

Push Buttons and Operator Interface

22 and 30 mm Most Common Complete Operators

Class 9001 Type K, SK (30 mm) and XB4, XB5 (22 mm) most common complete operators assembled with contact blocks and suggested legend plates. Start-Stop, Hand-Off-Auto, and other configurations are offered in this simplified quick selector. **19-2**

16 mm Push Buttons

XB6 16 mm Push Buttons, selector switches, and pilot lights with a plastic bezel are intended for machine adjustment and set-up, such as conveyor systems and measuring equipment. **19-4**

22 mm Push Buttons

XB4 22 mm Push Buttons, selector switches, and pilot lights with a metal bezel are designed for industrial applications. They combine ease of installation and robustness. **19-15**

XB5 22 mm, the plastic version of the XB4 unit, is particularly suited to applications requiring a resistance to chemical agents and/or double electrical insulation. **19-34**

30 mm Push Buttons

Class 9001 Type K Heavy Duty Oiltight/Watertight Control Units and Stations are intended primarily for machine tool and industrial applications. **19-55**

Class 9001 Type SK Non-Metallic Watertight operators are designed for use in highly corrosive areas. **19-68**

Class 9001 Type KX operators are Square Multifunction Control Units that mount in a Type K mounting hole. This highly versatile line saves space by combining push buttons and pilot lights into one common operator. **19-87**

Class 9001 Type KY Heavy Duty Control Stations are ideally suited for commercial and industrial applications. **19-102**

Indicating Banks and Beacons

XVB, XVE, and XVP Indicating Banks and Beacons provide instant communication within work groups and across the factory floor. These highly visible, illuminated indicating banks of colored lights and audible alarms let factory personnel monitor and control production quality in large automated areas. They also provide 360° indication. **19-108**

Pendant Stations

Our full line of pendant stations for most crane and hoist applications range from the light to medium duty **BW** and **XAC** pendants to the heavy duty **SKYP** pendants. **19-117**

Compact Pilot Lights

The Compact Pilot light ranges include the **Type J** pilot light, push-to-test types available in incandescent. The **Type O** is a low cost incandescent and the **XVL** is a miniature LED type. **19-106**

Foot Switches

The **Type A** foot switch is a heavy duty industrial foot switch which can be used in a variety of industrial applications. **19-122**

Rotary Cam Switches

K2 and K30-K150 Rotary Cam Switches. Miniature, Custom, and Power Switching Cam Switches provide an inexpensive and versatile means of switching from 10 A logic control through 150 A power switching. **19-124**

Control Stations and Enclosures

XAL control stations are available pre-assembled or custom assembled. These control stations use push buttons and pilot lights from the **XB5 22 mm** range. **XAP** enclosures are available in glass reinforced polyester, die cast metal and flush mount. **19-95**

Type B Standard Duty Control Stations in 1, 2, and 3 button configurations are available as predetermined complete stations. **19-99**



16 mm XB6
(p. 19-4)



22 mm XB4
(p. 19-15)



30 mm Type K
(p. 19-55)



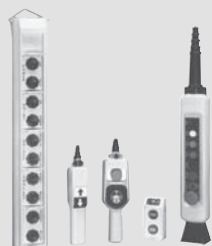
30 mm Type SK
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30 mm Type KX
(p. 19-87)



Type KY Enclosure
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Pendant Stations
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Type B Wall Station
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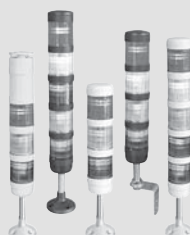
XVL Compact Light
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Type O Compact Light
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Type J Compact Light
(p. 19-106)



Indicating Banks
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Type A Foot Switch
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Table 19.1: BLACK—Start Push Buttons

Operator Style	Description	Contact Block	Type	\$ Price	Legend Plate	\$ Price
30 mm Industrial (Metal)			KR1BH13	54.	KN201	2.90
30 mm Corrosion Resistant (Non-Metallic)			SKR1BH13	54.	KN101SP	2.90

Table 19.5: RED—Stop Push Buttons

Operator Style	Description	Contact Block	Type	\$ Price	Legend Plate	\$ Price
30 mm Industrial (Metal)			KR1RH13	54.	KN202	2.90
30 mm Corrosion Resistant (Non-Metallic)			SKR1RH13	54.	KN102RP	2.90

Table 19.2: BLACK—Off-On Selector Switch

Operator Style	Description	Contact Sequence (Contact Block Included)	Type	\$ Price	Legend Plate	\$ Price
30 mm Industrial (Metal)			KS11BH13	64.	KN244	2.90
30 mm Corrosion Resistant (Non-Metallic)			SKS11BH13	64.	KN144SP	2.90

Table 19.6: BLACK—Hand-Off-Auto Selector Switch

Operator Style	Description	Contact Sequence (Contact Block Included)	Type	\$ Price	Legend Plate	\$ Price
30 mm Industrial (Metal)			KS43BH13	64.	KN260	2.90
30 mm Corrosion Resistant (Non-Metallic)			SKS43BH13	64.	KN160SP	2.90

Table 19.3: RED—120 Vac—On Pilot Light

Operator Style	Description	Type	\$ Price	Legend Plate	\$ Price
30 mm Industrial (Metal)		KP1R31	102.	KN203	2.90
30 mm Corrosion Resistant (Non-Metallic)		SKP1R31	102.	KN103SP	2.90

Table 19.7: GREEN—120 Vac—Off Pilot Light

Operator Style	Description	Type	\$ Price	Legend Plate	\$ Price
30 mm Industrial (Metal)		KP1G31	102.	KN204	2.90
30 mm Corrosion Resistant (Non-Metallic)		SKP1G31	102.	KN104SP	2.90

Table 19.4: RED—120 Vac—On Push-To-Test Pilot Light

Operator Style	Description	Type	\$ Price	Legend Plate	\$ Price
30 mm Industrial (Metal)		KT1R31	131.	KN203	2.90
30 mm Corrosion Resistant (Non-Metallic)		SKT1R31	131.	KN103SP	2.90

Table 19.8: GREEN—120 Vac—Off Push-To-Test Pilot Light

Operator Style	Description	Type	\$ Price	Legend Plate	\$ Price
30 mm Industrial (Metal)		KT1G31	131.	KN204	2.90
30 mm Corrosion Resistant (Non-Metallic)		SKT1G31	131.	KN104RP	2.90


 File CCN E42259
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 File Class LR 25490
 3211 03


Marking

When ordering, please specify:

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- Type or Catalog Number

**Table 19.9: BLACK—Start Push Buttons
(flush head)**

Operator Style	Description	Contact Block	Type	\$ Price	Legend Plate	\$ Price
XB4 Die Cast Chrome		 1 N.O.	XB4BA21	35.00	ZBY2303	3.40
XB5 Double Insulated		 1 N.O.	XB5AA21	35.00	ZBY2303	3.40

**Table 19.13: RED—Stop Push Buttons
(extended head)**

Operator Style	Description	Contact Block	Type	\$ Price	Legend Plate	\$ Price
XB4 Die Cast Chrome		 1 N.C.	XB4BL42	35.00	ZBY2304	3.40
XB5 Double Insulated		 1 N.C.	XB5AL42	35.00	ZBY2304	3.40

Table 19.10: BLACK—Off-On Selector Switch

Operator Style	Description	Contact Block	Type	\$ Price	Legend Plate	\$ Price
XB4 Die Cast Chrome		 1 N.O.	XB4BD21	46.00	ZBY2367	3.40
XB5 Double Insulated		 1 N.O.	XB5AD21	46.00	ZBY2367	3.40

Table 19.14: Hand-Off-Auto Selector Switch

Operator Style	Description	Contact Block	Type	\$ Price	Legend Plate	\$ Price
XB4 Die Cast Chrome		 1 N.O.	XB4BD33	62.00	ZBY2387	3.40
XB5 Double Insulated		 2 N.O.	XB5AD33	62.00	ZBY2387	3.40

Table 19.11: RED—120 Vac LED—On Pilot Light

Operator Style	Description	Light Module	Type	\$ Price	Legend Plate	\$ Price
XB4 Die Cast Chrome		120 Vac Red LED	XB4BVG4	65.00	ZBY2311	3.40
XB5 Double Insulated		120 Vac Red LED	XB5AVG4	65.00	ZBY2311	3.40

Table 19.15: GREEN—120 Vac LED—Off Pilot Light

Operator Style	Description	Light Module	Type	\$ Price	Legend Plate	\$ Price
XB4 Die Cast Chrome		120 Vac Green LED	XB4BVG3	65.00	ZBY2312	3.40
XB5 Double Insulated		120 Vac Green LED	XB5AVG3	65.00	ZBY2312	3.40

Table 19.12: RED—40 mm Mushroom Emergency Stop (Push-Pull)

Operator Style	Description	Contact Block	Type	\$ Price	Legend Plate	\$ Price
XB4 Die Cast Chrome		 1 N.C.	XB4BT42	62.00	ZBY9330	3.40
XB5 Double Insulated		 1 N.C.	XB5AT42	62.00	ZBY9330	3.40

Table 19.16: RED—40 mm Mushroom Emergency Stop (Turn-To-Release)

Operator Style	Description	Contact Block	Type	\$ Price	Legend Plate 60 mm Round	\$ Price
XB4 Die Cast Chrome		 1 N.C.	XB4BS542	100.00	ZBY9330	3.40
XB5 Double Insulated		 1 N.C.	XB5AS542	100.00	ZBY9330	3.40



File E164353
CCN NKCR



File LR 44087
Class 3211 03



Marking

When ordering, please specify:

- Quantity
- Type or Catalog Number

Table 19.17: Characteristics

Environment		
Conforming to standards	 Marked	IEC 947-1, IEC 947-5-1, IEC 947-5-4, EN 60947-5-1, JIS C 4520 and 852, UL 508, CSA C22.2 No. 14
Product certifications	 File E164353 CCN NKCR  File LR 44087 Class 3211 03	UL, CSA ASE, BV, JIS, RINA, LROS, DNV, GL: pending
Degree of protection	Conforming to IEC 529 & NF C 20-010 Conforming to UL 50 & CSA C22.2 No. 94	IP65 Type 1, 4, 4X and 12 (not for key selector switches)
Electrical characteristics of LED pilot lights		
Voltage Limits, Current Draw	12–24 V	6–30 Vac/dc, 15 mA
	120 V	48–120 Vac, 20 mA
Electrical characteristics of contacts		
Rated operational characteristics	AC-15	B300, Ue = 240 Vac and Ie = 1.5 A or Ue 120 Vac and Ie = 3 A Continuous Thermal Current 5 A
	DC-13	R300, Ue = 250 Vdc and Ie = 0.1 A or Ue = 125 Vdc and Ie = 0.22 A
Cabling		By Quick Connectors/Solder tabs 0.11 x 0.02 in. (2.8 x 0.5 mm)

**Table 19.18: Illuminated Push Buttons (12–24 Vac/Vdc LED included)
Complete Units with Quick Connectors/Solder Tabs**

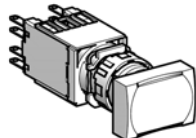
Type of Push	Type of Contact		Color				\$ Price
	N.O.	N.C.		Rectangular	Square	Round	
Catalog Number							
Flush, spring return	1	—	White	XB6DW1B1B	XB6CW1B1B	XB6AW1B1B	40.40
			Green	XB6DW3B1B	XB6CW3B1B	XB6AW3B1B	
			Yellow	XB6DW5B1B	XB6CW5B1B	XB6AW5B1B	
			Blue	XB6DW6B1B	XB6CW6B1B	XB6AW6B1B	
	—	1	Red	XB6DW4B2B	XB6CW4B2B	XB6AW4B2B	40.40
			White	XB6DW1B5B	XB6CW1B5B	XB6AW1B5B	
	1	1	Green	XB6DW3B5B	XB6CW3B5B	XB6AW3B5B	47.60
			Red	XB6DW4B5B	XB6CW4B5B	XB6AW4B5B	
			Yellow	XB6DW5B5B	XB6CW5B5B	XB6AW5B5B	
			Blue	XB6DW6B5B	XB6CW6B5B	XB6AW6B5B	
Flush, maintained	1	—	White	XB6DF1B1B	XB6CF1B1B	XB6AF1B1B	40.40
			Green	XB6DF3B1B	XB6CF3B1B	XB6AF3B1B	
			Yellow	XB6DF5B1B	XB6CF5B1B	XB6AF5B1B	
			Blue	XB6DF6B1B	XB6CF6B1B	XB6AF6B1B	
	—	1	Red	XB6DF4B2B	XB6CF4B2B	XB6AF4B2B	40.40
			White	XB6DF1B5B	XB6CF1B5B	XB6AF1B5B	
	1	1	Green	XB6DF3B5B	XB6CF3B5B	XB6AF3B5B	47.60
			Red	XB6DF4B5B	XB6CF4B5B	XB6AF4B5B	
			Yellow	XB6DF5B5B	XB6CF5B5B	XB6AF5B5B	
			Blue	XB6DF6B5B	XB6CF6B5B	XB6AF6B5B	
Extended, spring return	1	—	White	XB6DE1B1B	XB6CE1B1B	XB6AE1B1B	40.40
			Green	XB6DE3B1B	XB6CE3B1B	XB6AE3B1B	
			Yellow	XB6DE5B1B	XB6CE5B1B	XB6AE5B1B	
			Blue	XB6DE6B1B	XB6CE6B1B	XB6AE6B1B	
	—	1	Red	XB6DE4B2B	XB6CE4B2B	XB6AE4B2B	40.40
			White	XB6DE1B5B	XB6CE1B5B	XB6AE1B5B	
	1	1	Green	XB6DE3B5B	XB6CE3B5B	XB6AE3B5B	47.60
			Red	XB6DE4B5B	XB6CE4B5B	XB6AE4B5B	
			Yellow	XB6DE5B5B	XB6CE5B5B	XB6AE5B5B	
			Blue	XB6DE6B5B	XB6CE6B5B	XB6AE6B5B	

Note: **Illuminated Push Buttons 120 Vac LED** are available as Complete Units with Quick Connectors/Solder Tabs. Use 12–24 V table above.
 Change Voltage Code (2nd B) to "G". **Example:** XB6DW1B1B (White 24 V, 1 N.O.) becomes XB6DW1G1B.

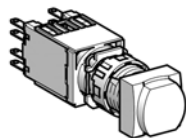
Legends pages 19-12 and 19-13

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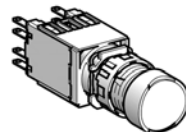
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- Catalog Number



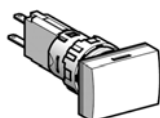
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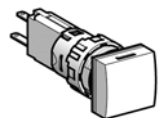
XB6CE...B



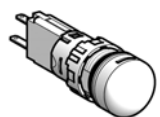
XB6AF...B



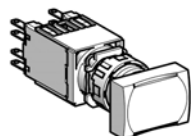
XB6DV..B



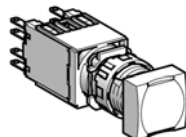
XB6CV..B



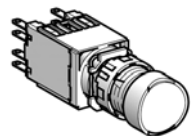
XB6AV..B



XB6DA..B



XB6CA..B



XB6AA..B



XB6AS8345B



XB6AS9345B



ZB6Y7330

**Table 19.19: Pilot Lights (12–24 Vac/dc LED included)
Complete Units with Quick Connectors/Solder Tabs**

Color				\$ Price
	Rectangular	Square	Round	
	Catalog Number			
White	XB6DV1BB	XB6CV1BB	XB6AV1BB	24.80
Green	XB6DV3BB	XB6CV3BB	XB6AV3BB	
Red	XB6DV4BB	XB6CV4BB	XB6AV4BB	
Yellow	XB6DV5BB	XB6CV5BB	XB6AV5BB	
Blue	XB6DV6BB	XB6CV6BB	XB6AV6BB	

**Table 19.20: Pilot Lights (120 Vac LED)
Complete Units with Quick Connectors/Solder Tabs**

Color				\$ Price
	Rectangular	Square	Round	
	Catalog Number			
White	XB6DV1GB	XB6CV1GB	XB6AV1GB	24.80
Green	XB6DV3GB	XB6CV3GB	XB6AV3GB	
Red	XB6DV4GB	XB6CV4GB	XB6AV4GB	
Yellow	XB6DV5GB	XB6CV5GB	XB6AV5GB	
Blue	XB6DV6GB	XB6CV6GB	XB6AV6GB	

**Table 19.21: Push Buttons (Non-Illuminated)
Complete Units with Quick Connectors/Solder Tabs**

Type of Push	Type of Contact		Color				\$ Price
	N.O.	N.C.		Rectangular	Square	Round	
				Catalog Number			
Flush, spring return	1	—	White	XB6DA11B	XB6CA11B	XB6AA11B	23.80
			Black	XB6DA21B	XB6CA21B	XB6AA21B	
			Green	XB6DA31B	XB6CA31B	XB6AA31B	
			Yellow	XB6DA51B	XB6CA51B	XB6AA51B	
			Blue	XB6DA61B	XB6CA61B	XB6AA61B	
	—	1	Black	XB6DA22B	XB6CA22B	XB6AA22B	23.80
			Red	XB6DA42B	XB6CA42B	XB6AA42B	
	1	1	White	XB6DA15B	XB6CA15B	XB6AA15B	31.00
			Black	XB6DA25B	XB6CA25B	XB6AA25B	
			Green	XB6DA35B	XB6CA35B	XB6AA35B	
			Red	XB6DA45B	XB6CA45B	XB6AA45B	
			Yellow	XB6DA55B	XB6CA55B	XB6AA55B	
		Blue	XB6DA65B	XB6CA65B	XB6AA65B		

Table 19.22: Trigger Action Emergency Stop Mushroom Head Push Buttons (Color Red)▲

Shape of Head	Type of Push	Type of Contact		Diameter of Head (mm)	Catalog Number	\$ Price
		N.O.	N.C.			
	Turn-to-release	—	1	30	XB6AS8342B	59.00
		1	1	30	XB6AS8345B	66.00
	Key release	—	1	30	XB6AS9342B	71.00
		1	1	30	XB6AS9345B	79.00

▲ Trigger action mushroom heads are tamper proof in that a change of contact state is not possible by teasing or floating the operator.

Table 19.23: Circular Legends, 45 mm

Description	Color	Text	Catalog Number	\$ Price
		Blank	ZB6Y7001	
Circular legends, 45 mm	Yellow	Emergency stop	ZB6Y7330	3.40
		Arrêt d'urgence	ZB6Y7130	

Legends..... pages 19-12 and 19-13

When ordering, please specify:

- Quantity
- Catalog Number

Table 19.24: Selector Switches (Switching Angle: Handle: 60°, Key: 70°)
Complete Units with Quick Connectors/Solder Tabs

Type of Operator	Type of Contact		Number and Type of Positions					\$ Price
	N.O.	N.C.			Rectangular	Square	Round	
Catalog Number								
Handle	1	—	2-maintained		XB6DD221B	XB6CD221B	XB6AD221B	27.00
	1	1	2-maintained		XB6DD225B	XB6CD225B	XB6AD225B	34.20
			3-maintained		XB6DD235B	XB6CD235B	XB6AD235B	34.20
	2	—	3-maintained		XB6DD233B	XB6CD233B	XB6AD233B	34.20
Type of Operator	Type of Contact		Number and Type of Positions					\$ Price
	N.O.	N.C.			Rectangular	Square	Round	
Catalog Number								
Key	1	1	2-maintained		XB6DGC5B	XB6CGC5B	XB6AGC5B	62.00
			2-maintained		XB6DGB5B	XB6CGB5B	XB6AGB5B	62.00
			3-maintained		XB6DGH5B	XB6CGH5B	XB6AGH5B	62.00
	2	—	3-maintained		XB6DGH3B	XB6CGH3B	XB6AGH3B	62.00

Note:  Indicates key withdrawal position.

Table 19.25: Selector Switch Sequence

2 Position Selector Switch		
		Contact block guide ▲
O	X	1 N.O. (left or right)
X	O	1 N.C. (left or right)
O	X	1 N.O. and 1 N.C.
X	O	

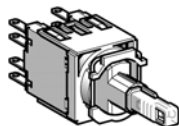
3 Position Selector Switch			
			Contact block guide ▲
O	O	X	1 N.O. (left)
X	O	X	2 N.O. wired in parallel (side by side)
X	O	O	1 N.O. (right)
O	X	X	1 N.C. (right)
X	X	O	1 N.C. (left)
O	X	O	2 N.C. wired in series (side by side)

▲ As viewed from the front of the panel.

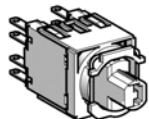
Legends pages 19-12 and 19-13

When ordering, please specify:

- Quantity
- Catalog Number



ZB6ZB**B



ZB6ZH**B

Table 19.26: Contact Blocks and Light Modules for Illuminated Push Buttons▲

Description	Supply Voltage	Type of Contact		Color of Light Source	Catalog Number	\$ Price	
		N.O.	N.C.				
Quick connectors/solder tabs							
Integral LED ■	12–24 Vac/Vdc	1	—	White Green Yellow Blue	ZB6ZB11B ZB6ZB31B ZB6ZB51B ZB6ZB61B	28.00	
		—	1	Red Yellow	ZB6ZB42B ZB6ZB52B	28.00	
		1	1	White Green Red Yellow Blue	ZB6ZB15B ZB6ZB35B ZB6ZB45B ZB6ZB55B ZB6ZB65B	35.20	
	120 Vac	1	—	White Green Yellow Blue	ZB6ZG11B ZB6ZG31B ZB6ZG51B ZB6ZG61B	28.00	
		—	1	Red Yellow	ZB6ZG42B ZB6ZG52B	28.00	
		1	1	White Green Red Yellow Blue	ZB6ZG15B ZB6ZG35B ZB6ZG45B ZB6ZG55B ZB6ZG65B	35.20	
	Direct for incandescent bulb (not included)★	≤24 Vac/Vdc	1	—	—	ZB6ZH01B	23.80
			—	1	—	ZB6ZH02B	23.80
			1	1	—	ZB6ZH05B	31.00

Table 19.27: Contact Blocks for Push Buttons and Selector Switches

Description	Type of Contact		Catalog Number	\$ Price
	N.O.	N.C.		
Quick connectors/solder tabs				
Contact blocks with mounting base	1	—	ZB6Z1B	9.40
	—	1	ZB6Z2B	9.40
	2	—	ZB6Z3B	16.60
	—	2	ZB6Z4B	16.60
	1	1	ZB6Z5B	16.60

Table 19.28: Light Modules for Pilot Lights

Description	Supply Voltage	Color of Light Source	Catalog Number	\$ Price
Quick connectors/solder tabs△				
Integral LED ♦	12–24 Vac/dc	White Green Red Yellow Blue	ZB6EB1B ZB6EB3B ZB6EB4B ZB6EB5B ZB6EB6B	16.60
		White Green Red Yellow Blue	ZB6EG1B ZB6EG3B ZB6EG4B ZB6EG5B ZB6EG6B	16.60
	110 Vac	—	ZB6EG0B	15.60
		—	ZB6EM0B	15.60
	230 Vac	—	ZB6EM0B	15.60
	Direct supply for 0.6 W max. incandescent bulb (not included)★	≤24 Vac/dc	ZB6EH0B	14.40

Table 19.29: Separate Contact Blocks (Maximum of 3 contacts per mounting base.)

Contact Material	For use with mounting base	Type of Contact		Catalog Number	\$ Price
		N.O.	N.C.		
Silver alloy	Quick connectors/solder tabs	1	—	ZB6E1B	7.20
		—	1	ZB6E2B	7.20
Gold flashed	Quick connectors/solder tabs	1	—	ZB6E1E	12.40
		—	1	ZB6E2E	12.40

- ▲ Illuminated selector switches can be assembled by using a contact block/light module assembly in conjunction with a selector switch head, supplied without handle, and a transparent handle. See page 19-10.
 ■ The LED must be the same color as the push button cap.
 ♦ The LED must be the same color as the lens.
 ★ Order bulbs separately. See page 19-14.
 ▼ Neon bulb can only be used with a red, yellow, or white cap.
 △ Electrical components with connection by printed circuit board pins are available. Refer to Catalog 9001CT0001 for details.

When ordering, please specify:

- Quantity
- Catalog Number

Table 19.30: Heads for Illuminated Push Buttons
 (To combine with complete bodies and contact blocks, see page 19-7)


ZB6DW•



ZB6CE•



ZB6AF•

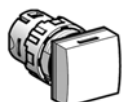
Type of Push	Color				\$ Price
		Rectangular	Square	Round	
Flush, spring return	White	ZB6DW1	ZB6CW1	ZB6AW1	14.40
	Green	ZB6DW3	ZB6CW3	ZB6AW3	
	Red	ZB6DW4	ZB6CW4	ZB6AW4	
	Yellow	ZB6DW5	ZB6CW5	ZB6AW5	
	Blue	ZB6DW6	ZB6CW6	ZB6AW6	
	5 colors ▲	ZB6DW9	ZB6CW9	ZB6AW9	16.40
	Without cap ■	ZB6DW0	ZB6CW0	ZB6AW0	12.40
Flush, maintained	White	ZB6DF1	ZB6CF1	ZB6AF1	14.40
	Green	ZB6DF3	ZB6CF3	ZB6AF3	
	Red	ZB6DF4	ZB6CF4	ZB6AF4	
	Yellow	ZB6DF5	ZB6CF5	ZB6AF5	
	Blue	ZB6DF6	ZB6CF6	ZB6AF6	
	5 colors ▲	ZB6DF9	ZB6CF9	ZB6AF9	16.40
	Without cap ■	ZB6DF0	ZB6CF0	ZB6AF0	12.40
Extended, spring return	White	ZB6DE1	ZB6CE1	ZB6AE1	14.40
	Green	ZB6DE3	ZB6CE3	ZB6AE3	
	Red	ZB6DE4	ZB6CE4	ZB6AE4	
	Yellow	ZB6DE5	ZB6CE5	ZB6AE5	
	Blue	ZB6DE6	ZB6CE6	ZB6AE6	
	5 colors ▲	ZB6DE9	ZB6CE9	ZB6AE9	16.40
	Without cap ■	ZB6DE0	ZB6CE0	ZB6AE0	12.40

▲ Five different color caps included with head (white, green, red, yellow, and blue).

■ To order push button caps separately, see page 19-12.



ZB6DV•



ZB6CV•



ZB6AV•

Table 19.31: Heads for Pilot Lights
 (To combine with light modules, see page 19-7.)

Color				\$ Price
	Rectangular	Square	Round	
White	ZB6DV1	ZB6CV1	ZB6AV1	8.20
Green	ZB6DV3	ZB6CV3	ZB6AV3	
Red	ZB6DV4	ZB6CV4	ZB6AV4	
Yellow	ZB6DV5	ZB6CV5	ZB6AV5	
Blue	ZB6DV6	ZB6CV6	ZB6AV6	
5 colors ♦	ZB6DV9	ZB6CV9	ZB6AV9	10.20
Without lens★	ZB6DV0	ZB6CV0	ZB6AV0	6.20

♦ Five different color caps included with head (white, green, red, yellow, and blue).

★ To order the caps or lenses separately, see page 19-12.

Legends pages 19-12 and 19-13

When ordering, please specify:

- Quantity
- Catalog Number



ZB6DA•



ZB6CA•



ZB6AA•



ZB6AC•



ZB6AS834



ZB6AS934



ZB6Y7330

Table 19.32: Heads for Push Buttons
(To combine with complete bodies and contact blocks, see page 19-7.)

Type of Push	Color				\$ Price
		Rectangular	Square	Round	
Flush, spring return	White	ZB6DA1	ZB6CA1	ZB6AA1	14.40
	Black	ZB6DA2	ZB6CA2	ZB6AA2	
	Green	ZB6DA3	ZB6CA3	ZB6AA3	
	Red	ZB6DA4	ZB6CA4	ZB6AA4	
	Yellow	ZB6DA5	ZB6CA5	ZB6AA5	
	Blue	ZB6DA6	ZB6CA6	ZB6AA6	
	6 colors▲	ZB6DA9	ZB6CA9	ZB6AA9	
	Without cap ■	ZB6DW0	ZB6CW0	ZB6AW0	12.40
Extended, spring return	Red	ZB6DL4	ZB6CL4	ZB6AL4	14.40

▲ Five different color caps included with head (white, green, red, yellow, and blue).

■ To order push button caps separately, see page 19-12.

Table 19.33: Mushroom Heads for Push Buttons (24 mm)

Shape of Head	Type of Push	Color of Cap	Catalog Number	\$ Price
	Spring return	White	ZB6AC1	24.80
		Black	ZB6AC2	
		Green	ZB6AC3	
		Yellow	ZB6AC5	
		Blue	ZB6AC6	

Table 19.34: Mushroom Heads for Trigger Action Push Buttons (30 mm)♦

Shape of Head	Type of Push	Color of Cap	Catalog Number	\$ Price
	Turn-to-release	Red	ZB6AS834	49.60
	Key release	Red	ZB6AS934	62.00

Table 19.35: Circular Legends, 45 mm

Description	Color	Text	Catalog Number	\$ Price
Circular legends, 45 mm	Yellow	Blank	ZB6Y7001	3.40
		Emergency stop	ZB6Y7330	
		Arrêt d'urgence	ZB6Y7130	

♦ Trigger action mushroom heads are tamper proof in that a change of contact state is not possible by teasing or floating the operator.

Legends..... pages 19-12 and 19-13

When ordering, please specify:

- Quantity
- Catalog Number

Table 19.36: Heads for Non-Illuminated Selector Switches ▲♦
 (To combine with complete bodies and contact blocks, see page 19-7.)

Number and Type of Positions				\$ Price	
					Rectangular
Catalog Number					
Switching angle: maintained positions 60°, spring return positions 45°					
2-maintained		Black	ZB6DD22	ZB6CD22	ZB6AD22
2-maintained		Black	ZB6DD28 ■	ZB6CD28 ■	ZB6AD28 ■
3-maintained		Black	ZB6DD23	ZB6CD23	ZB6AD23
2-spring return to center		Black	ZB6DD24	ZB6CD24	ZB6AD24
3-spring return to center		Black	ZB6DD25	ZB6CD25	ZB6AD25
3-spring return from right to center		Black	ZB6DD26	ZB6CD26	ZB6AD26
3-spring return from left to center		Black	ZB6DD27	ZB6CD27	ZB6AD27

▲ For bodies with 2 contact blocks, maximum.

■ Switching angle: maintained positions 90°.

♦ See selector switch sequence charts on page 19-11.

Table 19.37: Heads for Illuminated Selector Switches ★△
 (To combine with complete bodies and contact blocks, see page 19-7.)

Number and Type of Positions					\$ Price	
		Rectangular	Square	Round		
Catalog Number						
Switching angle: maintained positions 60°, spring return positions 45°						
2-maintained			ZB6DD02	ZB6CD02	ZB6AD02	13.40
2-maintained			ZB6DD08 ▼	ZB6CD08 ▼	ZB6AD08 ▼	
3-maintained			ZB6DD03	ZB6CD03	ZB6AD03	
2-spring return to center			ZB6DD04	ZB6CD04	ZB6AD04	
3-spring return to center			ZB6DD05	ZB6CD05	ZB6AD05	
3-spring return from right to center			ZB6DD06	ZB6CD06	ZB6AD06	
3-spring return from left to center			ZB6DD07	ZB6CD07	ZB6AD07	

★ Order handle separately (see Tables 19.38 and 19.39), for bodies with a maximum of 2 contact blocks.

▼ Switching angle: maintained positions 90°.

△ See selector switch sequence charts on page 19-11.

Table 19.38: Handles for Illuminated Selector Switches

Description	Color	Catalog Number	\$ Price
Handles for illuminated selector switches □	White	ZB6YK1	4.20
	Green	ZB6YK3	
	Red	ZB6YK4	
	Yellow	ZB6YK5	
	Blue	ZB6YK6	

Table 19.39: Handles for Non-Illuminated Selector Switches

Description	Color	Catalog Number	\$ Price
Handles for non-illuminated selector switches	Black	ZB6YD2	4.20
	Red	ZB6YD4	

□ For use in conjunction with head without handle (see Tables 19.36 and 19.37) and body/contact assembly for illuminated push buttons (see page 19-7).

Legends pages 19-12 and 19-13

 When ordering,
 please specify:

- Quantity
- Catalog Number

Table 19.40: Heads for Ronis Key Operated Selector Switches ▲
(To combine with complete bodies and contact blocks, see page 19-7.)

Number and Type of Positions		Key Withdrawal				\$ Price
			Rectangular	Square	Round	
Catalog Number						
Switching angle: maintained positions 70°, spring return positions 45°						
2-maintained		Right-hand position	ZB6DGA	ZB6CGA	ZB6AGA	45.60
		Center position	ZB6DGB	ZB6CGB	ZB6AGB	
		Both positions	ZB6DGC	ZB6CGC	ZB6AGC	
2-spring return from right to center		Center position	ZB6DGL	ZB6CGL	ZB6AGL	
3-maintained		Left-hand position	ZB6DGD	ZB6CGD	ZB6AGD	
		Center position	ZB6DGE	ZB6CGE	ZB6AGE	
		Left-hand and center positions	ZB6DGF	ZB6CGF	ZB6AGF	
		Right-hand position	ZB6DGG	ZB6CGG	ZB6AGG	
		All 3 positions	ZB6DGH	ZB6CGH	ZB6AGH	
		Left-hand and right-hand positions	ZB6DGJ	ZB6CGJ	ZB6AGJ	
		Right-hand and center positions	ZB6DGK	ZB6CGK	ZB6AGK	
3-spring return from left to center		Right-hand position	ZB6DGM	ZB6CGM	ZB6AGM	
		Center position	ZB6DGN	ZB6CGN	ZB6AGN	
		Right-hand and center positions	ZB6DGP	ZB6CGP	ZB6AGP	
3-spring return from right to center		Left-hand position	ZB6DGQ	ZB6CGQ	ZB6AGQ	
		Center position	ZB6DGR	ZB6CGR	ZB6AGR	
		Left-hand and center positions	ZB6DGS	ZB6CGS	ZB6AGS	
3-spring return to center		Center position	ZB6DGT	ZB6CGT	ZB6AGT	

45.60

Note:  Indicates key withdrawal position.

▲ Ronis 200 key standard. Other keys available, refer to Catalog 9001CT0001.

Table 19.41: Selector Switch Sequence (using contact block assemblies, page 19-7)

2 Position Selector Switch			
		Contact block guide ■	
O	X	1 N.O. (left or right)	
X	O	1 N.C. (left or right)	
O	X	1 N.O.	
X	O	and 1 N.C.	

3 Position Selector Switch			
			Contact block guide ■
O	O	X	1 N.O. (left)
X	O	X	2 N.O. wired in parallel (side by side)
X	O	O	1 N.O. (right)
O	X	X	1 N.C. (right)
X	X	O	1 N.C. (left)
O	X	O	2 N.C. wired in series (side by side)

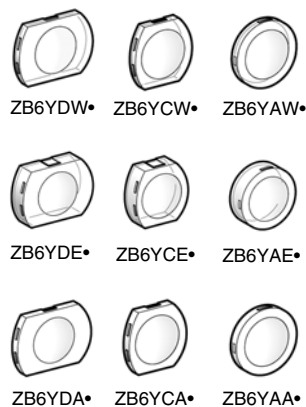
■ As viewed from the front of the panel.

Legends..... pages 19-12 and 19-13

When ordering, please specify:

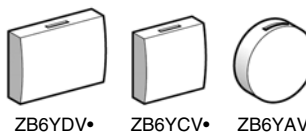
- Quantity
- Catalog Number

Table 19.42: Push Button Caps—Unmarked



Application	Color				\$ Price
		Rectangular	Square	Round	
		Catalog Number			
Illuminated push buttons with flush push	White	ZB6YDW1	ZB6YCW1	ZB6YAW1	2.00
	Green	ZB6YDW3	ZB6YCW3	ZB6YAW3	
	Red	ZB6YDW4	ZB6YCW4	ZB6YAW4	
	Yellow	ZB6YDW5	ZB6YCW5	ZB6YAW5	
	Blue	ZB6YDW6	ZB6YCW6	ZB6YAW6	
Illuminated push buttons with extended push	White	ZB6YDE1	ZB6YCE1	ZB6YAE1	2.00
	Green	ZB6YDE3	ZB6YCE3	ZB6YAE3	
	Red	ZB6YDE4	ZB6YCE4	ZB6YAE4	
	Yellow	ZB6YDE5	ZB6YCE5	ZB6YAE5	
	Blue	ZB6YDE6	ZB6YCE6	ZB6YAE6	
Non-illuminated push buttons	White	ZB6YDA1	ZB6YCA1	ZB6YAA1	2.00
	Black	ZB6YDA2	ZB6YCA2	ZB6YAA2	
	Green	ZB6YDA3	ZB6YCA3	ZB6YAA3	
	Red	ZB6YDA4	ZB6YCA4	ZB6YAA4	
	Yellow	ZB6YDA5	ZB6YCA5	ZB6YAA5	
	Blue	ZB6YDA6	ZB6YCA6	ZB6YAA6	

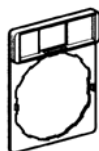
Table 19.43: Lens Caps



Application	Color				\$ Price
		Rectangular	Square	Round	
Catalog Number					
Pilot lights	White	ZB6YDV1	ZB6YCV1	ZB6YAV1	2.00
	Green	ZB6YDV3	ZB6YCV3	ZB6YAV3	
	Red	ZB6YDV4	ZB6YCV4	ZB6YAV4	
	Yellow	ZB6YDV5	ZB6YCV5	ZB6YAV5	
	Blue	ZB6YDV6	ZB6YCV6	ZB6YAV6	

Table 19.44: Standard Legend Plate (24 X 28 mm) for 8 X 21 mm Legend ▲

Description	Background Color of Legend	Catalog Number	\$ Price
Without legend insert	—	ZB6YD20	2.00
With blank legend insert	White or yellow	ZB6YD21	3.40
	Black or red	ZB6YD22	3.40



ZB6YD20

Table 19.45: 8 x 21 mm Marked Legends (for 24 x 28 mm legend holder ZB6YD20) ▲

Color	Marking		Catalog Number	\$ Price
White Text Red Background (Stop and Fault) Black Background (all others)	International	O-I	ZB6Y2178	1.60
		I-II	ZB6Y2179	
		I-O-II	ZB6Y2186	
		←O→	ZB6Y2190	
	English	HAND-O-AUTO	ZB6Y2387	
		CLOSE	ZB6Y2314	
		DOWN	ZB6Y2308	
		FORWARD	ZB6Y2305	
		FAULT	ZB6Y2334	
		LEFT	ZB6Y2310	
		OFF	ZB6Y2312	
		ON	ZB6Y2303	
		OPEN	ZB6Y2313	
		RESET	ZB6Y2323	
		REVERSE	ZB6Y2306	
		RIGHT	ZB6Y2309	
		RUN	ZB6Y2311	
		STOP	ZB6Y2304	
		UP	ZB6Y2307	

▲ Additional legend plate sizes and markings are available in Catalog 9001CT0001.

When ordering, please specify:

- Quantity
- Catalog Number

Table 19.46: Push Button Caps—Marked

Ink Marking Color: White on colored cap Black on white cap	Color				\$ Price
		Rectangular	Square	Round	
Catalog Number					
For non-illuminated push buttons					
0	White	ZB6YD100	ZB6YC100	ZB6YA100	
	Black	ZB6YD200	ZB6YC200	ZB6YA200	
1	White	ZB6YD101	ZB6YC101	ZB6YA101	
	Black	ZB6YD201	ZB6YC201	ZB6YA201	
2	White	ZB6YD102	ZB6YC102	ZB6YA102	
	Black	ZB6YD202	ZB6YC202	ZB6YA202	
3	White	ZB6YD103	ZB6YC103	ZB6YA103	
	Black	ZB6YD203	ZB6YC203	ZB6YA203	
4	White	ZB6YD104	ZB6YC104	ZB6YA104	
	Black	ZB6YD204	ZB6YC204	ZB6YA204	
5	White	ZB6YD105	ZB6YC105	ZB6YA105	
	Black	ZB6YD205	ZB6YC205	ZB6YA205	
6	White	ZB6YD106	ZB6YC106	ZB6YA106	
	Black	ZB6YD206	ZB6YC206	ZB6YA206	
7	White	ZB6YD107	ZB6YC107	ZB6YA107	
	Black	ZB6YD207	ZB6YC207	ZB6YA207	
8	White	ZB6YD108	ZB6YC108	ZB6YA108	
	Black	ZB6YD208	ZB6YC208	ZB6YA208	
9	White	ZB6YD109	ZB6YC109	ZB6YA109	
	Black	ZB6YD209	ZB6YC209	ZB6YA209	
ON	White	ZB6YD117	ZB6YC117	ZB6YA117	
	Green	ZB6YD317	ZB6YC317	ZB6YA317	
OFF	Black	ZB6YD224	ZB6YC224	ZB6YA224	
	Red	ZB6YD424	ZB6YC424	ZB6YA424	
I	White	ZB6YD111	ZB6YC111	ZB6YA111	
	Green	ZB6YD311	ZB6YC311	ZB6YA311	
O	Black	ZB6YD210	ZB6YC210	ZB6YA210	
	Red	ZB6YD410	ZB6YC410	ZB6YA410	
R	Black	ZB6YD226	ZB6YC226	ZB6YA226	4.20
	Blue	ZB6YD626	ZB6YC626	ZB6YA626	
START	White	ZB6YD140	ZB6YC140	ZB6YA140	
	Green	ZB6YD340	ZB6YC340	ZB6YA340	
STOP	Black	ZB6YD241	ZB6YC241	ZB6YA241	
	Red	ZB6YD441	ZB6YC441	ZB6YA441	
II	White	ZB6YD112	ZB6YC112	ZB6YA112	
	Black	ZB6YD212	ZB6YC212	ZB6YA212	
III	White	ZB6YD113	ZB6YC113	ZB6YA113	
	Black	ZB6YD213	ZB6YC213	ZB6YA213	
+	White	ZB6YD114	ZB6YC114	ZB6YA114	
	Black	ZB6YD214	ZB6YC214	ZB6YA214	
-	White	ZB6YD115	ZB6YC115	ZB6YA115	
	Black	ZB6YD215	ZB6YC215	ZB6YA215	
UP	White	ZB6YD127	ZB6YC127	ZB6YA127	
	Black	ZB6YD227	ZB6YC227	ZB6YA227	
DOWN	White	ZB6YD128	ZB6YC128	ZB6YA128	
	Black	ZB6YD228	ZB6YC228	ZB6YA228	
CLOSE	White	ZB6YD132	ZB6YC132	ZB6YA132	
	Black	ZB6YD232	ZB6YC232	ZB6YA232	
↑	White	ZB6YD119	ZB6YC119	ZB6YA119	
	Black	ZB6YD219	ZB6YC219	ZB6YA219	
↓	White	ZB6YD120	ZB6YC120	ZB6YA120	
	Black	ZB6YD220	ZB6YC220	ZB6YA220	
→	White	ZB6YD121	ZB6YC121	ZB6YA121	
	Black	ZB6YD221	ZB6YC221	ZB6YA221	
←	White	ZB6YD122	ZB6YC122	ZB6YA122	
	Black	ZB6YD222	ZB6YC222	ZB6YA222	

4.20

When ordering, please specify:

- Quantity
- Catalog Number



ZB6Y009



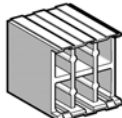
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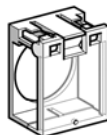
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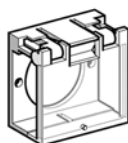
ZB6Y003



ZB6Y001



ZB6YA001



ZB6YD001



ZB6Y005



ZB6Y007



ZB6Y7330

Table 19.47: Accessories

Description	Application	Catalog Number	\$ Price
Body	Fitting contact blocks	ZB6Y009	2.00
Bezel tightening tool + bulb extractor	Fixing the switch and changing bulbs	ZB6Y905	4.20
Cap extractor	Changing caps	ZB6Y016	4.20
Contact block removal tool	Removing contact blocks	ZB6Y018	4.20
Three piece tool kit	—	ZB6Y019	12.40
Nut	Fixing head to panel	ZB6Y002	2.00
Anti-rotation plate	Selector switches, Emergency Stops	ZB6Y003	2.00
Adaptor	Flush mounting a circular head push button or pilot light in Ø 22 mm cut-out	ZB6YA002	6.20
Shroud	Protecting contacts against touching	ZB6Y001	3.40
Protective cover	Circular and square head push buttons and switches	ZB6YA001	16.60
	Rectangular head push buttons and switches	ZB6YD001	16.60
Female Quick connector/Solder tab	Sold in lots of 100 pieces	ZB6Y004	0.42
Blanking plug	Plugging an unused knockout	ZB6Y005	4.20
Ronis key, 2 pieces	Key operated selector switches and emergency stop mushroom	ZB6Y007	6.20
Incandescent bulbs, bayonet T1 1/4	6 V	ZB6YA006	2.00
	12 V	ZB6YJ012	2.00
	28 V ▲	ZB6YB028	2.00
Neon bulbs	110/230 V ■	ZB6YG095	4.20
Link	Operation of 3rd contact	ZB6Y017	1.00
SiS Label Software	Legend Design Software: English, French, German, Spanish, Italian	XYB2U	104.00
Sheets of peel-off legends, 66 legends per sheet. For use with SiS label, size A4 (297 mm x 210 mm)	Pilot lights, rectangular	ZB6YD003	6.20
	Pilot lights, square	ZB6YC003	
	Pilot lights, circular	ZB6YA003	
	Illuminated push buttons, rectangular	ZB6YD013	
	Illuminated push buttons, square	ZB6YC013	
	Illuminated push buttons, circular	ZB6YA013	
Adapter	For mounting 16 mm into 22 mm hole	ZB6Y020	15.00

▲ 28 V bulb supplied, for use on 24 V.

■ 95 V bulb supplied, for use on 110/230 V.

Table 19.48: Circular Legends, 45 mm

Description	Color	Text	Catalog Number	\$ Price
Circular legends, 45 mm	Yellow	Blank	ZB6Y7001	3.40
		Emergency stop	ZB6Y7330	
		Arrêt d'urgence	ZB6Y7130	

When ordering, please specify:

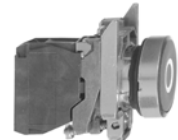
- Quantity
- Catalog Number

Table 19.49: Environment

Degree of protection	Conforming to IEC 529	IP65, unless otherwise stated IP66, for booted push button heads		
	Conforming to UL 50 and CSA C22.2 No. 94	Type 1, 2, 3, 4, 4X, 12, and 13, unless otherwise stated		
Conforming to standards	 Marked	IEC 947-1, IEC/EN 60947-5-1, IEC 947-5-4, EN 60947-1, JIS C 4520, UL 508, CSA C22.2 No. 14		
Product certifications	UL Listed, CSA	Standard single contacts with screw clamp terminals: A600; Q600 Double contacts with screw clamp terminals: A600; Q600 Light modules with screw clamp terminals JOYSTICK XD4-PA: A600; R300		
	 File E164353 CCN NKCR  File LR 44087 Class 3211 03  File E164353 CCN NKCR 2	BV, RINA, LROS, DNV, GL (pending)	Standard single contacts and double contacts with screw clamp terminals	
Electrical Characteristics of Operators and Contact Blocks				
Cabling capacity	Conforming to IEC 947-1	Screw and captive clamp terminals Min: 1 x 24 AWG (0.22 mm²) without cable end 1 x 22 AWG (0.34 mm²) for linking Max:2 x 16 AWG (1.5 mm²) with cable end 2 x 14 AWG (2.5 mm²) without cable ends Cross headed screw (POZIDRIV type 1) slotted for flat 4 and 5.5 mm screwdriver		
Maximum Contact Block Usage	XB4/ZB4 Maximum Number of Blocks	Push buttons (Non-Illuminated)	9	
		Selector switches (Non-Illuminated)	6	
		Push buttons and selectors (Illuminated)	6	
		Mushrooms, Push Pull (Non-Illuminated)	6	
		Mushrooms, Push Pull (Illuminated)	4	
		Mushrooms, Turn-to-Release (Non-Illuminated)	6	
		Mushrooms, Trigger Action (Non-Illuminated)	4	
		Push-on/Push-off (Non-Illuminated)	3	
		Push-on/Push-off (Illuminated)	2	
Rated operational characteristics Conforming to IEC/EN 60947-5-1	AC supply: Utilization category AC-15	Standard blocks (single or double) with screw clamp terminals: A600: Ue = 600 Vac and le = 1.2 A or Ue = 240 Vac and le = 3 A or Ue = 120 Vac and le = 6 A Continuous Thermal Current: 10 A		
	DC supply: Utilization category DC-13	Standard single or double blocks with screw clamp terminals: Q600: Ue = 600 Vdc and le = 0.1 A or Ue = 250 Vdc and le = 0.27 A or Ue = 125 Vdc and le = 0.55 A Joystick XD4-PA: R300: Ue = 125 Vdc and le = 0.22 A or Ue = 250 Vdc and le = 0.1 A		
Electrical durability Conforming to IEC/EN 60947-5-1 Appendix C Operating rate 3600 operating cycles/hour. Load factor: 0.5	AC supply for 1 million operating cycles, utilization category AC-15	Standard blocks for screw clamp terminals:		
		24 Vac	120 Vac	230 Vac
		4 A	3 A	2 A
		Standard double blocks with screw clamp terminals:		
		24 Vac	120 Vac	230 Vac
		3 A	1.5 A	1 A
	DC supply for 1 million operating cycles, utilization category DC-13	Standard single blocks for screw clamp terminals:		
		24 Vdc	110 Vdc	
		0.5 A	0.2 A	
		Standard double blocks with screw clamp terminals:		
24 Vdc		110 Vdc		
0.4 A		0.15 A		
Electrical Characteristics of Light Modules				
Cabling capacity	Conforming to IEC 947-1	Screw and captive clamp terminals Min: 1 x 24 AWG (0.22 mm²) without cable end 1 x 22 AWG (0.34 mm²) for linking Max:2 x 16 AWG (1.5 mm²) with cable end		
Specific Characteristics of Protected LED [®] Light Modules Only				
Voltage limits	Nominal voltage	24 V: 19.2 to 30 Vdc, 21.6 to 26.4 Vac; 120 V: 102 to 132 Vac; 240 V: 195 to 264 Vac		
Current consumption	Applicable to all colors	24 Vac/dc supply blocks: 18 mA 120 Vac supply blocks: 14 mA 240 Vac supply blocks: 14 mA		



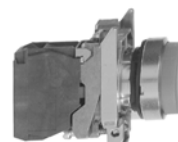
XB4BA31



XB4BA4322



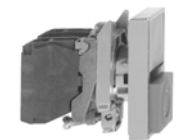
XB4BP51



XB4BL42



XB4BC21



XB4BL845

Table 19.50: Non-Illuminated Push Buttons, Momentary (screw clamp terminal connections)

Shape of Head	Type of Push	Type of Contact		Marking	Color of Cap	Catalog Number	(Components)	\$ Price
		N.O.	N.C.					
	Flush	1	—	—	Black	XB4BA21	(ZB4BZ101 + ZB4BA2)	35.00
					Green	XB4BA31	(ZB4BZ101 + ZB4BA3)	
					Yellow	XB4BA51	(ZB4BZ101 + ZB4BA5)	
					Blue	XB4BA61	(ZB4BZ101 + ZB4BA6)	
		—	1	—	Red	XB4BA42	(ZB4BZ102 + ZB4BA4)	35.00
		1	1	—	Black	XB4BA25	(ZB4BZ105 + ZB4BA2)	51.00
					Green	XB4BA35	(ZB4BZ105 + ZB4BA3)	
					Red	XB4BA45	(ZB4BZ105 + ZB4BA4)	
Yellow	XB4BA55				(ZB4BZ105 + ZB4BA5)			
Blue	XB4BA65	(ZB4BZ105 + ZB4BA6)						
	Flush	1	—	"I" (white)	Green	XB4BA3311	(ZB4BZ101 + ZB4BA331)	40.60
	Flush	—	1	"O" (white)	Red	XB4BA4322	(ZB4BZ102 + ZB4BA432)	40.60
	Flush with clear silicone boot (color of pusher unobscured)	1	—	—	Black	XB4BP21	(ZB4BZ101 + ZB4BP2)	47.80
					Green	XB4BP31	(ZB4BZ101 + ZB4BP3)	
					Yellow	XB4BP51	(ZB4BZ101 + ZB4BP5)	
					Blue	XB4BP61	(ZB4BZ101 + ZB4BP6)	
		—	1	—	Red	XB4BP42	(ZB4BZ102 + ZB4BP4)	47.80
	Extended	—	1	—	Red	XB4BL42	(ZB4BZ102 + ZB4BL4)	35.00
		1	1	—	Red	XB4BL45	(ZB4BZ105 + ZB4BL4)	51.00
	Mushroom head Ø 40 mm	1	—	—	Black	XB4BC21	(ZB4BZ101 + ZB4BC2)	51.00

Table 19.51: Two Button Push Buttons, Momentary (screw clamp terminal connections)

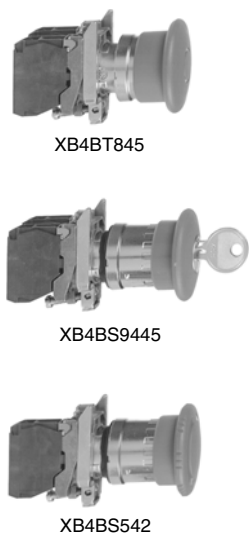
Shape of Head	Type of Push	Type of Contact		Degree of Protection	Catalog Number (Components)	\$ Price
		N.O.	N.C.			
	One flush green push (marked "I") One extended red push (marked "O")	1	1	IP40	XB4BL845 (ZB4BZ105 + ZB4BL8434)	63.00

Legends pages 19-29 to 19-31

When ordering, please specify:

- Quantity
- Catalog Number

Table 19.52: Non-Illuminated Emergency Stop Mushroom Head Push Buttons, Ø 40 mm (Red)
(screw clamp terminal connections)



Shape of Head	Type of Push	Type of Contact			Catalog Number (Components)	\$ Price
		N.O.	N.C.			
	Trigger action push-pull▲	1	1		XB4BT845 (ZB4BZ105 + ZB4BT84)	92.00
	Trigger action turn-to-release▲	1	1		XB4BS8445 (ZB4BZ105 + ZB4BS844)	150.00
	Trigger action Key release ▲ (No. 455)	1	1		XB4BS9445 (ZB4BZ105 + ZB4BS944)	150.00
	Push-pull	—	1		XB4BT42 (ZB4BZ102 + ZB4BT4)	62.00
	Turn-to-release	—	1		XB4BS542 (ZB4BZ102 + ZB4BS54)	100.00
	Key release (No. 455)	—	1		XB4BS142 (ZB4BZ102 + ZB4BS14)	134.00

▲ Trigger action mushroom heads are tamper proof in that a change of contact state is not possible by teasing or floating the operator.

Table 19.53: Non-Illuminated Selector Switches and Key Switches (screw clamp terminal connections)■



Shape of Head	Type of Operator	Type of Contact		Number and Type of Positions		Catalog Number (Components)		\$ Price
		N.O.	N.C.					
	Standard lever, black	1	—	2-maintained		XB4BD21	(ZB4BZ101 + ZB4BD2)	46.00
		1	1	2-maintained		XB4BD25	(ZB4BZ105 + ZB4BD2)	62.00
		2	—	3-maintained		XB4BD33	(ZB4BZ103 + ZB4BD3)	62.00
				3-momentary to center		XB4BD53	(ZB4BZ103 + ZB4BD5)	68.00
	Extended lever, black	1	—	2-maintained		XB4BJ21	(ZB4BZ101 + ZB4BJ2)	46.00
		2	—	3-maintained		XB4BJ33	(ZB4BZ103 + ZB4BJ3)	62.00
				3-momentary to center		XB4BJ53	(ZB4BZ103 + ZB4BJ5)	68.00
			Key (No. 455)	1	—	2-maintained		XB4BG21
	XB4BG41						(ZB4BZ101 + ZB4BG4)	112.00
2-momentary to left						XB4BG61	(ZB4BZ101 + ZB4BG6)	112.00
2	—			3-maintained		XB4BG03	(ZB4BZ103 + ZB4BG0)	128.00
						XB4BG33	(ZB4BZ103 + ZB4BG3)	128.00

Note: The symbol indicates key withdrawal position(s).

■ See page 19-22 for contact configurations.

Legends..... pages 19-29 to 19-31

When ordering, please specify:

- Quantity
- Catalog Number

Table 19.54: Pilot Lights with Protected LED® (screw clamp terminal connections) ▲

Shape of Head	Supply Voltage	Color	Catalog Number (Components)	\$ Price
 Protected LED New!	24 Vac/dc	White	XB4BV01 (ZB4BV013)	65.00
		Green	XB4BV03 (ZB4BV033)	
		Red	XB4BV04 (ZB4BV043)	
		Yellow	XB4BV05 (ZB4BV053)	
		Blue	XB4BV06 (ZB4BV063)	
	110–120 Vac	White	XB4BV01 (ZB4BV013)	65.00
		Green	XB4BV03 (ZB4BV033)	
		Red	XB4BV04 (ZB4BV043)	
		Yellow	XB4BV05 (ZB4BV053)	
		Blue	XB4BV06 (ZB4BV063)	

XB4BV5

Table 19.55: Pilot Lights for BA9s Bulb (screw clamp terminal connections)

Shape of Head	Supply Voltage	Color	Catalog Number	(Components)	\$ Price
Direct supply, for BA9s (incandescent, LED, neon) V ≤ 250 V, 2.4 W bulb (bulb not included)					
	≤ 250 Vac/dc	White	XB4BV61	(ZB4BV6 + ZB4BV01)	46.20
		Green	XB4BV63	(ZB4BV6 + ZB4BV03)	
		Red	XB4BV64	(ZB4BV6 + ZB4BV04)	
		Yellow	XB4BV65	(ZB4BV6 + ZB4BV05)	
Transformer type with 1.2 VA, 6 V secondary. BA9s incandescent bulb included					
	110–120 Vac 50/60 Hz	White	XB4BV31	(ZB4BV3 + ZB4BV01)	106.00
		Green	XB4BV33	(ZB4BV3 + ZB4BV03)	
		Red	XB4BV34	(ZB4BV3 + ZB4BV04)	
		Yellow	XB4BV35	(ZB4BV3 + ZB4BV05)	

XB4BV64

XB4BV33

Table 19.56: Illuminated Push Buttons, Momentary (screw clamp terminal connections) ▲

Shape of Head	Description	Type of Contact		Supply Voltage	Color of Push	Catalog Number (Components)		\$ Price
		N.O.	N.C.					
Flush								
	Protected[®] LED <i>New!</i>	1	1	24 Vac/dc	White	XB4BW31B5	(ZB4BW0B15 + ZB4BW313)	108.00
					Green	XB4BW33B5	(ZB4BW0B35 + ZB4BW333)	
					Red	XB4BW34B5	(ZB4BW0B45 + ZB4BW343)	
					Yellow	XB4BW35B5	(ZB4BW0B55 + ZB4BW353)	
				Blue	XB4BW36B5	(ZB4BW0B65 + ZB4BW363)		
		110–120 Vac	White	XB4BW31G5	(ZB4BW0G15 + ZB4BW313)	108.00		
			Green	XB4BW33G5	(ZB4BW0G35 + ZB4BW333)			
			Red	XB4BW34G5	(ZB4BW0G45 + ZB4BW343)			
			Yellow	XB4BW35G5	(ZB4BW0G55 + ZB4BW353)			
			Blue	XB4BW36G5	(ZB4BW0G65 + ZB4BW363)			
	Direct supply for BA9s 2.4 W max. bulb not included	1	1	≤ 250 Vac/dc	White	XB4BW3165	(ZB4BW065 + ZB4BW31)	90.00
					Green	XB4BW3365	(ZB4BW065 + ZB4BW33)	
					Red	XB4BW3465	(ZB4BW065 + ZB4BW34)	
					Yellow	XB4BW3565	(ZB4BW065 + ZB4BW35)	
					Blue	XB4BW3665	(ZB4BW065 + ZB4BW36)	
	Transformer type 1.2 VA, 6 V secondary. BA9s incandescent bulb included	1	1	110–120 Vac 50/60 Hz	White	XB4BW3135	(ZB4BW035 + ZB4BW31)	148.00
					Green	XB4BW3335	(ZB4BW035 + ZB4BW33)	
					Red	XB4BW3435	(ZB4BW035 + ZB4BW34)	
					Yellow	XB4BW3535	(ZB4BW035 + ZB4BW35)	
				230–240 Vac 50/60 Hz	White	XB4BW3145	(ZB4BW045 + ZB4BW31)	148.00
		Green	XB4BW3345		(ZB4BW045 + ZB4BW33)			
		Red	XB4BW3445		(ZB4BW045 + ZB4BW34)			
		Yellow	XB4BW3545		(ZB4BW045 + ZB4BW35)			
		Blue	XB4BW3645		(ZB4BW045 + ZB4BW36)			
		Extended						
	Protected[®] LED <i>New!</i>	1	1	24 Vac/dc	White	XB4BW11B5	(ZB4BW0B15 + ZB4BW113)	103.00
					Green	XB4BW13B5	(ZB4BW0B35 + ZB4BW133)	
					Red	XB4BW14B5	(ZB4BW0B45 + ZB4BW143)	
					Yellow	XB4BW15B5	(ZB4BW0B55 + ZB4BW153)	
				Blue	XB4BW16B5	(ZB4BW0B65 + ZB4BW163)		
		110–120 Vac	White	XB4BW11G5	(ZB4BW0G15 + ZB4BW113)	103.00		
			Green	XB4BW13G5	(ZB4BW0G35 + ZB4BW133)			
			Red	XB4BW14G5	(ZB4BW0G45 + ZB4BW143)			
			Yellow	XB4BW15G5	(ZB4BW0G55 + ZB4BW153)			
			Blue	XB4BW16G5	(ZB4BW0G65 + ZB4BW163)			

▲ For 240 V LED, replace the last "B" or "G" in the catalog number with an "M". For example, XB4BV01 (24 V) becomes XB4BM01 (240 V).

Legends pages 19-29 to 19-31

When ordering, please specify:

- Quantity
- Catalog Number

Table 19.57: Non-Illuminated Operators, Momentary—Unmarked

Shape of Head	Type of Push	Color of Cap	Catalog Number	\$ Price
	Flush, without color cap ▲	—	ZB4BA0	11.00
	Flush, with set of 6 color caps	White Black Green Red Yellow Blue	ZB4BA9	13.00
	Flush	White Black Green Red Yellow Blue Gray	ZB4BA1 ZB4BA2 ZB4BA3 ZB4BA4 ZB4BA5 ZB4BA6 ZB4BA8	13.00
	Flush with transparent cap, for insertion of legend ■	White Green Red Yellow Blue	ZB4BA18 ZB4BA38 ZB4BA48 ZB4BA58 ZB4BA68	16.00
	Booted (clear) Color of cap unobscured	White Black Green Red Yellow Blue	ZB4BP1 ZB4BP2 ZB4BP3 ZB4BP4 ZB4BP5 ZB4BP6	25.80
	Booted (clear) for insertion of legend ■ Color of cap unobscured	White Green Red Yellow Blue	ZB4BP18 ZB4BP38 ZB4BP48 ZB4BP58 ZB4BP68	29.00
	Extended	White Black Green Red Yellow Blue	ZB4BL1 ZB4BL2 ZB4BL3 ZB4BL4 ZB4BL5 ZB4BL6	13.00
	Guarded Head	White Black Green Red Yellow Blue	ZB4BA16 ZB4BA26 ZB4BA36 ZB4BA46 ZB4BA56 ZB4BA66	35.00

▲ Color cap to be ordered separately, see page 19-31.
■ For legend ordering information, see page 19-31.

Table 19.58: Non-Illuminated Operators, Momentary—Premarked

Shape of Head	Type of Push	Marking Text	Color	Color of Cap	Catalog Number	\$ Price
	Flush	I	White	Green	ZB4BA331	18.60
		START	Black	White	ZB4BA131	
			White	Green	ZB4BA333	
		ON	Black	White	ZB4BA133	
			White	Green	ZB4BA341	
		RESET	Black	White	ZB4BA141	
			White	Black	ZB4BA222	
		JOG	White	Black	ZB4BA245	
			White	Red	ZB4BA432	
		O	White	Black	ZB4BA232	
	Extended	STOP	White	Red	ZB4BA434	18.60
			White	Black	ZB4BA234	
		OFF	White	Red	ZB4BA435	
			White	Black	ZB4BA235	
		↑ ♦	Black	White	ZB4BA334	
			White	Black	ZB4BA335	
		O	White	Red	ZB4BL432	
			White	Black	ZB4BL232	
		STOP	White	Red	ZB4BL434	
			White	Black	ZB4BL234	
	Extended	OFF	White	Red	ZB4BL435	18.60
			White	Black	ZB4BL235	

♦ Cap supplied not clipped-in, allowing orientation of arrow in any one of 4 directions: ↑, ↓, ← or →

Legends..... pages 19-29 to 19-31

When ordering, please specify:

- Quantity
- Catalog Number



ZB4BC24



ZB4BC2



ZB4BR2



ZB4BH02



ZB4BA8134



ZB4BL8312



ZB4BL9312

Table 19.59: Mushroom Heads, Momentary

Shape of Head	Diameter of Head	Color of Head	Catalog Number	\$ Price
	30 mm	Black	ZB4BC24	29.40
		Green	ZB4BC34	
		Red	ZB4BC44	
		Yellow	ZB4BC54	
		Blue	ZB4BC64	
	40 mm	Black	ZB4BC2	29.40
		Green	ZB4BC3	
		Red	ZB4BC4	
		Yellow	ZB4BC5	
		Blue	ZB4BC6	
	60 mm	Black	ZB4BR2	35.00
		Green	ZB4BR3	
		Red	ZB4BR4	
		Yellow	ZB4BR5	
		Blue	ZB4BR6	

Table 19.60: Non-Illuminated Push-on/Push-off Operators

Shape of Head	Type of Push	Color of Push	Catalog Number	\$ Price
	Flush	White	ZB4BH01	17.60
		Black	ZB4BH02	
		Green	ZB4BH03	
		Red	ZB4BH04	
		Yellow	ZB4BH05	
		Blue	ZB4BH06	
	Extended	White	ZB4BH1	17.60
		Black	ZB4BH2	
		Green	ZB4BH3	
		Red	ZB4BH4	
		Yellow	ZB4BH5	
		Blue	ZB4BH6	

Table 19.61: Two Head Operators, Momentary

Shape of Head	Description	Color of Pushers	Degree of Protection▲	Catalog Number	\$ Price
No Marking					
	Two flush	Green	IP40	ZB4BA8134	20.80
		Red	IP66	ZB4BA9134	37.20
		White	IP40	ZB4BA8112	20.80
		Black	IP66	ZB4BA9112	37.20
	One flush One extended	Green	IP40	ZB4BL8334	20.80
		Red	IP66	ZB4BL9334	37.20
		White	IP40	ZB4BL8312	20.80
		Black	IP66	ZB4BL9312	37.20
Premarked					
	Two flush (marked "I") (marked "O")	Green	IP40	ZB4BA8234	24.80
		Red	IP66	ZB4BA9234	41.40
		White	IP40	ZB4BA8212	24.80
		Black	IP66	ZB4BA9212	41.40
	One flush (marked "I") One extended (marked "O")	Green	IP40	ZB4BL8434	24.80
		Red	IP66	ZB4BL9434	41.40
		White	IP40	ZB4BL8412	24.80
		Black	IP66	ZB4BL9412	41.40

▲ IP66 version utilizes boot (included).

Legends pages 19-29 to 19-31

When ordering, please specify:

- Quantity
- Catalog Number



ZB4BS834



ZB4BT4



ZB4BS64



ZB4BS74

Table 19.62: Mushroom Heads for Maintained Push Buttons

Shape of Head	Type of Push	Diameter of Head	Color	Catalog Number	\$ Price
	Trigger action Push-pull ▲	40 mm	Red	ZB4BT84	54.00
	Trigger action Turn-to-release ▲	30 mm	Red	ZB4BS834	112.00
		40 mm	Red	ZB4BS844	112.00
			Red marked "EMO"	ZB4BS84430	118.00
	Trigger action Key release (No. 455) ▲	30 mm	Red	ZB4BS934	112.00
		40 mm	Red	ZB4BS944 ■	112.00
		60 mm	Red	ZB4BS964	112.00
	Push-pull	40 mm	Black	ZB4BT2	40.40
			Red	ZB4BT4	
		60 mm	Black	ZB4BX2	46.00
			Red	ZB4BX4	
	Turn-to-release	30 mm	Black	ZB4BS42	78.00
			Red	ZB4BS44	
		40 mm	Black	ZB4BS52	78.00
			Red	ZB4BS54	
			Red marked "EMO"	ZB4BS5430	85.00
			Yellow	ZB4BS55	78.00
			Yellow marked "Robot Stop"	ZB4BS5550	85.00
		60 mm	Black	ZB4BS62	90.00
			Red	ZB4BS64	
	Key release (No. 455)	30 mm	Black	ZB4BS72	112.00
			Red	ZB4BS74	
		40 mm	Black	ZB4BS12	112.00
			Red	ZB4BS14 ■	
			Black	ZB4BS22	
		60 mm	Black	ZB4BS24	112.00
			Red		

▲ Trigger action mushroom heads are tamper proof in that a change of contact state is not possible by teasing or floating the operator.

■ Other key numbers:

- key no. 421E: add the suffix 12 to the catalog number.
- key no. 458A: add the suffix 10 to the catalog number.
- key no. 520E: add the suffix 14 to the catalog number.
- key no. 3131A: add the suffix 20 to the catalog number.

Example: The catalog number for a head with key No. 421E for a 2 position maintained, lockable selector switch, with key withdrawal from the left-hand position, becomes: ZB4BG212.



ZBY9330

Table 19.63: Circular Legends for Emergency Stop Mushroom Heads (yellow background)

Diameter	Text	Catalog Number	\$ Price
60 mm	Blank	ZBY9101	3.40
	EMERGENCY STOP	ZBY9330	
90 mm	Blank	ZBY8101	
	EMERGENCY STOP	ZBY8330	

Legends..... pages 19-29 to 19-31

**When ordering,
please specify:**

- Quantity
- Catalog Number

New!

Table 19.64: Non-Illuminated Selector Switches ■

Color	Number and Type of Positions				\$ Price
			Standard Lever ▲	Extended Lever	
Catalog Number					
Black	2-maintained		ZB4BD2	ZB4BJ2	24.00
Black	2-momentary from right to left		ZB4BD4	ZB4BJ4	29.40
Black	3-maintained		ZB4BD3	ZB4BJ3	24.00
Black	3-momentary to center		ZB4BD5	ZB4BJ5	29.40
Black	3-momentary from left to center		ZB4BD7	ZB4BJ7	29.40
Black	3-momentary from right to center		ZB4BD8	ZB4BJ8	29.40

▲ For colored lever, add the following code to the end of part number: 01–white, 03–green, 04–red, 05–yellow, 06–blue (Example: ZB4BD204).

New!

Table 19.65: Non-Illuminated Key Switches ■

Shape of Head	Type of Operator	Number and Type of Positions		Catalog Number	\$ Price
	Key (No. 455) ♦ Note: The symbol  indicates the key withdrawal position(s).	2-maintained		ZB4BG2	90.00
				ZB4BG4	
		2-momentary from right to left		ZB4BG6	
				ZB4BG0	
		3-maintained		ZB4BG3	
				ZB4BG03	
				ZB4BG5	
				ZB4BG9	
				ZB4BG09	
		3-momentary from left to center		ZB4BG1	116.00
		3-momentary to center		ZB4BG7	
		3-momentary from right to center		ZB4BG8	
				ZB4BG08	

■ See Table 19.66 for contact configurations.

 ♦ Other key numbers: —key no. 421E: add the suffix 12 to the catalog number. —key no. 520E: add the suffix 14 to the catalog number.
 —key no. 458A: add the suffix 10 to the catalog number. —key no. 3131A: add the suffix 20 to the catalog number.

Example: The catalog number for a head with key no. 421E for a 2 position maintained, lockable selector switch, with key withdrawal from the left-hand position, becomes: ZB4BG212.

Table 19.66: Sequence of Contacts on Selector Switch Bodies

Unit Type		Selector Switches														
		2-position						3-position								
		315°			45°			315°			0°			45°		
																
Operator Plunger Position	Up															
	Down															
Contact Block Location		L	C	R	L	C	R	L	C	R	L	C	R	L	C	R
Contacts	N/O	O	O	O	X	X	X	X	X	O	O	O	O	O	X	X
	N/C	X	X	X	O	O	O	O	O	X	X	X	X	X	O	O

Note: L=Left, C=Center, R=Right, O=Open, X=Closed

Legends pages 19-29 to 19-31

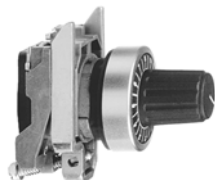
 When ordering,
 please specify:

- Quantity
- Catalog Number

ZB4BD4
Standard LeverZB4BJ3
Extended Lever

ZB4BG8





ZB4BD922

Table 19.67: Potentiometer Operator (with Mounting Collar)

Shape of Head	Description	Application	Catalog Number	\$ Price
	For potentiometer with shaft length 1.73 to 1.97 in. (44 to 50 mm) (potentiometer not included)	For shaft Ø 1/4 in. (6.35 mm)	ZB4BD922	142.00
		For shaft Ø 0.24 in. (6 mm)	ZB4BD912	

Table 19.68: Joysticks (54 mm, Extended Operating Shaft) ▲

Description	Contact Operation	Action	Catalog Number	\$ Price
2 direction 	1 step 1 N.O. contact per direction	Maintained	XD4PA12	250.00
		Momentary	XD4PA22	
4 direction 	1 step 1 N.O. contact per direction	Maintained	XD4PA14	316.00
		Momentary	XD4PA24	

▲ Do not use standard contact blocks ZBE10* (single) or ZBE20* (double).



XD4PA12

Table 19.69: Legends for Joysticks

Description	For use with	Color	Catalog Number	\$ Price
Legends 30 x 48 mm for customer engraving	2 direction	Black one side Red reverse	ZBG2201	3.40
		White one side Yellow reverse	ZBG2401	
Legends 48 x 48 mm for customer engraving	4 direction	Black one side Red reverse	ZBG4201	
		White one side Yellow reverse	ZBG4401	

Table 19.70: Two Position Toggle Switch

Shape of Head	Color	Type of Positions	Catalog Number	\$ Price
	Black	Maintained	ZB4BD28	46.60
	Black	Momentary	ZB4BD48	



ZB4BD28

Table 19.71: Reset Operators, Flush, Adjustable Shaft

Shape of Head	Travel		Actuation Distance		Color	Catalog Number	\$ Price
	in.	mm	in.	mm			
	0.39	10	0.24–0.63	6–16	Black	XB4BA821	27.40
					Red	XB4BA841	
					Blue	XB4BA861	
			0.63–1.02	16–26	Black	XB4BA822	27.40
					Red	XB4BA842	
					Blue	XB4BA862	
	0.55	14	1.18–5.12	30–130	Black	XB4BA921	32.80
					Red	XB4BA941	
					Blue	XB4BA961	
			5.12–10.12	130–257	Black	XB4BA922	41.00
					Red	XB4BA942	
					Blue	XB4BA962	



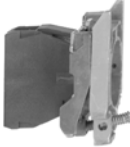
XB4BA8*1

Legends pages 19-29 to 19-31

When ordering, please specify:

- Quantity
- Catalog Number

Table 19.72: Pilot Light Heads

Shape of Head	For Use with Body Comprising Light Module Type	Color of Lens	Catalog Number	\$ Price
 ZB4BV063  ZB4BV04  ZB4BV043S  ZB4BV6	Protected LED® only	White Green Red Yellow Blue	ZB4BV013 ZB4BV033 ZB4BV043 ZB4BV053 ZB4BV063	7.60
	Protected LED only Fresnel (jeweled) lens ▲	White Green Red Amber Blue	ZB4BV013S ZB4BV033S ZB4BV043S ZB4BV053S ZB4BV063S	7.60
	For BA9s incandescent bulb, neon or LED only ■	White Green Red Yellow Blue Clear	ZB4BV01 ZB4BV03 ZB4BV04 ZB4BV05 ZB4BV06 ZB4BV07	7.60
	For BA9s incandescent bulb, neon or LED Fresnel (jeweled) lens ■	White Green Red Amber Blue Clear	ZB4BV01S ZB4BV03S ZB4BV04S ZB4BV05S ZB4BV06S ZB4BV07S	7.60

▲ For use in bright ambient conditions, for example, in sunlight.

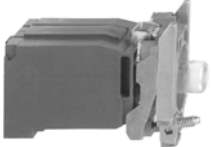
Table 19.73: Complete Bodies (Mounting Collar + Light Module for BA9s Incandescent Bulb, Neon or LED)

Description	Light Source	Supply Voltage (V)	Catalog Number	\$ Price
Screw clamp terminal connections				
Direct supply	BA9s bulb 2.4 W max. Not included ■	≤250	ZB4BV6	38.60
Direct supply	BA9s incandescent bulb included	24 v 2 Watt	ZB4BV624	49.20
Direct supply	BA9s incandescent bulb included	120 v 2.4 Watt	ZB4BV6120	49.20
Transformer type 1.2 VA, 6 V secondary	BA9s incandescent bulb included	110–120 Vac 50/60 Hz	ZB4BV3	98.00
		230–240 Vac 50/60 Hz	ZB4BV4	
		400–50 Hz	ZB4BV5	
		440–480 Vac 60 Hz	ZB4BV8	
		550–600 Vac 60 Hz	ZB4BV9	

■ Order bulb separately; see page 19-32. For BA9 LED, see page 19-120.

New!

Table 19.74: Complete Bodies (Mounting Collar + Light Module with Protected LED®) ♦

Light Source	Supply Voltage	Color of Light Source	Catalog Number	\$ Price
Screw clamp terminal connections ★				
 ZB4BV•	12 Vac/dc	White Green Red Yellow Blue	ZB4BVJ1 ZB4BVJ3 ZB4BVJ4 ZB4BVJ5 ZB4BVJ6	57.00
	24 Vac/dc	White Green Red Yellow Blue	ZB4BV1 ZB4VB3 ZB4VB4 ZB4VB5 ZB4VB6	57.00
	24–120 Vac/dc	White Green Red Yellow Blue	ZB4VB1G1 ZB4VB1G3 ZB4VB1G4 ZB4VB1G5 ZB4VB1G6	57.00
	110–120 Vac	White Green Red Yellow Blue	ZB4VG1 ZB4VG3 ZB4VG4 ZB4VG5 ZB4VG6	57.00
 ZB4BV••	Flashing	White Green Red Yellow Blue	ZB4BV18B1 ZB4BV18B3 ZB4BV18B4 ZB4BV18B5 ZB4BV18B6	66.00
	110–120 Vac	White Green Red Yellow Blue	ZB4BV18G1 ZB4BV18G3 ZB4BV18G4 ZB4BV18G5 ZB4BV18G6	66.00

♦ For 240 V LED, replace the last "B" or "G" in the catalog number with an "M". For example, ZB4VB1 (24 V) becomes ZB4BVM1 (240 V).

★ For Quick-Connect version, add "3" to the end of the catalog number Example: ZB4BVJ13 (Quick-Connect size 1 x 1/40" or 2 x 0.110").

Legends pages 19-29 to 19-31

When ordering, please specify:

- Quantity
- Catalog Number

Table 19.75: Heads for Momentary Illuminated Push Buttons

Shape of Head	Type of Push	Color	Catalog Number	\$ Price
Only use with Protected LED® light modules				
	Flush	White	ZB4BW313	18.60
		Green	ZB4BW333	
		Red	ZB4BW343	
		Yellow	ZB4BW353	
		Blue	ZB4BW363	
	Flush with clear boot	White	ZB4BW513	31.00
		Green	ZB4BW533	
		Red	ZB4BW543	
		Yellow	ZB4BW553	
		Blue	ZB4BW563	
	Flush for insertion of legend	White	ZB4BA18	16.00
		Green	ZB4BA38	
		Red	ZB4BA48	
		Yellow	ZB4BA58	
		Blue	ZB4BA68	
	Extended	White	ZB4BW113	13.00
		Green	ZB4BW133	
		Red	ZB4BW143	
		Yellow	ZB4BW153	
		Blue	ZB4BW163	
	Mushroom (40 mm)	Clear	ZB4BW413	29.40
		Green	ZB4BW433	
		Red	ZB4BW443	
		Yellow	ZB4BW453	
		Blue	ZB4BW463	

Only use with light modules for a BA9s incandescent bulb, neon or LED

	Flush	White	ZB4BW31	18.60
		Green	ZB4BW33	
		Red	ZB4BW34	
		Yellow	ZB4BW35	
		Blue	ZB4BW36	
	Extended	Clear	ZB4BW37	13.00
		White	ZB4BW11	
		Green	ZB4BW13	
		Red	ZB4BW14	
		Yellow	ZB4BW15	

Table 19.76: Heads for Maintained Illuminated Push Buttons

Shape of Head	Type of Push	Color of Lens	Catalog Number	\$ Price
Only use with Protected LED light modules				
	Push/Pull Mushroom (40 mm)	Clear	ZB4BW613	46.00
		Green	ZB4BW633	
		Red	ZB4BW643	
		Yellow	ZB4BW653	
		Blue	ZB4BW663	

Table 19.77: Illuminated Push-On/Push-Off Operators

Shape of Head	Type of Push	Color of Lens	Catalog Number	\$ Price
Only use with Protected LED light modules				
	Flush	White	ZB4BH013	24.80
		Green	ZB4BH033	
		Red	ZB4BH043	
		Yellow	ZB4BH053	
		Blue	ZB4BH063	
	Extended	White	ZB4BH13	19.60
		Green	ZB4BH33	
		Red	ZB4BH43	
		Yellow	ZB4BH53	
		Blue	ZB4BH63	

Legends..... pages 19-29 to 19-31

When ordering, please specify:

- Quantity
- Catalog Number

Table 19.78: Two Button with Clear Pilot Light, Momentary (IP40) ▲

Shape of Head	Description	Color of Pushers	Catalog Number	\$ Price
Only use with Protected LED® light modules (Protected LED determines pilot light color)				
	1 flush 1 central pilot light 1 flush	Black Red	ZB4BW812743	29.00
		Green Red	ZB4BW813743	
		White Black	ZB4BW811723	
	1 flush 1 central pilot light 1 extended	Black Red	ZB4BW832743	29.00
		Green Red	ZB4BW833743	
		White Black	ZB4BW831723	
Only use with Protected LED light modules (Protected LED determines pilot light color)—premarked				
	1 flush (marked "I") 1 central pilot light 1 flush (marked "O")	Black Red	ZB4BW822743	33.20
		Green Red	ZB4BW823743	
		White Black	ZB4BW821723	
	1 flush (marked "I") 1 central pilot light 1 extended (marked "O")	Black Red	ZB4BW842743	33.20
		Green Red	ZB4BW843743	
		White Black	ZB4BW841723	

▲ For IP66 degree of protection, install clear sealing boot ZBW008, see page 19-33.

Table 19.79: Illuminated Selector Switches, Standard Lever

Shape of Head	Number and Type of Positions		Catalog Number ■	\$ Price
Only use with Protected LED light modules				
	2-maintained		ZB4BK12*3	35.00
	2-momentary from right to left		ZB4BK14*3	51.00
	3-maintained		ZB4BK13*3	35.00
	3-momentary to center		ZB4BK15*3	51.00
	3-momentary from right to center		ZB4BK18*3	51.00
	3-momentary from left to center		ZB4BK17*3	51.00

■ Designate color as follows: 1—white, 3—green, 4—red, 5—yellow, 6—blue.

New!

Table 19.80: Sequence of Contacts on Illuminated Selector Switch Bodies

Unit Type		Selector Switches									
		2-position				3-position					
		315°		45°		315°		0°		45°	
											
Operator Plunger Position	Up										
	Down										
Contact Block Location		L	R	L	R	L	R	L	R	L	R
Contacts		N/O	O	X	X	X	O	O	O	O	X
		N/C	X	X	O	O	X	X	X	X	O

Note: L=Left, R=Right, O=Open, X=Closed

Legends pages 19-29 to 19-31

When ordering, please specify:

- Quantity
- Catalog Number



ZB4BZ101

Table 19.81: Contact Blocks (Mounting Collar with Contact Blocks)

Description	Type of Contact		Catalog Number	\$ Price
	N.O.	N.C.		
Screw clamp terminal connections	1	—	ZB4BZ101	22.00
	—	1	ZB4BZ102	22.00
	2	—	ZB4BZ103	38.20
	—	2	ZB4BZ104	38.20
	1	1	ZB4BZ105	38.20
	1	2	ZB4BZ141	55.00

- ▲ For Quick-Connect version add "3" to the end of the catalog number Example: ZB4BZ1013 (Quick-Connect size 1 x 0.250" or 2 x 0.110").
■ For Ring Tongue compatible blocks add "9" to the end of the catalog number (Example: ZB4BZ1029).
♦ Electrical components with connection by printed circuit board pins are available. Refer to Catalog **9001CT0001**.
★ Electrical components with connection by plug-in connector are available. Refer to Catalog **9001CT0001**.

**Table 19.82: Complete Bodies
(Mounting Collar + Single Contact Block + Light Module with Protected LED®)**

Light Source	Type of Contact ▼		Color	Supply Voltage △		\$ Price
	N.O.	N.C.		24 Vac/dc	110–120 Vac	
				Catalog Number		
Screw clamp terminal connections						
Protected[®] LED New!	1	—	White	ZB4BW0B11	ZB4BW0G11	73.00
			Green	ZB4BW0B31	ZB4BW0G31	
			Red	ZB4BW0B41	ZB4BW0G41	
			Yellow	ZB4BW0B51	ZB4BW0G51	
			Blue	ZB4BW0B61	ZB4BW0G61	
	—	1	White	ZB4BW0B12	ZB4BW0G12	73.00
			Green	ZB4BW0B32	ZB4BW0G32	
			Red	ZB4BW0B42	ZB4BW0G42	
			Yellow	ZB4BW0B52	ZB4BW0G52	
			Blue	ZB4BW0B62	ZB4BW0G62	
	2	—	White	ZB4BW0B13	ZB4BW0G13	90.00
			Green	ZB4BW0B33	ZB4BW0G33	
			Red	ZB4BW0B43	ZB4BW0G43	
			Yellow	ZB4BW0B53	ZB4BW0G53	
			Blue	ZB4BW0B63	ZB4BW0G63	
	1	1	White	ZB4BW0B15	ZB4BW0G15	90.00
			Green	ZB4BW0B35	ZB4BW0G35	
			Red	ZB4BW0B45	ZB4BW0G45	
			Yellow	ZB4BW0B55	ZB4BW0G55	
			Blue	ZB4BW0B65	ZB4BW0G65	

▼ Can be fitted with additional contact blocks, see page 19-28.

△ For 240V LED, replace the "B" or "G" with "M". (Example: change "ZB4BW0B11 (24V)" to ZB4BW0M11 (240V))

Table 19.83: Mounting Collar, Contact Block and Light Module (with screw clamp terminal connections) □

Supply	Light Source	Supply Voltage	Type of Contact □		Color of Light Source	Catalog Number	\$ Price
			N.O.	N.C.			
Screw clamp terminal connections							
Direct supply	BA9s 2.4 W max. bulb Not included □	≤ 250 Vac/dc	1	—	—	ZB4BW061	55.00
			—	1	—	ZB4BW062	55.00
			2	—	—	ZB4BW063	71.00
			1	1	—	ZB4BW065	71.00
Transformer type 1.2 VA, 6 V secondary	BA9s incandescent bulb included	110–120 Vac 50/60 Hz	1	—	—	ZB4BW031	114.00
			1	1	—	ZB4BW035	130.00
		230–240 Vac 50/60 Hz	1	—	—	ZB4BW041	114.00
			1	1	—	ZB4BW045	130.00
		440–480 Vac 60 Hz	1	—	—	ZB4BW081	114.00
			1	1	—	ZB4BW085	130.00

□ Order bulb separately, see page 19-32.

◇ Can be fitted with additional contact blocks, see page 19-28.

When ordering, please specify:

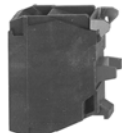
- Quantity
- Catalog Number



ZB4BW05



ZB4BZ009



ZBE101



ZBE203



ZBVB•

Table 19.84: Body/Mounting Collar

For use with	Catalog Number	\$ Price
Electrical block (contact or light module)	ZB4BZ009	5.40

Table 19.85: Add-On Contact Block (with screw clamp terminal connections) ★▼

Description	Type of Contact		Catalog Number	\$ Price
	N.O.	N.C.		
Standard single contact blocks▲■	1	—	ZBE101	16.40
	—	1	ZBE102	16.40
Standard double contact blocks▲■	2	—	ZBE203	33.20
	—	2	ZBE204	33.20
	1	1	ZBE205	33.20
Special contact blocks (for low power switching and dust protected)◆	1	—	ZBE1016	32.80
	—	1	ZBE1026	32.80

▲ For Quick-Connect version add "3" to the end of the catalog number Example: ZBE1013 (Quick-Connect size 1 x 0.250" or 2 x 0.110").

■ For Ring Tongue compatible blocks add "9" to the end of the catalog number (Example: ZBE1029).

◆ Cannot stack additional contact blocks onto these blocks.

Table 19.86: Light Modules (with screw clamp terminal connections) ★▼

Description	Supply Voltage	Color of Light Source	Catalog Number	\$ Price
	12 Vac/dc	White	ZBVJ1	52.00
		Green	ZBVJ3	
		Red	ZBVJ4	
		Yellow	ZBVJ5	
		Blue	ZBVJ6	
	24 Vac/dc	White	ZBVB1	52.00
		Green	ZBVB3	
		Red	ZBVB4	
		Yellow	ZBVB5	
		Blue	ZBVB6	
	110–120 Vac	White	ZBVG1	52.00
		Green	ZBVG3	
		Red	ZBVG4	
		Yellow	ZBVG5	
		Blue	ZBVG6	
	24–120 Vac/dc	White	ZBVBG1	52.00
		Green	ZBVBG3	
		Red	ZBVBG4	
		Yellow	ZBVBG5	
		Blue	ZBVBG6	
	230–240 Vac	White	ZBVM1	52.00
		Green	ZBVM3	
		Red	ZBVM4	
		Yellow	ZBVM5	
		Blue	ZBVM6	
Direct supply for BA9s 2.4 W max. bulb Not included △	≤ 250 Vac/dc	—	ZBV6	33.20

★ Electrical components with connection by printed circuit board pins are available. Refer to Catalog 9001CT0001 for more details.

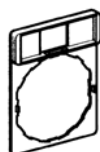
▼ Electrical components with connection by plug-in connector are available. Refer to Catalog 9001CT0001 for more details.

△ See page 19-32 for bulb information.

When ordering, please specify:

- Quantity
- Catalog Number

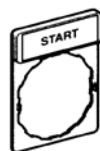
**Protected
LED**
New!



ZBZ32



ZBY101



ZBY2303



ZBZ33



ZBY610•

Table 19.87: Standard (30 x 40 mm) Legend Holders for 8 x 27 mm Legends

Description	Legend		Catalog Number	\$ Price
	Color	Text		
Without legend ▲	—	—	ZBZ32	2.00
With blank legend (for engraving)	Black or red background	—	ZBY2101	3.40
	White or yellow background	—	ZBY4101	
Custom Legend (Specify Engraving) 2 lines of 11 characters (including spaces) maximum per line	Black background	White	ZBY2002	14.20
	Red background	White	ZBY2004	
	White background	Black	ZBY4001	
	Yellow background	Black	ZBY4005	
With legend marked with international language	Black or red background ■	O (black background)	ZBY2146	3.40
		O (red background)	ZBY2931	
		I	ZBY2147	
		II	ZBY2148	
		O-I	ZBY2178	
		I-II	ZBY2179	
With legend marked with English language	Black or red background ■	I-O-II	ZBY2186	3.40
		AUTO	ZBY2115	
		AUTO-HAND	ZBY2364	
		AUTO-O-HAND	ZBY2385	
		CLOSE	ZBY2314	
		DOWN	ZBY2308	
		EMERGENCY STOP	ZBY2330	
		FAST	ZBY2328	
		FORWARD	ZBY2305	
		FOR-REV	ZBY2371	
		HAND	ZBY2316	
		HAND-OFF-AUTO	ZBY2387	
		INCH	ZBY2321	
		JOG	ZBY2382	
		LEFT	ZBY2310	
		OFF	ZBY2312	
		OFF-ON	ZBY2367	
		ON	ZBY2311	
		OPEN	ZBY2313	
		POWER ON	ZBY2326	
		RESET (red background)	ZBY2323	
		RESET (black background)	ZBY2322	
		REVERSE	ZBY2306	
		RIGHT	ZBY2309	
		RUN	ZBY2334	
		SLOW	ZBY2327	
		START	ZBY2303	
		STOP	ZBY2304	
		STOP-START	ZBY2366	
		UP	ZBY2307	

▲ For marked legends, see page 19-30.

■ Start functions: white letters on black background. Stop functions: white letters on red background (unless otherwise specified above).

Table 19.88: Large (30 x 50 mm) Legend Holders for 18 x 27 mm Legends

Description ♦	Color	Catalog Number	\$ Price
Without legend insert	—	ZBZ33	2.00
With blank legend insert	Black or red background	ZBY6101	3.40
	White or yellow background	ZBY6102	

♦ For custom Legends, see page 19-30.

When ordering, please specify:

- Quantity
- Catalog Number

Table 19.89: Marked Legends for 8 x 27 mm (for 30 x 40 mm legend holders ZBZ32)

Color	Marking	Text	Catalog Number	\$ Price
Black or red background ▲	International	O (black background) O (red background) I II O-I I-II I-O-II	ZBY02146 ZBY02931 ZBY02147 ZBY02148 ZBY02178 ZBY02179 ZBY02186	1.70
	English	AUTO AUTO-HAND AUTO-O-HAND CLOSE DOWN EMERGENCY STOP FAST FORWARD FOR-REV HAND HAND-OFF-AUTO INCH JOG LEFT OFF OFF-ON ON OPEN POWER ON RESET (red background) RESET (black background) REVERSE RIGHT RUN SLOW START STOP STOP-START UP	ZBY02115 ZBY02364 ZBY02385 ZBY02314 ZBY02308 ZBY02330 ZBY02328 ZBY02305 ZBY02371 ZBY02316 ZBY02387 ZBY02321 ZBY02382 ZBY02310 ZBY02312 ZBY02367 ZBY02311 ZBY02313 ZBY02326 ZBY02323 ZBY02322 ZBY02306 ZBY02309 ZBY02334 ZBY02327 ZBY02303 ZBY02304 ZBY02366 ZBY02307	1.70

▲ Start functions: white letters on black background. Stop functions: white letters on red background (unless otherwise specified above).



ZBY02178



ZBY02303

Table 19.90: Legends for Customer Engraving (inserts only)

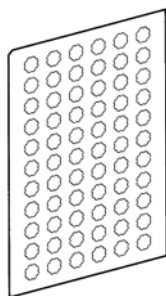
Description	For use with	Color	Catalog Number	\$ Price
8 x 27 mm	30 x 40 mm legend holders	Black or red background	ZBY0101	1.70
		White or yellow background	ZBY0102	
18 x 27 mm	30 x 50 mm legend holders	Black or red background	ZBY5101	
		White or yellow background	ZBY5102	

Table 19.91: Legends for Factory Engraving (inserts only)

Description	For use with	Color	Text	Catalog Number	\$ Price
8 x 27 mm Custom Legend/Insert Only (Specify Engraving) 2 lines of 11 characters (including spaces) maximum per line (Example: ZBY01002 marked "Robot")	30 x 40 mm legend holders	Black background	White	ZBY01002	12.20
		Red background	White	ZBY01004	
		White background	Black	ZBY01001	
		Yellow background	Black	ZBY01005	
18 x 27 mm Custom Legend/Insert Only (Specify Engraving) 3 lines of 11 characters (including spaces) maximum per line (Example: ZBY05002 marked "Robot")	30 x 50 mm legend holders	Black background	White	ZBY05002	12.20
		Red background	White	ZBY05004	
		White background	Black	ZBY05001	
		Yellow background	Black	ZBY05005	

When ordering, please specify:

- Quantity
- Catalog Number



ZBY1101



ZBA•33

Table 19.92: Sheets of Legends for Push Buttons, Switches, and Pilot Lights

Description	Marking	Text	Catalog Number	\$ Price
Sheets of 66 circular peel-off transparent self-adhesive legends	Blank		ZBY1101	6.20
	International	O	ZBY1146	10.40
		I	ZBY1147	
		II	ZBY1148	
		III	ZBY1149	
		STOP	ZBY1304	
		→	ZBY1912	
	English	HAND	ZBY1316	10.40
		OFF	ZBY1312	
		ON	ZBY1311	
		START	ZBY1303	
SiS Label Software	Legend Design Software: English, French, German, Spanish, Italian		XB2U	104.00

Table 19.93: Push Button Caps—Unmarked

For use with	Type of Push	Color	Catalog Number	\$ Price
ZB4BA0 push button heads	Flush	White	ZBA1	2.00
		Black	ZBA2	
		Green	ZBA3	
		Red	ZBA4	
		Yellow	ZBA5	
		Blue	ZBA6	
		6 colors ▲	ZBA9	4.20
	Extended	White	ZBL1	2.00
		Black	ZBL2	
		Green	ZBL3	
		Red	ZBL4	
		Yellow	ZBL5	
		Blue	ZBL6	
		6 colors ▲	ZBL9	4.20

▲ Set of 6 different colored caps: white, black, green, red, yellow, blue.

Table 19.94: Push Button Caps—Marked

For use with	Type of Push	Marking		Color of Cap	Catalog Number	\$ Price
		Text ■	Color			
ZB4BA0 push button heads	Flush	I ♦	White	Green	ZBA331	4.20
			Black	White	ZBA131	
		START ♦	White	Green	ZBA333	
			Black	White	ZBA133	
		ON	White	Green	ZBA341	
			Black	White	ZBA141	
		UP ♦	Black	White	ZBA343	
			White	Black	ZBA344	
		♦	White	Green	ZBA345	
		♦	White	Black	ZBA245	
		♦	White	Green	ZBA346	
		↑	Black	White	ZBA334 ★	
			White	Black	ZBA335 ★	
		O ♦	White	Red	ZBA432	
			Black	Black	ZBA232	
		STOP ♦	White	Red	ZBA434	
			Black	Black	ZBA234	
		OFF	White	Red	ZBA435	
			Black	Black	ZBA235	
		R ♦	White	Blue	ZBA639	

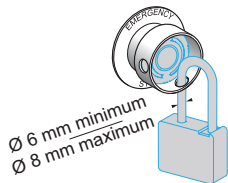
■ Start functions: white letters on black background. Stop functions: white letters on red background (unless otherwise specified).

♦ Double injection molded marking.

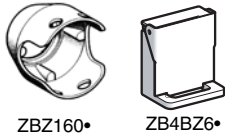
★ Cap supplied not clipped-in, allowing orientation of arrow in any one of 4 directions: ↑, ↓, ← or →

When ordering, please specify:

- Quantity
- Catalog Number

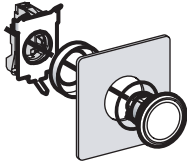


ZBZ3605



ZBZ160•

ZB4BZ6•



ZB4BZ011



ZB4SZ3



ZB5SZ3



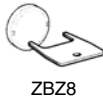
DL1CE••



DL1CF•••



XBFX13



ZBZ8



ZBZ•8



ZBG455



ZBG455P

Table 19.95: Accessories

Description	Application	Color	Catalog Number	\$ Price
Padlocking kit Conforming to EN 418/ISO 13850 ♦ (See legends below) <i>New!</i>	For Emergency Stop function only, with the following Ø 40 trigger-action push buttons: XB4BT8• XB4BS8• XB4BS9• ZB4BT8• ZB4BS8• ZB4BS9•	Yellow	ZBZ3605	108.00
Metal guards Padlockable	For Emergency Stop function only with the following Ø 40 mm trigger-action push buttons: XB4BT8• XB4BS8• XB4BS9• ZB4BT8• ZB4BS8• ZB4BS9•	Chromium Plated	ZBZ1600	108.00
		Black	ZBZ1602	
		Red	ZBZ1604	
		Yellow	ZBZ1605	
		Blue	ZBZ1606	
Plastic guards ■	Round Guard for ZB4BS5430 EMO Mushroom Operators	Yellow	ZB4BZ1905	25.80
	Narrow Flange Guard for ZB4BS5430 or ZB4BS84430 EMO Mushroom Operators	Yellow	ZB4BZ2005	
	Trigger Action Guard for ZB4BS84430 EMO Mushroom Operators	Yellow	ZB4BZ2105	
Padlockable flaps	For push buttons	Black	ZB4BZ62	32.80
		Red	ZB4BZ64	
Mounting kit	For push buttons ZB4B• with flush mounting bezel head For 30 mm mounting hole. Minimum quantity 10		ZB4BZ011	16.60
Metal blanking plug, round chromium plated ▲	For Ø 22 mm control and signalling units		ZB4SZ3	11.00
Plastic blanking plug, round black with mounting nut	For Ø 22 mm control and signalling units		ZB5SZ3	11.00
Description	Marking	Color	Catalog Number	\$ Price
Ø 60 mm Legend for padlocking device ZBZ3605	Without	Yellow	ZBY9101T	3.40
	EMERGENCY STOP	Yellow	ZBY9330T	

▲ Requires a ZB4BZ009 body/mounting collar for mounting, see page 19-28.

■ For additional information, refer to publication 0106HO9802.

♦ Standard circular legends are not compatible with this product. Use special legends ZBY••T listed above.

Table 19.96: BA9s Bulbs and Associated Accessories

Description	Characteristics	Catalog Number	\$ Price
Replacement bulbs (Type BA9s) Incandescent	6 V, 1.2 W	DL1CB006	11.00
	12 V, 2 W	DL1CE012	
	24 V, 2 W	DL1CE024	
	120–130 V, 2.4 W	DL1CE130	
Neon bulbs	120–130 V	DL1CF110	15.20
	230–240 V	DL1CF220	
Bulb extractor	—	XBFX13	11.00
Lens cap tightening tool	Illuminated push buttons with flush push	ZBZ8	6.20
Power driver bits for mounting and wiring (package of 5)	Cross headed screw (POZIDRIV type 1)	ZB4BZ905	52.00
Mounting Adapter	For mounting 22 mm push button in 30 mm KO	ZBZ41	10.40

Table 19.97: Bellows Seals for Harsh Environments (IP 69K) ★

Description	For use with	Color & Material	Sold in Lots of	Catalog Number	\$ Price
Bellows Seals for harsh environments (Humidity, dust, high-pressure cleaning)	Any Harmony XB4 metal, mushroom head push button ★, Ø 40 mm or Ø 60 mm (except ZB4BR•16)	Red Silicone	2	ZBZ48	12.40
		Black EPDM	2	ZBZ28	

★ Only when mounted on control stations. Use special legends ZBY••T.

Table 19.98: Replacement Keys

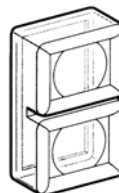
Description	Key Number	Catalog Number	\$ Price
Set of 2 keys	455	ZBG455	11.00
	421E	ZBG421E	
	458A	ZBG458A	
	520E	ZBG520E	
	3131A	ZBG3131A	
Set of 2 keys, One of which is supplied booted (rubber boot)	455	ZBG455P	23.40
	421E	ZBG421EP	
	458A	ZBG458AP	
	520E	ZBG520EP	
	3131A	ZBG3131AP	

When ordering, please specify:

- Quantity
- Catalog Number



ZBP0



ZBW008



ZBV01•3



ZBV01•

Table 19.99: Clear Boots

Description	For use with	Material	Catalog Number	\$ Price
Single boots	Booted push buttons with circular head	Neoprene	ZBP0	12.40
	Booted push buttons with circular head used in food industry applications	Silicone	ZBP0A	12.40
Double boots	Double-headed push buttons, with or without pilot light	Neoprene	ZBW008	32.80
	Double-headed push buttons used in food industry applications	Silicone	ZBW008A	32.80

Table 19.100: Lens Caps

For use with	Color	Catalog Number	\$ Price
Lens caps for PROTECTED LED® light modules			
Pilot lights	White	ZBV0113	5.40
	Green	ZBV0133	
	Red	ZBV0143	
	Yellow	ZBV0153	
	Blue	ZBV0163	
Illuminated push buttons with flush push	White	ZBW9113	5.40
	Green	ZBW9133	
	Red	ZBW9143	
	Yellow	ZBW9153	
	Blue	ZBW9163	
Illuminated push buttons with extended push	White	ZBW9313	5.40
	Green	ZBW9333	
	Red	ZBW9343	
	Yellow	ZBW9353	
	Blue	ZBW9363	
Lens caps for BA9 light modules			
Pilot lights	White	ZBV011	5.40
	Green	ZBV013	
	Red	ZBV014	
	Yellow	ZBV015	
	Blue	ZBV016	
Illuminated push buttons with flush push	Clear	ZBV017	5.40
	White	ZBW911	
	Green	ZBW913	
	Red	ZBW914	
	Yellow	ZBW915	
Illuminated push buttons with extended push	Blue	ZBW916	5.40
	Clear	ZBW917	
	White	ZBW931	
	Green	ZBW933	
	Red	ZBW934	
	Yellow	ZBW935	5.40
	Blue	ZBW936	
	Clear	ZBW937	

When ordering, please specify:

- Quantity
- Catalog Number

Table 19.101: Environment

Degree of protection	Conforming to IEC 529		IP65, unless otherwise stated	
	Conforming to UL 50 and CSA C22.2 No. 94		IP66, for bootied push button heads Type 1, 2, 3, 4, 4X, 12, and 13, unless otherwise stated	
Conforming to standards	 Marked		IEC 947-1, IEC/EN 60947-5-1, IEC 947-5-4, EN 60947-1, JIS C 4520, UL 508, CSA C22.2 No. 14	
Product certifications	UL Listed, CSA		Standard single contacts with screw clamp terminals: A600; Q600 Double contacts with screw clamp terminals: A600; Q600 Light modules with screw clamp terminals JOYSTICK XD4-PA: A600; R300	
	 File E164353 CCN NKCR			
	 File LR 44087 Class 3211 03			
	 File E164353 CCN NKCR 2			
	BV, RINA, LROS, DNV, GL (pending)		Standard single contacts and double contacts with screw clamp terminals	
Electrical Characteristics of Operators and Contact Blocks				
Cabling capacity	Conforming to IEC 947-1		Screw and captive clamp terminals Min: 1 x 24 AWG (0.22 mm ²) without cable end 1 x 22 AWG (0.34 mm ²) for linking Max: 2 x 16 AWG (1.5 mm ²) with cable end 2 x 14 AWG (2.5 mm ²) without cable ends Cross headed screw (POZIDRIV type 1) slotted for flat 4 and 5.5 mm screwdriver	
Maximum Contact Block Usage	XB5/ZB5 Maximum Number of Blocks	Push buttons (Non-Illuminated)	9	
		Selector switches (Non-Illuminated)	6	
		Push buttons (Illuminated)	6	
		Selector Switches (Illuminated)	4	
		Mushrooms, Push Pull (Non-Illuminated)	6	
		Mushrooms, Push Pull (Illuminated)	4	
		Mushrooms, Turn-to-Release (Non-Illuminated)	6	
		Mushrooms, Trigger Action (Non-Illuminated)	4	
		Push-on/Push-off (Non-Illuminated)	3	
		Push-on/Push-off (Illuminated)	2	
Rated operational characteristics Conforming to IEC/EN 60947-5-1	AC supply: Utilization category AC-15	Standard blocks (single or double) with screw clamp terminals: A600: Ue = 600 Vac and Ie = 1.2 A or Ue = 240 Vac and Ie = 3 A or Ue = 120 Vac and Ie = 6 A Continuous Thermal Current 10 A		
	DC supply: Utilization category DC-13	Standard single or double blocks with screw clamp terminals: Q600: Ue = 600 Vdc and Ie = 0.1 A or Ue = 250 Vdc and Ie = 0.27 A or Ue = 125 Vdc and Ie = 0.55 A Joystick XD4PA: R300: Ue = 125 Vdc and Ie = 0.22 A or Ue = 250 Vdc and Ie = 0.1 A		
Electrical durability Conforming to IEC/EN 60947-5-1 Appendix C Operating rate 3600 operating cycles/hour. Load factor: 0.5	AC supply for 1 million operating cycles, utilization category AC-15	Standard blocks for screw clamp terminals:		
		24 Vac	120 Vac	230 Vac
		4 A	3 A	2 A
		Standard double blocks with screw clamp terminals:		
		24 Vac	120 Vac	230 Vac
		3 A	1.5 A	1 A
	DC supply for 1 million operating cycles, utilization category DC-13	Standard single blocks for screw clamp terminals:		
		24 Vdc	110 Vdc	
		0.5 A	0.2 A	
		Standard double blocks with screw clamp terminals:		
24 Vdc		110 Vdc		
	0.4 A	0.15 A		
Electrical Characteristics of Light Modules				
Cabling capacity	Conforming to IEC 947-1		Screw and captive clamp terminals Min: 1 x 24 AWG (0.22 mm ²) without cable end 1 x 22 AWG (0.34 mm ²) for linking Max: 2 x 16 AWG (1.5 mm ²) with cable end	
Specific Characteristics of PROTECTED LED® Light Modules Only				
Voltage limits	Nominal voltage		24 V: 19.2 to 30 Vdc, 21.6 to 26.4 Vac; 120 V: 102 to 132 Vac; 240 V: 195 to 264 Vac	
Current consumption	Applicable to all colors		24 Vac/Vdc supply blocks: 18 mA 120 Vac supply blocks: 14 mA 240 Vac supply blocks: 14 mA	
Specific Characteristics of Hour Counters and Annunciators				
Voltage limits	Hour counter and annunciator		± 10% of nominal voltage	
Current consumption	Hour counter	XB5DSB: 7 to 15 mA		
		XB5DSG: 8 mA		
		XB5DSM: 8 mA		
	Annunciator	5 mA		



XB5AA31



XB5AA4322



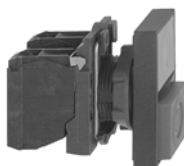
XB5AP51



XB5AL42



XB5AC21



XB5AL845

Table 19.102: Non-Illuminated Push Buttons, Momentary (screw clamp terminal connections)

Shape of Head	Type of Push	Type of Contact		Marking	Color of Cap	Catalog Number	(Components)	\$ Price
		N.O.	N.C.					
	Flush	1	—	—	Black	XB5AA21	(ZB5AZ101 + ZB5AA2)	35.00
					Green	XB5AA31	(ZB5AZ101 + ZB5AA3)	
					Yellow	XB5AA51	(ZB5AZ101 + ZB5AA5)	
					Blue	XB5AA61	(ZB5AZ101 + ZB5AA6)	
		—	1	—	Red	XB5AA42	(ZB5AZ102 + ZB5AA4)	35.00
					Black	XB5AA25	(ZB5AZ105 + ZB5AA2)	
					Green	XB5AA35	(ZB5AZ105 + ZB5AA3)	
					Red	XB5AA45	(ZB5AZ105 + ZB5AA4)	
		1	1	—	Yellow	XB5AA55	(ZB5AZ105 + ZB5AA5)	51.00
					Blue	XB5AA65	(ZB5AZ105 + ZB5AA6)	
	Flush	1	—	"I" (white)	Green	XB5AA3311	(ZB5AZ101 + ZB5AA331)	40.60
	Flush	—	1	"O" (white)	Red	XB5AA4322	(ZB5AZ102 + ZB5AA432)	40.60
	Flush with clear silicone boot (color of pusher unobscured)	1	—	—	Black	XB5AP21	(ZB5AZ101 + ZB5AP2)	47.80
					Green	XB5AP31	(ZB5AZ101 + ZB5AP3)	
					Yellow	XB5AP51	(ZB5AZ101 + ZB5AP5)	
					Blue	XB5AP61	(ZB5AZ101 + ZB5AP6)	
		—	1	—	Red	XB5AP42	(ZB5AZ102 + ZB5AP4)	47.80
	Extended	—	1	—	Red	XB5AL42	(ZB5AZ102 + ZB5AL4)	35.00
		1	1	—	Red	XB5AL45	(ZB5AZ105 + ZB5AL4)	35.00
	Mushroom head Ø 40 mm	1	—	—	Black	XB5AC21	(ZB5AZ101 + ZB5AC2)	51.00

Table 19.103: Two Button Push Buttons, Momentary (screw clamp terminal connections)

Shape of Head	Type of Push	Type of Contact		Degree of Protection	Catalog Number	(Components)	\$ Price
		N.O.	N.C.				
	One flush green push (marked "I") One extended red push (marked "O")	1	1	IP40	XB5AL845	(ZB5AZ105 + ZB5AL8434)	63.00

Legends..... pages 19-50 to 19-52

When ordering, please specify:

- Quantity
- Catalog Number



XB5AS9445



XB5AT42



XB5AS542

Table 19.104: Non-Illuminated Emergency Stop Mushroom Head Push Buttons, Ø 40 mm (Red) (screw clamp terminal connections)

Shape of Head	Type of Push	Type of Contact		Catalog Number (Components)	\$ Price
		N.O.	N.C.		
	Trigger action push-pull▲	1	1	XB5AT845 (ZB5AZ105 + ZB5AT84)	92.00
	Trigger action turn-to-release▲	1	1	XB5AS8445 (ZB5AZ105 + ZB5AS844)	150.00
	Trigger action Key release (No. 455)▲	1	1	XB5AS9445 (ZB5AZ105 + ZB5AS944)	150.00
	Push-pull	—	1	XB5AT42 (ZB5AZ102 + ZB5AT4)	62.00
	Turn-to-release	—	1	XB5AS542 (ZB5AZ102 + ZB5AS54)	100.00
	Key release (No. 455)	—	1	XB5AS142 (ZB5AZ102 + ZB5AS14)	134.00

▲ Trigger action mushroom heads are tamper proof in that a change of contact state is not possible by teasing or floating the operator.

Table 19.105: Non-Illuminated Selector Switches and Key Switches (screw clamp terminal connections) ■

Shape of Head	Type of Operator	Type of Contact		Number and Type of Positions		Catalog Number (Components)	\$ Price
		N.O.	N.C.				
	Standard lever, black	1	—	2-maintained		XB5AD21 (ZB5AZ101 + ZB5AD2)	46.00
		1	1	2-maintained		XB5AD25 (ZB5AZ105 + ZB5AD2)	62.00
		2	—	3-maintained		XB5AD33 (ZB5AZ103 + ZB5AD3)	62.00
		2	—	3-momentary to center		XB5AD53 (ZB5AZ103 + ZB5AD5)	68.00
	Extended lever, black	1	—	2-maintained		XB5AJ21 (ZB5AZ101 + ZB5AJ2)	46.00
		2	—	3-maintained		XB5AJ33 (ZB5AZ103 + ZB5AJ3)	62.00
		2	—	3-momentary to center		XB5AJ53 (ZB5AZ103 + ZB5AJ5)	68.00
		2	—	3-momentary to center		XB5AJ53 (ZB5AZ103 + ZB5AJ5)	68.00
	Key (No. 455)	1	—	2-maintained		XB5AG21 (ZB5AZ101 + ZB5AG2)	112.00
		1	—	2-maintained		XB5AG41 (ZB5AZ101 + ZB5AG4)	112.00
		1	—	2-momentary to left		XB5AG61 (ZB5AZ101 + ZB5AG6)	112.00
		2	—	3-maintained		XB5AG03 (ZB5AZ103 + ZB5AG0)	128.00
		2	—	3-maintained		XB5AG33 (ZB5AZ103 + ZB5AG3)	128.00
		2	—	3-maintained		XB5AG33 (ZB5AZ103 + ZB5AG3)	128.00

■ See 19-42 for contact configurations.

Note: The symbol  indicates key withdrawal position(s)

Legends pages 19-50 to 19-52

When ordering, please specify:

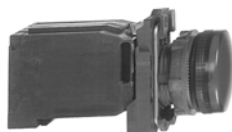
- Quantity
- Catalog Number



XB5AVB1



XB5AV63



XB5AV34



XB5AW31B5



XB5AW3465



XB5AW3335

Table 19.106: Pilot Lights with Protected LED® (screw clamp terminal connections) ▲

Shape of Head	Supply Voltage	Color	Catalog Number	(Components)	\$ Price
	24 Vac/dc	White	XB5AVB1	(ZB5AVB1 + ZB5AV013)	65.00
		Green	XB5AVB3	(ZB5AVB3 + ZB5AV033)	
		Red	XB5AVB4	(ZB5AVB4 + ZB5AV043)	
		Yellow	XB5AVB5	(ZB5AVB5 + ZB5AV053)	
		Blue	XB5AVB6	(ZB5AVB6 + ZB5AV063)	
	110–120 Vac	White	XB5AVG1	(ZB5AVG1 + ZB5AV013)	65.00
		Green	XB5AVG3	(ZB5AVG3 + ZB5AV033)	
		Red	XB5AVG4	(ZB5AVG4 + ZB5AV043)	
		Yellow	XB5AVG5	(ZB5AVG5 + ZB5AV053)	
		Blue	XB5AVG6	(ZB5AVG6 + ZB5AV063)	

Table 19.107: Pilot Lights for BA9s Bulb (screw clamp terminal connections)

Shape of Head	Supply Voltage	Color	Catalog Number	(Components)	\$ Price
Direct supply, for BA9s (incandescent, LED, neon) V ≤ 250 V, 2.4 W bulb (bulb not included) ■					
	≤ 250 Vac/dc	White	XB5AV61	(ZB5AV6 + ZB5AV01)	46.20
		Green	XB5AV63	(ZB5AV6 + ZB5AV03)	
		Red	XB5AV64	(ZB5AV6 + ZB5AV04)	
		Yellow	XB5AV65	(ZB5AV6 + ZB5AV05)	
Transformer type with 1.2 VA, 6 V secondary. BA9s incandescent bulb included					
	110–120 Vac 50/60 Hz	White	XB5AV31	(ZB5AV3 + ZB5AV01)	106.00
		Green	XB5AV33	(ZB5AV3 + ZB5AV03)	
		Red	XB5AV34	(ZB5AV3 + ZB5AV04)	
		Yellow	XB5AV35	(ZB5AV3 + ZB5AV05)	

Table 19.108: Illuminated Push Buttons, Momentary (screw clamp terminal connections) ▲

Shape of Head	Description	Type of Contact		Supply Voltage	Color of Push	Catalog Number (Components)		\$ Price
		N.O.	N.C.					
Flush								
	Protected[®] LED <i>New!</i>	1	1	24 Vac/dc	White	XB5AW31B5	(ZB5AW0B15 + ZB5AW313)	108.00
					Green	XB5AW33B5	(ZB5AW0B35 + ZB5AW333)	
					Red	XB5AW34B5	(ZB5AW0B45 + ZB5AW343)	
					Yellow	XB5AW35B5	(ZB5AW0B55 + ZB5AW353)	
					Blue	XB5AW36B5	(ZB5AW0B65 + ZB5AW363)	
		110–120 Vac	White	XB5AW31G5	(ZB5AW0G15 + ZB5AW313)	108.00		
			Green	XB5AW33G5	(ZB5AW0G35 + ZB5AW333)			
			Red	XB5AW34G5	(ZB5AW0G45 + ZB5AW343)			
			Yellow	XB5AW35G5	(ZB5AW0G55 + ZB5AW353)			
			Blue	XB5AW36G5	(ZB5AW0G65 + ZB5AW363)			
	Direct supply for BA9s 2.4 W max. bulb not included	1	1	≤ 250 Vac/dc	White	XB5AW3165	(ZB5AW065 + ZB5AW31)	90.00
					Green	XB5AW3365	(ZB5AW065 + ZB5AW33)	
					Red	XB5AW3465	(ZB5AW065 + ZB5AW34)	
					Yellow	XB5AW3565	(ZB5AW065 + ZB5AW35)	
					Blue	XB5AW36G5	(ZB5AW0G65 + ZB5AW363)	
	Transformer type 1.2 VA, 6 V secondary. BA9s incandescent bulb included	1	1	110–120 Vac 50/60 Hz	White	XB5AW3135	(ZB5AW035 + ZB5AW31)	148.00
					Green	XB5AW3335	(ZB5AW035 + ZB5AW33)	
					Red	XB5AW3435	(ZB5AW035 + ZB5AW34)	
					Yellow	XB5AW3535	(ZB5AW035 + ZB5AW35)	
					Blue	XB5AW3635	(ZB5AW035 + ZB5AW36)	
		230–240 Vac 50/60 Hz	White	XB5AW3145	(ZB5AW045 + ZB5AW31)	148.00		
			Green	XB5AW3345	(ZB5AW045 + ZB5AW33)			
			Red	XB5AW3445	(ZB5AW045 + ZB5AW34)			
			Yellow	XB5AW3545	(ZB5AW045 + ZB5AW35)			
			Blue	XB5AW3645	(ZB5AW045 + ZB5AW36)			
Extended								
	Protected[®] LED <i>New!</i>	1	1	24 Vac/dc	White	XB5AW11B5	(ZB5AW0B15 + ZB5AW113)	103.00
					Green	XB5AW13B5	(ZB5AW0B35 + ZB5AW133)	
					Red	XB5AW14B5	(ZB5AW0B45 + ZB5AW143)	
					Yellow	XB5AW15B5	(ZB5AW0B55 + ZB5AW153)	
					Blue	XB5AW16B5	(ZB5AW0B65 + ZB5AW163)	
		110–120 Vac	White	XB5AW11G5	(ZB5AW0G15 + ZB5AW113)	103.00		
			Green	XB5AW13G5	(ZB5AW0G35 + ZB5AW133)			
			Red	XB5AW14G5	(ZB5AW0G45 + ZB5AW143)			
			Yellow	XB5AW15G5	(ZB5AW0G55 + ZB5AW153)			
			Blue	XB5AW16G5	(ZB5AW0G65 + ZB5AW163)			

▲ For 240V LED, replace the "B" or "G" with "M". (Example: XB5APVB1 (24V) to XB5APVM1 (240V))

■ For bulb information, refer to page 19-53

Legends..... pages 19-50 to 19-52

When ordering, please specify:

- Quantity
- Catalog Number

Table 19.109: Non-Illuminated Operators, Momentary—Unmarked

Shape of Head	Type of Push	Color of Cap	Catalog Number	\$ Price
	Flush, without color cap ▲	—	ZB5AA0	11.00
	Flush, with set of 6 color caps	6 colors ■	ZB5AA9	13.00
	Flush	White	ZB5AA1	13.00
		Black	ZB5AA2	
		Green	ZB5AA3	
		Red	ZB5AA4	
		Yellow	ZB5AA5	
		Blue	ZB5AA6	
	Flush with transparent cap, for insertion of legend ♦	Gray	ZB5AA8	16.00
		White	ZB5AA18	
		Green	ZB5AA38	
		Red	ZB5AA48	
		Yellow	ZB5AA58	
		Blue	ZB5AA68	
	Extended	White	ZB5AL1	13.00
		Black	ZB5AL2	
		Green	ZB5AL3	
		Red	ZB5AL4	
		Yellow	ZB5AL5	
		Blue	ZB5AL6	
	Booted (clear) Color of cap unobscured	White	ZB5AP1	25.80
		Black	ZB5AP2	
		Green	ZB5AP3	
		Red	ZB5AP4	
		Yellow	ZB5AP5	
		Blue	ZB5AP6	
	Booted (clear) for insertion of legend ♦ Color of cap unobscured	White	ZB5AP18	29.00
		Green	ZB5AP38	
		Red	ZB5AP48	
		Yellow	ZB5AP58	
		Blue	ZB5AP68	
	Flush Plunger (with high guard)	White	ZB5AA14	32.20
		Black	ZB5AA24	
		Green	ZB5AA34	
		Red	ZB5AA44	
		Yellow	ZB5AA54	
		Blue	ZB5AA64	
	Flush	White	ZB5CA1	27.00
		Black	ZB5CA2	
		Green	ZB5CA3	
		Red	ZB5CA4	
		Yellow	ZB5CA5	
		Blue	ZB5CA6	
	Extended	White	ZB5CL1	27.00
		Black	ZB5CL2	
		Green	ZB5CL3	
		Red	ZB5CL4	
		Yellow	ZB5CL5	
		Blue	ZB5CL6	

▲ Order color cap separately, see page 19-52.

■ Six colored caps included with head (white, black, green, red, yellow, blue).

♦ For legend ordering information see page 19-52.

Legends pages 19-50 to 19-52

When ordering, please specify:

- Quantity
- Catalog Number



ZB5AA0



ZB5AA5



ZB5AL3



ZB5AP1



ZB5CA2

Table 19.110: Non-Illuminated Operators, Momentary—Premarked

Shape of Head	Type of Push	Marking		Color of Cap	Catalog Number	\$ Price
		Text	Color			
	Flush	I	White	Green	ZB5AA331	18.60
			Black	White	ZB5AA131	
		START	White	Green	ZB5AA333	
			Black	White	ZB5AA133	
		ON	White	Green	ZB5AA341	
			Black	White	ZB5AA141	
		T	White	Green	ZB5AA345	
		O	White	Red	ZB5AA432	
		STOP	White	Black	ZB5AA232	
				Red	ZB5AA434	
		OFF	White	Black	ZB5AA234	
				Red	ZB5AA435	
	Extended			Black	ZB5AA235	18.60
				White	ZB5AA343	
		UP	Black	White	ZB5AA343	
		DOWN	White	Black	ZB5AA344	
			Black	White	ZB5AA334	
			White	Black	ZB5AA335	
	Flush	O	White	Red	ZB5AL432	32.00
				Black	ZB5AL232	
		STOP	White	Red	ZB5AL434	
				Black	ZB5AL234	
	Flush	OFF	White	Red	ZB5AL435	32.00
				Black	ZB5AL235	
		I	White	Green	ZB5CA331	
		O	White	Red	ZB5CA432	

▲ Cap supplied not clipped-in, allowing orientation of arrow in any one of 4 directions: ↑, ↓, ← or →

Table 19.111: Mushroom Heads, Momentary

Shape of Head	Diameter of Head	Color of Head	Catalog Number	\$ Price
	30 mm	Black	ZB5AC24	29.40
		Green	ZB5AC34	
		Red	ZB5AC44	
		Yellow	ZB5AC54	
	40 mm	Blue	ZB5AC64	29.40
		Black	ZB5AC2	
		Green	ZB5AC3	
		Red	ZB5AC4	
	60 mm	Yellow	ZB5AC5	35.00
		Blue	ZB5AC6	
		Black	ZB5AR2	
		Green	ZB5AR3	
	60 mm	Red	ZB5AR4	35.00
		Yellow	ZB5AR5	
		Blue	ZB5AR6	

Legends..... pages 19-50 to 19-52

When ordering, please specify:

- Quantity
- Catalog Number



ZB5AH04



ZB5AL8334



ZB5AL8434



ZB5AL9334

Table 19.112: Non-Illuminated Push-on/Push-off Operators

Shape of Head	Type of Push	Color of Push	Catalog Number	\$ Price
	Flush	White	ZB5AH01	17.60
		Black	ZB5AH02	
		Green	ZB5AH03	
		Red	ZB5AH04	
		Yellow	ZB5AH05	
		Blue	ZB5AH06	
	Extended	White	ZB5AH1	17.60
		Black	ZB5AH2	
		Green	ZB5AH3	
		Red	ZB5AH4	
		Yellow	ZB5AH5	
		Blue	ZB5AH6	
	Flush	White	ZB5CH01	35.20
		Black	ZB5CH02	
		Green	ZB5CH03	
		Red	ZB5CH04	
		Yellow	ZB5CH05	
		Blue	ZB5CH06	

Table 19.113: Two Head Operators, Momentary

Shape of Head	Description	Color of Pushers	Degree of Protection	Catalog Number	\$ Price
No Marking					
	Two flush	Green Red	IP40	ZB5AA8134	20.80
			IP66	ZB5AA9134	37.20
		White Black	IP40	ZB5AA8112	20.80
			IP66	ZB5AA9112	37.20
	One flush One extended	Green Red	IP40	ZB5AL8334	20.80
			IP66	ZB5AL9334	37.20
		White Black	IP40	ZB5AL8312	20.80
			IP66	ZB5AL9312	37.20
Premarked					
	Two flush (marked "I") (marked "O")	Green Red	IP40	ZB5AA8234	24.80
			IP66	ZB5AA9234	41.40
		White Black	IP40	ZB5AA8212	24.80
			IP66	ZB5AA9212	41.40
	One flush (marked "I") One extended (marked "O")	Green Red	IP40	ZB5AL8434	24.80
			IP66	ZB5AL9434	41.40
		White Black	IP40	ZB5AL8412	24.80
			IP66	ZB5AL9412	41.40

Legends pages 19-50 to 19-52

When ordering, please specify:

- Quantity
- Catalog Number



ZB5AS844



ZB5AS934



ZB5AT4



ZB5AS54



ZB5AS64



ZBY9330

Table 19.114: Mushroom Heads for Maintained Push Buttons

Shape of Head	Type of Push	Diameter of Head	Color	Catalog Number	\$ Price
	Trigger action Push-pull ■	40 mm	Red	ZB5AT84	54.00
	Trigger action Turn-to-release ■	30 mm	Red	ZB5AS834	112.00
		40 mm	Red	ZB5AS844	112.00
	Trigger action Key release (No. 455) ■	30 mm	Red	ZB5AS934	112.00
		40 mm	Red	ZB5AS944 ▲	112.00
		60 mm	Red	ZB5AS964	112.00
	Push-pull	30 mm	Black	ZB5AT24	40.40
			Red	ZB5AT44	
		40 mm	Black	ZB5AT2	40.40
			Red	ZB5AT4	
		60 mm	Black	ZB5AX2	46.00
			Red	ZB5AX4	
	Turn-to-release	30 mm	Black	ZB5AS42	78.00
			Red	ZB5AS44	
		40 mm	Black	ZB5AS52	78.00
			Red	ZB5AS54	
			Yellow	ZB5AS55	90.00
		60 mm	Black	ZB5AS62	
			Red	ZB5AS64	112.00
	Key release (No. 455)	30 mm	Black	ZB5AS72	
			Red	ZB5AS74	112.00
		40 mm	Black	ZB5AS12	
			Red	ZB5AS14 ▲	112.00
		60 mm	Black	ZB5AS22	
			Red	ZB5AS24	112.00

▲ Other key numbers:

- key no. 421E: add the suffix 12 to the catalog number.
- key no. 458A: add the suffix 10 to the catalog number.
- key no. 520E: add the suffix 14 to the catalog number.
- key no. 3131A: add the suffix 20 to the catalog number.

Example: The catalog number for a Ø 40 mm red mushroom head for a trigger action, maintained push button, with release by key no. 421E becomes: ZB5AS94412.

- Trigger action mushroom heads are tamper proof in that a change of contact state is not possible by teasing or floating the operator.

Table 19.115: Circular Legends for Emergency Stop Mushroom Heads (yellow background)

Diameter	Text	Catalog Number	\$ Price
60 mm	Blank	ZBY9101	3.40
	EMERGENCY STOP	ZBY9330	
90 mm	Blank	ZBY8101	
	EMERGENCY STOP	ZBY8330	

Legends..... pages 19-50 to 19-52

When ordering, please specify:

- Quantity
- Catalog Number

New!

Table 19.116: Non-Illuminated Selector Switches

ZB5AD•
Standard LeverZB5AJX•
Extended Lever

Color	Number and Type of Positions				\$ Price
			Standard Lever ▲	Extended Lever	
			Catalog Number		
Black	2-maintained		ZB5AD2	ZB5AJ2	24.00
Black	2-momentary from right to left		ZB5AD4	ZB5AJ4	29.40
Black	3-maintained		ZB5AD3	ZB5AJ3	24.00
Black	3-momentary to center		ZB5AD5	ZB5AJ5	29.40
Black	3-momentary from left to center		ZB5AD7	ZB5AJ7	29.40
Black	3-momentary from right to center		ZB5AD8	ZB5AJ8	29.40

▲ For colored lever, add the following code to the end of catalog number: 01—white, 03—green, 04—red, 05—yellow, 06—blue (Example: ZB5AD204).

New!

Table 19.117: Non-Illuminated Key Switches



ZB5AG•

Shape of Head	Type of Operator	Number and Type of Positions		Catalog Number ■	\$ Price
	Key (No. 455)	2-maintained		ZB5AG2	90.00
				ZB5AG4	
				ZB5AG02	
		2-momentary from right to left		ZB5AG6	
				ZB5AG0	
				ZB5AG3	
		3-maintained		ZB5AG5	
				ZB5AG9	
				ZB5AG09	
				ZB5AG1	116.00
		3-momentary to center		ZB5AG7	
		3-momentary from right to center		ZB5AG8	
				ZB5AG08	

Note: The symbol  indicates key withdrawal position(s).

■ Other key numbers:

- key no. 421E: add the suffix 12 to the catalog number.
- key no. 458A: add the suffix 10 to the catalog number.
- key no. 520E: add the suffix 14 to the catalog number.
- key no. 3131A: add the suffix 20 to the catalog number.
- key no. 8D1: add the suffix D to the catalog number.

Example: The catalog number for a head with key no. 421E for a 2 position maintained, lockable selector switch, with key withdrawal from the left-hand position, becomes: ZB5AG212

Table 19.118: Sequence of Contacts on Selector Switch Bodies

Unit Type		Selector Switches											
		2-position						3-position					
		315°		45°		315°		0°		45°			
													
Operator Plunger Position	Up												
	Down												
Contact Block Location		L	C	R	L	C	R	L	C	R	L	C	R
Contacts	N/O	O	O	O	X	X	X	X	X	O	O	O	X
	N/C	X	X	X	O	O	O	O	O	X	X	X	O

Note: L=Left, C=Center, R=Right, O=Open, X=Closed

When ordering,
please specify:

- Quantity
- Catalog Number

Table 19.119: Reset Operators

Shape of Head	Actuation Distance		Text	Color	Catalog Number	\$ Price
	IN	mm				
Flush	Adjustable Shaft					
	0.67–4.72	17–120	Without	Green	XB5AA831	34.20
				Red	XB5AA841	
				Blue	XB5AA861	
			O	Red	XB5AA84101	41.40
			R	Blue	XB5AA86102	41.40
	4.72–10.12	120–257	Without	Green	XB5AA832	39.40
				Red	XB5AA842	
				Blue	XB5AA862	
			O	Red	XB5AA84201	45.60
R			Blue	XB5AA86202	45.60	
Extended						
	0.67–4.72	17–120	O	Red	XB5AL84101	41.40
	4.72–10.12	120–257	O	Red	XB5AL84201	45.60

Table 19.120: Potentiometer Operator (with Mounting Collar)

Shape of Head	Description	Application	Catalog Number	\$ Price
	For potentiometer with shaft length 1.73 to 1.97 in. (44 to 50 mm) (potentiometer not included)	For shaft Ø 0.25 in. (6.35 mm)	ZB5AD922	142.00
		For shaft Ø 0.24 in. (6 mm)	ZB5AD912	

Table 19.121: Joystick (54 mm, Extended Operating Shaft) ▲

Description	Contact Operation	Action	Catalog Number	\$ Price
2 direction 	1 step 1 N.O. contact per direction	Maintained	XD5PA12	250.00
		Momentary	XD5PA22	
4 direction 	1 step 1 N.O. contact per direction	Maintained	XD5PA14	316.00
		Momentary	XD5PA24	

▲ Do not use standard contact blocks ZBE10• (single) or ZBE20• (double)

Table 19.122: Legends for Joystick

Description	For use with		Catalog Number	\$ Price
Legends 30 x 48 mm for engraving	2 direction	Black one side Red reverse	ZBG2201	3.40
		White one side Yellow reverse	ZBG2401	
Legends 48 x 48 mm for engraving	4 direction	Black one side Red reverse	ZBG4201	
		White one side Yellow reverse	ZBG4401	

Table 19.123: Hour Counters ■

Characteristics	Supply Voltage	Catalog Number	\$ Price
Indication 0–9999.9	12–24 Vdc or Vac, 50/60 Hz	XB5DSB	348.00
	120 Vac, 60 Hz	XB5DSG	
	230–240 Vac, 50 Hz	XB5DSM	

Table 19.124: Buzzer ■

Characteristics	Supply Voltage	Catalog Number	\$ Price
85 db buzzer: 4kHz, continuous or intermittent (IP40 NEMA 1)	24 Vdc or Vac, 50/60 Hz	XB5KSB	166.00
	120 Vac, 60 Hz	XB5KSG	
	230–240 Vac, 50 Hz	XB5KSM	

■ UR E191025, XHNR2 and XHNR8.

Table 19.125: Two Position Toggle Switch

Shape of Head	Color	Type of Positions	Catalog Number	\$ Price
	Black	Maintained	ZB5AD28	46.60
	Black	Momentary	ZB5AD48	

Legends..... pages 19-50 to 19-52

When ordering, please specify:

- Quantity
- Catalog Number



XB5AA



XD5PA12



XB5DS•



XB5KS•



ZB5AD28



ZB5AV053



ZB5AV01



ZB5CV063

Table 19.126: Pilot Light Heads

Shape of Head	For use with Body Comprising Light Module Type	Color of Lens	Catalog Number	\$ Price
	Protected LED [®] only	White	ZB5AV013	7.60
		Green	ZB5AV033	
		Red	ZB5AV043	
		Yellow	ZB5AV053	
		Blue	ZB5AV063	
	Protected LED only Fresnel (jeweled) lens ▲	White	ZB5AV013S	7.60
		Green	ZB5AV033S	
		Red	ZB5AV043S	
		Amber	ZB5AV053S	
		Blue	ZB5AV063S	
	For BA9s incandescent bulb, neon or LED only ■	White	ZB5AV01	7.60
		Green	ZB5AV03	
		Red	ZB5AV04	
		Yellow	ZB5AV05	
		Blue	ZB5AV06	
	For BA9s incandescent bulb, neon or LED Fresnel (jeweled) lens ■	Clear	ZB5AV07	7.60
		White	ZB5AV01S	
		Green	ZB5AV03S	
		Red	ZB5AV04S	
		Amber	ZB5AV05S	
	Protected LED only	Blue	ZB5AV06S	27.00
		Clear	ZB5AV07S	
		White	ZB5CV013	
		Green	ZB5CV033	
		Red	ZB5CV043	
		Yellow	ZB5CV053	
		Blue	ZB5CV063	

- ▲ For use in bright ambient conditions (i.e., sunlight).
■ Order bulb separately; see page 19-32. For BA9 LED, see page 19-120.

Legends pages 19-50 to 19-52

When ordering, please specify:

- Quantity
- Catalog Number



ZB5AV6



ZB5AV3



ZB5AV**

Table 19.127: Complete Bodies (Mounting Collar + Light Module for BA9s Incandescent Bulb, Neon or LED)

Description	Light Source	Supply Voltage (V)	Catalog Number	\$ Price
Screw clamp terminal connections				
Direct supply	BA9s bulb 2.4 W max. Not included ▲	≤250	ZB5AV6	38.60
Direct supply	BA9s incandescent bulb included	24 V 2 W	ZB5AV624	49.20
Direct supply	BA9s incandescent bulb included	120 V 2.4 W	ZB5AV6120	49.20
Transformer type 1.2 VA, 6 V secondary	BA9s incandescent bulb included	110–120 Vac 50/60 Hz	ZB5AV3	98.00
		230–240 Vac 50/60 Hz	ZB5AV4	
		400–50 Hz	ZB5AV5	
		440–480 Vac 60 Hz	ZB5AV8	
		550–600 Vac 60 Hz	ZB5AV9	

▲ Order bulb separately, see page 19-53.

Table 19.128: Complete Bodies (Mounting Collar + Light Module with Protected LED®) ♦♦

Light Source	Supply Voltage	Color of Light Source	Catalog Number	\$ Price
Screw clamp terminal connections				
 	12 Vac/dc	White	ZB5AVJ1	57.00
		Green	ZB5AVJ3	
		Red	ZB5AVJ4	
		Yellow	ZB5AVJ5	
	24 Vac/dc	Blue	ZB5AVJ6	57.00
		White	ZB5AVB1	
		Green	ZB5AVB3	
		Red	ZB5AVB4	
	24–120 Vac/dc	Yellow	ZB5AVB5	57.00
		Blue	ZB5AVB6	
		White	ZB5AVBG1	
		Green	ZB5AVBG3	
	110–120 Vac	Red	ZB5AVBG4	57.00
		Yellow	ZB5AVBG5	
		Blue	ZB5AVBG6	
		White	ZB5AVG1	
 	24 Vac/dc	Green	ZB5AVG3	57.00
		Red	ZB5AVG4	
		Yellow	ZB5AVG5	
		Blue	ZB5AVG6	
	110–120 Vac	White	ZB5AV18B1	66.00
		Green	ZB5AV18B3	
		Red	ZB5AV18B4	
		Yellow	ZB5AV18B5	
	24 Vac/dc	Blue	ZB5AV18B6	66.00
		White	ZB5AV18G1	
		Green	ZB5AV18G3	
		Red	ZB5AV18G4	
	110–120 Vac	Yellow	ZB5AV18G5	66.00
		Blue	ZB5AV18G6	

■ For Quick-Connect version, add "3" to the end of the catalog number Example: ZB5AVJ13 (Quick-Connect size 1 x 0.250" or 2 x 0.110").
♦ For 240 V LED, replace the "B" or "G" with "M". (Example: ZB5AVB1 (24V) to ZB5AVM1 (240V))

When ordering, please specify:

- Quantity
- Catalog Number



ZB5AW313



ZB5AW363



ZB5AW143



ZB5CW313



ZB5AW33

Table 19.129: Heads for Momentary Illuminated Push Buttons

Shape of Head	Type of Push	Color	Catalog Number	\$ Price
Only use with Protected LED® light modules				
	Flush	White	ZB5AW313	18.60
		Green	ZB5AW333	
		Red	ZB5AW343	
		Yellow	ZB5AW353	
		Blue	ZB5AW363	
	Flush with clear boot	White	ZB5AW513	31.00
		Green	ZB5AW533	
		Red	ZB5AW543	
		Yellow	ZB5AW553	
		Blue	ZB5AW563	
	Flush for insertion of legend	White	ZB5AA18	16.00
		Green	ZB5AA38	
		Red	ZB5AA48	
		Yellow	ZB5AA58	
		Blue	ZB5AA68	
	Extended	White	ZB5AW113	13.00
		Green	ZB5AW133	
		Red	ZB5AW143	
		Yellow	ZB5AW153	
		Blue	ZB5AW163	
	Flush for insertion of legend	White	ZB5CW313	27.00
		Green	ZB5CW333	
		Red	ZB5CW343	
		Yellow	ZB5CW353	
		Blue	ZB5CW363	
	Extended	White	ZB5CW113	27.00
		Green	ZB5CW133	
		Red	ZB5CW143	
		Yellow	ZB5CW153	
		Blue	ZB5CW163	
Only use with light modules for a BA9s incandescent bulb, neon or LED				
	Flush	White	ZB5AW31	18.60
		Green	ZB5AW33	
		Red	ZB5AW34	
		Yellow	ZB5AW35	
		Blue	ZB5AW36	
		Clear	ZB5AW37	
	Extended	White	ZB5AW11	13.00
		Green	ZB5AW13	
		Red	ZB5AW14	
		Yellow	ZB5AW15	
		Blue	ZB5AW16	
		Clear	ZB5AW17	

Table 19.130: Illuminated Push-on/Push-off Operators

Shape of Head	Type of Push	Color of Lens	Catalog Number	\$ Price
Only use with Protected LED light modules				
	Flush	White	ZB5AH013	24.80
		Green	ZB5AH033	
		Red	ZB5AH043	
		Yellow	ZB5AH053	
		Blue	ZB5AH063	
	Extended	White	ZB5AH13	19.60
		Green	ZB5AH33	
		Red	ZB5AH43	
		Yellow	ZB5AH53	
		Blue	ZB5AH63	

Legends pages 19-50 to 19-52

When ordering, please specify:

- Quantity
- Catalog Number

Table 19.131: Two Button with Clear Pilot Light, Momentary (IP40) ▲

Shape of Head	Description	Color of Pushers	Catalog Number	\$ Price
Only use with Protected LED® light modules (Protected LED determines pilot light color)				
	1 flush 1 central pilot light 1 flush	Black Red	ZB5AW812743	29.00
		Green Red	ZB5AW813743	
		White Black	ZB5AW811723	
	1 flush 1 central pilot light 1 extended	Black Red	ZB5AW832743	29.00
		Green Red	ZB5AW833743	
		White Black	ZB5AW831723	
Only use with Protected LED light modules (Protected LED determines pilot light color)—premarked				
	1 flush (marked "I") 1 central pilot light 1 flush (marked "O")	Black Red	ZB5AW822743	33.20
		Green Red	ZB5AW823743	
		White Black	ZB5AW821723	
	1 flush (marked "I") 1 central pilot light 1 extended (marked "O")	Black Red	ZB5AW842743	33.20
		Green Red	ZB5AW843743	
		White Black	ZB5AW841723	

▲ For IP66 degree of protection, install clear sealing boot ZBW008, see page 19-54.

Table 19.132: Heads for Maintained Illuminated Push Buttons

Shape of Head	Type of Push	Color	Catalog Number	\$ Price
Only use with Protected LED light modules				
	Turn-to-Release Mushroom (40 mm)	White Green Red Yellow Blue	ZB5AW713 ZB5AW733 ZB5AW743 ZB5AW753 ZB5AW763	63.00

Table 19.133: Illuminated Selector Switches, Standard Lever

Shape of Head	Number and Type of Positions	Catalog Number ■	\$ Price
Only use with Protected LED light modules			
	2-maintained	ZB5AK12■3	35.00
	2-momentary from right to left	ZB5AK14■3	51.00
	3-maintained	ZB5AK13■3	35.00
	3-momentary to center	ZB5AK15■3	51.00
	3-momentary from right to center	ZB5AK18■3	51.00
	3-momentary from left to center	ZB5AK17■3	51.00

■ Designate color as follows: 1—white, 3—green, 4—red, 5—yellow, 6—blue

Table 19.134: Sequence of Contacts on Selector Switch Bodies

Unit Type		Selector Switches														
		2-position						3-position								
		315°			45°			315°			0°			45°		
Operator Plunger Position	Up															
	Down															
Contact Block Location		L	C	R	L	C	R	L	C	R	L	C	R	L	C	R
Contacts	N/O	O	O	O	X	X	X	X	X	O	O	O	O	O	X	X
	N/C	X	X	X	O	O	O	O	O	X	X	X	X	X	O	O

Note: L=Left, C=Center, R=Right, O=Open, X=Closed

Legends..... pages 19-50 to 19-52

**When ordering,
please specify:**

- Quantity
- Catalog Number



ZB5AZ101

Table 19.135: Contact Blocks (Mounting Collar with Contact Blocks) ▲◆★

Description	Type of Contact		Catalog Number	\$ Price
	N.O.	N.C.		
Screw clamp terminal connections	1	—	ZB5AZ101	22.00
	—	1	ZB5AZ102	22.00
	2	—	ZB5AZ103	38.20
	—	2	ZB5AZ104	38.20
	1	1	ZB5AZ105	38.20
	1	2	ZB5AZ141	55.00

▲ For Quick-Connect version add "3" to the end of the catalog number Example: ZB5AZ1013 (Quick-Connect size 1 x 0.250" or 2 x 0.110").

◆ For Ring Tongue compatible blocks add "9" to the end of the catalog number (Example: ZB5AZ1029).

◆ Electrical components with connection by printed circuit board pins are available. Refer to Catalog 9001CT0001 for more information.

★ Electrical components with connection by plug-in connector are available. Refer to Catalog 9001CT0001 for more information.

New!

Table 19.136: Complete Bodies
(Mounting Collar + Single Contact Block + Light Module with Protected LED®)

Light Source	Type of Contact △		Color	Supply Voltage ▼		\$ Price
	N.O.	N.C.		24 Vac/dc	110–120 Vac	
				Catalog Number		
Screw clamp terminal connections						
Protected[®] LED	1	—	White	ZB5AW0B11	ZB5AW0G11	73.00
			Green	ZB5AW0B31	ZB5AW0G31	
			Red	ZB5AW0B41	ZB5AW0G41	
			Yellow	ZB5AW0B51	ZB5AW0G51	
			Blue	ZB5AW0B61	ZB5AW0G61	
	—	1	White	ZB5AW0B12	ZB5AW0G12	73.00
			Green	ZB5AW0B32	ZB5AW0G32	
			Red	ZB5AW0B42	ZB5AW0G42	
			Yellow	ZB5AW0B52	ZB5AW0G52	
			Blue	ZB5AW0B62	ZB5AW0G62	
	2	—	White	ZB5AW0B13	ZB5AW0G13	90.00
			Green	ZB5AW0B33	ZB5AW0G33	
			Red	ZB5AW0B43	ZB5AW0G43	
			Yellow	ZB5AW0B53	ZB5AW0G53	
			Blue	ZB5AW0B63	ZB5AW0G63	
	1	1	White	ZB5AW0B15	ZB5AW0G15	90.00
			Green	ZB5AW0B35	ZB5AW0G35	
			Red	ZB5AW0B45	ZB5AW0G45	
			Yellow	ZB5AW0B55	ZB5AW0G55	
			Blue	ZB5AW0B65	ZB5AW0G65	

▼ For 240V LED, replace the "B" or "G" with "M". (Example: change "ZB5AW0B11 (24V)" to ZB5AW0M11 (240V))

Table 19.137: Mounting Collar, Contact Block and Light Module (with screw clamp terminal connections) △

Supply	Light Source	Supply Voltage	Type of Contact Δ		Color of Light Source	Catalog Number	\$ Price
			N.O.	N.C.			
Screw clamp terminal connections							
Direct supply	BA9s 2.4 W max. bulb Not included □	≤250 Vac/dc	1	—	—	ZB5AW061	55.00
			—	1	—	ZB5AW062	55.00
			2	—	—	ZB5AW063	71.00
			1	1	—	ZB5AW065	71.00
Transformer type 1.2 VA, 6 V secondary	BA9s incandescent bulb included	110–120 Vac 50/60 Hz	1	—	—	ZB5AW031	114.00
			1	1	—	ZB5AW035	130.00
		230–240 Vac 50/60 Hz	1	—	—	ZB5AW041	114.00
			1	1	—	ZB5AW045	130.00
		440–480 Vac 60 Hz	1	—	—	ZB5AW081	114.00
			1	1	—	ZB5AW085	130.00

△ Can be fitted with additional contact blocks, see page 19-49.

□ Order bulb separately, see page 19-53.

When ordering, please specify:

- Quantity
- Catalog Number



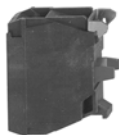
ZB5AW065



ZB5AW035



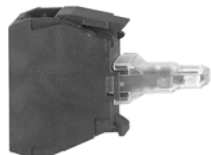
ZB5AZ009



ZBE101



ZBE203



ZBVB•

Table 19.138: Body/Mounting Collar

For use with	Catalog Number	\$ Price
Electrical block (contact or light module)	ZB5AZ009	5.40

Table 19.139: Add-On Contact Block (with screw clamp terminal connections) ★▼

Description	Type of Contact		Catalog Number	\$ Price
	N.O.	N.C.		
Standard single contact blocks▲ ■	1	—	ZBE101	16.40
	—	1	ZBE102	16.40
	2	—	ZBE203	33.20
Standard double contact blocks▲ ■	—	2	ZBE204	33.20
	1	1	ZBE205	33.20
	1	—	ZBE1016	32.80
Special contact blocks (for low power switching and dust protected) ◆	—	1	ZBE1026	32.80

- ▲ For Quick-Connect version add "3" to the end of the catalog number (Example: ZBE1013) (Quick-Connect size 1 x 0.250" or 2 x 0.110").
 ■ For Ring Tongue compatible blocks add "9" to the end of the catalog number (Example: ZBE1029).
 ◆ Cannot stack additional contact blocks onto these blocks.

Table 19.140: Light Modules (with screw clamp terminal connections)★▼

Description	Supply Voltage	Color of Light Source	Catalog Number	\$ Price
Protected LED New!	12 Vac/dc	White	ZBVJ1	52.00
		Green	ZBVJ3	
		Red	ZBVJ4	
		Yellow	ZBVJ5	
		Blue	ZBVJ6	
	24 Vac/dc	White	ZBVB1	52.00
		Green	ZBVB3	
		Red	ZBVB4	
		Yellow	ZBVB5	
		Blue	ZBVB6	
	110–120 Vac	White	ZBVG1	52.00
		Green	ZBVG3	
		Red	ZBVG4	
		Yellow	ZBVG5	
		Blue	ZBVG6	
	24–120 Vac/dc	White	ZBVBG1	52.00
		Green	ZBVBG3	
		Red	ZBVBG4	
		Yellow	ZBVBG5	
		Blue	ZBVBG6	
	230–240 Vac	White	ZBVM1	52.00
		Green	ZBVM3	
		Red	ZBVM4	
		Yellow	ZBVM5	
		Blue	ZBVM6	
Direct supply for BA9s 2.4 W max. bulb Not included See page 19-53	≤250 Vac/dc	—	ZBV6	33.20

- ★ Electrical components with connection by printed circuit board pins are available. Refer to Catalog **9001CT0001** for more details.
 ▼ Electrical components with connection by plug-in connector are available. Refer to Catalog **9001CT0001** for more details.

When ordering, please specify:

- Quantity
- Catalog Number

Table 19.141: Standard (30 x 40 mm) Legend Holders for 8 x 27 mm Legends

Description	Legend		Catalog Number	\$ Price
	Color	Text		
Without legend insert ▲	—	—	ZBZ32	2.00
With blank legend insert (for engraving)	Black or red background	—	ZBY2101	3.40
	White or yellow background	—	ZBY4101	
Custom legend plate and insert (specify engraving) 2 lines of 11 characters (including spaces) maximum per line	Black background	White	ZBY2002	14.20
	Red background	White	ZBY2004	
	White background	Black	ZBY4001	
	Yellow background	Black	ZBY4005	
With international language marked legend	Black or red background ■	O (black background)	ZBY2146	3.40
		O (red background)	ZBY2931	
		I	ZBY2147	
		II	ZBY2148	
		O-I	ZBY2178	
		I-II	ZBY2179	
With English language marked legend	Black or red background ■	I-O-II	ZBY2186	3.40
		AUTO	ZBY2115	
		AUTO-HAND	ZBY2364	
		AUTO-O-HAND	ZBY2385	
		CLOSE	ZBY2314	
		DOWN	ZBY2308	
		EMERGENCY STOP	ZBY2330	
		FAST	ZBY2328	
		FORWARD	ZBY2305	
		FOR-REV	ZBY2371	
		HAND	ZBY2316	
		HAND-OFF-AUTO	ZBY2387	
		INCH	ZBY2321	
		JOG	ZBY2382	
		LEFT	ZBY2310	
		OFF	ZBY2312	
		OFF-ON	ZBY2367	
		ON	ZBY2311	
		OPEN	ZBY2313	
		POWER ON	ZBY2326	
		RESET (red background)	ZBY2323	
		RESET (black background)	ZBY2322	
		REVERSE	ZBY2306	
		RIGHT	ZBY2309	
		RUN	ZBY2334	
		SLOW	ZBY2327	
		START	ZBY2303	
		STOP	ZBY2304	
		STOP-START	ZBY2366	
		UP	ZBY2307	

▲ For legends, see page 19-51.

■ Start functions: white letters on black background. Stop functions: white letters on red background (unless otherwise specified above).

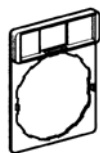
Table 19.142: Large (30 x 50 mm) Legend Holders for 18 x 27 mm Legends

Description ♦	For use with	Color	Catalog Number	\$ Price
Without legend insert	Circular and square heads	—	ZBZ33	2.00
With blank legend insert	Circular and square heads	Black or red background	ZBY6101	3.40
		White or yellow background	ZBY6102	

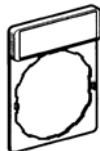
♦ For custom legends, please see page 19-51

When ordering, please specify:

- Quantity
- Catalog Number



ZBZ32



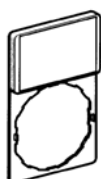
ZBY•101



ZBY2303



ZBZ33



ZBY610•

Table 19.143: Marked Legends for 8 x 27 mm (for 30 x 40 mm legend holders ZBZ32)



ZBY02178



ZBY02303

Color	Marking	Text	Catalog Number	\$ Price
Black or red background▲	International	O (black background) O (red background) I II O-I I-II I-O-II	ZBY02146 ZBY02931 ZBY02147 ZBY02148 ZBY02178 ZBY02179 ZBY02186	1.70
	English	AUTO AUTO-HAND AUTO-O-HAND CLOSE DOWN EMERGENCY STOP FAST FORWARD FOR-REV HAND HAND-OFF-AUTO INCH JOG LEFT OFF OFF-ON ON OPEN POWER ON RESET (red background) RESET (black background) REVERSE RIGHT RUN SLOW START STOP STOP-START UP	ZBY02115 ZBY02364 ZBY02385 ZBY02314 ZBY02308 ZBY02330 ZBY02328 ZBY02305 ZBY02371 ZBY02316 ZBY02387 ZBY02321 ZBY02382 ZBY02310 ZBY02312 ZBY02367 ZBY02311 ZBY02313 ZBY02326 ZBY02323 ZBY02322 ZBY02306 ZBY02309 ZBY02334 ZBY02327 ZBY02303 ZBY02304 ZBY02366 ZBY02307	1.70

▲ Start functions: white letters on black background. Stop functions: white letters on red background (unless otherwise specified above).

Table 19.144: Legends for Customer Engraving (inserts only)

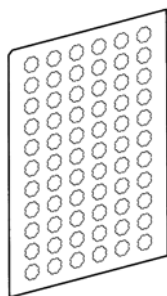
Description	For use with	Color	Catalog Number	\$ Price
8 x 27 mm	30 x 40 mm legend holders	Black or red background White or yellow background	ZBY0101 ZBY0102	1.70
18 x 27 mm	30 x 50 mm legend holders	Black or red background White or yellow background	ZBY5101 ZBY5102	

Table 19.145: Legends for Factory Engraving (inserts only)

Description	For use with	Color	Text	Catalog Number	\$ Price
8 x 27 mm Custom legend/insert only (specify engraving) 2 lines of 11 characters (including spaces) maximum per line Example: ZBY01002 marked "Robot"	30 x 40 mm legend holders	Black background	White	ZBY01002	12.20
		Red background	White	ZBY01004	
		White background	Black	ZBY01001	
		Yellow background	Black	ZBY01005	
18 x 27 mm Custom legend/insert only (specify engraving) 3 lines of 11 characters (including spaces) maximum per line Example: ZBY05002 marked "Robot"	30 x 50 mm legend holders	Black background	White	ZBY05002	12.20
		Red background	White	ZBY05004	
		White background	Black	ZBY05001	
		Yellow background	Black	ZBY05005	

When ordering, please specify:

- Quantity
- Catalog Number



ZBY1101

Table 19.146: Sheets of Legends for Push Buttons, Switches, and Pilot Lights

Description	Marking	Text	Catalog Number	\$ Price
Sheets of 66 circular peel-off transparent self-adhesive legends	Blank-Round		ZBY1101	6.20
	Blank-Square legends		ZBCY1101	6.20
	International	O	ZBY1146	10.40
		I	ZBY1147	
		II	ZBY1148	
		III	ZBY1149	
		STOP	ZBY1304	
		→	ZBY1912	
	English	HAND	ZBY1316	10.40
		OFF	ZBY1312	
		ON	ZBY1311	
		START	ZBY1303	
SiS Label Software	Legend Design Software: English, French, German, Spanish, Italian		XB52U	108.00

Table 19.147: Push Button Caps—Unmarked

For use with	Type of Push	Color	Catalog Number	\$ Price
ZB5AA0 push button heads	Flush	White	ZBA1	2.00
		Black	ZBA2	
		Green	ZBA3	
		Red	ZBA4	
		Yellow	ZBA5	
		Blue	ZBA6	
		6 colors ▲	ZBA9	
	Extended	White	ZBL1	2.00
		Black	ZBL2	
		Green	ZBL3	
		Red	ZBL4	
		Yellow	ZBL5	
		Blue	ZBL6	
		6 colors ▲	ZBL9	

Table 19.148: Push Button Caps—Marked

For use with	Type of Push	Marking		Color of Cap	Catalog Number	\$ Price
		Text	Color			
ZB5AA0 push button heads	Flush	I ■	White	Green	ZBA331	4.20
			Black	White	ZBA131	
		START ■	White	Green	ZBA333	
			Black	White	ZBA133	
		ON	White	Green	ZBA341	
			Black	White	ZBA141	
		UP ■	Black	White	ZBA343	
			White	Black	ZBA344	
		⊕	White	Green	ZBA345	
			White	Black	ZBA245	
		◇	White	Green	ZBA346	
			Black	White	ZBA334 ♦	
		↑	White	Black	ZBA335 ♦	
			White	Red	ZBA432	
		O ■	White	Black	ZBA232	
			White	Red	ZBA434	
		STOP ■	White	Black	ZBA234	
			White	Red	ZBA435	
		OFF	White	Black	ZBA235	
			White	Blue	ZBA639	

▲ Set of 6 different colored caps: white, black, green, red, yellow, blue.

■ Double injection molded marking.

♦ Cap supplied not clipped-in, allowing orientation of arrow in any one of 4 directions: ↑, ↓, ← or →

When ordering, please specify:

- Quantity
- Catalog Number

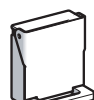
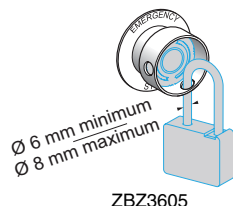


Table 19.149: Accessories

Description	Application	Color	Catalog Number	\$ Price
Padlocking kit Conforming to EN 418/ISO 13850 ■ (See legends below)	For Emergency Stop function only, with the following Ø40 mm trigger-action push buttons: XB5AT8• XB5AS8• XB5AS9• ZB5AT8• ZB5AS8• ZB5AS9•	Yellow	ZBZ3605	108.00
Metal guards Padlockable	For Emergency stop function only with the following Ø40 mm trigger-action push buttons: XB5AT8• XB5AS8• XB5AS9• ZB5AT8• ZB5AS8• ZB5AS9•	Chromium Plated	ZBZ1600	108.00
		Black	ZBZ1602	
		Red	ZBZ1604	
		Yellow	ZBZ1605	
		Blue	ZBZ1606	
Plastic guards	Round Guard for ZB5AS5430 EMO Mushroom Operators	Yellow	ZB4BZ1905	25.80
	Narrow Flange Guard for ZB5AS5430 or ZB5AS84430 EMO Mushroom Operators	Yellow	ZB4BZ2005	
	Trigger Action Guard for ZB5AS84430 EMO Mushroom Operators	Yellow	ZB4BZ2105	
Padlockable flaps	For push buttons	Black	ZB4BZ62	32.80
		Red	ZB4BZ64	
Plastic blanking plug, round▲	For Ø22 mm units with round heads	Black	ZB5SZ3	11.00
Plastic blanking plug, square▲	For Ø22 mm units with square heads	Black	ZB5SZ5	11.00
Square insert	To give square appearance to ZB5A round heads	Black	ZB5AZ31	2.00
Mounting nut	Operator	—	ZB5AZ901	4.40
Tool	For tightening mounting nut ZB5AZ901	—	ZB5AZ905	12.40
Plate	Anti-rotation of head	—	ZB5AZ902	2.00
Ø60 mm Legend for padlocking device ZBZ3605	Without EMERGENCY STOP	Yellow	ZBY9101T	3.40
		Yellow	ZBY9330T	

▲ Mounting nut included with blanking plug.

■ Standard circular legends are not compatible with this product. Use special legends ZBY••T listed above.

Table 19.150: BA9s Bulbs and Associated Accessories

Description	Characteristics	Catalog Number	\$ Price
Replacement bulbs (Type BA9s) Incandescent	6 V, 1.2 W	DL1CB006	11.00
	12 V, 2 W	DL1CE012	
	24 V, 2 W	DL1CE024	
	120–130 V, 2.4 W	DL1CE130	
Neon bulbs	120–130 V	DL1CF110	15.20
	230–240 V	DL1CF220	
Bulb extractor	—	XBFX13	11.00
Lens cap tightening tool	Illuminated push buttons with flush push	ZBZ8	6.20
Power driver bits for mounting and wiring (package of 5)	Cross headed screw (POZIDRIV type 1)	ZB4BZ905	52.00
Mounting Adapter	For mounting 22 mm push button in 30 mm knockout	ZBZ41	10.40

Table 19.151: Bellows Seals for Harsh Environments (IP 69K) ♦

Description	For use with	Color & Material	Sold in Lots of	Catalog Number	\$ Price
Bellows Seals for harsh environments (Humidity, dust, high-pressure cleaning)	XB5 plastic mushroom head push button ♦, Ø40 mm or Ø60 mm (except ZB4BR•16)	Red Silicone	2	ZBZ48	12.40
		Black EPDM	2	ZBZ28	

♦ Only when mounted on control stations. Use special legends ZBY••T.

Table 19.152: Replacement Keys

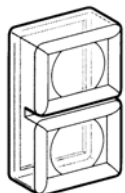
Description	Key Number	Catalog Number	\$ Price
Set of 2 keys	455	ZBG455	11.00
	421E	ZBG421E	
	458A	ZBG458A	
	520E	ZBG520E	
	3131A	ZBG3131A	
	455	ZBG455P	
Set of 2 keys, One of which is supplied booted (rubber boot)	421E	ZBG421EP	23.40
	458A	ZBG458AP	
	520E	ZBG520EP	
	3131A	ZBG3131AP	
	455	ZBG455P	

When ordering, please specify:

- Quantity
- Catalog Number



ZBP0



ZBW008



ZBV01•3



ZBV01•

Table 19.153: Clear Boots

Description	For use with	Material	Catalog Number	\$ Price
Single boots	Booted push buttons with circular head	Neoprene	ZBP0	12.40
	Booted push buttons with circular head used in food industry applications	Silicone	ZBP0A	12.40
Double boots	Double-headed push buttons, with or without pilot light	Neoprene	ZBW008	32.80
	Double-headed push buttons used in food industry applications	Silicone	ZBW008A	32.80

Table 19.154: Lens Caps

For use with	Color	Catalog Number	\$ Price
Lens caps for Protected LED® light modules			
Pilot lights	White	ZBV0113	5.40
	Green	ZBV0133	
	Red	ZBV0143	
	Yellow	ZBV0153	
	Blue	ZBV0163	
Illuminated push buttons with flush push	White	ZBW9113	5.40
	Green	ZBW9133	
	Red	ZBW9143	
	Yellow	ZBW9153	
	Blue	ZBW9163	
Illuminated push buttons with extended push	White	ZBW9313	5.40
	Green	ZBW9333	
	Red	ZBW9343	
	Yellow	ZBW9353	
	Blue	ZBW9363	
Circular lens caps for BA9s light modules			
Pilot lights	White	ZBV011	5.40
	Green	ZBV013	
	Red	ZBV014	
	Yellow	ZBV015	
	Blue	ZBV016	
	Clear	ZBV017	
Illuminated push buttons with flush push	White	ZBW911	5.40
	Green	ZBW913	
	Red	ZBW914	
	Yellow	ZBW915	
	Blue	ZBW916	
	Clear	ZBW917	
Illuminated push buttons with extended push	White	ZBW931	5.40
	Green	ZBW933	
	Red	ZBW934	
	Yellow	ZBW935	
	Blue	ZBW936	
	Clear	ZBW937	
Square lens caps for Protected LED light modules (ZB5C operators only)			
Pilot lights	White	ZBCV0113	9.40
	Green	ZBCV0133	
	Red	ZBCV0143	
	Yellow	ZBCV0153	
	Blue	ZBCV0163	
Illuminated push buttons with flush push	White	ZBCW9113	9.40
	Green	ZBCW9133	
	Red	ZBCW9143	
	Yellow	ZBCW9153	
	Blue	ZBCW9163	
Illuminated push buttons with extended push	White	ZBCW9313	9.40
	Green	ZBCW9333	
	Red	ZBCW9343	
	Yellow	ZBCW9353	
	Blue	ZBCW9363	

When ordering, please specify:

- Quantity
- Catalog Number

Table 19.155: Electrical characteristics

Rated operational characteristics	 AC-15		3 A, 240 V			
	 DC-13		0.55 A, 125 V			
Rated insulation voltage	Conforming to IEC 947-1	V	Ui = 250 degree of pollution 3 (except pilot lights with incandescent bulb: degree of pollution 2)			
Rated impulse withstand voltage	Conforming to IEC 947-1	kV	Uimp = 2.5			
Contact material	Normal environment and usage		Silver alloy			
Contact operation	N/C or N/O		Slow break			
Positive operation	Conforming to IEC 947-5-2	N	N/C contact(s) with positive opening operation			
Short-circuit protection	Conforming to IEC 947-5-1	A	Cartridge fuse mounted upstream: 10			
Cabling capacity	Conforming to IEC 947-1	mm ² mm ²	Screw clamp terminals (cross headed or slotted screw) Minimum: 1 x 0.22 Maximum: 2 x 1.5 Recommended tightening torque: 0.8 N.m			
Thermal current	Ith	A	10			
Maximum operation current	AC supply: utilization category AC-15	V A VA	Contact making capacity			
			120 60 7200	240 30 7200	480 15 7200	600 12 7200
		V A VA	Breaking capacity			
			120 6 720	240 3 720	480 1.5 720	600 1.2 720
	DC supply: utilization category DC-13	V A	Contact making capacity and breaking capacity			
			125 0.55	250 0.27	600 0.1	

Table 19.156: Environment

Conforming to standards			IEC 947-1, IEC 947-5-1, IEC 947-5-4, EN 60947-5-1, JIS C 4520 and 852, UL 508, CSA C22-2 n° 14
Product certifications			UL508, NEMA A600-Q600
Protective treatment standard version			TC
Ambient air temperature around the device	Storage	°C	- 40 to + 70
	Operation	°C	- 25 to + 70
Vibration resistance	Conforming to IEC 68-2-6	gn	Frequency: 2 to 500 Hz: 7
Shock resistance	Conforming to IEC 68-2-27	gn	Ford Standard EA-1
Electric shock protection	Conforming to IEC 536		Half sine wave: 50 gn
			Class II
Degree of protection for the metal bezel range	Conforming to IEC 529 and NF C 20-010		IP 66
	Conforming to NEMA		Types 1, 2, 3, 3R, 4, 6, 12, and 13
Degree of protection for the plastic bezel range	Conforming to IEC 529 and NF C 20-010		IP 66
	Conforming to NEMA		Types 1, 2, 3, 3R, 4, 4X, 12, and 13
Mechanical life (in millions of operating cycles)	Push buttons, spring return		5
	Illuminated push buttons		5
	Selector switches and key switches		0.5
Mounting position			All positions

Approvals

 File E42259 CCN NKCR Push Buttons and Selector Switches— Pilot Lights and Illuminated Push Buttons Full Voltage and Resistor (120 V max.); Pilot Lights and Illuminated Push Buttons Transformer.	 File LR25490 Class 3211 03 Push Buttons and Selector Switches— Pilot Lights and Illuminated Push Buttons Full Voltage and Resistor (120 V max.); Pilot Lights and Illuminated Push Buttons Transformer.	 Marked
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Table 19.157: Non-Illuminated Momentary Push Button Operators—UL Types 4, 13/NEMA 4, 13

For use in hazardous locations—See page 19-79.

Contact blocks and legend plate not included unless otherwise noted.

Description		Color	Operator with 1 N.O. and 1 N.C. Contact (KA1)	\$ Price	Operator with 1 N.O. Contact (KA2)	Operator with 1 N.C. Contact (KA3)	\$ Price	Operator Only with No Contacts	\$ Price
 9001KR1B	Full Guard	Black	KR1BH13	54.00	KR1BH5	KR1BH6	39.90	KR1B	25.70
		Red	KR1RH13		KR1RH5	KR1RH6		KR1R	
		Green	KR1GH13		KR1GH5	KR1GH6		KR1G	
		Universal ▲	KR1UH13		KR1UH5	KR1UH6		KR1U	
		Other ■	KR1■H13		KR1■H5	KR1■H6		KR1■	
 9001KR3B	No Guard	Black	KR3BH13	54.00	KR3BH5	KR3BH6	39.90	KR3B	25.70
		Red	KR3RH13		KR3RH5	KR3RH6		KR3R	
		Green	KR3GH13		KR3GH5	KR3GH6		KR3G	
		Universal ▲	KR3UH13		KR3UH5	KR3UH6		KR3U	
		Other ■	KR3■H13		KR3■H5	KR3■H6		KR3■	
 9001KR2B	Extended Guard	Black	KR2BH13	54.00	KR2BH5	KR2BH6	39.90	KR2B	25.70
		Red	KR2RH13		KR2RH5	KR2RH6		KR2R	
		Green	KR2GH13		KR2GH5	KR2GH6		KR2G	
		Universal ▲	KR2UH13		KR2UH5	KR2UH6		KR2U	
		Other ■	KR2■H13		KR2■H5	KR2■H6		KR2■	
 9001KR4B	1-3/8 in. (35 mm) Diameter Mushroom Button	Snap-In Mushroom Button							
		Black	KR4BH13	83.00	KR4BH5	KR4BH6	68.00	KR4B	54.00
		Red	KR4RH13		KR4RH5	KR4RH6	68.00	KR4R	54.00
		Red ▲	KR4R05H13		KR4R05H5	KR4R05H6	72.00	KR4R05	57.00
		Green	KR4GH13		KR4GH5	KR4GH6	68.00	KR4G	54.00
		Other ★	KR4★H13		KR4★H5	KR4★H6	68.00	KR4★	54.00
		Screw-On Mushroom Button With Set Screw Security ▼							
		Black	KR24BH13	83.00	KR24BH5	KR24BH6	68.00	KR24B	54.00
		Red	KR24RH13		KR24RH5	KR24RH6		KR24R	
		Green	KR24GH13		KR24GH5	KR24GH6		KR24G	
Other★	KR24★H13	KR24★H5	KR24★H6		KR24★				
Snap-In Mushroom Button									
 9001KR5B	2-1/4 in. (57 mm) Diameter Mushroom Button	Snap-In Mushroom Button							
		Black	KR5BH13	83.00	KR5BH5	KR5BH6	68.00	KR5B	54.00
		Red	KR5RH13		KR5RH5	KR5RH6	68.00	KR5R	54.00
		Red ▲	KR5R05H13		KR5R05H5	KR5R05H6	72.00	KR5R05	57.00
		Green	KR5GH13		KR5GH5	KR5GH6	68.00	KR5G	54.00
		Other★	KR5★H13		KR5★H5	KR5★H6	68.00	KR5★	54.00
		Screw-On Mushroom Button With Set Screw Security ▼							
		Black	KR25BH13	83.00	KR25BH5	KR25BH6	68.00	KR25B	54.00
		Red	KR25RH13		KR25RH5	KR25RH6		KR25R	
		Green	KR25GH13		KR25GH5	KR25GH6		KR25G	
Other★	KR25★H13	KR25★H5	KR25★H6		KR25★				
Snap-In Mushroom Button									

▲ The universal push button operators contain one each of the following color inserts: black, red, green, yellow, orange, blue and white.

■ See Table 19.158 for color code.

◆ Knob has the words "Emergency Stop" in raised letters highlighted in white for readability.

★ See Table 19.158 for color code.

▼ See Table 19.158 for Metal button price adder.

Table 19.158: Color Codes

Color	KR1, 2, 3 Place Color Code in Type Number ■	KR4, 5, 24, 25 Place Color Code in Type Number ★	For KR24R, G, B METAL Button ▼ <i>New!</i>		For KR25R, G, B METAL Button ▼ <i>New!</i>	
Blue Yellow White Orange Gray	L Y W S E	L Y — S —	Add "M" behind the Color Code Example: KR24RM	\$ Price Adder	Add "M" behind the Color Code Example: KR25RM	\$ Price Adder
				5.50		13.50

Table 19.159: Contact Sequences (for page 19-57)

9001 KR8RH1 or H13				
		Pull	Ctr	Push
(KA1)	KA3	X	O	O
	KA2	O	O	X

9001 KR8RH25			
	Pull	Ctr	Push
KA3	X	O	O
KA5	X	X	O
KA2	O	O	X

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Basic Operators	page 19-85
Light Modules	page 19-77
Contact Blocks	page 19-78
H Contact Block Assembly Codes	page 19-80
Legend Plates	page 19-81
Accessories	page 19-83
Replacement Parts	page 19-86

Table 19.160: Illuminated and Non-Illuminated Multifunction Operators

Meets UL Type 13/NEMA 13 and UL Type 6/NEMA 6, which UL and NEMA consider an equivalent to UL Type 4/NEMA 4.

For use in hazardous locations—See page 19-79. Legend plate and contact blocks not included unless otherwise noted.

 9001KR7U	Description		Color	With 2 N.O. Contacts (2 KA2)	With 1 N.O. & 1 N.C. Contact (KA2, KA3)	\$ Price	Without Contacts ☆	\$ Price
	Momentary Dual Function		Universal ▲ Green-Red Other ■	KR6UH7 KR6GRH7 KR6■H7	KR6UH37 KR6GRH37 KR6■H37	83.	KR6U KR6GR KR6■	54.
	Momentary Interlocked Dual Function		Universal▲ Green-Red Other ■	KR67UH7 KR6GRH7 KR67■H7	KR67UH37 KR6GRH37 KR67■H37	111.	KR67U KR67GR KR67■	83.
	Maintained Interlocked Dual Function		Universal ▲ Green-Red Other ■	KR7UH7 KR6GRH7 KR7■H7	KR7UH37 KR6GRH37 KR7■H37	111.	KR7U KR7GR KR7■	83.
	Description		Color		Contacts ▽ (KA1)	\$ Price	Without Contacts ☆	\$ Price
 9001KR11U	Both Buttons Maintained Interlocked Assembly		Universal ♦ Other ★	—	KR11UH1 KR11★H1	108.	KR11U KR11★	80.
	One Button Momentary One Button Maintained Interlocked Assembly		Universal ♦ Other★	—	KR12UH1H1 KR12★H1H1	165.	KR12U KR12★	108.

- ▲ Universal for KR6, KR67, KR7 includes 2 inserts each of black, red and green.
- Choose one color for each button. R = red, G = green, B = Black. **Example: A KR6 with left red and right black = KR6RB**
- ◆ Universal for KR11, KR12 includes 2 each of black, red, green, yellow, orange, blue, white.
- ★ Choose one color for each button from table and insert color code in type number. **Example: A KR11 with top button gray and bottom button orange = KR11ES**

 KR9R94H13 Set Screw Style	Description *	Color	With 2 N.C. Contacts (1 KA3, 1 KA5)	With 1 N.O. & 1 N.C. Contact (1 KA1)	\$ Price	Without Contacts ☆	\$ Price
	3 Position Non-Illuminated Momentary Pull Maintained Neutral Momentary Push ◊	Red Green Other ▼	KR8RH25 KR8GH25 KR8▼H25	— — —	86.	KR8R KR8G KR8▼	57.
	2 Position Non-Illuminated Maintained Pull Maintained Push ●	Red ● Green Other ▼	— — —	KR9RH13 KR9GH13 KR9▼H13	114.	KR9R KR9G KR9▼	86.
	Set Screw Style	Red	—	KR9R94H13	117.	KR9R94	89.

 9001KR9P1 1.625 in. Diameter Knob For 1-3/8 in. or 2-1/4 in. Diameter Knob * Includes Type KN379 Legend Plate Marked Pull To Start Push To Stop	Description *	Voltage	With Red Knob and 2 N.C. Contacts (1 KA3, 1 KA5)	With Other Color Knob and 2 N.C. Contacts (1 KA3, 1 KA5)	\$ Price	With Other Color Knob Without Contacts ☆	\$ Price
	3 Position Illuminated Momentary Pull Maintained Neutral Momentary Push▼	110-120 V, 50-60 Hz Other—Transformer, LED, Flashing □ Other—Full Voltage, Resistor, Neon ◇	KR8P1RH25 KR8PΔRH25 KR8PΔRH25	KR8P1▼H25 KR8PΔ▼H25 KR8PΔ▼H25	162. 162. 143.	KR8P1▼ KR8PΔ▼ KR8PΔ▼	134. 134. 114.
	Description *	Voltage	With Red◉ Knob and 1 N.O. & 1 N.C. Contact (KA1)	With Other Color Knob and 1 N.O. & 1 N.C. Contact (KA1)	\$ Price	With Other Color Knob Without Contacts	\$ Price
	2 Position Illuminated Maintained Pull Maintained Push	110-120 V, 50-60 Hz Other—Transformer, LED, Flashing □ Other—Full Voltage, Resistor, Neon ◇	KR9P1RH13 KR9PΔRH13 KR9PΔRH13	KR9P1▼H13 KR9PΔ▼H13 KR9PΔ▼H13	191. 191. 171.	KR9P1▼ KR9PΔ▼ KR9PΔ▼	162. 162. 143.

- | | |
|---|---|
| ▼ | Choose one color from the Color Codes table below, and insert the color code in Type number. Example: KR9 with a yellow knob = KR9Y |
| △ | Add the voltage assembly code as chosen from page 19-77. Example: KR8P with a 277 V 50–60 Hz voltage = KR8P8 |
| ◇ | The knob must be the same color as the LED light module chosen, for example, for a green LED, use a green knob. |
| ◇ | On neon light modules, use clear knobs only. |
| ☆ | These operators can be ordered complete with contact blocks. For maximum block usage, see page 19-80. Add the "H" number chosen from page 19-80 to the end of the operator Type number and add the cost of the "H" number to the operator cost. |
| ☆ | KR11UH1 has 1 KA1 (1 N.O., 1 N.C.) and KR12UH1H1 has 2 KA1 (2 N.O., 2 N.C.). |
| ● | To obtain a red knob with "Push Emergency Stop" printed on the red knob—substitute "R05" in place of "R" and add \$2.10 to the price. |
| * | For 1-3/8 in. or 2-1/4 in. Dia. Knob:
a) Order Type -20 or -21 knob from page 19-84.
b) Order 9001K54 adapter (no charge)—allows Type -20 or -21 knob to fit on push pull operators. Voids UL and NEMA 6 rating.
c) Can order assembled operator by adding color code to Type -20 or -21. Example: 9001KR9R would be 9001KR9R20 or 9001KR9R21 . No price adder. |
| ◇ | See page 19-56 for contact sequences. |
| ◇ | See Table 19.161 below. |

Table 19.161: Other Color Code Selection

When ordering, please specify:	Color	KR6, KR7, KR67	KR11, KR12	KR8, KR9
- Quantity - Class Number - Type or Catalog Number	Black ☐	B	B	B
	Red	R	R	R
	Green	G	G	G
	Blue		L	L
	Yellow	—	Y	Y
	White	—	W	W
	Orange ☐	—	S	S
	Clear	—	—	C
	Amber	—	—	A
	Gray	—	E	—

* These colors are not available on illuminated push-pull operators.

o For KR9R, G, Y (Non-III)	
Description	\$ Price Adder
Metal Button, 40 mm Add M94 after KR9R, G, Y Example: KR9RM 94	27.40
Metal Button, 60 mm Add M95 after KR9R, G, Y Example: KR9RM 95	35.40

New!

Table 19.162: Illuminated Momentary Push Button Operators—UL Types 4, 13/NEMA 4, 13

For use in hazardous locations—See page 19-79.

Legend plate and contact block not included unless otherwise noted.

Description	Voltage and Frequency	Style	With Red Color Cap and 1 N.O. and 1 N.C. Contact (KA1)	With Green Color Cap and 1 N.O. and 1 N.C. Contact (KA1)	\$ Price □	With Other Color Cap Without Contact Block ▲	\$ Price ◇
 9001K1L1	110–120 V, 50–60 Hz	Transformer	K1L1RH13	K1L1GH13	140.	K1L1▼	111.
	220–240 V, 50–60 Hz	Transformer	K1L7RH13	K1L7GH13	140.	K1L7▼	111.
	24–28 Vac/dc	Full Voltage	K1L35RH13	K1L35GH13	120.	K1L35▼	92.
	For other voltages see Table ■	Transformer or Flashing	K1L■RH13	K1L■GH13	140.	K1L■▼	111.
		Full Voltage	K1L■RH13	K1L■GH13	120.	K1L■▼	92.
		Resistor or Neon ◆	K1L■RH13	K1L■GH13	120.	K1L■▼	92.
		LED ★	K1L■RH13	K1L■GH13	140.	K1L■▼	111.
 9001K3L1	110–120 V, 50–60 Hz	Transformer	K3L1RH13	K3L1GH13	140.	K3L1▼	111.
	220–240 V, 50–60 Hz	Transformer	K3L7RH13	K3L7GH13	140.	K3L7▼	111.
	24–28 Vac/dc	Full Voltage	K3L35RH13	K3L35GH13	120.	K3L35▼	92.
	For other voltages see Table ■	Transformer or Flashing	K3L■RH13	K3L■GH13	140.	K3L■▼	111.
		Full Voltage	K3L■RH13	K3L■GH13	120.	K3L■▼	92.
		Resistor or Neon ◆	K3L■RH13	K3L■GH13	120.	K3L■▼	92.
		LED ★	K3L■RH13	K3L■GH13	140.	K3L■▼	111.
 9001K2L1	110–120 V, 50–60 Hz	Transformer	K2L1RH13	K2L1GH13	131.	K2L1▼	102.
	220–240 V, 50–60 Hz	Transformer	K2L7RH13	K2L7GH13	131.	K2L7▼	102.
	24–28 Vac/dc	Full Voltage	K2L35RH13	K2L35GH13	111.	K2L35▼	83.
	For other voltages see Table ■	Transformer or Flashing	K2L■RH13	K2L■GH13	131.	K2L■▼	102.
		Full Voltage	K2L■RH13	K2L■GH13	111.	K2L■▼	83.
		Resistor or Neon ◆	K2L■RH13	K2L■GH13	111.	K2L■▼	83.
		LED ★	K2L■RH13	K2L■GH13	131.	K2L■▼	102.
 9001K2LR20	110–120 V, 50–60 Hz	Transformer	K2L1R20H13	K2L1G20H13	131.	Order K2L ■▼ Above ▲	
	220–240 V, 50–60 Hz	Transformer	K2L7R20H13	K2L7G20H13	131.		
	24–28 Vac/dc	Full Voltage	K2L35R20H13	K2L35G20H13	111.		
	For other voltages see Table ■	Transformer or Flashing	K2L■R20H13	K2L■G20H13	131.		
		Full Voltage	K2L■R20H13	K2L■G20H13	111.		
		Resistor or Neon ◆	K2L■R20H13	K2L■G20H13	111.		
		LED ★	K2L■R20H13	K2L■G20H13	131.		
 9001K2LR21	110–120 V, 50–60 Hz	Transformer	K2L1R21H13	K2L1G21H13	131.	Order K2L ■▼ Above ▲	
	220–240 V, 50–60 Hz	Transformer	K2L7R21H13	K2L7G21H13	131.		
	24–28 Vac/dc	Full Voltage	K2L35R21H13	K2L35G21H13	111.		
	For other voltages see Table ■	Transformer or Flashing	K2L■R21H13	K2L■G21H13	131.		
		Full Voltage	K2L■R21H13	K2L■G21H13	111.		
		Resistor or Neon ◆	K2L■R21H13	K2L■G21H13	111.		
		LED ★	K2L■R21H13	K2L■G21H13	131.		

- ▲ These operators can be ordered complete with contact blocks. For maximum block usage, see page 19-85. Add the "H" number chosen from page 19-80 to the end of the operator type number and add the cost of the "H" number to the operator cost.
- Add the voltage assembly code as chosen from Table 19.219 or 19.220 on page 19-77. **Example:** K2L▲ with 240 Vac/dc = K2L25
- ◆ On neon light modules, use clear color caps only.
- ★ The cap must be the same color as the LED light module chosen, e.g., for red LED, use red color cap.
- ▼ Add the color code as chosen from the color cap table. **Example:** K2L25◆ with a blue 13/8 mushroom button = K2L25L20
- ▲ The only difference between a no guard (K2L◆) operator and mushroom button operator is the color cap.
- Price includes operator, light module, contact block, and color cap.
- ◇ Price includes operator, light module, and color cap.

Table 19.163: Color Caps

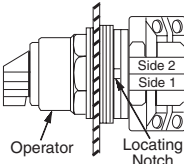
Color	Color Codes		
	▼ K1L, K2L, K3L	▼ 1-3/8 in. Mushroom	▼ 2-1/4 in. Mushroom
Red	R	R20	R21
Green	G	G20	G21
Blue	L	L20	L21
Yellow	Y	Y20	Y21
White	W	W20	W21
Clear	C	C20	C21
Amber	A	A20	A21

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Basic Operators	page 19-85
Light Modules	page 19-77
Contact Blocks	page 19-78
H Contact Block Assembly Codes	page 19-80
Legend Plates	page 19-81
Accessories	page 19-83
Replacement Parts	page 19-86

Table 19.164: Non-Illuminated 2 Position Selector Switch Operators—UL Types 4, 13/NEMA 4, 13
For use in hazardous locations—See page 19-79. Legend plate and contact block not included unless noted.

Contact Block Required					1—Contact Closed 0—Contact Open						
Contact Block Position	Quantity and Type		Mount on Side		Left	Right	Left	Right			
 Top View	 KA1	or	 KA3	KA1 #2	or	 KA3 #2	1	0	0	1	
							 KA2	0	1	1	0
	 KA1	or	 KA3	KA1 #1	or	 KA3 #1	1	0	0	1	
							 KA2	0	1	1	0
Cam (see page 19-64)							E		D		\$ Price
Non-Illuminated Operators							Type		Type		
Manual Return											
Operator Only▲											
Without Knob							KS11		KS12		28.50
With Standard Black Knob							KS11B		KS12B		35.10
With Other Color Knob (See Table 19.166) ■							KS11■		KS12■		35.10
Key Operated with E10 Key (Code 1, 2, 3)◆★							KS11K◆		KS12K◆		92.00
With Contact Block(s)											
With Standard Knob											
With 1 KA1 on Side #2							KS11BH13		—		64.00
With 1 KA1 on Side #1							KS11BH1		—		64.00
With 1 KA1 on Side #1 and 1 KA1 on Side #2							KS11BH2		—		92.00
Spring Return from Left											
Operator Only a											
Without Knob							KS25		—		47.60
With Standard Black Knob							KS25B		—		54.00
With Other Color Knob (See Table 19.166) ■							KS25■		—		54.00
Key Operated with E10 Key (Code 2 only) ◆							KS25K2		—		111.00
Spring Return From Right											
Operator Only a											
Without Knob							—		KS34		47.60
With Standard Black Knob							—		KS34B		54.00
With Other Color Knob (See Table 19.166) ■							—		KS34■		54.00
Key Operated with E10 Key (Code 1 Only) ◆							—		KS34K1		111.00

- ▲ These operators can be ordered complete with contact blocks. For maximum block usage, see page 19-85. Add the "H" number chosen from page 19-80 to the end of the operator type number and add the cost of the "H" number to the operator cost.
■ Add the color code as chosen from knob color table at right. **Example:** KS11■ with a green gloved-hand knob = KS11FG
◆ Add the key withdrawal code from key withdrawal code table below. **Example:** KS11K◆ with key withdrawal in the right position only = KS11K2
★ All key operated devices come standard with Square D key no. E10 (key only part no. is 2941101100, \$6.60 per key). Other key changes are available. For additional information, refer to Catalog 9001CT0001.

Table 19.165: Key Withdrawal Code ◆

Code	Position
1	Left Only
2	Right Only
3	Left and Right

Table 19.166: Selector Switch Knobs

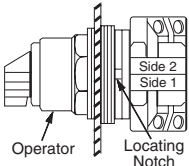
							
	Standard Knob		Gloved-Hand Knob		Coin Operated		
Color	■ Knob Code	Type	■ Knob Code	Type	■ Knob Code	Type	\$ Price
Black	B	B11	FB	B25	TB	B18	6.60
Red	R	R8	FR	R24	TR	R16	
Green	G	G8	FG	G24	TG	G16	
Yellow	Y	Y8	FY	Y24	TY	Y16	
Orange	S	S11	FS	S25	—	—	
Blue	L	L8	FL	L24	TL	L16	
White	W	W8	FW	W24	—	—	
Amber	A	A8	FA	A24	—	—	
Clear	C	C8	FC	C24	TC	C16	

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Table 19.167: Illuminated 2 Position Selector Switch Operators – UL Types 4, 13/NEMA 4, 13

For use in hazardous locations – See page 19-79. Legend plate and contact block not included unless noted.

Contact Block Required					1 — Contact Closed 0 — Contact Open				
Contact Block Position	Quantity and Type KA1 or KA2 or KA3		Mount on Side KA1 or KA2 or KA3		Left ↙	Right ↗	Left ↙	Right ↗	
 Top View	KA1 	KA3 	KA1 #2	KA3 #2	1	0	0	1	
		KA2 		KA2 #2	0	1	1	0	
	KA1 	KA3 	KA1 #1	KA3 #1	1	0	0	1	
		KA2 		KA2 #1	0	1	1	0	
Cam (see page 19-64)					E		D		
Illuminated Operators					Type		Type		\$ Price
Manual Return ▲					K11J1 K11J1R K11J■ K11J■ K11J◆ K11J◆		K12J1 K12J1R K12J■ K12J■ K12J◆ K12J◆		105. 111. 105. 86. 111. 92.
Spring Return from Left ▲					K25J1 K25J1R K25J■ K25J■ K25J◆ K25J◆		— — — — — —		123. 131. 123. 105. 131. 111.
Spring Return From Right ▲					— — — — — —		K34J1 K34J1R K34J■ K34J■ K34J◆ K34J◆		123. 131. 123. 105. 131. 111.

▲ These operators can be ordered complete with contact blocks. For maximum block usage, see page 19-85. Add the "H" number chosen from page 19-80 to the end of the operator type number and add the cost of the "H" number to the operator cost.

■ Add the voltage assembly code as chosen from page 19-77. **Example:** K25J■ with 208 Vac = K25J3.

◆ Add the color code as chosen from Table 19.168. **Example:** K25J35◆ with a green knob = K25J35G.

★ The knob must be the same color as the LED light module chosen, for example, with a red LED, use a red knob.

▼ On neon light modules, use clear knobs only.

Table 19.168: Selector Switch Knobs

	 Standard Knob		 Gloved-Hand Knob		 Coin Operated		
Color	◆ Knob Code	Type	◆ Knob Code	Type	◆ Knob Code	Type	\$ Price
Red	R	R8	FR	R24	TR	R16	6.60
Green	G	G8	FG	G24	TG	G16	
Yellow	Y	Y8	FY	Y24	TY	Y16	
Blue	L	L8	FL	L24	TL	L16	
White	W	W8	FW	W24	—	—	
Amber	A	A8	FA	A24	—	—	
Clear	C	C8	FC	C24	TC	C16	

Table 19.169: Two Color Selector Switch

Used to indicate red in left position and green in right position on illuminated operators.

Knob	Factory Assembled Form Number ▲	\$ Price Adder
Standard	Y178	28.50
Gloved-Hand	Y1781	28.50

▲ Add form number to standard Type number, e.g., Type K11J1 Form Y178.

When ordering, please specify:

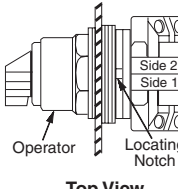
- Quantity
- Class Number
- Type or Catalog Number

Basic Operators	page 19-85
Light Modules	page 19-77
Contact Blocks	page 19-78
H Contact Block Assembly Codes	page 19-80
Legend Plates	page 19-81
Accessories	page 19-83
Replacement Parts	page 19-86

Table 19.170: Non-Illuminated 3 Position Selector Switch Operators—UL Types 4, 13/NEMA 4, 13

For use in hazardous locations—See page 19-79.

Legend plate and contact block not included unless noted.

Contact Block Required			1—Contact Closed 0—Contact Open									
Contact Block Position	Quantity and Type	Mount on Side	Center ↕	Center ↕	Center ↕	Center ↕	Center ↕	Center ↕	Center ↕	Center ↕	Center ↕	Center ↕
 Top View	KA1 or KA2	KA3 #2	1 0 0	1 0 0	0 0 1	1 0 0	1 0 0	1 0 0	1 0 0	0 1 0	1 1 0	
	KA1 or KA2	KA2 #2	0 1 1	0 0 1	0 1 0	0 1 0	0 0 1	0 1 1	0 1 1	1 0 0	0 0 1	
	KA1 or KA2	KA3 #1	0 0 1	1 0 0	0 0 1	1 0 0	0 1 0	0 0 1	1 0 1	0 0 1	0 1 1	
	KA1 or KA2	KA2 #1	1 1 0	0 0 1	0 1 0	0 1 0	0 0 1	1 0 0	0 1 0	0 1 0	1 0 0	
Cam (see page 19-64)			B	C	D	E	F	G	J	L	M	
Non-Illuminated Operators			Type	Type	Type	Type	Type	Type	Type	Type	Type	\$ Price
Manual Return												
Operator Only ▲												
• Without Knob			KS42	KS43	KS44	KS45	KS46	KS47	KS49	KS401	KS402	28.50
• With Standard Black Knob			KS42B	KS43B	KS44B	KS45B	KS46B	KS47B	KS49B	KS401B	KS402B	35.10
• With Other Color Knob (See Table 19.172) ■			KS42■	KS43■	KS44■	KS45■	KS46■	KS47■	KS49■	KS401■	KS402■	35.10
• Key Operated with E10 Key (Code 4 through 10) ♦★			KS42K♦	KS43K♦	KS44K♦	KS45K♦	KS46K♦	KS47K♦	KS49K♦	KS401K♦	KS402K♦	92.00
With Contact Block(s)												
• With Standard Black Knob (For Other Colors, Replace B in Type Number with Color Code from Table 19.172.)			KS42BH13	KS43BH13	KS44BH13	KS45BH13	KS46BH13	KS47BH13	KS49BH13	KS401BH13	KS402BH13	64.00
• With 1 KA1 on side #2 (H13)			KS42BH1	KS43BH1	KS44BH1	KS45BH1	KS46BH1	KS47BH1	KS49BH1	KS401BH1	KS402BH1	64.00
• With 1 KA1 on side #1 (H1)			KS42BH2	KS43BH2	KS44BH2	KS45BH2	KS46BH2	KS47BH2	KS49BH2	KS401BH2	KS402BH2	92.00
• With 1 KA1 on side #1 and 1 KA1 on side #2 (H2)												
Spring Return from Left to Center												
Operator Only ▲												
• Without Knob			KS62	KS63	KS64	KS65	KS66	KS67	KS69	KS601	KS602	47.60
• With Standard Black Knob			KS62B	KS63B	KS64B	KS65B	KS66B	KS67B	KS69B	KS601B	KS602B	54.00
• With Other Color Knob (See Table 19.172) ■			KS62■	KS63■	KS64■	KS65■	KS66■	KS67■	KS69■	KS601■	KS602■	54.00
• Key Operated with E10 Key (Code 5, 6 or 9 only) ♦★			KS62K♦	KS63K♦	KS64K♦	KS65K♦	KS66K♦	KS67K♦	KS69K♦	KS601K♦	KS602K♦	111.00
Spring Return From Right to Center												
Operator Only ▲												
• Without Knob			KS72	KS73	KS74	KS75	KS76	KS77	KS79	KS701	KS702	47.60
• With Standard Black Knob			KS72B	KS73B	KS74B	KS75B	KS76B	KS77B	KS79B	KS701B	KS702B	54.00
• With Other Color Knob (See Table 19.172) ■			KS72■	KS73■	KS74■	KS75■	KS76■	KS77■	KS79■	KS701■	KS702■	54.00
• Key Operated with E10 Key (Code 4, 5 or 7 Only) ♦★			KS72K♦	KS73K♦	KS74K♦	KS75K♦	KS76K♦	KS77K♦	KS79K♦	KS701K♦	KS702K♦	111.00
Spring Return Both Sides to Center												
Operator Only ▲												
• Without Knob			KS52	KS53	KS54	KS55	KS56	KS57	KS59	KS501	KS502	47.60
• With Standard Black Knob			KS52B	KS53B	KS54B	KS55B	KS56B	KS57B	KS59B	KS501B	KS502B	54.00
• With Other Color Knob (See Table 19.172) ■			KS52■	KS53■	KS54■	KS55■	KS56■	KS57■	KS59■	KS501■	KS502■	54.00
• Key Operated with E10 Key (Code 5 Only) ★			KS52K5	KS53K5	KS54K5	KS55K5	KS56K5	KS57K5	KS59K5	KS501K5	KS502K5	111.00

- ▲ These operators can be ordered complete with contact blocks. For maximum block usage, see page 19-85. Add the "H" number chosen from page 19-80 to the end of the operator type number and add the cost of the "H" number to the operator cost.
- Add the color code as chosen from Table 19.172. **Example:** KS43■ with a green gloved-hand knob = KS43FG
- ♦ Add the key withdrawal code from Table 19.171. **Example:** KS43K♦ with key withdrawal in the right position only = KS43K6
- ★ All key operated devices come standard with Square D key no. E10 (key only part no. is 2941101100, \$6.60 per key). Other key changes are available. For additional information, refer to Catalog 9001CT0001.

Table 19.171: ♦Key Withdrawal Codes

Code	Position
4	Left Only
5	Center Only
6	Right Only
7	Left and Center
8	Left and Right
9	Center and Right
10	Left, Center and Right

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Table 19.172: Selector Switch Knobs

Standard Knob		Gloved-Hand Knob		Coin Operated		\$ Price
Color	■Knob Code	Type	■Knob Code	Type	■Knob Code	
Black	B	B11	FB	B25	TB	B18
Red	R	R8	FR	R24	TR	R16
Green	G	G8	FG	G24	TG	G16
Yellow	Y	Y8	FY	Y24	TY	Y16
Orange	S	S11	FS	S25	—	—
Blue	L	L8	FL	L24	TL	L16
White	W	W8	FW	W24	—	—
Amber	A	A8	FA	A24	—	—
Clear	C	C8	FC	C24	TC	C16

Table 19.173: Illuminated 3 Position Selector Switch Operators

For use in hazardous locations—See page 19-79.

Legend plate and contact block not included unless noted.

CONTACT BLOCK REQUIRED					1 — Contact Closed 0 — Contact Open												
Contact Block Position	Quantity and Type		Mount on Side	Center		Center		Center		Center		Center		Center		Center	
				Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right		
 Top View	KA1	or	KA3 #2	KA2 #2	1	0	0	1	0	0	1	0	0	0	1	0	
					0	1	1	0	0	1	0	0	1	0	1	0	0
	KA1	or	KA3 #1	KA2 #1	0	0	1	1	0	0	1	0	0	1	0	0	1
					1	1	0	0	0	1	0	0	1	1	0	0	1
Cam (see page 19-64)					B	C	D	E	F	G	J	L	M				
Illuminated Operators					Type	Type	Type	Type	Type	Type	Type	Type	Type	Type	Type	\$ Price	
Manual Return ▲					K42J1	K43J1	K44J1	K45J1	K46J1	K47J1	K49J1	K401J1	K402J1			105.	
Without Knob, 110–120 V 50–60 Hz Transformer					K42J1R	K43J1R	K44J1R	K45J1R	K46J1R	K47J1R	K49J1R	K401J1R	K402J1R			111.	
With Standard Red Knob, 110–120 V 50–60 Hz Transformer					K42J■	K43J■	K44J■	K45J■	K46J■	K47J■	K49J■	K401J■	K402J■			105.	
Without Knob and Other Voltage Transformer, Flashing or LED ★					K42J■	K43J■	K44J■	K45J■	K46J■	K47J■	K49J■	K401J■	K402J■			86.	
Without Knob, Full Voltage Neon or Resistor ▼					K42J■	K43J■	K44J■	K45J■	K46J■	K47J■	K49J■	K401J■	K402J■			111.	
With Other Color Knob and Transformer, Flashing or LED ★					K42J■◆	K43J■◆	K44J■◆	K45J■◆	K46J■◆	K47J■◆	K49J■◆	K401J■◆	K402J■◆			111.	
With Other Color Knob, Full Voltage Neon or Resistor ▼					K42J■◆	K43J■◆	K44J■◆	K45J■◆	K46J■◆	K47J■◆	K49J■◆	K401J■◆	K402J■◆			92.	
Spring Return Left To Center ▲					K62J1	K63J1	K64J1	K65J1	K66J1	K67J1	K69J1	K601J1	K602J1			123.	
Without Knob, 110–120 V 50–60 Hz Transformer					K62J1R	K63J1R	K64J1R	K65J1R	K66J1R	K67J1R	K69J1R	K601J1R	K602J1R			131.	
With Standard Red Knob, 110–120 V 50–60 Hz Transformer					K62J■	K63J■	K64J■	K65J■	K66J■	K67J■	K69J■	K601J■	K602J■			123.	
Without Knob and Other Voltage Transformer, Flashing or LED ★					K62J■	K63J■	K64J■	K65J■	K66J■	K67J■	K69J■	K601J■	K602J■			105.	
Without Knob, Full Voltage Neon or Resistor ▼					K62J■	K63J■	K64J■	K65J■	K66J■	K67J■	K69J■	K601J■	K602J■			131.	
With Other Color Knob and Transformer, Flashing or LED ★					K62J■◆	K63J■◆	K64J■◆	K65J■◆	K66J■◆	K67J■◆	K69J■◆	K601J■◆	K602J■◆			131.	
With Other Color Knob, Full Voltage Neon or Resistor ▼					K62J■◆	K63J■◆	K64J■◆	K65J■◆	K66J■◆	K67J■◆	K69J■◆	K601J■◆	K602J■◆			111.	
Spring Return Right To Center ▲					K72J1	K73J1	K74J1	K75J1	K76J1	K77J1	K79J1	K701J1	K702J1			123.	
Without Knob, 110–120 V 50–60 Hz Transformer					K72J1R	K73J1R	K74J1R	K75J1R	K76J1R	K77J1R	K79J1R	K701J1R	K702J1R			131.	
With Standard Red Knob, 110–120 V 50–60 Hz Transformer					K72J■	K73J■	K74J■	K75J■	K76J■	K77J■	K79J■	K701J■	K702J■			123.	
Without Knob and Other Voltage Transformer, Flashing or LED★					K72J■	K73J■	K74J■	K75J■	K76J■	K77J■	K79J■	K701J■	K702J■			105.	
Without Knob, Full Voltage Neon or Resistor▼					K72J■	K73J■	K74J■	K75J■	K76J■	K77J■	K79J■	K701J■	K702J■			131.	
With Other Color Knob and Transformer, Flashing or LED ★					K72J■◆	K73J■◆	K74J■◆	K75J■◆	K76J■◆	K77J■◆	K79J■◆	K701J■◆	K702J■◆			131.	
With Other Color Knob, Full Voltage Neon or Resistor ▼					K72J■◆	K73J■◆	K74J■◆	K75J■◆	K76J■◆	K77J■◆	K79J■◆	K701J■◆	K702J■◆			111.	
Spring Return Both Sides To Center ▲					K52J1	K53J1	K54J1	K55J1	K56J1	K57J1	K59J1	K501J1	K502J1			123.	
Without Knob, 110–120 V 50–60 Hz Transformer					K52J1R	K53J1R	K54J1R	K55J1R	K56J1R	K57J1R	K59J1R	K501J1R	K502J1R			131.	
With Standard Red Knob, 110–120 V 50–60 Hz Transformer					K52J■	K53J■	K54J■	K55J■	K56J■	K57J■	K59J■	K501J■	K502J■			123.	
Without Knob and Other Voltage Transformer, Flashing or LED ★					K52J■	K53J■	K54J■	K55J■	K56J■	K57J■	K59J■	K501J■	K502J■			105.	
Without Knob, Full Voltage Neon or Resistor ▼					K52J■	K53J■	K54J■	K55J■	K56J■	K57J■	K59J■	K501J■	K502J■			131.	
With Other Color Knob and Transformer, Flashing or LED ★					K52J■◆	K53J■◆	K54J■◆	K55J■◆	K56J■◆	K57J■◆	K59J■◆	K501J■◆	K502J■◆			131.	
With Other Color Knob, Full Voltage Neon or Resistor ▼					K52J■◆	K53J■◆	K54J■◆	K55J■◆	K56J■◆	K57J■◆	K59J■◆	K501J■◆	K502J■◆			111.	
▲ These operators can be ordered complete with contact blocks. For maximum block usage, see page 19-85. Add the "H" number chosen from 19-80 to the end of the operator type number and add the cost of the "H" number to the operator cost.																	
■ Add the voltage assembly code as chosen from page 19-77. Example: K43J■ with 208 Vac = K43J3																	
◆ Add the color code as chosen from Table 19.174. Example: K43J35◆ with a green knob = K43J35G																	
★ The knob must be the same color as the LED light module chosen, for example, for a red LED, use a red knob.																	
▼ On neon light modules, use clear knobs only.																	

Table 19.174: Selector Switch Knobs

							
	Standard Knob		Gloved-Hand Knob		Coin Operated		
Color	Knob Code	Type	Knob Code	Type	Knob Code	Type	\$ Price
Black △	B	B11	FB	B25	TB	B18	6.60
Red	R	R8	FR	R24	TR	R16	
Green	G	G8	FG	G24	TG	G16	
Yellow	Y	Y8	FY	Y24	TY	Y16	
Orange △	S	S11	FS	S25	—	—	
Blue	L	L8	FL	L24	TL	L16	
White	W	W8	FW	W24	—	—	
Amber	A	A8	FA	A24	—	—	
Clear	C	C8	FC	C24	TC	C16	

▲ Non-Illuminated only.

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Basic Operators	page 19-85
Light Modules	page 19-77
Contact Blocks	page 19-78
H Contact Block Assembly Codes	page 19-80
Legend Plates	page 19-81
Accessories	page 19-83
Replacement Parts	page 19-86

Table 19.175: Non-Illuminated and Illuminated 4 Position Selector Switch Operators
For use in hazardous locations—See page 19-79. UL Types 4, 13/NEMA 4, 13
Legend plate and contact block not included unless noted.

Contact Block Required					1—Contact Closed 0—Contact Open	
Contact Block Position	Quantity and Type KA1 or KA2 or KA3		Mount on Side KA1 or KA2 or KA3			
 Top View	KA1 	KA3 	KA1 #2	KA3 #2	 1 0 0 0	
		KA2 		KA2 #2	0 0 1 0	
	KA1 	KA3 	KA1 #1	KA3 #1	0 0 0 1	
		KA2 		KA2 #1	0 1 0 0	
Non-Illuminated Operators				Cam (see page 19-64)	Type	\$ Price
Manual Return ▲						
Operator Only ▲						
• Without Knob				H	KS88	28.50
• With Standard Black Knob				H	KS88B	35.10
• With Other Color Knob (See Table 19.177) ■				H	KS88■	35.10
• Key Operated with E10 Key (Codes 11, 12, 13, 14, 15) ♦★				H	KS88K♦	92.00
Spring Return From Left—Spring Return From Right— Maintained in the Two Mid Positions						
Operator Only ▲						
• Without Knob				H	KS89	47.60
• With Standard Black Knob				H	KS89B	54.00
• With Other Color Knob (See Table 19.177) ■				H	KS89■	54.00
Illuminated Operators						
Manual Return ▲						
• Without Knob, 110–120 V 50–60 Hz Transformer				H	K88J1	105.00
• With Standard Red Knob, 110–120 V 50–60 Hz Transformer				H	K88J1R	111.00
• Without Knob and With Other Voltage Transformer, Flashing or LED ▲				H	K88J▼	105.00
• Without Knob, Full Voltage Neon or Resistor □				H	K88J▼	86.00
• With Other Color Knob and Transformer, Flashing or LED ▲				H	K88J▼■	111.00
• With Other Color Knob, Full Voltage Neon or Resistor □				H	K88J▼■	92.00
Spring Return From Left—Spring Return From Right— Maintained in the Two Mid Positions						
• Without Knob, 110–120 V 50–60 Hz Transformer				H	K89J1	123.00
• With Standard Red Knob, 110–120 V 50–60 Hz Transformer				H	K89J1R	131.00
• Without Knob and With Other Voltages Transformer, Flashing or LED ▲				H	K89J▼	123.00
• Without Knob, Full Voltage Neon or Resistor □				H	K89J▼	105.00
• With Other Color Knob and Transformer, Flashing or LED ▲				H	K89J▼■	131.00
• With Other Color Knob, Full Voltage Neon or Resistor □				H	K89J▼■	111.00

- ▲ These operators can be ordered complete with contact blocks. For maximum block usage, see 19-85. Add the "H" number chosen from page 19-80 to the end of the operator type number and add the cost of the "H" number to the operator cost.
- Add the color code as chosen from Table 19.177. **Example:** KS88■ with a green gloved-hand knob = KS88FG.
- ♦ Add the key withdrawal code from Table 19.176. **Example:** KS88K♦ with key withdrawal in the right position only = KS88K12.
- ★ All key operated devices come standard with Square D key number E10 (key only part no. is 2941101100, \$6.60 per key). Other key changes are available at no extra cost. For additional information, refer to Catalog 9001CT0001.
- ▼ Add the voltage assembly code as chosen from page 19-77. **Example:** K88J▼ with 208 Vac = K88J3
- ▲ The knob must be the same color as the LED light module chosen, for example, for red LED, use red knob.
- On neon light modules, use clear knobs only.

Table 19.176: ♦ Key Withdrawal Code

Code	Position
11	1 and 4
12	4 only
13	1 only
14	1, 2, 3 and 4
15	2, 3 and 4

Table 19.177: Selector Switch Knobs

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Table 19-177. Selector Switch Knobs

							
	Standard Knob		Gloved-Hand Knob		Coin Operated		
Color	■ Knob Code	Type	■ Knob Code	Type	■ Knob Code	Type	\$ Price
Black ◇	B	B11	FB	B25	TB	B18	6.60
Red	R	R8	FR	R24	TR	R16	
Green	G	G8	FG	G24	TG	G16	
Yellow	Y	Y8	FY	Y24	TY	Y16	
Orange ◇	S	S11	FS	S25	—	—	
Blue	L	L8	FL	L24	TL	L16	
White	W	W8	FW	W24	—	—	
Amber	A	A8	FA	A24	—	—	
Clear	C	C8	FC	C24	TC	C16	

♦ Non-Illuminated only.

Shown below is a simplified method of selecting a selector switch to meet almost any combination of contact sequences.

Step No. 1

Determine the contact sequence(s) required. Set up a target table like the one shown for the example below.

Contact Sequence 0—contact open 1—contact closed	↖	↗	↘
A	1	0	0
B	0	1	0
C	0	0	1

Step No. 2

Look for a cam type common to all sequences in table Table 19.178, Table 19.179, or Table 19.180. For the example above, Table 19.179 would be used. For the contact sequences A (1 0 0), B (0 1 0) and C (0 0 1) of the example above, cam types F and L are common to all three sequences.

Step No. 3

Next, use the cam type common to all the sequences (if several cam types are common, choose one) to find the operator type number. Go to the proper page number as indicated in the table below:

Number of Positions	Push Button Line	Page Number
2	Type K, Type SK, Type KX	19-59 to 19-60, 19-71 to 19-72, 19-86
3	Type K, Type SK, Type KX	19-61 to 19-62, 19-73 to 19-74, 19-89
4	Type K, Type SK, Type KX	19-63, 19-75, 19-90

If for the example above a manual return operator with a standard black knob is required and:

The F cam type is chosen, the operator type number is:

- Type K—Class 9001 Type KS46B (from page 19-61)
- Type SK—Class 9001 Type SKS46B (from page 19-73)
- Type KX—Class 9001 Type KXSDFB (from page 19-89)

The L cam type is chosen, the operator type number is:

- Type K—Class 9001 Type KS401B (from page 19-61)
- Type SK—Class 9001 Type SKS401B (from page 19-73)
- Type KX—Class 9001 Type KXSDLB (from page 19-89)

Step No. 4:

Determine the contact blocks required by using the same table in Step No. 2.

If, for the example above, the F cam type is chosen:

- Use a 9001KA3 mounted on side no. 2 for sequence A (1 0 0).
- Use a 9001KA3 mounted on side no. 1 for sequence B (0 1 0).
- Use a 9001KA2 mounted on side no. 1 or 2 for sequence C (0 0 1).

If, for the example above, the L cam type is chosen:

- Use a 9001KA2 mounted on side no. 2 for sequence A (1 0 0).
- Use a 9001KA2 mounted on side no. 1 or a 9001KA3 mounted on side no. 2 for sequence B (0 1 0).
- Use a 9001KA3 mounted on side no. 1 for sequence C (0 0 1).

One Type KA1 double circuit block can be used in place of one Type KA2 single circuit block plus one Type KA3 single circuit block mounted on the same side.

Table 19.178: 2 Position Selector Switch

If you require contact sequence— ↖ ↗ ↘		Use Cam Type	Use Contact Block Type	Mount on side no. (See page 19-80)
1	0	E	KA3	1 or 2
		D	KA2	1 or 2
0	1	E	KA2	1 or 2
		D	KA3	1 or 2

Table 19.179: 3 Position Selector Switch

If you require contact sequence—			Use Cam Type						Use Contact Block Type	Mount on side no. (See page 19-80)			
↖	↗	↘					G		M				
1	0	0								KA2	1		
									L		KA2	2	
				C		E					KA3	1	
			B	C		E	F	G	J		KA3	2	
			B					G	J		KA5▲	2	
0	1	0			D	E			J	L	KA2	1	
					D	E					KA2	2	
							F				KA3	1	
										L	KA3	2	
0	0	1		C			F				KA2	1 or 2	
			B		D			G		L		KA3	1
					D						KA3	2	
			B								KA5▲	1	
1	1	0								M	KA2	2	
			B								KA3	1	
				C			F				KA5▲	1 or 2	
0	1	1								M	KA3	2	
			B					G	J		KA2	2	
								G			KA5▲	1	
										L	KA5▲	2	
											M	KA3	1
1	0	1							J		KA3	1	
					D	E			J	L	KA5▲	1	
					D	E					KA5▲	2	

Table 19.180: 4 Position Selector Switch

If you require contact sequence— ↖ ↗ ↘ ↙				Use Cam Type	Use Contact Block Type	Mount on side no. (See page 19-80)
1	0	0	0	H	(A) KA3	2
0	1	0	0	H	(B) KA2	1
0	0	1	0	H	(C) KA2	2
0	0	0	1	H	(D) KA3	1
1	0	0	1	H	A & D Wired in Parallel	
1	1	0	0	H	A & B Wired in Parallel	
0	1	1	0	H	B & C Wired in Parallel	
0	0	1	1	H	C & D Wired in Parallel	
1	1	1	0	H	A, B & C Wired in Parallel	
0	1	1	1	H	B, C & D Wired in Parallel	
1	0	1	0	H	A & C Wired in Parallel	
0	1	0	1	H	B & D Wired in Parallel	
1	1	0	1	H	KA5▲	2
1	0	1	1	H	KA5▲	1

▲ Type KA5 must be the last block on either side. If more than one KA5 is required on either side—contact your local Square D sales office.

Note: For Outline Dimensions see Catalog 9001CT0001

$$KA1 = KA3 + KA2$$

$$\begin{array}{c} \text{O} \quad \text{O} \quad \text{O} \\ \text{O} \quad \text{O} \quad \text{O} \end{array} = \begin{array}{c} \text{O} \quad \text{O} \quad \text{O} \\ \text{O} \quad \text{O} \quad \text{O} \end{array} + \begin{array}{c} \text{O} \quad \text{O} \\ \text{O} \quad \text{O} \end{array}$$

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

For "H" Numbers page 19-80

Table 19.181: Pilot Lights—UL Types 4, 13/NEMA 4 & 13

For use in hazardous locations—See page 19-79.

Legend plates not included.

Description	Voltage	Style	With Red Fresnel Color Cap	With Green Fresnel Color Cap	With Other Color Cap	\$ Price	Without Color Cap	\$ Price
 Standard Pilot Light (Plastic Fresnel Color Cap Shown)	110–120 V, 50–60 Hz 220–240 V, 50–60 Hz 24–28 Vac/dc	Transformer Transformer Full Voltage	KP1R31 KP7R31 KP35R31	KP1G31 KP7G31 KP35G31	KP1■ KP7■ KP35■	102. 102. 83.	KP1 KP7 KP35	95. 95. 77.
	For other voltages see page 19-77.	Transformer, Flashing or LED ♦ Full Voltage, Neon or Resistor ★	KP▲R31 KP▲R31	KP▲G31 KP▲G31	KP▲■ KP▲■	102. 83.	KP▲ KP▲	95. 77.
 Push-To-Test Pilot Light (Glass Color Cap Shown)	110–120 V, 50–60 Hz 220–240 V, 50–60 Hz 24–28 Vac/dc	Transformer Transformer Full Voltage	KT1R31 KT7R31 KT35R31	KT1G31 KT7G31 KT35G31	KT1■ KT7■ KT35■	131. 131. 111.	KT1 KT7 KT35	123. 123. 105.
	For other voltages see page 19-77.	Transformer, Flashing or LED ♦ Full Voltage, Neon or Resistor ★	KT▲R31 KT▲R31	KT▲G31 KT▲G31	KT▲■ KT▲■	131. 111.	KT▲ KT▲	123. 105.
 Remote Test Pilot Light (Glass Color Cap Shown)	120 Vac Only 24–28 Vac Only for other voltages	Resistor ▼ Full Voltage ▼	KTR38R31 KTR35R31	KTR38G31 KTR35G31	KTR38■ KTR35■	131. 131.	KTR38 KTR35	123. 123.
	See page 19-77. ▼	Full Voltage or Resistor ▼	KTR▲R31	KTR▲G31	KTR ▲■	131.	KTR▲	123.

- ▲ Add the voltage assembly code as chosen from page 19-77.
EXAMPLE: KT AR31 with 60 Vac red LED = KT37LRR31
- Add the color code as chosen from Table 19-182.
EXAMPLE: KP1■ with a blue fresnel cap = KP1L31
- ♦ The cap must be the same color as the LED light module chosen, e.g., for green LED, use green color cap.
- ★ On neon light modules, use clear color caps only.
- ▼ On remote test pilot lights use only full voltage or resistor voltage assembly codes.
Do not choose LED, neon or transformer codes. For AC use only.

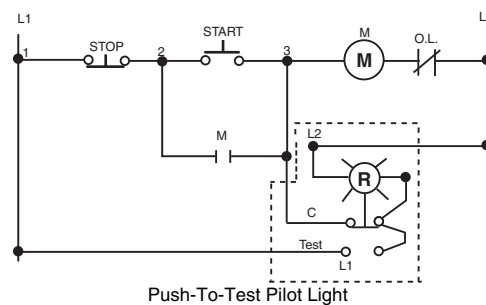
Table 19.182: Color Caps

Color			
	■ Plastic Fresnel	■ Plastic Domed	■ Glass
Amber	A31	A9	A6
Blue	L31	L9	L6
Clear	C31	C9	C6
Green	G31	G9	G6
Red	R31	R9	R6
White	W31	W9	W6
Yellow	Y31	Y9	Y6

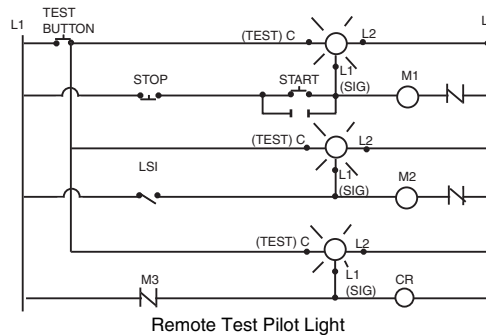
When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Typical Wiring Diagrams



Push-To-Test Pilot Light



Remote Test Pilot Light

Table 19.183: Joy Stick Operators—UL Types 4, 13/NEMA 4, 13 for use in hazardous locations
 See page 19-79. Contact blocks and legend plate not included unless noted.

Description				Operator With Contacts	\$ Price	Operator Without Contacts ▲	\$ Price
	3 Position—Center Off	Momentary Contact—Spring Return to Center	Without Latch	K71H7	197	K71	168.
			With Latch	K70H7		K70	
		Maintained Contact	Without Latch	K73H7		K73	
			With Latch	K72H7		K72	
	3 Position—Center Off	Momentary Contact—Spring Return to Center	Without Latch	K31H8	197	K31	168.
			With Latch	K30H8		K30	
		Maintained Contact	Without Latch	K33H8		K33	
			With Latch	K32H8		K32	
	5 Position—Center Off	Momentary Contact—Spring Return to Center	Without Latch	K35H2	263	K35	206.
			With Latch	K34H2		K34	
		Maintained Contact	Without Latch	K37H2		K37	
			With Latch	K36H2		K36	

▲ These operators can be ordered complete with contact blocks—a total of four (4) contact blocks can be used. Add the "H" number chosen from page 19-80 to the operator type number and add the cost of the "H" number to the operator cost.

Table 19.184: Contact Arrangements

Operator Positions	Contact Block Type	Contact Block Location	Contact	Handle position (with reference to Nib)				
				1 ↑	2 →	OFF	3 ↓	4 ←
	3	KA3	POS 1 (3)	A	—	1	0	—
		KA3	POS 2 (4)	A	—	0	0	—
	3	KA2	POS 1 (3)	B	1	—	0	0
		KA2	POS 2 (4)	B	0	—	0	1
	5	KA1	POS 1 (3)	A	0	1	0	0
			B	1	0	0	0	0
		KA1	POS 2 (4)	A	0	0	0	1
			B	0	0	0	1	0

(1) Contact Closed (0) Contact Open

The joy stick operator is ideal for applications where only one circuit is to be energized at one time. The three position joy stick closes one circuit in each Up-Down or Right-Left position with all circuits open in center position. The five position operator closes one circuit in each Up, Down, Left and Right position with all circuits open in center position.

Momentary contact operators are spring return to the center position. Maintained operators remain in position and must be returned manually. Operators with latch cannot be operated until the latch button in center of handle is pressed.

For use in hazardous locations—See page 19-79. Legend plate and contact block not included.

Inserts are field convertible. For colors not listed, order operator without insert, plus separate color insert from page 19-84. Up to two Type KA contact blocks can be mounted in tandem (total of four blocks). Selector push buttons cannot be illuminated.

Table 19.185: Selector Push Button Operators—UL Types 4, 13/NEMA 4, 13

Contact Block Required		Two Position Operators												Three Position Operators			Order Contact Blocks From Pages 19-78, 19-79.
		0—Contact Open 1—Contact Closed F—Free D—Depressed															
Quantity and Type	Mount on Side	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Center	Right	
		FD	FD	FD	FD	FD	FD	FD	FD	FD	FD	FD	FD	FD	FD	FD	
 1 KA1	#2	0 0	1 0	0 0	1 0	0 0	1 1	1 1	1 0	1 0	0 0	1 0	— 0	1 0	1 0	1 1	
		0 1	0 1	0 1	0 0	0 1	0 0	0 0	0 1	0 1	0 1	0 1	— 1	0 1	0 0	0 0	
 1 KA1	#1	0 0	1 1	0 0	1 0	1 1	0 0	1 0	1 1	1 1	0 0	1 0	— 0	1 1	1 0	1 0	
		0 1	0 0	0 1	0 0	0 0	0 1	0 1	0 0	0 0	0 1	0 1	— 1	0 0	0 0	0 1	
Cam ♦		P		R		S		T		Y		Z		U			
Color Insert		Type		Type		Type		Type		Type		Type		Type			
Without Insert ■ Black		KQ11		KQ12		KQ13		KQ14		KQ15		KQ18 ★		KQ27			
		KQ11B		KQ12B		KQ13B		KQ14B		KQ15B		KQ18B ★		KQ27B			

■ Order color inserts from page 19-84.

♦ Cams are not interchangeable.

★ Maintained in right position only. Function in the right position is similar to a turn to release action. Refer to catalog 9001CT0001.

For use in hazardous locations. See page 19-79. Key operated push buttons are used wherever unauthorized use of a push button is discouraged. Examples are locking a Start push button in the extended position or locking a Stop push button in the depressed position. The operator can also be locked in the flush position—holding all contacts open. Up to two Type KA contact blocks can be mounted in tandem (total of four blocks).

Legend Plate and Contact Block Not Included ("X" = locked position) ▼

Table 19.186: Key Operated Push Button – UL Types 4, 13/NEMA 4, 13

Description	Lockable Positions			Type	\$ Price
	Extended	Flush	Depressed		
Push button operable only with key in lock. Key is removable in locked position only.	X	—	—	KR131 KR132 KR133 KR137	83.
	—	X	—		
	—	—	X		
	X	X	X		
Push button operable with or without key in lock. Push button can be locked with key only. Key removable in both locked or unlocked position.	X	—	—	KR141 KR142 KR143 KR147	
	—	X	—		
	—	—	X		
	X	X	X		
To lock the unit, rotate the key with the button in the extended position. Then, push the button to lock it in the position indicated at right. Key is removable only in this position.	—	X	—	KR152 KR153	
	—	—	X		

▼ All key operated push buttons are furnished as standard with Square D no. E10 key change. See catalog 9001CT0001 for other key changes.

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number



Potentiometer with Dial Plate 9001K21

Table 19.187: Potentiometer ★ with Dial Plate ▲—NEMA 4, 13 (Not UL Listed)

Watts	Description	Type	\$ Price
2	Operator only—Single Pot	K20	134.
	Operator with Single Pot	K21 ■	191.
	Operator only—Tandem Pot	K22	209.
	Operator with Tandem Pot	K23 ♦	266.

Table 19.188: Potentiometer Suffixes

Suffix ■	Ohms	Suffix ■	Ohms	Suffix ■	Ohms	Suffix ♦	Tandem Pots Ohms	
							Front	Rear
01	50	07	5k	13	500k	82	1000	1000
02	100	08	10k	37	750k	83	5000	5000
38	200	40	15k	14	1.0 M	85	10k	10k
03	250	09	25k	15	2.5 M	88	50k	50k
04	500	35	35k	16	5.0 M	89	100k	100k
05	1000	10	50k	17	5.0 M			
32	1500	36	75k					
39	2000	11	100k					
06	2500	12	250k					
33	3500							

▲ The dial plate only catalog number is 6517512701. \$2.90.

■ For complete Type number, add the suffix number from Table 19.188 to the Type number from Table 19.187. Example: Type K2105

♦ For complete Type number, add the suffix number from Table 19.188 to the Type number from Table 19.187. Example: Type K2382

★ 1/4" diameter, 7/8" long shaft. +/- 10% accuracy.



Emergency Break-Glass Operator 9001K15

Table 19.189: Emergency Break-Glass Operator—UL 4, 13/NEMA 4, 13▼

Type	\$ Price
K15	83.

Operator is held in a depressed position by a glass disc. When the glass disc is broken with the hammer, button returns to a normal extended position. Package of 5 discs included with operator.

▼ For enclosed versions see page 19-103.

Table 19.190: 9001K15 Replacement Parts

Description	Part Number	\$ Price
Yellow bumper	3105211101	9.50
Hammer and chain	3105206750	38.20
Lower ring nut	6512232801	11.10
Top ring nut	9001K40	2.90
Package of 5 replacement discs	9001K57	11.10
Clip to hold hammer	2540902240	1.70



Rocker Arm Operating Lever 9001K50

Table 19.191: Rocker Arm Operating Lever

Type	\$ Price
K50	51.00

Allows two standard push buttons to be operated independently of each other. Price does not include push buttons or legend plates. Order push buttons and legend plates from Pages 19-81, 19-82, and 19-56—specify which marking is to be inverted.



Push-on Push-off Module 9001K85

Table 19.192: Alternate Action—Push-on, Push-off Module

Type	\$ Price
K85	28.50

This module can be added to standard 9001 Type K, KX, SK or T momentary push button operators. Contact blocks mounted behind this module (maximum of 2) are held in the depressed position when the operator is pressed once, and released to their normal position when the operator is pressed again. For a N.C. circuit, use a 9001KA3 or the N.C. contact of either a 9001KA1 or 9001KA4. For a N.O. circuit, use the N.O. contact of either a 9001KA4 or 9001KA6.

Table 19.193: Off Delay Push Button—UL Types 4, 13/NEMA 4, 13

Description	Type (All Colors)			\$ Price
	Full Guard	Extended Guard	No Guard	
 Timed Contact 1 N.O. and 1 N.C.	KRD1UH1	KRD2UH1	KRD3UH1	168.
 Timed Contact 2 N.O. and 2 N.C.	KRD1UH2	KRD2UH2	KRD3UH2	311.

Timing period is adjustable from 0.1 second to 60 seconds and begins after button has been released. Devices include a pack of seven color inserts for color coding the push button. See 19-84 for Universal color insert. Contacts are quick make-quick break.

Note: When mounted in top or bottom hole of a Type K enclosure, device requires one additional space below or above operator. When mounted other than in top or bottom hole, device may require two additional spaces, one above and one below operator. Closing plates must be installed on unused holes.



Time Delay Push Button 9001KRD



Table 19.194: Wobble Stick
For easy operation of any standard push button.

Type	\$ Price
K8	28.50

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Table 19.195: Non-Illuminated Momentary Push Button Operators—UL Types 4, 4X, 13/NEMA 4, 4X, 13
For use in hazardous locations—See page 19-79.
Contact blocks and legend plate not included unless otherwise noted.

Description	Color	Operator with 1 N.O. and 1 N.C. Contact (KA1)	\$ Price	Operator with 1 N.O. Contact (KA2)	Operator with 1 N.C. Contact (KA3)	\$ Price	Operator Only No Contacts ▼	\$ Price
 9001SKR1B Full Guard	Black	SKR1BH13	54.00	SKR1BH5	SKR1BH6	39.90	SKR1B	25.70
	Red	SKR1RH13	54.00	SKR1RH5	SKR1RH6	39.90	SKR1R	25.70
	Green	SKR1GH13	54.00	SKR1GH5	SKR1GH6	39.90	SKR1G	25.50
	Universal ▲	SKR1UH13	54.00	SKR1UH5	SKR1UH6	39.90	SKR1U	25.70
	Other ■	SKR1■H13	54.00	SKR1■H5	SKR1■H6	39.90	SKR1■	25.70
 9001SKR3B No Guard	Black	SKR3BH13	54.00	SKR3BH5	SKR3BH6	39.90	SKR3B	25.70
	Red	SKR3RH13	54.00	SKR3RH5	SKR3RH6	39.90	SKR3R	25.70
	Green	SKR3GH13	54.00	SKR3GH5	SKR3GH6	39.90	SKR3G	25.70
	Universal ▲	SKR3UH13	54.00	SKR3UH5	SKR3UH6	39.90	SKR3U	25.70
	Other ■	SKR3■H13	54.00	SKR3■H5	SKR3■H6	39.90	SKR3■	25.70
 9001SKR2B Extended Guard	Black	SKR2BH13	54.00	SKR2BH5	SKR2BH6	39.90	SKR2B	25.70
	Red	SKR2RH13	54.00	SKR2RH5	SKR2RH6	39.90	SKR2R	25.70
	Green	SKR2GH13	54.00	SKR2GH5	SKR2GH6	39.90	SKR2G	25.70
	Universal ▲	SKR2UH13	54.00	SKR2UH5	SKR2UH6	39.90	SKR2U	25.70
	Other ■	SKR2■	54.00	SKR2■H5	SKR2■H6	39.90	SKR2■	25.70
 9001SKR4B 1-3/8 in. (35 mm) Mushroom Button	Snap-In Mushroom Button							
	Black	SKR4BH13	83.00	SKR4BH5	SKR4BH6	68.00	SKR4B	54.00
	Red	SKR4RH13	83.00	SKR4RH5	SKR4RH6	68.00	SKR4R	54.00
	Red ♦	SKR4R05H13	86.00	SKR4R05H5	SKR4R05H6	72.00	SKR4R05	57.00
	Green	SKR4GH13	83.00	SKR4GH5	SKR4GH6	68.00	SKR4G	54.00
	Other ★	SKR4★H13	83.00	SKR4★H5	SKR4★H6	68.00	SKR4★	54.00
 9001SKR5 2-1/4 in. (57 mm) Mushroom Button	Screw-On Mushroom Button with Set Screw Security							
	Black	SKR24BH13	83.00	SKR24BH5	SKR24BH6	68.00	SKR24B	54.00
	Red	SKR24RH13	83.00	SKR24RH5	SKR24RH6	68.00	SKR24R	54.00
	Green	SKR24GH13	83.00	SKR24GH5	SKR24GH6	68.00	SKR24G	54.00
	Other ★	SKR24★H13	83.00	SKR24★H5	SKR24★H6	68.00	SKR24★	54.00
	Snap-In Mushroom Button							
	Black	SKR5BH13	83.00	SKR5BH5	SKR5BH6	68.00	SKR5B	54.00
	Red	SKR5RH13	83.00	SKR5RH5	SKR5RH6	68.00	SKR5R	54.00
	Red ♦	SKR5R05H13	86.00	SKR5R05H5	SKR5R05H6	72.00	SKR5R05	57.00
	Green	SKR5GH13	83.00	SKR5GH5	SKR5GH6	68.00	SKR5G	54.00
	Other ★	SKR5★H13	83.00	SKR5★H5	SKR5★H6	68.00	SKR5★	54.00
	Screw-On Mushroom Button with Set Screw Security							
	Black	SKR25BH13	83.00	SKR25BH5	SKR25BH6	68.00	SKR25B	54.00
	Red	SKR25RH13	83.00	SKR25RH5	SKR25RH6	68.00	SKR25R	54.00
	Green	SKR25GH13	83.00	SKR25GH5	SKR25GH6	68.00	SKR25G	54.00
	Other ★	SKR25★H13	83.00	SKR25★H5	SKR25★H6	68.00	SKR25★	54.00

Table 19.196: Color Codes

Color	■ SKR1, 2, 3 Place Color Code in Type Number	★ SKR4, 5, 24, 25 Place Color Code in Type Number
Blue	L	L
Yellow	Y	Y
White	W	—
Orange	S	S
Gray	E	—

▲ The universal push button operators include one each of the following color inserts: black, red, green, yellow, orange, blue and white.

■ See Table 19.196.

♦ Knob has the words "Emergency Stop" in raised letters highlighted in white for readability.

★ See Table 19.196.

▼ These operators can be ordered complete with contact blocks. For maximum block usage, see page 19-85. Add the "H" number chosen from page 19-80 to the end of the operator type number and add the cost of the "H" number to the operator cost.

Basic Operators	page 19-85
Light Modules	page 19-77
Contact Blocks	page 19-78
H Contact Block Assembly Codes	page 19-80
Legend Plates	page 19-81
Accessories	page 19-83
Replacement Parts	page 19-86

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Table 19.197: Multifunction Operators—UL Types 4, 4X, 13/NEMA 4, 4X, 13

For use in hazardous locations—See page 19-79.

Legend plate and contact blocks not included unless otherwise noted.

Interlocked Assembly	Description	Color	Contacts ☆	\$ Price	Without Contacts ◇	\$ Price
	Interlocked Assembly Both Buttons Maintained	Universal ▲	SKR11UH1	108.	SKR11U	80.
		Other ■	SKR11■H1		SKR11■	
	Interlocked Assembly One Button Momentary	Universal ▲	SKR12UH1H1	165.	SKR12U	108.
	Interlocked Assembly One Button Maintained	Other ■	SKR12■H1H1		SKR12■	

9001SKR11U

▲ Universal for SKR11,12 includes 2 each of black, red, green, yellow, orange, blue, white.

■ Choose one color for each button from table and insert color code in type number, top button first.

Example: An SKR11 with top button gray and bottom button orange = SKR11ES

Non-Illuminated	Description	Color	With 2 N.C. Contacts (1 KA3, 1 KA5)	With 1 N.O./1 N.C. Contact (1 KA1)	\$ Price	Without Contacts ◇	\$Price
 9001SKR9R Non-Illuminated 1-5/8 in. Diameter Knob Includes Type KN179WP Legend Plate Marked Pull To Start Push To Stop	3 Position						
	Momentary Pull-Maintained Neutral-Momentary Push ▽	Red	SKR8RH25	—	86.	SKR8R	57.
		Green	SKR8GH25	—		SKR8G	
		Other ★	SKR8★H25	—		SKR8★	
	2 Position ◆						
	Maintained Pull-Maintained Push	Red	—	SKR9RH13	114.	SKR9R	86.
		Green	—	SKR9GH13		SKR9G	
		Other ★	—	SKR9★H13		SKR9★	

Illuminated	Description	Voltage	With Red Knob and 2 N.C. Contacts (1 KA3, 1 KA5)	With Other Color Knob and 2 N.C. Contacts	\$ Price	With Other Color Knob Without Contacts ◇	\$ Price
	3 POSITION						
	Momentary Pull-Maintained Neutral-Momentary Push ▽	110–120 V, 50–60 Hz	SKR8P1RH25	SKR8P1★H25	162.	SKR8P1★	134.
		Other—Transformer, LED, Flashing Δ	SKR8P▼RH25	SKR8P▼★H25		SKR8P▼★	
		Other—Full Voltage, Resistor, Neon □	SKR8P▼RH25	SKR8P▼★H25	143.	SKR8P▼★	114.
	Description	Voltage	With Red ♦ Knob and 1 N.O. & 1 N.C. Contact (KA1)	With Other Color Knob and 1 N.O. & 1 N.C. Contact (KA1)	\$ Price	With Other Color Knob Without Contacts	\$ Price
9001SKR9P1 Illuminated 1-5/8 in. Diameter Knob Includes Type KN179WP Legend Plate Marked Pull To Start Push To Stop	2 POSITION						
	Maintained Pull-Maintained Push	110–120 V, 50–60 Hz	SKR9P1RH13	SKR9P1★H13	191.	SKR9P1★	162.
		Other—Transformer, L.E.D., Flashing Δ	SKR9P▼RH13	SKR9P▼★H13		SKR9P▼★	
		Other—Full Voltage, Resistor, Neon □	SKR9P▼RH13	SKR9P▼★H13	171.	SKR9P▼★	143.

- ♦ To obtain a red knob with "Push Emergency Stop" printed on the red knob—substitute R05 in place of "R" and add \$2.10 to the price.
- ★ Choose one color from Table 19.198 and insert the color code in the Type number. Example: SKR9★ with a yellow knob = SKR9Y
- ▼ Add the voltage assembly code as chosen from page 19-77. Example: SKR8P▼ with 277 V 50–60 Hz = SKR8P8
- Δ The knob must be the same color as the LED light module chosen; e.g., for green LED, use green knob.
- On neon light modules, use clear knobs only.
- ◇ These operators can be ordered complete with contact blocks. For maximum block usage, see page 19-85. Add the "H" number chosen from page 19-80 to the end of the operator type number and add the cost of the "H" number to the operator cost.
- ☆ SKR11UH1 has 1 KA1(1 N.O., 1 N.C.) and SKR12UH1H1 has 2 KA1 (2 N.O., 2 N.C.).
- ▽ For positions, refer to Tables 19.199 and 19.200.

Table 19.198: Color Codes

Color	SKR11, SKR12■	SKR8, SKR9
Black ●	B	B
Red	R	R
Green	G	G
Blue	L	L
Yellow	Y	Y
White	W	W
Orange ●	S	S
Clear	—	C
Amber	—	A
Gray	E	—

● These colors are not available on illuminated push-pull operators.

When ordering, please specify:

- Quantity
- Class Number (if appropriate)
- Type or Catalog Number

Table 19.199: Positions for 9001SKR8RH1 or H13

		9001SKR8RH1 or H13		
		PULL	CTR	PUSH
(KA1)	KA3	X	O	O
	KA2	O	O	X

Table 19.200: Positions for 9001SKR8H25

		9001SKR8H25		
		PULL	CTR	PUSH
KA3		X	O	O
	KA5	X	X	O
	KA2	O	O	X

Table 19.202: Illuminated Push Button Operators—UL Types 4, 4X, 13/NEMA 4, 4X, 13

For use in hazardous locations—See page 19-79. Legend plate not included unless otherwise noted.

Description		Voltage and Frequency	Style	With Red Color Cap and 1 N.O. and 1 N.C. Contact (KA1)	With Green Color Cap and 1 N.O. and 1 N.C. Contact (KA1)	\$ Price □	With Other Color Cap Without Contact Blocks ▲	\$ Price ◇
 9001SK1L1	Full Guard Illuminated Push Button	110–120 V, 50–60 Hz	Transformer	SK1L1RH13	SK1L1GH13	140.	SK1L1	111.
		220–240 V, 50–60 Hz	Transformer	SK1L7RH13	SK1L7GH13	140.	SK1L7	111.
		24–28 Vac/dc	Full Voltage	SK1L35RH13	SK1L35GH13	120.	SK1L35	92.
		For other voltages See Table ■	Transformer, Flashing	SK1L■RH13	SK1L■GH13	140.	SK1L ■	111.
			Full Voltage	SK1L■RH13	SK1L■GH13	120.	SK1L ■	92.
			Resistor, Neon ◆	SK1L■RH13	SK1L■GH13	120.	SK1L ■	92.
			LED ▼	SK1L■RH13	SK1L■GH13	140.	SK1L ■★	111.
 9001SK2L1	No Guard Illuminated Push Button	110–120 V, 50–60 Hz	Transformer	SK2L1RH13	SK2L1GH13	131.	SK2L1	102.
		220–240 V, 50–60 Hz	Transformer	SK2L7RH13	SK2L7GH13	131.	SK2L7	102.
		24–28 Vac/dc	Full Voltage	SK2L35RH13	SK2L35GH13	111.	SK2L35	83.
		For other voltages See Table ■	Transformer, Flashing	SK2L■RH13	SK2L■GH13	131.	SK2L ■	102.
			Full Voltage	SK2L■RH13	SK2L■GH13	111.	SK2L ■	83.
			Resistor, Neon ◆	SK2L■RH13	SK2L■GH13	111.	SK2L ■	83.
			LED ▼	SK2L■RH13	SK2L■GH13	131.	SK2L ■★	102.
 9001SK2L1R20	1-3/8 in. (35 mm) Illuminated Mushroom	110–120 V, 50–60 Hz	Transformer	SK2L1R20H13	SK2L1G20H13	131.	Order SK2L■★△	
		220–240 V, 50–60 Hz	Transformer	SK2L7R20H13	SK2L7G20H13	131.		
		24–28 Vac/dc	Full Voltage	SK2L35R20H13	SK2L35G20H13	111.		
		For other voltages See Table ■	Transformer, Flashing	SK2L■R20H13	SK2L■G20H13	131.		
			Full Voltage	SK2L■R20H13	SK2L■G20H13	111.		
			Resistor, Neon ◆	SK2L■R20H13	SK2L■G20H13	111.		
			LED ▼	SK2L■R20H13	SK2L■G20H13	131.		
 9001SK2L1R21	2-1/4 in. (57 mm) Illuminated Mushroom	110–120 V, 50–60 Hz	Transformer	SK2L1R21H13	SK2L1G21H13	131.	Order SK2L■★△	
		220–240 V, 50–60 Hz	Transformer	SK2L7R21H13	SK2L7G21H13	131.		
		24–28 Vac/dc	Full Voltage	SK2L35R21H13	SK2L35G21H13	111.		
		For other voltages See Table ■	Transformer, Flashing	SK2L■R21H13	SK2L■G21H13	131.		
			Full Voltage	SK2L■R21H13	SK2L■G21H13	111.		
			Resistor, Neon ◆	SK2L■R21H13	SK2L■G21H13	111.		
			LED ▼	SK2L■R21H13	SK2L■G21H13	131.		

- ▲ These operators can be ordered complete with contact blocks. For maximum block usage, see page 19-85. Add the “H” number chosen from page 19-80 to the end of the operator type number and add the cost of the “H” number to the operator cost.
- Add the voltage assembly code as chosen from page 19-77. **EXAMPLE: SK2L■ with 240 Vac/dc = SK2L25.**
- ◆ On neon light modules, use clear color caps only.
- ★ The cap must be the same color as the LED light module chosen e.g., for red LED, use red color cap.
- ▼ Add the color code as chosen from the color cap table below. **EXAMPLE: SK2L25▼ with a blue 1-3/8 in. mushroom button = SK2L25L20.**
- △ The only difference between a no guard (SK2L) operator and mushroom button operator is the color cap.
- Price includes operator, light module, contact blocks and color cap.
- ◇ Price includes operator, light module and color cap.

Table 19.203: Color Caps

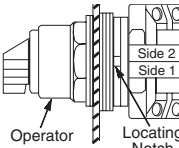
Color	Color Codes		
	SK1L/SK2L	1-3/8 in. (35 mm) Mushroom	2-1/4 in. (57 mm) Mushroom
Red	R	R20	R21
Green	G	G20	G21
Blue	L	L20	L21
Yellow	Y	Y20	Y21
White	W	W20	W21
Clear	C	C20	C21
Amber	A	A20	A21

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

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Table 19.204: Non-Illuminated 2-Position Selector Switch Operators—UL Types 4, 4X, 13/NEMA 4, 4X, 13
For use in hazardous locations—See page 19-79. Legend plate and contact block not included unless noted.

Contact Block Required						1—Contact Closed 0—Contact Open			
Contact Block Position	Quantity and Type KA1 or KA2 or KA3		Mount on Side KA1 or KA2 or KA3		 		 		
					Left	Right	Left	Right	
 Top View Top View	 KA1	 KA3	KA1 #2	KA3 #2	1	0	0	1	
		 KA2		KA2 #2	0	1	1	0	
	 KA1	 KA3	KA1 #1	KA3 #1	1	0	0	1	
		 KA2		KA2 #1	0	1	1	0	



Cam (see page 19-64)	E	D	\$ Price
Non-Illuminated Operators	Type	Type	
Manual Return			
Operator Only ▲			
Without Knob	SKS11	SKS12	28.50
With Standard Black Knob	SKS11B	SKS12B	35.10
With Other Color Knob (See Knob Table) ■	SKS11 ■	SKS12 ■	35.10
With Contact Block(s)			
With Standard Black Knob (From Table for Other Colors, Replace B in Type Number with Color Code)			
With 1 KA1 on Side #2 (H13)	SKS11BH13	—	64.00
With 1 KA1 on Side #1 (H1)	SKS11BH1	—	64.00
With 1 KA1 on Side #1 and 1 KA1 on Side #2 (H2)	SKS11BH2	—	92.00
Spring Return from Left			
Operator Only ▲			
Without Knob	SKS25	—	47.60
With Standard Black Knob	SKS25B	—	54.00
With Other Color Knob (See Knob Table) ■	SKS25 ■	—	54.00
Spring Return From Right			
Operator Only ▲			
Without Knob	—	SKS34	47.60
With Standard Black Knob	—	SKS34B	54.00
With Other Color Knob (See Knob Table) ■	—	SKS34 ■	54.00

- ▲ These operators can be ordered complete with contact blocks. For maximum block usage, see page 19-85. Add the "H" number chosen from page 19-80 to the end of the operator type number and add the cost of the "H" number to the operator cost. Example: SKS11FB + H13 = SKS11FBH13
 ■ Add the color code as chosen from knob color table below. Example: SKS11 ■ with a green gloved-hand knob = SKS11FG

Table 19.205: Selector Switch Knobs

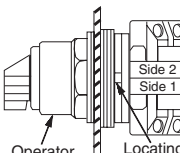
Standard Knob			Gloved-Hand Knob		Coin Operated		\$ Price
Color	■ Knob Code	Type	■ Knob Code	Type	■ Knob Code	Type	
Black	B	B11	FB	B25	TB	B18	6.60
Red	R	R8	FR	R24	TR	R16	
Green	G	G8	FG	G24	TG	G16	
Yellow	Y	Y8	FY	Y24	TY	Y16	
Orange	S	S11	FS	S25	—	—	
Blue	L	L8	FL	L24	TL	L16	
White	W	W8	FW	W24	—	—	
Amber	A	A8	FA	A24	—	—	
Clear	C	C8	FC	C24	TC	C16	

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Table 19.206: Illuminated 2-Position Selector Switch Operators—UL Types 4, 4X, 13/NEMA 4, 4X, 13

For use in hazardous locations—See page 19-79. Legend plate and contact block not included unless noted.

Contact Block Required						1—Contact Closed 0—Contact Open			
Contact Block Position	Quantity and Type		Mount on Side						
					Left	Right	Left	Right	
 Top View	KA1 	or KA3  KA2 	KA1 #2	or KA3 #2  KA2 #2 	1	0	0	1	
					0	1	1	0	
	KA1 	or KA3  KA2 	KA1 #1	or KA3 #1  KA2 #1 	1	0	0	1	
					0	1	1	0	



Cam (see page 19-64)	E	D	\$ Price
Illuminated Operators	Type	Type	
Manual Return ▲			
Without Knob, 110–120 V 50–60 Hz Transformer	SK11J1	SK12J1	105.
With Standard Red Knob, 110–120 V 50–60 Hz Transformer	SK11J1R	SK12J1R	111.
Without Knob and Other Voltage Transformer, Flashing or LED ★	SK11J ■	SK12J ■	105.
Without Knob, Full Voltage Neon or Resistor ▼	SK11J ■	SK12J ■	86.
With Other Color Knob and Transformer, Flashing or LED ★	SK11J ■◆	SK12J ■◆	111.
With Other Color Knob, Full Voltage Neon or Resistor ▼	SK11J ■◆	SK12J ■◆	92.
Spring Return from Left ▲			
Without Knob, 110–120 V 50–60 Hz Transformer	SK25J1	—	123.
With Standard Red Knob, 110–120 V 50–60 Hz Transformer	SK25J1R	—	131.
Without Knob and Other Voltage Transformer, Flashing or LED ★	SK25J ■	—	123.
Without Knob, Full Voltage Neon or Resistor ▼	SK25J ■	—	105.
With Other Color Knob and Transformer, Flashing or LED ★	SK25J ■◆	—	131.
With Other Color Knob, Full Voltage Neon or Resistor ▼	SK25J ■◆	—	111.
Spring Return From Right ▲			
Without Knob, 110–120 V 50–60 Hz Transformer	—	SK34J1	123.
With Standard Red Knob, 110–120 V 50–60 Hz Transformer	—	SK34J1R	131.
Without Knob and Other Voltage Transformer, Flashing or LED ★	—	SK34J ■	123.
Without Knob, Full Voltage Neon or Resistor ▼	—	SK34J ■	105.
With Other Color Knob and Transformer, Flashing or LED ★	—	SK34J ■◆	131.
With Other Color Knob, Full Voltage Neon or Resistor ▼	—	SK34J ■◆	111.

- ▲ These operators can be ordered complete with contact blocks. For maximum block usage, see page 19-85. Add the "H" number chosen from page 19-80 to the end of the operator type number and add the cost of the "H" number to the operator cost.
- Add the voltage assembly code as chosen from page 19-77. **Example: SK25J1 with 208 Vac = SK25J3**
- ◆ Add the color code as chosen from Table 19.208. **Example: SK25J35 with green knob = SK25J35G**
- ★ The knob must be the same color as the LED light module chosen e.g., for a red LED, use a red knob.
- ▼ On neon light modules, use clear knobs only.

Table 19.207: Two Color Selector Switch

Used to indicate red in left position and green in right position on illuminated operators.

Knob	Factory Assembled Form Number ▲	\$ Price Adder
Standard	Y178	19.
Gloved-Hand	Y1781	19.

▲ Add form number to standard Type number, e.g., Type SK11J1 Form Y178.

Table 19.208: Selector Switch Knobs

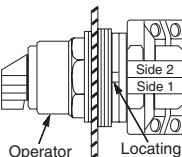
Standard Knob			Gloved-Hand Knob		Coin Operated		\$ Price
Color	◆ Knob Code	Type	◆ Knob Code	Type	◆ Knob Code	Type	
Red	R	R8	FR	R24	TR	R16	6.60
Green	G	G8	FG	G24	TG	G16	
Yellow	Y	Y8	FY	Y24	TY	Y16	
Blue	L	L8	FL	L24	TL	L16	
White	W	W8	FW	W24	—	—	
Amber	A	A8	FA	A24	—	—	
Clear	C	C8	FC	C24	TC	C16	

When ordering,
please specify:

- Quantity
- Class Number
- Type or Catalog Number

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Table 19.209: Non-Illuminated 3 Position Selector Switch Operators—UL Types 4, 4X, 13/NEMA 4, 4X, 13
For use in hazardous locations—See page 19-79. Legend plate and contact block not included unless noted.

CONTACT BLOCK REQUIRED					1 — Contact Closed 0 — Contact Open							
Contact Block Position	Quantity and Type		Mount on Side		Center   	Center   	Center   	Center   	Center   	Center   	Center   	Center   
 Top View	KA1  	KA3  	KA1 #2 or KA2  	KA3 #2 1 0 0	1 0 0	0 0 1	1 0 0	1 0 0	1 0 0	1 0 0	0 1 0	1 1 0
		KA2  		KA2 #2 0 1 1	0 0 1	0 1 0	0 1 0	0 0 1	0 1 1	0 1 1	1 0 0	0 0 1
	KA1  	KA3  	KA1 #1 or KA2  	KA3 #1 0 0 1	1 0 0	0 0 1	1 0 0	0 1 0	0 0 1	1 0 1	0 0 1	0 1 1
		KA2  		KA2 #1 1 1 0	0 0 1	0 1 0	0 1 0	0 0 1	1 0 0	0 1 0	0 1 0	1 0 0

Cam (see page 19-64)				B	C	D	E	F	G	J	L	M	\$ Price
Non-Illuminated Operators				Type	Type	Type	Type	Type	Type	Type	Type	Type	
Manual Return													
Operator Only ▲													
Without Knob				SKS42	SKS43	SKS44	SKS45	SKS46	SKS47	SKS49	SKS401	SKS402	28.50
With Standard Black Knob				SKS42B	SKS43B	SKS44B	SKS45B	SKS46B	SKS47B	SKS49B	SKS401B	SKS402B	35.10
With Other Color Knob (See Table 19.210) ■				SKS42■	SKS43■	SKS44■	SKS45■	SKS46■	SKS47■	SKS49■	SKS401■	SKS402■	
With Contact Block(s)													
With Standard Black Knob (For Other Colors: Replace B in the Type Number with the Color Code from Table 19.210)													
With 1 KA1 on side #2				SKS42BH13	SKS43BH13	SKS44BH13	SKS45BH13	SKS46BH13	SKS47BH13	SKS49BH13	SKS401BH13	SKS402BH13	64.00
With 1 KA1 on side #1				SKS42BH1	SKS43BH1	SKS44BH1	SKS45BH1	SKS46BH1	SKS47BH1	SKS49BH1	SKS401BH1	SKS402BH1	
With 1 KA1 on side #1 and 1 KA1 on side #2 (H2)				SKS42BH2	SKS43BH2	SKS44BH2	SKS45BH2	SKS46BH2	SKS47BH2	SKS49BH2	SKS401BH2	SKS402BH2	92.00
Spring Return from Left to Center													
Operator Only ▲													
Without Knob				SKS62	SKS63	SKS64	SKS65	SKS66	SKS67	SKS69	SKS601	SKS602	47.60
With Standard Black Knob				SKS62B	SKS63B	SKS64B	SKS65B	SKS66B	SKS67B	SKS69B	SKS601B	SKS602B	54.00
With Other Color Knob (See Table 19.210) ■				SKS62■	SKS63■	SKS64■	SKS65■	SKS66■	SKS67■	SKS69■	SKS601■	SKS602■	
Spring Return From Right to Center													
Operator Only ▲													
Without Knob				SKS72	SKS73	SKS74	SKS75	SKS76	SKS77	SKS79	SKS701	SKS702	47.60
With Standard Black Knob				SKS72B	SKS73B	SKS74B	SKS75B	SKS76B	SKS77B	SKS79B	SKS701B	SKS702B	54.00
With Other Color Knob (See Table 19.210) ■				SKS72■	SKS73■	SKS74■	SKS75■	SKS76■	SKS77■	SKS79■	SKS701■	SKS702■	
Spring Return Both Sides to Center													
Operator Only ▲													
Without Knob				SKS52	SKS53	SKS54	SKS55	SKS56	SKS57	SKS59	SKS501	SKS502	47.60
With Standard Black Knob				SKS52B	SKS53B	SKS54B	SKS55B	SKS56B	SKS57B	SKS59B	SKS501B	SKS502B	54.00
With Other Color Knob (See Table 19.210) ■				SKS52■	SKS53■	SKS54■	SKS55■	SKS56■	SKS57■	SKS59■	SKS501■	SKS502■	

▲ These operators can be ordered complete with contact blocks. For maximum block usage, see page 19-85. Add the "H" number chosen from page 19-80 to the end of the operator type number and add the cost of the "H" number to the operator cost.
■ Add the color code as chosen from knob color table below. **Example:** SKS43■ with a green gloved-hand knob = SKS43FG.

Table 19.210: Selector Switch Knobs

Standard Knob			Gloved-Hand Knob			Coin Operated			\$ Price
Color	■ Knob Code	Type	■ Knob Code	Type	■ Knob Code	Type	■ Knob Code	Type	
Black	B	B11	FB	B25	TB	B18			6.60
Red	R	R8	FR	R24	TR	R16			
Green	G	G8	FG	G24	TG	G16			
Yellow	Y	Y8	FY	Y24	TY	Y16			
Orange	S	S11	FS	S25	—	—			
Blue	L	L8	FL	L24	TL	L16			
White	W	W8	FW	W24	—	—			
Amber	A	A8	FA	A24	—	—			
Clear	C	C8	FC	C24	TC	C16			

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

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CONTACT BLOCK REQUIRED					1—Contact Closed 0—Contact Open																													
Contact Block Position	Quantity and Type KA1 or KA2 or KA3		Mount on Side KA1 or KA2 or KA3		Center		Center		Center		Center		Center		Center		Center		Center		Center		Center		Center		Center							
					Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right				
 Top View	KA1	KA3	KA1 #2	KA3 #2	1	0	0	1	0	0	0	0	1	1	0	0	1	0	0	1	0	0	1	0	0	1	0	0	0	1	0	1	1	0
		KA2		KA2 #2	0	1	1	0	0	1	0	1	0	0	1	0	0	0	1	0	1	1	0	1	1	0	1	1	0	0	0	0	1	
	KA1	KA3	KA1 #1	KA3 #1	0	0	1	1	0	0	0	0	1	1	0	0	0	1	0	0	0	1	1	0	0	1	0	1	0	0	1	0	1	
		KA2		KA2 #1	1	1	0	0	0	1	0	1	0	0	1	0	0	0	1	1	0	0	1	0	0	1	0	1	0	0				

Cam (seepage 19-64)	B	C	D	E	F	G	J	L	M	\$ Price
Illuminated Operators	Type	Type	Type	Type	Type	Type	Type	Type	Type	
Manual Return ▲										
Without Knob, 110–120 V 50–60 Hz Transformer	SK42J1	SK43J1	SK44J1	SK45J1	SK46J1	SK47J1	SK49J1	SK401J1	SK402J1	105.
With Standard Red Knob, 110–120 V 50–60 Hz Transformer	SK42J1R	SK43J1R	SK44J1R	SK45J1R	SK46J1R	SK47J1R	SK49J1R	SK401J1R	SK402J1R	111.
Without Knob and Other Voltage Transformer, Flashing or LED ★	SK42J ■	SK43J ■	SK44J ■	SK45J ■	SK46J ■	SK47J ■	SK49J ■	SK401J ■	SK402J ■	105.
Without Knob, Full Voltage Neon or Resistor ▼	SK42J ■	SK43J ■	SK44J ■	SK45J ■	SK46J ■	SK47J ■	SK49J ■	SK401J ■	SK402J ■	86.
With Other Color Knob and Transformer, Flashing or LED ★	SK42J ◆	SK43J ◆	SK44J ◆	SK45J ◆	SK46J ◆	SK47J ◆	SK49J ◆	SK401J ◆	SK402J ◆	111.
With Other Color Knob, Full Voltage Neon or Resistor ▼	SK42J ◆◆	SK43J ◆◆	SK44J ◆◆	SK45J ◆◆	SK46J ◆◆	SK47J ◆◆	SK49J ◆◆	SK401J ◆◆	SK402J ◆◆	92.
Spring Return Left To Center ▲										
Without Knob, 110–120 V 50–60 Hz Transformer	SK62J1	SK63J1	SK64J1	SK65J1	SK66J1	SK67J1	SK69J1	SK601J1	SK602J1	123.
With Standard Red Knob, 110–120 V 50–60 Hz Transformer	SK62J1R	SK63J1R	SK64J1R	SK65J1R	SK66J1R	SK67J1R	SK69J1R	SK601J1R	SK602J1R	131.
Without Knob and Other Voltage Transformer, Flashing or LED ★	SK62J ■	SK63J ■	SK64J ■	SK65J ■	SK66J ■	SK67J ■	SK69J ■	SK601J ■	SK602J ■	123.
Without Knob, Full Voltage Neon or Resistor ▼	SK62J ■	SK63J ■	SK64J ■	SK65J ■	SK66J ■	SK67J ■	SK69J ■	SK601J ■	SK602J ■	105.
With Other Color Knob and Transformer, Flashing or LED ★	SK62J ◆◆	SK63J ◆◆	SK64J ◆◆	SK65J ◆◆	SK66J ◆◆	SK67J ◆◆	SK69J ◆◆	SK601J ◆◆	SK602J ◆◆	131.
With Other Color Knob, Full Voltage Neon or Resistor ▼	SK62J ◆◆	SK63J ◆◆	SK64J ◆◆	SK65J ◆◆	SK66J ◆◆	SK67J ◆◆	SK69J ◆◆	SK601J ◆◆	SK602J ◆◆	111.
Spring Return Right To Center ▲										
Without Knob, 110–120 V 50–60 Hz Transformer	SK72J1	SK73J1	SK74J1	SK75J1	SK76J1	SK77J1	SK79J1	SK701J1	SK702J1	123.
With Standard Red Knob, 110–120 V 50–60 Hz Transformer	SK72J1R	SK73J1R	SK74J1R	SK75J1R	SK76J1R	SK77J1R	SK79J1R	SK701J1R	SK702J1R	131.
Without Knob and Other Voltage Transformer, Flashing or LED ★	SK72J ■	SK73J ■	SK74J ■	SK75J ■	SK76J ■	SK77J ■	SK79J ■	SK701J ■	SK702J ■	123.
Without Knob, Full Voltage Neon or Resistor ▼	SK72J ■	SK73J ■	SK74J ■	SK75J ■	SK76J ■	SK77J ■	SK79J ■	SK701J ■	SK702J ■	105.
With Other Color Knob and Transformer, Flashing or LED ★	SK72J ◆◆	SK73J ◆◆	SK74J ◆◆	SK75J ◆◆	SK76J ◆◆	SK77J ◆◆	SK79J ◆◆	SK701J ◆◆	SK702J ◆◆	131.
With Other Color Knob, Full Voltage Neon or Resistor ▼	SK72J ◆◆	SK73J ◆◆	SK74J ◆◆	SK75J ◆◆	SK76J ◆◆	SK77J ◆◆	SK79J ◆◆	SK701J ◆◆	SK702J ◆◆	111.
Spring Return Both Sides To Center ▲										
Without Knob, 110–120 V 50–60 Hz Transformer	SK52J1	SK53J1	SK54J1	SK55J1	SK56J1	SK57J1	SK59J1	SK501J1	SK502J1	123.
With Standard Red Knob, 110–120 V 50–60 Hz Transformer	SK52J1R	SK53J1R	SK54J1R	SK55J1R	SK56J1R	SK57J1R	SK59J1R	SK501J1R	SK502J1R	131.
Without Knob and Other Voltage Transformer, Flashing or LED★	SK52J ■	SK53J ■	SK54J ■	SK55J ■	SK56J ■	SK57J ■	SK59J ■	SK501J ■	SK502J ■	123.
Without Knob, Full Voltage Neon or Resistor ▼	SK52J ■	SK53J ■	SK54J ■	SK55J ■	SK56J ■	SK57J ■	SK59J ■	SK501J ■	SK502J ■	105.
With Other Color Knob and Transformer, Flashing or LED★	SK52J ◆◆	SK53J ◆◆	SK54J ◆◆	SK55J ◆◆	SK56J ◆◆	SK57J ◆◆	SK59J ◆◆	SK501J ◆◆	SK502J ◆◆	131.
With Other Color Knob, Full Voltage Neon or Resistor ▼	SK52J ◆◆	SK53J ◆◆	SK54J ◆◆	SK55J ◆◆	SK56J ◆◆	SK57J ◆◆	SK59J ◆◆	SK501J ◆◆	SK502J ◆◆	111.

- Table 19.212: Two Color Selector Switch**
Used to indicate red in left position and green in right position on illuminated operators.

Knob	Factory Assembled Form Number Δ	\$ Price Added
Standard	Y178	19
Gloved-Hand	Y1781	19

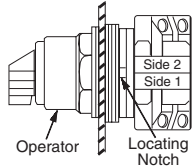
△ Add form number to standard Type number, e.g., Type SK43J1 Form Y178.

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Basic Operators	page 19-85
Light Modules	page 19-77
Contact Blocks	page 19-78
H Contact Block Assembly Codes	page 19-80
Legend Plates	page 19-81
Accessories	page 19-83
Replacement Parts	page 19-86

Table 19.213: Non-Illuminated 4-Position Selector Switch Operators UL Types 4, 4X, 13/NEMA 4, 4X, 13
For use in hazardous locations—See page 19-79. Legend plate and contact block not included unless noted.

CONTACT BLOCK REQUIRED			1 — Contact Closed 0 — Contact Open			
Contact Block Position	Quantity and Type	Mount on Side	↖ ↗ ↘ ↙			
 Top View	KA1 	KA3 	KA1 #2	KA3 #2	1	0
	or KA2 	KA2 #2	0	0	1	0
	KA1 	KA3 #1	0	0	0	1
	or KA2 	KA2 #1	0	1	0	0

Non-Illuminated Operators		Cam (see page 19-64)	Type	\$ Price
Manual Return, Operator Only ▲				
Without Knob		H	SKS88	28.50
With Standard Black Knob		H	SKS88B	34.50
With Other Color Knob (See Knob Table) ■		H	SKS88■	35.10
Spring Return From Left, Spring Return From Right, Maintained in the Two Mid Positions, Operator Only ▲				
Without Knob		H	SKS89	47.60
With Standard Black Knob		H	SKS89B	54.00
With Other Color Knob (See Knob Table) ■		H	SKS89■	
Illuminated Operators				
Manual Return ▲				
Without Knob, 110-120 V 50-60 Hz Transformer		H	SK88J1	105.00
With Standard Red Knob, 110-120 V 50-60 Hz Transformer		H	SK88J1R	111.00
Without Knob and With Other Voltage Transformer, Flashing or LED ★		H	SK88J ♦	105.00
Without Knob, Full Voltage Neon or Resistor ▼		H	SK88J ♦	86.00
With Other Color Knob and Transformer, Flashing or LED ★		H	SK88J ■ ♦	111.00
With Other Color Knob, Full Voltage Neon or Resistor▼		H	SK88J ■ ♦	92.00
Spring Return From Left, Spring Return From Right, Maintained in the Two Mid Positions, Operator Only ▲				
Without Knob, 110-120 V 50-60 Hz Transformer		H	SK89J1	131.00
With Standard Red Knob, 110-120 V 50-60 Hz Transformer		H	SK89J1R	131.00
Without Knob and Other Voltage Transformer, Flashing or LED ★		H	SK89J ♦	123.00
Without Knob, Full Voltage Neon or Resistor ▼		H	SK89J ♦	105.00
With Other Color Knob and Transformer, Flashing or LED ★		H	SK89J ■ ♦	131.00
With Other Color Knob, Full Voltage Neon or Resistor▼		H	SK89J ■ ♦	111.00



Table 19.214: Potentiometer (with Dial Plate) △

Watts	Description	Type	\$ Price
2	Operator only—Single Pot	SK20	134.
	Operator with Single Pot	SK21 □	191.
	Operator only—Tandem Pot	SK22	209.
	Operator with Tandem Pot	SK23 ♦	266.

Table 19.215: Potentiometer Suffix

Suffix □	Ohms	Suffix □	Ohms	Suffix □	Ohms	Suffix ♦	Ohms	
01	50	07	5k	13	500k	82	1k	1k
02	100	08	10k	37	750k	83	5k	5k
38	200	40	15k	14	1.0M	85	10k	10k
03	250	09	25k	15	2.5M	88	50k	50k
04	500	35	35k	16	5.0M	89	100k	100k
05	1000	10	50k	17				
32	1500	36	75k					
39	2000	11	100k					
06	2500	12	250k					
33	3500							

Table 19.216: Selector Switch Knobs

Standard Knob			Gloved-Hand Knob		Coin Operated		\$ Price
Color	Knob Code	Type	Knob Code	Type	Knob Code	Type	
Black ★	B	B11	FB	B25	TB	B18	6.60
Red	R	R8	FR	R24	TR	R16	
Green	G	G8	FG	G24	TG	G16	
Yellow	Y	Y8	FY	Y24	TY	Y16	
Orange ★	S	S11	FS	S25	—	—	
Blue	L	L8	FL	L24	TL	L16	
White	W	W8	FW	W24	—	—	
Amber	A	A8	FA	A24	TC	—	
Clear	C	C8	FC	C24	—	C16	

- ▲ These operators can be ordered complete with contact blocks. For maximum block usage, see page 19-85. Add the "H" number chosen from page 19-80 to the end of the operator type number and add the cost of the "H" number to the operator cost.
- Add the color code as chosen from Table 19.216. **Example:** SKS88■ with a green gloved-hand knob = SKS88FG.
- ♦ Add the voltage assembly code as chosen from page 19-77. **Example:** SK88J♦ with 208 Vac = SK88J3.
- ★ The knob must be the same color as the LED light module chosen, e.g., for red LED, use red knob.
- ▼ On neon light modules, use clear knobs only.
- △ The catalog number for only the dial plate is 9001KN180WP—\$2.90.
- For complete Type number add suffix number from Table 19.215. **Example:** Type SK2105
- ♦ For complete Type number add suffix number from Table 19.215. **Example:** Type SK2382
- ★ Black and orange are opaque and for use on non-illuminated operators only.

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Table 19.217: Pilot Lights—UL Types 4, 4X, 13/NEMA 4, 4X, 13
For use in hazardous locations—See page 19-79. Legend plate not included.

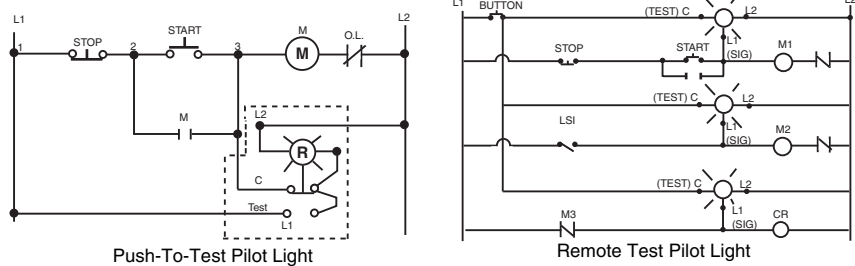
Description		Voltage	Style	With Red Fresnel Color Cap	With Green Fresnel Color Cap	With Other Color Cap	\$ Price	Without Color Cap	\$ Price
 9001SKP1	Standard Pilot Light (Fresnel color cap shown)	110–120 V, 50–60 Hz	Transformer	SKP1R31	SKP1G31	SKP1■	102.	SKP1	95.
		220–240 V, 50–60 Hz	Transformer	SKP7R31	SKP7G31	SKP7■	102.	SKP7	95.
		24–28 Vac/dc	Full Voltage	SKP35R31	SKP35G31	SKP35■	83.	SKP35	77.
		For other voltages see Table ▲	Transformer, Flashing or LED ♦	SKP▲R31	SKP▲G31	SKP▲■	102.	SKP▲	95.
			Full Voltage, Neon or Resistor★	SKP▲R31	SKP▲G31	SKP▲■	83.	SKP▲	77.
 9001SKT1	Push-To-Test Pilot Light (Fresnel color cap shown)	110–120 V, 50–60 Hz	Transformer	SKT1R31	SKT1G31	SKT1■	131.	SKT1	123.
		220–240 V, 50–60 Hz	Transformer	SKT7R31	SKT7G31	SKT7■	131.	SKT7	123.
		24–28 Vac/dc	Full Voltage	SKT35R31	SKT35G31	SKT35■	111.	SKT35	105.
		For other voltages see Table ▲	Transformer, Flashing or LED ♦	SKT▲R31	SKT▲G31	SKT▲■	131.	SKT▲	123.
			Full Voltage, Neon or Resistor★	SKT▲R31	SKT▲G31	SKT▲■	111.	SKT▲	105.
 9001SKTR38	Remote Test Pilot Light (Fresnel color cap shown)	120 Vac Only	Resistor	SKTR38R31	SKTR38G31	SKTR38■	131.	SKTR38	123.
		24–28 Vac Only	Full Voltage	SKTR35R31	SKTR35G31	SKTR35■	131.	SKTR35	123.
		For other voltages see Tables ▲▲▼	Full Voltage or Resistor ▼	SKTR▲R31	SKTR▲G31	SKTR▲■	131.	SKTR▲	123.

- ▲ Add the voltage assembly code as chosen from table, page 19-77.
EXAMPLE: SKT♦R31 with 208 Vac red LED voltage = SKT37LRR3.
■ Add the color code as chosen from the color cap table below.
EXAMPLE: SKP1♦ with a blue fresnel cap = SKP1L31.
♦ The cap must be the same color as the LED light module chosen, e.g., for a green LED, use a green color cap.
★ On neon light modules, use clear color caps only.
▼ Use only full voltage or resistor voltage assembly codes on remote test pilot lights. Do not choose LED, neon or transformer codes. For AC use only.

Table 19.218: Color Caps

Color	■ Plastic Fresnel	■ Plastic Domed
		
Amber	A31	A9
Blue	L31	L9
Clear	C31	C9
Green	G31	G9
Red	R31	R9
White	W31	W9
Yellow	Y31	Y9

Typical Wiring Diagram



When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Basic Operators	page 19-85
Light Modules	page 19-77
Contact Blocks	page 19-78
H Contact Block Assembly Codes	page 19-80
Legend Plates	page 19-81
Accessories	page 19-83
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For use in hazardous locations—See page 19-79.

- With neon type light modules, use a **clear** color cap only.
- With LED light modules, use either a clear color cap or a cap the same color as the LED.

New!

Table 19.219: Standard Light Modules for Types K, SK, and KX Control Units ♦

Voltage	Description	For Use With Single Lamp III. Operators as Indicated ▲	Light Module		Voltage Assembly Code	Rating	Replacement Lamp	
			Type	\$ Price			Part Number ♦	\$ Price
All	Full Voltage (without Bayonet Base Lamp)	All	KM40	52.	40	—	None	—
6 Vac/dc	Full Voltage	All	KM31	57.	31	.9 VA	2550101020	8.30
6 Vac/dc	LED Red	All Except ■	KM31LR	77.	31LR		6508805201	28.50
6 Vac/dc	LED Green	All Except ■	KM31LG	77.	31LG		6508805203	28.50
6 Vac/dc	LED Yellow	All Except ■	KM31LY	77.	31LY		6508805202	28.50
12–14 Vac/dc	Full Voltage	All	KM32	57.	32	1.2 VA	2550101037	8.30
12–14 Vac/dc	LED Red	All Except ■	KM32LR	77.	32LR		6508805201	28.50
12–14 Vac/dc	LED Green	All Except ■	KM32LG	77.	32LG		6508805203	28.50
12–14 Vac/dc	LED Yellow	All Except ■	KM32LY	77.	32LY		6508805202	28.50
18 Vac/dc	Resistor	All	KM33	57.	33	1.4 VA	2550101037	8.30
24–28 Vac/dc	Full Voltage	All	KM35	57.	35	1.2 VA	2550101002	8.30
24–28 Vac/dc	LED Red	All Except ■	KM35LR	77.	35LR	.28 VA	6508805210	28.50
24–28 Vac/dc	LED Green	All Except ■	KM35LG	77.	35LG	.28 VA	6508805212	28.50
24–28 Vac/dc	LED Yellow	All Except ■	KM35LY	77.	35LY	.28 VA	6508805211	28.50
24–28 Vac/dc	LED White	All Except ■	KM35LW	77.	35LW	.28 VA	6508805214	28.50
24–28 Vac/dc	LED Blue	All Except ■	KM35LL	77.	35LL	.28 VA	6508805213	28.50
48 Vac/dc	Full Voltage	All	KM36	57.	36	2.6 VA	2550101025	8.30
110–120 V, 50–60 Hz	LED Red	All Except ■	KM1LR	95.	1LR		6508805201	28.50
110–120 V, 50–60 Hz	LED Green	All Except ■	KM1LG	95.	1LG		6508805203	28.50
110–120 V, 50–60 Hz	LED Yellow	All Except ■	KM1LY	95.	1LY		6508805202	28.50
110–120 V, 50–60 Hz	Transformer	All Except ■	KM1	77.	1	2.4 VA	2550101020	8.30
110–120 V, 50–60 Hz	Flashing	All Except ■	KMF1	77.	F1	.85 VA	2550101036	11.00
120 Vac/dc	Resistor	All	KM38	57.	38	3.0 VA	2550101027	8.30
120 Vac/dc	Full Voltage	All	KM38	57.	38	3.0 VA	2550101027	8.30
120 Vac/dc	Neon	All Except ■	KM11	57.	11	0.2 VA	2550101013	21.90
120 Vac/dc	LED Red	All Except ■	KM38LR	77.	38LR	1.4 VA	6508805210	28.50
120 Vac/dc	LED Green	All Except ■	KM38LG	77.	38LG	1.4 VA	6508805212	28.50
120 Vac/dc	LED Yellow	All Except ■	KM38LY	77.	38LY	1.4 VA	6508805211	28.50
120 Vac/dc	LED White	All Except ■	KM38LW	77.	38LW	1.4 VA	6508805214	28.50
120 Vac/dc	LED Blue	All Except ■	KM38LL	77.	38LL	1.4 VA	6508805213	28.50
208–220 V, 50–60 Hz	Transformer	All Except ■	KM3	77.	3	2.5 VA	2550101020	8.30
208–220 V, 50–60 Hz	LED Red	All Except ■	KM3LR	95.	3LR		6508805201	28.50
208–220 V, 50–60 Hz	LED Green	All Except ■	KM3LG	95.	3LG		6508805203	28.50
208–220 V, 50–60 Hz	LED Yellow	All Except ■	KM3LY	95.	3LY		6508805202	28.50
220–240 V, 50–60 Hz	Transformer	All Except ■	KM7	77.	7	2.0 VA	2550101020	8.30
220–240 V, 50–60 Hz	LED Red	All Except ■	KM7LR	95.	7LR		6508805201	28.50
220–240 V, 50–60 Hz	LED Green	All Except ■	KM7LG	95.	7LG		6508805203	28.50
220–240 V, 50–60 Hz	LED Yellow	All Except ■	KM7LY	95.	7LY		6508805202	28.50
240 Vac/dc	Resistor	All Except ■	KM25	57.	25	6.0 VA	2550101027	8.30
240 Vac/dc	Neon	All Except ■ and KX	KM12	57.	12	0.3 VA	2550101013	21.90
277 V, 50–60 Hz	Transformer	All Except ■	KM8	77.	8	2.4 VA	2550101020	8.30
380–480 V, 50–60 Hz	Transformer	All Except ■	KM5	77.	5	2.8 VA	2550101020	8.30
480 Vac/dc	Neon	All Except ■ and KX	KM14	57.	14	0.5 VA	2550101013	21.90
550–600 V, 50–60 Hz	Transformer	All Except ■	KM6	77.	6	2.5 VA	2550101020	8.30

NOTE: Light modules are available in other voltages. For additional information, refer to Catalog 9001CT0001.

For use in hazardous locations—See page 19-79.

- Reduces the depth of illuminated push buttons with contact blocks by over 33%.
- With LED light modules, use either a clear color cap or a cap the same color as the LED.

Table 19.220: Shallow Depth Light Modules For Types K and SK Control Units ♦

Voltage	Description	Light Module		Voltage Assembly Code	Rating	Replacement Lamp	
		Type	\$ Price			Part Number	\$ Price
24–28 Vac/dc	Full Voltage	KM55	57.00	55	1.2 VA	2550101002	8.30
	LED Red	KM55LR	77.00	55LR	0.5 VA	6508805204	28.50
	LED Green	KM55LG		55LG		6508805206	
	LED Yellow	KM55LY		55LY		6508805205	
110–120 Vac/dc	Full Voltage	KM58	57.00	58	3.0 VA	2550101027	8.30
	LED Red	KM58LR	77.00	58LR	0.5 VA	6508805204	28.50
	LED Green	KM58LG		58LG		6508805206	
	LED Yellow	KM58LY		58LY		6508805205	

- ▲ 9001K, SK, KX.
■ Do not use on any remote test version pilot light.
♦ For use with all operators except KX and remote test pilot.
★ Check light module label for series and replacement number.

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number



File
CCN

E42259
NKCR



File
Class LR25490
3211 03



marked

The Class 9001 Type KA contact blocks are Fingersafe® contact blocks (meeting VDE 0106 Part 100). They have one screw mounting and captive (backed out) plus/minus terminal screws. These contact blocks are double-break, direct-acting contacts. Because of the wiping action of these contacts, they are suitable for use with programmable controllers. All contact blocks listed below accept up to 2 #12–#24 AWG solid or stranded wires. Recommended tightening torque for screw terminals is 7 lb-in.

Table 19.221: Standard Contact Blocks

Description	Symbol	Type	\$ Price
 (Clear Cover)	 Direct-Acting	KA1	28.50
 (Green Cover)	 N.C. Contact Late Opening	KA2	14.30
 (Red Cover)	 Direct-Acting	KA3	14.30
 (Clear Cover)	 N.O. Contact Early Closing	KA4	28.50
 (Red Cover)	 N.C. Contact Late Opening	KA5	14.30
 (Green Cover)	 N.O. Contact Early Closing	KA6	14.30

Table 19.222: Additional Circuit Arrangements

Sequencing ▲ N.O. Contact of KA4 closes before N.O. Contact on KA1	 KA4 KA1	Order One Type KA4 and One Type KA1	57.00
Overlapping ▲ N.O. Contact of KA4 closes before N.C. Contact of KA5 Opens	 KA4 KA5	Order One Type KA4 and One Type KA5	42.80

▲ For push buttons or two-position selector switches only. For sequencing or overlapping contacts on other operators, refer to catalog 9001CT0001.

Table 19.225: Maximum Current Ratings for Control Circuit Contacts—Types KA1–KA6, KA21–KA25, KA31–KA35, KA1G–KA6G

V	AC						Volts	DC				
	Inductive (NEMA / UL Type A600) 35% Power Factor					Resistive 75% Power Factor Make, Break and Continuous Amperes		Inductive and Resistive (NEMA Q600)				
	Make		Break		Continuous Carrying Amperes			Make and Break				Continuous Carrying Amperes
	Amperes	VA	Amperes	VA				KA1	KA2 KA3	KA4	KA5 KA6	
120	60	7200	6.0	720	10	10	125 250 600	0.55	0.55	—	—	2.5
240	30		3.0					0.27	0.27	—	—	
480	15		1.5					0.10	0.10	—	—	
600	12		1.2									

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Symbol	Contact Blocks with Binder Head Screws (not Fingersafe)			Gold Flashed Contacts with Standard Pressure Wire Terminals	
	Type	Quantity	\$ Price	Type	\$ Price
	KA21	25-Up	28.50	KA31	47.60
	KA22	25-Up	14.30	KA32	23.70
	KA23	25-Up	14.30	KA33	23.70
 N.O. Early Closing	KA24	25-Up	28.50	KA34	47.60
 N.C. Contact Late Opening	KA25	25-Up	14.30	KA35	23.70

■ Minimum order quantity is 25. The price represents one individual contact block.

Contact blocks listed below are not Fingersafe, but provide:

- Terminals that accept ring tongue/fork tongue connectors
- Short single circuit contact blocks (0.75" deep vs. 0.97" deep on the Fingersafe)
- Same as old style Series G product available prior to March, 1989.
- For assembled operators, use form Y238 (add to catalog number as suffix, for example: 9001KRU1H13Y238)



Table 19.223: Contact blocks (not Fingersafe)

Symbol	Type	\$ Price	Symbol	Type	\$ Price
	KA1G	28.50	 N.O. Contact Early Closing	KA4G	28.50
	KA2G	14.30	 N.C. Contact Late Opening	KA5G	14.30
	KA3G	14.30	 N.O. Contact Early Closing	KA6G	14.30

Table 19.224: Contact blocks with Quick-Connect terminals (not Fingersafe)

Symbol	Type	\$ Price
	KA12	23.70
	KA13	23.70

Dimensions Catalog 9001CT0001

30 mm Push Buttons

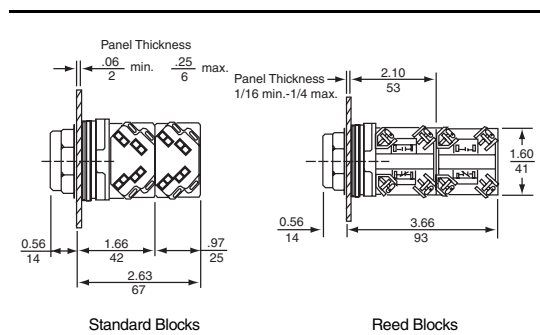
Hazardous locations do not always require the use of explosion-proof equipment like the Class 9001 Type BR control stations. Selecting the most appropriate device for the location can save you money. For more information on the types of hazardous locations, contact your local electrical inspector.

Table 19.226: Square D Offering According to Class, Division, and Group

For			Use
Class	Division	Group(s)	
I	1	A	1. Intrinsically Safe System
I	1	B, C, D	1. 9001 BR station
I	2	A	1. 9001 K, SK, KX control stations with restrictions ▲ 2. Intrinsically Safe System
I	2	B, C, D	1. 9001 BR station 2. 9001 K, SK, KX control stations with restrictions ▲ 3. Intrinsically Safe System
II	1	E, F, G	1. 9001 BR station 2. Intrinsically Safe System
II	2	E, F	1. 9001 BR station 2. 9001 K, SK, KX control stations with restrictions ▲ 3. Intrinsically Safe System
II	2	G	1. 9001 BR station 2. 9001 K, SK, KX control stations with restrictions ■ 3. Intrinsically Safe System
III	1, 2	—	1. 9001 BR Station 2. 9001 K, SK, KX control stations with restrictions ■ 3. Intrinsically Safe System

- ▲ Any Class 9001 Type K, SK or KX operator can be used in an area classified as Class I, Division 2 hazardous locations, if:
1. Only logic (KA40 series) or power (KA50 series) reed contact blocks are used.
2. All Type K and SK illuminated operators are UL approved for use in Class I Division 2 areas. ♦
3. Type KX illuminated operators do not use 4 lamp light modules, or 2 lamp light modules other than the transformer type. ♦
4. The operators are mounted in any NEMA 4 & 13 enclosures.
- Any Class 9001 Type K, SK, or KX operator mounted in a Class 9001 Type KY, KYSS, KYAF, SKY enclosure may be used, except potentiometer operators.
- ♦ Add Form Y243 to single lamp Push-To-Test pilot lights.
- Note: For ▲ and ■: UL Listed: File E10054(N), CCN NOIV.

Table 19.227: Dimensions When Using Contact Blocks



When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Type K, SK and KX Electrical Components

Class 9001 / Refer to Catalog 9001CT0001

NOTE: All contact blocks listed below accept #12–18 solid or stranded wire.

Table 19.228: Hermetically Sealed Logic Reed Contact Blocks ▲ Suitable for use on low energy level circuits

Description	Symbol	Type	\$ Price
		KA41	57.00
		KA42	28.50
		KA43	28.50
		KA44	57.00
		KA45	57.00

Max. Volts AC/DC	Maximum Load		
	Resistive	Inductive	Continuous
32/30	.25 A	.10 A	.5 A
120/100	8 VA	3 VA	.5 A

The maximum number of logic and/or power reed contact blocks per operator is as indicated on individual selection tables for standard contact blocks, **except:**

- On 3 position selector switches with cams C, D, E, F, G, L, or M, mount reed blocks on **one side only** (either side), maximum 2 in tandem.
- On 4 position selector switches, mount reed blocks on **one side only** (either side), maximum 2 in tandem.
- On joysticks or on Type KR8 or SKR8 push-pull operators, mount reed blocks on **one side only** (either side), maximum 2 in tandem.

Table 19.229: Hermetically Sealed Power Reed Contact Blocks ▲

Description	Symbol	Type	\$ Price
		KA51	95.
		KA52	67.
		KA53	67.
		KA54	95.
		KA55	95.

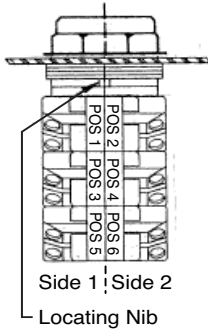
Volts	AC NEMA C300 ★				
	Make		Break		Continuous Carrying Amperes
	A	VA	A	VA	
120	10.00	1200	1.000	120	3.0
240	5.00		.500		

Volts	DC NEMA Q150 ▼				
	Make		Break		Continuous Carrying Amperes
	A	VA	A	VA	
115	.50	58	.50	58	3.0

Note: The power reed contact blocks can be used with standard industrial relays and starters through NEMA Size 4. Minimum voltage is 5 V and the minimum current is 1 mA.

- ★ Inductive Rating—35% Power Factor.
- ▼ Inductive and Resistive Ratings
- ▲ Not for use in pendant stations.

Example: A Type KR1B push button with 2 Type KA1 contact blocks would be Class 9001 Type KR1BH2.



The design of the Class 9001 Type KA contact blocks allows them to be mounted side by side and/or in tandem. This enables you to specify an operator and a particular arrangement of contact blocks (shipped completely assembled) with a single Type number. See page 19-78 for a description of contact blocks.

Suffix No. (Add to Operator Type)	\$ Price	Positions					
		1	2	3	4	5	6
H1	28.50	KA1					
H2	57.00	KA1	KA1				
H3	86.00	KA1	KA1	KA1			
H4	114.00	KA1		KA1	KA1		
H5	14.30	KA2					
H6	14.30	KA3					
H7	28.50	KA2	KA2				
H8	28.50	KA3	KA3				
H9	57.00	KA4	KA1				
H10	42.80	KA4	KA5				
H11	86.00	KA1	KA1		KA1		
H12	57.00	KA2	KA3	KA2	KA3		
H13	28.50		KA1				
H14	14.30		KA3				
H15	42.80	KA2	KA3	KA2			
H16	42.80	KA2	KA3		KA3		
H17	71.00	KA1	KA1	KA2		KA3	
H18	71.00	KA3	KA1	KA3		KA1	
H19	143.00	KA1	KA1	KA1	KA1		
H21	28.50	KA2	KA3				
H23	171.00	KA1	KA1	KA1	KA1	KA1	KA1
H24	42.80	KA1	KA2				
H25	28.50	KA5	KA3				
H26	86.00	KA1	KA1	KA4			
H27	42.80	KA3	KA3	KA3			
H28	42.80	KA1	KA3				
H29	143.00	KA1	KA4	KA1	KA5	KA1	KA3
H31	57.00	KA2	KA2	KA1			
H32	57.00		KA1		KA1		
H33	57.00	KA1	KA3	KA3			
H34	42.80	KA5	KA1				
H36	14.30		KA2				
H37	28.50	KA3	KA2				
H38	57.00	KA3	KA2	KA3	KA2		
H39	57.00	KA5	KA1		KA3		KA3
H40	86.00	KA1	KA1		KA4		
H41	42.80	KA3	KA2		KA2		
H42	86.00	KA1	KA1	KA2	KA2		
H43	42.80	KA2	KA2	KA2			
H44	42.80	KA3	KA2		KA3		
H45	71.00	KA1	KA2	KA3	KA2		
H46	42.80	KA2	KA2		KA2		
H47	86.00	KA5	KA3	KA3	KA5	KA3	KA3
H48	114.00	KA1	KA1	KA4	KA4		
H50	59.00	KA5	KA3	KA3	KA3		
H51	59.00	KA5	KA3		KA4		
H52	59.00	KA3	KA1	KA3			
H53	42.80	KA4	KA2				
H54	59.00	KA4	KA5				
H55	86.00	KA1	KA2	KA2		KA1	
H56	59.00	KA2	KA2	KA2	KA2		
H57	42.80	KA5	KA4				
H58	14.30		KA5				
H59	71.00	KA1	KA2	KA1			
H60	86.00	KA1	KA2	KA1		KA3	
H61	59.00	KA2	KA2	KA5	KA5		
H62	59.00	KA1	KA2	KA3			
H63	42.80	KA1		KA3			
H64	42.80	KA3	KA2	KA2			
H66	86.00	KA3	KA1	KA3	KA1		
H71	59.00	KA3	KA3	KA3	KA3		
H72	28.50	KA3	KA5				
H73	71.00	KA1	KA1	KA3			
H74	71.00	KA1	KA2	KA5	KA5		
H75	86.00	KA1	KA3	KA3	KA3	KA3	
H76	86.00	KA1	KA2	KA2	KA2	KA2	
H77	59.00	KA1		KA1			
H78	59.00	KA1	KA2		KA5		
H79	42.80	KA3	KA3		KA5		
H80	86.00	KA4	KA4	KA5	KA5		
H81	86.00	KA1	KA1	KA2	KA3		
H82	95.00	KA12	KA12	KA13	KA13		
H83	47.60	KA35	KA33				
H86	42.80	KA3	KA2	KA3			
H87	71.00	KA3	KA2	KA3	KA2	KA3	
H89	42.80	KA3	KA1				
H90	100.00	KA1	KA1	KA3	KA3	KA3	
H91	86.00	KA1	KA2	KA1	KA2		
H92	86.00	KA1	KA2	KA3	KA2	KA3	
H93	86.00	KA3	KA2	KA3	KA5	KA5	KA3

Suffix No. (Add to Operator Type)	\$ Price	Positions					
		1	2	3	4	5	6
H94	128.00	KA1	KA1	KA1	KA3	KA3	KA3
H95	42.80	KA2	KA1				
H97	59.00	KA1	KA3		KA2		
H98	114.00	KA1	KA1	KA1	KA2		KA2
H99	71.00	KA2	KA2	KA2	KA2	KA2	
H100	86.00	KA1	KA3	KA1	KA2		
H101	86.00	KA2	KA2	KA2	KA2	KA2	KA2
H102	59.00	KA1	KA3		KA3		
H103	86.00	KA1	KA1	KA3	KA3		
H104	128.00	KA1	KA1	KA1	KA2	KA2	KA2
H105	47.60	KA31					
H106	95.00	KA31	KA31				
H107	43.50	KA3	KA2	KA5			
H109	43.50	KA3	KA3	KA2			
H110	86.00	KA3	KA3	KA3	KA3	KA3	KA3
H111	100.00	KA4	KA4	KA4	KA5		
H112	47.60	KA33	KA33				
H113	71.00	KA1	KA1	KA5			
H114	28.50	KA21					
H115	71.00	KA3	KA1	KA5	KA3		
H116	71.00	KA3	KA1	KA3	KA2		
H117	86.00	KA2	KA3	KA1	KA2	KA2	
H118	42.80	KA1	KA5				
H119	86.00	KA1	KA1	KA5	KA3		
H120	57.00	KA3	KA3	KA3	KA5		
H121	57.00	KA3	KA3	KA3	KA5		
H122	57.00	KA1	KA3		KA5		
H124	28.50		KA3		KA3		
H125	42.80	KA5	KA5	KA3			
H126	28.50	KA42					
H127	28.50	KA43					
H128	57.00	KA41					
H129	28.50	KA2		KA2			
H130	42.80	KA2	KA3		KA2		
H131	42.80	KA2		KA3		KA2	
H132	57.00	KA2	KA2	KA3	KA3		
H133	28.50	KA3		KA2			
H134	57.00	KA3	KA3	KA2	KA2		
H135	57.00	KA3	KA2	KA2	KA2		
H136	28.50	KA3		KA5			
H137	228.00	KA45	KA45	KA44	KA44		
H138	42.80	KA3	KA3		KA2		
H139	28.50	KA5					
H140	57.00	KA44					
H141	57.00	KA43	KA43				
H142	114.00	KA1	KA1	KA41			
H143	57.00	KA3	KA1	KA5			
H144	57.00		KA85		KA4		
H145	95.00	KA51					
H146	134.00	KA53	KA52				
H147	67.00	KA53					
H148	189.00	KA51	KA51				
H149	40.50	KA71					
H150	40.50		KA71				
H151	95.00	KA71	KA71				
H152	57.00	KA1	KA2		KA2		
H153	200.00	KA53	KA52	KA53			
H154	42.80	KA4	KA5				
H155	71.00	KA42	KA43	KA2			
H156	143.00	KA1	KA1	KA1	KA1	KA2	KA2
H157	71.00	KA1	KA1	KA1	KA3		
H158	71.00	KA1	KA2	KA3	KA3		
H159	86.00	KA1	KA1	KA3	KA2		
H161	67.00	KA52					
H162	28.50	KA2		KA5			
H163	57.00		KA85		KA4		
H164	114.00	KA85	KA85	KA4	KA4		
H165	95.00	KA55					
H166	28.50	KA22	KA22				
H167	14.30	KA23					
H168	14.30	KA22					
H170	285.00	KA54	KA51		KA51		
H171	162.00	KA53	KA51				
H172	28.50	KA23	KA23				
H173	189.00	KA54	KA51				
H174	86.00	KA1	KA3	KA1	KA3		
H175	57.00	KA6	KA2	KA5	KA5		
H176	28.50	KA4					
H177	42.80	KA3	KA4				
H178							
H179	42.80	KA85		KA3			
H179	161.00	KA53	KA55				

Note: "H" Numbers not shown in their sequence are no longer used.

When ordering,
please specify:

- Quantity
- Class Number
- Type or Catalog Number

Table 19.230: Legend Plates

Standard Markings	Plastic Legend Plates for use with Types K and SK Operators									Aluminum Legend Plates for use with Type K Operators		
	1-3/4" Square			2-1/4" Square			2-1/2" Square			Black Legend	Black Legend	Blue Legend
	Silver Legend with Black Letters	White Legend with Black Letters	Black Legend with White Letters	Silver Legend with Black Letters	White Legend with Black Letters	Black Legend with White Letters	Silver Legend with Black Letters	White Legend with Black Letters	Black Legend with White Letters			
For Push Button or Pilot Light										KN200	KN300	KN800
Blank	KN200SP	KN200WP	KN200BP	KN100SP	KN100WP	KN100BP	KN700SP	KN700WP	KN700BP	KN200	KN300	KN800
Blank (red)	KN200RP ■	KN200RP ■	KN200RP ■	KN100RP ■	KN100RP ■	KN100RP ■	KN700RP ■	KN700RP ■	KN700RP ■	KN200R ▲	KN300R ▲	KN800R ▲
Start	KN201SP	KN201WP	KN201BP	KN101SP	KN101WP	KN101BP	KN701SP	KN701WP	KN701BP	KN201	KN301	KN801
Stop	KN202RP ■	KN202RP ■	KN202RP ■	KN102RP ■	KN102RP ■	KN102RP ■	KN702RP ■	KN702RP ■	KN702RP ■	KN202 ▲	KN302 ▲	KN802 ▲
On	KN203SP	KN203WP	KN203BP	KN103SP	KN103WP	KN103BP	KN703SP	KN703WP	KN703BP	KN203	KN303	KN803
Off	KN204RP ■	KN204RP ■	KN204RP ■	KN104RP ■	KN104RP ■	KN104RP ■	KN704RP ■	KN704RP ■	KN704RP ■	KN204 ▲	KN304 ▲	KN804 ▲
Emerg. Stop	KN205RP ■	KN205RP ■	KN205RP ■	KN105RP ■	KN105RP ■	KN105RP ■	KN705RP ■	KN705RP ■	KN705RP ■	KN205 ▲	KN305 ▲	KN805 ▲
Forward	KN206SP	KN206WP	KN206BP	KN106SP	KN106WP	KN106BP	KN706SP	KN706WP	KN706BP	KN206	KN306	KN806
Reverse	KN207SP	KN207WP	KN207BP	KN107SP	KN107WP	KN107BP	KN707SP	KN707WP	KN707BP	KN207	KN307	KN807
Close	KN208SP	KN208WP	KN208BP	KN108SP	KN108WP	KN108BP	KN708SP	KN708WP	KN708BP	KN208	KN308	KN808
Open	KN209SP	KN209WP	KN209BP	KN109SP	KN109WP	KN109BP	KN709SP	KN709WP	KN709BP	KN209	KN309	KN809
Down	KN210SP	KN210WP	KN210BP	KN110SP	KN110WP	KN110BP	KN710SP	KN710WP	KN710BP	KN210	KN310	KN810
Up	KN211SP	KN211WP	KN211BP	KN111SP	KN111WP	KN111BP	KN711SP	KN711WP	KN711BP	KN211	KN311	KN811
Fast	KN212SP	KN212WP	KN212BP	KN112SP	KN112WP	KN112BP	KN712SP	KN712WP	KN712BP	KN212	KN312	KN812
Slow	KN213SP	KN213WP	KN213BP	KN113SP	KN113WP	KN113BP	KN713SP	KN713WP	KN713BP	KN213	KN313	KN813
High	KN214SP	KN214WP	KN214BP	KN114SP	KN114WP	KN114BP	KN714SP	KN714WP	KN714BP	KN214	KN314	KN814
Low	KN215SP	KN215WP	KN215BP	KN115SP	KN115WP	KN115BP	KN715SP	KN715WP	KN715BP	KN215	KN315	KN815
Inch	KN216SP	KN216WP	KN216BP	KN116SP	KN116WP	KN116BP	KN716SP	KN716WP	KN716BP	KN216	KN316	KN816
In	KN217SP	KN217WP	KN217BP	KN117SP	KN117WP	KN117BP	KN717SP	KN717WP	KN717BP	KN217	KN317	KN817
Jog	KN218SP	KN218WP	KN218BP	KN118SP	KN118WP	KN118BP	KN718SP	KN718WP	KN718BP	KN218	KN318	KN818
Jog For.	KN219SP	KN219WP	KN219BP	KN119SP	KN119WP	KN119BP	KN719SP	KN719WP	KN719BP	KN219	KN319	KN819
Jog Rev.	KN220SP	KN220WP	KN220BP	KN120SP	KN120WP	KN120BP	KN720SP	KN720WP	KN720BP	KN220	KN320	KN820
Lower	KN221SP	KN221WP	KN221BP	KN121SP	KN121WP	KN121BP	KN721SP	KN721WP	KN721BP	KN221	KN321	KN821
Out	KN222SP	KN222WP	KN222BP	KN122SP	KN122WP	KN122BP	KN722SP	KN722WP	KN722BP	KN222	KN322	KN822
Reset	KN223SP	KN223WP	KN223BP	KN123SP	KN123WP	KN123BP	KN723SP	KN723WP	KN723BP	KN223	KN323	KN823
Run	KN224SP	KN224WP	KN224BP	KN124SP	KN124WP	KN124BP	KN724SP	KN724WP	KN724BP	KN224	KN324	KN824
Start Jog	KN225SP	KN225WP	KN225BP	KN125SP	KN125WP	KN125BP	KN725SP	KN725WP	KN725BP	KN225	KN325	KN825
Test	KN226SP	KN226WP	KN226BP	KN126SP	KN126WP	KN126BP	KN726SP	KN726WP	KN726BP	KN226	KN326	KN826
Raise	KN227SP	KN227WP	KN227BP	KN127SP	KN127WP	KN127BP	KN727SP	KN727WP	KN727BP	KN227	KN327	KN827
Decrease	KN228SP	KN228WP	KN228BP	KN128SP	KN128WP	KN128BP	KN728SP	KN728WP	KN728BP	KN228	KN328	KN828
Increase	KN229SP	KN229WP	KN229BP	KN129SP	KN129WP	KN129BP	KN729SP	KN729WP	KN729BP	KN229	KN329	KN829
Left	KN230SP	KN230WP	KN230BP	KN130SP	KN130WP	KN130BP	KN730SP	KN730WP	KN730BP	KN230	KN330	KN830
Right	KN231SP	KN231WP	KN231BP	KN131SP	KN131WP	KN131BP	KN731SP	KN731WP	KN731BP	KN231	KN331	KN831
Cycle Start	KN232SP	KN232WP	KN232BP	KN132SP	KN132WP	KN132BP	KN732SP	KN732WP	KN732BP	KN232	KN332	KN832
Feed Start	KN233SP	KN233WP	KN233BP	KN133SP	KN133WP	KN133BP	KN733SP	KN733WP	KN733BP	KN233	KN333	KN833
Cycle Stop	KN234SP	KN234WP	KN234BP	KN134SP	KN134WP	KN134BP	KN734SP	KN734WP	KN734BP	KN234	KN334	KN834
Motor Run	KN236SP	KN236WP	KN236BP	KN136SP	KN136WP	KN136BP	KN736SP	KN736WP	KN736BP	KN236	KN336	KN836
Motor Stop	KN237SP	KN237WP	KN237BP	KN137SP	KN137WP	KN137BP	KN737SP	KN737WP	KN737BP	KN237	KN337	KN837
Power On	KN238SP	KN238WP	KN238BP	KN138SP	KN138WP	KN138BP	KN738SP	KN738WP	KN738BP	KN238	KN338	KN838
Pull To Start												
Push To Stop	N/A	N/A	N/A	KN179SP	KN179WP	KN179BP	KN779SP	KN779WP	KN779BP	N/A	KN379	N/A
For Selector Switch or Selector Push Button												
For.-Rev.	KN239SP	KN239WP	KN239BP	KN139SP	KN139WP	KN139BP	KN739SP	KN739WP	KN739BP	KN239	KN339	KN839
Hand-Auto.	KN240SP	KN240WP	KN240BP	KN140SP	KN140WP	KN140BP	KN740SP	KN740WP	KN740BP	KN240	KN340	KN840
High-Low	KN241SP	KN241WP	KN241BP	KN141SP	KN141WP	KN141BP	KN741SP	KN741WP	KN741BP	KN241	KN341	KN841
Jog-Run	KN242SP	KN242WP	KN242BP	KN142SP	KN142WP	KN142BP	KN742SP	KN742WP	KN742BP	KN242	KN342	KN842
Man.-Auto.	KN243SP	KN243WP	KN243BP	KN143SP	KN143WP	KN143BP	KN743SP	KN743WP	KN743BP	KN243	KN343	KN843
Off-On	KN244SP	KN244WP	KN244BP	KN144SP	KN144WP	KN144BP	KN744SP	KN744WP	KN744BP	KN244	KN344	KN844
On-Off	KN245SP	KN245WP	KN245BP	KN145SP	KN145WP	KN145BP	KN745SP	KN745WP	KN745BP	KN245	KN345	KN845
Open-Close	KN246SP	KN246WP	KN246BP	KN146SP	KN146WP	KN146BP	KN746SP	KN746WP	KN746BP	KN246	KN346	KN846
Raise-Lower	KN247SP	KN247WP	KN247BP	KN147SP	KN147WP	KN147BP	KN747SP	KN747WP	KN747BP	KN247	KN347	KN847
Run-Jog	KN248SP	KN248WP	KN248BP	KN148SP	KN148WP	KN148BP	KN748SP	KN748WP	KN748BP	KN248	KN348	KN848
Slow-Fast	KN250SP	KN250WP	KN250BP	KN150SP	KN150WP	KN150BP	KN750SP	KN750WP	KN750BP	KN250	KN350	KN850
Start-Stop	KN251SP	KN251WP	KN251BP	KN151SP	KN151WP	KN151BP	KN751SP	KN751WP	KN751BP	KN251	KN351	KN851
Up-Down	KN253SP	KN253WP	KN253BP	KN153SP	KN153WP	KN153BP	KN753SP	KN753WP	KN753BP	KN253	KN353	KN853
Low-High	KN254SP	KN254WP	KN254BP	KN154SP	KN154WP	KN154BP	KN754SP	KN754WP	KN754BP	KN254	KN354	KN854
Stop-Start	KN255SP	KN255WP	KN255BP	KN155SP	KN155WP	KN155BP	KN755SP	KN755WP	KN755BP	KN255	KN355	KN855
Left-Right	KN256SP	KN256WP	KN256BP	KN156SP	KN156WP	KN156BP	KN756SP	KN756WP	KN756BP	KN256	KN356	KN856
On-Auto	KN276SP	KN276WP	KN276BP	KN176SP	KN176WP	KN176BP	KN776SP	KN776WP	KN776BP	KN276	KN376	KN876
Auto-Off-Hand	KN258SP	KN258WP	KN258BP	KN158SP	KN158WP	KN158BP	KN758SP	KN758WP	KN758BP	KN258	KN358	KN858
For.-Off-Rev.	KN259SP	KN259WP	KN259BP	KN159SP	KN159WP	KN159BP	KN759SP	KN759WP	KN759BP	KN259	KN359	KN859
Hand-Off-Auto.	KN260SP	KN260WP	KN260BP	KN160SP	KN160WP	KN160BP	KN760SP	KN760WP	KN760BP	KN260	KN360	KN860
Man.-Off-Auto.	KN262SP	KN262WP	KN262BP	KN162SP	KN162WP	KN162BP	KN762SP	KN762WP	KN762BP	KN262	KN362	KN862
Open-Off-Close	KN263SP	KN263WP	KN263BP	KN163SP	KN163WP	KN163BP	KN763SP	KN763WP	KN763BP	KN263	KN363	KN863
Up-Off-Down	KN264SP	KN264WP	KN264BP	KN164SP	KN164WP	KN164BP	KN764SP	KN764WP	KN764BP	KN264	KN364	KN864
Low-Off-High	KN265SP	KN265WP	KN265BP	KN165SP	KN165WP	KN165BP	KN765SP	KN765WP	KN765BP	KN265	KN365	KN865
Jog-Stop-Run	KN267SP	KN267WP	KN267BP	KN167SP	KN167WP	KN167BP	KN767SP	KN767WP	KN767BP	KN267	KN367	KN867
High-Low-Off	KN270SP	KN270WP	KN270BP	KN170SP	KN170WP	KN170BP	KN770SP	KN770WP	KN770BP	KN270	KN370	KN870
High-Off-Low	KN277SP	KN277WP	KN277BP	KN177SP	KN177WP	KN177BP	KN777SP	KN777WP	KN777BP	KN277	KN377	KN877
Auto-Man.-Off	KN278SP	KN278WP	KN278BP	KN178SP	KN178WP	KN178BP	KN778SP	KN778WP	KN778BP	KN278	KN378	KN878

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

- ▲ Legend plate has red background with silver letters.
- Legend plate has red background with black letters.

For Pricing Information page 19-82

Table 19.231: Legend Plates—Special Marking

Legend Plate	Description	Type	\$ Price
KN100()P (Plastic) ▲ 2.25 in. Square	Standard Markings	See page 19-81	2.90
	Special Marking ■	Silver Field, Black Letters	KN199SP
		White Field, Black Letters	KN199WP
		Red Field, Black Letters	KN199RP
		Black Field, White Letters	KN199BP
KN200 Aluminum	Standard Markings	See page 19-81	2.90
	Special Marking ■	Black Field	KN299
		Red Field	KN299R
KN200()P (Plastic) ▲ 1.7 in. Square	Standard Markings	See page 19-81	2.90
	Special Marking ■	Silver Field, Black Letters	KN299SP
		White Field, Black Letters	KN299WP
		Red Field, Black Letters	KN299RP
		Black Field, White Letters	KN299BP
KN300 Aluminum	Standard Markings	See page 19-81	2.90
	Special Marking ■	Black Field	KN399
		Red Field	KN399R
KN400 Aluminum	Blank	KN400	5.70
	Any Marking ■	KN499	15.20
KN500 Aluminum	Standard Markings	Select from Table 19.236	2.90
	Special Marking ■	Black Field	KN599
		Green Red Field	KN519
KN600 Aluminum	Blank	KN600	6.60
	Any Marking ■	Black Field	KN699
		Red Field	KN699R
KN700()P (Plastic) ▲ 2.5 in. Square	Standard Markings	Select from page 19-81	2.90
	Special Marking ■	Silver Field, Black Letters	KN799SP
		White Field, Black Letters	KN799WP
		Red Field, Black Letters	KN799RP
		Black Field, White Letters	KN799BP
KN800 Aluminum	Standard Markings	Select from page 19-81	2.90
	Special Marking ■	Blue Field	KN899
		Red Field	KN899R
KN900 Aluminum	Blank	KN900	2.90
	Any Marking ■	KN999	12.30

▲ Other colors available (see Table 19.232).

■ Specify marking required.

Table 19.232: Plastic Legend Plates—Other Colors

	Plate Color	Letter Color	1.7 in. Square	2.25 in. Square	2.5 in. Square	\$ Price
Blank Legend Plates	Yellow	Black	KN200YP	KN100YP	KN700YP	2.90
	Green	White	KN200GP	KN100GP	KN700GP	
	Blue		KN200LP	KN100LP	KN700LP	
	Red		KN200CP	KN100CP	KN700CP	
	Orange		KN200AP	KN100AP	KN700AP	
Special Engraved Legend Plates	Burnt Orange	Black	KN200HP	KN100HP	KN700HP	12.30
	Yellow	Black	KN299YP	KN199YP	KN799YP	
	Green	White	KN299GP	KN199GP	KN799GP	
	Blue		KN299LP	KN199LP	KN799LP	
	Red		KN299CP	KN199CP	KN799CP	
	Orange		KN299AP	KN199AP	KN799AP	
	Burnt Orange	Black	KN299HP	KN199HP	KN799HP	

Table 19.233: Maximum Number of Lines and Characters for Type KN Legend Plates

Type	KN100	KN200	KN300	KN400	KN500	KN600	KN700	KN800	KN900
Max. No. of Characters per Line	16	14	18	18	8 per field	22	17	18	18 per pos.
Max. No. of Lines	2	1	3	2	2 per field	4	2	2	1 per pos.

Note: The maximum number of characters and lines is a practical maximum, based on a minimum size of characters to facilitate easy reading.

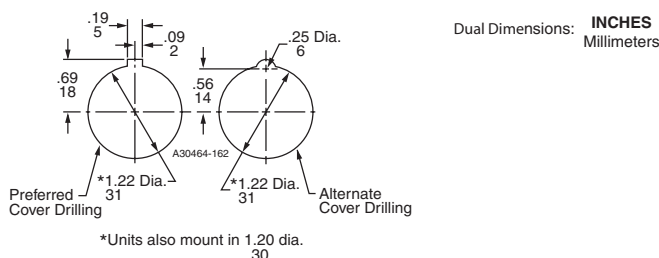
Table 19.234: Circular Legends for Emergency Stop Mushroom Heads (yellow background)

Diameter	Text	Catalog Number	\$ Price
60 mm	—	9001KN9100	2.90
	EMERGENCY STOP	9001KN9330	
	—	9001KN8100	
90 mm	EMERGENCY STOP	9001KN8330	
	—		

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Mounting Hole for All Types K, SK, and KX Control Units



Hole Punch: Use Greenlee Tool #60242 to punch mounting hole and notch.

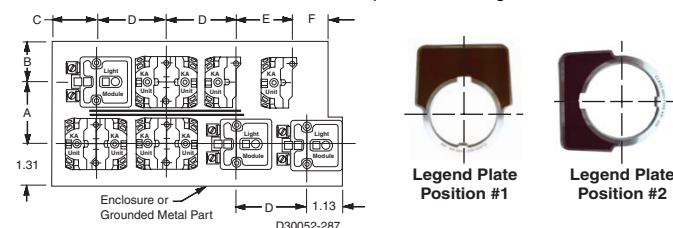


Table 19.235: Min. Centerline Spacing, Type K & SK Control Units

Legend Plate	Operator	Centerline Spacing (in.)					
		A	B	C	D	E	F
Legend Plate Orientation Position #1							
KN2 KN5	Standard Push Button	1.75	1.31	1.44	2.25	1.69	0.88
	1.375 in. Dia. Mushroom	1.75	1.31	1.44	2.25	1.69	0.88
	2.25 in. Dia. Mushroom	2.25	1.31	1.44	2.25	2.25	1.12
	Selector Switch Knobs	1.75	1.31	1.44	2.25	1.69	0.88
KN3	Standard Push Button	2.00	1.31	1.44	2.25	1.75	0.88
	1.375 in. Dia. Mushroom	2.00	1.31	1.44	2.25	1.75	0.88
	2.25 in. Dia. Mushroom	2.25	1.31	1.44	2.25	2.25	1.12
	Selector Switch Knobs	2.00	1.31	1.44	2.25	1.75	0.88
KN4	Standard Push Button	1.94	1.31	1.44	2.25	1.62	0.88
	1.375 in. Dia. Mushroom	1.94	1.31	1.44	2.25	1.62	0.88
	2.25 in. Dia. Mushroom	2.25	1.31	1.44	2.25	2.25	1.12
	Selector Switch Knobs	1.74	1.31	1.44	2.25	1.62	0.88
KN6	Standard Push Button	2.38	1.62	1.44	2.25	2.25	1.12
	1.375 in. Dia. Mushroom	2.38	1.62	1.44	2.25	2.25	1.12
	2.25 in. Dia. Mushroom	2.38	1.62	1.44	2.25	2.25	1.12
	Selector Switch Knobs	2.38	1.62	1.44	2.25	2.25	1.12
Legend Plate Orientation Position #2							
KN2 KN5	Standard Push Button	1.62	1.31	1.44	2.25	1.75	0.88
	1.375 in. Dia. Mushroom	1.62	1.31	1.44	2.25	1.75	0.88
	2.25 in. Dia. Mushroom	2.25	1.31	1.44	2.25	2.25	1.12
	Selector Switch Knobs	1.62	1.31	1.44	2.25	1.75	0.88
KN3	Standard Push Button	1.75	1.31	1.44	2.25	2.00	0.88
	1.375 in. Dia. Mushroom	1.75	1.31	1.44	2.25	2.00	0.88
	2.25 in. Dia. Mushroom	2.25	1.31	1.44	2.25	2.25	1.12
	Selector Switch Knobs	1.75	1.31	1.44	2.25	2.00	0.88
KN4	Standard Push Button	1.62	1.31	1.44	2.25	1.94	1.00
	1.375 in. Dia. Mushroom	1.62	1.31	1.44	2.25	1.94	1.00
	2.25 in. Dia. Mushroom	2.25	1.31	1.44	2.25	2.25	1.12
	Selector Switch Knobs	1.62	1.31	1.44	2.25	1.94	1.00
KN6	Standard Push Button	2.25	1.31	1.62	2.38	2.38	0.88
	1.375 in. Dia. Mushroom	2.25	1.31	1.62	2.38	2.38	0.88
	2.25 in. Dia. Mushroom	2.25	1.31	1.62	2.38	2.38	1.12
	Selector Switch Knobs	2.25	1.31	1.62	2.38	2.38	0.88

Table 19.236: Special Legend Plates

Type KN500 (For Use with Dual Function Operators: KR6, KR7 and KR67)		
Standard Markings		
Type	Green	Red
KN500	Blank	Blank
KN501	Start	Stop
KN502	On	Off
Type	Black	Black
KN520	Blank	Blank
KN521	Start	Stop
KN522	On	Off
KN523	Forward	Reverse
KN524	Up	Down
KN525	High	Low
KN526	Open	Close

Table 19.237: Padlock Attachments

	Used On	Description	Type	\$ Price
	Type K non-illuminated push button — Standard (KR4, KR5 mushroom buttons only).	Holds button in depressed position and can be padlocked.	K4	\$28.50
	Types K and SK non-illuminated push buttons with or without protective boots.	Holds button in depressed position when padlocked.	K5	47.60
			K97	28.50
	Types K and SK non-illuminated push buttons, cover type attachment. KR, SKR	Attachment can be padlocked. Does not hold button in depressed position.	K6	28.50
	Types K and SK push buttons, cover type attachment.	Spring loaded cover cannot be padlocked. Does not hold button in depressed position.	K60	38.00
	Types K and SK push-pull operator and illuminated push buttons. KR8, KR9	Holds button in depressed position and can be padlocked.	K62	47.60
	KR11U and KR12U Interlocked Assembly	Holds maintained button in depressed position and can be padlocked.	K96	28.50
	Type KR9 & SKR9 Push-Pull operators—Non-Illuminated and Illuminated	Holds button in depressed position. Can be padlocked.	K162	39.00

Table 19.238: Mushroom Button Guards

Type	\$ Price	Type	Used On	\$ Price	Type	Used On	\$ Price
K48	38.	K56■	KR4, SKR4	\$38.	K68	KR5	38.
		K56◆▲	KR8, KR9, SKR8, SKR9	45.	K685	KR25	45.

- ▲ The mushroom guard has finger holes for push-pull operators.
■ B=Black G=Green R=Red Y=Yellow
◆ R=Red Y=Yellow

Table 19.239: Padlock Attachments

	Used On	Description	Type	\$ Price
	Types K and SK selector switches and potentiometers (will not work with gloved-hand knob).	Cover type attachment that can be padlocked to keep unauthorized personnel from tampering with the operator.	K7	28.50
	Types K and SK selector switches and potentiometers (will not work with gloved-hand knob).	Same as 9001K7 but with spring loaded lockout cover.	K107	37.50
	Types K and SK illuminated push buttons (with or without guard) and key operated push buttons.	Cover type attachment that can be padlocked to keep unauthorized personnel from tampering with the operator.	K108	28.50
	Types K and SK illuminated push buttons (with or without guard) and key operated push buttons.	Same as 9001K108 but with spring loaded lockout cover.	K109	38.00
	Types K and SK maintained push-pull operators using 1.375 in. dia. mushroom buttons (-20 series as shown on page 19-84).	Cover type attachment that holds mushroom button in depressed position and can be padlocked.	K110	36.00

Table 19.240: Protective Boots

KU1	KU17	KU37	KU27
Note: These Type KU protective boots are recommended for very dirty environments or severe hose down, but they are not required for UL Type 4 rating on the Type K operators or UL Type 4 or 4X rating on the Type SK operators. The K1 wrench (see page 19-86) is required for installation of these boots.			
For Non-Illuminated Push Buttons★			
Color	Type	\$ Price	
Black	KU1	19.10	Standard knob selector switch
Red	KU2		Gloved-hand cap for use on standard knob selector switch
Blue	KU3		
Brown	KU4		Standard pilot light and maintained contact push buttons
Green	KU5		
Yellow	KU6	28.50	Push-to-test and illuminated push button without guard
Clear	KU7		
Clear	KU8	28.50	Illuminated push button with guard
(Provides Full Guard)			
★ Use KU27 for maintained contact push buttons.			

Table 19.241: Closing Plates



Round (1-1/2 in. Dia.)

Description	Type	\$ Price
Gray	K51▼	9.50
Chrome Plated	K52▼	9.50

▼ Meets UL and NEMA 1, 2, 3, 4, 4X, 6, 12 and 13.

▼ Meets UL and NEMA 1, 2, 3, 4, 4X, 6, 12 and 13.

Dimensions see catalog 9001CT0001

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Table 19.242: Accessories

Description	Color	Type	Package Qty.	\$ Price Each
 Color inserts for KR1, KR2, KR3, SKR1, SKR2, SKR3, KR11, KR12, SKR11, SKR12, KR4, T, TRD	Black Blue Gray Green Orange Red	T8BK T8BE T8GY T8GN T8OE T8RD	10	4.80
	Universal ▲	T8U	7	3.80
	White	T8WH	10	0.48
	Yellow	T8YW		
 1.375 in. Snap-in Mushroom knob for KR4 and SKR4 ◆	Black Blue Green Orange Red	K16B K16L K16G K16S K16R	1	28.50
	Red ■	K16R05		31.70
	Yellow	K16Y		28.50
 2-1/4 in. Snap-in Mushroom knob for KR5 and SKR5 ★	Black Blue Green Orange Red	K17B K17L K17G K17S K17R	1	28.50
	Red ■	K17R05		31.70
	Yellow	K17Y		28.50
 1-3/8 in. Screw-on Mushroom knob for KR24 and SKR24 ▼	Black Blue Green Orange Red Yellow	K92B K92L K92G K92S K92R K92Y	1	28.50
 2-1/4 in. Screw-on Mushroom knob for KR25 and SKR25 △	Black Blue Green Orange Red Yellow	K93B K93L K93G K93S K93R K93Y	1	28.50
 Push-Pull Knobs for KR8, KR9, SKR8, SKR9 Operators	Amber Black □ Blue Clear Green Orange □ Red	A22 B23 L22 C22 G22 S23 R22	1	6.60
	Red ▽	R2205		10.50
	White Yellow	W22 Y22		6.60
 Color Inserts for Dual Function Operators KR6, KR7, KR67 Standard Color	Black Green Red	B19 G19 R19	10	0.95
	Universal ◇	U19		5.70
 Caps for Illuminated Push Buttons K1L, K2L, K3L, SK1L, SK2L Knob for KR9R94	Amber Blue Clear Green Red White Yellow	A7 L7 C7 G7 R7 W7 Y7	1	6.60
	Red	R94	1	6.60
 Metal Knob for KR24	Red Green Black	K92RM K92GM K92BM	1	34.00
 Metal Knob for KR25	Red Green Black	K93RM K93GM K93BM	1	42.00
 Metal Knob for KR9 (40 mm)	Red Green Black	K94RM K94GM K94BM	1	34.00
 Metal Knob for KR9 (60 mm)	Red Green Black	K95RM K95GM K95BM	1	42.00

- ▲ Includes one each of the following color inserts: Black, Red, Green, Yellow, Orange, Blue, and White.
- "EMERGENCY STOP" is in raised letters and hot stamped white across the front of the mushroom button.
- ◆ The mushroom button cap listed here may be assembled to a 9001KR1U or SKR1U to form a 9001KR4 or SKR4.
- ★ The mushroom button cap listed here may be assembled to a 9001KR1U or SKR1U to form a 9001KR5 or SKR5.
- ▼ The mushroom button cap listed here may be assembled to a 9001KR20 to form a 9001KR24 or SKR24.
- △ The mushroom button cap listed here may be assembled to a 9001KR20 to form a 9001KR25 or a SKR20 to form a 9001SKR25.
- These color caps are opaque and are for use on non-illuminated operators only.
- ◇ Includes two of each of the following color inserts: Black, Red, and Green.
- ★ May be used on KR8 and KR9 operators. Order mushroom button and K54 adapter (no charge) from page 19-85. Using the K54 adapter voids Type 6 rating.
- ▽ Red knob with "Push Emergency Stop" marked on top of knob.

Description	Color	Type	Package Qty.	\$ Price Each
 1-3/8 in. Mushroom Knob for Illuminated Push Buttons K2L, SK2L ☆	Amber Blue Clear Green Red White Yellow	A20 L20 C20 G20 R20 W20 Y20	1	6.60
 2-1/4 in. Mushroom Knob for Illuminated Push Buttons K2L, SK2L ☆	Amber Blue Clear Green Red White Yellow	A21 L21 C21 G21 R21 W21 Y21	1	6.60
 Plastic Fresnel Pilot Light Lens for KP, KT, SKP, SKT	Amber Blue Clear Green Red White Yellow	A31 L31 C31 G31 R31 W31 Y31	1	6.60
 Domed Plastic Pilot Light Lens for KP, KT, SKP, SKT	Amber Blue Clear Green Red White Yellow	A9 L9 C9 G9 R9 W9 Y9	1	6.60
 Glass Pilot Light Lens for KP, KT	Amber Blue Clear Green Red White Yellow	A6 L6 C6 G6 R6 W6 Y6	1	6.60
 Standard Selector Switch Knob for K and SK Selector Switches	Amber Black □ Blue Clear Green Orange □ Red White Yellow	A8 B11 L8 C8 G8 S11 R8 W8 Y8	1	6.60
 Gloved-Hand Selector Switch Knob for K and SK Selector Switches	Amber Black □ Blue Clear Green Orange □ Red White Yellow	A24 B25 L24 C24 G24 S25 R24 W24 Y24	1	6.60
 Coin Operated Selector Switch Knob for K and SK Selector Switches	Black □ Blue Clear Green Red Yellow	B18 L16 C16 G16 R16 Y16	1	6.60
 Color Inserts for KQ and TQ Selector Push Buttons	Black Blue Green Orange Red White Yellow	T5BK T5BE T5GN T5OE T5RD T5WH T5YW	10	0.95
	Cam	Type	\$ Price Each	
 Selector Switch Cams	B C D E F G H J L M	K13B K13C K13D K13E K13F K13G K13H K13J K13L K13M	4.20	

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

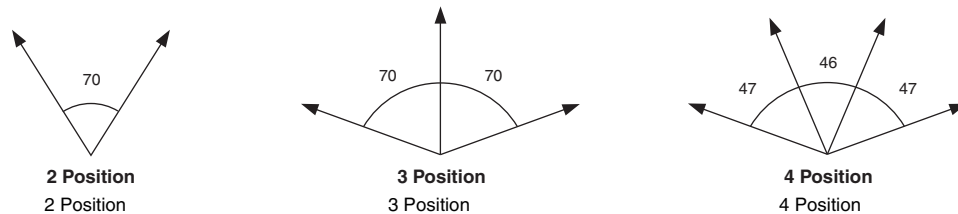
Table 19.243: Basic Operators (Without Color Caps, Mushroom Buttons, Knobs, Selector Switch Cams, Contact Blocks, Light Modules or Legend Plates)

Description	For UL Types/NEMA		\$ Price
	1, 3R, 4, 12, 13	4, 4X, 13	
Non-Illuminated Push Button (Extended Guard)	KR2	SKR2	25.70
Non-Illuminated Push Button (No Guard)	KR3	SKR3	25.70
Non-Illuminated Push Button (Mushroom Button/Screw-On)	KR20	SKR20	25.70
Non-Illuminated Dual Push Button (Momentary)	KR6	—	52.00
Non-Illuminated Dual Push Button (Momentary Interlocked)	KR67	—	81.00
Non-Illuminated Dual Push Button (Maintained Interlocked)	KR7	—	81.00
Momentary Pull—Maintained Neutral—Momentary Push	KR8 ▲★	SKR8 ▲	50.00
Maintained Pull—Maintained Push	KR9 ▲★	SKR9 ▲	80.00
Illuminated Push Button (Full Guard—Plastic Top)	K1L ■	SK1L ■	28.50
Illuminated Push Button and Push-To-Test (No Guard)	K2L ■ ◆	SK2L ■ ◆	19.10
Illuminated Push Button (Full Guard—Metal Top)	K3L ■	—	28.50
Standard Pilot Light	KP	SKP	19.10
3 Position Maintained Selector Switch	KS4 ▲	SKS4 ▲	24.20
3 Position Spring Return Both Sides To Center—Selector Switch	KS5 ▲	SKS5 ▲	43.20
3 Position Spring Return Left To Center—Selector Switch	KS6 ▲	SKS6 ▲	43.20
3 Position Spring Return Right To Center—Selector Switch	KS7 ▲	SKS7 ▲	43.20

- ▲ Operator can be converted to an illuminated operator by removing the liner (6512240601) and adding a light module.
 ■ Operator can be converted to a non-illuminated operator by adding liner (6512240601).
 ◆ Operator includes jumper wires for push-to-test conversion.

- ★ These operators can be supplied with 1-3/8 in or 2-1/4 in dia. mushroom buttons. For 1-3/8 in.: add () 20 to type number. The () refers to the color chosen—see page 19-84. For 2-1/4 in.: Add () 21 to type number. The () refers to the color chosen—see page 19-84. Voids UL and NEMA 6 Rating.

Table 19.244: Selector Switch Angular Travel (Types K, SK and KX)



Maximum Contact Block Usage

(Includes Types K, SK and KX)

- **2 blocks mounted side by side only:** Any 2, 3 or 4 position spring return selector switch (non-illuminated, illuminated or keyed).
- **2 blocks mounted in tandem on one side only:** Any 2 operator interlocked push button.
- **2 blocks mounted in tandem (total of four blocks):** Any selector push button, keyed push button, 2, 3, or 4 position maintained selector switch (non-illuminated, illuminated or keyed), push-pull operators (non-illuminated or illuminated), joy stick, dual push button.
- **3 blocks mounted in tandem (total of six blocks):** Single momentary push buttons (non-illuminated or illuminated).

Operator Service Temperature Range:

-22° to +140° Fahrenheit at 50% relative humidity
 -30° to +60° Celsius

Environmental Ratings:

- **Types K and KX:** The Type K (Series H) and KX operators are UL approved for use in Types 1, 2, 3, 3R, 4, 6, 12, and 13 flat surface enclosures.
- **Type SK:** The Type SK operators are UL approved for use in Types 1, 2, 3, 3R, 4, 4X, 6, 12, and 13 flat surface enclosures.
- **Types K, SK and KX: For hazardous location use—**see page 19-79.

Dimensions:

Types K, SK and KX: See Catalog 9001CT0001.

Mounting Hole Dimensions:

See page 19-82.

Minimum Centerline Spacing:

Types K and SK: See page 19-82.

Type KX: See Catalog 9001CT0001.

Table 19.245: Non Hazardous Locations

Types K, SK and KX		File CCN	#42259 NKCR		File Class	LR25490 3211 03
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Table 19.246: Hazardous Locations (see page 19-79)

Types K, SK		File CCN	E10054(N) NOIV		File Class	LR26817 3218 02
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When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Table 19.247: Ring Nuts

Used On	Type	Used On	Type	\$ Price
K1L	K44	SK1L	SK44	12.30
K30-K37	K45	—	—	2.90
K70-K73	K45	—	—	2.90
K20, K21, K22, K23	K45	SK20, SK21, SK22, SK23	SK45	2.90
K20, K21, K22, K23 ♦	SK46	SK20, SK21, SK22, SK23 ♦	SK46	2.90
K2L	K49	SK2L	SK49	2.90
K3L (complete)	K111	—	—	12.30
K3L (metal top only)	6515802701	—	—	43.60
KP, KTR	K41	SKP, SKTR	SK41	2.90
KR1	K41	SKR1	SK41	2.90
KR11	K42	SKR11	SK42	2.90
KR12 ▲	K42	SKR12 ▲	SK42	2.90
KR12 ■	K41	SKR12 ■	SK41	2.90
KR13, 14, 15	K55	—	—	2.90
KR2	K42	SKR2	SK42	2.90
KR20	K49	—	—	2.90
KR24	K49	—	—	2.90
KR25	K49	SKR25	SK49	2.90
KR3	K40	SKR3	SK40	2.90
KR4	K41	SKR4	SK41	2.90
KR5	K41	SKR5	SK41	2.90
KR6	K47	—	—	2.90
KR67	K47	—	—	2.90
KR7	K47	—	—	2.90
KR8	K58	SKR8	6509704401	2.90
KR9	K41	SKR9	SK41	2.90
KS	K45	SKS	SK45	2.90
KS ♦	SK46	SKS ♦	SK46	2.90
KT	K49	SKRU11	SK41	2.90
		SKRU1,2,3,4,5,10	SK40	2.90
		SKT	SK49	2.90

▲ Maintained button of two button operator.

■ Momentary button of two button operator.

♦ Secondary ring nut (holds knob on selector switch or potentiometer).

Table 19.248: Replacement Lamps For Series A–F (black)
Light Modules

Light Module Type	Lamp Number (ANSI)	Square D Replacement Lamps	
		Part Number	\$ Price
KM1	GE44★	—	—
KM2	GE1490	2550101003	8.30
KM3	GE44★	—	—
KM4	GE1490	2550101003	8.30
KM5	GE44★	—	—
KM6	GE44★	—	—
KM7	GE44★	—	—
KM8	GE44★	—	—
KM9	GE755	2550101020	8.30
KM11	CMDK1A5	2550105014	22.00
KM12	CMDK1A5	2550105014	22.00
KM13	CMDK1A5	2550105014	22.00
KM14	CMDK1A5	2550105014	22.00
KM15	CMDK1A5	2550105014	22.00
KM21	SYL12PSB	2550105003	11.00
KM22	SYL12PSB	2550105003	11.00
KM23	SYL28PSB	2550105008	11.00
KM25	SYL120PSB	2550105005	11.00
KM31	SYL6PSB	2550105007	11.00
KM32	SYL12PSB	2550105003	11.00
KM34	SYL24PSB	2550105004	11.00
KM35	SYL28PSB	2550105008	11.00
KM36	SYL48PSB	2550105009	11.00
KM37	SYL60PSB	2550105010	11.00
KM38	SYL120PSB	2550105005	11.00

★ GE44 and GE755 are interchangeable (GE755 gives longer life). If a GE44 lamp is ordered, a GE755 (2550101020) will be substituted. For a replacement lamp in a current series light module see the light module listing on page 19-77.

Table 19.249: Repair Parts

Description	Part Number	\$ Price
E10 Key	2941101100	6.60
Gray cap for KR11, KR12, SKR11, or SKR12	3105217001	9.20
Clear plastic top (only) for 9001K44 & SK44	4487D63X1	5.30
Ring Nut	—	—
Gasket for Type K and SK Push-Pull Knob	6509701801	1.30
Gasket for Plastic Illuminated Lens	6509701901	2.60
Gasket for Type K and SK selector switch knob	3105406401	1.30
Black Compensating Gasket (Type K and SK Operators)	6509702001	2.60
Liner for Non-Illuminated Operators	6509704901	N/C
Locking Thrust Washer	6512231201	2.60
Nylon Spacer	6509705001	3.40
Locking Thrust Washer (Std. Type SK Operator)	6512240601	2.60
Push-Pull Mushroom Adapter▼	K54	N/C
Rubber Boot for Joystick	6512243201	4.80
Knob on Joysticks without latch	4458D20X3	8.60
Knob for SK Potentiometer	3105404408	7.10
Fingersafe Cover for 9001KM	6508804101	2.00

▼ Allows Type -20 and -21 mushroom color caps to be used on push-pull operators. Use of 9001K54 voids Type 6 rating.

Table 19.250: KU Replacement Ring Nuts
(Threaded Inside and Out)

Used On	Part Number	\$ Price
KU1 through KU8, KU27, KU37, KU47	3105204101	2.90
KU17, KU18	3105205901	7.10

Table 19.251: Interlock



For mechanically interlocking two push buttons so that only one button can be depressed at a time. A Type K3 attachment is furnished with the 9001 KR11, KR12, SKR11, SKR12, SKRU1 and SKRU11 operators. However, these are maintained operators and the K3 interlock serves to release one of the buttons when the other is depressed. When used with momentary contact buttons, the K3 interlock **does not** hold the buttons in the depressed position. It simply prevents pushing both buttons at the same time. The Type K3 interlock is mounted behind the operators. Operators not included.

Type	\$ Price
K3	19.10

Table 19.252: Screwdriver



Used to tighten mounting screws on contact blocks and light modules.

Type	\$ Price
K69	23.70

Table 19.253: Wrenches



K95



K1

Where Used	Type	\$ Price
For tightening ring nuts on 22 and 30 mm control units	K95	28.50
For protective cap kits	K1	47.60

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

The operators listed below come complete with color caps, legend inserts/plates, contact blocks, and light modules (illuminated operators only) and can be ordered using the short type number. If the operator you desire is not listed below, see pages 19-88 through 19-92. For a component breakdown of each of the operators listed on this page, refer to Product Data Bulletin M-603. UL Types 4, 4X, 13/NEMA 4, 4X, 13.

For use in hazardous locations—See page 19-79.

Table 19.254: Single Illuminated and Non-Illuminated Push Buttons

Description	Button Color	Legend Marking	Contacts	Type	\$ Price
	Green	Start		KXRA101	57.00
	Red	Stop		KXRA102	
	Green	Start		KXRA133	
	Red	Stop		KXRA134	
	Red Mushroom	Emerg. Stop		KXRN105	
Illuminated 110-120 V, 50-60 Hz Transformer	Green	Start		KXRB103	134.00
	Red	Stop		KXRB104	
	Red Mushroom	Emerg. Stop		KXRP106	

Table 19.255: Dual Push Buttons

Description	Top Button (#1)	Bottom Button (#2)	Contacts	Type	\$ Price
	Start (Green-Mom.)	Stop (Red-Mom.)		KXRC111	114.
	Start (Green-Mom.)	Stop (Red-Mom.)		KXRC136	86.
	Up (Green-Mom.)▲	Down (Green-Mom.)▲		KXRD112	119.
	Open (Green-Mom.)▲	Close (Green-Mom.)▲		KXRD113	119.
	Forward (Green-Mom.)▲	Reverse (Green-Mom.)▲		KXRD114	119.
	Up (Green-Mom.)▲	Down (Green-Mom.)▲		KXRD140	90.
	Open (Green-Mom.)▲	Close (Green-Mom.)▲		KXRD141	90.
	Forward (Green-Mom.)▲	Reverse (Green-Mom.)▲		KXRD142	90.
	Start (Green-Maint.)▲	Stop (Red-Maint.)▲		KXRE115	114.
	Reset (Green-Mom.)▲	Stop (Red-Maint.)▲		KXRF116	114.

Table 19.256: Dual Push Button With One Pilot Light

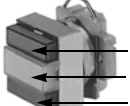
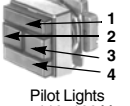
Description	Top Button (#1)	Middle Lens (#2)	Bottom Button (#3)	Contacts	Type	\$ Price
	Start (Green-Mom.)	On (Red)	Stop (Red-Mom.)		KXRG117	209.
	Start (Green-Mom.)	On (Red)	Stop (Red-Mom.)		KXRG137	180.
	Blank (Green-Mom.)▲	Blank (Red)	Blank (Green-Mom.)▲		KXRH118	219.
	Start (Green-Maint.)▲	On (Red)	Stop (Red-Maint.)▲		KXRJ119	219.
	Reset (Green-Mom.)▲	On (Red)	Stop (Red-Maint.)▲		KXRK120	171.

Table 19.257: Dual Push Button With Dual Pilot Lights

Description	Top Button (#1)	Left Lens (#2)	Right Lens (#3)	Bottom Button (#4)	Contacts	Type	\$ Price
	Start (Green-Mom.)	On (Red)	Off (Green)	Stop (Red-Mom.)		KXRL121	323.
	Number 1 (White-Mom.)	1 White	2 Blue	Number 2 (Blue-Mom.)		KXRL132	333.
	Start (Green-Mom.)	On (Red)	Off (Green)	Stop (Red-Mom.)		KXRL138	294.
	Blank (Green-Mom.)▲	Blank (Red)	Blank (Green)	Blank (Green-Mom.)▲		KXRM122	351.

▲ Buttons are mechanically interlocked

Table 19.258: Selector Switches

Non-Illuminated						
Description	Positions	Legend	Knob	Contacts	Type	\$ Price
	2-Maint.	Off-On	Black	1 0 0 1	KXSA125	66.
	2-Maint.	Off-On	Black	0 1	KXSA139	52.
	3-Maint.	Hand-Off-Auto.	Black	1 0 0 0 0 1	KXSD126	66.
	3-Maint.	Hand-Off-Auto.	Black	1 0 0 0 0 1 1 0 0 0 0 1	KXSD127	95.
Illuminated—110–120 V, 50–60 Hz, Transformer						
Description	Positions	Legend	Knob	Contacts	Type	\$ Price
	2-Maint.	Off-On	Red	1 0 0 1	KXSJ128	143.
	3-Maint.	Hand-Off-Auto.	Red	1 0 0 0 0 1	KXSM129	143.
	3-Maint.	Hand-Off-Auto.	Red	1 0 0 0 0 1 1 0 0 0 0 1	KXSM130	171.

Table 19.259: Single Pilot Light

Description		Lens Color	Legend Marking	Type	\$ Price	
110–120 V, 50–60 Hz Transformer		Standard	Red Green	On Off	KXPA107 KXPA108	105. 105.
		Push-To-Test	Red Green	On Off	KXTA109 KXTA110	134. 134.

Table 19.260: Dual Push-To-Test Pilot Light

(Pushing Button #1 Tests Pilot Light #2—Pushing Button #4 Tests Pilot Light #3)

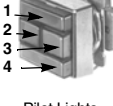
Description	Top Button (#1)	Left Lens (#2)	Right Lens (#3)	Bottom Button (#4)	Type	\$ Price
	Green Blank	Red Blank	Red Blank	Green Blank	KXTC123	312.

Table 19.261: Dual Pilot Light

Description	Left Lens (#1)	Right Lens (#2)	Type	\$ Price
	Red On	Green Off	KXPB124	191.

Table 19.262: Four-Field Pilot Light

Description	Top Left (#1)	Top Right (#2)	Bottom Left (#3)	Bottom Right (#4)	Type	\$ Price
	White Blank	Blue Blank	Green Blank	Red Blank	KXPC131	362.
	Remote Test ■ 120 Vac Resistor	White Blank	Blue Blank	Green Blank	KXTE150 ■	399.

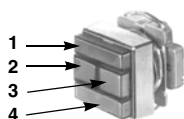
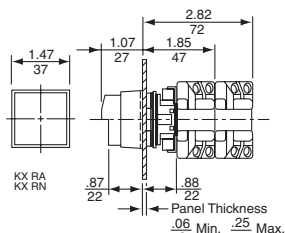
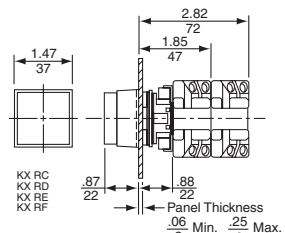
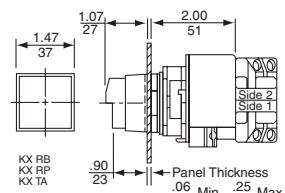
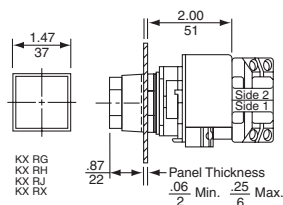
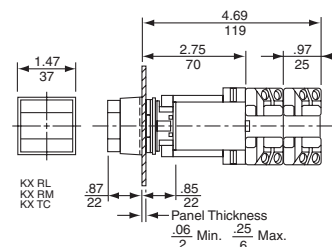
■ If all four lamps are illuminated at the same time continuously—do NOT operate above 120 Vac.

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number


 Single Button
 Momentary
 9001KXRA, KXRB

 Dual Push Button
 (Non-Illuminated Only)
 9001KXRC, KXRD, KXRE, KXRF

 Two Push Buttons (1 & 3)
 One Pilot Light (2)
 9001KXRG, KXRH, KXRJ, KXRK

 Two Push Buttons (1 & 4)
 Two Pilot Lights (2 & 3)
 9001KXRL, KXRM

 Single Push Button Operator
 Non-Illuminated

 Dual Push Button Operator
 Non-Illuminated

 Single Push Button Operator
 Illuminated

 Dual Push Button Operator
 Illuminated


Dual Lamp Push Button Operator

Push Button and Pilot Light Combinations—UL Types 4, 4X, 13/NEMA 4, 4X, 13

For use in hazardous locations—See page 19-79.

All illuminated push buttons are of the no guard type. To make them a full guard type (does not apply to the KXRN and KXRP operators), add a shroud from page 19-94. If legend inserts must be assembled into the operators, see instructions on page 19-93.

□ 9001		KX	1	2	3	4		
			(Lens Locations)					
Square Multifunction								
Single and Dual Push Button Codes							\$ Price	
Standard Single Momentary (Non-Illuminated)	RA						19.10	
Standard Single Momentary (Illuminated)△	RB						19.10	
Two Momentary (Non-Illuminated)	RC						38.00	
Two Momentary with Interlock (Non-Illuminated)	RD						42.80	
Two Maintained with Interlock (Non-Illuminated)	RE						66.00	
One Momentary/One Maintained with Interlock (Non-Illuminated)	RF						66.00	
Mushroom Single Momentary (Non-Illuminated)	RN						42.80	
Mushroom Single Momentary (Illuminated)△	RP						42.80	
Push Button and Pilot Light Combination Codes								
Two Momentary Push Buttons with No Interlock and a Single Pilot Light△	RG						47.60	
Two Momentary Push Buttons with Interlock and a Single Pilot Light△	RH						57.00	
Two Maintained Push Buttons with Interlock and a Single Pilot Light△	RJ						86.00	
One Momentary/One Maintained with Interlock and a Single Pilot Light△	RK						38.00	
Two Momentary Push Buttons with No Interlock and Dual Pilot Lights▼	RL						77.00	
Two Momentary Push Buttons with Interlock and Dual Pilot Lights▼	RM						105.00	
Illuminated Operators Only: Add Voltage Assembly Code ▲								
Non-Illuminated Operators							N/C	
Color Codes ■★								
(Choose one lens color per lens location)								
Leave blank if location does not exist or no lens is required.								
Amber	A	1	1 2	KXRA, KXRB KXRC, KXRD KXRN, KXRP KXRE, KXRF				6.60
Green	G	1 2	1 2 3	KXRG, KXRIH KXRL				6.60
Blue	L	3	4	KXRJ, KXRK KXRM				6.60
Red	R							6.60
White	W							6.60
No lens color or no location	Blank							N/C
“H” Code Contact Block Assembled to Operator							◆	
No Contact Blocks							Blank N/C	

- ▲ Choose voltage assembly code from page 19-77. Price based on light module chosen.
- For LEDs, match lens color with lamp color (green, red, yellow) or use a white lens. **Note:** Yellow = Amber
- ◆ Select from "H" code table on page 19-80. Price based on total contact blocks.
- ★ Lens for Types KXRN and KXRP are **\$11.40**
- ▼ Choose voltage assembly code from page 19-92. Price based on light module chosen.
- △ Choose voltage assembly code from page 19-77. Price based on light module chosen.
- For complete operators, see page 19-87. If the desired operator is not listed, then use this table to develop a catalog number.

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

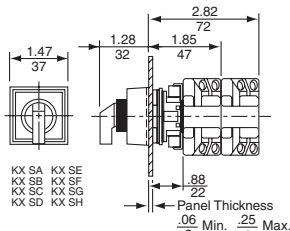
 Dual Dimensions: **INCHES**
MILLIMETERS



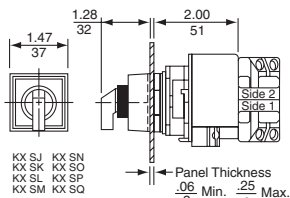
9001KXS

Non-Illuminated and Illuminated 2 Position Selector Switch Operators— UL Types 4, 4X, 13/NEMA 4, 4X, 13

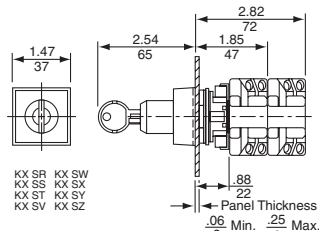
For use in hazardous locations—See page 19-79.
Legend plate and contact block not included unless noted.



Selector Switch Operator
Non-Illuminated

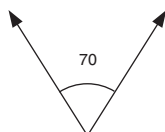


Selector Switch Operator Illuminated



Key Operator Selector Switch

Dual Dimensions: **INCHES**
Millimeters



2 Position

★ 9001 KX			
Square Multifunction			
Selector Switch Codes			\$ Price
Maintained (Non-Illuminated) △	SA		24.20
Spring Return from Left to Right (Non-Illuminated)	SB		43.20
Spring Return from Right to Left (Non-Illuminated) △	SC		43.20
Maintained (Illuminated)	SJ		24.20
Spring Return from Left to Right (Illuminated)	SK		43.20
Spring Return from Right to Left (Illuminated) △	SL		43.20
Key Operated—Maintained △	SR		89.00
Key Operated—Spring Return from Left to Right	SS		107.00
Key Operated—Spring Return from Right to Left △	ST		107.00
Cam Codes			
(Choose one based on contact closure sequence, refer to page 19-64)			
1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1			
E D			4.20
Illuminated Operator Only: Add Voltage Assembly Code ▲			
Non-Illuminated Operators or Keyed		Blank	N/C
Key Withdrawal Codes (Keyed Operators Only)			
(Choose one code)			
1 Yes No 2 No Yes 3 Yes Yes			
Color Codes ■			
Amber		A	6.60
Black (Non-Illuminated only)		B	6.60
Green		G	6.60
Blue		L	6.60
Red		R	6.60
White		W	6.60
No Color, Keyed, or Two Color Knob		Blank	N/C
"H" Code Contact Block Assembled to Operator			
No Contact Blocks		Blank	N/C
Two Color Selector Switch Knob ▼			
Standard		Y178	28.50
Non-Illuminated, Keyed or Not Desired		Blank	N/C

- ▲ Choose voltage assembly code from page 19-77. Price based on light module chosen.
- For LEDs, match lens color with lamp color (green, red, yellow) or use a clear lens. **Note:** Yellow = Amber
- ◆ Select from "H" code table on page 19-80. Maximum contact block usage: 2 blocks mounted in tandem (4 blocks total). Price based on total contact blocks.
- ★ For complete operators, see page 19-87. If the desired operator is not listed, then use this table to develop a catalog number.
- ▼ Two color knobs are used to indicate red in the left position and green in the right position on illuminated operators. **Do not add knob color code when using Form Y178.**
- △ E Cam Only.

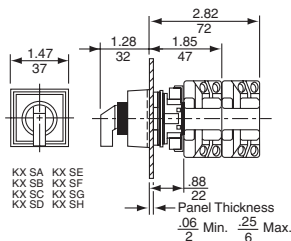
Boots	page 19-94
Contact Blocks and Ratings	page 19-78 to 19-79
"H" Contact Block Assembly Codes	page 19-80
Legend Inserts	page 19-93
Lockouts	page 19-94
Legend Plates	page 19-93
Replacement Parts	page 19-94
Cams	page 19-84

When ordering, please specify:

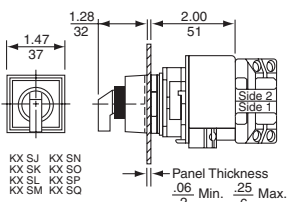
- Quantity
- Class Number
- Type or Catalog Number



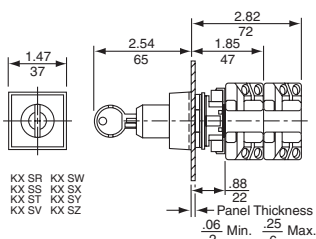
9001KXS



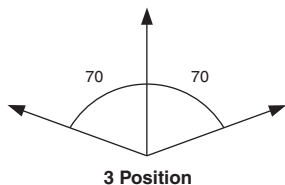
Selector Switch Operator
Non-Illuminated



Selector Switch Operator
Illuminated



Key Operator Selector Switch

Dual Dimensions: **INCHES**
Millimeters

Type KX Square Multifunction Selector Switches

Class 9001 / Refer to Catalog 9001CT0001

Non-Illuminated and Illuminated 3 Position Selector Switch Operators – UL Types 4, 4X, 13/NEMA 4, 4X, 13

For use in hazardous locations—See page 19-79. Legend plate and contact block not included unless noted.

[illegible]

- ▲ Not available in illuminated switches.
 - Choose voltage assembly code from page 19-77. For **neon** LED light modules, use **clear** knob color only. For **LED** light modules, use a knob color that matches the color of the LED (for example, a red LED uses a red knob) or use clear. Price based on light module chosen.
 - ◆ Select from "H" number table on page 19-80. Maximum contact block usage: 2 blocks mounted in tandem (4 blocks total). Price based on total contact blocks.
 - ★ Two color knobs are used to indicate red in the left position and green in the right position on illuminated operators.
- Note: **Do not add a knob color code when using Form Y178.**
- ▼ For complete operators, see page 19-85. If the desired operator is not listed, then use this table to develop a catalog number.

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number



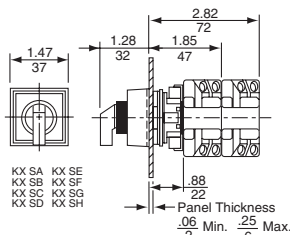
9001KXS

Non-Illuminated and Illuminated 4 Position Selector Switch Operators

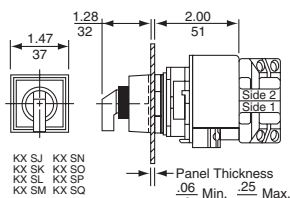
For use in hazardous locations—See page 19-79.

UL Types 4, 4X, 13/NEMA 4, 4X, 13

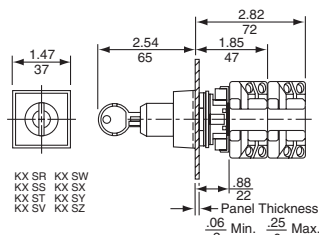
Legend plate and contact block not included unless noted.



**Selector Switch Operator
Non-Illuminated**

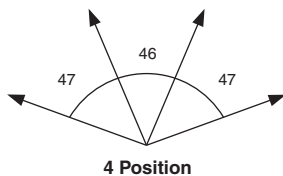


**Selector Switch Operator
Illuminated**



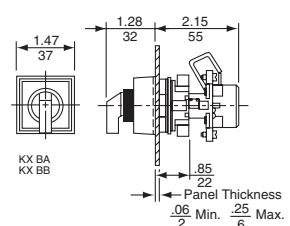
Key Operator Selector Switch

◆ 9001 KX																													
Square Multifunction																													
Selector Switch Codes				\$ Price																									
Maintained (Non-Illuminated)	SH				24.20																								
Maintained (Illuminated)	SQ				24.20																								
Key Operated—Maintained	SZ				89.00																								
Cam Codes (Only H Cam is available, refer to page 19-84)				H	4.20																								
Voltage Assembly or Key Withdrawal Code																													
Illuminated Operator: Add Voltage Assembly Code																													
Non-Illuminated Operators				Blank	N/C																								
Key Withdrawal Codes																													
(Keyed Operators only; choose one code)																													
<table border="1"> <tr> <td>Yes</td><td>No</td><td>No</td><td>Yes</td> <td>11</td><td>N/C</td> </tr> <tr> <td>No</td><td>No</td><td>No</td><td>Yes</td> <td>12</td><td>N/C</td> </tr> <tr> <td>Yes</td><td>No</td><td>No</td><td>No</td> <td>13</td><td>N/C</td> </tr> <tr> <td>Yes</td><td>Yes</td><td>Yes</td><td>Yes</td> <td>14</td><td>N/C</td> </tr> </table>				Yes	No	No	Yes	11	N/C	No	No	No	Yes	12	N/C	Yes	No	No	No	13	N/C	Yes	Yes	Yes	Yes	14	N/C		
Yes	No	No	Yes	11	N/C																								
No	No	No	Yes	12	N/C																								
Yes	No	No	No	13	N/C																								
Yes	Yes	Yes	Yes	14	N/C																								
Knob Color Codes																													
Amber				A	6.60																								
Black ★				B	6.60																								
Green				G	6.60																								
Blue				L	6.60																								
Red				R	6.60																								
White				W	6.60																								
No Color or Keyed				Blank	N/C																								
"H" Suffix Number for Contact Blocks																													
No Contact Blocks				Blank	N/C																								

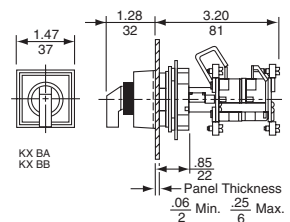


- ▲ Choose voltage assembly code from page 19-77. For **neon** light modules, use **clear** knob color only. For **LED** light modules, use a knob color that matches the color of the LED (for example, a red LED uses a red knob) or use clear. Price based on light module chosen.
- Select from "H" number table on page 19-80. Maximum contact block usage: 2 blocks mounted in tandem (4 blocks total). Price based on total contact blocks.
- ◆ For complete operators, see page 19-85. If the desired operator is not listed, then use this table to develop a catalog number.
- ★ Not available in illuminated switches.

Table 19.263: Potentiometer (With Dial Plate) ▲□ (Not UL Listed)



Single Pot Potentiometer Operator



Double Pot Potentiometer Operator

	Watts	Description	Type	\$ Price
	2	Operator only—Single Pot	KXBA	134.
		Operator with Single Pot	KXBB▼	191.
		Operator only—Tandem Pot	KXBC	209.
		Operator with Tandem Pot	KXBD▼	266.
▼ For complete Type number add suffix number from table below. Example: Type KXBB05				

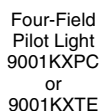
Suffix▼	Ohms	Suffix▼	Ohms	Suffix▼	Ohms	Suffix▼	Tandem Pots Ohms	
							Front	Rear
01	50	07	5 K	12	250 k	82	1000	1000
02	100	08	10 K	13	500 k	83	5000	5000
38	200	40	15 K	37	750 k	85	10 K	10 K
03	250	09	25 K	14	1.1 M	88	50 K	50 K
04	500	35	35 K	15	2.2 M	89	100 K	100 K
05	1000	10	50 K	16	5.0 M			
32	1500	36	75 K					
39	2000	11	100 K					
06	3200							
33	3500							

- ▲ Dial Plate only—Order Class 9001 Type KXN905. Price **\$2.90**.
- Uses same potentiometer as Class 9001 Type K and SK.

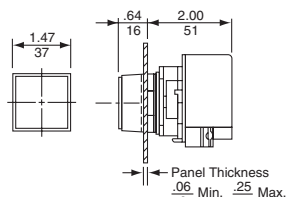
Dual Dimensions: **INCHES**
Millimeters

When ordering, please specify:

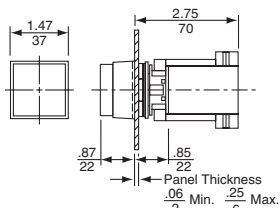
- Quantity
- Class Number
- Type or Catalog Number



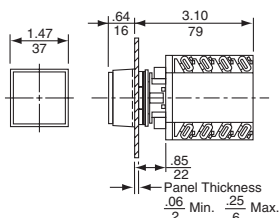
For use in hazardous locations—See page 19-79.



Single Pilot Light



Dual Lamp Pilot Light



Four Lamp Pilot Light

Dual Dimensions: **INCHES**
Millimeters

▼ 9001		KX	1 2 3 4					
Square Multifunction			(Lens Location)					
Pilot Light Codes								\$ Price
	Standard Single ★	PA						19.10
	Standard Dual△	PB						25.60
	Standard Four-Field△	PC						50.00
	Single Push-To-Test ♦ ★	TA						47.60
	Single Remote Test ▲ ♦ ★	TB						66.00
	Dual Push-To-Test ♦ △	TC						134.00
	Dual Remote Test ▲ ♦ △	TD						83.00
	Four-Field Remote Test ♦ △	TE						49.50
Voltage Assembly Code			■					
Color Codes								
Choose one lens color per location.								
Leave blank if location does not exist or no lens is required.□								
Amber	A	1	1	2	♦			6.60
Green	G	KXPA KXTA KXTB	KXPB KXTD					6.60
Blue	L							6.60
Red	R							6.60
White	W	1 2 3 4	1 2	3 4	★	♦		6.60
No Color or No Location	Blank	KXTC	KXPC KXTE					N/C
Contact Block (Push-To-Test Operators Only)							H1 (KXTA) H2 (KXTC)	N/C N/C

- ▲ Use only full voltage or resistor light modules (**AC only**) on remote test pilot lights. Do not use LED, neon, or transformer.
- ◆ Choose voltage assembly code from page 19-77. Price based on light module chosen.
- ◆ Push-to-test pilot lights are preassembled with Type KA1 (1 N.O./1N.C.) contact blocks. Jumpers for each button and remote test pilot lights are preassembled with one dummy contact block and diodes. No base operators available.
- ★ Choose voltage assembly codes from page 19-77. Price based on light module chosen.
- ▼ For complete operators, see page 19-85. If the desired operator is not listed, then use this table to develop a catalog number.
- Choose voltage assembly code from table below for the appropriate operator.
- Add the color codes from the button cover table. **Example:** KXPB1●● with a white and blue button cover = KXPB1WL.
- ◇ One **\$6.60** list price will cover both lens locations for KXPB and KXTD and all four lenses for KPXC and KXTE.
- ☆ Each lens location on the KXTC requires a **\$6.60** list price adder.

Voltage	Description	For use with Dual or Four Lamp Operators As Indicated	Assembly Code Δ	Separate Light Module Type	\$ Price	Rated VA/W	Lamp Number (ANSI)	Lamp Part Number	\$ Price
6 Vac/dc	Full Voltage	KXPB, KXRL KXRM, KXTC	31	KXAKM231	114.	0.9	6PSB	2550105007	
12 Vac/dc	Resistor		32	KXAKM232	114.	2.0	12PSB	2550105003	
24 Vac/dc	Full Voltage		34	KXAKM234	114.	1.8	24PSB	2550105004	
28 Vac/dc	Full Voltage		35	KXAKM235	114.	1.2	28PSB	2550105008	
48 Vac/dc	Resistor		36	KXAKM236	114.	2.6	48PSB	2550105009	
60 Vac/dc	Resistor		37	KXAKM237	114.	3.0	60PSB	2550105010	
110–120 V, 50–60 Hz	Transformer		31	KXAKM21	152.	2.4	6PSB	2550105007	
120 Vac/dc	Resistor		38	KXAKM238	114.	3.0	120PSB	2550105005	
208–220 V, 50–60 Hz	Transformer		3	KXAKM23	152.	2.4	6PSB	2550105007	
220–240 V, 50–60 Hz	Transformer		7	KXAKM27	152.	2.4	6PSB	2550105007	
277 V, 50–60 Hz	Transformer		8	KXAKM28	152.	2.4	6PSB	2550105007	
380–480 V, 50–60 Hz	Transformer		5	KXAKM25	152.	2.4	6PSB	2550105007	
550–600 V, 50–60 Hz	Transformer	6	KXAKM26	152.	2.4	6PSB	2550105007		
6 Vac	Full Voltage	KXTD	31	KXAKM231	114.	0.9	6PSB	2550105007	11.00
12 Vac	Resistor		32	KXAKM232		2.0	12PSB	2550105003	
24 Vac	Full Voltage		34	KXAKM234		1.8	24PSB	2550105004	
28 Vac	Full Voltage		35	KXAKM235		1.2	28PSB	2550105008	
48 Vac	Resistor		36	KXAKM236		2.6	48PSB	2550105009	
60 Vac	Resistor		37	KXAKM237		3.0	60PSB	2550105010	
120 Vac	Resistor		38	KXAKM238		3.0	120PSB	2550105005	
6 Vac/dc	Full Voltage	KXPC	31	KXAKM431	228.	0.9	6PSB	2550105007	
12 Vac/dc	Resistor		32	KXAKM432	228.	2.0	12PSB	2550105003	
24 Vac/dc	Resistor		34	KXAKM434	228.	1.8	24PSB	2550105004	
28 Vac/dc	Resistor		35	KXAKM435	228.	1.2	28PSB	2550105008	
48 Vac/dc	Resistor		36	KXAKM436	228.	2.6	48PSB	2550105009	
60 Vac/dc	Resistor		37	KXAKM437	228.	3.0	60PSB	2550105010	
110–120 V, 50–60 Hz	Transformer		1	KXAKM41	311.	2.4	6PSB	2550105007	
120 Vac/dc	Resistor	38	KXAKM438	228.	3.0	120PSB	2550105005		
6 Vac/dc	Full Voltage	KXTE	31	KXAKMR431	342.	0.9	6PSB	2550105007	
24 Vac/dc	Resistor		34	KXAKMR434		1.8	24PSB	2550105004	
28 Vac/dc	Resistor		35	KXAKMR435		1.2	28PSB	2550105008	
120 Vac/dc	Resistor		38	KXAKMR438		3.0	120PSB	2550105005	

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Lockout page 19-94

Lamp and Lens Removal Kit page 19-94

Shroud page 19-94

Enclosures, use Class 9001 Type KYAF or KYSS page 19-102

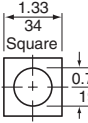
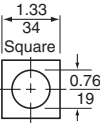
Contact Blocks and Ratings	page 19-78, 19-79
Light Modules	page 19-77
Legend Inserts	page 19-93
"H" Contact Block Assembly Codes	page 19-80
Boots	page 19-94

Table 19.264: Legend Plates for Push Buttons or Pilot Lights

Used On					
A	B	C	D	E	F
C (vertical)					
A	B	C	D	E	F
KXRA, KXRB, KXRN, KXRP, KXPA, KXPC, KXTA, KXTB, KXTB	KXRC, KXRD, KXRE, KXRF	KXPB, KXTD	KXRG, KXRH, KXRJ, KXRM, KXRC	KXRL, KXRM, KXTC	
Marking					
Blank	KXN100	KXN200	KXN200	KXN300	KXN400
Start	KXN101	KXN201	KXN201V	KXN301	KXN401
Stop	KXN102	KXN202	KXN202V	KXN302	KXN402
On	KXN103	KXN203	KXN203V	KXN303	KXN403
Off	KXN104	KXN204	KXN204V	KXN304	KXN404
Emerg. Stop	KXN105	KXN205	KXN205V	KXN305	KXN405
Forward	KXN106	KXN206	KXN206V	KXN306	KXN406
Reverse	KXN107	KXN207	KXN207V	KXN307	KXN407
Close	KXN108	KXN208	KXN208V	KXN308	KXN408
Open	KXN109	KXN209	KXN209V	KXN309	KXN409
Down	KXN110	KXN210	KXN210V	KXN310	KXN410
Up	KXN111	KXN211	KXN211V	KXN311	KXN411
Jog	KXN118	KXN218	KXN218V	KXN318	KXN418
Reset	KXN123	KXN223	KXN223V	KXN323	KXN423
Run	KXN124	KXN224	KXN224V	KXN324	KXN424
Cycle Start	KXN132	KXN232	KXN232V	KXN332	KXN432
Motor Run	KXN136	KXN236	KXN236V	KXN336	KXN436
Power On	KXN138	KXN238	KXN238V	KXN338	KXN438
Special-Marking	KXN199	KXN299	KXN299V	KXN399	KXN499

- ▲ These legend inserts are for the pilot lights in the center of the operator.
■ These legend inserts are for the push button portion of the operator.
♦ These legend inserts have vertical printing.

Table 19.265: Legend Plates for Selector Switches

		Used On		\$ Price
				
Marking		KXSA, KXSB, KXSC, KXSD, KXSE, KXSF, KXSG, KXSH, KXSJ, KXSK, KXSL, KXSM, KXSN, KXSO, KXSP, KXSQ	KXSR, KXSS, KXST, KXSV, KXSW, KXSX, KXSY, KXSZ	
Blank		KXN600	KXN700	2.90
For.-Rev.		KXN639	KXN739	
Hand-Auto		KXN640	KXN740	
Man-Auto		KXN643	KXN743	
Off-On		KXN644	KXN744	
On-Off		KXN645	KXN745	
Open-Close		KXN646	KXN746	
Start-Stop		KXN651	KXN751	
Auto-Off-Hand		KXN658	KXN758	
Hand-Off-Auto		KXN660	KXN760	
Man-Off-Auto		KXN662	KXN762	
Special Marking		KXN699	KXN799	

Dual Dimensions: **INCHES**
Millimeters

KXN100 (Pos. 1)	KXN200 (Pos. 1)	KXN400 (Pos. 1)	KXN400 (Pos. 1)	KXN-500 (Pos. 1)	KXN-500 (Pos. 2)	KXN-500 (Pos. 3)	KXN-500 (Pos. 4)	KXN-500 (Pos. 1)	KXN-500 (Pos. 2)
KXRA, KXRB KXRN, KXRP KXPA, KXPC KXTA, KXTB	KXRC, KXRD KXRE, KXRF	KXRG, KXRH KXRJ, KXRK	KXRL, KXRM KXTC	KXN-500 (Pos. 1)	KXN-500 (Pos. 2)	KXN-500 (Pos. 3)	KXN-500 (Pos. 4)	KXN-500 (Pos. 1)	KXN-500 (Pos. 2)

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Table 19.266: Letter Height For Standard Legends

	in.	mm
KXN100	1/4	6
KXN200	3/16	4.75
KXN300	3/16	4.75
KXN400	3/16	4.75
KXN500	3/16	4.75
KXN600	1/8	3
KXN700	1/8	3

Table 19.267: Maximum Number of Lines and Characters For Type KXN Legend Inserts

Letter Height	Number of ...	KXN199	KXN299 Horizontal	KXN299 Vertical	KXN399	KXN499	KXN599
in.	mm						
1/4	6	Characters per Line	7	7	3	7	3
		Lines per Legend Insert	4	2	4	1	1
3/16	4.75	Characters per Line	9	9	4	9	4
		Lines per Legend Insert	5	2	6	2	2
1/8	3	Characters per Line	14	14	5	14	6
		Lines per Legend Insert	8	4	9	3	3

Table 19.268: Maximum Number of Lines and Characters for Type KXN699 and KXN799 Legend Plates

Position	Letter Height		Characters Per Marking Area	
	in.	mm	A and C	B
	3/16	4.75	6	6
	1/8	3	8	9
	3/16	4.75	10	5
	1/8	3	13	7

All Type KX push buttons and pilot lights have a blank insert as standard. These blank inserts can be custom marked using a marking pen, a mechanical lettering set, press letters, or a tape lettering machine that marks a tape which can then be transferred to the blank insert.

To have legend inserts installed into the operators, order the operator as normal and then indicate where to install the legend inserts using the numbered positions shown on the operator ordered.

Example:
9001KXRL1GRGRH2 with a
9001KXN 401 in position 1
9001KXN 503 in position 2
9001KXN 504 in position 3
9001KXN 402 in position 4

Table 19.269: Lockout for Push Buttons

	Used On	Type	\$ Price
Holds button in depressed position	KXRA-KXRC KXRD-KXRE KXRF-KXRG KXRJ-KXRK KXRL-KXRM KXRH-KXRB	KXAK4	28.50

Table 19.270: Closing Plate

	Type	\$ Price
UL Types 4, 13/NEMA 4, 13 Square Closing Plate (Chrome Plated) Same size as KX bezel	KXAK52	9.50

Table 19.271: Boot for Push Buttons and Pilot Lights

	Used On	Type	\$ Price
Transparent boot used to exclude harmful contaminants	All KX Push Buttons and Pilot Lights	KXAKU7	19.10

Table 19.272: Boot For Selector Switches

Description	Used On	Knob Color	Type	\$ Price
Transparent boot with knob used on selector switches to exclude harmful contaminants	All KX selector switches and potentiometer operators (except key operated)	Black Red Green	KXAKU17B KXAKU17R KXAKU17G	28.50

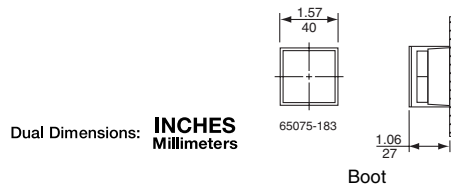


Table 19.273: Shrouds (used to color code Type KX operators)

Type	Used On	Color	Type	\$ Price
65075-183	All Push Buttons and Pilot Lights	Gray Red Green Yellow Black Blue	KXAK41E KXAK41R KXAK41G KXAK41Y KXAK41B KXAK41L	4.80
65075-183	Any KX Operator	Gray Red Green Yellow Black Blue	KXAK40E KXAK40R KXAK40G KXAK40Y KXAK40B KXAK40L	4.80

Table 19.274: Other Accessories

Description	Type	\$ Price
Liner	6508900401	N/C
Mounting Collar	6508903351	11.60
Mounting Ring Nut	6508901401	4.00

Table 19.275: Lamp and Lens Removal Kit

	Type	\$ Price
Used to remove lamp and lens on all illuminated operators and pilot lights.	KXALLRT	14.30

Table 19.276: Button Covers

Description	For Use on	Color	Type	Code	\$ Price
Includes 2-KXN200	KXPB KXTD	Red Green Amber Blue White	KXAC28▲ KXAC28▲ KXAC28▲ KXAC28▲ KXAC28▲	R■ G■ A■ L■ W■	6.60
Includes KXN400	KXTC (Position 1 & 4)	Red Green Amber Blue White	KXAR4 KXAG4 KXAA4 KXAL4 KXAW4	R G A L W	6.60
Includes KXN500	KXTC (Position 2 & 3)	Red Green Amber Blue White	KXAR5 KXAG5 KXAA5 KXAL5 KXAW5	R G A L W	6.60
Includes 1-KXN100	KXPC	Red Green Amber Blue White	KXAC48◆ KXAC48◆ KXAC48◆ KXAC48◆ KXAC48◆	R★ G★ A★ L★ W★	6.60
Includes KXN100	KXRA KXRB	Red Green Amber Blue White	KXAR1 KXAG1 KXAA1 KXAL1 KXAW1	R G A L W	6.60
Includes KXN100	KXRN KXRP	Red Green Amber Blue White	KXARM1 KXAGM1 KXAAM1 KXALM1 KXAWM1	R G A L W	11.40
Includes KXN200	KXRC KXRD KXRE KXRF	Red Green Amber Blue White	KXAR2 KXAG2 KXAA2 KXAL2 KXAW2	R G A L W	6.60
Includes KXN300	KXRG (Position 2) KXRH (Position 2) KXRJ (Position 2) KXRK (Position 2)	Red Green Amber Blue White	KXAR3 KXAG3 KXAA3 KXAL3 KXAW3	R G A L W	6.60
Includes KXN400	KXRG (Position 1 & 3) KXRH (Position 1 & 3) KXRJ (Position 1 & 3) KXRK (Position 1 & 3) KXRL (Position 1 & 4) KXRM (Position 1 & 4)	Red Green Amber Blue White	KXAR4 KXAG4 KXAA4 KXAL4 KXAW4	R G A L W	6.60
Includes KXN500	KXRL (Position 2 & 3) KXRM (Position 2 & 3)	Red Green Amber Blue White	KXAR5 KXAG5 KXAA5 KXAL5 KXAW5	R G A L W	6.60
Includes KXN100	KXPA	Red Green Amber Blue White	KXAR8 KXAG8 KXAA8 KXAL8 KXAW8	R G A L W	6.60
Includes KXN100	KXTA KXTB	Red Green Amber Blue White	KXAR1 KXAG1 KXAA1 KXAL1 KXAW1	R G A L W	6.60

- ▲ Each KXAC28 includes a clear cover and 1 each of all colors. If the same color is required for position #1 and #2 of the KXPB operator, order 2 of Type KXAC28.
- When specifying color codes—the first will be installed in #1 and the second in #2. The price for BOTH color codes is \$6.60.
- ◆ Each KXAC48 includes a clear cover and 1 each of all colors. If the same color is required for position #1 and #2 of the KXPC operator, order 2 of Type KXAC48.
- ★ When specifying color codes—the first will be installed in #1, the second in #2, the third in #3 and the fourth in #4. The price for ALL FOUR color codes is \$6.60.
- ▼ Two required per operator. When ordering an assembled operator—specify two code numbers. The first code will be assembled into #1 and the second code will be assembled into #2.

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Table 19.277: Environment

Degree of protection	Conforming to IEC 529	IP65, unless otherwise stated IP66, for bootied push button heads
	Conforming to UL 50, CSA C22.2 No. 94	Type 1, 4X, 12, and 13, unless otherwise stated
Conforming to standards	CE Marked	IEC 947-1, IEC/EN 60947-5-1, IEC 947-5-4, EN 60947-1, JIS C 4520, UL 508, CSA C22.2 No. 14
Product certifications	UL Listed, CSA File E164353 CCN NKCR File LR 44087 Class 3211 03	Standard single contacts with screw clamp terminals: A600; R300 Light blocks with screw clamp terminals

Table 19.278: Contact Block Characteristics

Electrical Characteristics		
Cabling capacity	Conforming to IEC 947-1	Screw and captive clamp terminals Min.: 1 x 24 AWG (0.22 mm ²) without cable end 1 x 22 AWG (0.34 mm ²) for linking Max.: 2 x 16 AWG (1.5 mm ²) with cable end Cross headed screw (POZIDRIV type 1) slotted for flat 4 and 5.5 mm screwdriver
Rated operational characteristics Conforming to IEC/EN 60947-5-1	AC supply: Utilization category AC-15 DC supply: Utilization category DC-13	A600: Ue = 600 Vac and le = 1.2 A, or Ue = 240 Vac and le = 3 A, or Ue = 120 Vac and le = 6 A. Continuous thermal current = 10 A. R300: Ue = 250 Vdc and le = 0.1 A, or Ue = 125 Vdc and le = 0.22 A
Voltage limits of PROTECTED LED®	Nominal voltage	24 V: 19.2 to 30 Vdc; 21.6 to 24.6 Vac 120 V: 102 to 132 Vac 240 V: 195 to 264 Vac
Current consumption of PROTECTED LED	Applicable to all colors	24 Vac/dc supply blocks: 18 mA 120 Vac supply blocks: 14 mA 240 Vac supply blocks: 14 mA

Table 19.279: Start or Stop Function

Polycarbonate; Light gray base, RAL7035; Dark gray lid, RAL7016

Description	Type of Push	Type of Contact		Marking	Catalog Number	\$ Price
		N.O.	N.C.			
Marking on Legend Holder						
1 momentary push button	Flush black	1	—	Start	XALD101	66.00
	Flush red	—	1	Stop	XALD111	66.00
Marking on Legend Holder						
1 mushroom head push button Ø 40 mm, momentary	Red	—	1	Emergency stop on red legend	XALD164	76.00

Table 19.280: Emergency Stop Function

Polycarbonate; Light gray base, RAL7035; Yellow lid, RAL1012

Description	Type	Type of Contact		Catalog Number	\$ Price
		N.O.	N.C.		
1 mushroom head push button Ø 40 mm, red Turn-to-release	Standard	—	1	XALK174	106.00
	Trigger action	—	1	XALK178	134.00
1 mushroom head push button Ø 40 mm, red Key release (Key No. 455)	Standard	—	1	XALK184	134.00
	Trigger action	—	1	XALK188	134.00
1 mushroom head push button Ø 40 mm, red Push-pull	Standard	—	1	XALK194	90.00

Table 19.281: Start-Stop Function

Polycarbonate; Light gray base, RAL7035; Dark gray lid, RAL7016

Description	Type of Push	Type of Contact		Text	Catalog Number	\$ Price
		N.O.	N.C.			
2 momentary push buttons	1 flush black	1	—	Start	XALD211	66.00
	1 flush red	—	1	Stop		
	1 flush black	1	—	Forward	XALD221	66.00
	1 flush black	1	—	Reverse		

Table 19.282: Three Function

Polycarbonate; Light gray base, RAL7035; Dark gray lid, RAL7016

Description	Type of Push	Type of Contact		Text	Catalog Number	\$ Price
		N.O.	N.C.			
3 momentary push buttons	1 flush black 1 flush red 1 flush black	1	—	Open	XALD341	130.00
		—	1	Stop		
		1	—	Close		
		1	—	Forward	XALD311	130.00
		—	1	Stop		
		1	—	Reverse		
		1	—	Up	XALD321	130.00
		—	1	Stop		
		1	—	Down		

When ordering, please specify:

- Quantity
- Type or Catalog Number



XALD101



XALK174



XALD211



XALD321



XALD02

Table 19.283: Empty Enclosures ▲

Polycarbonate

Description	Number of Holes	Catalog Number	\$ Price
For normal environments, CSA approved and UL Listed (with stainless steel lid mounting screws)			
Light gray base RAL7035 Dark gray lid RAL7016	1	XALD01	32.80
	2	XALD02	38.20
	3	XALD03	49.00
	4	XALD04	71.00
	5	XALD05	87.00
Light gray base RAL7035 Yellow lid RAL1012	1	XALK01	35.40

Table 19.284: Electrical Block and Accessories (for mounting on metal plate at back of enclosure) ▲

Description	Type	Color	Catalog Number	\$ Price
Electrical blocks with screw clamp terminal connections				
Standard contact blocks ▲	N.O. contact	—	ZENL1111	16.60
	N.C. contact	—	ZENL1121	16.40
Light blocks with Protected LED	24 Vac/dc	White	ZALVB1	52.00
		Green	ZALVB3	
		Red	ZALVB4	
		Yellow	ZALVB5	
		Blue	ZALVB6	
		Blue	ZALVB6	
	120 Vac	White	ZALVG1	52.00
		Green	ZALVG3	
		Red	ZALVG4	
		Yellow	ZALVG5	
		Blue	ZALVG6	
		Blue	ZALVG6	
	230 Vac	White	ZALVM1	52.00
		Green	ZALVM3	
		Red	ZALVM4	
		Yellow	ZALVM5	
		Blue	ZALVM6	
		Blue	ZALVM6	



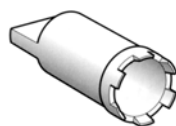
ZENL1111



ZALV**



ZB5SZ3



ZB5AZ905

Table 19.285: Accessories for electrical blocks

Description	Application	Catalog Number	\$ Price
Blanking plug	Ø 22 mm units	ZB5SZ3	11.00
Nut	Head mounting	ZB5AZ901	4.40
Grounding terminal	Grounding	XALZ09	5.40
Key	For tightening nut	ZB5AZ905	12.40

▲ For customer assembly using XB5 operators, see Push Buttons—ZB5 22 mm starting on page 19-38.

When ordering,
please specify:

- Quantity
- Type or Catalog Number

Table 19.286: Specifications

Glass-reinforced polyester insulated enclosures XAPA	
Material	Glass-reinforced polyester
Approvals	Special version: CSA Type 4 and 5 (undrilled version)
Protective treatment	Standard version: "TC" and "TH" treatments
Ambient temperature	Operation: -25 °C to +70 °C (-13 °F to +158 °F) Storage: -40 °C to +70 °C (-40 °F to +158 °F)
Degree of protection	IP65 conforming to IEC 529 and IP657 conforming to NF C 20-010, Type 4, 4X, 12
Electric shock protection	Class II conforming to IEC 536 and NF C 20-030
Flame resistance	CSTB: M3, NF C 20-455: 850°C; IEC 92: 960 °C; UL 94: VO
Chemical resistance	High degree of resistance to acids, bases, sea water, mineral salts, all solvents, petrol, diesel, oils and greases
Cable entry	Undrilled
Die Cast metal enclosures XAPG	
Material	Zinc alloy (XAPG1-XAPG4), Aluminum (XAPG5)
Approvals	Special version: CSA Type 4 and 5 (undrilled version); UL Type 1, 2, 4, and 12; Standard CSA Type 1, 4, 4X, and 12
Protective treatment	Standard version: "TC" treatment. Special version: "TH" treatment
Ambient temperature	Operation: -25 °C to +70 °C (-13 °F to +158 °F) Storage: -40 °C to +70 °C (-40 °F to +158 °F)
Degree of protection	IP65 conforming to IEC 529 and IP657 conforming to NF C 20-010, UL Type 4, 12
Electric shock protection	Class I conforming to IEC 536 and NF C 20-030
Chemical resistance	Special treatments on request
Cable entry	Tapped entries for cable glands
Flush mount enclosures XAPE	
Material and color	Anodized aluminum front plate. Insulated protective rear cover
Protective treatment	Standard version: "TC" and "TH" treatments
Ambient temperature	Operation: -25 °C to +70 °C (-13 °F to +158 °F) Storage: -40 °C to +70 °C (-40 °F to +158 °F)
Degree of protection	IP65 conforming to IEC 529 and IP657 conforming to NF C 20-010, CSA Type 1, 4, 4X, and 12
Electric shock protection	Class I conforming to IEC 536 and NF C 20-030
Chemical resistance	High degree of resistance to organic acids, diluted mineral acids, salts, alcohol, acetone, chloride and fluoride solvents, oils and petrol
Cable entry	With rear cover: knock-out cable entries



File E164353
CCN NKCR
(XAPG only)



File LR 44087
Class 3211 03



Marked

Table 19.287: Undrilled Enclosures, Glass-Reinforced Polyester

Type		H x W Dimensions		Catalog Number	\$ Price
		IN	mm		
NEMA 4, 4X, 13 Usable depth 3.27 in. (83 mm)	Without hinges	3.34 x 5.75	85 x 146	XAPA1100	110.00
		3.34 x 8.90	85 x 226	XAPA2100	180.00
		5.95 x 9.49	151 x 241	XAPA3100	284.00
	With hinges	5.95 x 9.49	151 x 241	XAPA4100	378.00
Undrilled Grounding Plate	Sheet steel with ground screw	For XAPA1100		XAPZ100	22.00
		For XAPA2100		XAPZ200	24.60
		For XAPA3100 and 4100		XAPZ300	55.00

Table 19.288: Drilled Insulated Enclosures, Glass-Reinforced Polyester

Type	Number of Knockouts 22 mm	Number of Rows		H x W Dimensions		Catalog Number	\$ Price
		Vertical	Horizontal	IN	mm		
NEMA 4, 4X, 13 Usable depth 3.27 in. (83 mm) 1.58 in. (40 mm) centerline spacing of holes	1	1	1	3.35 X 5.75	85 X 146	XAPA1110	114.00
	2	1	2	3.35 X 5.75	85 X 146	XAPA1120	114.00
	4	2	2	3.35 X 5.75	85 X 146	XAPA1104	114.00
	8	2	4	3.35 X 8.90	85 X 226	XAPA2108	182.00
	16	4	4	5.94 X 9.49	151 X 241	XAPA3116	390.00
Drilled Grounding Plate	Sheet steel with ground screw	For XAPA1110				XAPZ110	22.00
		For XAPA1120				XAPZ120	22.00
		For XAPA1104				XAPZ104	22.00
		For XAPA2108				XAPZ208	24.60
		For XAPA3116				XAPZ316	70.00

When ordering, please specify:

- Quantity
- Type or Catalog Number



XAPA1100



XAPA1104



XAPG39400

Table 19.290: Undrilled Die Cast Enclosures (Painted Gray RAL7032)

Type	Material	Usable Depth		H x W x D Dimensions		Catalog Number	\$ Price
		IN	mm	IN	mm		
NEMA 4, 13	Zinc	1.93	49	3.15 x 3.15 x 2.03	80 x 80 x 51.5	XAPG19100	110.00
				5.12 x 3.15 x 2.03	130 x 80 x 51.5	XAPG29100	120.00
				6.89 x 3.15 x 2.03	175 x 80 x 51.5	XAPG39100	142.00
		2.93	74.5	3.15 x 3.15 x 3.03	80 x 80 x 77	XAPG19400	110.00
				5.12 x 3.15 x 3.03	130 x 80 x 77	XAPG29400	120.00
				6.89 x 3.15 x 3.03	175 x 80 x 77	XAPG39400	142.00
	Aluminum	2.93	2.93	8.66 x 3.15 x 3.03	220 x 80 x 77	XAPG49400	174.00
				12.20 x 3.35 x 3.03	310 x 85 x 77	XAPG59400	262.00



XAPG29703

Table 19.291: Drilled Die Cast Enclosures (Painted Gray RAL7032)

Type	Material	Usable Depth		Number of 22 mm holes	H x W x D Dimensions		Catalog Number	\$ Price
		IN	mm		IN	mm		
NEMA 4, 13 1.18 in. (30 mm) centerline spacing of holes for horizontal mount	Zinc	1.93	49	2	3.15 x 3.15 x 2.03	80 x 80 x 51.5	XAPG19702	120.00
				3	5.12 x 3.15 x 2.03	130 x 80 x 51.5	XAPG29703	142.00
				4	6.90 x 3.15 x 2.03	175 x 80 x 51.5	XAPG39704	174.00
		2.93	74.5	2	3.15 x 3.15 x 3.03	80 x 80 x 77	XAPG19802	120.00
				3	5.12 x 3.15 x 3.03	130 x 80 x 77	XAPG29803	142.00
				4	6.90 x 3.15 x 3.03	175 x 80 x 77	XAPG39804	174.00
NEMA 4, 13 1.58 in. (40 mm) centerline spacing of holes for vertical mount	Zinc	1.93	1.93	1	3.15 x 3.15 x 2.03	80 x 80 x 51.5	XAPG19201	110.00
				2	5.12 x 3.15 x 2.03	130 x 80 x 51.5	XAPG29202	120.00
				3	6.90 x 3.15 x 2.03	175 x 80 x 51.5	XAPG39203	142.00
		2.93	74.5	1	3.15 x 3.15 x 3.03	80 x 80 x 77	XAPG19501	110.00
				2	5.12 x 3.15 x 3.03	130 x 80 x 77	XAPG29502	120.00
				3	6.90 x 3.15 x 3.03	175 x 80 x 77	XAPG39503	142.00
	Aluminum	2.93	74.5	4	8.66 x 3.15 x 3.03	220 x 80 x 77	XAPG49504	174.00
				5	12.20 x 3.35 x 3.03	310 x 85 x 77	XAPG59505	268.00



XAPE302

Table 19.292: Drilled Flush Plates

Type	Material	Number of 22 mm holes	H x W x D Dimensions		Catalog Number	\$ Price
			IN	mm		
NEMA 4, 13 1.18 in. (30 mm) centerline spacing of holes	Anodized Aluminum	1	2.83 x 2.83	72 x 72	XAPE301	52.00
		2	4.13 x 2.83	105 x 72	XAPE302	60.00
		3	5.43 x 2.83	138 x 72	XAPE303	68.00
		4	6.73 x 2.83	171 x 72	XAPE304	82.00
		5	8.03 x 2.83	204 x 72	XAPE305	98.00



XAPE303

Table 19.293: Optional Back Box (for finger protection, if required)

Type	Material	For Use With	Catalog Number	\$ Price
Protective rear covers	Insulating Fiberglass	Flush plate XAPE301	XAPE901	32.80
		Flush plate XAPE302	XAPE902	
		Flush plate XAPE303	XAPE903	
		Flush plate XAPE304	XAPE904	
		Flush plate XAPE305	XAPE905	60.00

When ordering, please specify:

- Quantity
- Type or Catalog Number

Control Stations and Enclosures

Standard Duty Control Stations

Class 9001 / Refer to Catalog 9001CT0001

Standard duty control stations are designed for use with magnetic motor starters to govern the starting, stopping, or reversing of all types of electric motors. Push buttons are momentary contact unless otherwise indicated. Selector switches are maintained contact.

Table 19.294: Control Stations

Many items are stock or can be furnished as a quick ship using a "Universal" station plus accessories.

No. of Units	Nameplate Markings and Features	Contact Symbol See page 19-101	Surface Mounting NEMA 1 ♦		Stainless Steel Flush Plate (Pullbox ■ not included) ♦		Watertight and Dusttight NEMA 4 ♦		For Hazardous Locations Class I, Div. I & II Groups B, C and D Class II Div. I & II Groups E, F and G NEMA 7 & 9 ♦	
			Type	\$ Price	Type	\$ Price	Type	\$ Price	Type	\$ Price
1	Start	1	BG101	57.00	BF101	77.00	BW146	180.00	BR101	242.00
	Stop	3	BG102	57.00	BF102	77.00	BW147	180.00	—	—
	Stop (Mushroom Button)	3	BG103	66.00	—	—	BW151	191.00	BR103	252.00
	Stop (Lockout)	3	BG104	86.00	—	—	BW148	180.00	BR104	242.00
	Universal (w/o Legend Inserts) ▲	16	BG107	55.00	BF107	74.00	BW159	179.00	BR107	240.00
	Off-On (Selector Switch)	19	BG111	57.00	BF111	77.00	—	—	—	—
	Hand-Off-Auto (Selector Switch)	17	BG112	57.00	BF112	77.00	—	—	—	—
	Universal Selector Switch (w/o Legend Insert) ▲	19 or 17	BG114	55.00	BF114	74.00	—	—	—	—
	Red Pilot Light: 120 Vac/dc	121	BG121	134.00	BF121	152.00	—	—	—	—
	Green Pilot Light: 120 Vac/dc	121	BG122	134.00	BF122	152.00	—	—	—	—
Pilot Light (w/o Lens): 120 Vac/dc ▲	121	BG123	126.00	BF123	146.00	—	—	—	—	
2	Start-Stop	145	BG201	57.00	BF201	77.00	BW240	180.00	BR204	242.00
	Start-Stop (for Latching Applications)	146	BG202	71.00	BF202	90.00	BW252	180.00	BR202	242.00
	Start-Stop (Mushroom on Stop)	145	BG203	66.00	—	—	BW250	191.00	BR203	252.00
	Start-Stop (Lockout on Stop)	145	BG204	86.00	—	—	BW241	180.00	BR204	242.00
	Start-Stop (Mushroom on Start and Stop)	145	BG205	77.00	—	—	BW246	200.00	BR205	261.00
	Forward-Reverse	146	BG206	71.00	BF206	90.00	BW242	180.00	BR206	242.00
	Open-Close	146	BG207	71.00	BF207	90.00	BW244	180.00	BR207	242.00
	Up-Down	146	BG208	71.00	BF208	90.00	BW243	180.00	BR208	242.00
	Raise-Lower	146	BG209	71.00	BF209	90.00	BW253	180.00	BR209	242.00
	On-Off	145	BG210	57.00	BF210	77.00	BW245	180.00	BR210	242.00
	On-Off	146	BG211	71.00	BF211	90.00	BW254	180.00	BR211	242.00
	Universal (w/o Legend Inserts) ▲	25	BG214	52.00	BF214	71.00	BW260	176.00	BR214	237.00
	Start-Stop (Maintained Contact)	10	BG215	86.00	BF215	105.00	BW255	209.00	BR215	270.00
	On-Off (Maintained Contact)	10	BG216	86.00	BF216	105.00	BW256	209.00	BR216	270.00
	Hand-Auto (Maintained Contact)	10	BG217	86.00	BF217	105.00	BW257	209.00	BR217	270.00
	Start-Stop (Red Mushroom on Stop, Both Buttons Maintained)	10	—	—	—	—	—	—	BR219	294.00
	Universal (Maintained Contact w/o Legend Inserts) ▲	10	BG218	81.00	BF218	99.00	BW258	204.00	BR218	266.00
	Off-On (Selector Switch), Red Pilot Light: 120 Vac/dc	19 & 121	BG221	209.00	BF221	228.00	▲ "Universal" designates control stations without legend inserts, lenses or accessory kits. Universal stations plus separate legend inserts and other accessories listed on page 19-100 allow the user to conveniently build up standard or custom stations. ■ Use standard 2.0 or 2.13 in. deep wall boxes, single gang for Types BF1 and BF2 and two gang for Type BF3. ♦ For replacement interiors, see page 19-101. Replacement enclosures (case and/or cover) are not available for Type BR devices. Lockout must be factory installed on NEMA 4 devices. However, replacement covers are available with the lockout feature as standard. See page 19-100.			
	Hand-Off-Auto (Selector Switch), Red Pilot Light: 120 Vac/dc	17 & 121	BG223	209.00	BF223	228.00				
	Universal Selector Switch & Pilot Light 120 Vac/dc (w/o Legend Insert & w/o Lens) ▲	17 or 19 & 121	BG224	200.00	BF224	219.00				
Hand-Off-Auto (Selector Switch) & Start (Push Button)	17 & 1	BG225	86.00	BF225	105.00					
Universal Selector Switch & Push Button (w/o Legend Inserts) ▲	17 or 19 & 16	BG226	81.00	BF226	99.00					
3	Fast-Slow-Stop	109	BG301	114.00	BF301	138.00	♦			
	Forward-Reverse-Stop	109	BG302	114.00	BF302	138.00				
	Open-Close-Stop	109	BG303	114.00	BF303	138.00				
	Raise-Lower-Stop	109	BG304	114.00	BF304	138.00				
	Up-Down-Stop	109	BG305	114.00	BF305	138.00				
	High-Low-Stop	109	BG306	114.00	BF306	138.00	For replacement interiors, see page 19-101. Replacement enclosures (case and/or cover) are not available for Type BR devices. Lockout must be factory installed on NEMA 4 devices. However, replacement covers are available with the lockout feature as standard. See page 19-100.			
	Start-Jog-Stop	109	BG316	114.00	—	—				
	Forward-Reverse-Stop (Lockout on Stop)	109	BG322	143.00	—	—				
	Up-Down-Stop (Lockout on Stop)	109	BG325	143.00	—	—				
	High-Low-Stop (Lockout on Stop)	109	BG326	143.00	—	—				
	Universal (w/o Legend Inserts) ▲	8	BG307	108.00	BF307	132.00				
	Start-Stop, Red Pilot Light: 120 Vac/dc	145 & 121	BG308	209.00	BF308	228.00				
	Universal Push Buttons (2) & Pilot Light: 120 Vac/dc (w/o Legend Inserts & w/o Lens) ▲	25 & 121	BG309	198.00	BF309	218.00				
	Start-Stop (Maintained Contacts) & Red Pilot Light: 120 Vac/dc	10 & 121	BG310	228.00	BF310	248.00				
	On-Off (Maintained Contact) & Red Pilot Light: 120 Vac/dc	10 & 121	BG311	228.00	BF311	248.00				
	Hand-Auto (Maintained Contacts) & Red Pilot Light: 120 Vac/dc	10 & 121	BG312	228.00	BF312	248.00				
	Universal Push Buttons (Maintained Contact) & Pilot Light: 120 Vac/dc (w/o Legend Inserts & w/o Lens) ▲	10 & 121	BG313	218.00	BF313	236.00				
	Hand-Off-Auto (Selector Switch) & Start-Stop (Push Buttons)	17 & 145	BG314	114.00	BF314	134.00				
	Universal Selector Switch & 2 Push Buttons (w/o Legend Inserts) ▲	17 or 19 & 25	BG315	108.00	BF315	126.00				

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Accessories page 19-100
Replacement Parts page 19-100, 19-101
Replacement Interiors page 19-101
Contact Symbols page 19-101



Kits do not include legend insert; order separate legend insert from the tables below.

Ex: For red mushroom button marked STOP, order one Class 9001 Type B301 plus one Class 9001 Type B102.

Table 19.295: Mushroom Caps

Color	Type	\$ Price
For NEMA 1 surface mounting stations		
Red	B301	9.50
Black	B302	11.00
For NEMA 4		
Red	B303	9.50

For NEMA 1 surface mounting stations, bottom unit only. Can be used on either push button or on 2 or 3 position selector switch. Lockout cannot be used with mushroom cap.

Table 19.296: Lockout Kit

Type	\$ Price
B321	28.50

Table 19.297: Pilot Light Lenses

Color	For NEMA 1 Surface Mounting	For NEMA 1 Flush Mounting	\$ Price
	Type	Type	
Red	B331	B341	7.10
Green	B332	B342	

Table 19.298: Replacement Covers for BF and BW

For Types	Types	\$ Price
BF101–BF123	3040000311	85.00
BF201–BF226	3040000302	52.00
BF301–BF315	3110104301	85.00
BW146–BW147	BWD108	11.90
BW148▲	BWD109	23.70
BW149–BW159	BWD108	11.90
BW240	BWD219	11.90
BW241▲	BWD220	23.70
BW242–BW260	BWD219	11.90

▲ Replacement cover has factory installed lockout on cover.

Table 19.299: Miscellaneous Accessories

Description	Type	\$ Price
Selector switch knob for types BG & BF selector switches	9001B351	7.10
Square D lamp (Sylvania lamp 120PSB)	2550105005	11.00
Replacement lamp holder	BGC124	57.00

Table 19.300: Interchangeable Selector Switch Legend Plates

Marking	For NEMA 1 Surface Mounting	For NEMA 1 Flush Mounting	\$ Price Each
	Type	Type	
Off-On	B201	B231	2.40
Hand-Off-Auto	B202	B232	
Manual-Auto	B203	B233	
Forward-Reverse	B204	B234	
Open-Close	B205	B235	
Open-Off-Close	B206	B236	
Hand-Auto	B207	B237	
Forward-Off-Reverse	B208	B238	
Summer-Winter	B209	B239	
Summer-Off-Winter	B210	B240	
Low-Off-High	B211	B241	
Up-Off-Down	B212	B242	

Order in multiples of 10 only.

Table 19.301: Legend Insert Kits

Where Used:		Type	\$ Price
For NEMA 1 Surface Mounting	Push Buttons	B100 (Incl's 1 each of B101 thru B119)	22.20
	Selector Switches	B200 (Incl's 1 each of B201 thru B212)	40.90
For NEMA 1 Flush Mounting	Push Buttons	B130 (Incl's 1 each of B131 thru B149)	45.20
	Selector Switches	B230 (Incl's 1 each of B231 thru B242)	28.50
For NEMA 4 and NEMA 7-9 Lever Type, Square	Push Button	B160 (Incl's 1 each of B161 thru B179)	45.20
For NEMA 4 Button Type, Round	Push Button	B250 (Incl's 1 each of B253 thru B266)	33.30
For NEMA 4 Button Type	Mushroom Button	B300 (Incl's 1 each of B276 thru B289)	33.30

Table 19.302: Pilot Light Lenses

Color	For NEMA 1 Surface Mounting	For NEMA 1 Flush Mounting	\$ Price
	Type	Type	
Red	B331	B341	7.10
Green	B332	B342	

Table 19.303: Interchangeable Push Button Legend Inserts

Marking	For NEMA 1 Surface Mounting Push Button & Mushroom Caps	For NEMA 1 Flush Mounting	For NEMA 4 and NEMA 7-9 Lever Type Square	For NEMA 4 Button Type Round	For NEMA 4 Mushroom Button Inserts	\$ Price Each
	Type	Type	Type	Type	Type	
Start	B101	B131	B161	B259	B282	2.40
Stop	B102	B132	B162	B260	B283	
Fast	B103	B133	B163	—	—	
Slow	B104	B134	B164	—	—	
Forward	B105	B135	B165	B255	B278	
Reverse	B106	B136	B166	B256	B279	
Open	B107	B137	B167	B263	B286	
Close	B108	B138	B168	B264	B287	
Raise	B109	B139	B169	B261	B284	
Lower	B110	B140	B170	B262	B285	
Up	B111	B141	B171	B253	B276	
Down	B112	B142	B172	B254	B277	
High	B113	B143	B173	—	—	
Low	B114	B144	B174	—	—	
On	B115	B145	B175	B257	B280	
Off	B116	B146	B176	B258	B281	
Hand	B117	B147	B177	B265	B288	
Auto	B118	B148	B178	B266	B289	
Jog	B119	B149	B179	—	—	
Blank-Black	B129	B159	B189	B251	B251	
Blank-Red	B129R	B159R	B189R	B252	B252	

Order in multiples of 10 only.

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number



Type BGC214
(Type BGC contact block assemblies include cover.)



Type BGB214



BOC361

Table 19.304: Replacement Interiors For Type B Standard Duty Push Button Stations

For Control Station Types	Contact Symbol	Contact Block Assembly ▲ Type	\$ Price	Terminal Block Wiring Receptacle Type	\$ Price
BF101–BF107	16	BOC107	26.10	BFB107	28.50
BF111–BF114	19 or 17	BOC114	26.10	BFB114	28.50
BF121–BF123	121	BOC123	98.00	BFB123	28.50
BF201–BF214	25	BOC214	23.70	BFB214	28.50
BF215–BF218	10	BOC218	52.00	BFB214	28.50
BF221–BF224	7 or 19 & 121	BOC224	156.00	BFB224	42.80
BF225–BF226	17 or 19 & 16	BOC226	38.00	BFB226	42.80
BF301–BF307	8	BOC214 & BOC107	23.70 & 26.10	BFB214 & BFB107	28.50 & 28.50
BF308–BF309	25 & 121	BOC214 & BOC123	23.70 & 98.00	BFB214 & BFB123	28.50 & 28.50
BF310–BF313	10 & 121	BOC218 & BOC123	52.00 & 98.00	BFB214 & BFB123	28.50 & 28.50
BF314–BF315	17 or 19 & 25	BOC214 & BOC114	23.70 & 26.10	BFB214 & BFB114	28.50 & 28.50
BG101–BG107	16	BGC107	26.10	BGB107	28.50
BG111–BG114	17 or 19	BGC114	26.10	BGB114	28.50
BG121–BG123	121	BGC123	98.00	BGB123	28.50
BG201–BG214	25	BGC214	23.70	BGB214	28.50
BG215–BG218	10	BGC218	52.00	BGB214	28.50
BG221–BG224	17 or 19 & 121	BGC224	156.00	BGB224	42.80
BG225–BG226	17 or 19 & 16	BGC226	38.00	BGB226	42.80
BG301–BG307	8	BGC307	26.10	BGB307	57.00
BG316–BG326	25 & 121	BGC309	141.00	BGB309	57.00
BG308–BG309	10 & 121	BGC313	161.00	BGB309	57.00
BG310–BG313	17 or 19 & 25	BGC315	49.80	BGB315	57.00
BG314–BG315	16	BOC107	26.10	BFB107	28.50
BR101–BR107	25	BOC214	23.70	BFB214	28.50
BR202–BR214	10	BOC218	52.00	BFB214	28.50
BR215–BR219	16	BOC107	26.10	BFB107	28.50
BW101–BW107	25	BOC214	23.70	BFB214	28.50
BW202–BW214	10	BOC218	52.00	BFB214	28.50
BW215–BW218	16	BOC360	84.00		
BW146–BW159	25	BOC361	84.00		
BW240–BW260	10	BOC362	84.00		
BW255–BW258					

Note: Contact block assemblies for all Type BG stations include cover and contact block. Replacement contact block assemblies and terminal block wiring receptacles for push buttons have provision for 1 N.O. & 1 N.C. circuit on each button. Unneeded circuits need not be wired.

▲ Order separate legend plates, if required, from listing on page 19-100.

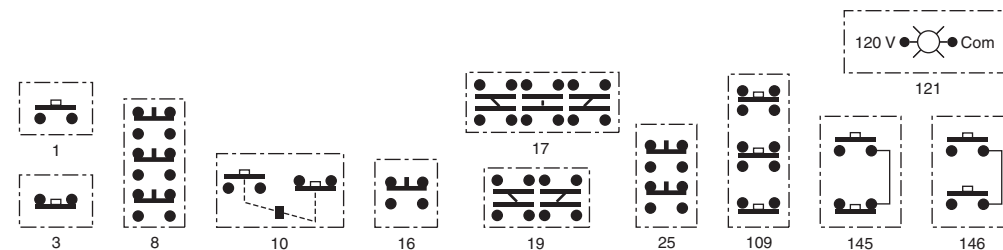
"C" Shaped Mounting Bracket for 9001BR Interior

Catalog Number	\$ Price
3110112001	5.80

Table 19.305: Electrical Contact Ratings

AC—NEMA B600							DC—NEMA P600			
Volts	Inductive 35% Power Factor					Resistive 75% Power Factor	Volts	Inductive and Resistive		
	Make		Break		Continuous Carrying Amperes			Make, Break and Continuous Carrying Amperes	Make and Break Amperes	Continuous Carrying Amperes
	A	VA	A	VA						
120	30.5	3600	3.75	360	5	5	120	1.1	5	
240	15	3600	1.5	360	5	5	240	0.55	5	
480	7.5	3600	.75	360	5	5	600	0.2	5	
600	6	3600	.6	360	5	5				

Contact Symbols



When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number



Type KYAF9

Table 19.306: Enclosures Only (For Customer Assembly)

No. of Units	UL Types 1, 3 and 13/NEMA 1, 3 and 13				UL Types 1, 3, 4 and 13 NEMA 1, 3, 4 and 13 ▲		UL Types 1, 3, 4, 4X and 13 NEMA 1, 3, 4, 4X and 13 ▲			
	Surface Mounting		Flush Mounting without Pullbox ♦ ★		Surface Mounting		Surface Mounting			
	Sheet Steel		Die Cast Zinc		Die Cast Zinc ★		Stainless Steel (304)		Polymeric (Plastic)	
	Type	\$ Price	Type	\$ Price	Type	\$ Price	Type	\$ Price	Type	\$ Price
1	KYAF1	95.00	KZ11	57.00	KY1	95.00	KYSS1	171.00	SKY1	114.00
2	KYAF2	105.00	KZ21 ■	57.00	KY2 ■	105.00	KYSS2	180.00	SKY2	134.00
3	KYAF3	123.00	KZ31 ■	66.00	KY3 ■	123.00	KYSS3	248.00	SKY3	152.00
4	KYAF4	152.00	KZ41 ■	95.00	KY4 ■	152.00	KYSS4	323.00	SKY4	179.00
6	KYAF6	191.00	KZ6	134.00	KY6	191.00	KYSS6	476.00	SKY6	362.00
9	KYAF9	248.00	KZ9	180.00	Not Available	—	KYSS9	588.00	SKY9	476.00
12	KYAF12	333.00	KZ12	257.00	KY12	333.00	KYSS12	713.00	SKY12	546.00
16	KYAF16	428.00	KZ16	351.00	KY16	428.00	KYSS16	941.00	SKY16	617.00
20	KYAF20	531.00	Not Available	—	Not Available	—	KYSS20	1044.00	SKY20	713.00
25	KYAF25	654.00	Not Available	—	Not Available	—	KYSS25	1329.00	SKY25	831.00
30	KYAF30	783.00	Not Available	—	Not Available	—	KYSS30	1566.00	Not Available	—

These catalog numbers include only the enclosure. A complete, assembled control station is the enclosure plus all control units to be installed. Orders must be accompanied by a **key sheet (M-7687)** or a sketch showing all control units in their desired locations. Specify the **marking** on the nameplates for the enclosure. The standard nameplate size is 1.69 in. (43 mm) by 0.5 in. (13 mm). It has a black field with white letters.

Table 19.307: Custom Built Control Stations

No. of Units	UL Types 1, 3 and 13/NEMA 1, 3 and 13				UL Types 1, 3, 4 and 13 NEMA 1, 3, 4 and 13 ▲		UL Types 1, 3, 4, 4X and 13 NEMA 1, 3, 4, 4X and 13 ▲			
	Surface Mounting		Flush Mounting without Pullbox ♦ ★		Surface Mounting		Surface Mounting			
	Sheet Steel		Die Cast Zinc		Die Cast Zinc ★		Stainless Steel (304)		Polymeric (Plastic)	
	Type	\$ Price	Type	\$ Price	Type	\$ Price	Type	\$ Price	Type	\$ Price
1	KYAF100	95.00	KZ110	57.00	KY10	95.00	KYSS100	171.00	SKY100	114.00
2	KYAF200	105.00	KZ210 ■	57.00	KY20 ■	105.00	KYSS200	180.00	SKY200	134.00
3	KYAF300	123.00	KZ310 ■	66.00	KY30 ■	123.00	KYSS300	248.00	SKY300	152.00
4	KYAF400	152.00	KZ410 ■	95.00	KY40 ■	152.00	KYSS400	323.00	SKY400	179.00
6	KYAF600	191.00	KZ60	134.00	KY60	191.00	KYSS600	476.00	SKY600	362.00
9	KYAF900	248.00	KZ90	180.00	Not Available	—	KYSS900	588.00	SKY900	476.00
12	KYAF1200	333.00	KZ120	257.00	KY120	333.00	KYSS1200	713.00	SKY1200	546.00
16	KYAF1600	428.00	KZ160	351.00	KY160	428.00	KYSS1600	941.00	SKY1600	617.00
20	KYAF2000	531.00	Not Available	—	Not Available	—	KYSS2000	1044.00	SKY2000	713.00
25	KYAF2500	654.00	Not Available	—	Not Available	—	KYSS2500	1329.00	SKY2500	831.00
30	KYAF3000	783.00	Not Available	—	Not Available	—	KYSS3000	1566.00	Not Available	—

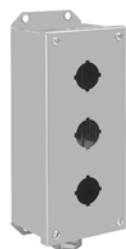
▲ Type K Series A through Series G operators are rated NEMA 1, 3, 12, and 13. Type K Series H operators are rated UL Types 1, 3, 4, 6, 12 and 13 / NEMA 1, 3, 4, 6, 12, and 13. Type SK operators are rated UL Types 4, 4X, 13 / NEMA 4, 4X, 13.

■ Only KN200 series legend plates will fit upright on these enclosures with their long axis vertical.

♦ For machine cavity mounting. Pull box not available.

★ Type KN1, KN6 and KN7 series legend plates will not fit on these enclosures.

Note: For closing plates, see page 19-83.



Type KYSS3



Type KY3



Type KZ31



Type SKY2



Type KZ310



Type KYAF900

When ordering,
please specify:

- Quantity
- Class Number
- Type or Catalog Number

Control Stations

Enclosures have sufficient depth to accommodate two contact blocks in tandem (total of four blocks) on non-illuminated operators and two contact blocks side-by-side on illuminated operators.

Table 19.308: Assembled Control Stations—
UL Types 1, 3, 4 and 13/NEMA 1, 3, 4 and 13 ▲ Die Cast Zinc Enclosures



Type KYK31

No of Units	Legend Plate Marking And Features	Type	\$ Price	Consists of			
				Enclosure	Operators	Contact Blocks	Legend Plates
1	Hand-Off-Auto (Selector Switch)	KYK111	162.00	KY1	KS43B	KA1	KN260
	Hand-Off-Auto (Sel. Switch) (With Sealed Contacts)	KYK121 ■	228.00	KY1	KS43B	KA51	KN260
	Jog-Run (Selector Switch)	KYK18	162.00	KY1	KS11B	KA1	KN242
	Off-On (Selector Switch)	KYK110	162.00	KY1	KS11B	KA1	KN244
	Off-On (Selector Switch) (With Sealed Contacts)	KYK122 ■	228.00	KY1	KS11B	KA51	KN244
	Red 120 Vac Pilot Light	KYK120 ■	180.00	KY1	KP1R31	—	—
	Start	KYK11	152.00	KY1	KR1B	KA1	KN201
	Start (With Sealed Contacts)	KYK125 ■	219.00	KY1	KR1B	KA51	KN201
	Start (Mushroom Button)	KYK12	180.00	KY1	KR4B	KA1	KN201
	Stop	KYK13	152.00	KY1	KR1R	KA1	KN202
	Stop (Mushroom Button)	KYK14	180.00	KY1	KR4R	KA1	KN202
	Stop (With Lockout)	KYK15	180.00	KY1	KR3R,K4	KA1	KN202
	Stop (With Sealed Contacts and Lockout)	KYK124 ■	248.00	KY1	KR3R,K4	KA51	KN202
	Stop Mushroom (With Sealed Contacts and Lockout)	KYK123 ■	276.00	KY1	KR4R,K4	KA51	KN202
	To Stop—Break Glass	KYK116	219.00	KY1	K15	KA1	KN799RP
	To Stop—Break Glass (Red Enclosure)	KYK117	219.00	KY1S1	K15	KA1	KN799RP
2	Forward-Reverse	KYK24	219.00	KY2	KR1B,KR1B	KA1,KA1	KN206,KN207
	Jog-Stop (Lockout on Stop)	KYK224	248.00	KY2	KR1B,KR3R,K4	KA1,KA1	KN218,KN202
	On-Off	KYK218	219.00	KY2	KR1B,KR3R	KA1,KA1	KN203,KN204
	On-Off (With Sealed Contacts)	KYK222 ■	351.00	KY2	KR1B,KR3R	KA51,KA51	KN203,KN204
	On-Off (Maintained Contact)	KYK221	219.00	KY2	KR11GR	KA1	KN203,KN204
	Open-Close	KYK26	219.00	KY2	KR1B,KR1B	KA1,KA1	KN209,KN208
	Start-Stop	KYK21	219.00	KY2	KR1B,KR3R	KA1,KA1	KN201,KN202
	Start-Stop (With Sealed Contacts)	KYK223 ■	351.00	KY2	KR1B,KR3R	KA51,KA51	KN201,KN202
	Start-Stop (Lockout on Stop)	KYK23	248.00	KY2	KR1B,KR3R,K4	KA1,KA1	KN201,KN202
	Start-Stop (Maintained Contact)	KYK27	219.00	KY2	KR11GR	KA1	KN201,KN202
	Start-Stop (With Maintained Sealed Contacts)	KYK220 ■	285.00	KY2	KR11GR	KA51	KN201,KN202
	Start-Stop (Mushroom on Stop)	KYK22	248.00	KY2	KR1B,KR4R	KA1,KA1	KN201,KN202
	Up-Down	KYK25	219.00	KY2	KR1B,KR1B	KA1,KA1	KN211,KN210
	Forward-Reverse-Start-Stop	KYK35	305.00	KY3	KS11B,KR1B,KR3R	KA1,KA1,KA1	KN239,KN201,KN202
	Forward-Reverse-Stop	KYK31	294.00	KY3	KR1B,KR1B,KR3R	KA1,KA1,KA1	KN206,KN207,KN202
3	Forward-Reverse-Stop (Lockout on Stop)	KYK326	323.00	KY3	KR1B,KR1B,KR3R,K4	KA1,KA1,KA1	KN206,KN207,KN202
	Forward-Reverse-Stop (With Sealed Contacts and Lockout on Stop)	KYK322 ■	522.00	KY3	KR1B,KR1B,KR3R,K4	KA51,KA51,KA51	KN206,KN207,KN202
	High-Low-Stop	KYK34	294.00	KY3	KR1B,KR1B,KR3R	KA1,KA1,KA1	KN214,KN215,KN202
	Jog/Run-Start-Stop	KYK36	305.00	KY3	KS11B,KR1B,KR3R	KA1,KA1,KA1	KN242,KN201,KN202
	Open-Close-Stop	KYK33	294.00	KY3	KR1B,KR1B,KR3R	KA1,KA1,KA1	KN209,KN208,KN202
	Open-Close-Stop (Lockout on Stop)	KYK327	323.00	KY3	KR1B,KR1B,KR3R,K4	KA1,KA1,KA1	KN209,KN208,KN202
	Open-Close-Stop (With Sealed Contacts and Lockout on Stop)	KYK323 ■	522.00	KY3	KR1B,KR1B,KR3R,K4	KA51,KA51,KA51	KN209,KN208,KN202
	Red 120 Vac Pilot Light-Start-Stop	KYK317	314.00	KY3	KP1R31,KR1B,KR3R	KA2,KA3	KN200,KN201,KN202
	Red 120 Vac Pilot Light-Start-Stop (With Sealed Contacts)	KYK321 ■	456.00	KY3	KP1R31,KR1B,KR3R	KA51,KA51	KN200,KN201,KN202
	Red 120 Vac/dc Pilot Light-Start-Stop	KYK324	323.00	KY3	KP38R31,KR1B,KR3R	KA1,KA1	KN200,KN201,KN202
	Up-Down-Stop	KYK32	294.00	KY3	KR1B,KR1B,KR3R	KA1,KA1,KA1	KN211,KN210,KN202
	Up-Down-Stop (Lockout on Stop)	KYK325	323.00	KY3	KR1B,KR1B,KR3R,K4	KA1,KA1,KA1	KN211,KN210,KN202
	Up-Down-Stop (With Sealed Contacts and Lockout on Stop)	KYK328 ■	522.00	KY3	KR1B,KR1B,KR3R,K4	KA51,KA51,KA51	KN211,KN210,KN202

▲ Control stations are UL Listed for use in areas classified as Class II Division 2 Group G and Class III.
■ Control station consists of components that are UL Listed for use in Class I, Division 2, Groups A, B, C or D.
Note: Dimensions see catalog 9001CT0001



Type KYSS300



Type SKY201

Type KYSS300 and SKY201 page 19-104
Standard Assembled Control Stations page 19-103 to 19-104
Custom Assembled Control Stations page 19-102

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Table 19.309: Assembled Control Stations—UL Types 1, 3, 4, and 13/NEMA 1, 3, 4 and 13—Stainless Steel (304) ▲

No. of Units	Legend Plate Marking and Features	Type	\$ Price	Consists of			
				Enclosure	Operators	Contact Blocks	Legend Plates
1	Start	KYSS101	228.00	KYSS1	KR1B	KA1	KN101WP
	Stop	KYSS103	213.00	KYSS1	KR1B	KA3	KN102RP
	Stop (Lockout)	KYSS105	261.00	KYSS1	KR3R with K5	KA3	KN102RP
	Off/On (Selector Switch)	KYSS110	237.00	KYSS1	KS11B	KA1	KN144WP
	Hand/Off/Auto (Selector Switch)	KYSS111	237.00	KYSS1	KS43B	KA1	KN160WP
2	Start/Stop	KYSS201	281.00	KYSS2	KR1B, KR3R	KA1, KA3	KN101WP, KN102RP
	Start/Stop (Lockout on Stop)	KYSS203	327.00	KYSS2	KR1B, KR3R with K5	KA1, KA3	KN101WP, KN102WP
	Up/Down	KYSS205	294.00	KYSS2	KR1B, KR1B	KA1, KA1	KN111WP, KN110WP
	Start/Stop (Maintained Contact)	KYSS210	294.00	KYSS2	KR11U	KA1, KA1	KN101WP, KN102WP
3	Forward/Reverse/Stop	KYSS301	404.00	KYSS3	KR1B, KR1B, KR3R	KA1, KA1, KA3	KN106WP, KN107WP, KN102RP
	Up/Down/Stop	KYSS302	404.00	KYSS3	KR1B, KR1B, KR3R	KA1, KA1, KA3	KN111WP, KN110WP, KN102RP
	Open/Close/Stop	KYSS303	404.00	KYSS3	KR1B, KR1B, KR3R	KA1, KA1, KA3	KN109WP, KN108WP, KN102RP
	High/Low/Stop	KYSS304	404.00	KYSS3	KR1B, KR1B, KR3R	KA1, KA1, KA3	KN114WP, KN115WP, KN102RP
	Forward/Reverse/Stop (Lockout on Stop)	KYSS308	452.00	KYSS3	KR1B, KR1B, KR3R w/K5	KA1, KA1, KA3	KN106WP, KN107WP, KN102RP
	Up/Down/Stop (Lockout on Stop)	KYSS309	452.00	KYSS3	KR1B, KR1B, KR3R w/K5	KA1, KA1, KA3	KN111WP, KN110WP, KN102RP
	Open/Close/Stop (Lockout on Stop)	KYSS310	452.00	KYSS3	KR1B, KR1B, KR3R w/K5	KA1, KA1, KA3	KN109WP, KN108WP, KN102RP
	High/Low/Stop (Lockout on Stop)	KYSS311	452.00	KYSS3	KR1B, KR1B, KR3R w/K5	KA1, KA1, KA3	KN114WP, KN115WP, KN102RP

Table 19.310: Assembled Control Stations—UL Types 1, 3, 4, 4X and 13/NEMA 1, 3, 4, 4X, and 13—Stainless Steel (304) ▲

No. of Units	Legend Plate Marking and Features	Type	\$ Price	Consists of			
				Enclosure	Operators	Contact Blocks	Legend Plates
1	Start	KYSK101	228.00	KYSS1	SKR1B	KA1	KN101WP
	Stop	KYSK103	213.00	KYSS1	SKR3R	KA3	KN102RP
	Stop (Lockout)	KYSK105	261.00	KYSS1	SKR3R with K5	KA3	KN102RP
	Off/On (Selector Switch)	KYSK110	237.00	KYSS1	SKS11B	KA1	KN144WP
	Hand/Off/Auto (Selector Switch)	KYSK111	237.00	KYSS1	SKS43B	KA1	KN160WP
2	Start/Stop	KYSK201	281.00	KYSS2	SKR1B, SKR3R	KA1, KA3	KN101WP, KN102RP
	Start/Stop (Lockout on Stop)	KYSK203	327.00	KYSS2	SKR1B, SKR3R with K5	KA1, KA3	KN101WP, KN102WP
	Up/Down	KYSK205	294.00	KYSS2	SKR1B, SKR1B	KA1, KA1	KN111WP, KN110WP
	Start/Stop (Maintained Contact)	KYSK210	294.00	KYSS2	SKR11U	KA1, KA1	KN101WP, KN102WP
3	Forward/Reverse/Stop	KYSK301	404.00	KYSS3	SKR1B, SKR1B, SKR3R	KA1, KA1, KA3	KN106WP, KN107WP, KN102RP
	Up/Down/Stop	KYSK302	404.00	KYSS3	SKR1B, SKR1B, SKR3R	KA1, KA1, KA3	KN111WP, KN110WP, KN102RP
	Open/Close/Stop	KYSK303	404.00	KYSS3	SKR1B, SKR1B, SKR3R	KA1, KA1, KA3	KN109WP, KN108WP, KN102RP
	High/Low/Stop	KYSK304	404.00	KYSS3	SKR1B, SKR1B, SKR3R	KA1, KA1, KA3	KN114WP, KN115WP, KN102RP
	Forward/Reverse/Stop (Lockout on Stop)	KYSK308	452.00	KYSS3	SKR1B, SKR1B, SKR3R w/K5	KA1, KA1, KA3	KN106WP, KN107WP, KN102RP
	Up/Down/Stop (Lockout on Stop)	KYSK309	452.00	KYSS3	SKR1B, SKR1B, SKR3R w/K5	KA1, KA1, KA3	KN111WP, KN110WP, KN102RP
	Open/Close/Stop (Lockout on Stop)	KYSK310	452.00	KYSS3	SKR1B, SKR1B, SKR3R w/K5	KA1, KA1, KA3	KN109WP, KN108WP, KN102RP
	High/Low/Stop (Lockout on Stop)	KYSK311	452.00	KYSS3	SKR1B, SKR1B, SKR3R w/K5	KA1, KA1, KA3	KN114WP, KN115WP, KN102RP

Table 19.311: Assembled Control Stations —UL Types 1, 3, 4, 4X and 13/NEMA 1, 3, 4, 4X, and 13—Polymeric (Plastic) ▲

No. of Units	Legend Plate Marking and Features	Type	\$ Price	Consists of			
				Enclosure	Operators	Contact Blocks	Legend Plates
1	Hand-Off-Auto (Sel. Switch with Sealed Contacts)	SKY121 ■	249.00	SKY1	SKS43B	KA51	KN160WP
	Hand-Off-Auto (Selector Switch)	SKY111	180.00	SKY1	SKS43B	KA1	KN160WP
	Jog	SKY107	171.00	SKY1	SKR1B	KA1	KN118WP
	Man-Auto (Selector Switch)	SKY108	180.00	SKY1	SKS11B	KA1	KN143WP
	Off-On (Selector Switch with Sealed Contacts)	SKY122 ■	248.00	SKY1	SKS11B	KA51	KN144WP
	Off-On (Selector Switch)	SKY110	180.00	SKY1	SKS11B		
	Start	SKY101	171.00	SKY1	SKR1B	KA1	KN144WP
	Start (With Sealed Contacts)	SKY125 ■	237.00	SKY1	SKR1B	KA51	KN101WP
	Stop	SKY103	156.00	SKY1	SKR3R	KA3	KN102RP
	Stop (With Lockout)	SKY105	204.00	SKY1	SKR3R, K5	KA3	KN102RP
	Stop (With Sealed Contacts and Lockout)	SKY124 ■	285.00	SKY1	SKR3R, K5	KA51	KN102RP
2	Forward-Reverse	SKY204	248.00	SKY2	SKR1B, SKR1B	KA1, KA1	KN106WP, KN107WP
	On-Off	SKY222 ■	380.00	SKY2	SKR1B, SKR3R	KA51, KA51	KN103WP, KN104RP
	Open-Close	SKY206	248.00	SKY2	SKR1B, SKR1B	KA1, KA1	KN109WP, KN108WP
	Start-Stop	SKY201	233.00	SKY2	SKR1B, SKR3R	KA1, KA3	KN101WP, KN102RP
	Start-Stop (Lockout on Stop)	SKY203	281.00	SKY2	SKR1B, SKR1R, K5	KA1, KA3	KN101WP, KN102RP
	Start-Stop (With Maintained Sealed Contacts)	SKY220 ■	314.00	SKY2	SKR11GR	KA51	KN101WP, KN102RP
	Start-Stop (With Sealed Contacts)	SKY223 ■	380.00	SKY2	SKR1B, SKR3R	KA51, KA51	KN101WP, KN102RP
3	Up-Down	SKY205	248.00	SKY2	SKR1B, SKR1B	KA1, KA1	KN111WP, KN110WP
	Forward-Reverse-Stop	SKY301	309.00	SKY3	SKR1B, SKR1B, SKR3R	KA1, KA1, KA3	KN106WP, KN107WP, KN102RP
	Forward-Reverse-Stop (With Sealed Contacts and Lockout on Stop)	SKY322 ■	522.00	SKY3	SKR1B, SKR1B, SKR3R	KA51, KA51, KA51	KN106WP, KN107WP, KN102RP
	High-Low-Stop	SKY304	309.00	SKY3	SKR1B, SKR1B, SKR3R	KA1, KA1, KA3	KN114WP, KN115WP, KN102RP
	Open-Close-Stop	SKY303	309.00	SKY3	SKR1B, SKR1B, SKR3R	KA1, KA1, KA3	KN109WP, KN108WP, KN102RP
	Open-Close-Stop (With Sealed Contacts)	SKY323 ■	522.00	SKY3	SKR1B, SKR1B, SKR3R	KA51, KA51, KA51	KN109WP, KN108WP, KN102RP
	Red 120 Vac Pilot Light-Start-Stop	SKY315A	354.00	SKY3	SKP1R31, SKR1B, SKR3R	KA1, KA3	KN101WP, KN102RP
	Start-Jog-Stop	SKY305	309.00	SKY3	SKR1B, SKR1B, SKR3R	KA1, KA1, KA3	KN101WP, KN118WP, KN102RP
	Up-Down-Stop	SKY302	309.00	SKY3	SKR1B, SKR1B, SKR3R	KA1, KA1, KA3	KN111WP, KN110WP, KN102RP
	Up-Down-Stop (With Sealed Contacts and Lockout on Stop)	SKY328 ■	522.00	SKY3	SKR1B, SKR1B, SKR3R	KA51, KA51, KA51	KN111WP, KN110WP, KN102RP

- ▲ Control Stations are UL Listed for use in areas classified as Class II Division 2 Group G and Class III.
 ■ Control Stations are UL Listed for use in areas classified as Class I Division 2 Groups A, B, C and D.

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number



Two Unit



Type KY192



Type KZC299

Control Stations and Enclosures

Type K Security Control Stations & Stainless Steel Flush Plates

Class 9001 / Refer to Catalog 9001CT0001

These flush plates accept Type K, SK, and KX 30 mm operators and contact blocks and may be used with a standard 2 in. x 3 in. general purpose switch box. A 2.5 in. deep box should be used with two Type K contact blocks mounted side by side. If two Type K contact blocks mounted in tandem are needed, a 3.5 in. deep box should be used. Although oiltight/watertight operators are used, an assembled station using the flush plates **is not oiltight/watertight**. The kits include the stainless steel flush plate, cover screws and a set of liners. The liners must be used to maintain electrical clearance.

Table 19.312: Stainless Steel (302) NEMA 1 Flush Plates ▲

No. of Units	Description	Type	\$ Price
1	1 Unit flush plate, cover screws, insulating liners	K25	19.10
2	2 Unit flush plate, cover screws, insulating liners	K26	28.50
3	3 Unit flush plate, cover screws, insulating liners	K27	38.00
4	4 Unit flush plate, cover screws, insulating liners	K28	57.00

▲ Center to center of operators is 1.812 in.

Table 19.313: General Purpose NEMA 1 Flush Mounting Control Station with Pull Box for Type K Control Units

Number of Units	Enclosure Only, for Customer Assembly		Custom-Built Factory-Assembled Control Stations	
	Type	\$ Price	Type	\$ Price
1	KZP1	123.00	KZP10	123.00
2	KZP2	143.00	KZP20	143.00
3	KZP3	180.00	KZP30	180.00
4	KZP4	191.00	KZP40	191.00
5	KZP5	228.00	KZP50	228.00
6	KZP6	237.00	KZP60	237.00
7	KZP7	314.00	KZP70	314.00
8	KZP8	323.00	KZP80	323.00

Special Features	Number of Units	\$ Price
Type 304 Stainless steel flush plate (Form Y242):	1-4	Add 208.00
	5-8	265.00
Omit Pull Box (Form Y243):	1-2	Deduct 57.00
	3-4	77.00
	5-6	95.00
	7-8	114.00

Table 19.314: 30 mm Security Control Stations

Description	Type of Cylinder	Cylinder Finish	Special Features	Cast Aluminum Enclosure■		Satin Chrome Finish Flush Mounted with Box (304 Stainless Steel)	
				Type	\$ Price	Type	\$ Price
Spring Return Key Operator Only	Corbin	Chrome	Complete with Core♦ (6 Tumbler Pins)	KY198	356.00	KZC198	452.00
	Yale	Brass		KY199	356.00	KZC199	452.00
	Best	Chrome	Lock Cylinder Only—Core Omitted★ (6 Tumbler Pins)	KY197	428.00	KZC197	594.00
	Best	Chrome	Complete with Core♦ (7 Tumbler Pins)	KY196	428.00	KZC196	522.00
	Best	Chrome	Lock Cylinder Only—Core Omitted★ (7 Tumbler Pins)	KY195	498.00	KZC195	594.00
	Best	Chrome	Complete with Core♦ (7 Tumbler Pins)	KY194	428.00	KZC194	522.00
	Schlage	Chrome	Maximum Security Cylinder	KY193	356.00	KZC193	452.00
	Sargent	Chrome		KY192	594.00	KZC192	689.00
Spring Return Key Operator with Stop Button	Corbin	Chrome	Complete with Core♦ (6 Tumbler Pins)	KY298	428.00	KZC298	522.00
	Yale	Brass		KY299	428.00	KZC299	522.00
	Best	Chrome	Lock Cylinder Only—Core Omitted★ (6 Tumbler Pins)	KY297	570.00	KZC297	665.00
	Best	Chrome	Complete with Core♦ (7 Tumbler Pins)	KY296	498.00	KZC296	594.00
	Best	Chrome	Lock Cylinder Only—Core Omitted★ (7 Tumbler Pins)	KY295	570.00	KZC295	665.00
	Best	Chrome	Complete with Core♦ (7 Tumbler Pins)	KY294	498.00	KZC294	594.00
	Schlage	Chrome	6 Tumbler Pins	KY293	428.00	KZC293	522.00
	Sargent	Chrome		KY292	665.00	KZC292	759.00

■ Meets NEMA 3R requirements.

♦ When Best Lock stations are supplied with core, customer must contact local Best Lock representative to change core.

★ When Best Lock stations are supplied without core, customers must purchase core separately from Best Lock, and customers can subsequently change core at their convenience.

Refer to catalog 9001CT0001 if:	• Master keying is required.	• Keying several stations alike is required.
	• Station is to be keyed to a specific key number.	• Nonstandard legend plates are required.
	• Extra keys are required.	• A specific type of keyway is required.

Table 19.315: Repair Parts—Replacement or Duplicate Keys

Type	Source	\$ Price	Delivery
Corbin, Yale, or Schlage	Schneider Electric, local distributor, hardware store, or lock shop that duplicates keys.	9.50	8 weeks
Best	Must purchase from local Best Lock representative.	—	—
Sargent	Schneider Electric. Keys supplied with our security control station are registered to Schneider Electric.	23.70	8 weeks

NOTE: Replacement enclosures are not sold. Replacement core or cylinders are not sold.

Electrical Ratings

Key Operator: One Class 9007 Type AO2 snap switch is used for the OPEN position and one snap switch is used for the CLOSE position. See page 21-4 for electrical ratings of the 9007AO2.

Stop Button: One Class 9001 Type KA1 contact block is used on the optional push button. See page 19-78 for 9001KA1 electrical ratings. (**Note:** The KA1 contact block has a maximum voltage rating of 300 V (NEMA A300) when used in the Type KZC station.)

UL Listed File E42259

CNN NKCR

CSA Listed File LR25490 Class 321103

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Standard, Push-To-Test, and Remote Test Pilot Lights

Class 9001 Type J compact pilot lights are designed to be mounted in a 0.69 in. (11/16 in.) diameter mounting hole. Each terminal accepts up to two 14 AWG wires (CU only). Type J compact pilot lights meet NEMA 4 (watertight) and NEMA 13 (oiltight). Type JT push-to-test pilot lights have contacts built into the encapsulated body. Type JTR remote test pilot lights have dual inputs for one push remote testing—all you need is a push button with a current rating equal to or greater than the total lamp draw. Type JTR remote test pilot lights can also be energized from two separate input signals of the same voltage and polarity. This is done by wiring the “test” terminal to the second input signal.



Type JP1R29

Table 19.316: Standard Pilot Light ▲

Style/Voltage	Color Cap						Lamp	Replacement Lamp	\$ Price
	None	\$ Price	Red	Green	Yellow	\$ Price			
Transformer, 110–120 V, 50–60 Hz	JP1	95.00	JP1R29	JP1G29	JP1Y29	102.00	6.3 V, 0.15 A	2550101020	8.30
Incandescent, 120 Vac/dc	JP38	77.00	JP38R29	JP38G29	JP38Y29	84.00	120 V, 0.015 A	2550101040	8.40
Incandescent, 24–28 Vac/dc	JP35	77.00	JP35R29	JP35G29	JP35Y29	84.00	28 V, 0.040 A	2550101024	8.30
LED, 24–28 Vac	—	—	JP35LRR29	JP35LGG29	JP35LYY29	102.00	28 V, 0.03 A	—	—
LED, 24–28 Vdc	—	—	JP35DRR29	JP35DGG29	JP35DYY29	102.00	28 V, 0.03 A	—	—
LED, 120 Vac	—	—	JP38LRR29	JP38LGG29	JP38LYY29	102.00	28 V, 0.03 A	—	—

Table 19.317: Push-To-Test Pilot Light ▲

Style/Voltage	Color Cap						Lamp	Replacement Lamp	\$ Price
	None	\$ Price	Red	Green	Yellow	\$ Price			
Transformer, 110–120 V, 50–60 Hz	JT1	123.00	JT1R29	JT1G29	JT1Y29	130.00	6.3 V, 0.15 A	2550101020	8.30
Incandescent, 120 Vac/dc	JT38	105.00	JT38R29	JT38G29	JT38Y29	112.00	120 V, 0.015 A	2550101040	8.40
Incandescent, 24–28 Vac/dc	JT35	105.00	JT35R29	JT35G29	JT35Y29	112.00	28 V, 0.040 A	2550101024	8.30
LED, 24–28 Vac	—	—	JT35LRR29	JT35LGG29	JT35LYY29	130.00	28 V, 0.03 A	—	—
LED, 24–28 Vdc	—	—	JT35DRR29	JT35DGG29	JT35DYY29	130.00	28 V, 0.03 A	—	—
LED, 120 Vac	—	—	JT38LRR29	JT38LGG29	JT38LYY29	130.00	28 V, 0.03 A	—	—

Table 19.318: Remote Test Pilot Light ▲

Style/Voltage	Color Cap						Lamp	Replacement Lamp	\$ Price
	None	\$ Price	Red	Green	Yellow	\$ Price			
Incandescent, 120 Vac	JTR38	123.00	JTR38R29	JTR38G29	JTR38Y29	130.00	120 V, 0.015 A	2550101040	8.40
Incandescent, 24–28 Vac	JTR35	123.00	JTR35R29	JTR35G29	JTR35Y29	130.00	28 V, 0.040 A	2550101024	8.30
LED, 24–28 Vac	—	—	JTR35LRR29	JTR35LGG29	JTR35LYY29	150.00	28 V, 0.03 A	—	—

▲ Other voltages are available. Refer to Catalog 9001CT0001.

Table 19.319: Color Caps, Class 9001 Type J

Color	Replacement Color Caps			
	Plastic	\$ Price	Glass	\$ Price
Red	R29	6.60	R26	6.60
Green	G29		G26	
Amber	A29		A26	
Blue	L29		L26	
Clear	C29		C26	
White	W29		W26	
Yellow	Y29		Y26	

Table 19.320: Legend Plates

Description			Maximum Number of Lines	Maximum Number of Characters	Type	\$ Price
	Blank	Black Field Red Field	2	8	JN100 JN100R	2.90
	Special Marking (Specify Marking)	Black Field Red Field			JN199 JN199R	12.30
	Blank	Aluminum Field	2	16	JN700	2.90
	Special Marking (Specify Marking)	Aluminum Field			JN799	12.30



File 25490C
Guide 184 N 13.1U



File E42259
Guide NKCR

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Class 9001 Type O, NEMA 13 Pilot Lights

Table 19.321: Instrument Type Incandescent Pilot Lights—Type O NEMA 13

Voltage AC/DC	Avg. Current (A)	Red Lens Type	Green Lens Type	Amber Lens Type	Clear Lens Type	Yellow Lens Type	White Lens Type	Fluted Blue Lens Type	\$ Price
12 V	.170	OR12	OG12	OA12	OC12	OY12	OW12	FB12	19.10
24 V	.073	OR24	OG24	OA24	OC24	OY24	OW24	FB24	
120 V	.025	OR120	OG120	OA120	OC120	OY120	OW120	FB120	



Type O



File E179183 Guide 001X

Table 19.322: Replacement Lamps—Class 9001, Type O

Voltage	Sylvania Lamp Number	Square D Part Number	\$ Price
12 V	12PSB	2550105003	11.00
24 V	24PSB	2550105004	
120 V	120PSB	2550105005	

XVL Miniature LED

Table 19.323: Specifications

Conforming to standards	IEC 337-2, NF C 63-140, VDE 0660-200
Degree of protection	IP40 (IP65 with seal) conforming to IEC 529 and NF C 20-010
Current consumption	25 mA
Cabling	XVLA1••, XVLA2••: tags for 2.8 x 0.5 mm Faston connectors, also for soldered connections. XVLA3••: threaded connectors, clamping, capacity: min. 1 x 0.2 mm ² , max. 1 x 1.5 mm ²



XVLA1••

Table 19.324: With Black Bezel, Raised LED

Description	Supply Voltage DC	Color	Catalog Number	\$ Price Each
Ø 8 mm ▲ with integral ballast resistor and reverse polarity protection diode Degree of protection IP40 LED pilot lights Ø 8 mm, with black bezel, visible LED XVLA1••	5 V	Green Red Amber	XVLA113 XVLA114 XVLA115	16.40
	12 V	Green Red Amber	XVLA123 XVLA124 XVLA125	
	24 V	Green Red Amber	XVLA133 XVLA134 XVLA135	
	48 V	Green Red Amber	XVLA143 XVLA144 XVLA145	



XVLA2••

Table 19.325: With Integral Lens Cap, Covered LED

Description	Supply Voltage DC	Color	Catalog Number	\$ Price Each
Ø 8 mm ▲ with integral ballast resistor and reverse polarity protection diode Degree of protection IP40 Ø 8 mm, with lens incorporated, LED XVLA2	5 V	Green Red Amber	XVLA213 XVLA214 XVLA215	16.40
	12 V	Green Red Amber	XVLA223 XVLA224 XVLA225	
	24 V	Green Red Amber	XVLA233 XVLA234 XVLA235	
	48 V	Green Red Amber	XVLA243 XVLA244 XVLA245	
Ø 12 mm ■ with integral ballast resistor and reverse polarity protection diode Degree of protection IP40 Ø 12 mm, with lens incorporated, LED XVLA3	5 V	Green Red Amber	XVLA313 XVLA314 XVLA315	26.00
	12 V	Green Red Amber	XVLA323 XVLA324 XVLA325	
	24 V	Green Red Amber	XVLA333 XVLA334 XVLA335	
	48 V	Green Red Amber	XVLA343 XVLA344 XVLA345	

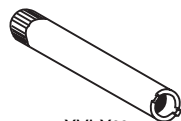


XVLA3••

- ▲ Quick connects (2.8 x 0.5 mm).
- Screw termination.

Table 19.326: Accessories

Description	Catalog Number	\$ Price Each
Tightening tools (Sold singly)	XVLX08 XVLX12	18.60 24.00
Seals (IP65) (Sold in lots of 10)	XVLZ911 XVLZ912	0.65



XVLX••



XVLZ91•

When ordering, please specify:

- Quantity
- Class Number (if appropriate)
- Type or Catalog Number

Table 19.327: Environment

Approvals	Standard version, CSA, UL  File E164353 CCN NKCR  File LR 44087 Class 3211 03	UL E164353 CCN NKCR, CSA LR 44087 Class 3211 03
Conforming to standards	 Marked	IEC/EN 60947-5-1, UL 508, CSA 22.2 No. 14
Degree of protection	To IEC 529 and NF C 20-010 To UL 50 and CSA 22.2 No. 94	IP65 Type 1, 4X (indoor), and 12

Table 19.328: Electrical Characteristics

Consumption	LED unit	
	Steady	24 Vac/dc: < 80 mA; 120–230 Vac: < 30 mA.
	Flashing	24 Vac or 24 Vdc: < 40 mA; 120–230 Vac: < 15 mA.
	Unit with strobe (on energization)	24 Vac or 24 Vdc: 5 Joule unit: < 430 mA; 10 Joule unit: < 850 mA 120 Vac: 5 Joule unit: < 130 mA; 10 Joule unit: < 260 mA 230 Vac: 5 Joule unit: < 105 mA; 10 Joule unit: < 210 mA
Audible sounder units		12–48 Vac/dc: < 20 mA 120–230 Vac: < 50 mA
Cable size	Maximum wire size	1 x 16 AWG (1.5 mm ²) with cable end
Terminals	Screw and captive cable clamp terminals Torque to 4.4 in-lb (0.5 N•m)	

Table 19.329: Illuminated Beacons with Steady Light (2.75 in./70 mm diameter)

Description	Light Source and Voltage	Color	Catalog Number	\$ Price
Complete unit, includes: 1 lens unit 1 base unit (direct or tube mounting)	Bulb (10 W max) not included 250 V max	Green	XVBL33	76.00
		Red	XVBL34	
		Amber	XVBL35	
		Blue	XVBL36	
		Clear	XVBL37	
		Yellow	XVBL38	

Table 19.330: Illuminated Beacons with Flashing Light (2.75 in./70 mm diameter)

Description	Light Source and Voltage	Color	Catalog Number	\$ Price
Complete unit, includes: 1 lens unit 1 base unit (direct or tube mounting)	Bulb (10 W max) not included 24 Vac 24–48 Vdc	Green	XVBL4B3	129.00
		Red	XVBL4B4	
		Amber	XVBL4B5	
		Blue	XVBL4B6	
		Clear	XVBL4B7	
		Yellow	XVBL4B8	
	Bulb (10 W max) not included 48–230 Vac	Green	XVBL4M3	129.00
		Red	XVBL4M4	
		Amber	XVBL4M5	
		Blue	XVBL4M6	
		Clear	XVBL4M7	
		Yellow	XVBL4M8	

Note: For bulbs, see page 19-110.

Table 19.331: Illuminated Beacons with 10 Joule Strobe (2.75 in./70 mm diameter) ▲

Description	Light Source and Voltage	Color	Catalog Number ■	\$ Price
Complete unit, includes: 1 lens unit 1 base unit (direct or tube mounting)	Strobe 24 Vac/dc	Green	XVBL8B3	244.00
		Red	XVBL8B4	
		Amber	XVBL8B5	
		Blue	XVBL8B6	
		Clear	XVBL8B7	
		Yellow	XVBL8B8	
	Strobe 120 Vac	Green	XVBL8G3	244.00
		Red	XVBL8G4	
		Amber	XVBL8G5	
		Blue	XVBL8G6	
		Clear	XVBL8G7	
		Yellow	XVBL8G8	
	Strobe 230 Vac	Green	XVBL8M3	244.00
		Red	XVBL8M4	
		Amber	XVBL8M5	
		Blue	XVBL8M6	
		Clear	XVBL8M7	
		Yellow	XVBL8M8	

▲ **Important:** Discharge tube elements are not suitable for continuous-operation signaling due to temperature rise caused by the discharge tube.

■ For 5 Joule units, specify XVBL6**, instead of XVBL8** (\$190.00).

Note: There are no replacement lenses for strobes.

When ordering, please specify:

- Quantity
- Catalog Number



XVBL3•



XVBL4B•



XVBL6B•
5 Joule



XVBL8B•
10 Joule

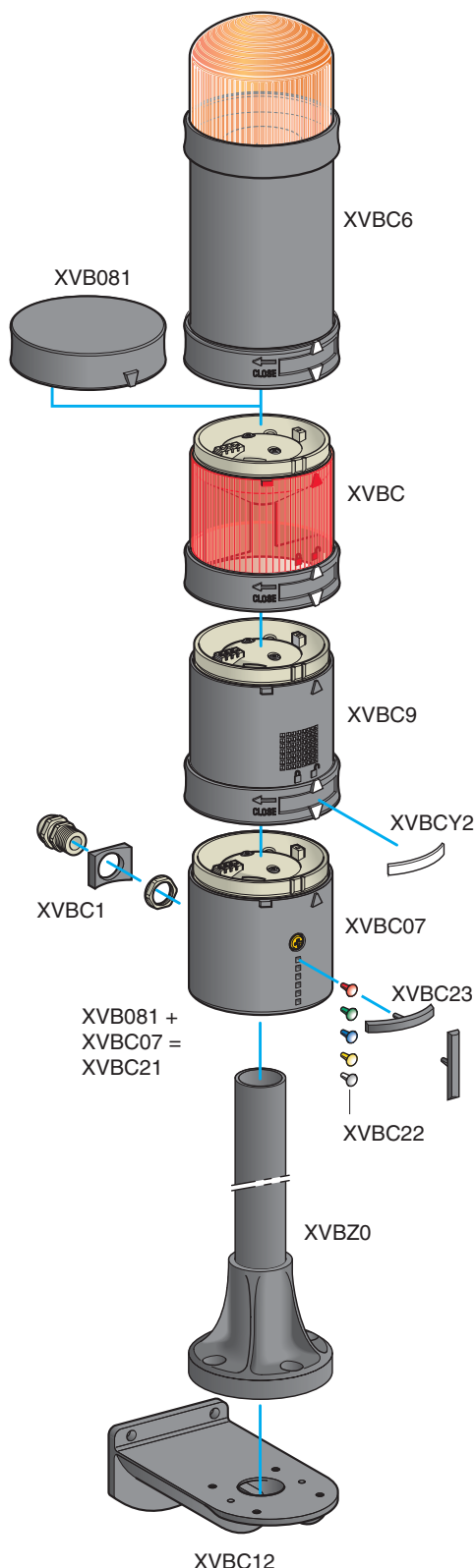


Table 19.332: Illuminated Lens Units with Steady Light (2.75 in./70 mm diameter)

Description	Light Source and Voltage	Color	Catalog Number	\$ Price
Illuminated lens unit	Bulb (10 W max) not included 250 Vac/dc max	Green	XVBC33	40.40
		Red	XVBC34	
		Orange	XVBC35	
		Blue	XVBC36	
		Clear	XVBC37	
		Yellow	XVBC38	

Table 19.333: Illuminated Lens Unit with Flashing Light (2.75 in./70 mm diameter)

Description	Light Source and Voltage	Color	Catalog Number	\$ Price
Illuminated lens unit	Bulb (10 W max) not included 24 Vac 24–48 Vdc	Green	XVBC4B3	94.00
		Red	XVBC4B4	
		Orange	XVBC4B5	
		Blue	XVBC4B6	
		Clear	XVBC4B7	
		Yellow	XVBC4B8	
	Bulb (10 W max) not included 48–230 Vac	Green	XVBC4M3	94.00
		Red	XVBC4M4	
		Orange	XVBC4M5	
		Blue	XVBC4M6	
		Clear	XVBC4M7	
		Yellow	XVBC4M8	

Note: For bulbs, see page 19-110.

Table 19.334: Illuminated Lens Units with 10 Joule Strobe (2.75 in./70 mm diameter)

Description	Light Source and Voltage	Color	Catalog Number ▲	\$ Price
Illuminated lens units	Strobe 24 Vac/dc	Green	XVBC8B3	209.00
		Red	XVBC8B4	
		Orange	XVBC8B5	
		Blue	XVBC8B6	
		Clear	XVBC8B7	
		Yellow	XVBC8B8	
	Strobe 120 Vac	Green	XVBC8G3	209.00
		Red	XVBC8G4	
		Orange	XVBC8G5	
		Blue	XVBC8G6	
		Clear	XVBC8G7	
		Yellow	XVBC8G8	
	Strobe 230 Vac	Green	XVBC8M3	209.00
		Red	XVBC8M4	
		Orange	XVBC8M5	
		Blue	XVBC8M6	
		Clear	XVBC8M7	
		Yellow	XVBC8M8	

▲ For 5 Joule units, specify XVBC6**, instead of XVBC8** (\$155.00).

Note: There are no replacement lenses units for the XVBC strobe.

Table 19.335: Audible Sounder Units (2.75 in./70 mm diameter)

Description	Supply Voltage	Catalog Number	\$ Price
Sounder unit 90 dB at 1 m Adjustable from 75–90 dB Continuous or intermittent modes	12–48 Vac/dc	XVBC9B	145.00
	120–230 Vac	XVBC9M	228.00

**Table 19.336: Base Units + Cover
(for direct or tube mounting, 2.75 in. / 70 mm diameter)**

Description	For use with	Type	Catalog Number	\$ Price
Base unit + cover for bottom or side cable entry	Banks	Standard	XVBC21	40.40

When ordering, please specify:

- Quantity
- Catalog Number

Table 19.337: Accessories Common to Beacon and Indicating Banks

Description	Characteristics		Catalog Number		\$ Price
	in.	mm			
Black tube with integral black plastic mounting base	4.72	120	XVBZ02	XVBZ02A ▲	12.50
	15.75	400	XVBZ03	XVBZ03A ▲	25.00
	31.50	800	XVBZ04	XVBZ04A ▲	50.00
Support tube concealment cover	3.94	100	XVBC020		7.80
	15.75	400	XVBC030		23.00
	31.50	800	XVBC040		41.40
Wall mount bracket	For direct mounting on base unit or with tulip XVBC11 + tube XVBC0*		XVBC12		32.30
Incandescent bulbs bayonet type BA 15d, 10 W	12 Vac/dc		DL1BLJ		5.40
	24 Vac/dc		DL1BLB		
	48 Vac/dc		DL1BLE		
	120 Vac/dc		DL1BLG		
	230 Vac/dc		DL1BLM		
Incandescent bulbs bayonet type BA 15d, 7 W	12 Vac/dc		DL1BEJ		5.40
	24 Vac/dc		DL1BEB		
	48 Vac/dc		DL1BEE		
	120 Vac/dc		DL1BEG		
	230 Vac/dc		DL1BEM		
LEDs bayonet type BA 15d (sold singly)	24 Vac/dc	White	DL1BDB1		72.00
		Green	DL1BDB3		
		Red	DL1BDB4		
		Blue	DL1BDB6		
		Yellow	DL1BDB8		
	120 Vac	Amber	DL1BDB5		72.00
		White	DL1BDG1		
		Green	DL1BDG3		
		Red	DL1BDG4		
		Blue	DL1BDG6		
		Yellow	DL1BDG8		
		Amber	DL1BDG5		
Adapter for side entry through base unit	With CM12 (p. 13.5) cable gland, for cable size of 0.4 to 0.55 in. (10 to 14 mm) diameter		XVBC14		5.20
Conduit adapter	1/2 in. NPT (for customer supplied tubing)		XVBC00		2.10

▲ Aluminum tube.

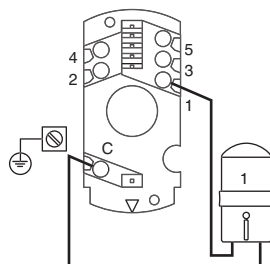
■ For 240 Vac, replace the B or G in the catalog number with M—for example, DL1BDM1. For flashing LEDs, refer to catalog 9001CT0001.

Table 19.338: Accessories Specific to Indicating Banks

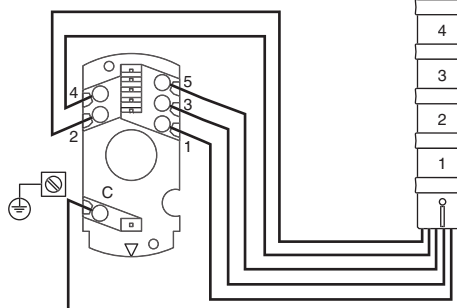
Description	Characteristics	Catalog Number	\$ Price
Set of colored markers	6 colors	XVBC22	2.10
Set of 5 legend holders	Identification of stacked units on base	XVBC23	8.30
Sheet of 85 legends for legend holder (XVBC23)	Identification of stacked units on base	XVBCY1	3.10
Sheet of 52 legends	Identification of stacked units on locking ring	XVBCY2	3.10

Wiring Diagrams, Base Units

Screw terminals
Torque to 4.4 in-lb (0.5 N•m)



2 x 16 AWG (1.5 mm²)
1 x 14 AWG (2.5 mm²)



When ordering, please specify:

- Quantity
- Catalog Number

Illuminated Beacons and Indicating Banks

XVDLS Mini Beacons, 45 mm Diameter

Refer to Catalog 9001CT0001

The XVDLS miniature illuminated beacons are designed for short distance signalling applications.

Table 19.339: Environment

Approvals	Standard version, CSA, UL  File E164353 CCN NKCR  File LR 44087 Class 3211 03	UL E164353 CCN NKCR, CSA LR 44087 Class 3211-03
Conforming to standards	 Marked	IEC/EN 60947-5-1, UL 508, CSA C22.2 No. 14
Degree of protection	To UL 50, CSA C22.2 No. 94 To IEC 529 and NF C 20-010	Type 1 IP40
Cable size	Maximum wire size	1 x 16 AWG (1.5 mm ²) with cable end
Terminals	Screw and captive cable clamp terminals Torque to 4.4 in-lb (0.5 N•m)	

Note: The XVDL miniature illuminated beacon is designed for a maximum 5 W bulb.

Table 19.340: Illuminated Beacons with Steady Light (1.75 in./45 mm diameter)

Description	Light Source	Color	Catalog Number	\$ Price
Complete unit, includes: 1 lens unit 1 base unit (direct mounting)	Incandescent bulb (5 W max) ▲ not included 250 V max	Green	XVDLS33	33.10
		Red	XVDLS34	
		Orange	XVDLS35	
		Blue	XVDLS36	
		Clear	XVDLS37	
		Yellow	XVDLS38	

▲ Bulb type for use with direct supply: BA 15d base fitting, incandescent. Maximum lamp size is 5 W.

Table 19.341: Illuminated Beacons with 0.5 Joule Strobe (1.75 in./45 mm diameter)

Description	Light Source	Color	Catalog Number	\$ Price
Complete unit, includes: 1 lens unit 1 base unit (direct mounting)	Strobe 24 Vac/dc	Green	XVDLS6B3	83.00
		Red	XVDLS6B4	
		Orange	XVDLS6B5	
		Blue	XVDLS6B6	
		Clear	XVDLS6B7	
		Yellow	XVDLS6B8	
	Strobe 120 Vac	Green	XVDLS6G3	83.00
		Red	XVDLS6G4	
		Orange	XVDLS6G5	
		Blue	XVDLS6G6	
		Clear	XVDLS6G7	
		Yellow	XVDLS6G8	
	Strobe 230 Vac	Green	XVDLS6M3	83.00
		Red	XVDLS6M4	
		Orange	XVDLS6M5	
		Blue	XVDLS6M6	
		Clear	XVDLS6M7	
		Yellow	XVDLS6M8	

Table 19.342: Accessories

Description	Supply Voltage	Color	Catalog Number	\$ Price
Incandescent bulbs bayonet type BA 15d (sold in lots of 10)	24 Vac/dc, 4 watts	—	DL1BEBS	4.10
	120 Vac/dc, 5 watts	—	DL1BEGS	
	230 Vac/dc, 5 watts	—	DL1BEMS	
LEDs bayonet type BA 15d (sold singly)	24 Vac/dc	White	DL1BDB1	72.00
		Green	DL1BDB3	
		Red	DL1BDB4	
		Blue	DL1BDB6	
		Yellow-orange	DL1BDB8	
		Amber	DL1BDB5	
	120 Vac	White	DL1BDG1	72.00
		Green	DL1BDG3	
		Red	DL1BDG4	
		Blue	DL1BDG6	
		Yellow-orange	DL1BDG8	
		Amber	DL1BDG5	

■ For 240 Vac, replace the B or G in the catalog number with M—for example, DL1BDM1. For flashing LEDs, refer to catalog 9001CT0001.

When ordering, please specify:

- Quantity
- Catalog Number



XVDLS••

Table 19.343: Environment

Approvals	Standard version, CSA, UL (Pending)	
Degree of protection	To IEC 529 and NF C 20-010 To UL 50 and CSA 22.2 No. 94	IP65 Type 4X (indoor)
Consumption	Halogen	24 Vac/dc: < 3100 mA
	Incandescent	24 Vac/dc: < 1050 mA 120 Vac: < 210 mA 230 Vac: < 110 mA
	Halogen	H1, maximum power 70 W
Bulb type	Incandescent	Bayonet type BA 15d, maximum power 25 W
Wire size	Maximum wire size	1 x 16 AWG (1.5 mm ²) with cable end

Table 19.344: Rotating Mirror Beacon (6.5 in./165 mm diameter)

Light Source	Supply Voltage	Color	Catalog Number	\$ Price
Halogen bulb 70 W	24 Vac/dc	Green	XVR1B93	185.00
		Red	XVR1B94	
		Orange	XVR1B95	
		Blue	XVR1B96	
		Yellow	XVR1B98	
Incandescent bulb 25 W	24 Vac/dc	Green	XVR1B03	168.00
		Red	XVR1B04	
		Orange	XVR1B05	
		Blue	XVR1B06	
		Yellow	XVR1B08	
	120 Vac	Green	XVR1G03	197.00
		Red	XVR1G04	
		Orange	XVR1G05	
		Blue	XVR1G06	
		Yellow	XVR1G08	
	230 Vac	Green	XVR1M03	197.00
		Red	XVR1M04	
		Orange	XVR1M05	
		Blue	XVR1M06	
		Yellow	XVR1M08	



XVR1...

Table 19.345: Accessories and Spare Parts

Description	Characteristics	Catalog Number	\$ Price
Domed replacement lens unit	Green	XVR0153	65.00
	Red	XVR0154	
	Orange	XVR0155	
	Blue	XVR0156	
	Yellow	XVR0158	
Protective grill for domed lens unit	—	XVR016	21.50
Wall mount bracket for vertical surface	—	XVR012	21.50
Mounting tulip for tube (1/2" NPT)	—	XVR013	17.60
Halogen bulbs, H1, 70 W	24 Vac/dc	DL1BRBH	39.80
Incandescent bulbs bayonet type BA 15d, 25 W (sold in lots of 10)	24 Vac/dc	DL1BRB	14.00
	120 Vac	DL1BRG	14.00
	230 Vac	DL1BRM	14.10

When ordering, please specify:

- Quantity
- Catalog Number



The indicating banks of the XVE range are designed for remote signalling of the status of a machine, equipment or specific application, either visually using illuminated units which are visible throughout 360° or audibly using an 85 dB buzzer. The XVE range provides efficient signalling (5 colors available), at medium range distances 98.4 ft (30 m), in indoor environments.

The standard configuration of the indicating banks is NEMA and UL Type 12 (IP 42) degree of protection, which is sufficient for the majority of indoor applications. Both pre-configured beacons and indicating banks can be upgraded to IP 54 by using a sealing kit.

Table 19.346: Characteristics

Environment		
Degree of protection	Conforming to IEC 60529, and UL508	- NEMA and UL Type 12 (IP 42) in vertical position - For all mounting positions using mounting base XVE Z13, - Only in vertical position for other heights of mounting base
Product certifications		 File E164353 CCN NKCR  File LR44087 Class 3211 03, and CCC
Approvals		CE
Conformity to standards		IEC/EN 60947-1, IEC/EN 60947-5-1
Ambient air temperature	Storage	- 104 to +158 °F (- 40 to +70 °C)
	Operation	- 75 to +131 °F (- 25 to +55 °C)

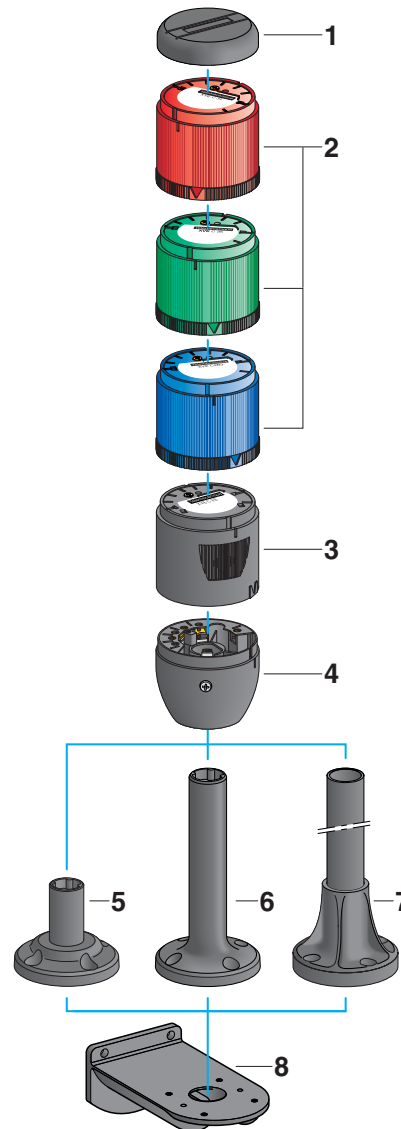
Indicating Bank

The indicating bank is a customer assembled product using:

1. A snap on cover
2. 1 to 5 colored illuminated units (green, red, orange, blue or clear) with a choice of 3 types of signalling (steady, flashing or "strobe").
3. 1 audible unit.
4. A base unit with terminal block and bottom cable entry.
5. A plastic mounting base, 0.78" (20 mm) high.
6. A plastic mounting base, 3.9" (100 mm) high.
7. An aluminium support tube, black or silver finish, length: 3.1" (80 mm), 15.7" (400 mm), or 31.5" (800 mm), pre-fitted and glued into a mounting base.

To be ordered separately:

8. Base plate for mounting on vertical support.



Composition of an indicating bank:



1. Cover and base unit (+)
2. Illuminated or audible units (5 units max.) (+)
3. Mounting base



XVE C3●



XVE C2●●●



XVE C5●●●



XVE C6●●●

Table 19.347: Illuminated Units with Steady Light

Description	Light source	Supply voltage	Color of lens	Catalog Number	\$ Price
Lens units only for BA 15d base fitting bulb	Bulb, not included, 5 W max.	$\approx$ 240 Vac/dc max.	Green	XVEC33	16.00
			Red	XVEC34	
			Orange	XVEC35	
			Blue	XVEC36	
			Clear	XVEC37	
Illuminated units	Integral LED	$\approx$ 24 Vac/dc	Green	XVEC2B3	40.00
			Red	XVEC2B4	
			Orange	XVEC2B5	
			Blue	XVEC2B6	
			Clear	XVEC2B7	
		$\sim$ 120 Vac	Green	XVEC2G3	
			Red	XVEC2G4	
			Orange	XVEC2G5	
			Blue	XVEC2G6	
			Clear	XVEC2G7	

Table 19.348: Illuminated Units with Flashing LED

Illuminated units	Integral LED	$\approx$ 24 Vac/dc	Green	XVEC5B3	60.00
			Red	XVEC5B4	
			Orange	XVEC5B5	
			Blue	XVEC5B6	
			Clear	XVEC5B7	
		$\sim$ 120 Vac	Green	XVEC5G3	
			Red	XVEC5G4	
			Orange	XVEC5G5	
			Blue	XVEC5G6	
			Clear	XVEC5G7	

Table 19.349: Illuminated Units with Strobe Light

Illuminated units	Discharge tube, 1 Joule	$\approx$ 24 Vac/dc	Green	XVEC6B3	70.00
			Red	XVEC6B4	
			Orange	XVEC6B5	
			Blue	XVEC6B6	
			Clear	XVEC6B7	
		$\sim$ 120 Vac	Green	XVEC6G3	
			Red	XVEC6G4	
			Orange	XVEC6G5	
			Blue	XVEC6G6	
			Clear	XVEC6G7	

Table 19.350: Audible Sounder Units, Base Units and Covers

Indicating bank usage	Composition		
NEMA and UL Type 12 (IP 42)	Base unit and cover	XVEC21	16.00
Additional protection (IP 54)	Base unit with seal + screw mounting cover + kit comprising 5 seals for lens units and buzzer + 1 seal for mounting base XVE Z13	XVEC21P	20.00

Description	Supply Voltage	Catalog Number	Price
Audible Sounder Units	24 Vac/dc	XVEC9B	60.00
	120 Vac	XVEC9G	60.00
	230 Vac	XVEC9M	60.00

Table 19.351: Mounting Components and Bulbs

Description	Height under base unit in. (mm)	Color	
Plastic mounting bases	0.78 (20)	Black	XVEZ13 8.00
	3.93 (100)	Black	XVDC02 10.00
Mounting bases comprising: Ø 25 mm aluminium support tube + black plastic mounting support	3.15 (80)	Black aluminium	XVBZ02 12.50
		Aluminium	XVBZ02A 12.50
	15.7 (400)	Black aluminium	XVBZ03 25.00
		Aluminium	XVBZ03A 25.00
	31.5 (800)	Black aluminium	XVBZ04 50.00
		Aluminium	XVBZ04A 50.00

Description	Electrical characteristics		
Clear incandescent bulbs with BA 15d base fitting for lens units type XVE C3●	5 W, $\approx$ 24 Vac/dc	DL1BEBS	4.10
	5 W, $\approx$ 120 Vac/dc	DL1BEGS	
	5 W, $\approx$ 230 Vac/dc	DL1BEMS	



XVE C21



XVE C21P



XVE Z13



XVD C02



XVB Z02



XVB Z03



DL1 BE●S

Table 19.352: Environment

Approvals	UL Listed, CSA Certified		
	 File E164353 CCN NKCR	 File LR 44087 Class 3211 03	 File E164353 CCN NKCR 2
Conforming to standards	 Marked		IEC/EN 60947-5-1, UL 508
Protective Treatment	"TC"		
Degree of protection	To IEC 60529 and NF C 20-010 To UL 50 and CSA 22.2 No. 94		IP65 Type 1, 12 and 13

Table 19.353: Electrical Characteristics

Consumption	LED unit	24 Vac/dc: < 60 mA; 120–230 Vac: < 20 mA
	Steady incandescent bulb 7 W	24 Vac/dc: < 300 mA; 120–230 Vac: 65–35 mA
	Flashing	24 Vac or 24 Vdc: < 250 mA; 120–230 Vac: < 30 mA
	Unit with strobe (on energization)	24 Vdc: 0.3 Joules, 40 mA; 120 Vac: 0.6 Joules, 20 mA; 230 Vac: 0.6 Joules, 11 mA
	Audible sounder units	24 Vdc, 12 mA; 120 Vac, 15 mA; 230 Vac, 15 mA
Cable size	Maximum wire size	2 x 16 AWG (1.5 mm ²) with cable end
Terminals	Torque requirement	Removable and captive screw terminals: 4.4 in-lb (0.5 N•m)

Components

Table 19.354: Base Units with Cover (for direct or tube mounting)

Description	Color	For use with Indicating Banks	Catalog Number	\$ Price
50 mm base unit	Black	50 mm diameter only	XVPC21	32.00
50 mm base unit	Off-white	50 mm diameter only	XVPC21W	
50 mm base unit with ring-tongue compatible terminal		50 mm diameter only	XVPC21WR	

Table 19.355: Illuminated Lens Units

Description	Ring Color	Light Source and Voltage	Lens Color	Catalog Number	\$ Price
Steady or Flashing					
50 mm steady lens unit (See Table 19.358 on page 19-116 to select steady or flashing mode)	Black	Bulb (7 W max) not included 250 V max	Green Red Amber Blue Clear Yellow	XVPC33 XVPC34 XVPC35 XVPC36 XVPC37 XVPC38	29.00
	Off-white	Bulb (7 W max) not included 250 V max	Green Red Amber Blue Clear Yellow	XVPC33W XVPC34W XVPC35W XVPC36W XVPC37W XVPC38W	29.00
Strobe					
50 mm strobe lens unit	Black	Strobe 24 Vdc 0.3 Joule	Green Red Amber Blue Clear Yellow	XVPC6B3 XVPC6B4 XVPC6B5 XVPC6B6 XVPC6B7 XVPC6B8	124.00
		Strobe 120 Vac 0.6 Joule	Green Red Amber Blue Clear Yellow	XVPC6G3 XVPC6G4 XVPC6G5 XVPC6G6 XVPC6G7 XVPC6G8	
	Off-white	Strobe 24 Vdc 0.3 Joule	Green Red Amber Blue Clear Yellow	XVPC6B3W XVPC6B4W XVPC6B5W XVPC6B6W XVPC6B7W XVPC6B8W	
		Strobe 120 Vac 0.6 Joule	Green Red Amber Blue Clear Yellow	XVPC6G3W XVPC6G4W XVPC6G5W XVPC6G6W XVPC6G7W XVPC6G8W	

Table 19.356: Audible Sounder Units (must be the top unit)

Description	Ring Color	Supply Voltage	Catalog Number	\$ Price
50 mm sounder unit (IP40 NEMA 1)	Black	24 Vdc 120 Vac 230 Vac	XVPC09B XVPC09G XVPC09M	104.00
	Off-white	24 Vdc 120 Vac 230 Vac	XVPC09BW XVPC09GW XVPC09MW	

When ordering, please specify:

- Quantity
- Class Number (if appropriate)
- Type or Catalog Number



XVPC21



Lens Unit
with Black Ring



XVPC09B



DL1BEJ



DL1BDB1



XVPC12



XVPC02



XVPC03T
(With Base and Lenses)

Table 19.358: LEDs

Description	Voltage	Color	Catalog Number	\$ Price
Steady-On LEDs 	24 Vac/dc	White Green Red Amber Blue Yellow	DL1BDB1 DL1BDB3 DL1BDB4 DL1BDB5 DL1BDB6 DL1BDB8	72.00
	120 Vac	White Green Red Amber Blue Yellow	DL1BDG1 DL1BDG3 DL1BDG4 DL1BDG5 DL1BDG6 DL1BDG8	
	230 Vac	White Green Red Amber Blue Yellow	DL1BDM1 DL1BDM3 DL1BDM4 DL1BDM5 DL1BDM6 DL1BDM8	
Flashing LEDs 	24 Vac/dc	White Green Red Amber Blue Yellow	DL1BKB1 DL1BKB3 DL1BKB4 DL1BKB5 DL1BKB6 DL1BKB8	93.00
	120 Vac	White Green Red Amber Blue Yellow	DL1BKG1 DL1BKG3 DL1BKG4 DL1BKG5 DL1BKG6 DL1BKG8	
	230 Vac	White Green Red Amber Blue Yellow	DL1BKM1 DL1BKM3 DL1BKM4 DL1BKM5 DL1BKM6 DL1BKM8	

Table 19.359: Incandescent Bulbs

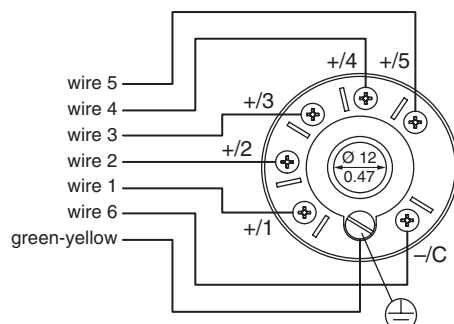
Description	Voltage	Catalog Number	\$ Price
Bayonet type BA 15d, 7 W	12 Vac/dc	DL1BEJ	5.40
	24 Vac/dc	DL1BEB	
	48 Vac/dc	DL1BEE	
	120 Vac/dc	DL1BEG	
	230 Vac/dc	DL1BEM	

Table 19.360: Accessories

Description	Color	Characteristics		Catalog Number	\$ Price
		IN	mm		
Threaded tube with bracket	Silver	4	100	XVPC02T	21.70
		10	250	XVPC03T	26.90
		16	400	XVPC04T	32.00
Tube with tulip base	Black	4	100	XVPC02	21.70
		10	250	XVPC03	32.00
		16	400	XVPC04	32.00
	Off-white	4	100	XVPC02W	26.90
		10	250	XVPC03W	26.90
		16	400	XVPC04W	32.00
Wall mounting bracket	Black Off-white	—	—	XVPC12 XVPC12W	10.40
Bulb mounting and removal tool	—	—	—	XVPCX13	5.20

Wiring Diagram

Cable Connections, Supply line maximum: 1.5 mm² (16 AWG)



When ordering, please specify:

- Quantity
- Catalog Number



The Class 9001 BW70 and BW80 pendant stations are used for hoist applications, requiring either single speed or two speed buttons. The thermoplastic enclosure has a 1/2 in. conduit entrance at top to accept a pendant cable and has internal strain relief provided as standard. The stations are rated NEMA 1, 3, 3R, 4 and 4X. The enclosure

is available in three colors. All universal stations have double circuit blocks (1 N.O./1 N.C.) on each button and come without legends so they can be assembled to fit the application. For convenience, push buttons have interchangeable legend inserts. The complete line is UL listed and C.S.A. approved.

Table 19.361: BW70 and BW80 Pendant Stations

No. of Units	Description	Legend Insert Markings	Mechanical Interlock	Enclosure Color			\$ Price	Contact Symbol	Replacement Interior		
				Yellow	Black	Red			9001 Type	Contact Symbol	\$ Price
2	Single Speed	Up-Down	Yes	BW72Y	BW72B	BW72R	84.00	146	BOC368	146	60.00
		Forward-Reverse	Yes	BW73Y	BW73B	BW73R	84.00	146	BOC368	146	60.00
		On-Off▲	Yes	BW74Y	BW74B	BW74R	113.00	10	BOC358	147	60.00
		Start-Stop	No	BW75Y	BW75B	BW75R	84.00	145	BOC359	25	60.00
		Start-Stop▲	Yes	BW76Y	BW76B	BW76R	113.00	10	BOC358	147	60.00
		On-Off	No	BW77Y	BW77B	BW77R	84.00	146	BOC359	25	60.00
		On-Off	No	BW79Y	BW79B	BW79R	84.00	145	BOC359	25	60.00
		Up-Down	Yes	BW78Y	BW78B	—	84.00	100	—	—	—
		without Legend Inserts	Yes	BW70YU	BW70BU	BW70RU	80.00	147	BOC366	25	60.00
		without Legend Inserts	No	BW71YU	BW71BU	BW71RU	80.00	25	BOC359	25	60.00
		without Legend Inserts▲	Yes	BW74YU	BW74BU	BW74RU	108.00	147	BOC358	147	60.00
		without Legend Inserts	Yes	BW80YU	BW80BU	BW80RU	123.00	150	BOC367	150	105.00
	Two Speed	Up-Down	Yes	BW82Y	BW82B	BW82R	128.00	150	BOC367	150	105.00

▲ Maintained contact

Table 19.362: Interchangeable Push Button Legend Inserts

Marking	For NEMA 4X Type BW70s and BW80s	Mushroom Button Inserts for NEMA 4X Type BW70s and BW80s	\$ Price Each
	Type	Type	
Start	B259	B282	2.40
Stop	B260	B283	
Forward	B255	B278	
Reverse	B256	B279	
Open	B263	B286	
Close	B264	B287	
Raise	B261	B284	
Lower	B262	B285	
Up	B253	B276	
Down	B254	B277	
On	B257	B280	
Off	B258	B281	
Hand	B265	B288	
Auto	B266	B289	
Blank-Black	B251	B251	
Blank-Red	B252	B252	

Note: Order must specify quantity of 10 or multiples of 10.

Table 19.363: Legend Insert Kit

Where Used:	Type	\$ Price
For NEMA 4X Type BW70s and BW80s	Push Button	B250 (Incl's 1 each of B253 thru B266) 68.00
	Mushroom Button	B300 (Incl's 1 each of B276 thru B289) 124.00

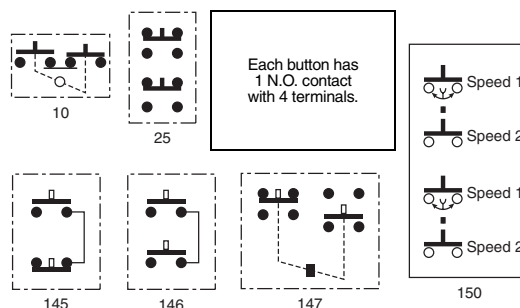
Table 19.364: Hanger Bracket

	Form	\$ Price
	Y236	7.00

Note: Addition of External hanger bracket (similar to the one used on Class 9001 Type SKYP Pendant Stations). Use when polymeric cord connectors are required. **Cannot be field installed.**

Note: For Dimensions see catalog 9001CT0001

Contact Symbol



File E42259
CCN NKCR



File LR25490
Class 32 1103



Marking

Table 19.365: Replacement Enclosures

Description	Yellow	\$ Price	Red	\$ Price	Black	\$ Price
Box & Cover with 4 screws	BWRY	36.00	BWRR	36.00	BWRB	36.00

Table 19.366: Mushroom Button (less button insert)—For NEMA 4X, Type BW70 and BW80

Color	Type	\$ Price
Red	B303	9.50

Table 19.367: Hanger Bracket and Seal Kit

	Type	\$ Price
	B350	4.80

Table 19.368: Electrical Contact Ratings (BW70s and BW80s)

AC—NEMA B600							DC—NEMA P600)		
Volts■	Inductive 35% Power Factor					Resistive 75% Power Factor	Volts	Inductive and Resistive	
	Make		Break		Continuous Carrying Amperes	Make, Break and Continuous Carrying Amperes		Make and Break Amperes	Continuous Carrying Amperes
	Amperes	VA	Amperes	VA					
120	30.	3600	3.	360	5	5	120	1.1	5
240	15.	3600	1.5	360	5	5	240	.55	5
480	7.5	3600	.75	360	5	5	480	.2	5
600	.6	3600	.6	360	5	5	600		

■ OSHA Regulation, Section 1910.70 Overhead and Gantry Cranes, limits the voltage at Pendant Push Buttons to 150 Vac or 300 Vdc.

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number



XACA201

Table 19.369: Specifications

Electrical ratings	NEMA A600, Q600		
Enclosure XACAO•	NEMA 4, 4X (Indoor/Outdoor), 5 IP65		
XACA2O• (Pistol grip)	NEMA 4, 4X (Indoor), 5 IP65		
Cabling	Screw and captive clamp terminals. Recommended torque 15.62 in.-lb. Capacity: minimum 1 x 0.5 mm ² (20 AWG) solid or stranded, maximum with or without cable end: 2 x 1.5 mm ² (16 AWG) or 1 x 2.5 mm ² (14 AWG) or by cable clips conforming to NF C 20-120 (on request).		
Approvals	For XACA	 File E 164353 CCN NKCR	 File LR 44087 Class 3211 03
			 Marked

Table 19.370: Pistol Grip Stations

Description	Speeds	Function 1 speed/2 speed	Catalog Number	\$ Price
1 N.O. contact per operator 2 Mechanically interlocked operators	1		XACA201 ▲	136.00
2 N.O. (staggered) contacts per operator 2 Mechanically interlocked operators	2		XACA207 ▲	202.00
1 N.O. + 1 N.C. 2 Mechanically interlocked operators	1		XACA205 ▲	170.00
1 N.O. contact per direction 1 Mechanically interlocked 2 way toggle	1		XACD21A0101 ■	152.00
1 N.O. + 1 N.O. staggered 1 Mechanically interlocked 2 way toggle	2		XACD21A1231 ■	410.00
1 N.O. & 1 N.C. contact per direction 1 Mechanically interlocked 2 way toggle	1		XACD21A0105 ■	184.00
1 N.C. + 1 N.O. + 1 N.O. staggered 1 Mechanically interlocked 2 way toggle	2		XACD21A1241 ■	436.00

- ▲ These units are available with factory installed E-stops. Add a "3" to the end of the catalog number for standard E-stop or add a "4" for a trigger action E-stop. Consult your local Square D sales office for price adder.
- These units are available with a factory installed E-stop. Use XACD22*** for a standard E-stop or XACD24*** for a trigger action E-stop.

Table 19.371: General Purpose Pendants♦

Enclosures	Catalog Number	\$ Price
2 hole enclosure	XACA02	192.00
3 hole enclosure	XACA03	220.00
4 hole enclosure	XACA04	250.00
6 hole enclosure	XACA06	306.00
8 hole enclosure	XACA08	382.00
12 hole enclosure	XACA12	478.00

- ♦ Standard enclosures include internal mounting plate, cable sleeve for 8 to 26 mm, internal cable clamp, suspension ring and cable tie.
- ★ The top hole accepts the 30 mm diameter mushroom head (E-stop) ZA2BS44.

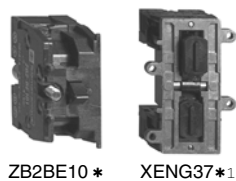
When ordering, please specify:

- Quantity
- Catalog Number



XACA06

XACA03
with
operators



ZB2BE10 * XENG37*1

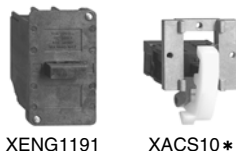
Table 19.372: Contact Blocks for Operators in Cover

Description	Wiring Diagram	Catalog Number	\$ Price
1 N.O./spring return/1 speed	—	ZB2BE101	16.40
1 N.C./spring return/1 speed	—	ZB2BE102	
1 N.O. early close & 1 N.C. & 1 N.O./spring return/2 speed	Figure 1	XENG1191	49.00
1 N.C. & 2 N.O./spring return/1 speed	Figure 2	XENG1491	
1 N.O. & 1 N.O. latching/1 speed/interlocked	Figure 3	XENG3781	
1 N.O. & 1 N.C. latching/1 speed/interlocked	Figure 4	XENG3791	
3 N.C.—all ⊖ direct acting	Figure 5	XENT1192	

Table 19.373: Contact Blocks for Operators in Base of Enclosure ▲

1 N.O./1 speed	XACS101	28.60
1 N.C./1 speed	XACS102	28.60
2 N.O./1 speed	XACS103	38.20
2 N.C./1 speed	XACS104	38.20
1 N.O. & 1 N.C./1 speed	XACS105	38.20

▲ Cannot be used with XACA03 pendant.



XENG1191 XACS10*

Wiring Diagrams

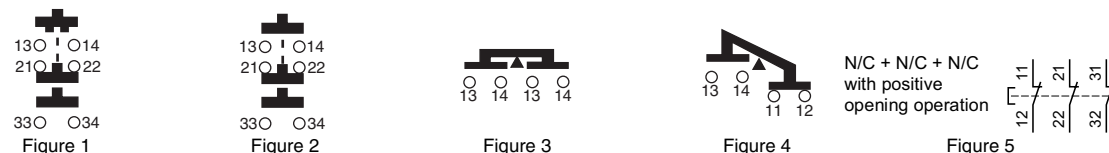


Table 19.374: Operators ■

Description	Color	Catalog Number	\$ Price
Booted push button	White	XACA9411	8.20
	Black	XACA9412	
	Green	XACA9413	
	Red	XACA9414	
	Yellow	XACA9415	
	Blue	XACA9416	
	Brown	XACA9419	



Booted Push Button

Table 19.375: Mushroom Operators

Description	Mushroom Size	Color	Catalog Number	\$ Price
Mushroom head, momentary	30 mm	Black	ZA2BC24	36.80
		Red	ZA2BC44	
Mushroom head, momentary	40 mm	Black	ZA2BC2	36.80
		Red	ZA2BC4	
Mushroom head, push to maintain/turn-to-release	30 mm	Red	ZA2BS44	79.00
		Red	ZA2BS54	79.00
Mushroom head, push to maintain/turn-to-release (trigger action) ♦	30 mm	Red	ZA2BS834	112.00
		Red	ZA2BS844	112.00
Mushroom head, push to maintain/key turn-to-release	30 mm	Red	ZA2BS74	112.00
		Red	ZA2BS14	112.00
Mushroom head, push to maintain/key turn-to-release (trigger action) ♦	40 mm	Red	ZA2BS944	112.00



Mushroom Head



Selector Switch

Table 19.376: Selector Switches and Wobble Stick

Description	Color	Catalog Number	\$ Price
Selector switch/2 position—maintained★	Black	ZA2BD2	30.00
Selector switch/3 position—maintained★	Black	ZA2BD3	30.00
Selector switch/2 position—maintained key operated—key removal from LT or RT position★	NA	ZA2BG4	112.00
Selector switch/3 position—maintained key operated—key removal from LT or RT position★	NA	ZA2BG5	112.00
Wobble stick (bottom mounting recommended)	Black	ZA2BB2	102.00
	Red	ZA2BB4	



Selector Switch
(key operated)

Table 19.377: Pilot Light Components

Description	Color	Catalog Number	\$ Price
Direct supply base/without lamp (for 6 to 120 V applications) (AC/DC)	—	ZB2BV006	24.60
Resistor supply base/with 130 V lamp (for 220–240 V applications) (AC/DC)	—	ZB2BV007	52.00
Pilot light operators for incandescent lamps	Green	ZA2BV03	9.60
	Red	ZA2BV04	
	Amber	ZA2BV05	
	Blue	ZA2BV06	
	Clear	ZA2BV07	
Pilot light operators for LED lamps	Green	ZA2BV033	9.60
	Red	ZA2BV043	
	Amber	ZA2BV053	

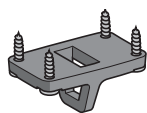


Wobble Stick

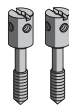
- Booted push buttons are for cover mounting only. All other operators can be mounted on cover or bottom.
- ♦ Trigger action mushroom heads are tamper proof in that a change of contact state is not possible by teasing or floating the operator.
- ★ Not for use with XEN G contact blocks.

When ordering, please specify:

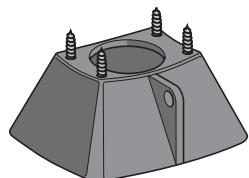
- Quantity
- Catalog Number



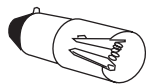
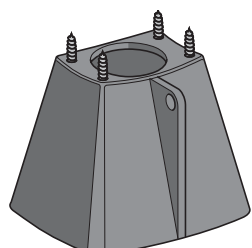
XACA971



XACB961



XACA982

DL1CE0●●
(Incandescent)

XACA983

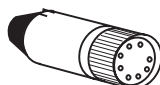
DL1CJUS●●●●
(LED)

Table 19.378: Enclosure Accessories

Description	Catalog Number	\$ Price
Blank hole plug	ZB2SZ3	13.60
Mechanical interlock (momentary). For use with XAC booted operators only	XACA009	8.20
Screw adapter for self-supporting cable	XACB961	6.80
Low suspension ring for single row station	XACA971	19.20
Protective guard for bottom mounted mushroom head	XACA982	19.20
Protective guard for bottom mounted selector switch or key switch	XACA983	27.40

Table 19.379: Lamps

Type	Voltage	Watts	Catalog Number	\$ Price
Replacement bulbs (Type BA9s) Incandescent	6 Vac/dc	1.2	DL1CB006	11.00
	12 Vac/dc	2.0	DL1CE012	
	24 Vac/dc	2.0	DL1CE024	
	48 Vac/dc	2.4	DL1CE048	
	130 Vac/dc	2.6	DL1CE130	
Neon (use with direct supply light module)	120 Vac/dc	—	NE51HRT120V	15.20
	220 Vac/dc	—	NE51HRT220V	
	380 Vac/dc	—	NE51HRT380V	

Table 19.380: LED, BA9s Base

Type	Color	Voltage	Catalog Number	\$ Price
LED, BA9s base for Direct Supply blocks	Green	6 Vac/dc	DL1CJUS0063	25.00
	Red	6 Vac/dc	DL1CJUS0064	
	Amber	6 Vac/dc	DL1CJUS0065	
	Green	12 Vac/dc	DL1CJUS0123	
	Red	12 Vac/dc	DL1CJUS0124	
	Amber	12 Vac/dc	DL1CJUS0125	
	Green	24 Vac/dc	DL1CJUS0243	
	Red	24 Vac/dc	DL1CJUS0244	
	Amber	24 Vac/dc	DL1CJUS0245	
	Green	120 Vac/dc	DL1CJUS1203	
	Red	120 Vac/dc	DL1CJUS1204	
	Amber	120 Vac/dc	DL1CJUS1205	

Table 19.381: PVC Standard Legend Plates 30 x 40 mm

Text▲	Catalog Number	\$ Price	Text▲	Catalog Number	\$ Price	Text▲	Catalog Number	\$ Price
Bridge Forward	ZB2BY2343	4.20	Left	ZB2BY2310	4.20	Stop	ZB2BY2304	4.20
Bridge Reverse	ZB2BY2344		Low	ZB2BY2336		Stop Start	ZB2BY2366	
Close	ZB2BY2314		Lower	ZB2BY2337		Trolley Right	ZB2BY2345	
Down	ZB2BY2308		Man Auto	ZB2BY2372		Trolley Left	ZB2BY2346	
Emergency Stop	ZB2BY2330		Off	ZB2BY2312		Up	ZB2BY2307	
Fast	ZB2BY2328		On	ZB2BY2311		Up Down	ZB2BY2370	
Forward	ZB2BY2305		Off On	ZB2BY2367		Up-O-Down	ZB2BY2389	
For Rev	ZB2BY23		Open	ZB2BY2313		North	6516002379	
For-O-Rev	ZB2BY2384		Open Close	ZB2BY2376		South	6516002380	
Hand Off Auto	ZB2BY2387		Open-O-Close	ZB2BY2388		East	6516002381	
High	ZB2BY2338		Out	ZB2BY2339		West	6516002382	
High Low	ZB2BY2369		Power On	ZB2BY2326		Trolley North	6516002383	
Hoist Down	ZB2BY2342		Raise	ZB2BY2335		Trolley South	6516002384	
Hoist Up	ZB2BY2341		Reset▲	ZB2BY2323		Trolley East	6516002385	
In	ZB2BY2503		Reverse	ZB2BY2306		Trolley West	6516002386	
Inch	ZB2BY2321		Right	ZB2BY2309		Bridge North	6516002387	
Jog For	ZB2BY2381		Run	ZB2BY2334		Bridge South	6516002388	
Jog Rev	ZB2BY2380		Slow	ZB2BY2327		Bridge East	6516002389	
Jog Run	ZB2BY2365		Start	ZB2BY2303		Bridge West	6516002390	

▲ All nameplates are black with white lettering except "Stop", "Emergency Stop" and "Reset" which are red with white lettering.
 For black "Reset" change final digit of catalog number to 2.

Type	Description	Catalog Number	\$ Price
PVC blank legend	Blank	ZB2BY2101	4.20
	Blank	ZB2BY4101	
PVC custom engraved	Special engraving■	ZB2BY2002	17.80
	Special engraving■	ZB2BY2004	
	Special engraving■	ZB2BY4001	
	Special engraving■	ZB2BY4005	

■ Please specify lettering when ordering. Two lines with 11 characters (including spaces) maximum on each plate.

When ordering, please specify:

- Quantity
- Catalog Number

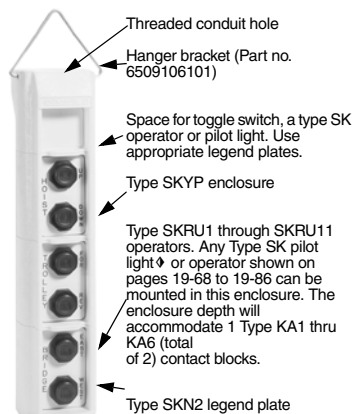
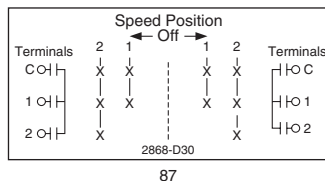
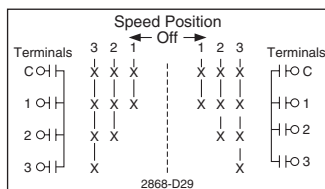


Table 19.384: Multispeed Contact Symbols

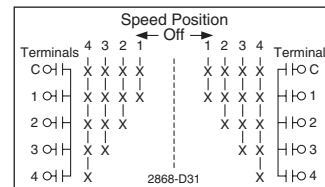
Table 19.385: ("X" = Contact Closed)



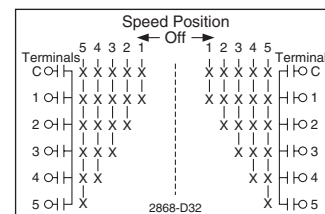
87



88



89



90

Table 19.382: Enclosures (NEMA 1, 2, 3, 4, 4X, 12, 13)

Size	Conduit Entrance Size	Enclosure Only ■	Enclosure for Assembled Station ▲	\$ Price
		Type	Type	
2 Button	.75 in.—14NPT	SKYP2	SKYP20	126.00
4 Button	.74 in.—14 NPT	SKYP4	SKYP40	159.00
6 Button	1 in.—11.5 NPT	SKYP6	SKYP60	191.00
8 Button	1.25 in.—11.5 NPT	SKYP8	SKYP80	237.00
10 Button	1.25 in.—11.5 NPT	SKYP10	SKYP100	285.00

- ▲ Class 9001 SK push-to-test pilot lights, remote test pilot lights and potentiometers will not fit in these enclosures.
■ Assembled pendant stations consist of an enclosure, operators and legend plates. The price of the total station consists of the prices of the individual components - there is no charge for assembly. **Example: 9001 SKYP20 plus 9001 SKRU5 plus 9001 SKN201; total price is \$368.70.** All custom orders must include pendant key sheet available from Square D sales offices or distributors.

Table 19.383: Push Button Units★

Number of Buttons per Unit	Description	Contact Symbol—See Below	Type ♦	\$ Price
2	Single Speed—Momentary Interlocked	7	SKRU1	86.00
2	Single Speed—Momentary Non-Interlocked	5	SKRU10	71.00
2	Single Speed—Maintained Interlock	10	SKRU11	99.00
2	Two Speed—Momentary Interlocked	87	SKRU2	180.00
2	Three Speed—Momentary Interlocked	88	SKRU3	213.00
2	Four Speed—Momentary Interlocked	89	SKRU4	227.00
2	Five Speed—Momentary Interlocked	90	SKRU5	237.00

- ♦ Types SKRU 1, 10 and 11 use Type KA contact blocks. Types SKRU 2 thru 5 are factory enclosed contact blocks.
★ For ring nuts see page 19-86. For protective boots, use 9001KU37 as shown on page 19-83.

Table 19.386: Legend Plates

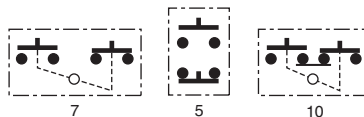
	Where Used	Marking	Type	\$ Price
	For SKRU1 through SKRU11	Blank-Blank	SKN200★	5.70
		Hoist: Up-Down	SKN201	5.70
		Trolley: East-West	SKN202	5.70
		Trolley: Fwd.-Rev.	SKN203	5.70
		Trolley: North-South	SKN204	5.70
		Bridge: Fwd.-Rev.	SKN205	5.70
		Bridge: East-West	SKN206	5.70
		Bridge: North-South	SKN207	5.70
		Start-Stop	SKN208	5.70
		Reset-Stop	SKN209	5.70
		Aux Hoist: Up-Down	SKN210	5.70
		Power: On-Off	SKN211	5.70
		Specify Marking	SKN299	24.80
	With Toggle Switch ▼ in Top Space of Enclosure	Blank	SKN500□	8.60
		Off-On	SKN544□	8.60
		On-Off	SKN545□	8.60
		Specify Marking	SKN599□	18.00
	With Type SK Operator or Pilot Light ▲ in Top Space of Enclosure	Blank	SKN100♦	2.90
		On	SKN103	2.90
		Off	SKN104	2.90
		Emerg. Stop	SKN105	2.90
		Run	SKN124	2.90
		Power On	SKN138	2.90
		Off-On	SKN144	2.90
		Specify Marking	SKN199♦	12.30

- ▼ Can be supplied by Square D as Class 9001 Type SKSTS1 at \$35.60—includes boot for NEMA 4X rating.
▲ See Class 9001 Type SK, pages 19-68 to 19-86.
□ Includes legend plate, gasket and ground plate to be used with toggle switch.
♦ Tri-laminated legend plate having a yellow or red background on a black core.
★ 19 characters each side max.

Table 19.387: Closing Plate

	Type	\$ Price
	SK52	9.50

Single Speed Contact Symbols



File CCN E42259 NKCR



File Class LR25490 321103



Marked

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Heavy Duty Industrial Foot Switches—Oiltight, Watertight, Dusttight and Driptight Enclosure, NEMA 2, 4 and 13



HAZARDOUS APPLICATIONS

HAZARDOUS APPLICATIONS

Do not use foot switches on machines without point-of-operation protection.

Failure to follow this precaution will result in serious injury.



Type AW Foot Switch with Top Pedal Shield and Side Shields



Type AW with Oversized Pedal Shield and Side Shields



Type AW Foot Switch without Pedal Shield

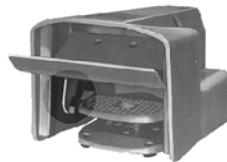
Foot Switch Selection

Foot switches are used to control many industrial processes, while leaving the operator's hands free to perform other functions. The type or model of foot switch suitable for each application will vary depending on factors such as the control function required, degree of protection required, production methods, unusual conditions, government regulations, etc. In some applications more than one foot switch may be required, as when two or more persons are operating a machine. In these cases, safe practice and regulations require that the foot switches be wired in series making it necessary that each operator's foot switch be actuated before the machine will cycle.

Only the user can be aware of all the conditions and factors present during setup, operation and maintenance of the machine; therefore, only the user can determine which foot switch(es) can be properly used. When selecting a foot switch for a particular application, the user should refer to the applicable ANSI standards and OSHA regulations. The National Safety Council's Accident Prevention Manual also provides much useful information.

In some applications, such as power presses, additional operator protection such as point-of-operation guarding must be provided when a foot switch is used as an actuator. This is necessary since the operator's hands and other parts of the body are free to enter the pinch point area and serious injury can occur. The shielding provided on foot switches cannot protect an operator from injury. For this reason the foot switch cannot be substituted for or take the place of point-of-operation protection.

A Trilingual Danger Sign regarding the need for point-of-operation protection is supplied with each foot switch. The sign incorporates three languages: English, Spanish and French. Additional copies of the sign are available by contacting your Square D sales office.



Type AW Fully Shielded Foot Switch with Oversized Pedal Shield, Side Shields and Safety Door. The Safety Door is interlocked with the pedal to prevent operation due to shock or vibration. It prevents accidental pedal operation by requiring a simple but intentional motion to lift the door before inserting the foot.

Table 19.388: Foot Switches

Description	Features	Fully Shielded with Oversized Pedal Shield, Side Shields and Safety Door		With Oversized Pedal Shield and Side Shields		With Pedal Shield and Side Shields		UNSHIELDED (See Warning note★)	
		Type	\$ Price	Type	\$ Price	Type	\$ Price	Type	\$ Price
Single Pole ■ Double Throw	Spring Return With Mechanical Latch	AW117	500.00	AW132	500.00	AW2	242.00	AW1	264.00
Two Pole ■ Double Throw	Spring Return With Mechanical Latch	AW124 ▲	602.00	AW133	602.00	AW14	351.00	AW13	383.00
Two Stage ■ (One Pole Each Stage) Table 1	Spring Return With Mechanical Latch in 1st Stage With Mechanical Latch in 2nd Stage	AW119	620.00	AW134	620.00	AW6	362.00	AW5	393.00
Four Stage ■ (One Pole Each Stage) Table 2	Spring Return	AW123	863.00	—	—	AW22	608.00	AW21	663.00
Single Pole Single Throw	Maintained Contact—Push On/Push Off	—	—	—	—	AW12	351.00	AW11	383.00
Replacement Cover Assembly	—	AC5	242.00	AC7	242.00	AC8 ♦	93.00	AC1	102.00

▲ 2 N.O. and 2 N.C. isolated, direct acting contacts.

■ A single pole snap switch that contains two double break contact elements (1 N.O. and 1 N.C.) must be used on circuits of same polarity.

A double pole snap switch contains two electrically separated sets of contact elements allowing use on circuits of opposite polarity. Each set that contains two double break contact elements (1 N.O. and 1 N.C.) must be used on circuits of same polarity.

♦ For replacement cover drilled to accept latch. For Series C foot switches order AC9. Price is \$182.00 No replacement cover available for Series A or B devices drilled to accept latch. AC8 is spring return only.

★ WARNING: These foot switches must not be used to operate machines or equipment where the possibility of operator injury exists. Typical uses include Emergency Stop functions, "Dead Man" controls, signal functions (lights, bells, etc.).



File
CCN

E42259
NKCR



File
Class

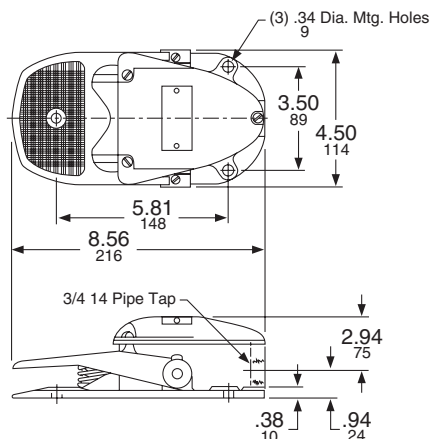
LR25490
184 N 13.1U

For replacement parts for Class 9002 Type AW: See instruction bulletin 65013-010-31.

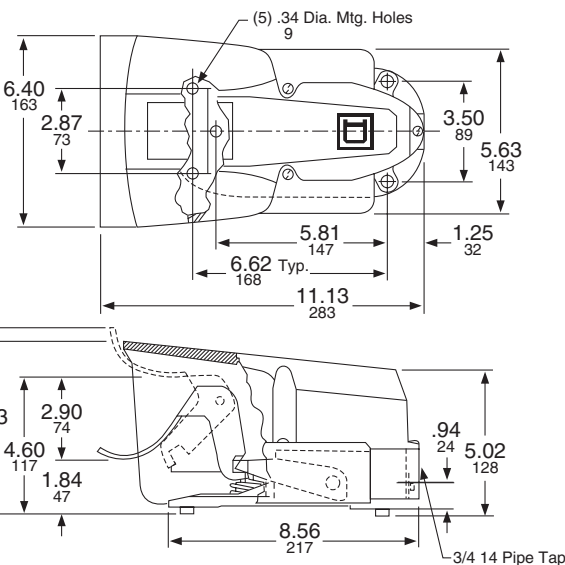
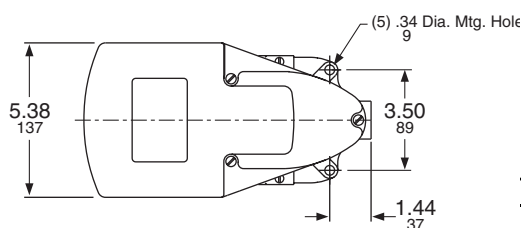
For contact symbol tables, see page 19-123

When ordering,
please specify:

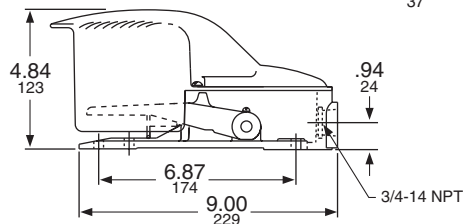
- Quantity
- Class Number
- Type or Catalog Number



Types AW1, AW5, AW11, AW13 and AW21



Types AW117, AW119, AW123, AW124
Types AW132, AW133 and AW134 (without safety door)



Types AW2, AW6, AW12, AW14 and AW22

Dual Dimensions: **INCHES**
Millimeters

Approximate Dimensions

Table 19.389: Maximum Current Ratings For Control Circuit Contacts

Type	Volts	AC Amperes			Volts	DC Amperes		
		Inductive 35% Power Factor		Resistive 75% Power Factor		Inductive and Resistive		Continuous
		Make	Break	Make, Break and Continuous		Make and Break		
						Single Throw	Double Throw	
AW1 through AW10, AW117, AW119, AW132	120	40	15	15	125	2.0	0.5	15
	240	20	10	10	250	0.5	0.2	15
	480	10	6	6	600	0.1	0.02	15
	600	8	5	5				
AW13, AW14, AW15, AW133	120	30	3	3	125	1.0	0.2	10
	240	15	1.5	1.5	250	0.3	0.1	10
	480	7.5	0.75	0.75	600	0.1	—	10
	600	6	0.6	0.6	—	—	—	—
AW11, AW12	115	36	6	—	125	2.2	—	—
	230	18	3	—	250	1.1	—	—
AW21, AW22, AW123	120	15.0	1.5	10	—	—	—	—
	240	7.5	0.75	10	—	—	—	—
	480	3.75	0.375	10	—	—	—	—
	600	3.0	0.3	10	—	—	—	—
AW124	120	60	6	10	120	1.1	—	10
	240	30	3	10	240	0.55	—	10
	480	15	1.5	10	600	0.2	—	10
	600	12	1.2	10				

Note: Double throw switches are rated 250 Vdc maximum.

Table 19.390: Contact Symbol—Two Stage

Snap Switch		Pedal		
Unit	Circuit	Up	Half Down	Full Down
1	A1	0	1	1
	B1	1	0	0
2	A2	1	1	0
	B2	0	0	1

Note: 0 = Open 1 = Closed

Table 19.391: Contact Symbol—Four Stage

Snap Switch		Pedal Position					
Unit	Circuit	Up → Down					
1	1A1	0	0	1	1	1	1
	1B1	1	1	0	0	0	0
	2A1	0	1	1	1	1	1
	2B1	1	0	0	0	0	0
2	1A2	1	1	1	0	0	0
	1B2	0	0	0	1	1	1
	2A2	1	1	1	1	0	0
	2B2	0	0	0	0	0	1

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

Table 19.392: Rotary Cam Switches



K2 Custom Cam Switches

- NEMA, A300, 300 V, 10 A
- Stepping, reversing, changeover
- Mounting by 22 mm or 4 holes
- Fast delivery of custom switches
- XB4 style handle available



K30–K150 Power Switching

- 32 to 150 A (40 hp @ 480 V)
- Starting, reversing
- Mounting 48 x 48 or 64 x 64 mm
- Front plates 64 x 64 or 88 x 88 mm
- Fast delivery from global stock
- Complete with handle and legend

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number