

Technical data

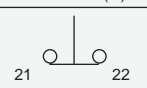
UL

Pilot Devices
Type CBG 30mm

General UL technical data

Contact blocks		
Rated insulation voltage, UL		600V
Rated thermal current		10A / 600VAC 2.5A / 600VDC
Minimum rating		24VDC, 5mA
Mechanical life (millions of operations)		10
Temperature specifications		
Ambient temperature		-25°C to +40°C
Terminal connections		
Contact blocks	Recommended torque	Wire size
Minimum	7 lb. in.	20 AWG
Maximum		2 x 12 AWG
Lamp assemblies	7 lb. in.	20 AWG
Minimum		2 x 14 AWG
Maximum		
Plus-minus pozidrive size 2 screws with DIN washer		

Contact block terminal marking

Type	1 N.O.	1 N.C.
Catalog number	CBK-CB10(G)	CBK-CB01(G)
Schematic diagram		

Approvals

CBK, 22mm

NEMA & UL Listed for Types 1, 3R, 4, 4X, 12 & 13 applications

CBG, 30mm

NEMA & UL Listed for Types 1, 3R, 4, 4X, 12 & 13 applications

Contacts—NEMA A600, 10A thermal

Voltage	Inductive amps	Maximum make	Maximum break	Max VA
120 VAC	6A	60A	6A	7200VA
240 VAC	3A	30A	3A	
480 VAC	1.5A	15A	1.5A	
600 VAC	1.2A	12A	1.2A	

Contacts—NEMA Q600, 5A thermal

Voltage	Maximum make or break current	Maximum make or break volt-amps at 600V or less
125 VDC	.55A	69VA
250 VDC	.27A	
301 – 600 VDC	.10A	

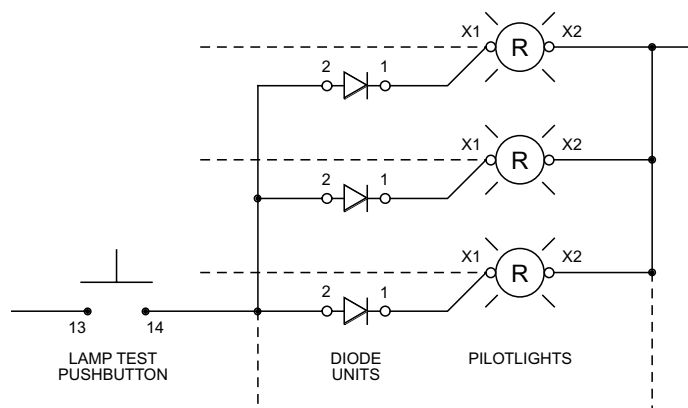
Low energy contacts — gold plated

Range	Rating
Maximum	NEMA A600 & NEMA Q600
Minimum	5VAC/DC, 2mA; 12VAC/DC, 1mA; 24VAC/DC, 5mA

8

Lamp bulbs connected in common

If several lamps are to be connected to a common lamp-test pushbutton, a separate diode must be connected in series with each respective lamp. A special block with a built-in diode (CBK-CBD) is available for this purpose and can be securely snapped onto the lamp block or placed at the side.



WHEN SEVERAL PILOT LIGHTS ARE CONNECTED TO A COMMON LAMP TEST BUTTON, CONNECT A DIODE TO EACH PUSHBUTTON AS SHOWN. A SPECIAL DIODE BLOCK IS AVAILABLE FOR THIS PURPOSE.

Mechanical life

Operators

Pushbuttons with flush or extended button, momentary mushroom pushbutton	2 million operations
Selector switch, maintained mushroom push-button, key operated selector switch and double pushbutton	0.5 million operations
Toggle switch	1 million operations
Lockable pushbuttons	0.3 million operations

Temperature

Ambient temperature during operation	-25 to +70°C
Exception: All pilot devices with 2 W continuously lit filament bulb	-25 to +40°C
Storage temperature	-30 to +85°C

Terminals

Plus-minus pozidrive size 2 screw with DIN-washer. Connectable area max. 2 x 2.5mm ²	min. 1 x 0.5mm ²
Recommended torque	0.9 Nm

8 Contact blocks

Mechanical endurance Self cleaning contacts of silver, N.C. contact has forced breaking. At voltages and currents below 24 V and 5.6 mA two contact blocks in parallel are recommended. As an alternative, gold plated contacts are recommended.	10 million operations
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Ratings as per UL/CSA, NEMA A600, Q600	
Rated insulation voltage	600V
Rated thermal current	10A
Rated operational current at:	120V 6A
240V	3A
480V	1.5A
600V	1.2A

Ratings as per UL/CSA, NEMA Q600	
Rated thermal current	2.5A
Rated operational current, I _e	
125V	.55A
250V	.27A
301 - 600V	.10A
Max make or break V/A 300V or less	69

Ratings as per IEC 947-5-1	
Rated insulation voltage, U _i	690V
Rated thermal current, I _{th}	10A
Rated operational current, I _e	
Utilization category AC 15, at	120V 8A
230V	6A
400V	4A
690V	2A
Rated operational current, I _e	
Utilization category DC 13, at	24V 5A
125V	1.1A
250V	0.55A

Contact resistance	.025 ohms
Max. number of contact blocks per operator ^①	
Pushbutton, toggle switch	6
Mushroom pushbutton	5
Double pushbutton, selector switch, key operated selector switch and emergency stop pushbuttons	4
Short circuit protection	
Max. fuse at 1 kA	16 A ordinary 10 A delayed

Lamp block

Ratings as per IEC 947-5-1

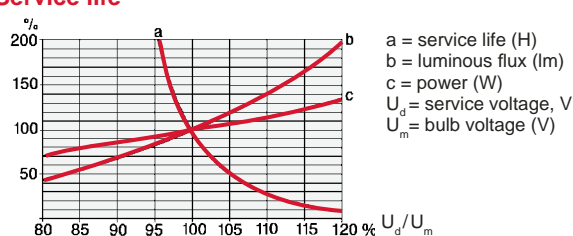
Rated insulation voltage	230V
Base	BA 9s
Max. permissible power	2W

Service life of filament bulb

Relative service life, luminous flux and power consumption at different service voltages.

It is generally true to say that bulbs for lower voltages give more light and have better vibration-withstand capability than bulbs for higher voltages.

Service life



Lamp comparison

Bulb type	Approx. service life (hours)	Shock and vibration immunity	High operating temperature	Low power consumption	Brightness
Filament	5000–10,000	+	+	+	+++
Neon LED	20,000–50,000	++	+++	+++	+
Very good	+++				
Good	++				
Less good	+				

Transformer block

Suitable for bulb 6 or 24V and 1.2W and LED 24V.

Rated power	1.5 W
Rated voltage	Ratio, see page 2.21
Rated insulation voltage acc. to IEC 70°C (ΔT)	Class E

Bulbs

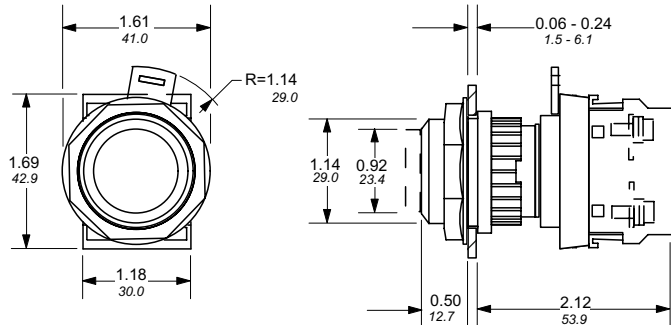
Voltage	Rated current, mA	Rated output, W
Filament type		
6VAC/DC	200	1.2
12VAC/DC	100	1.2
24VAC/DC	50	1.2
30VAC/DC	40	1.2
48VAC/DC	42	2
60VAC/DC	20	1.2
130VAC/DC	15	2
Neon type		
110VAC/DC	0.8	0.10
220VAC	1.9	0.40
220VDC	0.9	0.20
LED type		
24VAC/DC	20	.48
120VAC	5	.6
240VAC	4	.92
Flashing LED type		
24VDC	25	.60

① Contact blocks can be stacked maximum two deep.

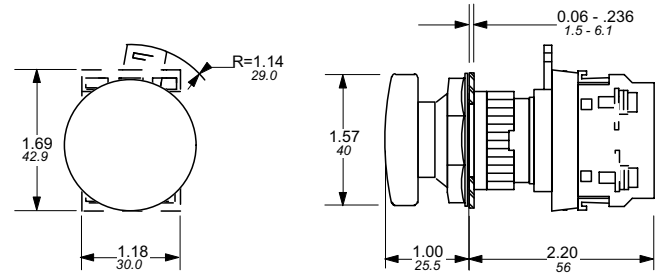
Approximate dimensions

00.00 Inches
00.00 [Millimeters]

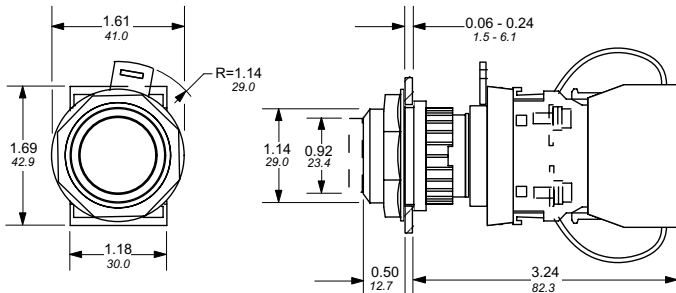
Pushbutton and illuminated pushbutton



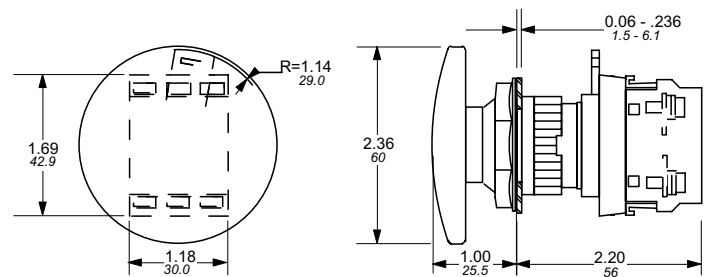
Mushroom pushbutton — 40mm (Momentary)



Illuminated pushbutton with transformer

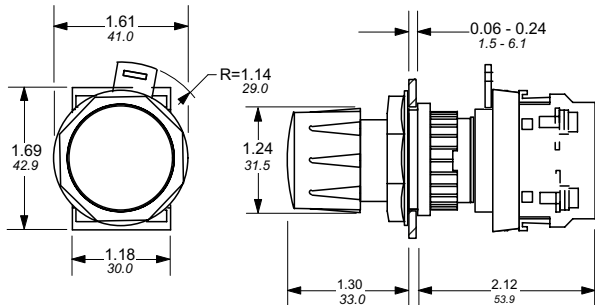


Mushroom pushbutton — 60mm

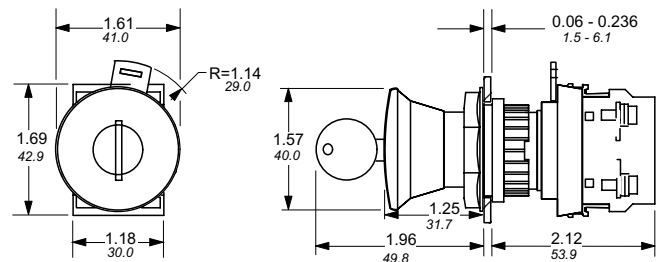


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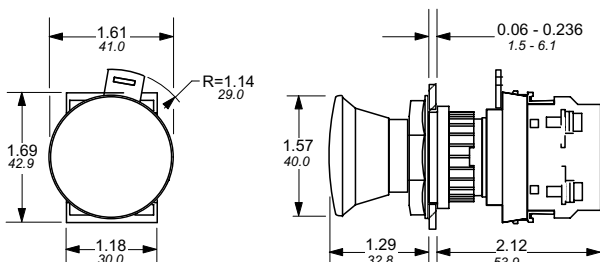
Mushroom pushbutton — 30mm



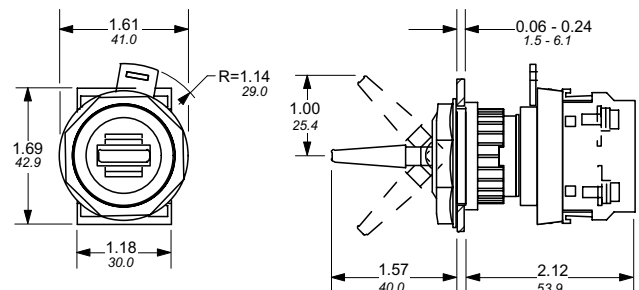
Mushroom pushbutton — 40mm lockable



Mushroom pushbutton — 40mm (Push-pull & twist release)



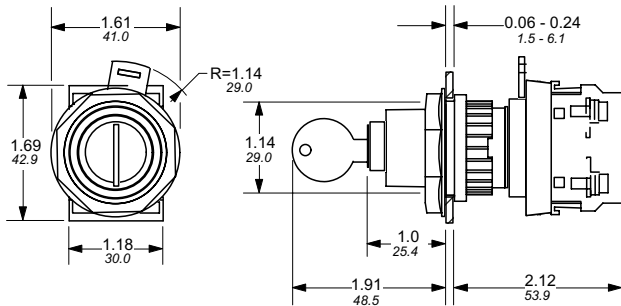
Toggle switch



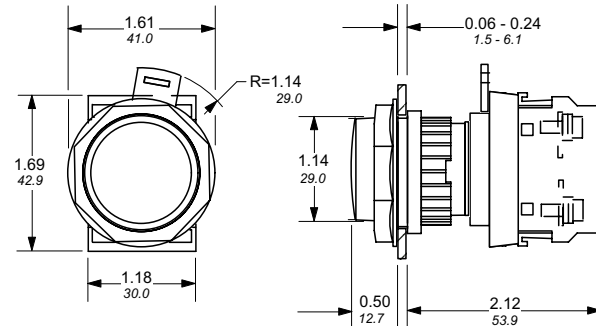
Approximate dimensions

00.00 Inches
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Key operated pushbutton

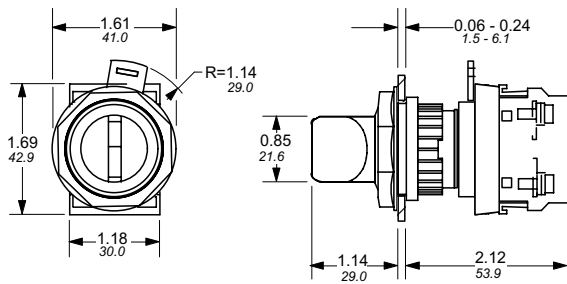


Pilot light

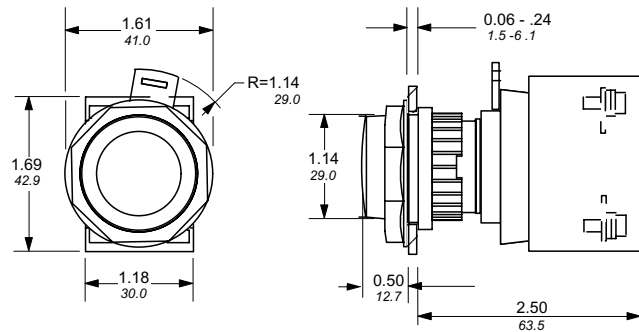


Selector switch — knob handle

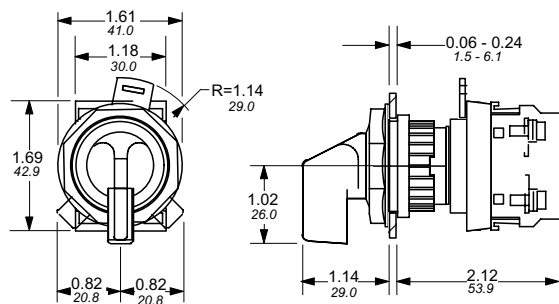
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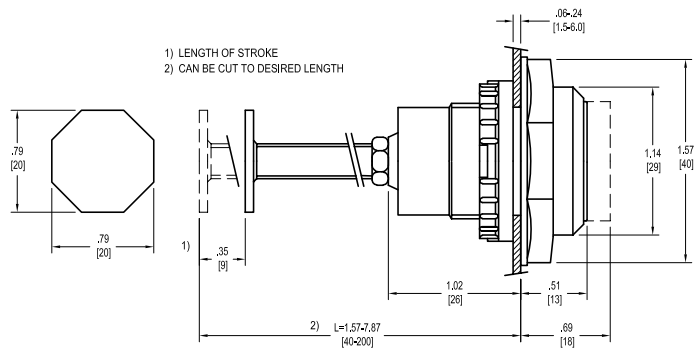
Pilot light with transformer



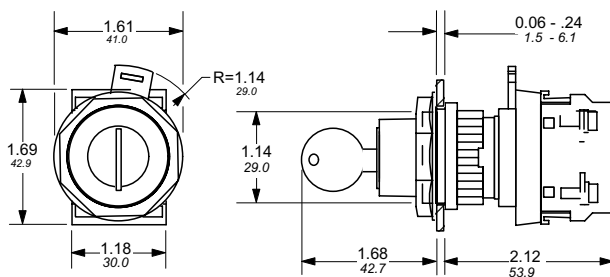
Selector switch — lever handle



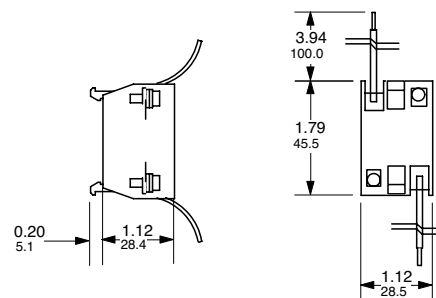
Reset actuator



Selector switch — key operated



Transformer block

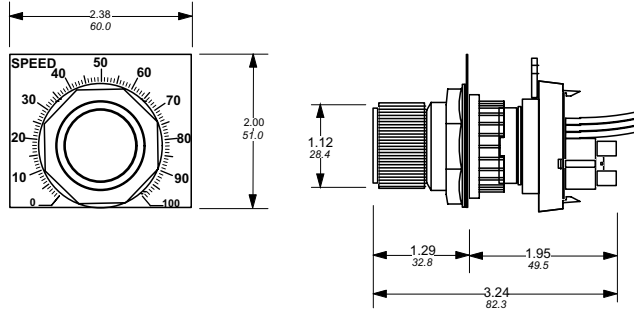


Approximate dimensions Drilling plans

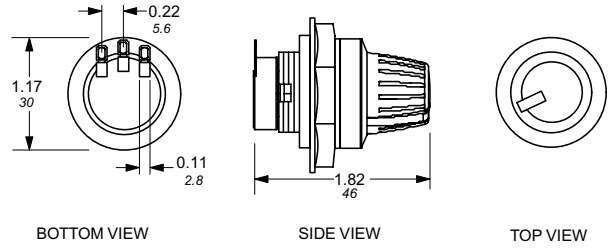
Pilot Devices
Type CBG 30mm

00.00 Inches
00.00 [Millimeters]

Potentiometer – NEMA 1 with terminal block



Potentiometer – NEMA 4X without terminal block



Drilling plans

