

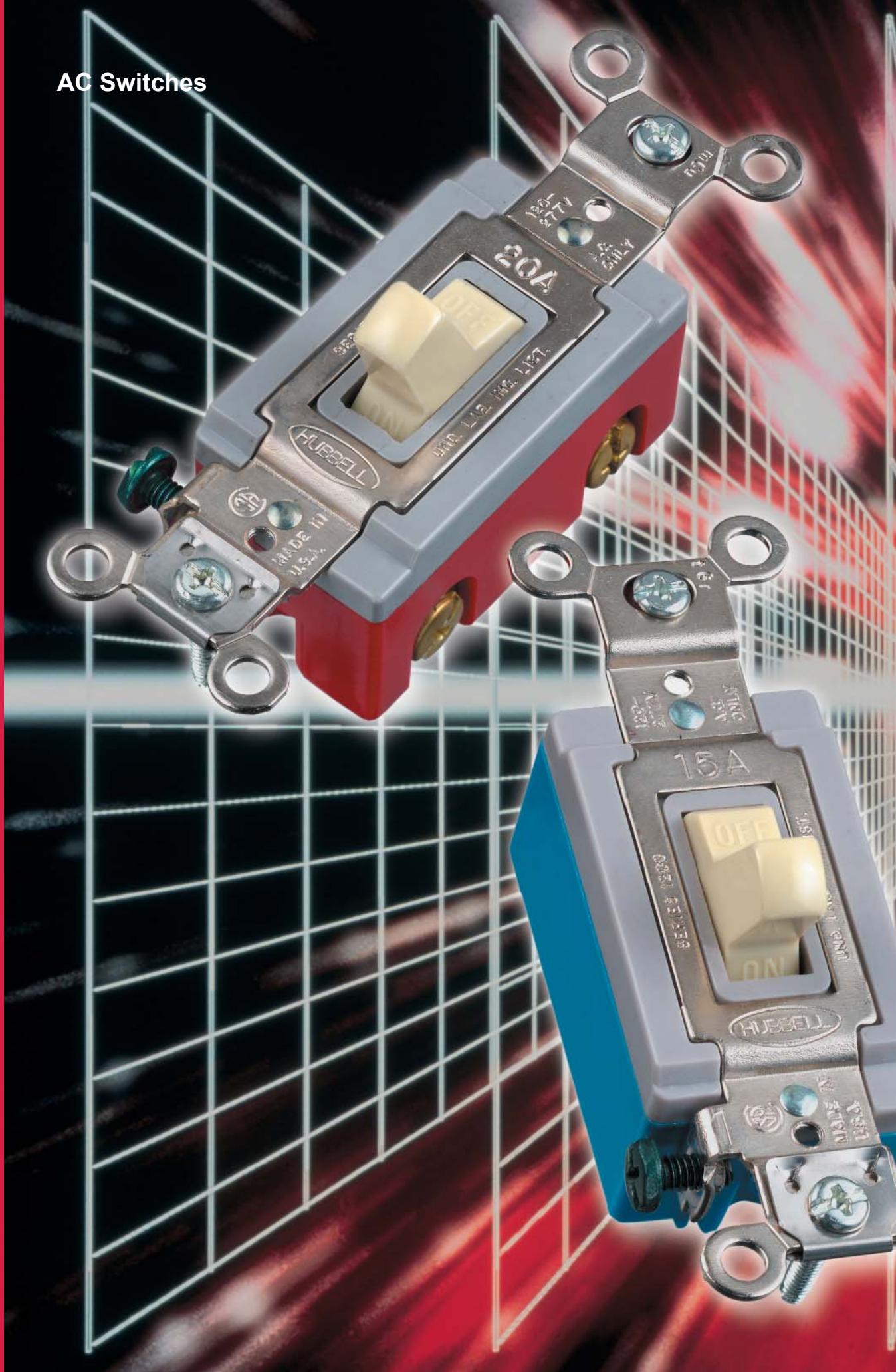
# Section C

## Switches

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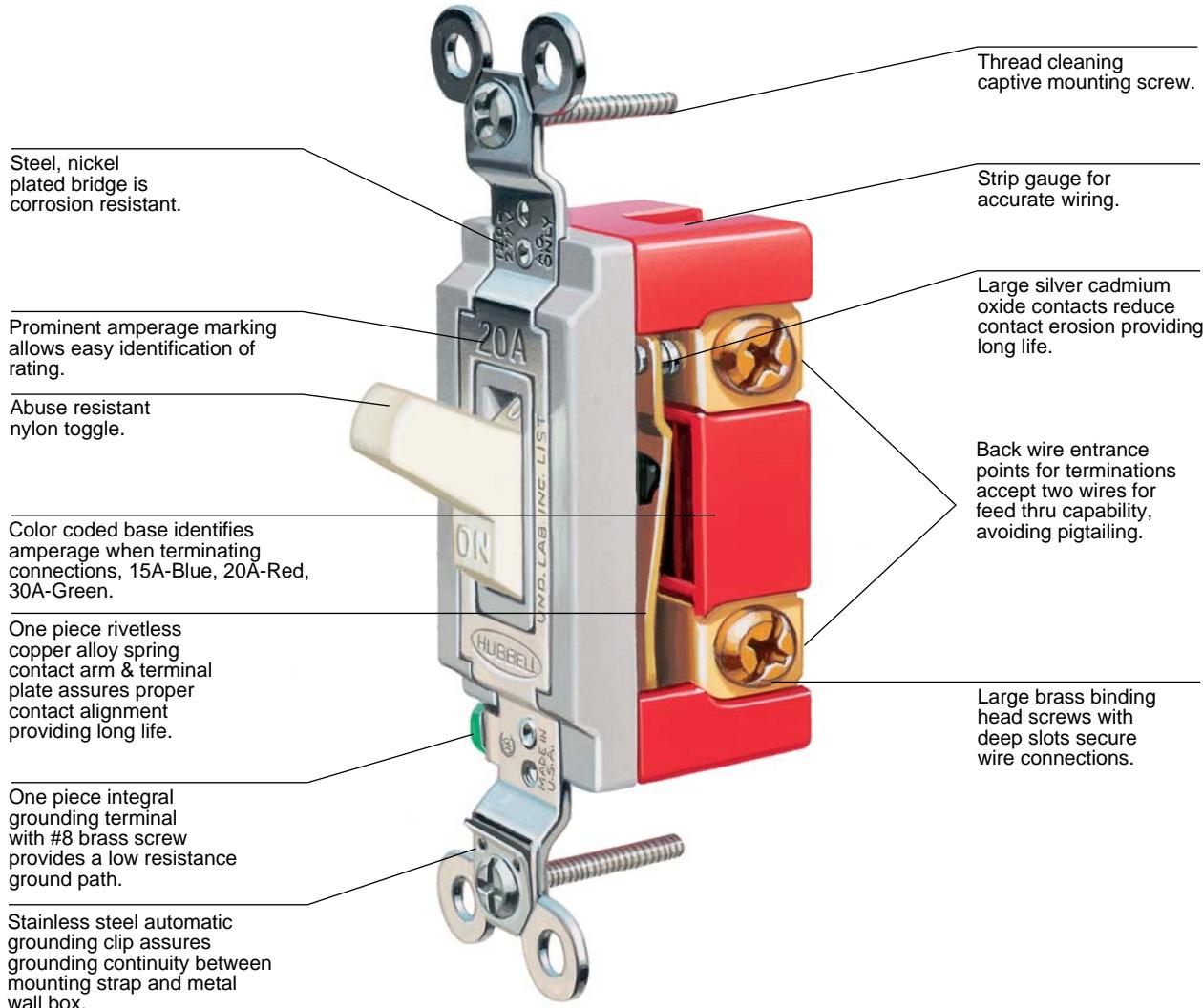
## AC Switches



# AC Toggle Switches

## Industrial/Institutional – Heavy Duty

Features and Benefits



One piece rivetless copper alloy spring contact arm and terminal plate assures proper contact alignment reducing heat rise. Large silver cadmium oxide contacts reduce contact erosion and prevent welding, providing long life.



Thermoplastic elastomer rocker assures precise alignment of carbon steel coil compression spring. Permanently lubricated assembly provides long life and trouble free operation.



Heavy duty nylon toggle resists abuse and chemical attack making it suitable for use in the toughest environments.

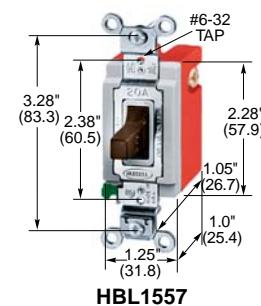
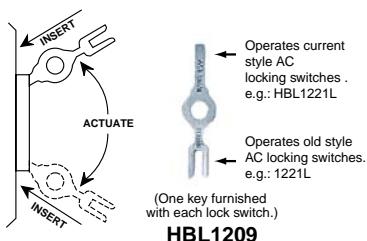
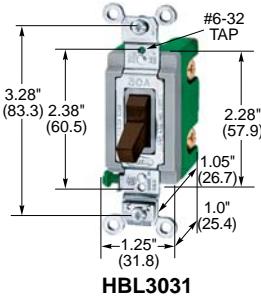
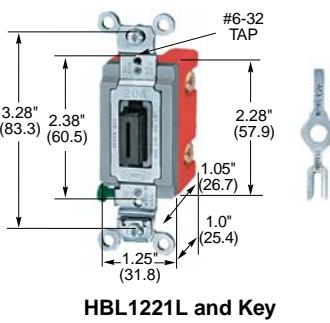
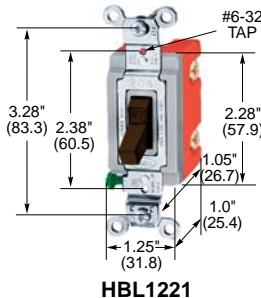


One piece integral grounding terminal with #8 brass screw allows compliance to NEC®. Stainless steel automatic grounding clip assures grounding continuity between mounting strap and metal wall box. Steel nickel plated mounting strap provides a corrosion resistant finish.

## AC Switches

## 15, 20 and 30 Ampere, 120-277 Volts AC

Industrial – Institutional, Heavy Duty Specification Grade  
Toggle and Lock Type AC Switches with Ground Screw



## Specification Grade AC Switches, Back and Side Wired

## 15A, 120-277V AC

Description	Catalog Numbers			
	Single Pole	Double Pole	Three Way	Four Way
Brown nylon toggle.	HBL1201	HBL1202	HBL1203	HBL1204
Ivory nylon toggle.	HBL1201I	HBL1202I	HBL1203I	HBL1204I
Gray nylon toggle.	HBL1201GY	–	HBL1203GY	HBL1204GY
White nylon toggle.	HBL1201W	–	–	–
Red nylon toggle.	HBL1201R	–	–	–
Lock type.	HBL1201L**	HBL1202L**	HBL1203L**	HBL1204L**
Key for lock switches.	HBL1209*			

## 20A, 120-277V AC

Description	Catalog Numbers			
	Single Pole	Double Pole	Three Way	Four Way
Brown nylon toggle.	HBL1221	HBL1222	HBL1223	HBL1224
Ivory nylon toggle.	HBL1221I	HBL1222I	HBL1223I	HBL1224I
Gray nylon toggle.	HBL1221GY	HBL1222GY	HBL1223GY	HBL1224GY
White nylon toggle.	HBL1221W	HBL1222W	HBL1223W	HBL1224W
Red nylon toggle.	HBL1221R	HBL1222R	HBL1223R	HBL1224R
Black nylon toggle.	HBL1221BK	HBL1222BK	HBL1223BK	HBL1224BK
Lock type.	HBL1221L**	HBL1222L**	HBL1223L**	HBL1224L**
Key for lock switches.	HBL1209*			

## 30A, 120-277V AC

Description	Catalog Numbers		
	Single Pole	Double Pole	Three Way
Brown nylon toggle.	HBL3031	HBL3032	HBL3033
Ivory nylon toggle.	HBL3031I	HBL3032I	HBL3033I

Momentary Contact, Specification Grade, Back and Side Wired  
Three Position, Two Circuit, Center Off. UL & CSA Only

Description	Catalog Numbers	
	15A, 120-277V AC	20A, 120-277V AC
Brown nylon toggle.	HBL1556	HBL1557
Ivory nylon toggle.	HBL1556I	HBL1557I
Gray nylon toggle.	HBL1556GY	HBL1557GY
Red nylon toggle.	HBL1556R	–
White nylon toggle.	–	HBL1557W
Lock type.	HBL1556L	HBL1557L
Key for lock switches.	HBL1209*	

Notes: Keys are supplied with each lock switch. For extra keys order HBL1209.

For technical data see page C-26.

See Section K for wall plates. For accessories see pages C-23–C-25.

See pages C-30 and C-31 for wiring diagrams.

\* Not UL Listed, CSA Certified

\*\* Not Fed Spec

## HP Conversion Chart

	120V	208V	240V	277VAC
15A	.5 HP	1.5HP	2HP	2HP
20A	1 HP	2HP	2HP	2HP
30A	2HP	2HP	2HP	2HP

## AC Switches

## 15, 20 and 30 Ampere, 120-277 Volts AC

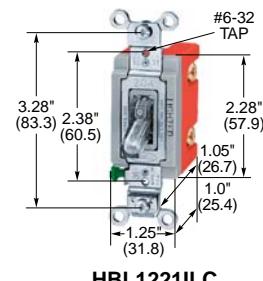
Industrial - Institutional, Heavy Duty Specification Grade

Toggle Type Lighted and Pilot Light AC Switches with Ground Screw

Specification Grade, Lighted and Pilot Light  
Toggle Switches, Back and Side Wired

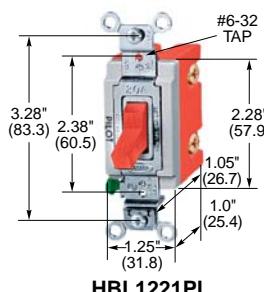
## Lighted Toggle (light on with load off)

Rating	Description	Catalog Numbers		
		Single Pole	Double Pole	Three Way
15A 120-277V AC	Ivory nylon toggle.	HBL1201IL	—	HBL1203IL
20A 120-277V AC	Ivory nylon toggle.	HBL1221IL	—	HBL1223IL
20A 120-277V AC	Clear polycarbonate toggle.	HBL1221ILC	—	HBL1223ILC



## Pilot Light (light on with load on)

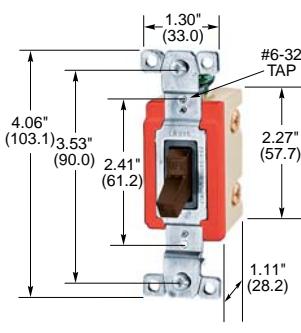
Rating	Description	Catalog Numbers		
		Single Pole	Double Pole	Three Way
15A 120-277V AC	Red polycarbonate toggle.	HBL1201PL	—	HBL1203PL
20A 120-277V AC	Red polycarbonate toggle.	HBL1221PL	HBL1222PL	HBL1223PL
20A 120-277V AC	Clear polycarbonate toggle.	HBL1221PLC	—	HBL1223PLC
20A 120-277V AC	Green polycarbonate toggle.	HBL1221PLG	—	—
30A 120-277V AC	Red polycarbonate toggle.	HBL3031PL	HBL3032PL	—



## 15A, 347V AC



Description	Catalog Numbers			
	Single Pole	Double Pole	Three Way	Four Way
Brown nylon toggle.	HBL18201CN	—	HBL18203CN	—
Ivory nylon toggle.	HBL18201ICN	—	HBL18203ICN	HBL18204ICN
Lock type.	HBL18201LCN	—	HBL18203LCN	—
Key for lock switches.	HBL1209			



## 20A, 347V AC



Description	Catalog Numbers			
	Single Pole	Double Pole	Three Way	Four Way
Brown nylon toggle.	HBL18221CN	—	HBL18223CN	—
Ivory nylon toggle.	HBL18221ICN	—	HBL18223ICN	—

Notes: Keys are supplied with each lock switch. For extra keys order HBL1209.

For technical data see page C-26.

See Section K for wallplates. For accessories see pages C-23 to C-25.

See pages C-30 and C-31 for wiring diagrams.



## HP Conversion Chart

	120V	208V	240V	277VAC
15A	.5 HP	1.5HP	2HP	2HP
20A	1 HP	2HP	2HP	2HP
30A	2HP	2HP	2HP	2HP

Dimensions in Inches (mm)

www.hubbell-wiring.com

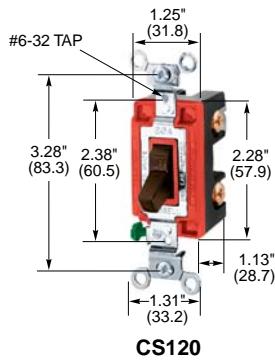
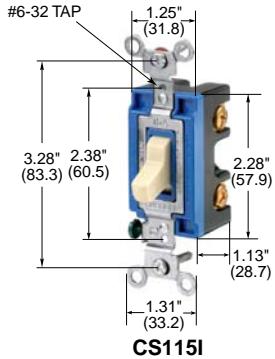
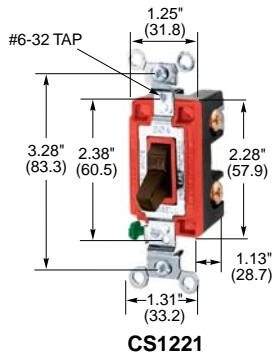
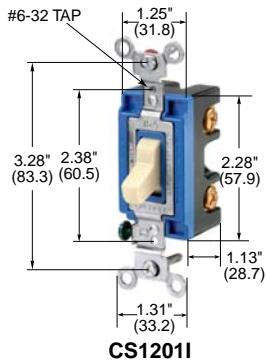


Wiring Device-Kellem

C-5

## AC Switches

## 15 and 20 Ampere, 120-277 Volts AC

Construction and Commercial Series Specification Grade  
AC Toggle Switches with Ground ScrewConstruction Series Heavy Duty Specification Grade  
AC Toggle Switches, Back and Side Wired

## 15A, 120-277V AC

Description	Catalog Numbers			
	Single Pole	Double Pole	Three Way	Four Way
Brown toggle.	CS1201	—	CS1203	—
Ivory toggle.	CS1201I	—	CS1203I	—
Gray toggle.	CS1201GY	—	CS1203GY	—
White toggle.	CS1201W	—	CS1203W	—
Office white toggle.	CS1201OW	—	CS1203OW	—

## 20A, 120-277V AC

Description	Catalog Numbers			
	Single Pole	Double Pole	Three Way	Four Way
Brown toggle.	CS1221	CS1222	CS1223	CS1224
Ivory toggle.	CS1221I	CS1222I	CS1223I	CS1224I
Gray toggle.	CS1221GY	CS1222GY	CS1223GY	CS1224GY
White toggle.	CS1221W	CS1222W	CS1223W	CS1224W
Red toggle.	CS1221R	CS1222R	CS1223R	CS1224R
Black toggle.	CS1221BK	CS1222BK	CS1223BK	CS1224BK
Office white toggle.	CS1221OW	CS1222OW	CS1223OW	CS1224OW

Commercial Series Heavy Duty Specification Grade  
AC Toggle Switches, Side Wired Only.

## 15A, 120-277V AC

Description	Catalog Numbers			
	Single Pole	Double Pole	Three Way	Four Way
Brown toggle.	CS115	—	CS315	—
Ivory toggle.	CS115I	—	CS315I	—
Gray toggle.	CS115GY	—	CS315GY	—
White toggle.	CS115W	—	CS315W	—
Office white toggle.	CS115OW	—	CS315OW	—

## 20A, 120-277V AC

Description	Catalog Numbers			
	Single Pole	Double Pole	Three Way	Four Way
Brown toggle.	CS120	—	CS320	—
Ivory toggle.	CS120I	—	CS320I	—
Gray toggle.	CS120GY	—	CS320GY	—
White toggle.	CS120W	—	CS320W	—
Office white toggle.	CS120OW	—	CS320OW	—

Notes: See Section K for wall plates. See page C-30 for wiring diagrams.  
For accessories see pages C-23-C-25.

## HP Conversion Chart

	120V	208V	240V	277VAC
15A	.5 HP	1.5HP	2HP	2HP
20A	1 HP	2HP	2HP	2HP
30A	2HP	2HP	2HP	2HP

## AC Switches

## 15 and 20 Ampere, 120-277 Volt AC

Style Line® Specification Grade Rocker Switches

Style Line Specification Grade  
AC Rocker Switches, Back and Side Wired

## 15A, 120-277V AC

Description	Catalog Numbers			
	Single Pole	Double Pole	Three Way	Four Way
Brown rocker.	HBL2101	-	HBL2103	-
Ivory rocker.	HBL2101I	-	HBL2103I	-
Gray rocker.	HBL2101GY	-	HBL2103GY	-
White rocker.	HBL2101WA	-	HBL2103WA	-
Black rocker.	HBL2101BK	-	HBL2103BK	-
Office white rocker.	HBL2101OW	-	HBL2103OW	-

## 20A, 120-277V AC

Description	Catalog Numbers			
	Single Pole	Double Pole	Three Way	Four Way
Brown rocker.	HBL2121	HBL2122	HBL2123	HBL2124
Ivory rocker.	HBL2121I	HBL2122I	HBL2123I	HBL2124I
Gray rocker.	HBL2121GY	HBL2122GY	HBL2123GY	HBL2124GY
White rocker.	HBL2121WA	HBL2122WA	HBL2123WA	HBL2124WA
Black rocker.	HBL2121BK	HBL2122BK	HBL2123BK	HBL2124BK
Office white rocker.	HBL2121OW	HBL2122OW	HBL2123OW	HBL2124OW

Style Line Specification Grade Lighted and  
Pilot Light AC Rocker Switches, Back and Side Wired

## 20A, 120V AC Lighted Rocker (light on with load off)

Description	Catalog Numbers			
	Single Pole	Double Pole	Three Way	Four Way
Ivory rocker.	HBL2121IL	-	HBL2123IL	-
White rocker.	HBL2121ILWA	-	HBL2123ILWA	-

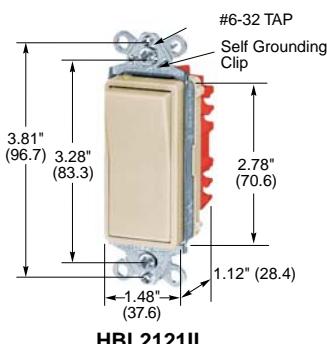
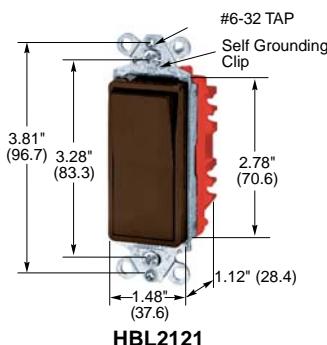
## 20A, 120V AC Pilot Light Rocker (light on with load on)

Description	Catalog Numbers			
	Single Pole	Double Pole	Three Way	Four Way
Ivory rocker.	HBL2121PL	-	-	-

Note: See Section K for wall plates. See pages C-30 for  
wiring diagrams. For accessories see pages C-23.

## HP Conversion Chart

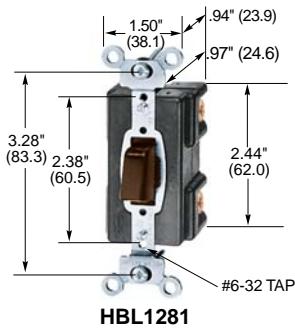
	120V	208V	240V	277VAC
15A	.5 HP	1.5HP	2HP	2HP
20A	1 HP	2HP	2HP	2HP
30A	2HP	2HP	2HP	2HP



## AC Switches

## 20 Ampere, 120-277 Volts AC

PressSwitch® Push Button Switches

Specification Grade, Side Wired Only  
Standard Type

## 20A, 120-277V AC

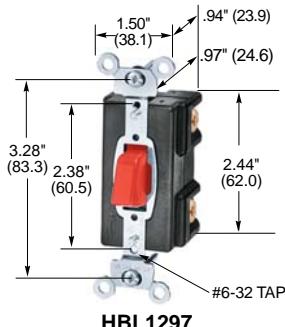
Description	Catalog Numbers			
	Single Pole	Double Pole	Three Way	Four Way
Brown nylon actuator.	HBL1281	HBL1282	HBL1283*	HBL1284*
Ivory nylon actuator.	HBL1281I	HBL1282I	HBL1283I*	HBL1284I*

Momentary Type  
20A, 120-277V AC

Description	Catalog Numbers			
	Single Pole	Double Pole	Three Way	Four Way
Circuit normally closed, brown.	HBL1281MC*	—	—	—
Circuit normally open, brown.	HBL1281MO*	—	—	—

Lighted and Pilot Light PresSwitches,  
120V AC Lighted Actuator (light on with load off)

Description	Catalog Numbers			
	Single Pole	Double Pole	Three Way	Four Way
15A, ivory nylon actuator.	—	—	—	HBL1259I*
20A, ivory nylon actuator.	HBL1287I	—	HBL1288I*	—



## 20A, 120V AC Pilot Light Actuator (light on with load on)

Description	Catalog Numbers			
	Single Pole	Double Pole	Three Way	Four Way
Red nylon actuator.	HBL1297	—	HBL1298*	—

Notes: See Section K for wallplates.

See pages C-30 and C-31 for wiring diagrams.

For accessories see pages C-23-C-25.

\*Not Listed by UL or CSA.

## HP Conversion Chart

	120V	208V	240V	277VAC
15A	.5 HP	1.5HP	2HP	2HP
20A	1 HP	2HP	2HP	2HP
30A	2HP	2HP	2HP	2HP

## AC Switches

**15, 20 and 30 Ampere, 120-277 Volts AC**

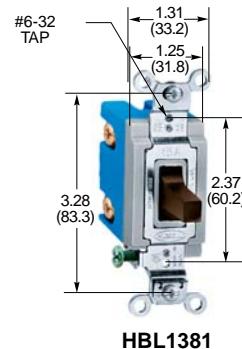
Industrial – Institutional, Heavy Duty Specification Grade Three Position, Two Circuit, Center Off, Maintained Contact Switches



Maintained Contact, Specification Grade, Back and Side Wired, Three Position, Two Circuit, Center Off

**Single Pole, Double Throw**

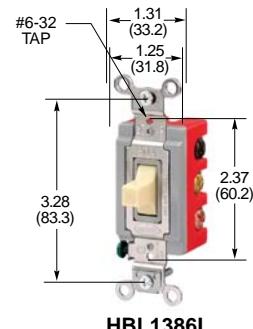
Description	Catalog Numbers		
	15A 120-277V AC	20A 120-277V AC	30A 120-277V AC
Brown nylon toggle.	<b>HBL1381</b>	<b>HBL1385</b>	–
Ivory nylon toggle.	<b>HBL1381I</b>	<b>HBL1385I</b>	–
White nylon toggle.	–	<b>HBL1385W</b>	–

**HBL1381****Double Pole, Double Throw**

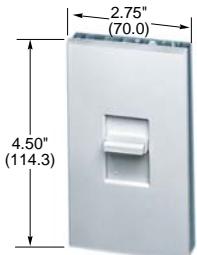
Description	Catalog Numbers		
	15A 120-277V AC	20A 120-277V AC	30A 120-277V AC
Brown nylon toggle.	<b>HBL1382</b>	<b>HBL1386</b>	<b>HBL1388</b>
Ivory nylon toggle.	<b>HBL1382I</b>	<b>HBL1386I</b>	<b>HBL1388I</b>
Lock type.	–	<b>HBL1386L</b>	–
Key for lock switches.	<b>HBL1209</b>		

Notes: Keys supplied with each lock switch. For extra keys order HBL1209.

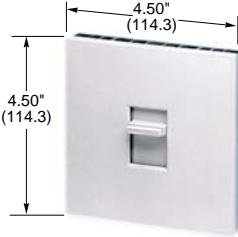
See page C-31 for wiring diagrams. For accessories see pages C-23–C-25. For technical data see page C-26.

**HBL1386I**

## AC Dimmers 600 to 2000 Watts, 120 Volts AC 60 Hz



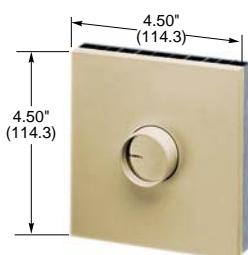
600 and 1000W Dimmer  
Fits Single-Gang Wall Boxes.  
**AS63 and AS103**



1500 and 2000W Dimmer  
Fits Single-Gang Wall Boxes.  
**AS153 and AS203**



600 and 1000W Dimmer  
Fits Single-Gang Wall Boxes.  
**AR61 and AR101**



1500 and 2000W Dimmer  
Fits Single-Gang Wall Boxes.  
**AR151 and AR201**



### Architectural Grade Preset Slide Control

Rating/Description	Color	Catalog Numbers
<b>Incandescent Control</b> 600W, 120V AC, 60 Hz, Single pole/three way - preset.	White	<b>AS63</b>
1000W, 120V AC, 60 Hz, Single pole/three way - preset.	White	<b>AS103</b>
1500W, 120V AC, 60 Hz, Single pole/three way - preset.	White	<b>AS153</b>
2000W, 120V AC, 60 Hz, Single pole/three way - preset.	White	<b>AS203</b>
<b>Accessories</b> Small plate kit for 600W and 1000W models. Includes non-metallic trimplate and slide.	Ivory White	<b>AS1I</b> <b>AS1W</b>
Large plate kit for 1500W and 2000W models. Includes non-metallic trimplate and slide.	Ivory White	<b>AS2I</b> <b>AS2W</b>

*Note: The dimmers listed above can be wired for single pole or three way applications.*

### Architectural Grade Rotary Models

Rating/Description	Color	Catalog Numbers
<b>Incandescent Control</b> 600W, 120V AC, 60 Hz. Single pole - push on/off. Three way - push on/off.	Beige Beige	<b>AR61</b> <b>AR63</b>
1000W, 120V AC, 60 Hz. Single pole - push on/off. Three way - push on/off.	Beige Beige	<b>AR101</b> <b>AR103</b>
1500W, 120V AC, 60 Hz, Single pole, rotary on/off.	Beige	<b>AR151</b>
2000W, 120V AC, 60 Hz, Single pole, rotary on/off.	Beige	<b>AR201</b>
<b>Accessories</b> Small plate kit for 600W and 1000W models. Includes non-metallic trimplate and knob.	Beige White	<b>AR1BE</b> <b>AR1W</b>
Large plate kit for 1500W and 2000W models. Includes non-metallic trimplate and knob.	Beige White	<b>AR2BE</b> <b>AR2W</b>

*Note: See page C-29 for ganging and derating.*

## AC Dimmers

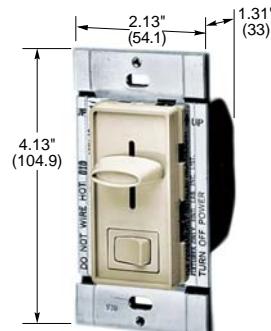
**600 to 1000 Watts, 120 Volts AC 60 Hz**

120V AC 60 Hz Fan Control

**Specification Grade Preset Slide Control**

Rating/Description	Color	Catalog Numbers
Incandescent Control	Ivory White	<b>S61I</b> <b>S61W</b>
600W 120V AC, 60 Hz, Three way - preset.	Ivory White	<b>S63I</b> <b>S63W</b>
1000W 120V AC, 60 Hz, Single pole - preset.	Brown Ivory White Gray Black	<b>S11BR</b> <b>S11I</b> <b>S11W</b> <b>S11GY</b> <b>S11BL</b>
1000W 120V AC, 60 Hz, Three way - preset.	Ivory White Gray	<b>S13I</b> <b>S13W</b> <b>S13GY</b>

Notes: Use Style Line® wall plates with preset slide control dimmers. See page C-29 for ganging and derating.

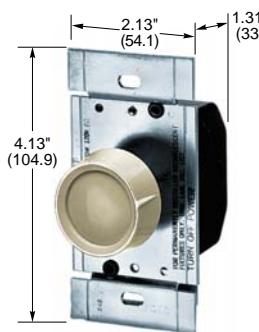


600 and 1000W Dimmer  
Fits Single-Gang Wall Boxes.  
**S61I** and **S11I**

**Rotary Model**

Rating/Description	Color	Catalog Numbers
Incandescent Control	Ivory Ivory	<b>R61I</b> <b>R63I</b>
Fan Speed Control	Ivory	<b>RF5I</b>
Accessories	Ivory White	<b>RKI</b> <b>RKW</b>

Notes: Use standard toggle switch wall plates with rotary dimmers. See page C-29 for ganging and derating.



600W Dimmer  
Fits Single-Gang Wall Boxes.  
**R61I**

## Switches

### Heavy Duty Panel Mount

Bat Handle Switches



HBL11



HBL123SP

#### Specifications

Impact Resistant Thermoplastic Body.

Fine Silver Contacts.

Knurled Nut, Hex Nut And Strap All Nickel Plated.

Keyed Brass Bushing Nickel Plated.

Brass Toggle Nickel Plated.

Choice of Terminal Design:  
.250" (6.3) Male Tab Spade Type or 6/32 Screw Type.

UL Recognized.



#### 10A 250V AC 20A 125V AC Horsepower Rated 3/4 HP, 125-250V AC

Description	Terminal	Catalog Numbers
Single pole/ single throw.	Screw Spade	HBL11 HBL11SP
Single pole/ single throw momentary.	Screw Spade	HBL11M HBL11SPM
Single pole/ double throw.	Screw Spade	HBL12 HBL12SP
Single pole/ double throw 3-position center off.	Screw Spade	HBL123 HBL123SP
Single pole/ double throw 3-position center off momentary.	Screw Spade	HBL123MM HBL123SPMM

Note: All threaded stems 15/32"-32 thread.

#### 10A 240V AC 15A 120V AC

Description	Terminal	Catalog Number
Single pole/ single throw.	Screw	HBL118

Note: 15/32"-32 thread.

#### 4A 250V 8A 125V 10A 120V AC 1/3 HP 120V AC

Description	Terminal	Catalog Number
Single pole/ single throw. Copper Wire Leads 105° C Black.	#18 Std AWG 15/32-32 THRD Keyway .080 x .035	HBL11WL

Note: 15/32"-32 thread, keyway .080x.035.

## Switches

### Heavy Duty Panel Mount

Bat Handle Switches



#### 10A 250V AC 20A 125V AC Horsepower Rated 1½ HP, 125-250V AC

Description	Terminal	Catalog Numbers	
Double pole/ single throw.	Screw Spade	.75" (19.1) .47" (11.9) .80" (20.3) 1.30" (33.0) Spade Terminal Shown	HBL21 HBL21SP
Double pole/ double throw.	Screw Spade	.75" (19.1) .47" (11.9) .80" (20.3) 1.30" (33.0) Screw Terminal Shown	HBL22 HBL22SP
Double pole/ double throw 3 position center off.	Screw Spade	.75" (19.1) .47" (11.9) .80" (20.3) 1.30" (33.0) Screw Terminal Shown	HBL223 HBL223SP
Double pole/ double throw 3 position center off momentary.	Screw Spade	.75" (19.1) .47" (11.9) .80" (20.3) 1.30" (33.0) Screw Terminal Shown	HBL223MM HBL223SPMM
Silicone rubber boot.		SSB1	

Notes: All threaded stems 15/32"-32 thread.

For information on 12V DC tapered handle switches see Section V, Marine Electrical Products.

#### 4A 250V 8A 125V 10A 120V AC 1/3 HP 120V AC

Description	Terminal	Catalog No.	
Single pole/ single throw.	#18 Std AWG Copper Wire Leads 105° C Black.	0.41" (10.4) Black Nylon Plunger 15/32-32 THRD 1.58" (40.1) 0.53" (13.5) Keyway .080x.034 0.65" (16.5) 0.22" (5.6) 0.19" (4.8) 0.49" (12.5) 6.00" (152.4) 0.50" (12.7) Note: 15/32"-32 thread, keyway .080 x .034.	HBL11PBWL



HBL21



HBL223



SSB1



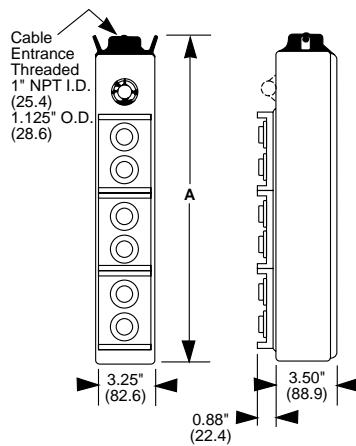
HBL11PBWL

## Switches

### Pendant Pushbutton Stations



PBS6



**IP44**  
SUITABILITY

#### PBS-Series Heavy Duty Pendant Pushbutton Stations NEMA 3R

Description	Catalog Numbers
2 button, single speed.	PBS2
2 button, two speed.	PBS22
4 button, single speed.	PBS4
4 button, two speed.	PBS42
6 button, single speed.	PBS6
6 button, two speed.	PBS62
8 button, single speed.	PBS8
8 button, two speed.	PBS82

#### Product Dimensions, PBS Series

Style	A	Approx. Wt. Assembled	Catalog Numbers
2 button	7.88" (200.0)	2.5 lbs	PBS2
4 button	13.69" (347.6)	4.5 lbs	PBS4
6 button	18.0" (457.2)	5.5 lbs	PBS6
8 button	22.31" (566.7)	7.5 lbs	PBS8

Housing: Yellow vinyl rubber.

#### Contact Interrupting Ratings, PBS Series

Two-Speed Single Break	Voltage	Current
AC	120V	6A
35% PF	240V	3A
DC	125V	.4A
IND	250V	.2A

Single-Speed Double Break	Voltage	Current
AC	120V	6A
35% PF	240V	3A
DC	125V	1.1A
IND	250V	.55A

## Switches

**Pendant Pushbutton Stations**

PBS Series Parts and Accessories

**Replacement Inserts**

When the insert switches are in need of replacement, simply unplug the old insert and plug in a new one.

Description	Catalog Numbers
Single speed insert momentary N.O. and N.C.	PG2
On-Off insert (no mechanical interlock)	PG6
Momentary, start-stop, reset-stop.	
3 speed insert, momentary. Used to a maximum of 3 speed points.	MS2
For five speed applications replace an existing terminal board with the TB5 terminal board and replace an existing insert with the five speed (MS5) insert.	
5 speed insert, momentary. Used to a maximum of 5 speed points.	MS5



PBSBC PBSLP



PBSPL1



07401023

**Conversion Inserts**

In addition to single speed and two speed applications, preassembled units can be adapted to handle other applications.

Description	Catalog Numbers
Terminal board Catalog No. TB2 is required for each insert switch PG2, PG6 and MS2.	TB2
Terminal board Catalog No. TB5 is required for insert switch MS5.	TB5

**Accessories**

Description	Catalog Numbers
Indicator labels for replacement package contains 1 each: hoist, trolley, bridge, forward-reverse, raise-lower, in-out, right left, east-west, north-south, reset-stop, start-stop, power, main hoist, aux. hoist, on-off, up-down.	PBSLP
Rubber button cover for replacement purposes.	PBSBC
120V red pilot light for 4, 6, and 8 button units only.	PBSPL1*
<i>*Each pendant station can accommodate one of the pilot light in the 1.20" (30.6) diameter mounting hole.</i>	

**Kellems® Deluxe Aluminum Cord Fitting**

*Outdoor or indoors where subject to moisture, splash or submersion. Kellems grips provide strain relief for multi-conductor cable.*

Description	Cord Range	Catalog Numbers
Kellems grip.	.750-.875" (19 to 22.2)	07401023
Kellems grip.	.875-1.00" (22.2 to 25.4)	07401025

## Switches

### Pendant Pushbutton Stations



**IP55**  
SUITABILITY

#### Compact Pendant Stations, CPB2 Series NEMA 4X

##### Two Button

Description	Catalog Numbers
Single-speed normally open-normally closed without mechanical interlock.	CPB20
Single-speed with mechanical interlock between pushbuttons.	CPB21
Two-speed with mechanical interlock between pushbuttons.	CPB22

*Included with product: nylon cord grip and sealing washer (must be installed to achieve NEMA 4X rating). Indication label pack. Cord dia. range .375"-.625" (9.5 - 15.9).*

*Ambient temperatures: 25°F - 140°F (32°C-60°C).*

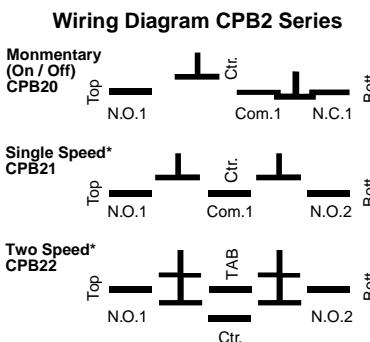
*Typical applications: Package electric motor hoists. Remote control of machinery.*

#### Contact Ratings, CPB2 Series

Single Speed	Voltage	Current
AC	120V	6A
35% PF	240V	3A
DC	125V	1.1A
IND	250V	.55A

Two-Speed	Voltage	Current
AC	120V	3A
35% PF	240V	1.5A



\* Mechanical "floating ball" interlock prevents activating both Pushbuttons simultaneously.

## AC Switches

## 30 Ampere, 600 Volts AC

Industrial – Heavy Duty AC Manual Motor Controllers, Double and Three Pole (Without Overload Protection) and Enclosures

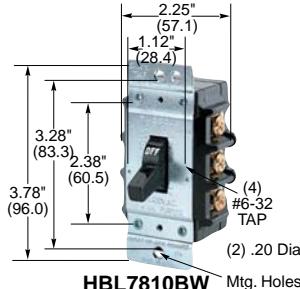


IP44\*  
SUITABILITY

## 30A 600V AC Manual Motor Controllers

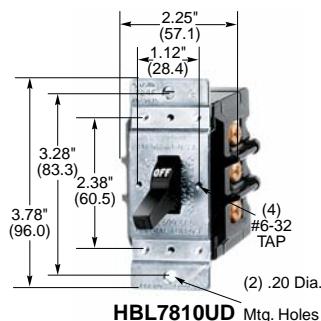
## Double Pole

Description	Catalog Numbers
30A, double pole, single throw, AC manual motor controller, black nylon handle, side wired.	HBL7832
30A, double pole, single throw, AC manual motor controller, black nylon handle, back wired.	HBL7832BW
HBL7832BW in HBL1390 Type 1 enclosure with non-metallic cover, 1/2" and 3/4" knockouts on top, bottom and back of steel frame.	HBL1392BW
HBL7832BW in HBL1370 metal Type 1 enclosure.	HBL1372BW
HBL7832BW in HBL13R90 metal Type 3R enclosure.	HBL13R92BW



## Three Pole

Description	Catalog Numbers
30A, three pole, single throw, AC manual motor controller, black nylon handle, side wired.	HBL7810UD
30A, three pole, single throw, AC manual motor controller, black nylon handle, back wired.	HBL7810BW
HBL7810BW in HBL1390 Type 1 enclosure with non-metallic cover, 1/2" and 3/4" knockouts on top, bottom and back of steel frame.	HBL1389BW
HBL7810BW in HBL1370 metal Type 1 enclosure.	HBL1379BW
HBL7810BW in HBL13R90 metal Type 3R enclosure.	HBL13R89BW



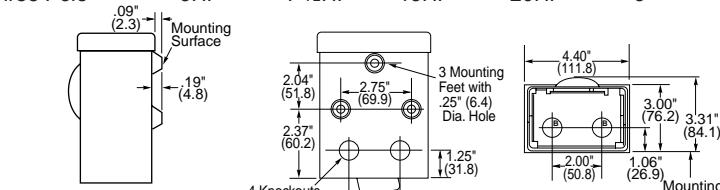
## Enclosures

Description	Catalog Numbers
Type 1 enclosure for 30A switch with non metallic cover (without switch) with 1/2" and 3/4" knockouts on top, bottom and back of steel frame.	HBL1390
Type 1 enclosure for 30A switch with metallic cover (without switch) with 1/2" and 3/4" knockouts on top, bottom and back of steel frame.	HBL1370
Type 3R metal enclosure without switch.	HBL13R90

Notes: \* Enclosure rating.  
For technical data see page C-32

## Motor Rating

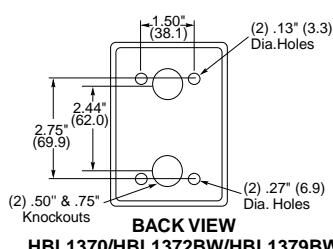
	120V AC	240V AC	480V AC	600V AC	Phase
30A Double Pole	2HP	5HP	10 HP	15HP	1
30A Three Pole	3HP	7 1/2HP	15HP	20HP	3



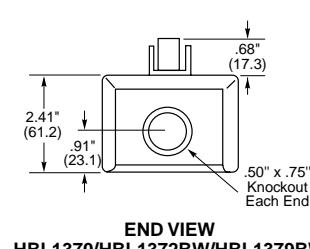
SIDE VIEW  
HBL13R89BW / HBL13R90  
HBL13R92BW

BACK VIEW  
HBL13R89BW / HBL13R90  
HBL13R92BW

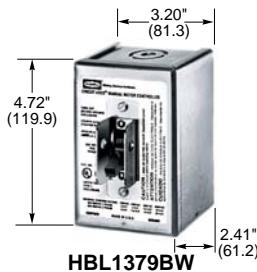
END VIEW  
HBL13R89BW / HBL13R90  
HBL13R92BW



BACK VIEW  
HBL1370/HBL1372BW/HBL1379BW



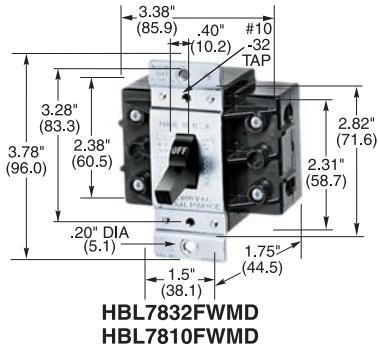
END VIEW  
HBL1370/HBL1372BW/HBL1379BW



## AC Switches

## 30 Ampere, 600 Volts AC

Heavy Duty Manual Motor Controllers  
"Suitable as Motor Disconnect"\*



## 30A 600V AC Double Pole

## Description

## Catalog Numbers

30A, double pole, single throw, AC manual motor controller, black nylon handle, side wired.

**HBL7832FWMD**

HBL7832FWMD in HBL13R90MD Type 3R Enclosure.

**HBL13R92MD**

## 30A 600V AC Three Pole

## Description

## Catalog Numbers

30A, three pole, single throw, AC manual motor controller, black nylon handle, side wired.

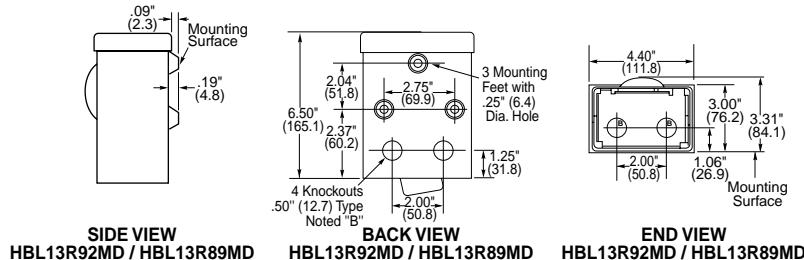
**HBL7810FWMD**

HBL7832FWMD in HBL13R90MD Type 3R Enclosure.

**HBL13R89MD**

*Note: for technical data, see page C-27*

\* When protected by 30A max RK5 fuses.



## Product

## Motor Rating

	120V AC	240V AC	480V AC	600V AC	Phase
30A Double Pole	2HP	5HP	10HP	15HP	1
30A Three Pole	3HP	7 1/2 HP	15HP	20HP	3

## AC Switches

## **40 and 60 Ampere, 600 Volts AC**

## **Industrial – Heavy Duty AC Manual Motor Controllers, Double and Three Pole (Without Overload Protection) and Enclosures**



**IP44\***  
SUITABILITY

## 40A 600V AC Manual Motor Controllers

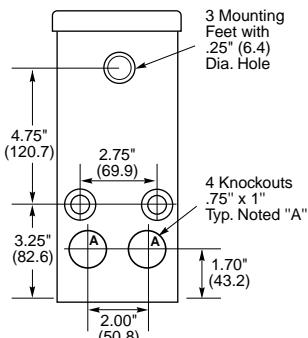
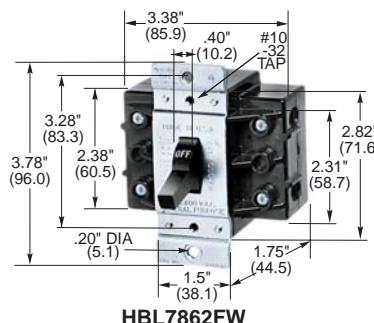
Description	Catalog Numbers
40A, double pole, single throw, AC manual motor controller, black nylon handle, side wired.	HBL7842
40A, three pole, single throw, AC manual motor controller, black nylon handle, side wired.	HBL7843

Note: Catalog numbers HBL7842 & HBL7843 dimensions are the same as HBL7810BW shown on C-17.

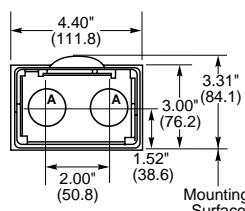
## 60A 600V AC Manual Motor Controllers

Description	Catalog Numbers
60A, double pole, single throw, AC manual motor controller, black nylon handle, back wired.	HBL7862
Same as HBL7862 except front wired.	HBL7862FW
HBL7862FW in Type 3R enclosure.	HBL16R92
60A, three pole, single throw, AC manual motor controller, black nylon handle, back wired.	HBL7863
Same as HBL7863 except front wired.	HBL7863FW
HBL7863FW in a Type 3R enclosure.	HBL16R93

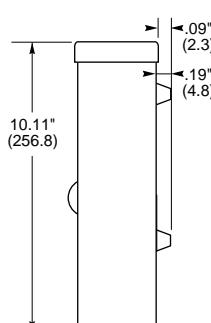
*Note: For technical data, see page C-27.*



**BACK VIEW**  
**HBL16R90/HBL16R92/HBL16R93**



**END VIEW**  
**HBL16R90/HBL16R92/HBL16R93**



**SIDE VIEW**  
**HBL16R90/HBL16R92/HBL16R93**

## AC Switches

## Switched Enclosures

Circuit-Lock® 30, 60, and 100 Ampere Unfused Disconnect Switch  
"Suitable as Motor Disconnect"

## Ordering Information 30A, 60A and 100A

Description	Catalog Numbers
30A Circuit-Lock disconnect switch.	HBLDS3
30A Circuit-Lock disconnect switch with aux. contact.*	HBLDS3AC
60A Circuit-Lock disconnect switch.	HBLDS6
60A Circuit-Lock disconnect switch with aux. contact.*	HBLDS6AC
100A Circuit-Lock disconnect switch.	HBLDS10
100A Circuit-Lock disconnect switch with aux. contact.*	HBLDS10AC

## Auxiliary Contacts for 30A, 60A &amp; 100A switch, A600 pilot duty

Description	Catalog Numbers
Break before break.	HBLAC1
Break after break.	HBLAC2

## Ground Block

Description	Catalog Numbers
For 30A switch.	HBL30RGB
For 60 & 100A switch.	HBL60100RGB

## Neutral Block

Description	Catalog Numbers
For 30A switch.	HBL30RNB
For 60A switch.	HBL60RNB
For 100A switch.	HBL100RNB

## Replacement Switch

Description	Catalog Numbers
For 30A switch.	HBLDS3RS
For 60 & 100A switch.	HBL60100RS

Notes: \* Supplied with one HBLAC1  
30A Units come with 3/4" NPT Hub  
60A & 100A Units come with 1 1/4" NPT Hub

UL Listed, CSA Certified TYPE 4, 4X and 12K Enclosure Rating

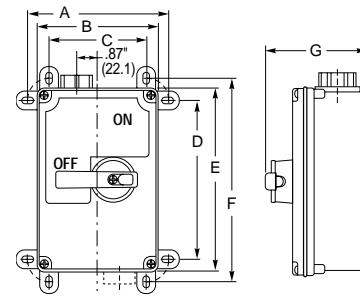


**IP67**  
SUITABILITY

The Circuit-Lock Disconnect Switch meets NEC Article 430 requirements for a separate disconnect means within sight of all motor loads. In addition, the enclosure offers the ability to lock directly wired motor loads in the "OFF" position to comply with OSHA Lockout/Tagout regulations. This safety enclosure is Type 4X (Washdown, Corrosion resistant) and is also suitable for use with metallic conduit. The switch is mounted on an internal frame that is integral with the enclosure and bonds all grounds, and it accepts auxiliary contacts that can be used to signal PLC controllers.

## Circuit-Lock Unfused Disconnect Switch

## Dimensions



Key	30A inch	30A mm	60A/100A inch	60A/100A mm
A	6.00	152	7.75	197
B	5.12	130	6.87	175
C	4.12	105	4.75	121
D	6.62	168	8.00	203
E	7.62	194	9.95	253
F	8.50	216	11.00	279
G	4.12	105	5.94	151

## Horsepower Ratings

Voltage	30A	60A	100A
120V AC 1Ø	1	7.5	7.5
208V AC 1Ø	-	-	-
208-240V AC 1Ø	3	15	15
240-277V AC 1Ø	-	-	-
480V AC 1Ø	5	30	30
208V AC 3Ø	-	-	-
208-240V AC 3Ø	7.5	30	30
240V AC 3Ø	-	-	-
480V AC 3Ø	15	50	50
600V AC 3Ø	15	50	50

Note: See page C-30 for technical data.

## Safety Devices

### Switched Enclosures

#### Circuit-Lock® 30 and 60 Ampere Fused Disconnect Switch "Suitable as Motor Disconnect"

Stainless steel hardware.

Adjustable mounting feet.

Non-metallic enclosure – safer - nonconducting.

Fused disconnect switch accepts Class "J" fuses.

Safety interlocked fuse access door.

Removable door for easier wiring.

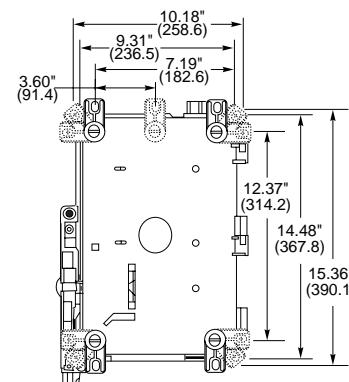
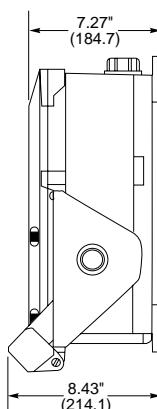
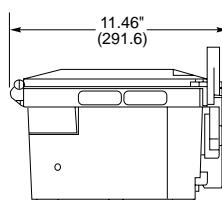
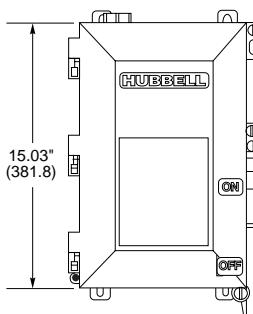


Lockable high visibility red handle to meet OSHA Lockout/Tagout.

### Circuit-Lock Fused Disconnect Switch

The Circuit-Lock Fused Disconnect Switch provides fused switched control of a directly wired load. The switch cannot be turned "ON" unless the enclosure cover is closed. The fuses cannot be accessed until the switch is turned "OFF". The fuse holder accepts Class "J" fuses. This enclosure is non-metallic and is listed for Outdoor/Indoor (Type 4X Washdown, Corrosion resistant). The handle can be locked in the "OFF" position to comply with OSHA Lockout/Tagout regulations.

#### Dimensions



Safety Devices  
**Switched Safety Enclosures**  
 Circuit-Lock® 30 and 60 Ampere Fused Disconnect Switch

UL Listed, CSA Certified  
 TYPE 4, 4X and 12 Enclosure Rating



**IP67**  
 SUITABILITY

**Ordering Information 30A & 60A**

Ratings	Volts	Std. HP	Max. HP*	Catalog Numbers
30A 600V AC Max.	120V AC	0.5	2.0	<b>FDS30</b>
	208-240V AC	1.5	3.0	
	240V AC 3Ø	3.0	7.5	
	480V AC 3Ø	5.0	15.0	
	600V AC 3Ø	7.5	20.0	
	120/208V AC 3Ø Y	3.0	5.0	
	277/480V AC 3Ø Y	5.0	15.0	
	347/600V AC 3Ø Y	7.5	20.0	
60A 600V AC Max.	120V AC	1.5	3.0	<b>FDS60</b>
	208-240V AC	3.0	7.5	
	240V AC 3Ø	7.5	15.0	
	480V AC 3Ø	15.0	30.0	
	600V AC 3Ø	15.0	40.0	
	120/208V AC 3Ø Y	7.5	15.0	
	277/480V AC 3Ø Y	15.0	30.0	
	347/600V AC 3Ø Y	15.0	40.0	

\*Requires time delay fuses.

**Auxiliary Contacts**

Description	Catalog Numbers
Auxiliary contact normally open, A600 pilot duty.	ACFSNO
Auxiliary contact normally closed, A600 pilot duty.	ACFSNC

**Fuse & Short Circuit Information**

Horsepower Ratings	The starting current of motors of more than the standard horsepower rating may require the use of fuses with appropriate time-delay characteristics.
Short Circuit Withstand Rating	Suitable for use on a circuit capable of delivering not more than 100,000 RMS symmetrical amperes at the voltage rating of receptacle when protected by Class "J" fuses.

*Replacement fused switch must be the same type Hubbell switch as original and have equal or greater short circuit current withstand rating.  
 Note: See page C-32 for technical data.*

# AC Switches

## Accessories

Nylon and Metal Wall Plates



### Standard Size, Smooth Nylon Switch Plates

Gangs	Brown	Ivory	Gray	White	Red	Black	Office White
1	P1X	P1	P1G	P1W	P1R	P1B	P1OW
2	P2X	P2	P2G	P2W	P2R	P2B	P2OW
3	P3X	P3	P3G	P3W	P3R	P3B	P3OW



One-gang  
1 toggle switch

### Standard Size, Smooth Nylon Style Line® Switch Plates

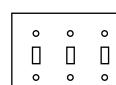
Gangs	Brown	Ivory	Gray	White	Red	Black	Office White
1	HPS1	HPS1I	HPS1GY	HPS1WA	HPS1R	HPS1B	HPS1OW
2	HPS2	HPS2I	HPS2GY	HPS2WA	HPS2R	HPS2B	HPS2OW
3	HPS3	HPS3I	HPS3GY	HPS3WA	–	HPS3B	HPS3OW



Two-gang  
2 toggle switches

### Standard Size, Smooth Metal Switch Plates

Gangs	Stainless Steel		Brass		Aluminum	
1	S1		B1		A1	
2	S2		B2		A2	
3	S3		B3		*	



Three-gang  
3 toggle switches

### Standard Size, Smooth Metal, Style Line Switch Plates

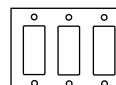
Gangs	Stainless Steel		Brass		Aluminum	
1	S26		B26		*	
2	S262		B262		*	
3	S263		B263		*	



One-gang



Two-gang



Three-gang

Note: See Section K for full line of wall plates.

\* Available as a custom metal wall plate, see page K-29

## AC Switches

### Accessories

Red Neon Pilot Light and  
Brass Locking Attachment and Lockout Devices for Toggle Switches



HBL1220RJ

HBL96061  
shown with wallplate and switch

HSLDPK2



#### Pilot Light, 120-277V AC

Description	Catalog Number
Red neon pilot light, back & side wired, fits standard switch plate.	HBL1220RJ

#### Brass Locking Attachment for Switches Available in Master Keying and Straight Keying Systems

Description	Catalog Numbers
Straight keying (all locks alike). Appropriate for most applications.	HBL96061*
Straight cylinder type lock, each HBL96061 ordered operates on the same key. All locks are keyed alike.	
Straight keying (individual). Straight cylinder type lock, each HBL96062 ordered operates on a different key. All locks are keyed differently and individually. This type cannot be master keyed.	HBL96062
Master keying (individual). Cylinder type lock for master keying, each lock keyed individually with a master key to operate all locks.	HBL96060

Notes: \*Also available in dull chrome finish to match stainless steel.  
Add "DCH" suffix to catalog number.

#### SWITCHOUT™ Lockout Device

Description	Catalog Number
Yellow nylon, toggle switch lockout device.	HSLDPK2***

Notes: For more information on safety lockout devices, see Section U.  
+ Two devices per package.  
\*\*Not UL or CSA Listed.

## AC Switches

### Accessories

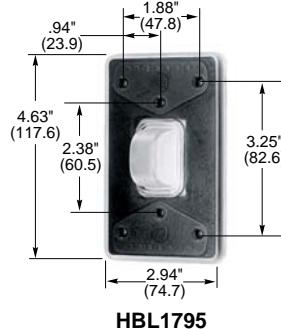
#### Weatherproof Switch Plates



#### Weatherproof Plates

Description	Catalog Number
Clear bubble plate, silicone rubber for use with all general purpose AC toggle and PresSwitches® switches. Fits both FS/FD and standard boxes.	HBL1795

**IP44**  
SUITABILITY

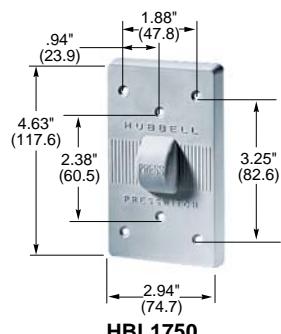


**HBL1795**

#### Weatherproof Plates

Description	Catalog Numbers
Gray neoprene PresSwitch plate. Fits FS/FD and standard boxes.	HBL1750*
Same as above except yellow.	HBL17CM50*

Note: \*Not listed by Underwriter's Laboratories Inc.

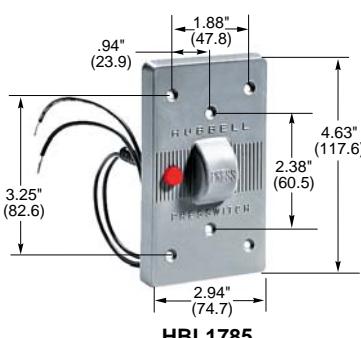


**HBL1750**

#### Weatherproof Plates

Description	Catalog Numbers
Gray neoprene PresSwitch plate with 125V red pilot light. Fits only FS/FD boxes.	HBL1785*
Same as above except yellow.	HBL17CM85*

Note: \*Not listed by Underwriter's Laboratories Inc.

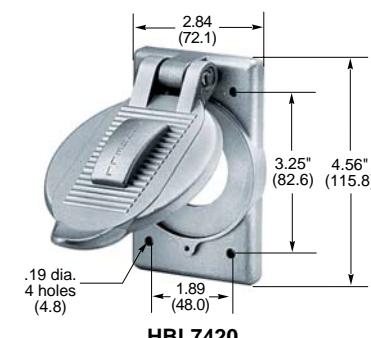


**HBL1785**

#### Weatherproof Plates

Description	Catalog Number
Cast aluminum lift cover plate with fiber shield. For standard toggle and PresSwitches. Fits only FS/FD boxes.	HBL7420

Note: See Section K for full line of wall plates.



**HBL7420**

## AC Switches

## Technical Information

Industrial Heavy Duty Specification Grade Switches

## SP, DP, 3-Way, 4-Way

## Specifications

Listings	Component	Material
UL Listed	Base	Thermoset, Color Coded by Amperage
CSA Certified	Top	Thermoset, Gray
Verified to Fed. Spec. W-S-896, SP, DP, 3-way and 4-way	Toggle	Nylon
	Terminals	Brass
	Terminal Screws	Brass
	Mounting Bridge	Nickel Plated Steel
	Contacts	Silver Cadmium Oxide
	Moveable Contact Arm	Copper Alloy
	Rocker	Thermoplastic Elastomer
	Ground Terminal	Nickel-Plated Steel
	Ground Screw	Brass
	Automatic Grounding Clip	Stainless Steel

## Performance Data

## Electrical

Dielectric Voltage	Withstands 1500V AC minimum for 1 minute.
Max. Working Voltage	277V AC
Overload	Minimum 4.8 times rated current for 100 cycles.
Temperature Rise	30° C maximum at rated current.
Max. Continuous Current	15A, 20A, 30A.
Endurance	50,000 cycles min., tungsten filament lamp load Fed. Spec. #WS896, SP, DP, 3-way and 4-way.

## Mechanical

Terminal Accommodations	#14 AWG min. - #10 AWG max. solid and stranded wire.
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## Environmental

Flammability	UL 94V-2.
Operating Temperature	Max. continuous: 75° C; Min. continuous: -40° C w/o impact.

# AC Switches

## Technical Information

Heavy Duty Manual Motor Controllers

### 30, 40 & 60A, Double Pole and Three Pole

#### Specifications

Listings	Component	Material
UL Listed 508 Industrial Control Equipment	Base	Thermoset
CSA-C22.2 No. 14 Industrial Control Equipment	Cover	Thermoset
30A Suitable as Motor Disconnect	Yoke	Zinc Plated Steel
UL File E70402	Toggle	Nylon
CSA File LR-46186	Terminal Screws	Brass
	Contact Blades	Brass
	Contacts	Silver Cadmium Oxide
	Brush Lifter	Polycarbonate

#### Performance Data

##### Electrical

Dielectric Voltage	2,200V AC max for 1 minute.
Electrical Life (Minimum)	6,000 cycles at rated switch parameters.
Working Voltage	600V AC RMS.
Short Circuit Withstand Rating (Motor Disconnect)	5,000 and 10,000 RMS with RK5 fuses at rated switch value.
Operating Temperature	Min. continuous: -40° C w/o impact..
Mechanical Life (minimum)	10,000 Cycles.
Terminal Torque (30A, 40A)	20 inch pounds.
Terminal Torque (60A)	25 inch pounds.

##### Mechanical

Terminal Accommodations	30A #14 AWG min. - #10 AWG max. solid and stranded wire.
	40A #14 AWG min. - #8 AWG max. solid and stranded wire.*
	60A #14 AWG min. - #4 AWG max. solid and stranded wire

Note: \*Use listed/certified ring terminal.

## AC Switches Listing Chart

### UL, CSA, and Fed. Spec. Listing Data

Catalog Numbers	Federal Spec. WS896 Listed	UL Listed UL20	CSA Certified
CS115	No	Yes	Yes
CS315	No	Yes	Yes
CS120	No	Yes	Yes
CS320	No	Yes	Yes
CS1201	Yes	Yes	Yes
CS1203	Yes	Yes	Yes
CS1221	Yes	Yes	Yes
CS1222	Yes	Yes	Yes
CS1223	Yes	Yes	Yes
CS1224	Yes	Yes	Yes
HBL1201	Yes	Yes	Yes
HBL1202	Yes	Yes	Yes
HBL1203	Yes	Yes	Yes
HBL1204	Yes	Yes	Yes
HBL1201IL	Yes	Yes	Yes
HBL1203IL	Yes	Yes	Yes
HBL1201PL	Yes	Yes	Yes
HBL1203PL	Yes	Yes	Yes
HBL1201L	Yes	Yes	Yes
HBL1202L	Yes	Yes	Yes
HBL1203L	Yes	Yes	Yes
HBL1204L	Yes	Yes	Yes
HBL1221	Yes	Yes	Yes
HBL1222	Yes	Yes	Yes
HBL1223	Yes	Yes	Yes
HBL1224	Yes	Yes	Yes
HBL1221L	Yes	Yes	Yes
HBL1222L	Yes	Yes	Yes
HBL1223L	Yes	Yes	Yes
HBL1224L	Yes	Yes	Yes
HBL1221IL	Yes	Yes	Yes
HBL1222I	Yes	Yes	Yes
HBL1223IL	Yes	Yes	Yes
HBL1221PL	Yes	Yes	Yes
HBL1222PL	Yes	Yes	Yes
HBL1223PL	Yes	Yes	Yes
HBL1259I	No	No	No
HBL1281	No	Yes	Yes
HBL1282	No	Yes	Yes
HBL1283	No	No	No

Catalog Numbers	Federal Spec. WS896 Listed	UL Listed UL20	CSA Certified
HBL1284	No	No	No
HBL1287I	No	Yes	Yes
HBL1288I	No	No	No
HBL1281MO	No	No	No
HBL1281MC	No	No	No
HBL1297	No	Yes	Yes
HBL1298	No	No	No
HBL1381	No	Yes	Yes
HBL1382	No	Yes	Yes
HBL1385	No	Yes	Yes
HBL1386	No	Yes	Yes
HBL1386L	No	Yes	Yes
HBL1388	No	Yes	Yes
HBL1556	No	Yes	Yes
HBL1557	No	Yes	Yes
HBL1556L	No	Yes	Yes
HBL1557L	No	Yes	Yes
HBL3031	Yes	Yes	Yes
HBL3032	Yes	Yes	Yes
HBL3033	Yes	Yes	Yes
HBL3031PL	Yes	Yes	Yes
HBL3032PL	Yes	Yes	Yes
HBL2101	No	Yes	Yes
HBL2103	No	Yes	Yes
HBL2121	No	Yes	Yes
HBL2122	No	Yes	Yes
HBL2123	No	Yes	Yes
HBL2124	No	Yes	Yes
HBL2123IL	No	Yes	Yes
HBL2121PL	No	Yes	Yes
HBL7832	No	Yes*	Yes
HBL7832BW	No	Yes*	Yes
HBL7810UD	No	Yes*	Yes
HBL7810BW	No	Yes*	Yes
HBL7842	No	Yes*	Yes
HBL7843	No	Yes*	Yes
HBL7862	No	Yes*	Yes
HBL7862FW	No	Yes*	Yes
HBL7863	No	Yes*	Yes
HBL7863FW	No	Yes*	Yes

Notes: Catalog numbers above represent all colors and variations.

\* Motor starting switches are listed to UL508.

## AC Dimmers

### Technical Data

#### Dimmer – Ganging and Derating

#### Architectural Grade Slide and Rotary Series

Switchboxes Required: Side Sections Intact

Number of Large Controls (1500W & 2000W)	Number of Small Controls (600W & 1000W)						
	0	1	2	3	4	5	6
0	0	1	1+1	4	1+4	7	1+7
1	1	3	5	6	8	9	11
2	4	6	7	9	10	12	13
3	6	8	10	11	13	14	16
4	9	11	12	14	15	17	18

**Note:** When ganging an even number of small controls with no side sections removed (plus numbers in chart), use gangable switchboxes with tapped ears as shown below. Do not use plaster rings or gangbox covers. Space an additional switchbox  $\frac{3}{4}$ " apart from the other switchbox(es). A  $\frac{3}{4}$ " close nipple is recommended as a spacer between the switchboxes.

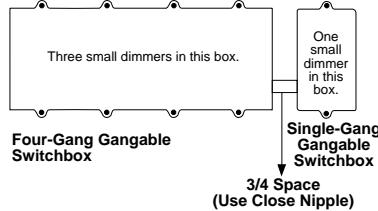
Switchboxes Required: Side Sections Removed

Number of Large Controls (1500W & 2000W)	Number of Small Controls (600W & 1000W)						
	0	1	2	3	4	5	6
0	0	1	2	3	4	5	6
1	1	3	4	5	6	7	8
2	3	5	6	7	8	9	10
3	5	7	8	9	10	11	12
4	7	9	10	11	12	13	14

**Note:** When removing side sections, remove only inner side sections. Do not remove side sections on outer ends of gang.

Same installation rules apply to rotary dimmers (not shown).

#### Example of four-gang installation



#### Derating Chart

No side sections removed	One side section removed	Both side sections removed
600W	600W	500W
1000W	900W	700W
1500W	1250W	1000W
2000W	1800W	1500W

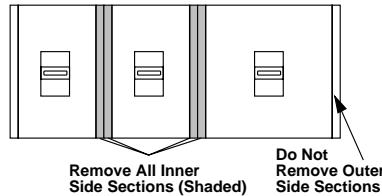
**Note:** When ganging any combination of small and large controls, place a small control on one extreme end of the gang, and a large control at the other end of the gang. When ganging with side sections intact, use offset mounting holes. When ganging with side sections removed, use center mounting holes. Allow a  $\frac{1}{32}$ " gap (space) between controls for ease in attaching the faceplate.

#### Specification Grade Slide and Rotary Series

Switchboxes Required: Side Sections Removed.

#### Derating Chart

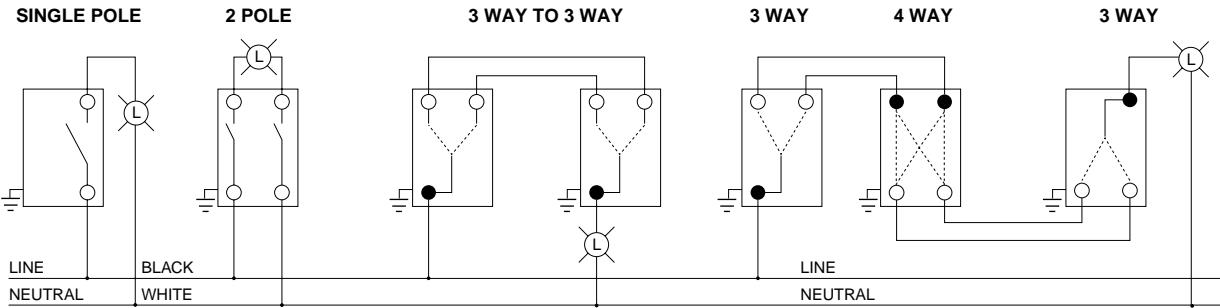
1 dimmer in wall box	2 dimmers in wall box	3 or more dimmers in wall box
600W	500W	400W
1000W	800W	650W
5A fan speed	4A	3A



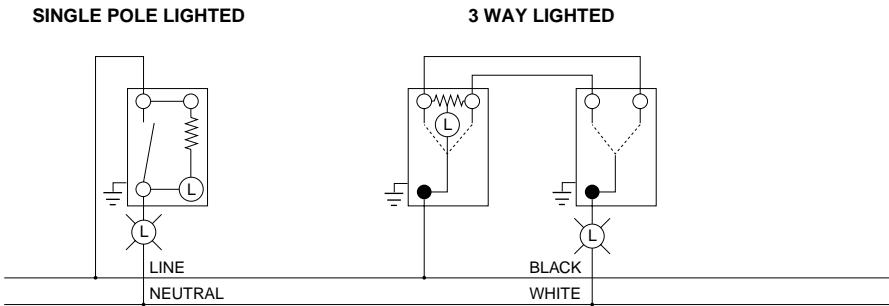
## AC Switches

### Toggle Switch Wiring Diagrams

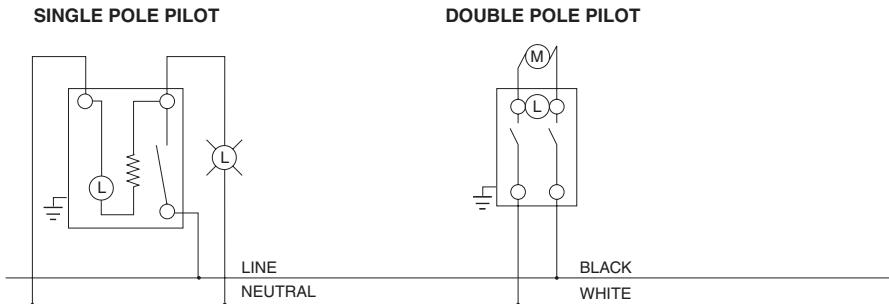
#### Standard Toggle Type Switches



#### Lighted Switches (light on with load off)



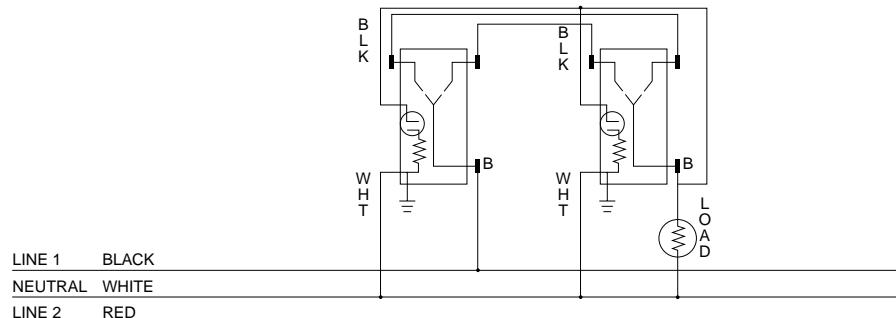
#### Pilot Light Switches (light on with load on)



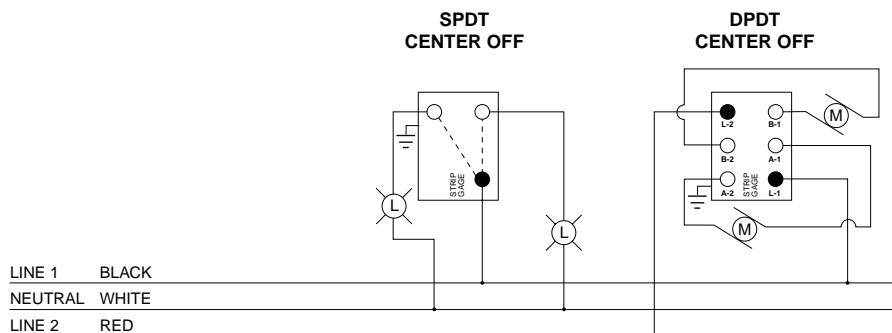
# AC Switches

## Toggle Switch Wiring Diagrams

### Three Way Pilot Switches



### Three Position Switches, Momentary and Maintained



## AC Switches

### Technical Information

#### Switched Safety Enclosures

#### Circuit-Lock® Unfused Disconnect Switch

##### Specifications

Moisture Resistance	Outdoor – Type 4X (Washdown, Corrosion resistant), IP 66 suitability; Indoor – 30A Type 12K (Dust-tight, Falling Dirt, Noncorrosive Liquids with Knockout).
Flammability	UL94-5VA and V0 Classification.
Operating Temperature	Maximum Continuous +75°C; Minimum Continuous -40°C.
UV Resistance	All materials are UV stabilized.
Dielectric Voltage	Withstands 3000V AC minimum.
Max. Working Voltage	600V AC RMS.
Current Interrupting	Certified for current interrupting at full rated current and voltage.
Short Circuit Withstand Rating (Motor Disconnect)	Suitable for use on a circuit capable of delivering not more than 10,000 RMS symmetrical amperes, 600V AC max.
Terminal Identification	In accordance with UL, CSA and international conventions.
Product Identification	Identification and ratings are part of external label.
Mounting	External fully adjustable feet.
Impact Resistance	In accordance with UL 746C.

#### Circuit-Lock Fused Disconnect Switch

##### Specifications

Moisture Resistance	Outdoor – Type 4X (Washdown, Corrosion resistant), IP 66 suitability; Indoor - Type 12 (Dust-tight, Falling Dirt, Noncorrosive Liquids).
Flammability	UL94-5VA and V0 Classification.
Operating Temperature	Maximum Continuous +75°C; Minimum Continuous -40°C.
UV Resistance	All materials are UV stabilized.
Dielectric Voltage	Withstands 3000V AC minimum.
Max. Working Voltage	600V AC RMS.
Impact Resistance	In accordance with UL 746C.
Terminal Identification	In accordance with UL, CSA and international conventions.
Product Identification	Identification and ratings are part of external label.
Mounting	External fully adjustable feet.
Fuse Types	UL Listed, Class "J"; CSA Certified, HRCI-J.

#### Circuit-Lock Unfused and Fused Disconnect Switch

##### Materials

Part	Material
Base	Valox®
Top	Valox
Handle	Valox
Conduit Hub	Zinc Watertight 30A Unfused - 3/4", 30A Fused - 1", 60/100A Unfused - 1 1/4"
Enclosure Gasket	Neoprene
Shaft (Unfused)	Valox
Shaft (Fused)	Brass
Shaft Seal	Molded Neoprene
Frame	Galvanized Steel
Ground Plate (Fused)	Galvanized Steel
Enclosure Screws	Stainless Steel 300 Series

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