

# MISCELLANEOUS HARDWARE & ACCESSORIES

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

<b>SWITCH HARDWARE.....</b>	<b>D2 - D4</b>
<b>PUSHBUTTON AND TOGGLE CAPS.....</b>	<b>D5 - D6</b>
<b>SECURITY GUARDS.....</b>	<b>D7 - D9</b>
<b>SEALING BOOTS.....</b>	<b>D10 - D14</b>
<b>VL SERIES LED INDICATORS.....</b>	<b>D15 - D16</b>



# MISCELLANEOUS HARDWARE

**HEX NUT A112** Nickel plated brass  
1/4-40



**HEX NUT** Brass 1/4-40  
Nickel plated **U76** Matte black **U94**



**HEX NUT** Brass  
Nickel plated **U208** Matte black **U726**



**HEX NUT** Brass  
Chrome plated **U1916**



**HEX NUT U842** 10mm (.393")  
Nickel plated brass



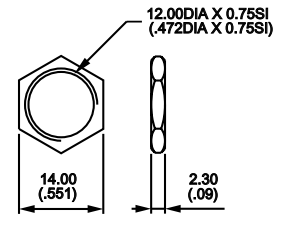
**HEX NUT A465**  
Nickel plated brass 15/32-32



**HEX NUT** Brass 15/32-32  
Nickel plated **U162** Matte black **U41**  
Chrome plated **U92**



**HEX NUT** Brass 12mm (.472")  
Nickel plated **U166** Matte black **U183**  
Chrome plated **U212**



**HEX CAP NUT** Brass 12mm (.472")  
Chrome plated **U35**



**PAL NUT U42** 12mm (.472")  
Zinc plated steel



**HEX NUT 10-621** 16mm (.629")  
Nickel plated brass



**HEX NUT U1950-5** 19mm (.748")  
Nickel plated brass



**HEX NUT 10-855-5** 19mm (.748")  
Nickel plated brass



**HEX NUT U1951-5** 22mm (.866")  
Nickel plated brass



**HEX NUT 10-856-5** 22mm (.866")  
Nickel plated brass



**HEX NUT U2059-5** 24mm (.944")  
Nickel plated brass



**PANEL DRESS NUT A168P1**  
Blind thread, Nickel plated brass  
1/4-40



**PANEL DRESS NUT A168P2**  
Thru thread, Nickel plated brass  
1/4-40



**PANEL DRESS NUT A274**  
Nickel plated brass 1/4-40



**PANEL DRESS NUT A540**  
Nickel plated brass 15/32-32



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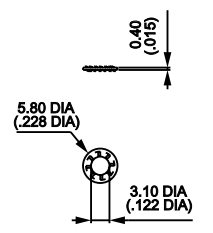
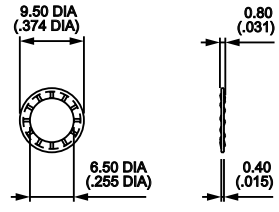
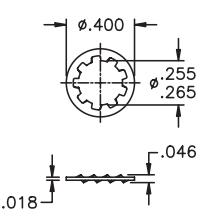
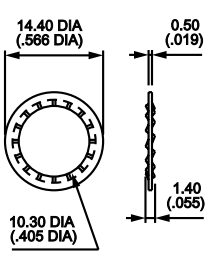
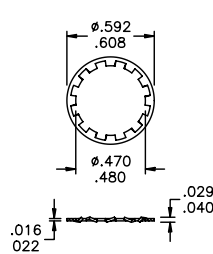
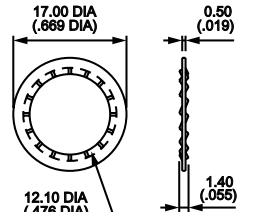
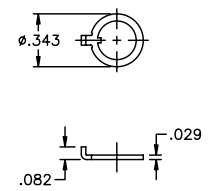
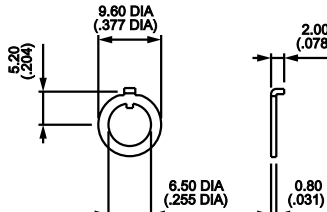
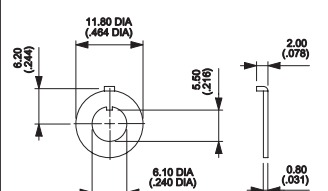
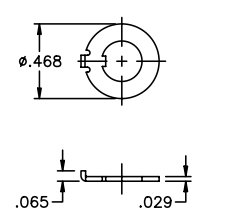
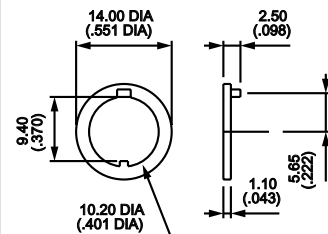
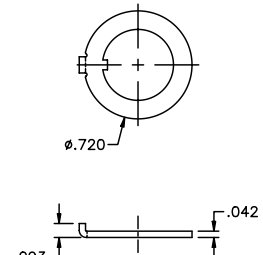
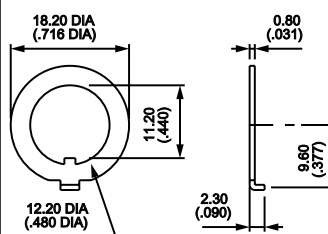
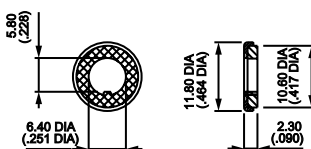
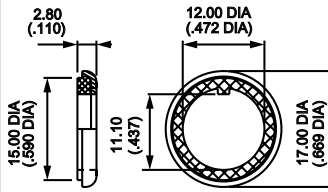
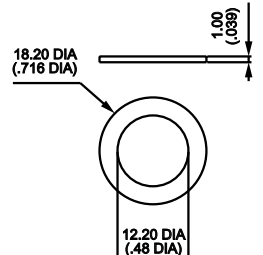
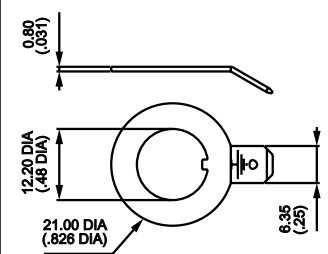
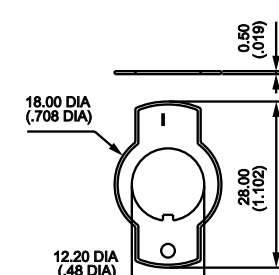
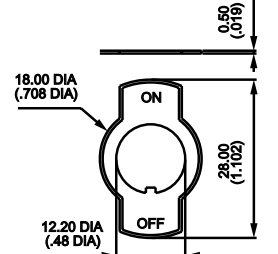
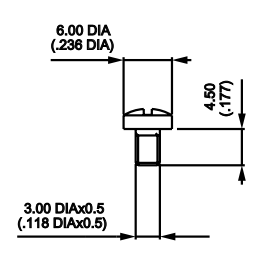
## MISCELLANEOUS HARDWARE (CONT'D.)

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<p><b>DECORATIVE NUT A447</b> Thru thread, chromium plated brass 1/4-40</p> 	<p><b>KNURLED NUT U369</b> 1/4-40 Nickel plated brass</p> 	<p><b>KNURLED NUT U501</b> 1/4-40 Chrome plated brass</p> 	<p><b>KNURLED NUT</b> Brass 1/4-40 Nickel plated <b>U229</b> Matte black <b>U230</b></p> 
<p><b>KNURLED NUT U826</b> Nickel plated brass</p> 	<p><b>KNURLED CAP NUT</b> Brass 1/4-40 Chrome plated <b>U216</b> Matte black <b>U218</b></p> 	<p><b>KNURLED CAP NUT</b> Brass Chrome pl. <b>U461</b> Matte black <b>U502</b></p> 	<p><b>KNURLED CAP NUT</b> Brass Chrome plated <b>U232</b></p> 
<p><b>KNURLED CAP NUT</b> Brass 1/4-40 Chrome pl. <b>U268</b> Matte black <b>U725</b></p> 	<p><b>KNURLED NUT U2311</b> 10mm (.393") Chrome plated brass</p> 	<p><b>KNURLED CAP NUT U2220</b> 10mm (.393") Chrome plated brass</p> 	<p><b>KNURLED NUT</b> Brass 15/32-32 Nickel plated <b>U53</b> Matte black <b>U1634</b></p> 
<p><b>KNURLED CAP NUT U123</b> 15/32-32 Chrome plated brass</p> 	<p><b>KNURLED CAP NUT U124</b> 15/32-32 Chrome plated brass</p> 	<p><b>PANEL DRESS NUT</b> Brass 12mm (.472") Nickel plated <b>U411</b>, Matte black <b>U413</b>, Chrome plated <b>U412</b></p> 	<p><b>KNURLED CAP NUT</b> Brass 12mm (.472") Chrome plated <b>U117</b> Matte black <b>U129</b></p> 
<p><b>KNURLED CAP NUT</b> Brass 12mm (.472") Chrome plated <b>U118</b> Matte black <b>U130</b></p> 	<p><b>INSULATED PANEL DRESS NUT</b> 12mm (.472") ABS or polyamide with glass fiber. blue <b>U521</b>, black <b>U522</b>, green <b>U523</b>, gray <b>U524</b>, yellow <b>U525</b>, red <b>U526</b>, white <b>U527/1</b>, orange <b>U529</b></p> 	<p><b>KNURLED NUT 10-960-5</b> 16mm (.629") Nickel plated brass</p> 	<p><b>KNURLED NUT U1977-5</b> 19mm (.748") Nickel plated brass</p> 

## MISCELLANEOUS HARDWARE (CONT'D.)

<p><b>LOCKWASHER U14</b> .122 I.D. Stainless steel</p> 	<p><b>LOCKWASHER 1/4</b> Stainless steel <b>U215</b></p> 	<p><b>LOCKWASHER A115</b> Nickel plated steel 1/4</p> 	<p><b>LOCKWASHER U843</b> 10mm (.393") Stainless steel</p> 
<p><b>LOCKWASHER A466</b> Nickel plated steel 15/32</p> 	<p><b>LOCKWASHER U13</b> 15/32 Zinc plated</p> 	<p><b>ANTI-ROTATE RING A107</b> Nickel plated brass 1/4</p> 	<p><b>LOCKING RING 1/4</b> Nickel plated <b>U78</b> Matte black <b>U93</b></p> 
<p><b>LOCKING RING</b> Brass Nickel plated <b>U198</b> Matte black <b>U728</b></p> 	<p><b>ANTI-ROTATE RING (LARGE) A158</b> Nickel plated brass 1/4</p> 	<p><b>LOCKING RING U844</b> 10mm (.393") Nickel plated</p> 	<p><b>ANTI-ROTATE RING A482</b> Nickel plated brass 15/32</p> 
<p><b>LOCKING RING</b> 12mm (.472") Nickel plated <b>U121</b> Matte black <b>U12</b></p> 	<p><b>SEALING WASHER U360</b> 1/4-40 For keyway bushing</p> 	<p><b>SEALING WASHER U60</b> 15/32</p> 	<p><b>SEALING WASHER</b> Nylon 12mm (.472") <b>U21</b></p> 
<p><b>GROUND CONNECTOR</b> 12mm (.472") Nickel plated <b>U187</b></p> 	<p><b>SWITCH PLATE I-O U1050</b> .480 I.D.</p> 	<p><b>SWITCH PLATE ON-OFF U19</b> .480 I.D.</p> 	<p><b>CONNECTING SCREW U03</b></p> 

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# MISCELLANEOUS PUSHBUTTON ACCESSORIES & CAPS

Note: additional caps are shown in some switch sections.

## PANEL DRESS NUTS & CAPS FOR PUSHBUTTON SWITCHES

ASSEMBLY NUMBER	FITS SWITCH MODEL	OPTION(S) REQUIRED	INCLUDES	
			DRESS NUT	CAP
A1354P1	810/820	KM	A495P1	B494P1
A1354P2	401/402	S	A495P1	B494P2
A1354P3	PB	PY	A495P1	B494P3
A1355P1	810/820	KM	A495P2	B494P1
A1355P2	302	NONE	A495P2	B494P2
A1355P2	401/402	NONE	A495P2	B494P2
A1355P3	PB	PY or P2Y1	A495P2	B494P3



Order Assembly Number from chart to left. Add cap color no. from color code chart below. Example: A1354P36 indicates assembly to fit a PB switch and is supplied with a red cap.

SWITCH MODEL	OPTION (IF REQ'D)	A1354		A1355	
		A	P.T.	A	P.T.
810/820	KM	.040	.062	.090	.093
PB	PY	.100	.125	.135	.171
PB	P2Y1	-	-	.120	.093
302	-	-	-	.070	.078
401/402	-	-	-	.130	.078
401/402	S	.130	.062	-	-



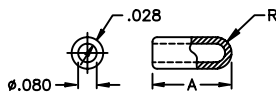
'A' dimension is determined by panel thickness indicated in table and allows for (1) back-up Nut A112 and (1) Lockwasher A115. Order these separately to provide for secure, vibration resistant mounting.

PART NO.	A DIA.	B DIA.
A495P1	.385	.323
A495P2	.413	.245

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### COLOR CAP Vinyl plastisol



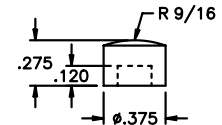
PART NO.	DIM. A	FITS ACTUATOR
A118	5/16	K
A391	3/16	L2
A392	3/4	L

### PUSHBUTTON CAPS (ALL)

Material - Nylon

Caps press fit adequately, however they may be pulled off. If permanent retention is required, cement with Loctite 405 or equivalent, insuring no cement enters switch.

### PUSHBUTTON CAP A212



FITS PB SERIES

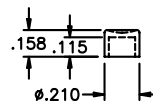
### COLOR CAPS B366 & B497



**B366** fits 300 & 400 Series with S option only, and all PB Series.

**B497** fits 800 Series with options KM, KS, KM1, K1M1 & K2M1.

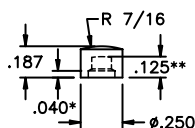
### PUSHBUTTON CAPS A180 & A496



**A180** fits all PB Series.

**A496** fits 800 Series with options KM, KS, KM1, K1M1, K2M, K2S & K2M1.

### PUSHBUTTON CAP A235



\* - fits all PB, 300 & 400 Series.

\*\* - fits 800 Series with options KM, KS, KM1 & K2M1.

### PUSHBUTTON CAP A420



\* - Fits all 300 Series except 301 & 305. Fits 301 & 305 with S option. Fits all 400 & PB Series.

\*\* - Fits 800 Series with options KM, KS, KM1 & K2M1.

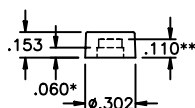
### STANDARD COLOR CODE

For nylon caps, actuators, bezels & bezel inserts. To specify, add selected color code to part number. Example: A2122 is a black A212 Cap. To specify for actuators, bezels and bezel inserts, see 'Order Format' section following specific series information in this catalog.

Code	Color	Code	Color
1	blue	2	black
3	green	4	gray
5	yellow	6	red
7	ivory	8	white
9	orange		

# MISCELLANEOUS PUSHBUTTON ACCESSORIES & CAPS (CONT'D.)

## COLOR CAP B494



\*\* - P1 fits all 800 Series except K1M & K1S.

\* - P2 fits all 300 & 400 Series.

\* - P3 fits all PB Series.

## PUSHBUTTON CAP A631



\* - Fits all 300 Series except 301 & 305. Fits 301 & 305 with S option. Fits all 400 & PB Series.

\*\* - Fits 800 Series with options KM, KS, KM1 & K2M1.

## PUSHBUTTON CAP A632



Fits all PB Series.

## CUSTOM MARKING

Permanent ink marking is available for switch caps, bezels and rocker actuators. Consult factory with your special requirement. Representative samples available.

## SWITCH GUARDS

Materials: 5056-H18 aluminum with clear or black anodize, or free machining brass with bright chrome plate. Dimensions in inches and (millimeters). Tolerances: A & D,  $\pm .015$ " B & C,  $\pm .005$ "

MODEL	TH'D.	COLOR	FINISH	A	B	C	D
MG11A	10-48	NATURAL AL.	PLAIN				
MG11B	10-48	BLACK AL.	PLAIN				
MG12A	1/4-40	NATURAL AL.	PLAIN				
MG12B	1/4-40	BLACK AL.	PLAIN	.530 (13.5)	.413 (10.5)	.315 (8.0)	.236 (6.0)
MG12C	1/4-40	CHROMED BR.	PLAIN				
MG12KA	1/4-40	NATURAL AL.	KNURLED				
MG12KB	1/4-40	BLACK AL.	KNURLED				
MG12KC	1/4-40	CHROMED BR.	KNURLED				
MG13A	1/4-40	NATURAL AL.	PLAIN				
MG13B	1/4-40	BLACK AL.	PLAIN	.730 (18.5)	.610 (15.5)	.315 (8.0)	.236 (6.0)
MG13C	1/4-40	CHROMED BR.	PLAIN				



## STANDARD COLOR CODE

For nylon caps, actuators, bezels & bezel inserts. To specify, add selected color code to part number. Example: A2122 is a black A212 Cap. To specify for actuators, bezels and bezel inserts, see 'Order Format' section following specific series information in this catalog.

Code	Color	Code	Color
1	blue	2	black
3	green	4	gray
5	yellow	6	red
7	ivory	8	white
9	orange		

## CAPS FOR PRINTED CIRCUIT BOARD PROCESSING

Available on models with plain bushing. Supplied mounted on switches or separately. Provides additional protection during pcb processing.

Outline	Series	Material	Part No.
	S	Vinyl	U3012
	TP	Vinyl	U3502

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# SECURITY GUARDS for switch series 12000, 3500, 600H and 6000

## FEATURES

- Security guards prevent inadvertent switch operation.
- When guard cap is raised, switch actuator operates freely.
- When guard cap is depressed, switch actuator is locked in set position.
- Designed for use on switches with 11.9mm (.468") or 12mm (.472") dia. threaded bushings and actuator length 17.5mm (.688") outside bushing .
- Adjust guard for correct switch operation with 2 nuts.



## MATERIALS

Support plate: Matte black steel  
 Cap: Thermoset plastic

### Series 20 - for 2 position switches

Actuator returned then locked in down position (OFF)

MODEL NO.	COLOR
22	Gray
23	White
24	Orange
25	Black
26	Red
27	Green
28	Yellow
25/28	Black/yellow striped



### Series 30 - for 3 position switches

Actuator returned then locked in upper position

MODEL NO.	COLOR
32	Gray
33	White
34	Orange
35	Black
36	Red
37	Green
38	Yellow
39	Yellow
35/38	Black/yellow striped



### Series 40 - for 2 position switches

Actuator returned then locked in upper position

MODEL NO.	COLOR
42	Gray
43	White
44	Orange
45	Black
46	Red
47	Green
48	Yellow
49	Blue
45/48	Black/yellow striped



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# SECURITY GUARDS for switch series 12000, 3500, 600H and 6000

## Series 50 - for 2 position switches

Actuator returned then locked in down position (OFF)

MODEL NO.	COLOR
52	Gray
53	White
54	Orange
55	Black
56	Red
57	Green
58	Yellow
59	Blue
55/58	Black/yellow striped



## Series 60 - for 3 position switches

Actuator returned then locked in upper position

MODEL NO.	COLOR
62	Gray
63	White
64	Orange
65	Black
66	Red
67	Green
68	Yellow
69	Blue
65/68	Black/yellow striped



## Series 70 - for 2 position switches

Actuator returned then locked in upper position

MODEL NO.	COLOR
72	Gray
73	White
74	Orange
75	Black
76	Red
77	Green
78	Yellow
79	Yellow
75/78	Black/yellow striped



## Series 20PN - for 2 position switches

Actuator returned then locked in down position (OFF)  
Option P - holes for wiring seal standard on this model

MODEL NO.	COLOR
22PN	Gray
23PN	White
24PN	Orange
25PN	Black
26PN	Red
27PN	Green
28PN	Yellow
29PN	Blue



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# SECURITY GUARDS for switch series 12000, 3500, 600H and 6000

## PANEL CUT-OUTS & OPTIONS



**P** Holes for wiring seal

Cap engraving available - consult factory.

Other locking configurations such as locked center position available - consult factory.

## SECURITY GUARDS for switch series 3500, 600H and 6000

### Series 90

Actuator locked in center position



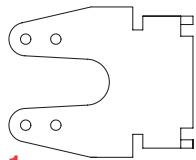
### Bushing shapes - for standard products



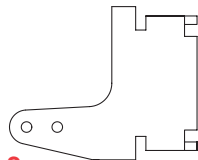
### - for other products



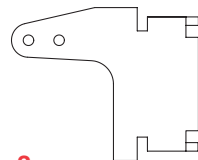
### Security guard cap shape



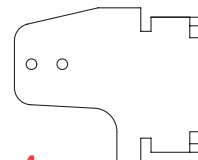
**1**  
Locks in center position



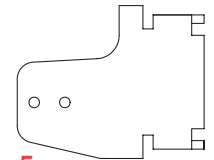
**2**  
Prevents down position



**3**  
Prevents up position



**4**  
Locks in down position



**5**  
Locks in up position

### Security guard cap colors

OPTION	COLOR
1	Blue
2	Black
3	Green
4	Gray
5	Yellow
6	Red
7/1	White
9	Orange
0	Striped (see color of stripes)

### Color of stripes

OPTION	STRIPE 1	STRIPE 2
A	Red	Black
B	Yellow	Black
C	Red	White
D	White	Black



### How to order

Series Bushing shape Cap shape Cap color Color of stripes



Fill in boxes by making selections from each category indicated.

Example of completely specified model number:

**90A10B**

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# SEALING BOOTS FOR SWITCHES

## FEATURES

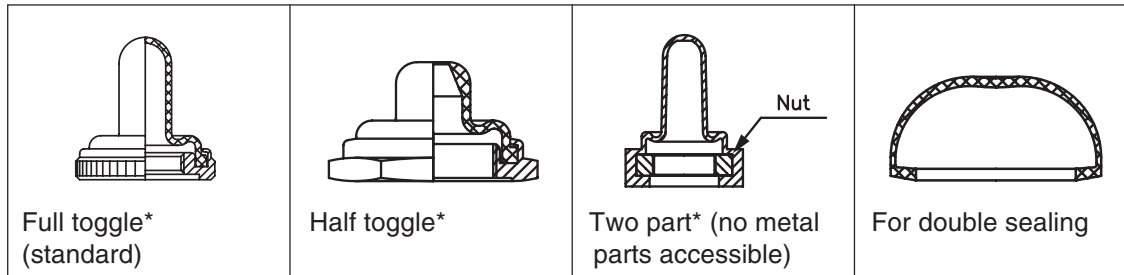
- Prevents dust, sand and water from entering switches.
- Prevents ice from blocking actuator movement on toggle switches.
- Compatible with internally sealed toggle and pushbutton actuators.
- Available in a wide range of colors .
- Each boot is supplied with a sealing ring or washer.

## MATERIALS AND SPECIFICATIONS

**Boot material:** Neoprene or silicone (see comparative advantages below)  
**Nut material:** Nickel plated or matte black finished brass  
**Operating temperature:** Neoprene; -20°C to 50°C    -40°C to 85°C

Comparative Advantages	Temperature Range		Elasticity	Mechanical Resistance
	Low	High		
Silicone	Excellent	Excellent	Excellent	Poor
Neoprene	Poor	Good	Poor	Excellent

## TYPES OF BOOTS - CROSS SECTIONS \* Color options available



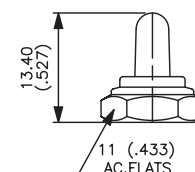
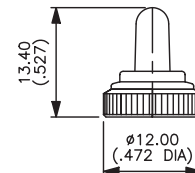
## EXAMPLES OF MOUNTING



## For toggle bushing 6 x 0.75 (.236 x 0.75) - 5500 series



NUT	FULL TOGGLE SILICONE BOOTS			
	Black	Red	Green	White
<b>Knurled</b> Nickel plated	U1341	U1341-6	U1341-3	U1341-7
<b>Knurled</b> Matte black	U1343	U1343-6	U1343-3	U1343-7
<b>Hex</b> Nickel plated	U1302	U1302-6	U1302-3	U1302-7
<b>Hex</b> Matte black	U1304	U1304-6	U1304-3	U1304-7



# SEALING BOOTS FOR SWITCHES

## For toggle bushing 6,35-40NS (1/4-40NS) - 5000 and 11000 series



NUT	FULL TOGGLE SILICONE BOOTS			
	Black	Red	Green	White
<b>Knurled</b> Nickel plated	U1331	U1331-6	U1331-3	U1331-7
<b>Knurled</b> Matte black	U1333	U1333-6	U1333-3	U1333-7
<b>Hex</b> Nickel plated	U1229	U1229-6	U1229-3	U1229-7
<b>Hex</b> Matte black	U1231	U1231-6	U1231-3	U1231-7

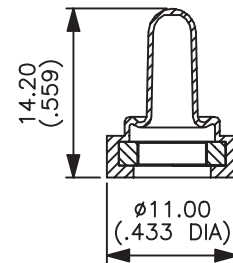


## For toggle bushing 6,35-40NS (1/4-40NS) - 5000 and 11000 series



NUT	SILICONE BOOTS (supplied as 2 separate parts)			
	Black	Red	Green	White
	U5149	U5149-6	U5149-3	U5149-7

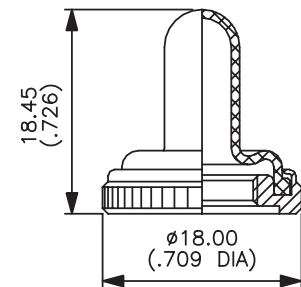
When boot is mounted onto panel, metal parts of switch are completely covered by insulation.



## For toggle bushing 10 x 0.75 (.393 x 0.75) - 10600 series



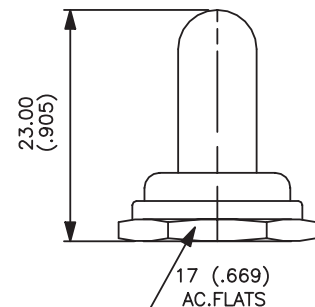
KNURLED NUT	FULL TOGGLE SILICONE BOOTS			
	Black	Red	Green	White
Nickel plated	U1612	U1612-6	U1612-3	U1612-7
Matte black	U1614	U1614-6	U1614-3	U1614-7



## For toggle bushing 11,9-32 (15/32-32NS) - 12000, 3500 and 6000 series



HEX NUT	FULL TOGGLE SILICONE BOOTS			
	Black	Red	Green	White
Nickel plated	U1031	U1031-6	U1031-3	U1031-7
Matte black	U1024	U1024-6	U1024-3	U1024-7



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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# SEALING BOOTS FOR SWITCHES

For toggle bushing 11,9-32NS (15/32-32NS) - 12000, 3500 and 6000 series



HEX NUT	HALF TOGGLE SILICONE BOOTS			
	Black	Red	Green	White
Nickel plated	U1600	U1600-6	U1600-3	U1600-7
Matte black	U1602	U1602-6	U1602-3	U1602-7



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For toggle bushing 12 X 0.75 SI (.472 X 0.75 IS) - 4450, 4650 and 1600 series



HEX NUT	FULL TOGGLE BLACK NEOPRENE BOOTS
Nickel plated	U09
Matte black	U223



For toggle bushing 12 x 0.75 SI (.472 x 0.75 IS) - 400, 500, 600H, 6-600H, 600SH, 660, 1000, 1500 and 3600 series



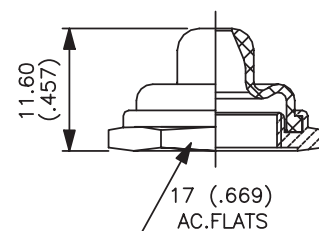
HEX NUT	FULL TOGGLE SILICONE BOOTS			
	Black	Red	Green	White
Nickel plated	U1565	U1565-6	U1565-3	U1565-7
Matte black	U1567	U1567-6	U1567-3	U1567-7
FULL TOGGLE BLACK NEOPRENE BOOTS				
Nickel plated	U851			
Matte black	U853			



For toggle bushing 12 x 0.75 SI (.472 x 0.75 IS) - 400, 500, 600H, 6-600H, 660, 1000 and 3600 series



HEX NUT	HALF TOGGLE SILICONE BOOTS			
	Black	Red	Green	White
Nickel plated	U1151	U1151-6	U1151-3	U1151-7
Matte black	U1153	U1153-6	U1153-3	U1153-7
HALF TOGGLE BLACK NEOPRENE BOOTS				
Nickel plated	U598			
Matte black	U600			



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

# SEALING BOOTS FOR SWITCHES

For pushbutton bushing 4 x 0.70 (.157 x 0.70) - 9500 series



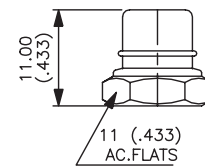
HEX NUT	PUSHBUTTON SILICONE BOOTS			
	Black	Red	Green	White
Nickel plated	U1829	U1829-6	U1829-3	U1829-7
Matte black	U1831	U1831-6	U1831-3	U1831-7



For pushbutton bushing 6,35-40NS (1/4-40NS) - 18000, 9000 and 13000 series



NUT	PUSHBUTTON SILICONE BOOTS			
	Black	Red	Green	White
<b>Knurled</b> Nickel plated	U1401	U1401-6	U1401-3	U1401-7
<b>Knurled</b> Matte black	U1403	U1403-6	U1403-3	U1403-7
<b>Hex</b> Nickel plated	U1318	U1318-6	U1318-3	U1318-7
<b>Hex</b> Matte black	U1320	U1320-6	U1320-3	U1320-7



For pushbutton bushing 10 x 0.75 (.393 x 0.75) - 10400 series



KNURLED NUT	PUSHBUTTON SILICONE BOOTS			
	Black	Red	Green	White
Nickel plated	U1624	U1624-6	U1624-3	U1624-7
Matte black	U1626	U1626-6	U1626-3	U1626-7



For pushbutton bushing 11,9-32NS (15/32-32NS) - 13000X778 and 13000X768 series



HEX NUT	PUSHBUTTON SILICONE BOOTS			
	Black	Red	Green	White
Nickel plated	U589	U589-6	U589-3	U589-7
Matte black	U590	U590-6	U590-3	U590-7



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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# SEALING BOOTS FOR SWITCHES

For pushbutton bushing 12 x 0.75 SI (.472 x 0.75) - 1200, 4700 and 4800 series



HEX NUT	PUSHBUTTON SILICONE BOOTS			
	Black	Red	Green	White
Nickel plated	U1654	U1654-6	U1654-3	U1654-7
Matte black	U1656	U1656-6	U1656-3	U1656-7
	PUSHBUTTON BLACK NEOPRENE BOOTS			
Nickel plated	U31			
Matte black	U225			
Chrome plated	U224			



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For double sealing IP series

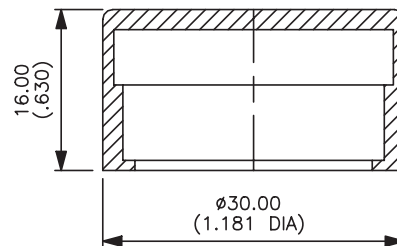


**TRANSPARENT SILICONE BOOT**  
U5125



For external sealing on A02 series

**SILICONE BOOT**  
A02WPC



For 2600 series rocker switches



**TRANSPARENT SILICONE BOOT**  
U2150



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

# VL SERIES LED INDICATORS

## FEATURES

- Indicators with red, yellow or green built-in LED.
- Flatted bushing for anti-rotation.
- 2 bushing diameters: 6mm (.236") and 8mm (.314").
- Sealed and unsealed models.
- Bright chrome or matte black plated finishes.

## SPECIFICATIONS

Insulation resistance:	1000 megohms min.
Dielectric strength:	250 Vrms, 50 Hz min.
Electric life at high temperature:	72 hours at 85°C
Torque:	1.25 Nm (.922 ft.lb.) max.applied to nut
Climatic category:	40/085/21
Protection level (sealed models):	IP67 per IEC 529
In accordance with NFC 93680 standard	

## LED SPECIFICATIONS

(T ambient = 25°C)

Forward voltage:	2VDC ( $\leq 2.6V$ )
Nominal current:	10mA
Max. surge current:	0.5 A ( $t_p < 10\mu s$ )
Max. reversed voltage:	25V
Max. forward current:	40mA
Max. power dissipation:	100mW

## MATERIALS

Bushing and collar:	Brass, bright or matte black chrome plated
Lens:	Polycarbonate
Hardware supplied:	1 nickel plated brass hex nut; 9mm (.354") across flats for 6mm (.236") dia. indicator or 10mm (.393") across flats for 8mm (.314") dia. indicator.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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### 6mm (.236") diameter - unsealed



LED COLOR	BRIGHT FINISH	MATTE BLACK FINISH
Red	VL1000P600	VL100GP600
Yellow	VL1000P500	VL100GP500
Green	VL1000P300	VL100GP300

Note: Bright finish is standard.

Arrow indicates bushing flat. Option: bushing without flat and lockwasher- on request



### 8mm (.314") diameter - unsealed



LED COLOR	BRIGHT FINISH	MATTE BLACK FINISH
Red	VL3000P600	VL300GP600
Yellow	VL3000P500	VL300GP500
Green	VL3000P300	VL300GP300

Note: Bright finish is standard.

Arrow indicates bushing flat. Option: bushing without flat and lockwasher- on request



# VL SERIES LED INDICATORS

## 6mm (.236") diameter - sealed



LED COLOR	BRIGHT FINISH	MATTE BLACK FINISH
Red	VL1CK0P600	VL1CKGP600
Yellow	VL1CK0P500	VL1CKGP500
Green	VL1CK0P300	VL1CKGP300

Notes: Bright finish is standard. Lens cap is the same color as the LED.

Arrow indicates bushing flat. Option: bushing without flat and lockwasher- on request



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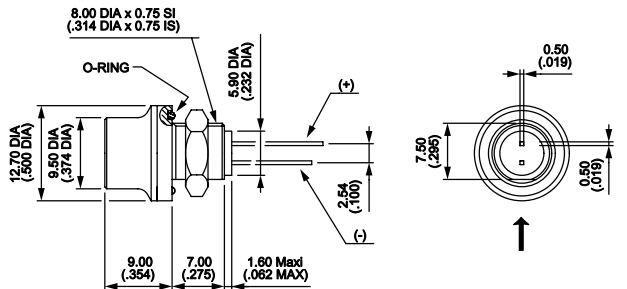
## 8mm (.314") diameter - sealed



LED COLOR	BRIGHT FINISH	MATTE BLACK FINISH
Red	VL3CK0P600	VL3CKGP600
Yellow	VL3CK0P500	VL3CKGP500
Green	VL3CK0P300	VL3CKGP300

Note: Bright finish is standard. Lens cap is the same color as the LED.

Arrow indicates bushing flat. Option: bushing without flat and lockwasher- on request

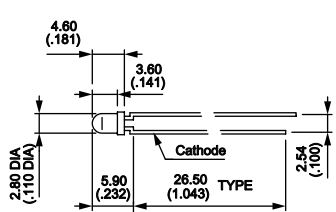


## LED'S

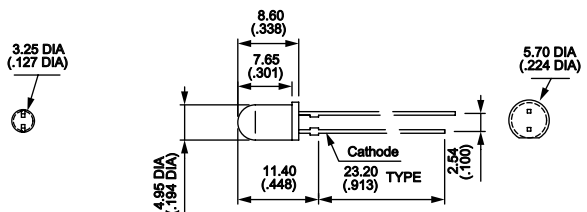
Observe polarity of DC supply to LED's. Longer lead is anode (+). Shorter lead is cathode (-) on flat side of bushing (see drawing).

LED's are not removable.

LED's per customer specifications that meet drawings shown can be supplied - consult factory.



For 6mm (.236") indicators

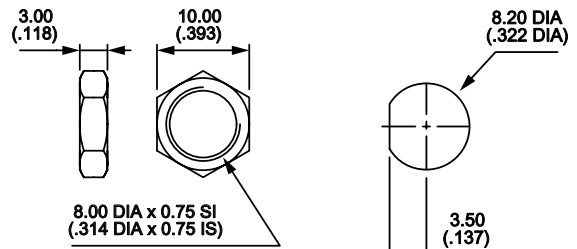


For 8mm (.314") indicators

## STANDARD HARDWARE AND PANEL CUT-OUTS



For 6mm (.236") indicators



For 8mm (.314") indicators

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Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



## JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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