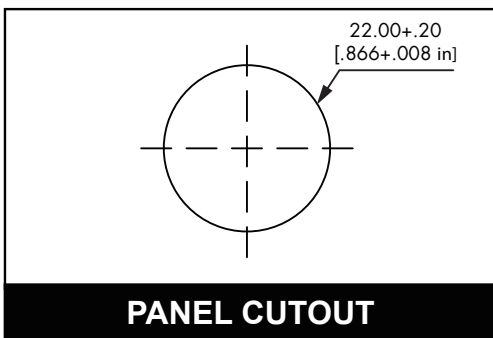


## DESCRIPTION



Panel Thickness: 1-12mm

## PANEL CUTOUT



## ORDER CODE

Series	Actuator Options	Terminal Options	Function Options	Material Options	Illumination Style Options	Led-Color Options	Illumination Voltage Options	Graphic Options
<input type="checkbox"/> L22M Micro-trip	<input type="checkbox"/> F- Flat	<input type="checkbox"/> NONE- Solder-lug (2.8x0.5)	<input type="checkbox"/> M- Momentary 1- 1NO	<input type="checkbox"/> S- Stainless steel	<input type="checkbox"/> D- Dot illum.	<input type="checkbox"/> W- White	<input type="checkbox"/> NONE- Base voltage*	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
		<input type="checkbox"/> N- Screw			<input type="checkbox"/> R- Ring illum.	<input type="checkbox"/> Y- Yellow	3.3V	<input type="checkbox"/> NONE- Non-marking
					<input type="checkbox"/> NONE- non-illum.	<input type="checkbox"/> B- Blue	6V	<input type="checkbox"/> LE- Laser etched
						<input type="checkbox"/> G- Green	12V	<input type="checkbox"/> PS- Symbol translucent power only
						<input type="checkbox"/> R- Red	24V	
						<input type="checkbox"/> O- Orange	36V	

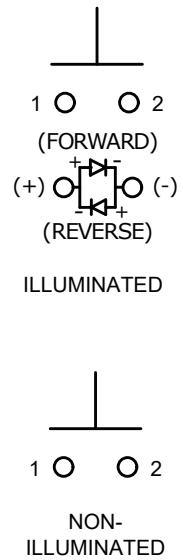
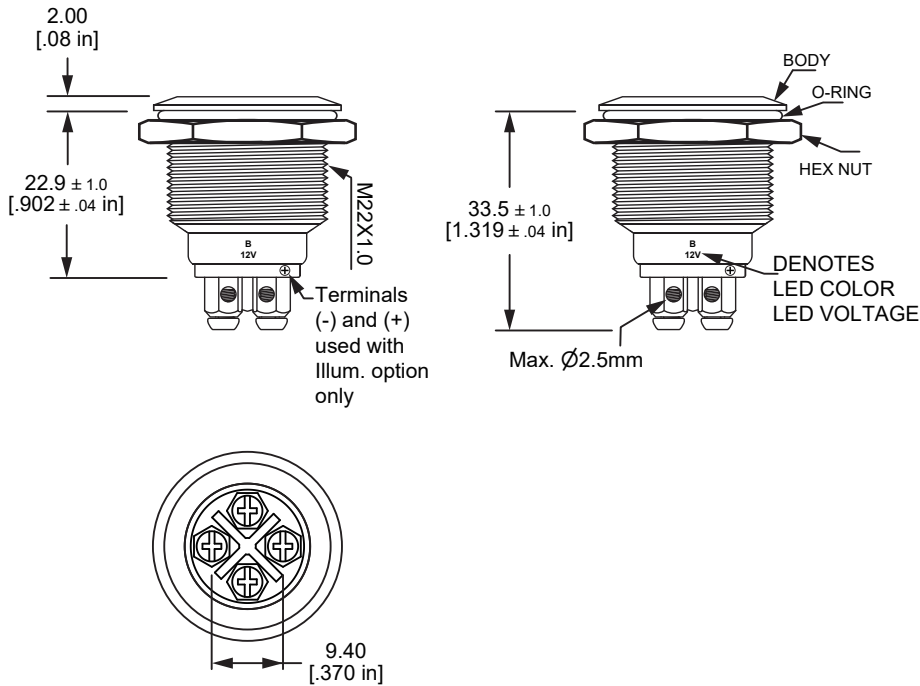
NOTES:  
 \* Base voltage on LEDs:  
 1.8V @ 20mA for Red, Yellow and Orange LED colors  
 2.8V @ 20mA for Blue, Green and White LED colors

## TECHNICAL DATA

Type	L22M-F	L22M-F-R	L22M-F-D
Illuminated Options	Non-Illuminated	Ring Illuminated	Dot Illuminated
Terminal	Screw and Solder lug (2.8X0.8)		
Max. Switch Rating	50mA 24VDC		
Contact Resistance	≤100mΩ		
Insulation Resistance	≥1000mΩ		
Dielectric Strength	2000VAC		
Operation Temp	-20 °C ~ +55 °C		
Mechanical Life	1,000,000 Cycles		
Electrical Life	50,000 Cycles		
Contact Material	Silver Alloy		
Rear Nut Fixing Torque	0.57Nm		
Operation Pressure	approx. 8N		
Protection	IP65/ IK09		
Material			
Switch Assembly	UL94V-0 Rated Polyamide (Nylon)		
Tags	Copper Alloy		
Terminals	Copper Alloy		
Switch Body & Button	Stainless steel		
Lens and Lens Body	Polycarbonate		
Internal Seal	Silicone		
O Ring	Nitrile		
	LED		
Color	3.3V/ 6V/ 12V/ 24V/ 36V		
	<input type="checkbox"/> R <input type="checkbox"/> G <input type="checkbox"/> Y <input type="checkbox"/> O <input type="checkbox"/> B <input type="checkbox"/> W		
	Approx, 40,000 hours		

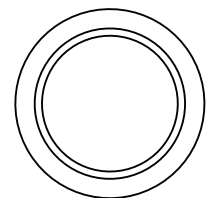
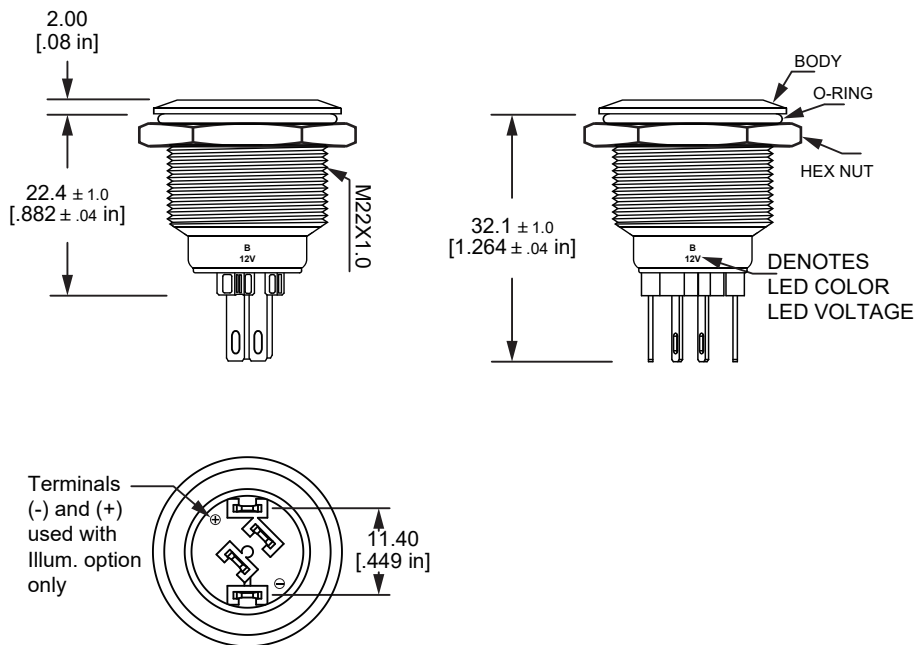
# Micro-trip anti vandal switch $\varnothing 22\text{mm}$

## SCREW TERMINAL

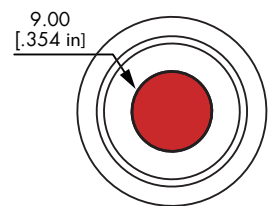


## FUNCTIONS

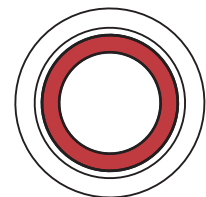
## SOLDER TERMINAL



Non-illum.



Dot-illum.



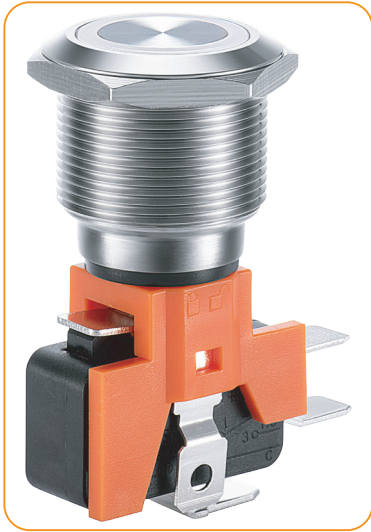
Ring-illum.

## LENS OPTIONS



# High current anti vandal switch $\varnothing 22\text{mm}$

## APPLICATIONS / MARKETS

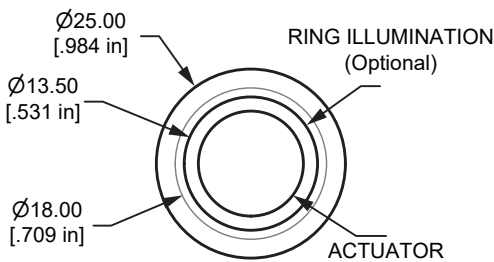


## ORDER CODE

Series	Actuator Options	Terminal Options	Function Options	Current Options	Material Options	Illumination Style Options	Led-Color Options	Illumination Voltage Options	Graphic Options
L22B	F- Flat	NONE- quick connect terminal (6.35x0.8)	M- Momentary 1 1NO (SPST) 2 1NC (SPST) 3 1NO1NC (SPDT) Z- Alternated 1 1NO (SPST) 2 1NC (SPST) 3 1NO1NC (SPDT)	02- 2.5A 03- 3A 05- 5A 08- 8A 10- 10A 16- 16A 21- 21A 06- 0.6A/ 125VDC 03- 0.3A/ 250VDC	S- Stainless steel	D- Dot illum. R- Ring illum. NONE- non-illum.	W- White Y- Yellow B- Blue G- Green R- Red O- Orange	NONE- Base Voltage* 3.3V 6V 12V 24V 36V 110V 220V	NONE- Non-marking LE- Laser etched

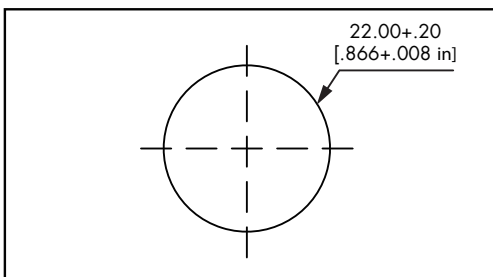
NOTES:  
 \* Base voltage on LEDs:  
 1.8V @ 20mA for Red, Yellow and Orange LED colors  
 2.8V @ 20mA for Blue, Green and White LED colors

## DESCRIPTION



Panel Thickness: 1-12mm

## PANEL CUTOUT



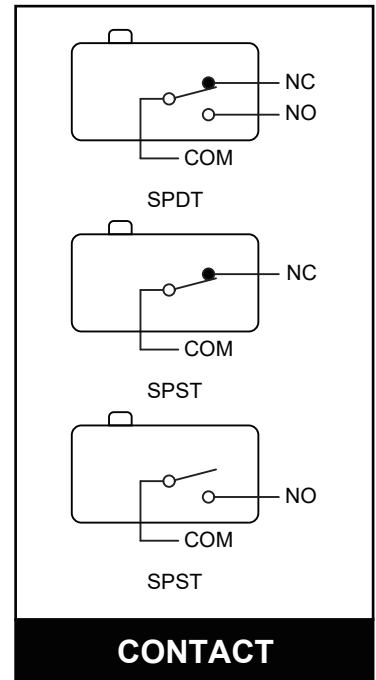
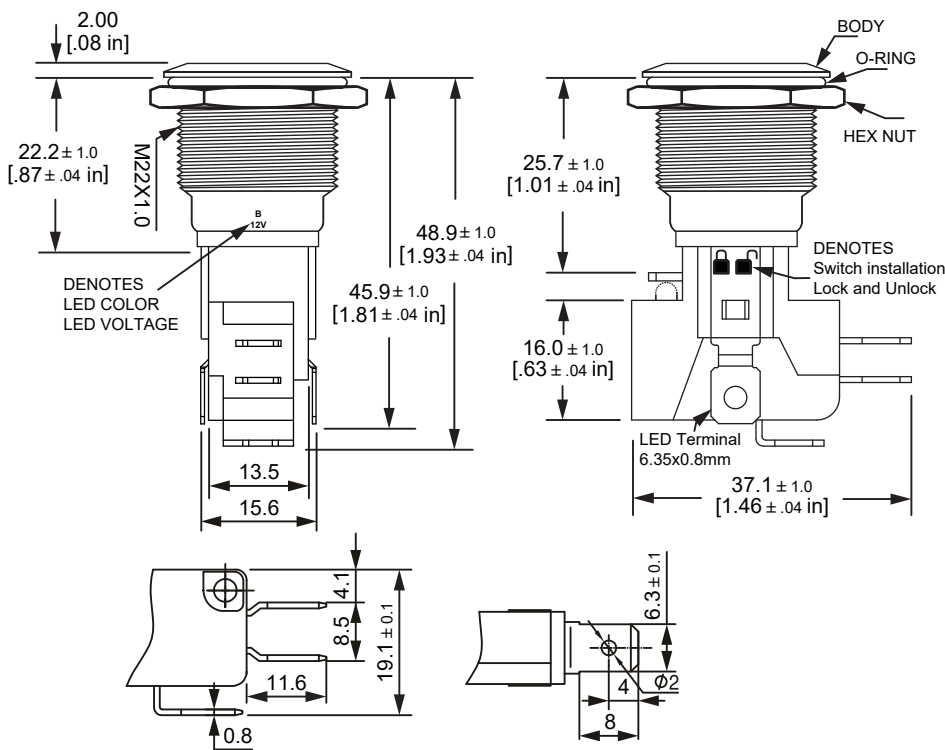
## PANEL CUTOUT

## TECHNICAL DATA

Type	L22B-F	L22B-F-R	L22B-F-D
Illuminated Options	Non-Illuminated	Ring Illuminated	Dot Illuminated
Terminal	Quick connect terminal (6.35x0.8)		
Max. Switch Rating	3A 5A 8A 10A 15A(16A) 20A(21A)/ 250VAC, 125VAC 0.6A/ 125VDC 0.3A/ 250VDC		
Contact Resistance	$\leq 25\text{m}\Omega$		
Insulation Resistance	$\geq 100\text{m}\Omega$		
Dielectric Strength	Between non-consecutive terminals 1,000Vrms, 50/60Hz for 1min Between non-current carrying metal parts and each terminal 1,500Vrms, 50/60Hz for 1min Between ground and each terminal 1,500Vrms, 50/60Hz for 1min		
Shock resistance	Detruction: O.F. > 0.5N: 1000m/s <sup>2</sup> (approx. 100g), O.F. $\leq$ 0.5N: 400m/s <sup>2</sup> (approx. 40g) Malfunction: O.F. > 0.5N: 200m/s <sup>2</sup> (approx. 20g), O.F. $\leq$ 0.5N: 100m/s <sup>2</sup> (approx. 10g)		
Vibration Resistance	10 - 50Hz, 1.5mm Double Amplitude		
Ambient Temp.	-25 C ~ +85 C		
Mechanical Life	2,000,000cycles		
Electrical Life	50,000cycles		
Contact Material	Silver Alloy		
Torque	5 ~ 14Nm		
Operation Pressure	10N		
Protection	IP65/ IK09		
Material	Stainless steel		
Actuator	Stainless steel		
Body	Stainless steel		
Color	LED 3.3V/ 6V/ 12V/ 24V/ 36V/ 110V/ 220V R G Y O B W Approx. 40, 000		

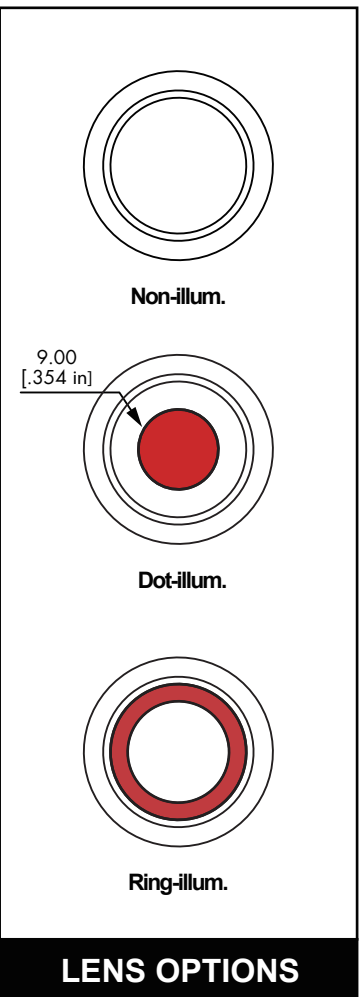
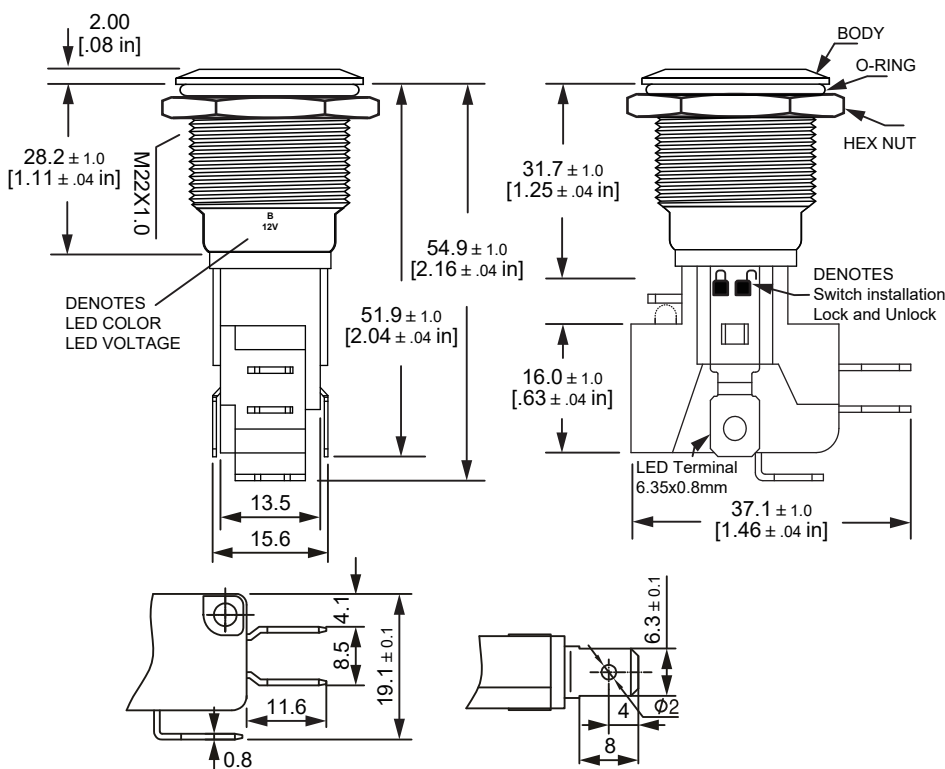
# High current anti vandal switch $\varnothing 22\text{mm}$

## MOMENTARY



## CONTACT

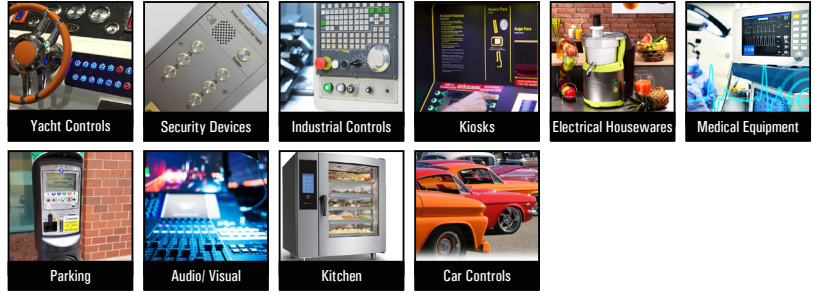
## ALTERNATED



## LENS OPTIONS

# Anti vandal switch $\varnothing 25\text{mm}$

## APPLICATIONS / MARKETS

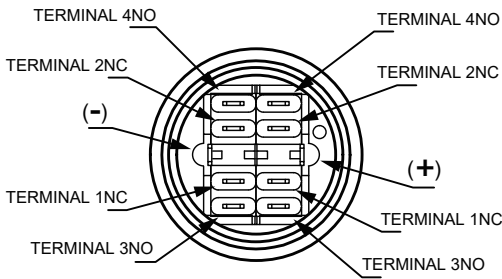


## ORDER CODE

Series	Actuator Options	Terminal Options	Function Options	Material Options	Illumination Style Options	Led-Color Options	Illumination Voltage Options	Graphic Options
L25	F- Flat	NONE- Solder lug (2.8x0.5)	M- Momentary 1- 1N01NC 2- 2N02NC Z- Alternated 1- 1N01NC 2- 2N02NC	S- Stainless steel A- Anodized aluminum	D- Dot illum. R- Ring illum. NONE- non-illum.	W- White Y- Yellow B- Blue G- Green R- Red O- Orange	NONE- Base Voltage* 3.3V 6V 12V 24V 36V 110V 220V	NONE- Non-marking LE- Laser etched

NOTES:  
\* Base voltage on LEDs:  
1.8V @ 20mA for Red, Yellow and Orange LED colors  
2.8V @ 20mA for Blue, Green and White LED colors

## DESCRIPTION

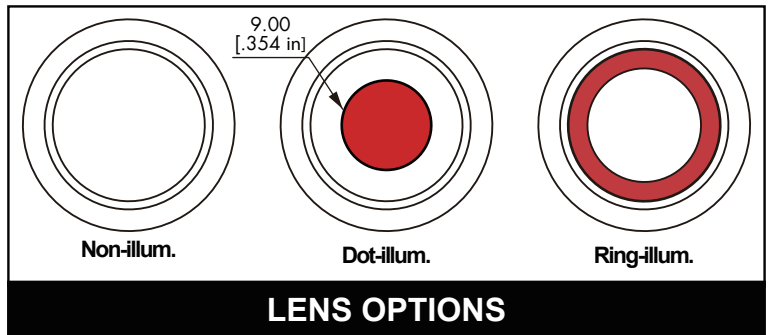
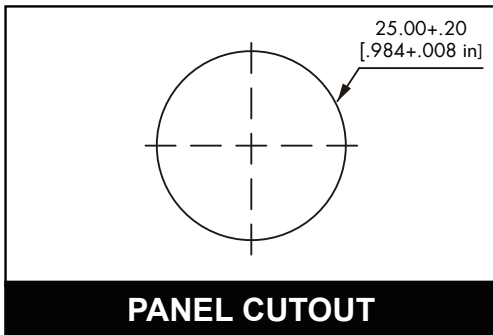


Terminals (-) and (+) used with Illum. option only

## TECHNICAL DATA

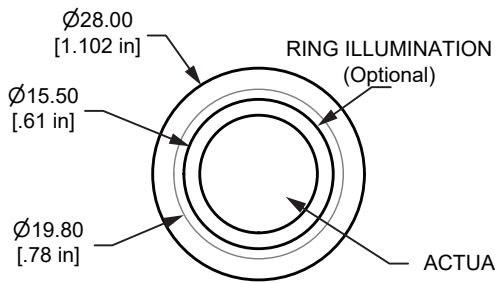
Type	L25-F	L25-F-R	L25-F-D
Illuminated Options	Non-Illuminated	Ring Illuminated	Dot Illuminated
Terminal	Solder lug (2.8X0.5)		
Max. Switch Rating	Ith: 5A Ui: 250VAC		
Contact Resistance	$\leq 50\text{m}\Omega$		
Insulation Resistance	$\geq 1000\text{m}\Omega$		
Dielectric Strength	2000VAC		
Operation Temp	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$		
Mechanical Life	1,000,000 Cycles		
Electrical Life	$> 50,000$ Cycles		
Contact Material	Silver Alloy		
Torque	5 ~ 14Nm		
Operation Pressure	approx. 8N		
Protection	IK10		
Material			
Actuator	Stainless Steel/ *Anodized Aluminum		
Body	Stainless Steel/ *Anodized Aluminum		
Base	PA		
Color	LED 3.3V/ 6V/ 12V/ 24V/ 36V/ 110V/ 220V R G Y O B W Approx, 40,000 hours		

## PANEL CUTOUT & ILLUMINATED OPTIONS

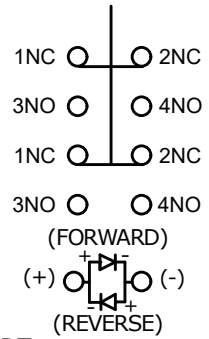
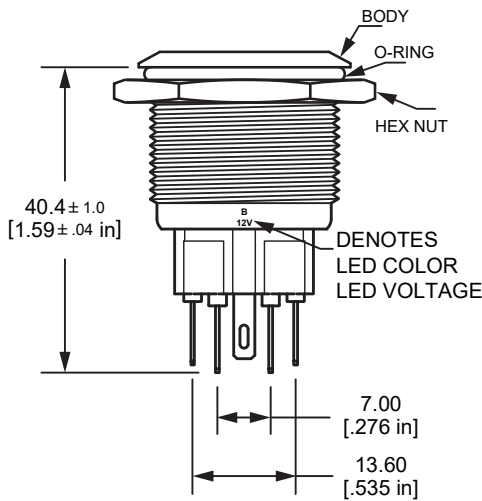
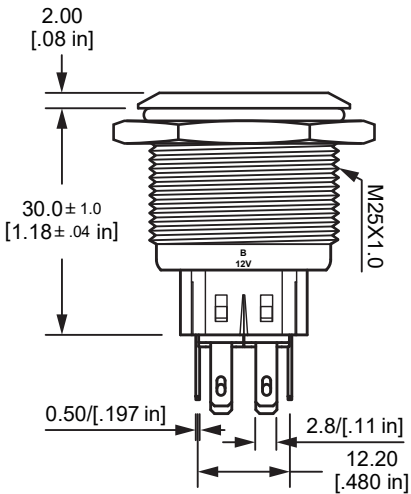


# Anti vandal switch $\varnothing 25\text{mm}$

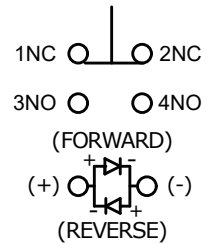
## MOMENTARY



Panel Thickness:  
1-10mm for Momentary  
1-12mm for Maintained

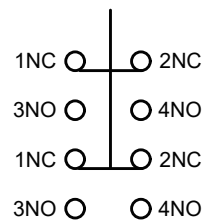
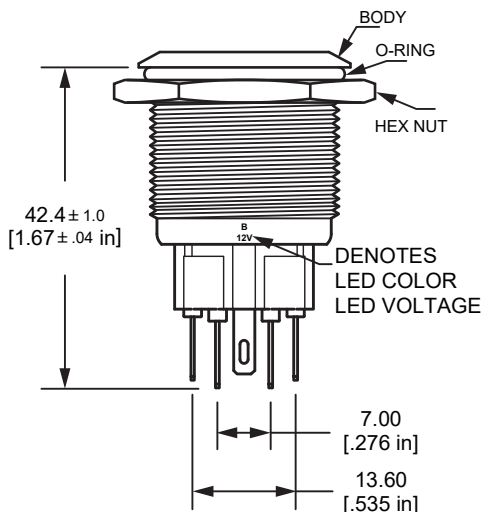
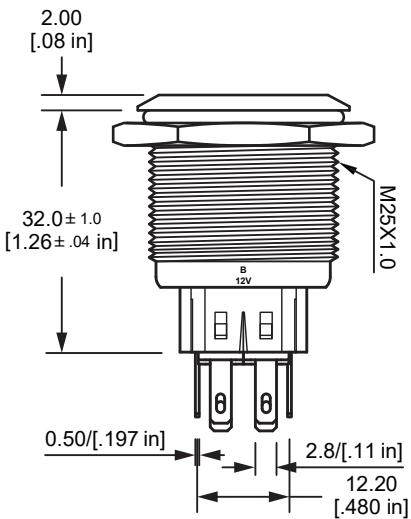


DPDT  
2NO2NC ON (OFF) / OFF (ON)  
CONTACT CONFIGURATION  
ILLUMINATED

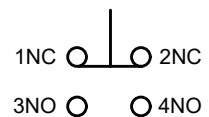


SPST  
1NO1NC ON (OFF) / OFF (ON)  
CONTACT CONFIGURATION  
ILLUMINATED

## ALTERNATED



DPDT  
2NO2NC ON (OFF) / OFF (ON)  
CONTACT CONFIGURATION  
NON-ILLUMINATED



SPST  
1NO1NC ON (OFF) / OFF (ON)  
CONTACT CONFIGURATION  
NON-ILLUMINATED

## FUNCTIONS



Alarm  
Indicator  
Backlit label kit

# Anti vandal pilot indicator

## Applications / Markets



Yacht Controls



Security Devices



Industrial Controls



Kiosks



Electrical Housewares



Medical Equipment



## SPECIFICATIONS

**Contact Arrangement:** Lamp indicator  
**Operating/Storage Temperature:** -25°C to 55°C  
**Lamp Life:** 40,000 Hours Nominal  
**Ingress Protection:** IP67  
**Panel Thickness:** 1-6mm or 1-10mm, (depending on mounting diameter)  
**Mounting Nut Torque:** 5-14Nm

## FEATURES & BENEFITS

- Pilot indicator light
- Multiple panel cutout sizes: 6mm to 19mm dia.
- Multiple illumination voltage options
- Multiple LED color options
- IP67 rated

## PART NUMBER CONFIGURATOR

Series	Indicator Diameter	Lens	Illumination Style Options	Material Options	Led-Color Options	Illumination Voltage Options
<input type="checkbox"/> PI <input type="checkbox"/> PV*	<input type="checkbox"/> 06- 6mm Dia. <input type="checkbox"/> 08- 8mm Dia. <input type="checkbox"/> 10- 10mm Dia. <input type="checkbox"/> 12- 12mm Dia. <input type="checkbox"/> 14- 14mm Dia. <input type="checkbox"/> 16- 16mm Dia. <input type="checkbox"/> 19- 19mm Dia.	<input type="checkbox"/> F- Flat <input type="checkbox"/> C- Chamfer	<input type="checkbox"/> D- Dot illum. <input type="checkbox"/> R- Ring illum.	<input type="checkbox"/> S- Stainless steel <input type="checkbox"/> N- Nickel plated brass	<input type="checkbox"/> W- White <input type="checkbox"/> Y- Yellow <input type="checkbox"/> B- Blue <input type="checkbox"/> G- Green <input type="checkbox"/> R- Red <input type="checkbox"/> O- Orange	<input type="checkbox"/> NONE- Base voltage** <input type="checkbox"/> 3.3V <input type="checkbox"/> 6V <input type="checkbox"/> 12V <input type="checkbox"/> 24V <input type="checkbox"/> 36V <input type="checkbox"/> 110V

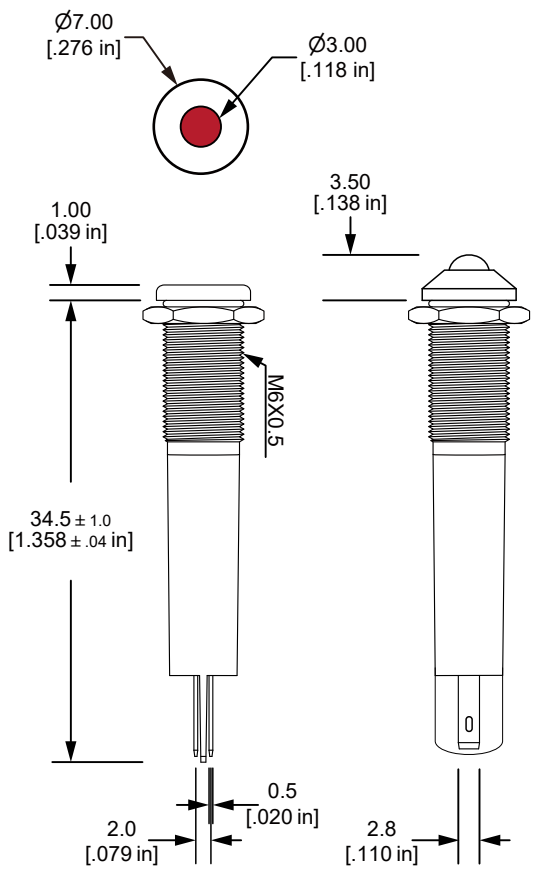
NOTES:  
 \* PV: only 8mm and 12mm  
 \*\* Base voltage on LEDs: 1.8V @ 20mA for Red, Yellow and Orange LED colors / 2.8V @ 20mA for Blue, Green and White LED colors

*Specifications subject to change without notice*

# Anti vandal pilot indicator

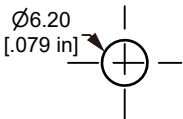
## DIMENSIONS

PI06

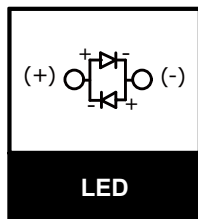


FLAT

CHAMFER

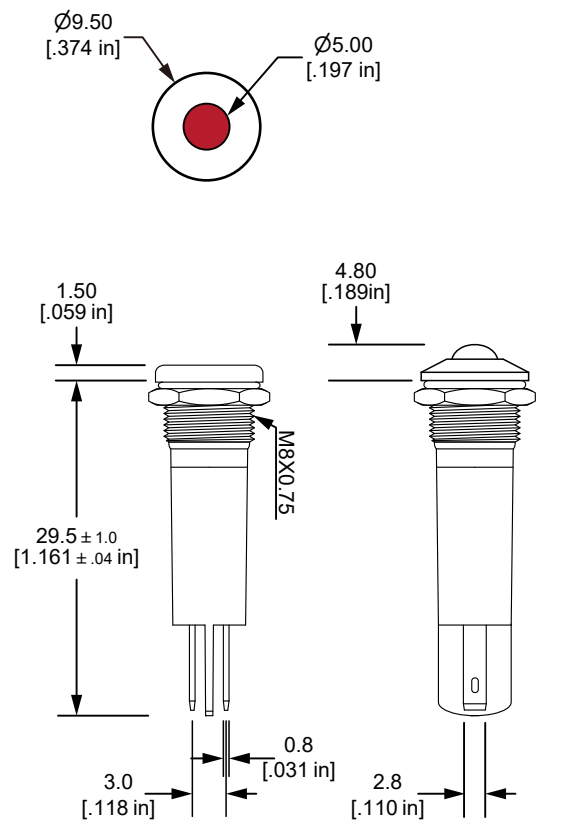


Panel Thickness:  
1 ~ 6mm



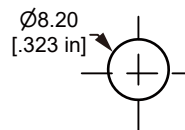
LED

PI08

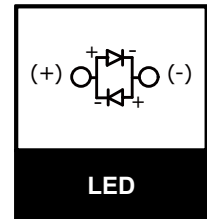


FLAT

CHAMFER



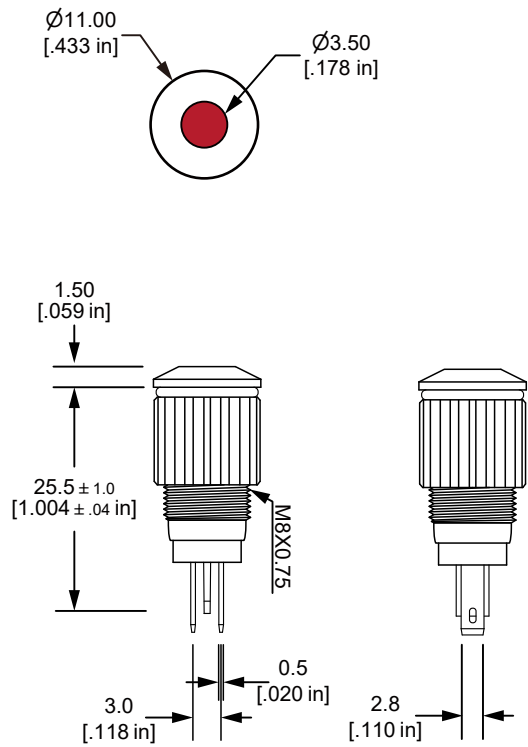
Panel Thickness:  
1 ~ 6mm



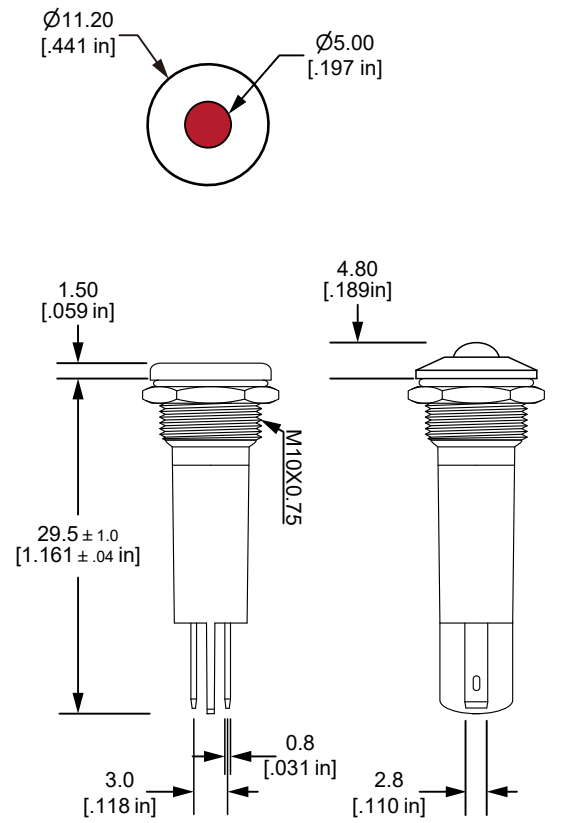
LED

## DIMENSIONS

PV8

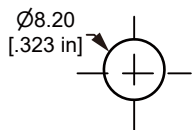


PI10

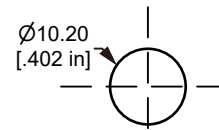
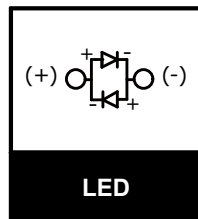


FLAT

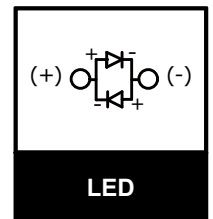
CHAMFER



Panel Thickness:  
1 ~ 6mm



Panel Thickness:  
1 ~ 6mm

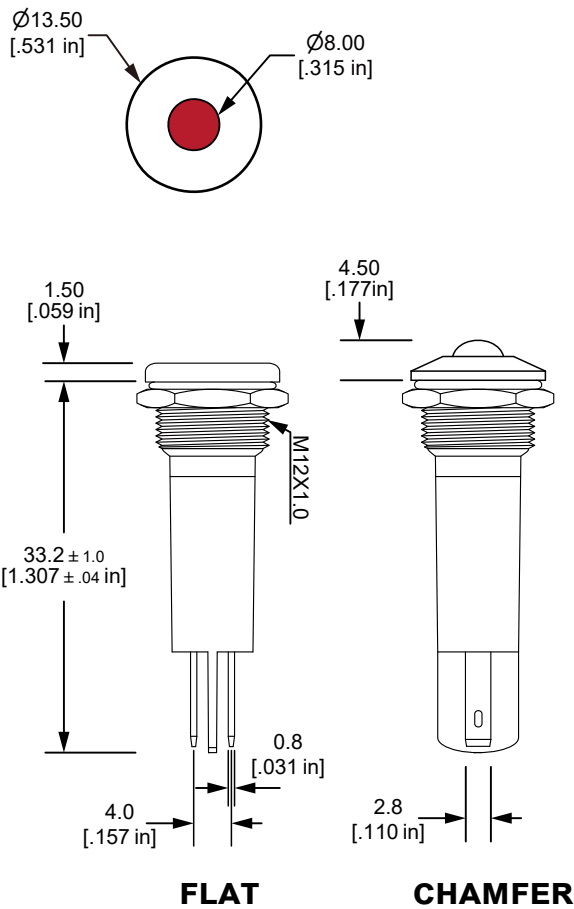




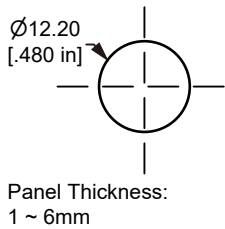
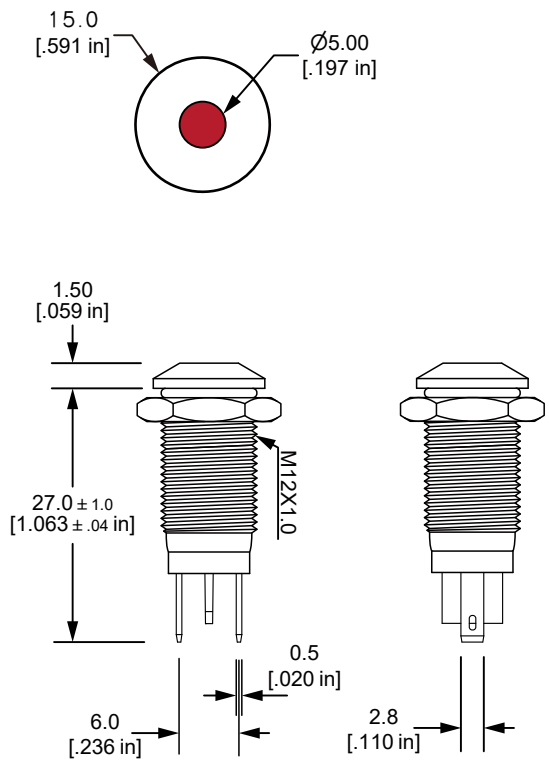
# Anti vandal pilot indicator

## DIMENSIONS

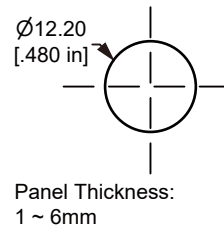
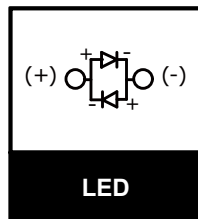
PI12



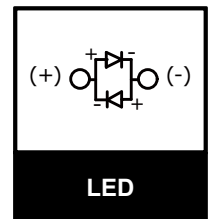
PV12



Panel Thickness:  
1 ~ 6mm

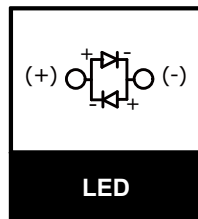
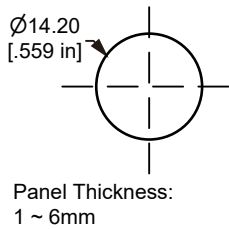
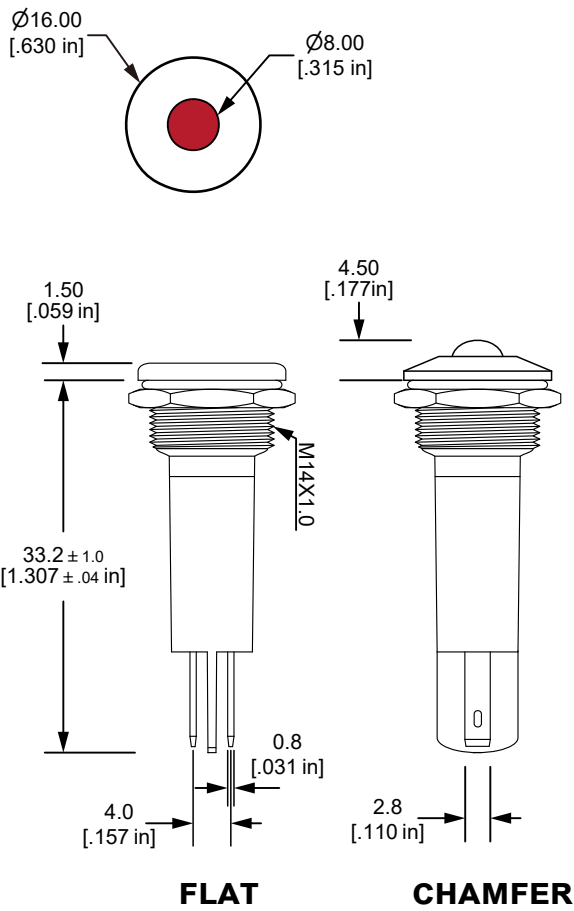


Panel Thickness:  
1 ~ 6mm

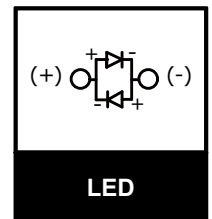
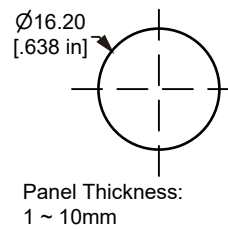
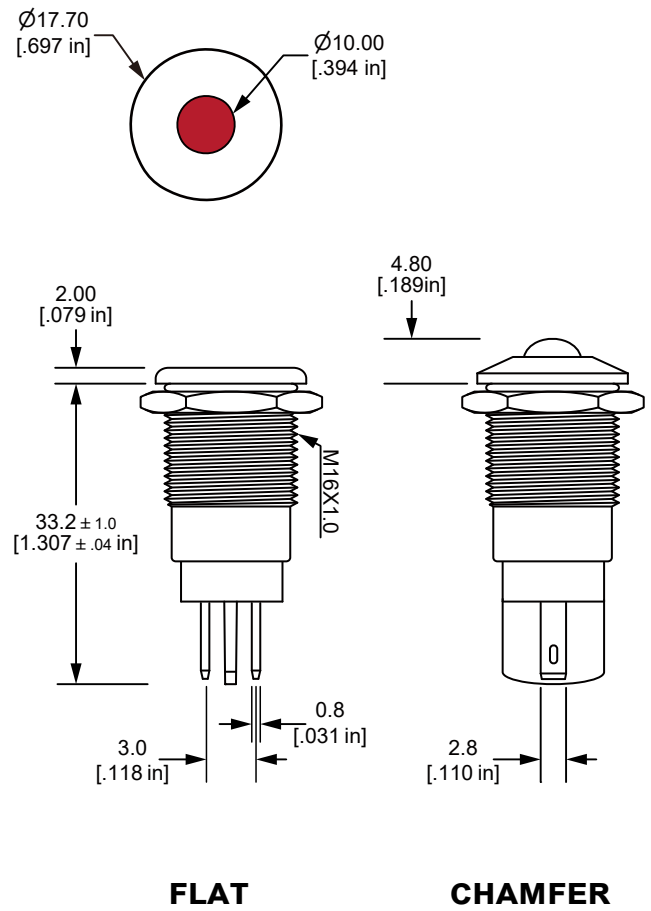


## DIMENSIONS

PI14



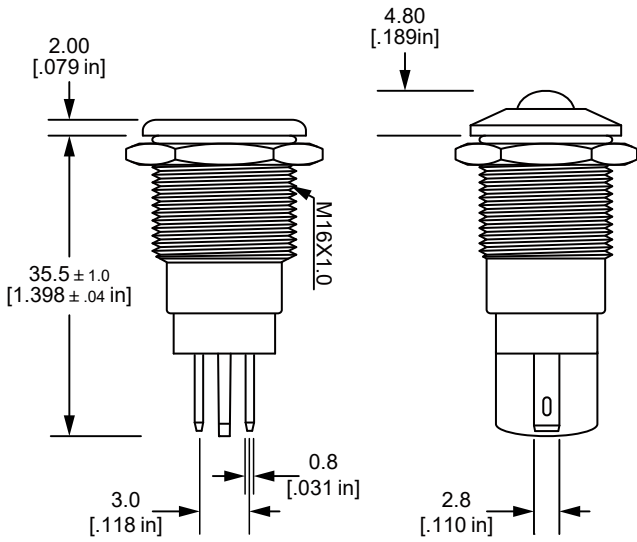
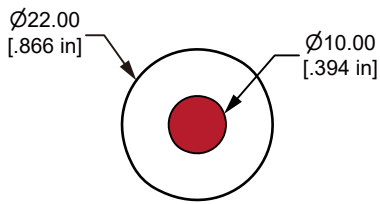
PI16



# Anti vandal pilot indicator

## DIMENSIONS

PI19

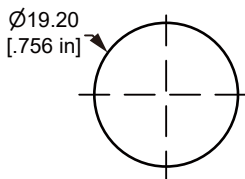


**FLAT**

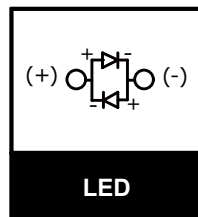
**CHAMFER**

**FLAT**

**CHAMFER**

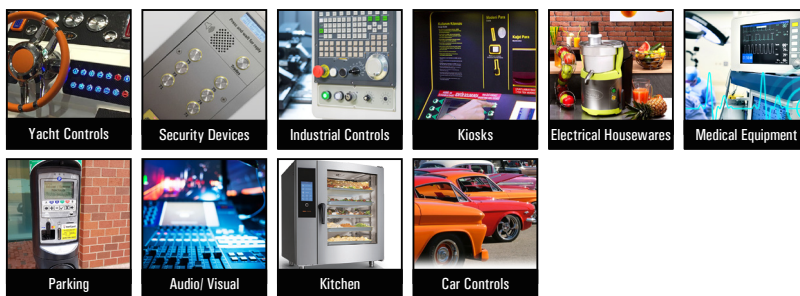


Panel Thickness:  
1 ~ 10mm



# Buzzer

## APPLICATIONS / MARKETS



## ORDER CODE

Series	Function Options	Terminal Options	Material Options	Illumination Style Options	Led-Color Options	Illumination Voltage Options
Lf19	<p><b>NONE</b>- Buzzer flashing and non-illum.</p> <p><b>F</b>- Flicker buzzer</p> <p><b>A</b>- Alternately flashing color</p> <p><b>C</b>- LED close when buzzer pause</p> <p><b>H</b>- LED always lighting when buzzer pause</p> <p><b>S</b>- Bi-color LED strobe, the buzzer call in slow</p> <p>The function can be customized</p>	<b>NONE</b> - Screw	<b>NONE</b> - Stainless steel	<b>NONE</b> - Ring illum.	<p><b>W</b>- White</p> <p><b>Y</b>- Yellow</p> <p><b>B</b>- Blue</p> <p><b>G</b>- Green</p> <p><b>R</b>- Red</p>	12V 24V

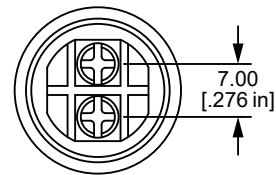
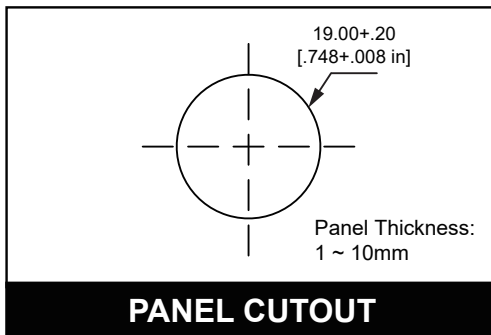
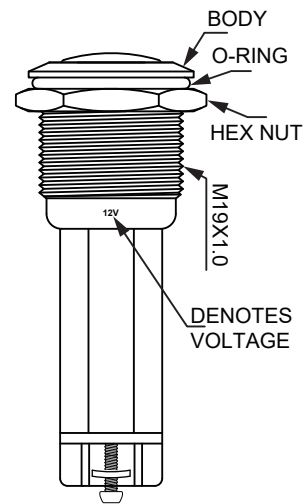
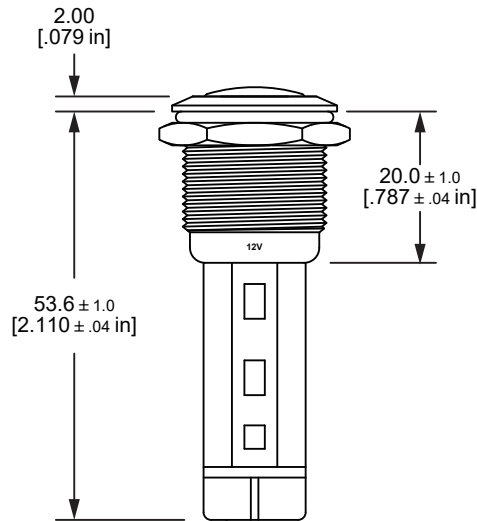
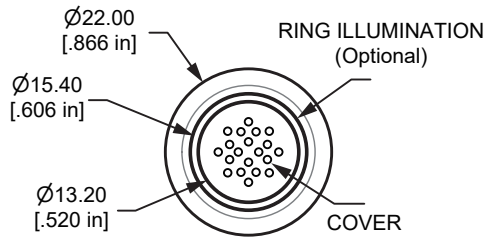
**Remark:**  
 'A' standard color for Red and Green  
 'C' standard color for Red  
 'S' standard color for Red and Blue

## TECHNICAL DATA

Type	Lf19	Lf19-F
Function	Buzzer	Flicker Buzzer
Terminal	Screw	
Max. Switch Rating	--	
Contact Resistance	--	
Insulation Resistance	--	
Dielectric Strength	2000VAC	
Operation Temp	-20°C ~ +55°C	
Mechanical Life	--	
Electrical Life	--	
Contact Material	--	
Torque	5 ~ 14Nm	
Operation Pressure	--	
Protection	IP50, IK04	
Material	--	
Actuator	Stainless	
Body	Stainless Steel	
Base	PA	
Buzzer Spec.		
Type	Buzzer	Flicker Buzzer
Voltage	3.0V/ 6V/ 12V/ 24V/ 36V/ 110V/ 220V	
Color	Approx, 40,000 hours	<b>R G Y O B W</b>
Sound Inten	≥80dB(0.1m)	

# Buzzer

## DIMENSIONS



## Backlit LED switch Label Kit

When the Dual or Single Color LED function switches are turned on, the Blue LED lights up through the actuator. Activate a particular function by pressing one of the switches. This will change the Blue LED to Red, indicating that the chosen function is turned on. The switch color can customization.

With a IP67 waterproof rating and Stainless Steel SS316 body, our switch can be installed on your boat or other vehicle in wet and dusty environments, but not under water. The first switch can be designated as the night time Blue LED On/Off switch.

Identifying the function of each push button switch is simple with our **interchangeable 3M adhesive backed actuator Backlit Labels. It's the only actuator that allows the LEDs in the switch body to pass light through the label.** The result is excellent visibility at night. There are **53 Switch Function Icons to choose from!** **Custom Icon Labels can be made to your design specifications.** Please check with the factory.



Backlit Label in **Daytime Mode.** LED light is off.

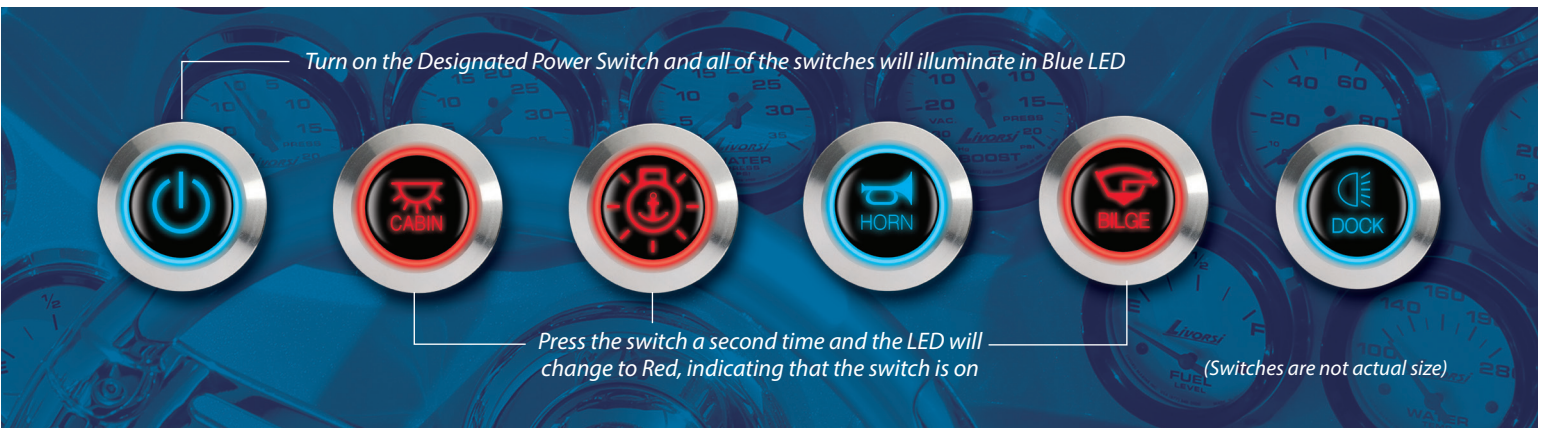


Backlit Label in **Nighttime Mode.** The Blue LED provides great visibility of all the function switches and lets you know that the switches are in the off position.



Backlit Label in **Nighttime Mode.** The Red LED lets you know that the switch is on.

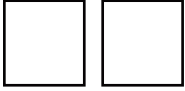
*\*All specifications are subject to change without notice.*



# Backlit LED switch Label Kit

## HOW TO ORDER

### Series



BL

### Switch Options



19- 19mm switch  
22- 22mm switch

### Icon Options



5- 5 Icon labels included  
50- 50 Icon labels included  
L450 - 1 Icon label (check list)

## Features & Benefits

- Scratch resistant polycarbonate material
  - Back printed for durability
  - Waterproof adhesive for longevity in wet environments
  - Custom Icon Labels can be made to your design specifications
- Please check with the factory.

## Backlit Labels Icon & Part Number Legend



5 ICON labels included



50 ICON labels included

Icon Style	Part No.	Icon Style	Part No.	Icon Style	Part No.	Icon Style	Part No.
	L450-0001		L450-0015		L450-0029		L450-0043
	L450-0002		L450-0016		L450-0030		L450-0044
	L450-0003		L450-0017		L450-0031		L450-0045
	L450-0004		L450-0018		L450-0032		L450-0046
	L450-0005		L450-0019		L450-0033		L450-0047
	L450-0006		L450-0020		L450-0034		L450-0048
	L450-0007		L450-0021		L450-0035		L450-0049
	L450-0008		L450-0022		L450-0036		L450-0050
	L450-0009		L450-0023		L450-0037		L450-0051
	L450-0010		L450-0024		L450-0038		L450-0052
	L450-0011		L450-0025		L450-0039		L450-0053
	L450-0012		L450-0026		L450-0040		
	L450-0013		L450-0027		L450-0041		
	L450-0014		L450-0028		L450-0042		

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[Http://www.langir.com](http://www.langir.com)