

Section 19

Push Buttons and Operator Interface

Type O Compact Light
(p. 19-11)XVL Compact Light
(p. 19-11)Type J Compact Light
(p. 19-10)16 mm XB6
(p. 19-12)22 mm XB4
(p. 19-23)22 mm XB5
(p. 19-42)XB5R Wireless, Batteryless Push Button
(p. 19-63)XB5S Biometric Switch
(p. 19-65)30 mm Type K
(p. 19-67)30 mm Type SK
(p. 19-77)30 mm Type KX
(p. 19-94)Type KY Enclosure
(p. 19-105)Type B Wall Station
(p. 19-103)Pendant Stations
(p. 19-117)Tower Lights
(p. 19-107)Type A Foot Switch
(p. 19-124)Rotary Cam Switch
(p. 19-126)

Product Panorama

Push Buttons	19-2
Control Stations	19-4
Pendant Stations	19-5
Tower Lights	19-6

22 and 30 mm Most Common Complete Operators

XB4, XB5 (22 mm) and Class 9001 Type K, SK (30 mm) most common complete operators assembled with contact blocks and and light modules. Start-Stop, Hand-Off-Auto, and other configurations are offered in this simplified quick selector.	19-8
---	------

Compact Pilot Lights

The Compact Pilot Light ranges include the XVL miniature LED type; the Type O low-cost incandescent; and the Type J incandescent, push-to-test types.	19-10
--	-------

16 mm Push Buttons

XB6 16 mm Push Buttons , selector switches, and pilot lights with a plastic bezel are intended for high density panels such as laboratory and test fixtures.	19-12
---	-------

22 mm Push Buttons

XB4 22 mm Push Buttons , selector switches, and pilot lights with a metal bezel are designed for industrial applications, and combine ease of installation and robustness.	19-23
---	-------

XB5 22 mm Push Buttons , the plastic version of the XB4 unit, is particularly suited to applications requiring a resistance to chemical agents and/or double electrical insulation.	19-42
--	-------

XB5R Plastic and XB4R Metal Wireless, Batteryless Push Buttons	19-63
---	-------

XB5S Biometric Switches	19-65
--------------------------------	-------

30 mm Push Buttons

Class 9001 Type K Chrome-Plated Oiltight/Watertight Push Buttons are intended primarily for machine tool and heavy-duty industrial applications.	19-67
---	-------

Class 9001 Type SK Non-Metallic Watertight operators are designed for use in highly corrosive areas.	19-77
---	-------

Class 9001 Type KX operators are Square-Shaped 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.	19-94
---	-------

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.	19-100
---	--------

Type B Standard Duty Control Stations in 1, 2, and 3 button configurations are available as predetermined complete stations.	19-103
---	--------

Class 9001 Type KY/SKY Heavy Duty Control Stations are ideally suited for commercial and industrial applications. Available in die cast metal, stainless steel, painted sheet steel, and reinforced polyester.	19-105
---	--------

Tower Lights

Tower Lights and Beacons. XVB, XVC, XVE, and XVP tower lights and beacons provide long distance indication of the operation status or sequences of a machine with lights or buzzers.	19-107
---	--------

Pendant Stations

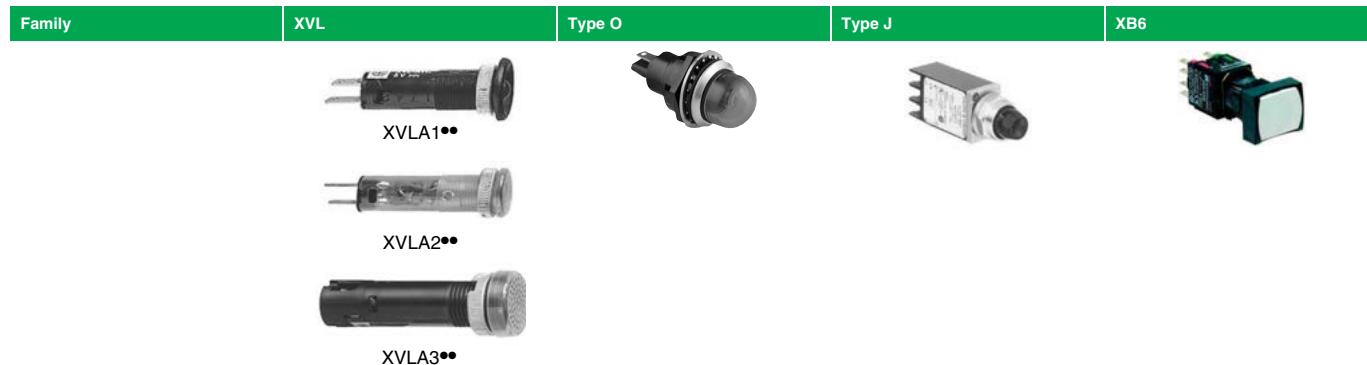
Our full line of pendant stations for most crane and hoist applications range from the light to medium duty BW and XAC pendants to the heavy duty SKYP pendants.	19-117
---	--------

Foot Switches

The Type A foot switch is a heavy duty industrial foot switch which can be used in a variety of industrial applications.	19-124
---	--------

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.	19-126
--	--------



Type of Product	Mini Pilot Light	Compact Pilot Light	Compact Pilot Light	16 mm Push Button (plastic)
Mounting Hole Diameter	8 mm / 12 mm	17.5 mm (0.68 in)	17.5 mm (0.68 in)	16.2 mm
Approvals	UL Recognized File E164353, CCN NKCR CSA File LR44078, Class 3211-03	UL Recognized File E179183, CCN NKCR CSA File LR25490, Class 3211-03	UL File E78403, CCN NKCR CSA File LR25490, Class 3211-03	UL File E164353, CCN NKCR CSA File LR44087 Class 3211-03
Conforming to Standards	CE Marked RoHS Compliant IEC337-2 NFC 63-140 VDE 0660-200	CE Marked RoHS Compliant	CE Marked RoHS Compliant	CE Marked RoHS Compliant EN/IEC 60947-1, EN/IEC 60947-5-1, EN/IEC 60947-5-5 EN/IEC 60204-1 and EN/ISO 13850: 2006 (trigger action and mechanical latching Emergency Stop push buttons) JIS C 4520 and 853 UL 508 and CSA C22-2 no. 14 Gost CCC
Degree of Protection	IP40 (IP65 with seal)	NEMA 13	NEMA 4, 13	IP65 NEMA 1, 4, 4X, 12
Electric Shock Protection				
Electrical Consumption				
LED	25 mA			6-30 Vac/Vdc: 15 mA 48-120 Vac: 20 mA
Rated Operational Characteristics				AC-15; B300 Ue = 240 Vac and le = 1.5A Ue = 120 Vac and le = 3 A Continuous 5 A DC-13; R300 Ue = 250 Vdc and le = 0.1 A Ue = 125 Vdc and le = 0.22 A
Connection Type	XVLA1** and XVLA2** = 2.8mm x 0.5mm Faston XVLA3** = Screw Terminals	Faston	Screw Terminal —	Quick Connect/ Solder Tabs 0.11 x 0.02 in. (2.8 x 0.5 mm)
Cable Size	1 x 1.5 mm ² max.		2 x 14 AWG (copper only)	
Digest Page	19-10	19-10	19-11	19-13

Family	XB4	XB5	9001K	9001SK	9001KX
					

Type of Product	*22 mm Push Button (metal)	*22 mm Push Button (plastic)	**30 mm Push Button (metal)	**30 mm Push Button (plastic)	**30 mm Push Button (metal, square)
Mounting Hole Diameter	22.5 mm	22.5 mm	31 mm (1.22 in)	31 mm (1.22 in)	31 mm (1.22 in)
Approvals	UL Listed File E164353, CCN NKCR UL Recognized File E164353. CCN NKCR2 CSA File LR44087. Class 3211-03	UL Listed File E164353, CCN NKCR UL Recognized File E164353., CCN NKCR2 CSA File LR44087. Class 3211-03	UL File E78403. CCN NKCR CSA File LR25490. Class 3211-03	UL File E78403. CCN NKCR CSA File LR25490. Class 3211-03	UL File E78403. CCN NKCR CSA File LR25490. Class 3211-03
Conforming to Standards	CE Marked RoHS Compliant EN/IEC 60947-1, EN/IEC 60947-5-1, EN/IEC 60947-5-4, EN/IEC 60947-5-5 EN/IEC 60204-1 and EN/ISO 13850: 2006 (trigger action and mechanical latching emergency stop push buttons) EN/IEC 60364-5-53 (emergency switching of mechanical latching push buttons) — JIS C 4520 UL 508 CSA C22.2 No.14 GOST CCC	CE Marked RoHS Compliant EN/IEC 60947-1, EN/IEC 60947-5-1, EN/IEC 60947-5-4, EN/IEC 60947-5-5 EN/IEC 60204-1 and EN/ISO 13850: 2006 (trigger action and mechanical latching emergency stop push button). EN/IEC 60364-5-53 (emergency switching of mechanical latching push buttons) EN81-1 (emergency stop trigger action and mechanical latching push buttons with mechanical state indicator) JIS C 4520 UL 508 CSA C22.2 No.14 GOST CCC	CE Marked RoHS Compliant EN/IEC 60947-1 EN/IEC 60947-5-1 EN/IEC 60947-5-4	CE Marked RoHS Compliant EN/IEC 60947-1 EN/IEC 60947-5-1 EN/IEC 60947-5-4	CE Marked RoHS Compliant EN/IEC 60947-1 EN/IEC 60947-5-1 EN/IEC 60947-5-4
Degree of Protection	IP65 IP66 for booted NEMA 1, 2, 3, 4, 12, 13	IP65 IP66 for booted NEMA 1, 2, 3, 3R, 4, 4X, 12, 13	IP66 NEMA 1, 2, 3, 3R, 4, 12, 13	IP66 NEMA 1, 2, 3, 3R, 4, 4X, 12, 13	IP66 NEMA 1, 2, 3, 3R, 4, 12, 13
Electric Shock Protection	Class I	Class I	Class II	Class II	Class II
Electrical Consumption					
LED	24 Vac/Vdc: 18 mA 120 Vac: 14 mA 240 Vac: 14 mA	24 Vac/Vdc: 18 mA 120 Vac: 14 mA 240 Vac: 14 mA	Incandescent and LED bulbs see ratings on page 19-86	Incandescent and LED bulbs see ratings on page 19-86	
Rated Operational Characteristics	AC-15; B600 Ue = 600 Vac and le = 1.2 A Ue = 240 Vac and le = 3A Ue = 120 Vac and le = 6A Continuous 10 A	AC-15; B600 Ue = 600 Vac and le = 1.2 A Ue = 240 Vac and le = 3 A Ue = 120 Vac and le = 6 A Continuous 10 A	AC-15; A600 Continuous 10 A	AC-15; A600 Continuous 10 A	AC-15; A600 Continuous 10 A
Connection Type	IP20 Fingersafe Screw or Spring Terminal		IP20 Fingersafe Screw Terminal		
Cable Size	1 x 24 AWG (0.22 mm ²) min. 2 x 14 AWG (2.5 mm ²) max. 2 x 16 AWG (1.5 mm ²) max.	1 x 24 AWG (0.22 mm ²) min. 2 x 14 AWG (2.5 mm ²) max. 2 x 16 AWG (1.5 mm ²) max.	1 x 24 AWG (0.22 mm ²) min. 2 x 16 AWG (1.5 mm ²) max	1 x 24 AWG (0.22 mm ²) min. 2 x 16 AWG (1.5 mm ²) max	1 x 24 AWG (0.22 mm ²) min. 2 x 16 AWG (1.5 mm ²) max
Digest Page	19-23	19-42	19-67	19-77	19-94

Family	XAL	XAP	9001B	9001KY/SKY
			 NEMA 1 Surface Mounting 9001BG ^{**}	 NEMA 1 Flush Mounting 9001BF ^{**}
			 XAPA1100	 9001KYSS3
			 XALD02	 9001KY3
			 XAPA1104	 NEMA 4 9001BW ^{**}
			 NEMA 7 and 9 9001BR ^{**}	 9001KYAF3
				 9001SKY2
Type of Product/Material	XALD—Polycarbonate XALK—Polycarbonate	XAPA—glass filled polyester XAPG—die cast zinc XAPE—anodized aluminum	9001BG—plastic cover 9001BF—stainless steel 9001BW—die cast zinc 9001BR—cast aluminum	9001KYAF—sheet steel 9001KYSS—stainless steel 9001KY—die cast zinc 9001KZ—die cast zinc 9001SKY—Polyester
Number of holes	1 to 3	0 to 16	1 to 3	1 to 6
Type of Operators	XB5 (22mm)	XB5 (22mm)	Built in	9001K/SK (30mm)
Available without Operators	Yes	Yes	No	Yes
Available with Operators	Yes	No	Yes	Yes
Approvals	UL File E164353 CCN NKCR CSA File LR 44087 Class 3211-03	UL File E164353 CCN NKCR CSA File LR 44087 Class 3211-03	UL File E78403 CCN NKCR CSA File LR 25490 Class 3211-03	UL File E78403 CCN NKCR CSA File LR 25490 Class 3211-03
Conforming to Standards	CE Marked EN/IEC 60947-1, EN/IEC 60947-5-1, EN/IEC 60947-5-4, JIS C 4520 UL 508 CSA C22.2 No.14	CE Marked EN/IEC 60947-1, EN/IEC 60947-5-1, EN/IEC 60947-5-4, JIS C 4520 UL 508 CSA C22.2 No.14	CE Marked EN/IEC 60947-1, EN/IEC 60947-5-1, EN/IEC 60947-5-4, JIS C 4520 UL 508 CSA C22.2 No.14	CE Marked EN/IEC 60947-1, EN/IEC 60947-5-1, EN/IEC 60947-5-4, JIS C 4520 UL 508 CSA C22.2 No.14
Cable Entry	No. 13 knock out	XAPA—undrilled XAPG—Tapped 3/4NPT XAPE—flush mount (n/a)	9001BG—1/2 & 3/4 knockout 9001BF—N/A 9001BW—1/2-14NPT 9001BR—1/2-14NPT	9001KYAF—customer provided 9001KYSS—G conduit hub 9001KY—customer provided 9001KZ—1/2 & 3/4 knockout 9001SKY—G conduit hub
Digest Page	19-100	19-100	19-103	19-105

Family	9001BW	XACA2	XACA0	9001SKYP
--------	--------	-------	-------	----------



Type of Product	2-Button Pendant	2-Button Pistol Grip Pendant	General Purpose Pendant	Heavy Duty Pendant
Number of operators	2	2	2, 3, 4, 6, 8, 12	2, 4, 6, 8, 10
Approvals	UL File E78403 CNN NKCR CSA File LR25490 Class 3211-03	UL File E164353 CNN NKCR CSA File LR 44087 Class 3211-03	UL File E164353 CNN NKCR CSA File LR 44087 Class 3211-03	UL File E78403 CNN NKCR CSA File LR25490 Class 3211-03
Conforming to Standards	CE Marked	EN/IEC 60947-5-1, EN/IEC 60204-32, EN/IEC 60947-5-5, and EN/ISO 13850 (for versions with trigger action emergency stop) UL 508 CSA C22-2 No. 14 RoHS compliant	EN/IEC 60947-5-1, EN/IEC 60204-32, EN/IEC 60947-5-5, and EN/ISO 13850 (for versions with trigger action emergency stop) UL 508 CSA C22-2 No. 14 RoHS compliant	CE Marked
Degree of Protection	NEMA 1, 3, 3R, 4, 4X	NEMA 1, 4, 4X, 5 IP65 IK08	NEMA 1, 4, 4X, 5 IP65 IK08	NEMA 1,2, 3, 4, 4X, 12, 13
Housing Material	Polycarbonate / PET Polyester Blend	Yellow Polypropylene	Yellow Polypropylene	Yellow Polycarbonate
Rated Operational Characteristics ▲	AC - B600	AC-15: A600 or Ue = 600V, le = 1.2A or Ue = 240V, le = 3A	AC-15: A600 or Ue = 600V, le = 1.2A or Ue = 240V, le = 3A	SKRU2-SKRU5 AC - B300 DC - P600
	DC - P600	DC-13: Q600 or Ue = 600V, le = 0.1A or Ue = 250V, le = 0.27A	DC-13: Q600 or Ue = 600V, le = 0.1A or Ue = 250V, le = 0.27A	SKRU1, 10, 11 AC - A600 DC - P600
Thermal Current	Continuous 5A	Continuous 10A	Continuous 10A	—
Connection Type	1/2 in. NPT screw clamp terminals	8–26 mm cable entry screw clamp terminals	8–26 mm cable entry screw clamp terminals	NPT threaded conduit entry screw clamp terminals
Cable Size	—	1 x 0.5 mm ² (20AWG) min. 2 x 1.5 mm ² (16AWG) max. 1 x 2.5 mm ² (14AWG) max.	1 x 14 AWG (copper only)	—
Digest Page	19-117	19-118	19-118	19-121

▲ OSHA Section 1910.179, *Overhead and Gantry Cranes*, limits voltage at pendant push buttons to 150 Vac or 300 Vdc max.

Family	XVB L	XVB C	XVP	XVE
				
Type of Product	Beacon	Tower Light	Tower Light	Tower Light and Beacon
Diameter	70mm	70 mm	50 mm	70 mm
Features	Product for Customer Configuration	Product for Customer Configuration	Product for Customer Configuration	Product for Customer Configuration
Approvals	UL File E164353 CCN NKCR CSA File LR 44087 Class 3211 03	UL File E164353 CCN NKCR CSA File LR 44087 Class 3211 03	UL File E164353 CCN NKCR CSA File LR 44087 Class 3211 03	UL File E164353 CCN NKCR CSA File LR 44087 Class 3211 03
Conforming to Standards	CE Marked	CE Marked	CE Marked	CE Marked
	IEC/EN 60947-5-1	IEC/EN 60947-5-1	IEC/EN 60947-5-1	IEC/EN 60947-5-1
	UL 508	UL 508	UL 508	UL 508
	CSA 22.2 No 14	CSA 22.2 No 14	CSA 22.2 No 14	CSA 22.2 No 14
Degree of Protection	IP65	IP65	IP65	IP42
Light Source	LED / Incandescent	LED / Incandescent	LED / Incandescent	LED / Incandescent
Electrical Consumption				
LED Steady	24 Vac/dc: < 30 mA 120–230 Vac: < 30 mA		24 Vac/dc: < 80 mA 120–230 Vac: < 30mA	24V ac/dc: < 25mA 120–230 Vac: I< 25 mA
LED Flashing with Buzzer	24 Vac/dc: < 40 mA 120–230 Vac: < 15mA 1 Hz (1 flash per second)		24 V ac/dc: < 40mA 120–230 Vac: < 15 mA 1 Hz (1 flash per second)	24 V ac/dc: < 30mA 120–230 Vac: < 25 mA 1 Hz (1 flash per second)
Strobe (Energized)	24 Vdc: 5 Joules unit < 430 mA; 10 J unit: < 850 mA 120 Vac: 5 Joules unit: < 130 mA; 10 J unit: < 260 mA 230 Vac: 5 Joules unit: < 105 mA; 10 J unit: < 210 mA 1 Hz (1 flash per second)		24 Vdc: ≤40mA 120 Vac: ≤20mA 230 Vac: ≤1mA 1 Hz (1 flash per second)	24 Vdc: ≤85 mA 120 Vac: ≤35 mA 230 Vac: ≤25 mA 1 Hz (1 flash per second)
Audible Sounders	12–48 Vac/dc: < 20 mA 120–230 Vac: < 50 mA 90 decibels at 1 meter —		24 Vdc: ≤15 mA 120 Vac: ≤15 mA 230 Vac: ≤12mA 55 to 85 decibels at 1 meter	85 decibels at 1 meter — — —
Connection Type	Screw Clamp	Screw Clamp	Screw Clamp	Screw Clamp
Cable Size	1 x 16 AWG (1.5 mm ²) With Cable End	1 x 16 AWG (1.5 mm ²) With Cable End	2 x 16 AWG (1.5 mm ²) With Cable End	2 x 16 AWG (1.5 mm ²) With Cable End
Digest Page	19-110	19-111	19-114	19-113

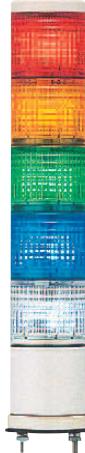
Family	XVC 4	XVC 6	XVC 1	XVS	XVR
				 	   
Type of Product	Tower Light	Tower Light	Tower Light	Siren and Electronic Alarm	Rotating Mirror Beacon
Diameter	40 mm	60 mm	100 mm	—	84/106/120/130 mm
Features	All devices are pre-assembled and pre-wired			Adjustable Tones XVS14BMW, 0 to 105 decibels, 43 tones XVS72BM••, 0 to 90 decibels, 16 tones	All devices are pre-assembled and pre-wired. XVR12•••S includes buzzer: 70 to 90 decibels
Approvals	UL Recognized E164353 CNN NKCR	UL Recognized E164353 CNN NKCR	UL Recognized E164353 CNN NKCR	UL Recognized E164353 CNN UCST	UL Recognized E164353 CNN NKCR
	CSA LR44087 Class 3211-03	CSA LR44087 Class 3211-03	CSA LR44087 Class 3211-03	CSA LR44087 Class 3211-03	CSA LR44087 Class 3211-03
Conforming to Standards	CE Marked	CE Marked	CE Marked	CE Marked	CE Marked
	EN61000-6-2	EN61000-6-2	EN61000-6-2	—	EN61000-6-2
	EN61000-6-3	EN61000-6-3	EN61000-6-3	—	EN61000-6-4
	—	EN61000-6-4	EN61000-6-4	—	—
	UL 508	UL 508	UL 508	UL 508	UL 508
	CSA 22.2 No. 14	CSA 22.2 No. 14	CSA 22.2 No. 14	CSA 22.2 No. 14	CSA 22.2 No. 14
Degree of Protection	IP54	IP54	IP54	IP53 / IP54	IP23 / IP65 / IP66
Light Source	LED	LED	LED	—	LED
Electrical Consumption					
LED Steady	24 V: 1 unit = 40mA; 2 unit = 80mA; 3 unit = 120mA; 4 unit = 160mA; 5 unit = 200mA	24 V: 1 unit = 100mA; 2 unit = 200mA; 3 unit = 300mA; 4 unit = 400mA; 5 unit = 500mA	—	—	XVR08, XVR10, XVR12, and XVR13 (without buzzer) 12 Vac/dc: 360mA 24 Vac/dc: 180mA
LED Flashing ** with Buzzer	**24 V: 1 unit = 90 mA; 2 unit = 130 mA; 3 unit = 170 mA; 4 unit = 210 mA; 5 unit = 250 mA 0.7 to 3 Hz (1 flash per 0.7 to 3 seconds)	24 V: 1 unit = 150mA; 2 unit = 250mA; 3 unit = 350mA; 4 unit = 450mA; 5 unit = 550mA 3 to 3.5 Hz (1 flash per 3 to 3.5 seconds)	—	—	XVR12 with buzzer: 12 Vac/dc: 400 mA 24 Vac/dc: 230 mA 3 Hz (1 flash per 3 seconds)
Strobe (Energized)	—	—	—	—	—
Audible Sounders	70 to 85 decibels at 1 meter	70 to 85 decibels at 1 meter	60 to 85 decibels at 1 meter	XVS14BMW 12 Vdc: 350mA 24 Vdc: 400 mA 105 decibels at 1 meter	—
	—	—	—	XVS72BM 12 Vdc: 280 mA 24 Vdc: 190 mA 90 decibels at 1 meter	—
Connection Type	Pre-Wired, Color-Coded Wires cable length: 600mm XVC4••• 900mm XVC4•••K 500mm XVC4•••5S	Pre-Wired, Color-Coded Wires cable length: 600mm XVC6••• 850mm XVC6•••K 550mm XVC6•••5S 850mm XVC6•••5SK	Pre-Wired, Color-Coded Wires cable length: 500mm XVC1•••K 500mm XVC1•••SK 550mm XVC6•••5S 850mm XVC6•••5SK	XVS14BMW Pre-Wired, Color-Coded Wires cable length: 500mm XVR08••• 400mm XVR10••• 400mm XVR12••• 400mm XVR13•••	Pre-Wired cable length: 500mm XVR08••• 400mm XVR10••• 400mm XVR12••• 400mm XVR13•••
Cable Size	22 AWG (0.33 mm ²)	22 AWG (0.33 mm ²)	22 AWG (0.33 mm ²)	—	18 AWG (0.75 mm ²)
Digest Page	19-111	19-109	19-109	19-116	19-107
	<p>For Tower Lights catalog numbers: ● ○ first dot denotes voltage selection ○ ● second dot denotes color selection </p>				

Table 19.1: BLACK—Start Push Buttons
(flush head)

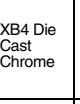
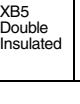
Operator Style	Description	Contact Block	Type	\$ Price	Legend Plate	\$ Price
XB4 Die Cast Chrome			XB4BA21	38.50	ZBY2303	3.40
XB5 Double Insulated			XB5AA21	38.50	ZBY2303	3.40

Table 19.5: RED—Stop Push Buttons
(extended head)

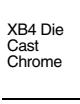
Operator Style	Description	Contact Block	Type	\$ Price	Legend Plate	\$ Price
XB4 Die Cast Chrome			XB4BL42	38.50	ZBY2304	3.40
XB5 Double Insulated			XB5AL42	38.50	ZBY2304	3.40

Table 19.2: BLACK—Off-On Selector Switch

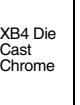
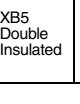
Operator Style	Description	Contact Block	Type	\$ Price	Legend Plate	\$ Price
XB4 Die Cast Chrome			XB4BD21	51.00	ZBY2367	3.40
XB5 Double Insulated			XB5AD21	51.00	ZBY2367	3.40

Table 19.6: Hand-Off-Auto Selector Switch

Operator Style	Description	Contact Block	Type	\$ Price	Legend Plate	\$ Price
XB4 Die Cast Chrome			XB4BD33	68.00	ZBY2387	3.40
XB5 Double Insulated			XB5AD33	68.00	ZBY2387	3.40

Table 19.3: RED—120 Vac LED—On Pilot Light

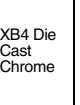
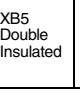
Operator Style	Description	Contact Block	Type	\$ Price	Legend Plate	\$ Price
XB4 Die Cast Chrome		120 Vac Red LED	XB4BVG4	72.00	ZBY2311	3.40
XB5 Double Insulated		120 Vac Red LED	XB5AVG4	72.00	ZBY2311	3.40

Table 19.7: GREEN—120 Vac LED—Off Pilot Light

Operator Style	Description	Contact Block	Type	\$ Price	Legend Plate	\$ Price
XB4 Die Cast Chrome		120 Vac Green LED	XB4BVG3	72.00	ZBY2312	3.40
XB5 Double Insulated		120 Vac Green LED	XB5AVG3	72.00	ZBY2312	3.40

Table 19.4: RED—40 mm Mushroom Stop
(Push-Pull)

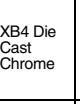
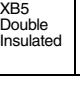
Operator Style	Description	Contact Block	Type	\$ Price	Legend Plate	\$ Price
XB4 Die Cast Chrome			XB4BT42	68.00	ZBY9330	3.40
XB5 Double Insulated			XB5AT42	68.00	ZBY9330	3.40

Table 19.8: RED—40 mm Mushroom Emergency Stop (Trigger Action, Turn-to-Release)

Operator Style	Description	Contact Block	Type	\$ Price	Legend Plate 60 mm Round	\$ Price
XB4 Die Cast Chrome			XB4BS8445	165.00	ZBY9330	3.40
XB5 Double Insulated			XB5AS8445	165.00	ZBY9330	3.40

When ordering, please specify:

- Quantity
- Type or Catalog Number

30 mm Push Buttons

Type K, SK Common Operators, Complete with Contact Blocks

Class 9001 / Refer to Catalog 9001CT1103

Table 19.9: BLACK—Start Push Buttons

Operator Style	Description	Contact Block	Type	\$ Price	Legend Plate	\$ Price
30 mm Industrial (Metal)			KR1BH13	89.00	KN201	4.40
30 mm Corrosion Resistant (Non-Metallic)			SKR1BH13	89.00	KN101SP	4.40

Table 19.13: RED—Stop Push Buttons

Operator Style	Description	Contact Block	Type	\$ Price	Legend Plate	\$ Price
30 mm Industrial (Metal)			KR1RH13	89.00	KN202	4.40
30 mm Corrosion Resistant (Non-Metallic)			SKR1RH13	89.00	KN102RP	4.40

Table 19.10: BLACK—Off-On Selector Switch

Operator Style	Description	Contact Sequence (Contact Block Included)	Type	\$ Price	Legend Plate	\$ Price
30 mm Industrial (Metal)			KS11BH13	106.00	KN244	2.90
30 mm Corrosion Resistant (Non-Metallic)			SKS11BH13	106.00	KN144SP	2.90

Table 19.14: BLACK—Hand-Off-Auto Selector Switch

Operator Style	Description	Contact Sequence (Contact Block Included)	Type	\$ Price	Legend Plate	\$ Price
30 mm Industrial (Metal)			KS43BH13	106.00	KN260	4.40
30 mm Corrosion Resistant (Non-Metallic)			SKS43BH13	106.00	KN160SP	4.40

Table 19.11: RED—120 Vac—On Pilot Light

Operator Style	Description	Type	\$ Price	Legend Plate	\$ Price
30 mm Industrial (Metal)		KP1R31	153.00	KN203	4.40
30 mm Corrosion Resistant (Non-Metallic)		SKP1R31	153.00	KN103SP	4.40

Table 19.15: GREEN—120 Vac—Off Pilot Light

Operator Style	Description	Type	\$ Price	Legend Plate	\$ Price
30 mm Industrial (Metal)		KP1G31	153.00	KN204	4.40
30 mm Corrosion Resistant (Non-Metallic)		SKP1G31	153.00	KN104SP	4.40

Table 19.12: RED—120 Vac—On Push-To-Test Pilot Light

Operator Style	Description	Type	\$ Price	Legend Plate	\$ Price
30 mm Industrial (Metal)		KT1R31	197.00	KN203	4.40
30 mm Corrosion Resistant (Non-Metallic)		SKT1R31	197.00	KN103SP	4.40

Table 19.16: GREEN—120 Vac—Off Push-To-Test Pilot Light

Operator Style	Description	Type	\$ Price	Legend Plate	\$ Price
30 mm Industrial (Metal)		KT1G31	197.00	KN204	4.40
30 mm Corrosion Resistant (Non-Metallic)		SKT1G31	197.00	KN104SP	4.40

When ordering, please specify:

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



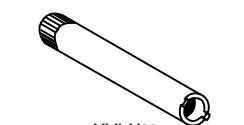
XVLA1••



XVLA2••



XVLA3••



XVLX••



XVLZ91•

XVL Miniature LED**Table 19.17: 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 mm², max. 1 x 1.5 mm²

Table 19.18: 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••	12 V	Green Red Amber	XVLA123 XVLA124 XVLA125	32.80
	24 V	Green Red Amber	XVLA133 XVLA134 XVLA135	

Table 19.19: 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	12 V	Green Red Amber	XVLA223 XVLA224 XVLA225	32.80
	24 V	Green Red Amber	XVLA233 XVLA234 XVLA235	
Ø 12 mm ■ with integral ballast resistor and reverse polarity protection diode Degree of protection IP40 Ø 12 mm, with lens incorporated, LED XVLA3	12 V	Green Red Amber	XVLA323 XVLA324 XVLA325	52.00
	24 V	Green Red Amber	XVLA333 XVLA334 XVLA335	

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

Table 19.20: 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

Class 9001 Type O, NEMA 13 Pilot Lights**Table 19.21: Instrument Type Incandescent Pilot Lights—Type O NEMA 13**

Voltage Vac/Vdc	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	.170	OR12	OG12	OA12	OC12	OY12	OW12	—	28.70
24	.073	OR24	OG24	OA24	OC24	OY24	OW24	FB24	
120	.025	OR120	OG120	OA120	OC120	OY120	OW120	FB120	

♦ To order, add prefix 9001 to the beginning of the catalog number.

Table 19.22: Replacement Lamps—Class 9001, Type O

Voltage	Sylvania Lamp Number	Square D Part Number	\$ Price
12 V	12FPSB	2550105003	
24 V	24FPSB	2550105004	
120 V	120PSB	2550105005	16.50



Type O



Type JP1R29

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. or 17.5 mm) 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.

Table 19.23: 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	143.00	JP1R29	JP1G29	JP1Y29	153.00	6.3 V, 0.15 A	2550101020	12.50
Incandescent, 120 Vac/Vdc	JP38	116.00	JP38R29	JP38G29	JP38Y29	126.00	120 V, 0.015 A	2550101040	12.50
Incandescent, 24–28 Vac/Vdc	JP35	116.00	JP35R29	JP35G29	JP35Y29	126.00	28 V, 0.040 A	2550101024	12.50
LED, 24–28 Vac	—	—	JP35LRR29	JP35LGG29	JP35LYY29	153.00	28 V, 0.03 A	—	—
LED, 24–28 Vdc	—	—	JP35DRR29	JP35DGG29	JP35DYY29	153.00	28 V, 0.03 A	—	—
LED, 120 Vac	—	—	JP38LRR29	JP38LGG29	JP38LYY29	153.00	28 V, 0.03 A	—	—
Red	—	—	—	—	—	—	—	6508805207	43.00
Replacement LED, 120 Vac	Yellow	—	—	—	—	—	—	6508805208	43.00
Green	—	—	—	—	—	—	—	6508805209	43.00

Table 19.24: 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	185.00	JT1R29	JT1G29	JT1Y29	195.00	6.3 V, 0.15 A	2550101020	12.50
Incandescent, 120 Vac/Vdc	JT38	158.00	JT38R29	JT38G29	JT38Y29	168.00	120 V, 0.015 A	2550101040	12.50
Incandescent, 24–28 Vac/Vdc	JT35	158.00	JT35R29	JT35G29	JT35Y29	168.00	28 V, 0.040 A	2550101024	12.50
LED, 24–28 Vac	—	—	JT35LRR29	JT35LGG29	JT35LYY29	195.00	28 V, 0.03 A	—	—
LED, 24–28 Vdc	—	—	JT35DRR29	JT35DGG29	JT35DYY29	195.00	28 V, 0.03 A	—	—
LED, 120 Vac	—	—	JT38LRR29	JT38LGG29	JT38LYY29	195.00	28 V, 0.03 A	—	—
Red	—	—	—	—	—	—	—	6508805207	43.00
Replacement LED, 120 Vac	Yellow	—	—	—	—	—	—	6508805208	43.00
Green	—	—	—	—	—	—	—	6508805209	43.00

Table 19.25: Color Caps, Class 9001 Type J

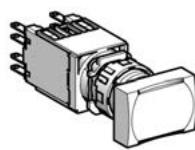
Color	Replacement Color Caps		\$ Price
	Plastic■		
Red	R29		
Green	G29		
Amber	A29		
Blue	L29		
White	W29		
Yellow	Y29		9.90

Table 19.26: Legend Plates

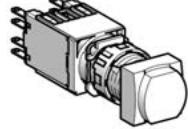
Description			Maximum Number of Lines	Maximum Number of Characters	Catalog Number■	\$ Price
	Blank	Black Field Red Field	2	8	JN100 JN100R	4.40
	Special Marking (Specify Marking)	Black Field Red Field			JN199 JN199R	18.50
	Blank	Aluminum Field	2	16	JN700	4.40
	Special Marking (Specify Marking)	Aluminum Field			JN799	18.50

- ▲ Other voltages are available. Refer to Catalog 9001CT0001.
- To order, add prefix 9001 to the beginning of the catalog number.

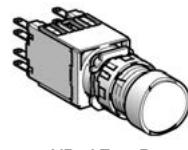
**Table 19.27: Illuminated Push Buttons (12–24 Vac/Vdc LED included)
Complete Units with Quick Connectors/Solder Tabs**



XB6DW...B



XB6CE...B



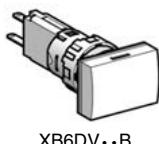
XB6AF...B

Type of Operator	Type of Contact		Color	Rectangular	Square	Round	\$ Price
	N.O.	N.C.		Catalog Number			
	—	—	White	XB6DW1B1B	XB6CW1B1B	XB6AW1B1B	
Flush, spring return	1	—	Green	XB6DW3B1B	XB6CW3B1B	XB6AW3B1B	44.40
			Yellow	XB6DW5B1B	XB6CW5B1B	XB6AW5B1B	
			Blue	XB6DW6B1B	XB6CW6B1B	XB6AW6B1B	
			Red	XB6DW4B2B	XB6CW4B2B	XB6AW4B2B	
	1	1	White	XB6DW1B5B	XB6CW1B5B	XB6AW1B5B	52.00
			Green	XB6DW3B5B	XB6CW3B5B	XB6AW3B5B	
			Red	XB6DW4B5B	XB6CW4B5B	XB6AW4B5B	
			Yellow	XB6DW5B5B	XB6CW5B5B	XB6AW5B5B	
			Blue	XB6DW6B5B	XB6CW6B5B	XB6AW6B5B	
			White	XB6DF1B1B	XB6CF1B1B	XB6AF1B1B	
Flush, maintained	1	—	Green	XB6DF3B1B	XB6CF3B1B	XB6AF3B1B	44.40
			Yellow	XB6DF5B1B	XB6CF5B1B	XB6AF5B1B	
			Blue	XB6DF6B1B	XB6CF6B1B	XB6AF6B1B	
			Red	XB6DF4B2B	XB6CF4B2B	XB6AF4B2B	
	1	1	White	XB6DF1B5B	XB6CF1B5B	XB6AF1B5B	52.00
			Green	XB6DF3B5B	XB6CF3B5B	XB6AF3B5B	
			Red	XB6DF4B5B	XB6CF4B5B	XB6AF4B5B	
			Yellow	XB6DF5B5B	XB6CF5B5B	XB6AF5B5B	
			Blue	XB6DF6B5B	XB6CF6B5B	XB6AF6B5B	
			White	XB6DE1B1B	XB6CE1B1B	XB6AE1B1B	
Extended, spring return	1	—	Green	XB6DE3B1B	XB6CE3B1B	XB6AE3B1B	44.40
			Yellow	XB6DE5B1B	XB6CE5B1B	XB6AE5B1B	
			Blue	XB6DE6B1B	XB6CE6B1B	XB6AE6B1B	
			Red	XB6DE4B2B	XB6CE4B2B	XB6AE4B2B	
	1	1	White	XB6DE1B5B	XB6CE1B5B	XB6AE1B5B	52.00
			Green	XB6DE3B5B	XB6CE3B5B	XB6AE3B5B	
			Red	XB6DE4B5B	XB6CE4B5B	XB6AE4B5B	
			Yellow	XB6DE5B5B	XB6CE5B5B	XB6AE5B5B	
			Blue	XB6DE6B5B	XB6CE6B5B	XB6AE6B5B	

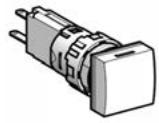
**Table 19.28: Illuminated Push Buttons (120 Vac LED included)
Complete Units with Quick Connectors/Solder Tabs**

Type of Operator	Type of Contact		Color	Rectangular	Square	Round	\$ Price	
	N.O.	N.C.		Catalog Number				
	—	—		White	XB6DW1G1B	XB6CW1G1B		
Flush, spring return	1	—	Green	XB6DW3G1B	XB6CW3G1B	XB6AW3G1B	44.40	
			Yellow	XB6DW5G1B	XB6CW5G1B	XB6AW5G1B		
			Blue	XB6DW6G1B	XB6CW6G1B	XB6AW6G1B		
			Red	XB6DW4G2B	XB6CW4G2B	XB6AW4G2B		
	1	1	White	XB6DW1G5B	XB6CW1G5B	XB6AW1G5B	52.00	
			Green	XB6DW3G5B	XB6CW3G5B	XB6AW3G5B		
			Red	XB6DW4G5B	XB6CW4G5B	XB6AW4G5B		
			Yellow	XB6DW5G5B	XB6CW5G5B	XB6AW5G5B		
			Blue	XB6DW6G5B	XB6CW6G5B	XB6AW6G5B		
			White	XB6DF1G1B	XB6CF1G1B	XB6AF1G1B		
Flush, maintained	1	—	Green	XB6DF3G1B	XB6CF3G1B	XB6AF3G1B	44.40	
			Yellow	XB6DF5G1B	XB6CF5G1B	XB6AF5G1B		
			Blue	XB6DF6G1B	XB6CF6G1B	XB6AF6G1B		
			Red	XB6DF4G2B	XB6CF4G2B	XB6AF4G2B		
	1	1	White	XB6DF1G5B	XB6CF1G5B	XB6AF1G5B	52.00	
			Green	XB6DF3G5B	XB6CF3G5B	XB6AF3G5B		
			Red	XB6DF4G5B	XB6CF4G5B	XB6AF4G5B		
			Yellow	XB6DF5G5B	XB6CF5G5B	XB6AF5G5B		
			Blue	XB6DF6G5B	XB6CF6G5B	XB6AF6G5B		
			White	XB6DE1G1B	XB6CE1G1B	XB6AE1G1B		
Extended, spring return	1	—	Green	XB6DE3G1B	XB6CE3G1B	XB6AE3G1B	44.40	
			Yellow	XB6DE5G1B	XB6CE5G1B	XB6AE5G1B		
			Blue	XB6DE6G1B	XB6CE6G1B	XB6AE6G1B		
			Red	XB6DE4G2B	XB6CE4G2B	XB6AE4G2B		
	1	1	White	XB6DE1G5B	XB6CE1G5B	XB6AE1G5B	52.00	
			Green	XB6DE3G5B	XB6CE3G5B	XB6AE3G5B		
			Red	XB6DE4G5B	XB6CE4G5B	XB6AE4G5B		
			Yellow	XB6DE5G5B	XB6CE5G5B	XB6AE5G5B		
			Blue	XB6DE6G5B	XB6CE6G5B	XB6AE6G5B		

Legends pages 19-20 and 19-22



XB6DV..B



XB6CV..B



XB6AV..B

**Table 19.29: Pilot Lights (12–24 Vac/Vdc LED included)
Complete Units with Quick Connectors/Solder Tabs**

Color	Rectangular	Square	Round	\$ Price
	Catalog Number			
White	XB6DV1BB	XB6CV1BB	XB6AV1BB	
Green	XB6DV3BB	XB6CV3BB	XB6AV3BB	
Red	XB6DV4BB	XB6CV4BB	XB6AV4BB	
Yellow	XB6DV5BB	XB6CV5BB	XB6AV5BB	
Blue	XB6DV6BB	XB6CV6BB	XB6AV6BB	27.30

**Table 19.30: Pilot Lights (120 Vac LED)
Complete Units with Quick Connectors/Solder Tabs**

Color	Rectangular	Square	Round	\$ Price
	Catalog Number			
White	XB6DV1GB	XB6CV1GB	XB6AV1GB	
Green	XB6DV3GB	XB6CV3GB	XB6AV3GB	
Red	XB6DV4GB	XB6CV4GB	XB6AV4GB	
Yellow	XB6DV5GB	XB6CV5GB	XB6AV5GB	
Blue	XB6DV6GB	XB6CV6GB	XB6AV6GB	27.30

**Table 19.31: Push Buttons (Non-Illuminated)
Complete Units with Quick Connectors/Solder Tabs**

Type of Push	Type of Contact		Color	Rectangular	Square	Round	\$ Price
	N.O.	N.C.		Catalog Number			
Flush, spring return	1	—	White	XB6DA11B	XB6CA11B	XB6AA11B	26.20
			Black	XB6DA21B	XB6CA21B	XB6AA21B	
			Green	XB6DA31B	XB6CA31B	XB6AA31B	
			Yellow	XB6DA51B	XB6CA51B	XB6AA51B	
			Blue	XB6DA61B	XB6CA61B	XB6AA61B	
	—	1	Black	XB6DA22B	XB6CA22B	XB6AA22B	26.20
			Red	XB6DA42B	XB6CA42B	XB6AA42B	
			White	XB6DA15B	XB6CA15B	XB6AA15B	
			Black	XB6DA25B	XB6CA25B	XB6AA25B	
			Green	XB6DA35B	XB6CA35B	XB6AA35B	
1	1	1	Red	XB6DA45B	XB6CA45B	XB6AA45B	34.10
			Yellow	XB6DA55B	XB6CA55B	XB6AA55B	
			Blue	XB6DA65B	XB6CA65B	XB6AA65B	

Table 19.32: 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	65.00
		1	1		XB6AS8345B	
	Key release	—	1	30	XB6AS9342B■	78.00
		1	1		XB6AS9345B■	

▲ Complies with EN418/ISO13850 standards for Emergency Stop push buttons when used with circular Legend Plate ZB6Y7330 (see page 19-22)
■ Ronis 200 key

Table 19.33: Circular Legends, 45 mm

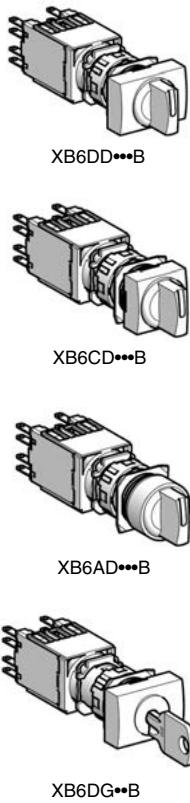
Description	Color	Text	Catalog Number	\$ Price
Circular legends, 45 mm	Yellow	Blank	ZB6Y7001	
		Emergency stop	ZB6Y7330	3.40

Legends pages 19-20 and 19-22



ZB6Y7330

Table 19.34: 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		Rectangular	Square	Round	\$ Price
	N.O.	N.C.			Catalog Number			
Handle	1	—	2-maintained	↙	XB6DD221B	XB6CD221B	XB6AD221B	29.70
	1	1	2-maintained	↙	XB6DD225B	XB6CD225B	XB6AD225B	37.60
			3-maintained	↙	XB6DD235B	XB6CD235B	XB6AD235B	37.60
	2	—	3-maintained	↙	XB6DD233B	XB6CD233B	XB6AD233B	37.60
Type of Operator	Type of Contact		Number and Type of Positions		Rectangular	Square	Round	\$ Price
	N.O.	N.C.			Catalog Number			
Key	1	1	2-maintained	↙	XB6DGC5B	XB6CGC5B	XB6AGC5B	68.00
			2-maintained	↙	XB6DGB5B	XB6CGB5B	XB6AGB5B	68.00
			3-maintained	↙	XB6DGH5B	XB6CGH5B	XB6AGH5B	68.00
	2	—	3-maintained	↙	XB6DGH3B	XB6CGH3B	XB6AGH3B	68.00

Note:  Indicates key withdrawal position.

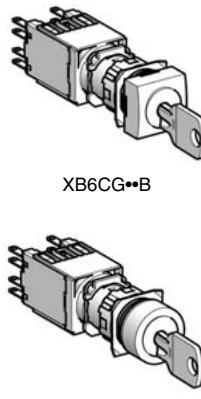
Table 19.35: Selector Switch Sequence

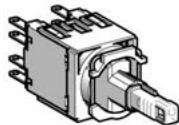
2 Position Selector Switch		
		Contact block guide ▲
O	X	1 N.O. (left or right)
X	O	1 N.C. (left or right)
O	X	1 N.O. and 1 N.C.
X	O	

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)

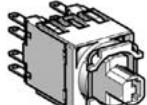
▲ As viewed from the front of the panel.

Legends pages 19-20 and 19-22





ZB6ZB•B



ZB6ZH•B

Table 19.36: 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 19.37: 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 19.38: Light Modules for Pilot Lights

Description	Supply Voltage	Color of Light Source	Catalog Number	\$ Price
Quick connectors/solder tabs△				
Integral LED♦	12-24 Vac/Vdc	White Green Red Yellow Blue	ZB6EB1B ZB6EB3B ZB6EB4B ZB6EB5B ZB6EB6B	16.60
		White Green Red Yellow Blue	ZB6EG1B ZB6EG3B ZB6EG4B ZB6EG5B ZB6EG6B	16.60
		—	ZB6EG0B	15.60
	110 Vac	—	ZB6EM0B	15.60
		—	ZB6EH0B	14.40
	230 Vac	—		
With resistor for 95 V neon bulb (not included) ★▼				
Direct supply for 0.6 W max. incandescent bulb (not included)★		—		

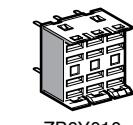
Table 19.39: Separate Contact Blocks (Maximum of 3 contacts per mounting base.)

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

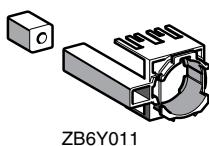
- ▲ Illuminated selector switches can be assembled by using a contact block/light module assembly in conjunction with a selector switch head, supplied without handle, and a transparent handle. See page 19-16.
- The LED must be the same color as the push button cap.
- ♦ The LED must be the same color as the lens.
- ★ Order bulbs separately. See page 19-22.
- ▼ Neon bulb can only be used with a red, yellow, or white cap.
- △ Electrical components with connection by printed circuit board pins are available. See page 19-22.

Table 19.40: Accessories for Printed Circuit Board Installations

Description	for use with	Catalog Number
Plug-in Socket Adapter	contact blocks and light modules	ZB6Y010
Body Bracket	plug-in socket adapter	ZB6Y011



ZB6Y010



ZB6Y011

Table 19.41: Heads for Illuminated Push Buttons
(To combine with complete bodies and contact blocks, see page 19-15)



ZB6DW•



ZB6CE•



ZB6AF•

Type of Push	Color	Rectangular	Square	Round	\$ Price
		Catalog Number			
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	
Flush, maintained	5 colors ▲	ZB6DW9	ZB6CW9	ZB6AW9	16.40
	White	ZB6DF1	ZB6CF1	ZB6AF1	14.40
	Green	ZB6DF3	ZB6CF3	ZB6AF3	
	Red	ZB6DF4	ZB6CF4	ZB6AF4	
	Yellow	ZB6DF5	ZB6CF5	ZB6AF5	
Extended, spring return	Blue	ZB6DF6	ZB6CF6	ZB6AF6	14.40
	5 colors ▲	ZB6DF9	ZB6CF9	ZB6AF9	
	White	ZB6DE1	ZB6CE1	ZB6AE1	
	Green	ZB6DE3	ZB6CE3	ZB6AE3	
	Red	ZB6DE4	ZB6CE4	ZB6AE4	
Extended, maintained	Yellow	ZB6DE5	ZB6CE5	ZB6AE5	14.40
	Blue	ZB6DE6	ZB6CE6	ZB6AE6	
	5 colors ▲	ZB6DE9	ZB6CE9	ZB6AE9	
	White	ZB6DE1	ZB6CE1	ZB6AE1	
	Green	ZB6DE3	ZB6CE3	ZB6AE3	

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



ZB6DV•



ZB6CV•



ZB6AV•

Table 19.42: Heads for Pilot Lights
(To combine with light modules, see page 19-15.)

Color	Rectangular	Square	Round	\$ Price
	Catalog Number			
White	ZB6DV1	ZB6CV1	ZB6AV1	8.20
	ZB6DV3	ZB6CV3	ZB6AV3	
	ZB6DV4	ZB6CV4	ZB6AV4	
	ZB6DV5	ZB6CV5	ZB6AV5	
	ZB6DV6	ZB6CV6	ZB6AV6	
5 colors ■	ZB6DV9	ZB6CV9	ZB6AV9	10.20

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

Legends pages 19-20 and 19-22

Non-Illuminated Operators

Table 19.43: Heads for Push Buttons

(To combine with complete bodies and contact blocks, see page 19-15.)



ZB6DA•



ZB6CA•



ZB6AA•



ZB6AS834



ZB6AS934



ZB6Y7330

Type of Push	Color	Rectangular	Square	Round	\$ Price
		Catalog Number			
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	16.40

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

Table 19.44: Mushroom Heads for Trigger Action Push Buttons (30 mm)■

Shape of Head	Type of Push	Cap Color	Catalog Number	\$ Price
	Turn-to-release	Red	ZB6AS834	49.60
	Key release	Red	ZB6AS934♦	62.60

Table 19.45: Circular Legends, 45 mm

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

■ Complies with EN418/ISO13850 standards for Emergency Stop push buttons when used with circular Legend Plate ZB6Y7330 (see page 19-22)

♦ Ronis 200 key

Non-Illuminated Selector Switches

Table 19.46: Heads for Non-Illuminated Selector Switches▲♦

(To combine with complete bodies and contact blocks, see page 19-15.)



ZB6DD••



ZB6CD••



ZB6AD••

Number and Type of Positions	Color of Handle	Rectangular	Square	Round	\$ Price
		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 19-19.

Legends..... pages 19-20 and 19-22

Table 19.47: Heads for Non-Illuminated Selector Switches▲♦
 (To combine with complete bodies and contact blocks, see page 19-15.)



ZB6DD22



ZB6CD22



ZB6AD22

Number and Type of Positions	Color of Handle	Rectangular	Square	Round	\$ Price
		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 19-14.

Legends pages 19-20 and 19-22

Table 19.48: Heads for Ronis Key Operated Selector Switches ▲
(To combine with complete bodies and contact blocks, see page 19-15.)

Number and Type of Positions	Key Withdrawal	Rectangular	Square	Round	\$ Price
		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	45.60
	 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	
3-spring return from right to center	 Right-hand and center positions	ZB6DGK	ZB6CGK	ZB6AGK	
	 Left-hand position	ZB6DGQ	ZB6CGQ	ZB6AGQ	
	 Center position	ZB6DGR	ZB6CGR	ZB6AGR	
3-spring return to center	 Left-hand and center positions	ZB6DGS	ZB6CGS	ZB6AGS	
3-spring return to center	 Center position	ZB6DGT	ZB6CGT	ZB6AGT	

Note:  Indicates key withdrawal position.

▲ Ronis 200 key standard.

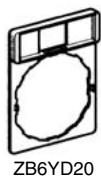
Table 19.49: Selector Switch Sequence (using contact block assemblies, page 19-15)

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
X	O	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 19-20 and 19-22



ZB6YD20



ZB6Y2178



ZB6Y2304

Table 19.50: 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 Black or red	ZB6YD21 ZB6YD22	3.40 3.40

Table 19.51: 8 x 21 mm Marked Legends (for 24 x 28 mm legend holder ZB6YD20) ▲

Color	Marking	Catalog Number	\$ Price
International	O-I	ZB6Y2178	
	I-II	ZB6Y2179	
	I-O-II	ZB6Y2186	
	←O→	ZB6Y2190	
	HAND-O-AUTO	ZB6Y2387	
	CLOSE	ZB6Y2314	
	DOWN	ZB6Y2308	
	FORWARD	ZB6Y2305	
	FAULT	ZB6Y2334	
	LEFT	ZB6Y2310	
English	OFF	ZB6Y2312	1.60
	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 9001CT1102.

Table 19.52: Push Button Caps—Marked

Ink Marking Color: White on colored cap Black on white cap	Color	Rectangular	Square	Round	\$ Price
		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	
	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



ZB6YD•10



ZB6YC•10



ZB6YA•10



ZB6YD•17



ZB6YD•19

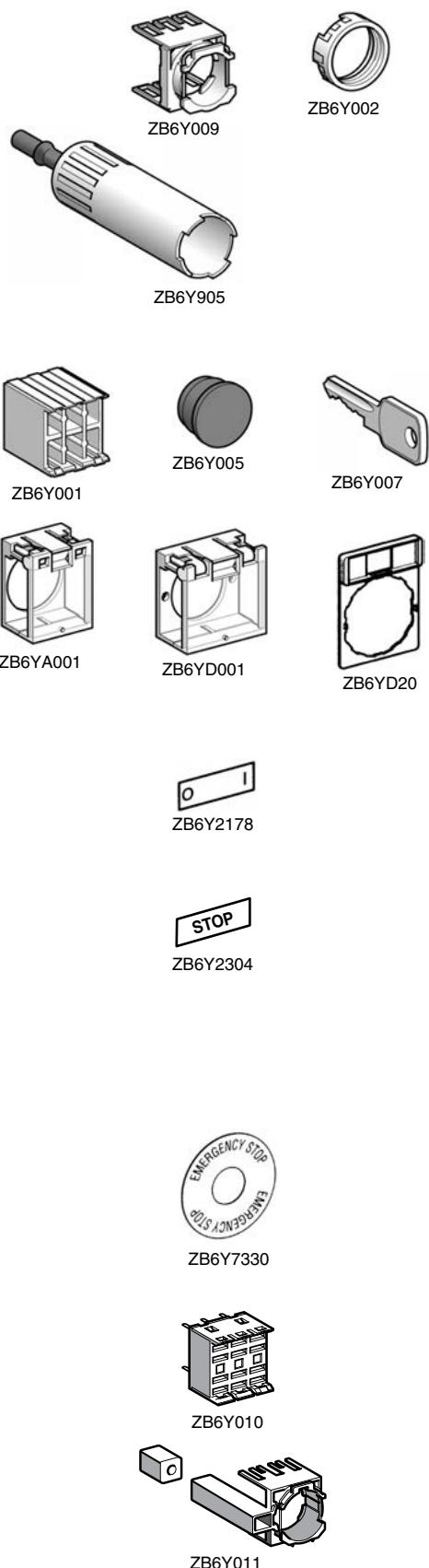


ZB6YC•19



ZB6YA•19

Table 19.53: 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
Three piece tool kit	—	ZB6Y019	12.40
Nut	Fixing head to panel	ZB6Y002	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

▲ 28 V bulb supplied, for use on 24 V.
■ 95 V bulb supplied, for use on 110/230 V.

Table 19.54: 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

Table 19.55: 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)	O-I	ZB6Y2178	1.60
	I-II	ZB6Y2179	
	I-O-II	ZB6Y2186	
	↔O↔	ZB6Y2190	
	HAND-O-AUTO	ZB6Y2387	
	CLOSE	ZB6Y2314	
	DOWN	ZB6Y2308	
	FORWARD	ZB6Y2305	
English	FAULT	ZB6Y2334	1.60
	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.

Table 19.56: Circular Legends, 45 mm

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

Table 19.57: Accessories for Printed Circuit Board Installations

Description	for use with	Catalog Number
Plug-in Socket Adapter	contact blocks and light modules	ZB6Y010
Body Bracket	plug-in socket adapter	ZB6Y011



XB4BA31



XB4BA4322



XB4BP51



XB4BL42



XB4BC21



XB4BL73415



XB4BL73731p5



XB4BA731327

Table 19.58: Non-Illuminated Push Buttons, Momentary (screw clamp terminal connections)

Shape of Head	Type of Push	Type of Contact		Marking	Cap Color	Catalog Number	Components	\$ Price
		N.O.	N.C.					
	Flush	1	—	—	Black	XB4BA21	(ZB4BZ101 + ZB4BA2)	38.50
		—	1		Green	XB4BA31	(ZB4BZ101 + ZB4BA3)	
		1	1	—	Yellow	XB4BA51	(ZB4BZ101 + ZB4BA5)	
		—	—		Blue	XB4BA61	(ZB4BZ101 + ZB4BA6)	
		—	—		Red	XB4BA42	(ZB4BZ102 + ZB4BA4)	
	Flush	1	—	—	Black	XB4BA25	(ZB4BZ105 + ZB4BA2)	56.00
		—	1		Green	XB4BA35	(ZB4BZ105 + ZB4BA3)	
		1	1		Red	XB4BA45	(ZB4BZ105 + ZB4BA4)	
		—	—		Yellow	XB4BA55	(ZB4BZ105 + ZB4BA5)	
		—	—		Blue	XB4BA65	(ZB4BZ105 + ZB4BA6)	
	Flush	1	—	—	"I" (white)	Green	XB4BA3311	(ZB4BZ101 + ZB4BA31)
		—	1					
	Flush	—	1	—	"O" (white)	Red	XB4BA4322	(ZB4BZ102 + ZB4BA432)
		—	—					
	Flush with clear silicone boot (color of pusher unobscured)	1	—	—	Black	XB4BP21	(ZB4BZ101 + ZB4BP2)	53.00
		—	—		Green	XB4BP31	(ZB4BZ101 + ZB4BP3)	
		—	—		Yellow	XB4BP51	(ZB4BZ101 + ZB4BP5)	
		—	—		Blue	XB4BP61	(ZB4BZ101 + ZB4BP6)	
	Extended	—	1	—	Red	XB4BP42	(ZB4BZ102 + ZB4BP4)	53.00
		—	1		Red	XB4BL42	(ZB4BZ102 + ZB4BL4)	
		1	1		Red	XB4BL45	(ZB4BZ105 + ZB4BL4)	
	Mushroom head Ø 40 mm	1	—	—	Black	XB4BC21	(ZB4BZ101 + ZB4BC2)	56.00

Table 19.59: Two Button Push Buttons, Momentary (screw clamp terminal connections)

Shape of Head	Type of Push	Type of Contact		Marking	Degree of Protection	Catalog Number	Components	\$ Price
		N.O.	N.C.					
	One flush green push* One extended red push**	1	1	**"I" (white) **"O" (white)	IP66 IP69K	XB4BL73415	(ZB4BZ105 + ZB4BL7341)	69.00

Table 19.60: Two Button Push Buttons, Momentary + one white central pilot light (screw clamp terminal connections)

Shape of Head	Type of Push	Type of Contact		Marking	Degree of Protection	Pilot Light Voltage	Catalog Number	\$ Price
		N.O.	N.C.					
	One flush green push* One extended red push** One white central pilot light block	1	1	**"I" (white) **"O" (white)	IP66 IP69K	24	XB4BW73731B5 XB4BW73731G5 XB4BW73731M5	130.00
						120		
						240		

Table 19.61: Three Button Push Buttons, Momentary (screw clamp terminal connections)

Shape of Head	Type of Push	Type of Contact		Degree of Protection	Marking and Cap Color	Catalog Number	\$ Price
		N.O.	N.C.				
	Two flush pushes + one central projecting red push*	2	1	IP66 IP69K	White "I" on green background White "II" on green background *White "Stop" on red background Black "—" on white background White "—" on black background *White "Stop" on red background	XB4BA731327 XB4BA711237	120.00

Legends..... pages 19-37 to 19-39
Caps..... page 19-39

Table 19.62: Non-Illuminated Emergency Stop and Emergency Off Mushroom Head Push Buttons, Ø 40 mm, Red (screw clamp terminal connections)



XB4BT845



XB4BS9445



XB4BS542

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)	101.00
	Trigger action turn-to-release▲	1	1		XB4BS8445	(ZB4BZ105 + ZB4BS844)	165.00
		1	2		XB4BS84441	(ZB4BZ141 + ZB4BS844)	
	Trigger action Key release ▲ (No. 455)	1	1		XB4BS9445	(ZB4BZ105 + ZB4BS944)	165.00
	Push-pull	—	1		XB4BT42	(ZB4BZ102 + ZB4BT4)	68.00
	Turn-to-release	—	1		XB4BS542	(ZB4BZ102 + ZB4BS54)	110.00
	Key release (No. 455)	—	1		XB4BS142	(ZB4BZ102 + ZB4BS14)	147.00

▲ Trigger action mushroom heads are tamper proof in that a change of contact state is not possible by teasing or floating the operator. For emergency stop applications, always use a trigger action push button (per EN/IEC 13850).

Table 19.63: Non-Illuminated Selector Switches and Key Switches (screw clamp terminal connections)■



XB4BD33



XB4BJ33



XB4BG33

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)	51.00
		1	1	2-maintained		XB4BD25 (ZB4BZ105 + ZB4BD2)	68.00
		2	—	3-maintained		XB4BD33 (ZB4BZ103 + ZB4BD3)	68.00
				3-momentary to center		XB4BD53 (ZB4BZ103 + ZB4BD5)	75.00
	Extended lever, black	1	—	2-maintained		XB4BJ21 (ZB4BZ101 + ZB4BJ2)	51.00
		2	—	3-maintained		XB4BJ33 (ZB4BZ103 + ZB4BJ3)	68.00
				3-momentary to center		XB4BJ53 (ZB4BZ103 + ZB4BJ5)	75.00
	Key (No. 455)	1	—	2-maintained		XB4BG21 (ZB4BZ101 + ZB4BG2)	123.00
						XB4BG41 (ZB4BZ101 + ZB4BG4)	123.00
		2	—	2-momentary to left		XB4BG61 (ZB4BZ101 + ZB4BG6)	123.00
				3-maintained		XB4BG03 (ZB4BZ103 + ZB4BG0)	141.00
						XB4BG33 (ZB4BZ103 + ZB4BG3)	141.00

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

■ See page 19-29 for contact configurations.

Legends pages 19-37 to 19-39

Table 19.64: Pilot Lights with Protected LED™ (screw clamp terminal connections) ▲

Shape of Head	Supply Voltage	Color	Catalog Number	Components	\$ Price
	24 Vac/Vdc	White	XB4BVB1	(ZB4BVB1 + ZB4BV013)	72.00
		Green	XB4BVB3	(ZB4BVB3 + ZB4BV033)	
		Red	XB4BVB4	(ZB4BVB4 + ZB4BV043)	
		Yellow	XB4BVB5	(ZB4BVB5 + ZB4BV053)	
		Blue	XB4BVB6	(ZB4BVB6 + ZB4BV063)	
	110–120 Vac	White	XB4BVG1	(ZB4BVG1 + ZB4BV013)	72.00
		Green	XB4BVG3	(ZB4BVG3 + ZB4BV033)	
		Red	XB4BVG4	(ZB4BVG4 + ZB4BV043)	
		Yellow	XB4BVG5	(ZB4BVG5 + ZB4BV053)	
		Blue	XB4BVG6	(ZB4BVG6 + ZB4BV063)	



XB4BVB5

Table 19.65: 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/Vdc	White	XB4BV61	(ZB4BV6 + ZB4BV01)	51.00
		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)	117.00
		Green	XB4BV33	(ZB4BV3 + ZB4BV03)	
		Red	XB4BV34	(ZB4BV3 + ZB4BV04)	
		Yellow	XB4BV35	(ZB4BV3 + ZB4BV05)	



XB4BV64



XB4BV33

Table 19.66: 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								
	1	1	24 Vac/Vdc	White	XB4BW31B5	(ZB4BW0B15 + ZB4BW313)	119.00	
				Green	XB4BW33B5	(ZB4BW0B35 + ZB4BW333)		
				Red	XB4BW34B5	(ZB4BW0B45 + ZB4BW343)		
				Yellow	XB4BW35B5	(ZB4BW0B55 + ZB4BW353)		
				Blue	XB4BW36B5	(ZB4BW0B65 + ZB4BW363)		
	1	1	≤ 250 Vac/Vdc	White	XB4BW31G5	(ZB4BW0G15 + ZB4BW313)	119.00	
				Green	XB4BW33G5	(ZB4BW0G35 + ZB4BW333)		
				Red	XB4BW34G5	(ZB4BW0G45 + ZB4BW343)		
				Yellow	XB4BW35G5	(ZB4BW0G55 + ZB4BW353)		
				Blue	XB4BW36G5	(ZB4BW0G65 + ZB4BW363)		
	1	1	110–120 Vac 50/60 Hz	White	XB4BW3165	(ZB4BW065 + ZB4BW31)	99.00	
				Green	XB4BW3365	(ZB4BW065 + ZB4BW33)		
				Red	XB4BW3465	(ZB4BW065 + ZB4BW34)		
				Yellow	XB4BW3565	(ZB4BW065 + ZB4BW35)		
				White	XB4BW3135	(ZB4BW035 + ZB4BW31)		
	1	1	230–240 Vac 50/60 Hz	Green	XB4BW3335	(ZB4BW035 + ZB4BW33)	163.00	
				Red	XB4BW3435	(ZB4BW035 + ZB4BW34)		
				Yellow	XB4BW3535	(ZB4BW035 + ZB4BW35)		
				White	XB4BW3145	(ZB4BW045 + ZB4BW31)		
				Green	XB4BW3345	(ZB4BW045 + ZB4BW33)		
	1	1	24 Vac/Vdc	Red	XB4BW3445	(ZB4BW045 + ZB4BW34)	163.00	
				Yellow	XB4BW3545	(ZB4BW045 + ZB4BW35)		
				White	XB4BW11B5	(ZB4BW0B15 + ZB4BW113)		
				Green	XB4BW13B5	(ZB4BW0B35 + ZB4BW133)		
				Red	XB4BW14B5	(ZB4BW0B45 + ZB4BW143)		
	1	1	110–120 Vac	Yellow	XB4BW15B5	(ZB4BW0B55 + ZB4BW153)	113.00	
				Blue	XB4BW16B5	(ZB4BW0B65 + ZB4BW163)		
				White	XB4BW11G5	(ZB4BW0G15 + ZB4BW113)		
				Green	XB4BW13G5	(ZB4BW0G35 + ZB4BW133)		
				Red	XB4BW14G5	(ZB4BW0G45 + ZB4BW143)		
	1	1	24 Vac/Vdc	Yellow	XB4BW15G5	(ZB4BW0G55 + ZB4BW153)	113.00	
				Blue	XB4BW16G5	(ZB4BW0G65 + ZB4BW163)		

▲ For 240 V LED, replace the last "B" or "G" in the catalog number with an "M". For example, XB4BVB1 (24 V) becomes XB4BVM1 (240 V—AC only).

Legends pages 19-37 to 19-39

Table 19.67: Non-Illuminated Operators, Momentary—Unmarked

Shape of Head	Type of Push	Cap Color	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	ZB4BA1	13.00
		Black	ZB4BA2	
		Green	ZB4BA3	
		Red	ZB4BA4	
		Yellow	ZB4BA5	
		Blue	ZB4BA6	
		Gray	ZB4BA8	
	Flush with transparent cap, for insertion of legend ■	White	ZB4BA18	16.00
		Green	ZB4BA38	
		Red	ZB4BA48	
		Yellow	ZB4BA58	
	Booted Flush (clear silicone) Cap color unobscured	Blue	ZB4BA68	25.80
		White	ZB4BPA1	
		Black	ZB4BPA2	
		Green	ZB4BPA3	
		Red	ZB4BPA4	
		Yellow	ZB4BPA5	
	Booted Extended (clear silicone) Cap color unobscured	Blue	ZB4BPA6	25.80
		White	ZB4BP1	
		Black	ZB4BP2	
		Green	ZB4BP3	
		Red	ZB4BP4	
		Yellow	ZB4BP5	
	Booted (colored silicone) for insertion of legend ■ Cap color unobscured	Blue	ZB4BP6	25.80
		White	ZB4BP18	
		Green	ZB4BP38	
		Red	ZB4BP48	
		Yellow	ZB4BP58	
		Blue	ZB4BP68	
	Booted (clear silicone) for insertion of legend ■ Cap color unobscured	White	ZB4BL1	13.00
		Black	ZB4BL2	
		Green	ZB4BL3	
		Red	ZB4BL4	
		Yellow	ZB4BL5	
	Extended	Blue	ZB4BL6	13.00
		White	ZB4BA16	
		Black	ZB4BA26	
		Green	ZB4BA36	
		Red	ZB4BA46	
		Yellow	ZB4BA56	
	Guarded Head	Blue	ZB4BA66	35.00

▲ Color cap to be ordered separately, see page 19-39.

■ For legend ordering information, see page 19-39.

Table 19.68: Non-Illuminated Operators, Momentary—Premarked

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

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

Legends pages 19-37 to 19-39



ZB4BH02

Table 19.69: 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 19.70: Three Head Operators, Momentary



ZB4BA73133



ZB4BA71124

Shape of Head Premarked	Description	Marking	Cap Color	Degree of Protection	Catalog Number	\$ Price
 Two flush + one central projecting red push marked "Stop"	 Two flush	"I"	Green	IP66 IP69K	ZB4BA73132	60.00
		"O"	Green		ZB4BA73133	
		"←"	Green		ZB4BA73134	
		"→"	Green		ZB4BA73135	
		"↑"	White		ZB4BA71115	
		"↓"	White		ZB4BA71123	
		"↑"	Black		ZB4BA71124	
		"↓"	Black		ZB4BA72124	
		"I"	Black			
		"O"	Black			
 Without caps	 Two flush without caps	—	—	IP66 IP69K	ZB4BA791	51.00
		—	—			

Table 19.71: Two Head Operators, Momentary



ZB4BA7121



ZB4BL7341

Shape of Head No Marking	Description	Marking	Cap Color	Degree of Protection	Catalog Number	\$ Price
 Two flush	 Two flush	—	Green Red	IP66 IP69K	ZB4BA7340	37.20
		—	White Black		ZB4BA7120	
	 One flush One extended	—	Green Red		ZB4BL7340	
 Premarked	 Two flush	"I" "O"	Green Red	IP66 IP69K	ZB4BA7341	41.40
		"I" "O"	White Black		ZB4BA7121	
	 One flush One extended	"I" "O"	Green Red		ZB4BL7341	
	 Without caps	—	—		ZB4BA79	
 Two flush without caps	 Two flush without caps	—	—	IP66 IP69K	ZB4BA79	35.00
		—	—			

Legends..... pages 19-37 to 19-39

Caps..... page 19-39

Table 19.72: Mushroom Heads, Momentary



ZB4BC24



ZB4BC2



ZB4BR2

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 19.73: 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
		60 mm	Red marked "EMO"	ZB4BS84430	118.00
	Trigger action Key release (No. 455) ▲	30 mm	Red	ZB4BS864	112.00
		40 mm	Red	ZB4BS934	112.00
		60 mm	Red	ZB4BS944	112.00
	Push-pull	40 mm	Black	ZB4BT2	40.40
		40 mm	Red	ZB4BT4	
		60 mm	Black	ZB4BX2	46.00
		60 mm	Red	ZB4BX4	
	Turn-to-release	30 mm	Black	ZB4BS42	78.00
		30 mm	Red	ZB4BS44	
		40 mm	Black	ZB4BS52	78.00
		40 mm	Red	ZB4BS54	
		40 mm	Red marked "EMO"	ZB4BS5430	85.00
		40 mm	Yellow	ZB4BS55	78.00
		60 mm	Yellow marked "Robot Stop"	ZB4BS5550	85.00
		60 mm	Black	ZB4BS62	90.00
		60 mm	Red	ZB4BS64	
	Key release (No. 455)	30 mm	Black	ZB4BS72	112.00
		30 mm	Red	ZB4BS74	
		40 mm	Black	ZB4BS12	112.00
		40 mm	Red	ZB4BS14	
		60 mm	Black	ZB4BS22	112.00
		60 mm	Red	ZB4BS24	

▲ Trigger action mushroom heads are tamper proof in that a change of contact state is not possible by teasing or floating the operator. For emergency stop applications, always use a trigger action push button (per EN/IEC 13850).

■ 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.

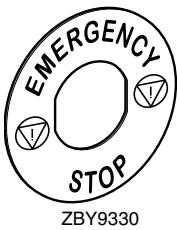
Example: The catalog number for a head with key No. 421E for a 2 position maintained, lockable selector switch, with key withdrawal from the left-hand position, becomes: ZB4BG212.

Table 19.74: 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	3.40
	EMERGENCY STOP	ZBY8330	

Legends pages 19-37 to 19-39

Caps page 19-39



ZBY9330

Table 19.75: Non-Illuminated Selector Switches ■



ZB4BD4
Standard Lever



ZB4BJ3
Extended Lever

Color	Number and Type of Positions	Standard Lever ▲	Extended Lever	\$ Price	
		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).

Table 19.76: Non-Illuminated Key Switches ■

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
		↙	ZB4BG02
		↖	ZB4BG4
	2-momentary from right to left	↙	ZB4BG6
		↖	ZB4BG0
		↓	ZB4BG3
	3-maintained	↓	ZB4BG03
		↙	ZB4BG04
		↖	ZB4BG5
		↓	ZB4BG9
		↙	ZB4BG09
		↖	ZB4BG1
	3-momentary from left to center	↖	ZB4BG01
		↙	ZB4BG7
	3-momentary to center	↓	ZB4BG8
		↖	ZB4BG05
		↙	ZB4BG08
		↖	ZB4BG12

- See Table 19.77 for contact configurations.
- ♦ 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: For a head with key no. 421E for a 2 position maintained, lockable selector switch, with key withdrawal from the left-hand position, order ZB4BG212.

Table 19.77: Sequence of Contacts on Selector Switch Bodies

Unit Type	Selector Switches											
	2-position				3-position							
Note: L=Left, C=Center, R=Right, O=Open, X=Closed	315°	45°	315°	0°	45°							
	Up	█				█			█			
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	X	X	X	X	X	O	O	O	X
	N/C	X	X	X	O	O	O	O	X	X	X	O

Legends pages 19-37 to 19-39
Selector Switch Sequence (Table 19.91) page 19-33



ZB4BD922

Table 19.78: Potentiometer Operator (with Mounting Collar)

Shape of Head	Description	Application	Catalog Number	\$ Price
	For potentiometer with shaft length 1.73 to 1.97 in. (45 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	



XD4PA12

Table 19.79: 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).

Table 19.80: 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 19.81: Two Position Toggle Switch

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

Table 19.82: 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	30.10
					Red	XB4BA841	
					Blue	XB4BA861	
	0.63–1.02	16–26			Black	XB4BA822	30.10
					Red	XB4BA842	
					Blue	XB4BA862	
	1.18–5.12	30–130			Black	XB4BA921	36.10
					Red	XB4BA941	
					Blue	XB4BA961	
	5.12–10.12	130–257			Black	XB4BA922	45.10
					Red	XB4BA942	
					Blue	XB4BA962	

Legends pages 19-37 to 19-39

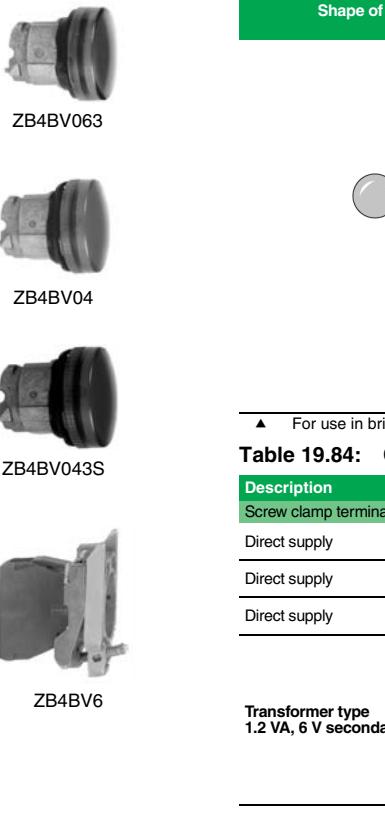


ZB4BD28



XB4BA8*1

Table 19.83: Pilot Light Heads

Shape of Head	For Use with Body Comprising Light Module Type	Color of Lens	Catalog Number	\$ Price
	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	
	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	

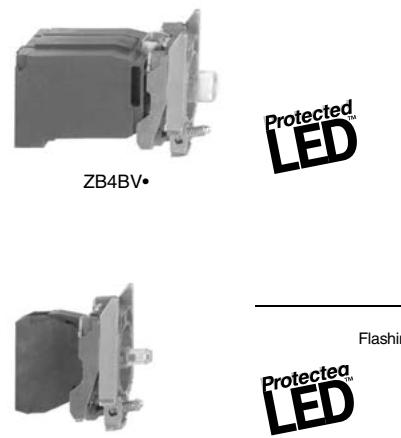
▲ For use in bright ambient conditions, for example, in sunlight.

Table 19.84: 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 19-40. For BA9 LED, see page 19-120.

Table 19.85: 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/Vdc	White Green Red Yellow Blue	ZB4BVJ1 ZB4BVJ3 ZB4BVJ4 ZB4BVJ5 ZB4BVJ6	57.00
	24 Vac/Vdc	White Green Red Yellow Blue	ZB4BVB1 ZB4BVB3 ZB4BVB4 ZB4BVB5 ZB4BVB6	
	24–120 Vac/Vdc	White Green Red Yellow Blue	ZB4BVG1 ZB4BVG3 ZB4BVG4 ZB4BVG5 ZB4BVG6	
	110–120 Vac	White Green Red Yellow Blue	ZB4BVG1 ZB4BVG3 ZB4BVG4 ZB4BVG5 ZB4BVG6	
Flashing 	24 Vac/Vdc	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	

♦ For 240 V LED, replace the last "B" or "G" in the catalog number with an "M". For example, ZB4BVB1 (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 19-37 to 19-39

Table 19.86: 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 silicone 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	
		Blue	ZB4BW16	
		Clear	ZB4BW17	

Table 19.87: 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 19.88: 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	ZB4BH113	19.60
		Green	ZB4BH33	
		Red	ZB4BH43	
		Yellow	ZB4BH53	
		Blue	ZB4BH63	

Legends pages 19-37 to 19-39

Table 19.89: Two Button with Clear Pilot Light, Momentary

Shape of Head No Marking	Description	Marking	Cap Color	Degree of Protection	Catalog Number	\$ Price
	Two flush	—	Green Red	IP66 IP69K	ZB4BW7A3740	48.00
		—	White Black		ZB4BW7A1720	
		—	Green Red		ZB4BW7L3740	
Premarked						
	Two flush	"I" "O"	Green Red	IP66 IP69K	ZB4BW7A3741	52.00
		"I" "O"	White Black		ZB4BW7A1721	
	One flush One extended	"I" "O"	Green Red		ZB4BW7I3741	
	Two flush	"I" "O"	White Black		ZB4BW7A1724	
	Two flush	"+" "-"	White Black		ZB4BW7A1715	
Without caps						
	Two flush without caps	—	—	IP66 IP69K	ZB4BW7A9	35.00

Table 19.90: 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
	2-momentary from right to left	◀	ZB4BK14•3
	3-maintained	▼	ZB4BK13•3
	3-momentary to center	◀▷	ZB4BK15•3
	3-momentary from right to center	▼	ZB4BK18•3
	3-momentary from left to center	◀▼	ZB4BK17•3

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

Table 19.91: 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
Contacts		N/O	O	X	X	O	O
		N/C	X	X	O	X	X

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

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

Legends..... pages 19-37 to 19-39

Caps..... page 19-39



ZB4BZ101

Table 19.92: 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 19.93: 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/Vdc	110-120 Vac		
				Catalog Number			
Screw clamp terminal connections							
Protected LED	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 19-35.

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

Table 19.94: 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/Vdc	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
			1	—	—	ZB4BW041	114.00
			1	1	—	ZB4BW045	130.00
		230-240 Vac 50/60 Hz	1	—	—	ZB4BW081	114.00
			1	1	—	ZB4BW085	130.00
			1	—	—		
			1	1	—		

◇ Order bulb separately, see page 19-40.

★ Can be fitted with additional contact blocks, see page 19-35.



ZB4BW0•5



ZB4BZ009



ZBE101



ZBE203



ZBVB•

Table 19.95: Body/Mounting Collar

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

Table 19.96: 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	
Special contact blocks for low power switching ♦	1	1	ZBE205	33.20	
	—	—	ZBE1016	32.80	
Low-power switching	1	—	ZBE1026	32.80	
	—	1	ZBE1016P	32.80	
Dusty environment ♦ (IP5X, 50 µm dust)	1	—	ZBE1026P	32.80	
	—	1	—	—	
Staggered contacts	Early make N/O	1	—	ZBE201	16.40
	Late break N/C	—	1	ZBE202	16.40
	Overlapping N/O+N/C	1	1	ZB4BZ106	32.80
	Staggered N/O-N/O	—	2	ZB4BZ107	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 19.97: Light Modules (with screw clamp terminal connections) ★▼

Description	Supply Voltage	Color of Light Source	Catalog Number	\$ Price
12 Vac/Vdc	White	White	ZBVJ1	52.00
		Green	ZBVJ3	
		Red	ZBVJ4	
		Yellow	ZBVJ5	
		Blue	ZBVJ6	
	White	ZBVB1		
24 Vac/Vdc	Green	Green	ZBVB3	52.00
		Red	ZBVB4	
		Yellow	ZBVB5	
		Blue	ZBVB6	
	White	ZBVG1		
110-120 Vac	Green	Green	ZBVG3	52.00
		Red	ZBVG4	
		Yellow	ZBVG5	
		Blue	ZBVG6	
	White	ZBVBG1		
24-120 Vac/Vdc	Green	Green	ZBVBG3	52.00
		Red	ZBVBG4	
		Yellow	ZBVBG5	
		Blue	ZBVBG6	
	White	ZBVM1		
230-240 Vac	Green	Green	ZBVM3	52.00
		Red	ZBVM4	
		Yellow	ZBVM5	
		Blue	ZBVM6	
Direct supply for BA9s 2.4 W max. bulb Not included △	≤ 250 Vac/Vdc	—	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 19-40 for bulb information.



ZB4BZ009



ZBE1015



ZB4BZ1015

Table 19.98: Spring Terminal Products for XB4 22 mm Push Buttons

Body/Mounting Collar

For use with	Catalog Number	\$ Price
Contact block or light module	ZB4BZ009	5.40

Contact Blocks ▲

Spring Terminal Connections, Contacts for Standard Applications

Description	Type of contact	N/O	N/C	Catalog Number	\$ Price
		1	—		
Contact blocks	Single	—	1	ZBE1015	18.00
		1	—	ZBE1025	18.00
	Single with body/mounting collar	1	—	ZB4BZ1015	24.00
		—	1	ZB4BZ1025	24.00
		2	—	ZB4BZ1035	42.00
		—	2	ZB4BZ1045	42.00
		1	1	ZB4BZ1055	42.00

Light Modules ▲

Spring Terminal Connections

Description	Supply voltage	Color of light source	Catalog Number	\$ Price
Integral LED (to combine with heads for integral LED)	12 Vac/Vdc	White	ZBVJ15	57.00
		Green	ZBVJ35	57.00
		Red	ZBVJ45	57.00
		Orange	ZBVJ55	57.00
		Blue	ZBVJ65	57.00
Protected LED	24 Vac/Vdc	White	ZBVB15	57.00
		Green	ZBVB35	57.00
		Red	ZBVB45	57.00
		Orange	ZBVB55	57.00
		Blue	ZBVB65	57.00
	110–120 Vac	White	ZBVG15	57.00
		Green	ZBVG35	57.00
		Red	ZBVG45	57.00
		Orange	ZBVG55	57.00
		Blue	ZBVG65	57.00
	230–240 Vac	White	ZBVM15	57.00
		Green	ZBVM35	57.00
		Red	ZBVM45	57.00
		Orange	ZBVM55	57.00
		Blue	ZBVM65	57.00

▲ Additional blocks **cannot** be attached to the back of these contact blocks or light modules. However, spring terminal contact blocks can be mounted behind screw terminal contact blocks.

Table 19.99: 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 White or yellow background	—	ZBY2101 ZBY4101	3.40
Custom Legend (Specify Engraving) 2 lines of 11 characters (including spaces) maximum per line	Black background Red background White background Yellow background	White White Black Black	ZBY2002 ZBY2004 ZBY4001 ZBY4005	14.20
With legend marked with international language	Black or red background ■	O (black background) O (red background) I II O-I I-II I-O-II	ZBY2146 ZBY2931 ZBY2147 ZBY2148 ZBY2178 ZBY2179 ZBY2186	3.40
		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	ZBY2115 ZBY2364 ZBY2385 ZBY2314 ZBY2308 ZBY2330 ZBY2328 ZBY2305 ZBY2371 ZBY2316 ZBY2387 ZBY2321 ZBY2382 ZBY2310 ZBY2312 ZBY2367 ZBY2311 ZBY2313 ZBY2326 ZBY2323 ZBY2322 ZBY2306 ZBY2309 ZBY2334 ZBY2327 ZBY2303 ZBY2304 ZBY2366 ZBY2307	

▲ For marked legends, see page 19-38.

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

Table 19.100: 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 White or yellow background	ZBY6101 ZBY6102	3.40

Table 19.101: 30 x 40 mm legend holder (flush mounting with bezel) for 8 x 27 mm legends

Description ♦	Color	Catalog Number	\$ Price
Without legend	—	ZBZ34	2.00
With blank legend	Black or red background White or yellow background	ZBY2H101 ZBY4H101	3.40

Table 19.102: 30 x 50 mm legend holder (flush mounting with bezel) for 18 x 27 mm legends

Description ♦	Color	Catalog Number	\$ Price
Without legend	—	ZBZ35	4.20
With blank legend	Black or red background White or yellow background	ZBY6H101 ZBY6H102	5.40

♦ For custom Legends, see page 19-38.

Table 19.99: 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 White or yellow background	—	ZBY2101 ZBY4101	3.40
Custom Legend (Specify Engraving) 2 lines of 11 characters (including spaces) maximum per line	Black background Red background White background Yellow background	White White Black Black	ZBY2002 ZBY2004 ZBY4001 ZBY4005	14.20
With legend marked with international language	Black or red background ■	O (black background) O (red background) I II O-I I-II I-O-II	ZBY2146 ZBY2931 ZBY2147 ZBY2148 ZBY2178 ZBY2179 ZBY2186	3.40
		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	ZBY2115 ZBY2364 ZBY2385 ZBY2314 ZBY2308 ZBY2330 ZBY2328 ZBY2305 ZBY2371 ZBY2316 ZBY2387 ZBY2321 ZBY2382 ZBY2310 ZBY2312 ZBY2367 ZBY2311 ZBY2313 ZBY2326 ZBY2323 ZBY2322 ZBY2306 ZBY2309 ZBY2334 ZBY2327 ZBY2303 ZBY2304 ZBY2366 ZBY2307	

▲ For marked legends, see page 19-38.

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

Table 19.100: 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 White or yellow background	ZBY6101 ZBY6102	3.40

Table 19.101: 30 x 40 mm legend holder (flush mounting with bezel) for 8 x 27 mm legends

Description ♦	Color	Catalog Number	\$ Price
Without legend	—	ZBZ34	2.00
With blank legend	Black or red background White or yellow background	ZBY2H101 ZBY4H101	3.40

Table 19.102: 30 x 50 mm legend holder (flush mounting with bezel) for 18 x 27 mm legends

Description ♦	Color	Catalog Number	\$ Price
Without legend	—	ZBZ35	4.20
With blank legend	Black or red background White or yellow background	ZBY6H101 ZBY6H102	5.40

♦ For custom Legends, see page 19-38.

Table 19.99: 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 White or yellow background	—	ZBY2101 ZBY4101	3.40
Custom Legend (Specify Engraving) 2 lines of 11 characters (including spaces) maximum per line	Black background Red background White background Yellow background	White White Black Black	ZBY2002 ZBY2004 ZBY4001 ZBY4005	14.20
With legend marked with international language	Black or red background ■	O (black background) O (red background) I II O-I I-II I-O-II	ZBY2146 ZBY2931 ZBY2147 ZBY2148 ZBY2178 ZBY2179 ZBY2186	3.40
		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	ZBY2115 ZBY2364 ZBY2385 ZBY2314 ZBY2308 ZBY2330 ZBY2328 ZBY2305 ZBY2371 ZBY2316 ZBY2387 ZBY2321 ZBY2382 ZBY2310 ZBY2312 ZBY2367 ZBY2311 ZBY2313 ZBY2326 ZBY2323 ZBY2322 ZBY2306 ZBY2309 ZBY2334 ZBY2327 ZBY2303 ZBY2304 ZBY2366 ZBY2307	

▲ For marked legends, see page 19-38.

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

Table 19.100: 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 White or yellow background	ZBY6101 ZBY6102	3.40

Table 19.101: 30 x 40 mm legend holder (flush mounting with bezel) for 8 x 27 mm legends

Description ♦	Color	Catalog Number	\$ Price
Without legend	—	ZBZ34	2.00
With blank legend	Black or red background White or yellow background	ZBY2H101 ZBY4H101	3.40

Table 19.102: 30 x 50 mm legend holder (flush mounting with bezel) for 18 x 27 mm legends

Description ♦	Color	Catalog Number	\$ Price
Without legend	—	ZBZ35	4.20
With blank legend	Black or red background White or yellow background	ZBY6H101 ZBY6H102	5.40

♦ For custom Legends, see page 19-38.

Table 19.99: 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 White or yellow background	—	ZBY2101 ZBY4101	3.40
Custom Legend (Specify Engraving) 2 lines of 11 characters (including spaces) maximum per line	Black background Red background White background Yellow background	White White Black Black	ZBY2002 ZBY2004 ZBY4001 ZBY4005	14.20
With legend marked with international language	Black or red background ■	O (black background) O (red background) I II O-I I-II I-O-II	ZBY2146 ZBY2931 ZBY2147 ZBY2148 ZBY2178 ZBY2179 ZBY2186	3.40
		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	ZBY2115 ZBY2364 ZBY2385 ZBY2314 ZBY2308 ZBY2330 ZBY2328 ZBY2305 ZBY2371 ZBY2316 ZBY2387 ZBY2321 ZBY2382 ZBY2310 ZBY2312 ZBY2367 ZBY2311 ZBY2313 ZBY2326 ZBY2323 ZBY2322 ZBY2306 ZBY2309 ZBY2334 ZBY2327 ZBY2303 ZBY2304 ZBY2366 ZBY2307	

▲ For marked legends, see page 19-38.

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

Table 19.100: 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 White or yellow background	ZBY6101 ZBY6102	3.40

Table 19.101: 30 x 40 mm legend holder (flush mounting with bezel) for 8 x 27 mm legends

Description ♦	Color	Catalog Number	\$ Price
Without legend	—	ZBZ34	2.00
With blank legend	Black or red background White or yellow background	ZBY2H101 ZBY4H101	3.40

Table 19.102: 30 x 50 mm legend holder (flush mounting with bezel) for 18 x 27 mm legends

Description ♦	Color	Catalog Number	\$ Price
Without legend	—	ZBZ35	4.20
With blank legend	Black or red background White or yellow background	ZBY6H101 ZBY6H102	5.40

♦ For custom Legends, see page 19-38.

Table 19.99: Standard (30 x 40 mm) Legend Holders for 8 x 27 mm Legends

Description	Legend		Catalog Number
-------------	--------	--	----------------

Table 19.103: Marked Legends for 8 x 27 mm (for 30 x 40 mm legend holders ZBZ32)



Color	Marking	Text	Catalog Number	\$ Price
	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
ZBY02178	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
ZBY02303	Black or red background ▲			

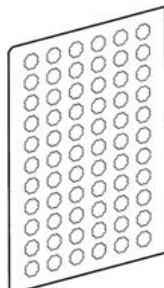
▲ Start functions: white letters on black background. Stop functions: white letters on red background (unless otherwise specified above).

Table 19.104: Legends for Customer Engraving (inserts only)

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

Table 19.105: Legends for Factory Engraving (inserts only)

Description	For use with	Color	Text Color	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	



ZBY1101



ZBA•



ZBL•



ZBA•33

Table 19.106: 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	International	O	ZBY1146	10.40
		I	ZBY1147	
		II	ZBY1148	
		III	ZBY1149	
		STOP	ZBY1304	
	English	→	ZBY1912	10.40
		HAND	ZBY1316	
		OFF	ZBY1312	
		ON	ZBY1311	
		START	ZBY1303	
SiS Label Software	Legend Design Software: English, French, German, Spanish, Italian			XBY2U 104.00

Table 19.107: 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	
	Extended	6 colors ▲	ZBA9	4.20
		White	ZBL1	2.00
		Black	ZBL2	
		Green	ZBL3	
	Extended	Red	ZBL4	4.20
		Yellow	ZBL5	
		Blue	ZBL6	
		6 colors ▲	ZBL9	

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

Table 19.108: Push Button Caps—Marked

For use with	Type of Push	Marking		Cap Color	Catalog Number	\$ Price
		Text ■	Color			
ZB4BA0 push button heads	Flush		White	Green	ZBA331	4.20
			Black	White	ZBA131	
			White	Green	ZBA333	
			Black	White	ZBA133	
			White	Green	ZBA341	
			Black	White	ZBA141	
		◆	White	White	ZBA343	
			White	Black	ZBA344	
			◆	Green	ZBA345	
			◆	Black	ZBA245	
		◆	◆	Green	ZBA346	
			◆	Black	ZBA334 ★	
			◆	White	ZBA335 ★	
		↑	White	Red	ZBA432	
			White	Black	ZBA232	
			White	Red	ZBA434	
			White	Black	ZBA234	
			White	Red	ZBA435	
			White	Black	ZBA235	
			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 →

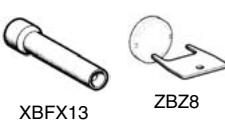
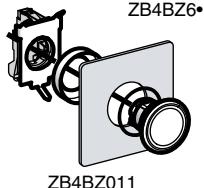
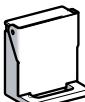
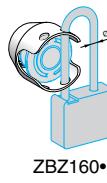
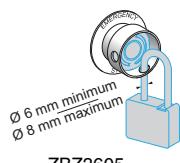


Table 19.109: Multiple-head and XB5R Push Button Caps▲

For use with	Type of Push	Marking	Cap Color	Catalog Number	\$ Price
Double push button heads Tripe push button heads ZB4RZA0 ZB5RZA0	Flush	Unmarked	White	ZBA71	4.00
		"I" black		ZBA7131	5.30
		"→" black		ZBA7134	5.30
		"+" black		ZBA7138	5.30
Double push button heads Tripe push button heads ZB4RZA0 ZB5RZA0	Flush	Unmarked	Black	ZBA72	4.00
		"O" white		ZBA7232	5.30
		"+" white		ZBA7233	5.30
		"→" white		ZBA7235	5.30
Double push button heads Tripe push button heads ZB4RZA0 ZB5RZA0	Flush	"I" white	Green	ZBA7237	5.30
		Unmarked		ZBA73	4.00
		"I" white		ZBA7331	5.30
		"+" white		ZBA7333	5.30
Double push button heads Tripe push button heads ZB4RZA0 ZB5RZA0	Flush	"→" white		ZBA7335	5.30
		"I" white		ZBA7336	5.30
		Unmarked	Red	ZBA74	4.00
		"O" white		ZBA7432	5.30
Double push button heads Tripe push button heads ZB4RZA0 ZB5RZA0	Flush	Unmarked	Yellow	ZBA75	4.00
		Unmarked		ZBA76	4.00
		Assorted	10 colors■	ZBA79	3.00

▲ Sold in lots of 10.
■ Set of 10 different caps: white, black, green, red, yellow, blue, white "I" on green background, black "I" on white background, white "O" on red background, white "O" on black background.

Table 19.110: Accessories

Description	Application	Color	Catalog Number	\$ Price
Padlocking kit Conforming to EN/ISO 13850 ▼ (See legends below)	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• (except ZB5AT8643M) ZB4BS8• ZB4BS9•	Chromium Plated	ZBZ1600	108.00
		Black	ZBZ1602	
		Red	ZBZ1604	
		Yellow	ZBZ1605	
		Blue	ZBZ1606	
Metal guard	For XB4 illuminated push buttons	Chromium-plated	ZBZ1800	108.00
Plastic guards★	Round Guard for ZB4BS5430, 2.5" dia EMO Mushroom Operators	Yellow	ZB4BZ1905	25.80
	Narrow Flange Guard for ZB4BS5430 or ZB4BS84430 EMO Mushroom Operators△	Yellow	ZB4BZ2005	
	Trigger Action Guard for ZB4BS84430, 3" dia 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		ZB4S23	11.00
Plastic blanking plug, round black with mounting nut	For Ø 22 mm control and signalling units		ZB5S23	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 19-35.
★ For additional information, refer to publication 9001DB0601R6/06.
▼ Standard circular legends are not compatible with this product. Use special legends ZBY••T listed above.
△ Maximum panel thickness is 2.5 mm.

Table 19.111: 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, 1.8 mA	DL1CF110	15.20
	230-240 V, 1.8 mA	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



ZBZ•8



ZBDD2



ZBG455

ZBG455P



ZBP0



ZBA709



ZBV01•3



ZBV01•

Table 19.112: 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	
		Yellow EPDM	2	ZBZ58	

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

Table 19.113: Boot for Standard Selector Switch Handle

Description	For use with	Catalog Number	\$ Price
Boot for standard handle	ZB4BD••	ZBD D2	12.40

Table 19.114: 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	

Table 19.115: Clear Boots

Description	For use with	Material	Catalog Number	\$ Price
Single boots	Booted push buttons with circular head	Silicone	ZBP0	12.40
	Booted push buttons with circular head used in food industry applications		ZBP0A	12.40
Double boots	Double-headed push buttons, two flush	Silicone	ZBA708	10.80
	Double-headed push buttons, one flush + one projecting		ZBA709	10.80
Triple boot	Triple-headed push buttons, two flush + one projecting		ZBA710	10.80

Table 19.116: Colored boots

Description	Color	Catalog Number	\$ Price
Single boot (can be replaced without dismantling the head)	Black	ZB2 BP012	13.00
	Green	ZB2 BP013	
	Red	ZB2 BP014	
	Yellow	ZB2 BP015	
	Blue	ZB2 BP016	

Table 19.117: 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	



XB5AL42



XB5AC21



XB5AL73415



XB5AW73731•5



XB5AA731327

Table 19.118: Non-Illuminated Push Buttons, Momentary (screw clamp terminal connections)

Shape of Head	Type of Push	Type of Contact		Marking	Cap Color	Catalog Number	Components	\$ Price
		N.O.	N.C.					
		1	—	—	Black	XB5AA21	(ZB5AZ101 + ZB5AA2)	38.50
		—	1	—	Green	XB5AA31	(ZB5AZ101 + ZB5AA3)	
		1	1	—	Yellow	XB5AA51	(ZB5AZ101 + ZB5AA5)	
		—	—	Blue	XB5AA61	(ZB5AZ101 + ZB5AA6)		
		—	—	Red	XB5AA42	(ZB5AZ102 + ZB5AA4)	38.50	
		1	1	—	Black	XB5AA25	(ZB5AZ105 + ZB5AA2)	56.00
		—	—	Green	XB5AA35	(ZB5AZ105 + ZB5AA3)		
		1	1	—	Red	XB5AA45	(ZB5AZ105 + ZB5AA4)	
		—	—	Yellow	XB5AA55	(ZB5AZ105 + ZB5AA5)		
		—	—	Blue	XB5AA65	(ZB5AZ105 + ZB5AA6)	—	
		1	—	"I" (white)	Green	XB5AA311	(ZB5AZ101 + ZB5AA31)	44.70
		—	1	"O" (white)	Red	XB5AA4322	(ZB5AZ102 + ZB5AA432)	44.70
		1	—	—	Black	XB5AP21	(ZB5AZ101 + ZB5AP2)	53.00
		—	—	Green	XB5AP31	(ZB5AZ101 + ZB5AP3)		
		1	—	—	Yellow	XB5AP51	(ZB5AZ101 + ZB5AP5)	
		—	—	Blue	XB5AP61	(ZB5AZ101 + ZB5AP6)		
		1	—	—	Red	XB5AP42	(ZB5AZ102 + ZB5AP4)	53.00
		—	—	Red	XB5AL42	(ZB5AZ102 + ZB5AL4)	38.50	
		1	1	—	Red	XB5AL45	(ZB5AZ105 + ZB5AL4)	38.50
		—	—	Black	XB5AC21	(ZB5AZ101 + ZB5AC2)	56.00	
		—	—	—	—	—	—	—
		—	—	—	—	—	—	—

Table 19.119: Two Button Push Buttons, Momentary (screw clamp terminal connections)

Shape of Head	Type of Push	Type of Contact		Marking	Degree of Protection	Catalog Number	Components	\$ Price
		N.O.	N.C.					
		1	1	**"I" (white) ***"O" (white)	IP66 IP69K	XB5AL73415	(ZB5AZ105 + ZB5AL7341)	80.75

Table 19.120: Two Button Push Buttons, Momentary + one white central pilot light (screw clamp terminal connections)

Shape of Head	Type of Push	Type of Contact		Marking	Degree of Protection	Pilot Light Voltage	Catalog Number	\$ Price
		N.O.	N.C.					
		1	1	**"I" (white) ***"O" (white)	IP66 IP69K	24	XB5AW73731B5	123.50
		—	—			120	XB5AW73731G5	
		—	—			240	XB5AW73731M5	
		—	—			—	—	
		—	—			—	—	

Table 19.121: Three Button Push Buttons, Momentary (screw clamp terminal connections)

Shape of Head	Type of Push	Type of Contact		Degree of Protection	Marking and Cap Color	Catalog Number	\$ Price
		N.O.	N.C.				
		2	1	IP66 IP69K	White "I" on green background White "II" on green background "White "Stop" on red background	XB5AA731327	114.00
		—	—		Black "I" on white background White "II" on black background "White "Stop" on red background		

Legends pages 19-58 to 19-60

Caps page 19-39



XB5AS9445



XB5AT42



XB5AS542

Table 19.122: Non-Illuminated Emergency Stop and Emergency Off 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)	101.00
	Trigger action turn-to-release▲	1	1	XB5AS8445	(ZB5AZ105 + ZB5AS844)	165.00
		—	2	XB5AS8444	(ZB5AZ104 + ZB5AS844)	
	Trigger action Key release (No. 455)▲	1	1	XB5AS9445	(ZB5AZ105 + ZB5AS944)	165.00
	Push-pull	—	1	XB5AT42	(ZB5AZ102 + ZB5AT4)	68.00
	Turn-to-release	—	1	XB5AS542	(ZB5AZ102 + ZB5AS54)	110.00
	Key release (No. 455)	—	1	XB5AS142	(ZB5AZ102 + ZB5AS14)	147.00

▲ Trigger action mushroom heads are tamper proof in that a change of contact state is not possible by teasing or floating the operator. For emergency stop applications, always use a trigger action push button (per EN/IEC 13850).

Table 19.123: Non-Illuminated Selector Switches and Key Switches (screw clamp terminal connections) ■



XB5AD33



XB5AJ33



XB5AG33

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)	51.00
		1	1	2-maintained		XB5AD25	(ZB5AZ105 + ZB5AD2)	68.00
		2	—	3-maintained		XB5AD33	(ZB5AZ103 + ZB5AD3)	68.00
				3-momentary to center		XB5AD53	(ZB5AZ103 + ZB5AD5)	75.00
	Extended lever, black	1	—	2-maintained		XB5AJ21	(ZB5AZ101 + ZB5AJ2)	51.00
		2	—	3-maintained		XB5AJ33	(ZB5AZ103 + ZB5AJ3)	68.00
				3-momentary to center		XB5AJ53	(ZB5AZ103 + ZB5AJ5)	75.00
	Key (No. 455)	1	—	2-maintained		XB5AG21	(ZB5AZ101 + ZB5AG2)	123.00
						XB5AG41	(ZB5AZ101 + ZB5AG4)	123.00
		2	—	2-momentary to left		XB5AG61	(ZB5AZ101 + ZB5AG6)	123.00
				3-maintained		XB5AG03	(ZB5AZ103 + ZB5AG0)	141.00
						XB5AG33	(ZB5AZ103 + ZB5AG3)	141.00

■ See 19-49 for contact configurations.

Note: The symbol indicates key withdrawal position(s)

Legends..... pages 19-58 to 19-60



XB5AVB1



XB5AV63



XB5AV34



XB5AW31B5



XB5AW3465



XB5AW3335

Table 19.124: Pilot Lights with Protected LED™ (screw clamp terminal connections) ▲

Shape of Head	Supply Voltage	Color	Catalog Number	Components	\$ Price
	24 Vac/Vdc	White	XB5AVB1	(ZB5AVB1 + ZB5AV013)	72.00
		Green	XB5AVB3	(ZB5AVB3 + ZB5AV033)	
		Red	XB5AVB4	(ZB5AVB4 + ZB5AV043)	
	110–120 Vac	Yellow	XB5AVB5	(ZB5AVB5 + ZB5AV053)	
		Blue	XB5AVB6	(ZB5AVB6 + ZB5AV063)	
		White	XB5AVG1	(ZB5AVG1 + ZB5AV013)	
	110–120 Vac	Green	XB5AVG3	(ZB5AVG3 + ZB5AV033)	
		Red	XB5AVG4	(ZB5AVG4 + ZB5AV043)	
		Yellow	XB5AVG5	(ZB5AVG5 + ZB5AV053)	
	110–120 Vac	Blue	XB5AVG6	(ZB5AVG6 + ZB5AV063)	
		White	XB5AVG1	(ZB5AVG1 + ZB5AV013)	
		Green	XB5AVG3	(ZB5AVG3 + ZB5AV033)	

Table 19.125: 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/Vdc	White	XB5AV61	(ZB5AV6 + ZB5AV01)	51.00
		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)	117.00
		Green	XB5AV33	(ZB5AV3 + ZB5AV03)	
		Red	XB5AV34	(ZB5AV3 + ZB5AV04)	
		Yellow	XB5AV35	(ZB5AV3 + ZB5AV05)	

Table 19.126: 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								
	Direct supply for BA9s 2.4 W max. bulb not included	1	1	24 Vac/Vdc	White	XB5AW31B5	(ZB5AW0B15 + ZB5AW313)	119.00
					Green	XB5AW33B5	(ZB5AW0B35 + ZB5AW333)	
					Red	XB5AW34B5	(ZB5AW0B45 + ZB5AW343)	
					Yellow	XB5AW35B5	(ZB5AW0B55 + ZB5AW353)	
					Blue	XB5AW36B5	(ZB5AW0B65 + ZB5AW363)	
	Transformer type 1.2 VA, 6 V secondary. BA9s incandescent bulb included	1	1	110–120 Vac 50/60 Hz	White	XB5AW31G5	(ZB5AW0G15 + ZB5AW313)	
					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/Vdc	White	XB5AW3165	(ZB5AW065 + ZB5AW31)	99.00
					Green	XB5AW3365	(ZB5AW065 + ZB5AW33)	
					Red	XB5AW3465	(ZB5AW065 + ZB5AW34)	
					Yellow	XB5AW3565	(ZB5AW065 + ZB5AW35)	
					White	XB5AW3135	(ZB5AW035 + ZB5AW31)	
	Transformer type 1.2 VA, 6 V secondary. BA9s incandescent bulb included	1	1	110–120 Vac 50/60 Hz	Green	XB5AW3335	(ZB5AW035 + ZB5AW33)	163.00
					Red	XB5AW3435	(ZB5AW035 + ZB5AW34)	
					Yellow	XB5AW3535	(ZB5AW035 + ZB5AW35)	
				230–240 Vac 50/60 Hz	White	XB5AW3145	(ZB5AW045 + ZB5AW31)	
					Green	XB5AW3345	(ZB5AW045 + ZB5AW33)	
	Extended	1	1	24 Vac/Vdc	Red	XB5AW3445	(ZB5AW045 + ZB5AW34)	163.00
					Yellow	XB5AW3545	(ZB5AW045 + ZB5AW35)	
					White	XB5AW11B5	(ZB5AW0B15 + ZB5AW113)	
					Green	XB5AW13B5	(ZB5AW0B35 + ZB5AW133)	
					Red	XB5AW14B5	(ZB5AW0B45 + ZB5AW143)	
	Extended	1	1	110–120 Vac	Yellow	XB5AW15B5	(ZB5AW0B55 + ZB5AW153)	113.00
					Blue	XB5AW16B5	(ZB5AW0B65 + ZB5AW163)	
					White	XB5AW11G5	(ZB5AW0G15 + ZB5AW113)	
				110–120 Vac	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 (24 V) to XB5APVM1 (240 Vac only))

■ For bulb information, refer to page 19-61

Legends pages 19-58 to 19-60

Table 19.127: Non-Illuminated Operators, Momentary—Unmarked



ZB5AA0



ZB5AA5



ZB5AL3



ZB5AP1



ZB5CA2

Shape of Head	Type of Push	Cap Color	Catalog Number	\$ Price
	Flush, without color cap ▲	—	ZB5AA0	11.00
	Flush, with set of 6 color caps	6 colors ■	ZB5AA9	13.00
	Flush	White Black Green Red Yellow Blue Gray	ZB5AA1 ZB5AA2 ZB5AA3 ZB5AA4 ZB5AA5 ZB5AA6 ZB5AA8	13.00
	Flush with transparent cap, for insertion of legend ♦	White Green Red Yellow Blue	ZB5AA18 ZB5AA38 ZB5AA48 ZB5AA58 ZB5AA68	16.00
	Extended	White Black Green Red Yellow Blue	ZB5AL1 ZB5AL2 ZB5AL3 ZB5AL4 ZB5AL5 ZB5AL6	13.00
	Booted Flush (clear) Cap color unobscured	White Black Green Red Yellow Blue	ZB5APA1 ZB5APA2 ZB5APA3 ZB5APA4 ZB5APA5 ZB5APA6	25.80
	Booted Extended (clear) Cap color unobscured	White Black Green Red Yellow Blue	ZB5AP1 ZB5AP2 ZB5AP3 ZB5AP4 ZB5AP5 ZB5AP6	25.80
	Booted (colored) Cap color unobscured	White Black Green Red Yellow Blue	ZB5AP1S ZB5AP2S ZB5AP3S ZB5AP4S ZB5AP5S ZB5AP6S	25.80
	Booted (clear) for insertion of legend ♦ Cap color unobscured	White Green Red Yellow Blue	ZB5AP18 ZB5AP38 ZB5AP48 ZB5AP58 ZB5AP68	29.00
	Flush Plunger (with high guard)	White Black Green Red Yellow Blue	ZB5AA14 ZB5AA24 ZB5AA34 ZB5AA44 ZB5AA54 ZB5AA64	32.20
	Flush	White Black Green Red Yellow Blue	ZB5CA1 ZB5CA2 ZB5CA3 ZB5CA4 ZB5CA5 ZB5CA6	27.00
	Extended	White Black Green Red Yellow Blue	ZB5CL1 ZB5CL2 ZB5CL3 ZB5CL4 ZB5CL5 ZB5CL6	27.00
	Heads only Recessed (high guard)	White Black Green Red Yellow Blue	ZB5 AA16 ZB5 AA26 ZB5 AA36 ZB5 AA46 ZB5 AA56 ZB5 AA66	32.20
	Heads only Recessed (high guard)	White Black Green Red Yellow Blue	ZB5 CA16 ZB5 CA26 ZB5 CA36 ZB5 CA46 ZB5 CA56 ZB5 CA66	

▲ Order color cap separately, see page 19-60.
■ Six colored caps included with head (white, black, green, red, yellow, blue).
♦ For legend ordering information see page 19-60.

Legends..... pages 19-58 to 19-60

Table 19.128: Non-Illuminated Operators, Momentary—Premarked

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

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

Table 19.129: Mushroom Heads, Momentary

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

Legends pages 19-58 to 19-60



ZB5AR4



ZB5AH04

Table 19.130: 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 19.131: Two Head Operators, Momentary

Shape of Head	Description	Marking	Cap Color	Degree of Protection	Catalog Number	\$ Price
No Marking						
	Two flush	—	Green Red	IP66 IP69K	ZB5AA7340	35.50
		—	White Black		ZB5AA7120	
	One flush One extended	—	Green Red		ZB5AL7340	
Premarked						
	Two flush	"I" "O"	Green Red	IP66 IP69K	ZB5AA7341	39.50
		"I" "O"	White Black		ZB5AA7121	
	One flush One extended	"I" "O"	Green Red		ZB5AL7341	
Without caps						
	Two flush without caps	—	—	IP66 IP69K	ZB5AA79	33.25

Table 19.132: Three Head Operators, Momentary

Shape of Head	Description	Marking	Cap Color	Degree of Protection	Catalog Number	\$ Price
Premarked						
	Two flush + one central projecting red push marked "Stop"	"↑" "↓"	Green Green	IP66 IP69K	ZB5AA73132	57.00
		"←" "→"	Green Green		ZB5AA73133	
		"↑" "↓"	Green Green		ZB5AA73134	
		"↑" "↓"	Green Green		ZB5AA73135	
		"↑" "↓"	White White		ZB5AA71115	
		"↑" "↓"	White Black		ZB5AA71123	
		"↑" "↓"	White Black		ZB5AA71124	
		"↑" "↓"	Black Black		ZB5AA72124	
		—	—			
	Two flush without caps	—	—	IP66 IP69K	ZB5AA791	48.50

Caps., page 19-60



ZB5AA73133



ZB5AA71124



Table 19.133: 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	ZB5AS84	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	
	Push-pull	60 mm	Red	ZB5AS964	112.00	
		30 mm	Black	ZB5AT24	40.40	
		40 mm	Red	ZB5AT44		
		Black	ZB5AT2			
		40 mm	Red	ZB5AT4	40.40	
		60 mm	Black	ZB5AX2		
	Turn-to-release	60 mm	Red	ZB5AX4	46.00	
		30 mm	Black	ZB5AS42	78.00	
		40 mm	Red	ZB5AS44		
		Black	ZB5AS52			
		60 mm	Red	ZB5AS54	78.00	
		Yellow	ZB5AS55			
	Key release (No. 455)	60 mm	Black	ZB5AS62	90.00	
		30 mm	Red	ZB5AS64		
		30 mm	Black	ZB5AS72	112.00	
		40 mm	Red	ZB5AS74		
		40 mm	Black	ZB5AS12	112.00	
		60 mm	Red	ZB5AS14 ▲		
		60 mm	Black	ZB5AS22	112.00	
		60 mm	Red	ZB5AS24		

▲ 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. For emergency stop applications, always use a trigger action push button (per EN/IEC 13850).

Table 19.134: 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 19-58 to 19-60



ZBY9330

Table 19.135: Non-Illuminated Selector Switches



ZB5AD•
Standard Lever



ZB5AJX•
Extended Lever

Color	Number and Type of Positions	Standard Lever ▲	Extended Lever	\$ Price	
		Catalog Number	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).

Table 19.136: Non-Illuminated Key Switches



ZB5AG•

Type of Operator	Number and Type of Positions	Catalog Number ■	\$ Price
Key (No. 455) 	2-maintained	✓	ZB5AG2
		↔	ZB5AG4
		↓	ZB5AG02
	3-maintained	↔	ZB5AG6
		↔↑	ZB5AG0
		↓	ZB5AG3
		↔↓	ZB5AG5
		↓↑	ZB5AG9
	3-momentary from left to center	↓	ZB5AG09
		↔	ZB5AG1
		↔↑	ZB5AG7
		↓↑	ZB5AG8
	3-momentary from right to center	↔	ZB5AG08
		↓↑	ZB5AG05

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 19.137: Sequence of Contacts on Selector Switch Bodies

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

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

Selector Switch Sequence (Table 19.91)page 19-33

Table 19.138: Reset Operators

Shape of Head	Actuation Distance		Text	Color	Catalog Number	\$ Price		
	in	mm						
Flush								
	0.67–4.72	17–120	Without	Green	XB5AA831	37.60		
				Red	XB5AA841			
				Blue	XB5AA861			
			O	Red	XB5AA84101	45.40		
	4.72–10.12	120–257	Without	Blue	XB5AA86102	45.40		
				Green	XB5AA832	43.40		
				Red	XB5AA842			
			O	Red	XB5AA84201	50.00		
			R	Blue	XB5AA86202	50.00		
			Without					
			O	Red	XB5AL84101	45.40		
0.67–4.72	17–120	O	Red	XB5AL84201	50.00			
4.72–10.12	120–257	O	Red					

▲ Shaft only (short) is W40437632 (Price = \$20.00)

Table 19.139: 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 19.140: 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 19.141: Legends for Joystick

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

Table 19.142: Hour Counters ♦

Characteristics	Supply Voltage	Catalog Number	\$ Price
Indication 0–9999.9 (IP40 NEMA 1)	12–24 Vdc or Vac, 50/60 Hz	XB5DSB	383.00
	120 Vac, 60 Hz	XB5DSG	
	230–240 Vac, 50 Hz	XB5DSM	

Table 19.143: Buzzer ♦

Characteristics	Supply Voltage	Catalog Number	\$ Price
85 db buzzer: 4 kHz, continuous or intermittent (IP40 NEMA 1)	24 Vdc or Vac, 50/60 Hz	XB5KSB	183.00
	120 Vac, 60 Hz	XB5KSG	
	230–240 Vac, 50 Hz	XB5KSM	

♦ UR E191025, XHNR2 and XHNR8.

Table 19.144: Two Position Toggle Switch

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

Legends pages 19-58 to 19-60



XB5AA



XD5PA12



XB5DS-



XB5KS-



ZB5AV053



ZB5AV01



ZB5CV063

Table 19.145: Pilot Light Heads

Shape of Head	For use with Body Comprising Light Module Type	Color of Lens	Catalog Number	\$ Price
Protected LED™ only	Protected LED™ only	White	ZB5AV013	7.60
		Green	ZB5AV033	
		Red	ZB5AV043	
		Yellow	ZB5AV053	
		Blue	ZB5AV063	
Protected LED only Fresnel (jeweled) lens ▲	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 ■	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 ■	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	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 19-40. For BA9 LED, see page 19-120.

Legends..... pages 19-58 to 19-60

Table 19.146: 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 19-61.

Table 19.147: Complete Bodies (Mounting Collar + Light Module with Protected LED™) ■ ♦

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



ZB5AV6



ZB5AV3



ZB5AV••



ZB5AW313



ZB5AW363



ZB5AW143



ZB5CW313



ZB5AW33

Table 19.148: 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	
	Extended	Clear	ZB5AW37	13.00
		White	ZB5AW11	
		Green	ZB5AW13	
		Red	ZB5AW14	
		Yellow	ZB5AW15	
		Blue	ZB5AW16	24.80
		Clear	ZB5AW17	

Table 19.149: 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 19-58 to 19-60

Table 19.150: Two Button with Clear Pilot Light, Momentary

Shape of Head	Description	Marking	Cap Color	Degree of Protection	Catalog Number	\$ Price
No Marking						
 Two flush	—	Green Red	IP66 IP69K	ZB5AW7A3740	45.60	
	—	White Black		ZB5AW7A1720		
	—	Green Red		ZB5AW7L3740		
Premarked						
 Two flush	“I” “O”	Green Red	IP66 IP69K	ZB5AW7A3741	49.50	
	“I” “O”	White Black		ZB5AW7A1721		
	“I” “O”	Green Red		ZB5AW7I3741		
 Two flush	“↑” “↓”	White Black	IP66 IP69K	ZB5AW7A1724	49.50	
	“+” “-”	White Black		ZB5AW7A1715		
	—	—		IP66 IP69K	ZB5AW7A9	42.75
Without caps						
Two flush without caps	—	—	IP66 IP69K	ZB5AW7A9	42.75	



ZB5AW7A3741



ZB5AW7A1721

Table 19.151: 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 19.152: Emergency Stop, Trigger Action and Mechanical Latching Push Button with Mechanical State Indicator for Elevator Inspection Box Applications—Heads Only

Shape of Head	Type of Reset	Color	Catalog Number	\$ Price
	Push-pull (40 mm)	Red	ZB5AT8643M	124.00

NOTE: ZB5AT8643M not to be used with ZBZ16* guard.

Table 19.153: 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 19.154: Sequence of Contacts on Selector Switch Bodies

Unit Type	Selector Switches					
	2-position			3-position		
Operator Plunger Position	Up	315°	45°	315°	0°	45°
	Down					
Contact Block Location	L	C	R	L	C	R
Contacts	N/O N/C	O X	O X	X O	X O	X O
Note: L=Left, C=Center, R=Right, O=Open, X=Closed	L	C	R	L	C	R
Legends pages 19-58 to 19-60	O	O	O	O	O	X
Caps page 19-60	X	X	X	X	X	X

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

Legends pages 19-58 to 19-60
Caps page 19-60

ZB5AK1463



ZB5AT8643M



ZB5AK1213



ZB5AW7*

NOTE: For the Quick-Connect version, add the numeral **3** to the end of the catalog number.

Example: ZB5AZ1013 (Quick-Connect size 1 x 0.250" or 2 x 0.110").

Table 19.155: 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 Ring Tongue compatible blocks add "8" 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.



ZB5AZ101

Table 19.156: 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.		Supply Voltage				
				24 Vac/Vdc	110–120 Vac			
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	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 (24 V) to ZB5AW0M11 (240 V))

Table 19.157: 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/Vdc	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
			1	—	—	ZB5AW041	114.00
			1	1	—	ZB5AW045	130.00
		230–240 Vac 50/60 Hz	1	—	—	ZB5AW081	114.00
			1	1	—	ZB5AW085	130.00
			1	—	—		
			1	1	—		

▼ Can be fitted with additional contact blocks, see page 19-56.

△ Order bulb separately, see page 19-61.



ZB5AW065



ZB5AW035

Table 19.158: Body/Mounting Collar



ZB5AZ009



ZBE101



ZBE203



ZBVB*

Table 19.159: 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	
Special contact blocks for low-power switching ♦	1	1	ZBE205	33.20	
	—	—	ZBE1016	32.80	
Low-power switching	1	—	ZBE1026	32.80	
	—	1	ZBE1016P	32.80	
Dusty environment ♦ (IP5X, 50 µm dust)	1	—	ZBE1026P	32.80	
	—	1	ZBE1016P	32.80	
Staggered contacts	Early make N/O	1	—	ZBE201	16.40
	Late break N/C	—	1	ZBE202	16.40
	Overlapping N/O+N/C	1	1	ZB4BZ106	32.80
	Staggered N/O+N/O	—	2	ZB4BZ107	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 19.160: Light Modules (with screw clamp terminal connections) ★▼

Description	Supply Voltage	Color of Light Source	Catalog Number	\$ Price
12 Vac/Vdc	White	ZBVJ1		
		Green	ZBVJ3	
		Red	ZBVJ4	
		Yellow	ZBVJ5	
		Blue	ZBVJ6	
	White	ZBVB1		
		Green	ZBVB3	
		Red	ZBVB4	
		Yellow	ZBVB5	
		Blue	ZBVB6	
110–120 Vac	White	ZBVG1		
		Green	ZBVG3	
		Red	ZBVG4	
		Yellow	ZBVG5	
		Blue	ZBVG6	
24–120 Vac/Vdc	White	ZBVBG1		
		Green	ZBVBG3	
		Red	ZBVBG4	
		Yellow	ZBVBG5	
		Blue	ZBVBG6	
230–240 Vac	White	ZBVM1		
		Green	ZBVM3	
		Red	ZBVM4	
		Yellow	ZBVM5	
		Blue	ZBVM6	
Direct supply for BA9s (2.4 W max. bulb not included—see page 19-61)	≤ 250 Vac/Vdc	—	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.



ZB5AZ009

Table 19.161: Spring Terminal Products for XB5 22 mm Push Buttons

Body/Mounting Collar

For Use With	Catalog Number	\$ Price
Contact block or light module	ZB5AZ009	5.40



ZBE1015

Contact Blocks ▲

Spring Terminal Connections, Contacts for Standard Applications

Description	Type of Contact	N/O	N/C	Catalog Number	\$ Price
		1	—		
Contact blocks	Single	—	1	ZBE1015	18.00
		1	—	ZBE1025	18.00
	Single with body/mounting collar	1	—	ZB5AZ1015	24.00
		—	1	ZB5AZ1025	24.00
		2	—	ZB5AZ1035	42.00
		—	2	ZB5AZ1045	42.00
		1	1	ZB5AZ1055	42.00

Light Modules ▲

Spring Terminal Connections

Description	Supply Voltage	Color of Light Source	Catalog Number	\$ Price
Integral LED (to combine with heads for integral LED)	12 Vac/Vdc	White	ZBVJ15	57.00
		Green	ZBVJ35	57.00
		Red	ZBVJ45	57.00
		Orange	ZBVJ55	57.00
		Blue	ZBVJ65	57.00
Protected LED	24 Vac/Vdc	White	ZBVB15	57.00
		Green	ZBVB35	57.00
		Red	ZBVB45	57.00
		Orange	ZBVB55	57.00
		Blue	ZBVB65	57.00
	110–120 Vac	White	ZBVG15	57.00
		Green	ZBVG35	57.00
		Red	ZBVG45	57.00
		Orange	ZBVG55	57.00
		Blue	ZBVG65	57.00
	230–240 Vac	White	ZBVM15	57.00
		Green	ZBVM35	57.00
		Red	ZBVM45	57.00
		Orange	ZBVM55	57.00
		Blue	ZBVM65	57.00

▲ Additional blocks **cannot** be attached to the back of these contact blocks or light modules.

Table 19.162: 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 White or yellow background	— —	ZBY2101 ZBY4101	3.40
Custom legend plate and insert (specify engraving) 2 lines of 11 characters (including spaces) maximum per line	Black background Red background White background Yellow background	White White Black Black	ZBY2002 ZBY2004 ZBY4001 ZBY4005	14.20
With international language marked legend	Black or red background■	O (black background) O (red background) I II O-I I-II I-O-II	ZBY2146 ZBY2931 ZBY2147 ZBY2148 ZBY2178 ZBY2179 ZBY2186	3.40
With English language marked legend	Black or red background■	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	ZBY2115 ZBY2364 ZBY2385 ZBY2314 ZBY2308 ZBY2330 ZBY2328 ZBY2305 ZBY2371 ZBY2316 ZBY2387 ZBY2321 ZBY2382 ZBY2310 ZBY2312 ZBY2367 ZBY2311 ZBY2313 ZBY2326 ZBY2323 ZBY2322 ZBY2306 ZBY2309 ZBY2334 ZBY2327 ZBY2303 ZBY2304 ZBY2366 ZBY2307	3.40

▲ For legends, see page 19-59.
■ Start functions: white letters on black background. Stop functions: white letters on red background (unless otherwise specified above).

Table 19.163: 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 White or yellow background	ZBY6101 ZBY6102	3.40

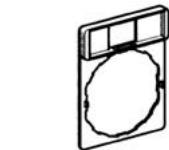
Table 19.164: 30 x 40 mm legend holder (flush mounting with bezel) for 8 x 27 mm legends

Description ♦	Color	Catalog Number	\$ Price
Without legend	—	ZBZ34	2.00
With blank legend	Black or red background White or yellow background	ZBY2H101 ZBY4H101	3.40

Table 19.165: 30 x 50 mm legend holder (flush mounting with bezel) for 18 x 27 mm legends

Description ♦	Color	Catalog Number	\$ Price
Without legend	—	ZBZ35	4.20
With blank legend	Black or red background	ZBY6H101	5.40
	White or yellow background	ZBY6H102	

♦ For custom legends, please see page 19-59



ZBZ32



ZBY2101



ZBY2303



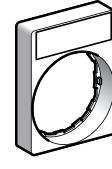
ZBZ33



ZBY610•



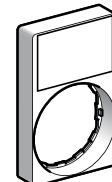
ZBZ34



ZBYH101



ZBZ35



ZBY6H101

Table 19.166: Marked Legends for 8 x 27 mm (for 30 x 40 mm legend holders ZBZ32)



ZBY02178



ZBY02303

Black or red background▲

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

Table 19.167: Legends for Customer Engraving (inserts only)

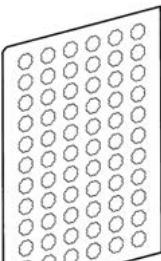
Description	For use with	Color	Text Color	Catalog Number	\$ Price
8 x 27 mm	30 x 40 mm legend holders	Black or red background	White	ZBY0101	1.70
		White or yellow background	Black	ZBY0102	
18 x 27 mm	30 x 50 mm legend holders	Black or red background	White	ZBY5101	1.70
		White or yellow background	Black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

Table 19.168: Legends for Factory Engraving (inserts only)

Description	For use with	Color	Text Color	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	

Table 19.169: Sheets of Legends for Push Buttons, Switches, and Pilot Lights

Description	Marking	Text	Catalog Number	\$ Price
	Blank-Round		ZBY1101	6.20
	Blank-Square legends		ZBCY1101	6.20
Sheets of 66 circular peel-off transparent self-adhesive legends	International	O	ZBY1146	
		I	ZBY1147	
		II	ZBY1148	
		III	ZBY1149	10.40
		STOP	ZBY1304	
		→	ZBY1912	
English	English	HAND	ZBY1316	
		OFF	ZBY1312	
		ON	ZBY1311	10.40
		START	ZBY1303	
SiS Label Software	Legend Design Software: English, French, German, Spanish, Italian		XBY2U	104.00



ZBY1101

Table 19.170: Push Button Caps—Unmarked

For use with	Type of Push	Color	Catalog Number	\$ Price
ZB5AA0 push button heads	Flush	White	ZBA1	
		Black	ZBA2	
		Green	ZBA3	
		Red	ZBA4	2.00
		Yellow	ZBA5	
		Blue	ZBA6	
	Extended	6 colors ▲	ZBA9	4.20
		White	ZBL1	
		Black	ZBL2	
		Green	ZBL3	
ZB5AA0 push button heads	Extended	Red	ZBL4	2.00
		Yellow	ZBL5	
		Blue	ZBL6	
		6 colors ▲	ZBL9	4.20



ZBA•



ZBL•

Table 19.171: Push Button Caps—Marked

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



ZBA7235



ZBA7331



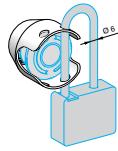
ZBA7432



ZBA79



ZBZ3605



ZBZ160•



ZB4BZ6•



ZB4SZ3



ZB5SZ3



DLCE300



DL1CF300



XBFX13



ZBZ8

Table 19.172: Multiple-head and XB5R Push Button Caps■

For use with	Type of Push	Marking	Cap Color	Catalog Number	\$ Price
Double push button heads Tripe push button heads ZB4RZA0 ZB5RZA0	Flush	Unmarked	White	ZBA71	4.00
		"I" black		ZBA7131	5.30
		"→" black		ZBA7134	5.30
		"+" black		ZBA7138	5.30
		Unmarked	Black	ZBA72	4.00
		"O" white		ZBA7232	5.30
		"+" white		ZBA7233	5.30
		"→" white		ZBA7235	5.30
"I" white	Flush	"I" white	Green	ZBA7237	5.30
		Unmarked		ZBA73	4.00
		"I" white		ZBA7331	5.30
		"+" white		ZBA7333	5.30
		"→" white		ZBA7335	5.30
		"II" white		ZBA7336	5.30
		Unmarked	Red	ZBA74	4.00
		"O" white		ZBA7432	5.30
		Unmarked		ZBA75	4.00
		Unmarked	Yellow	ZBA76	4.00
		Assorted		10 colors♦	3.00

▲ Sold in lots of 10.

■ Set of 10 different caps: white, black, green, red, yellow, blue, white "I" on green background, black "I" on white background, white "O" on red background, white "O" on black background.

Table 19.173: Accessories

Description	Application	Color	Catalog Number	\$ Price
Padlocking kit Conforming to EN / 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• (except ZB5AT8643M) 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	Yellow	ZBY9101T	3.40
	EMERGENCY STOP	Yellow	ZBY9330T	

♦ Mounting nut included with blanking plug.

★ For additional information, refer to publication **9001DB0601R6/06**.

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

△ Maximum panel thickness is 2.5 mm.

Table 19.174: 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



ZBZ8



ZBDD2



ZBG455



ZBG455P



ZBPO



ZBA709



ZBV01-3



ZBV01•

Table 19.175: 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	Red Silicone	2	ZBZ48	12.40
		Black EPDM	2	ZBZ28	
		Yellow EPDM	2	ZBZ58	

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

Table 19.176: Boot for standard selector switch handle

Description	For use with	Catalog Number	\$ Price
Boot for standard handle	ZB5A••	ZBDD2	12.40

Table 19.177: 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	

Table 19.178: Clear Boots

Description	For use with	Material	Catalog Number	\$ Price
Single boots	Booted push buttons with circular head	Silicone	ZBPO	12.40
	Booted push buttons with circular head used in food industry applications		ZBPOA	12.40
Double boots	Double-headed push buttons, two flush		ZBA708	10.80
	Double-headed push buttons, one flush + one projecting		ZBA709	10.80
Triple boot	Triple-headed push buttons, two flush + one projecting		ZBA710	10.80

Table 19.179: Colored boots

Description	Color	Catalog Number	\$ Price
Single boot (can be replaced without dismantling the head)	Black	ZB2 BP012	
	Green	ZB2 BP013	
	Red	ZB2 BP014	
	Yellow	ZB2 BP015	
	Blue	ZB2 BP016	13.00

Table 19.180: Lens Caps

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



Table 19.181: Ready-to-use Packs▲

Description	Transmitter Type	Voltage Receiver V	Receiver Type	Catalog Number	\$ Price
Packs include: - 1 push button/transmitter - 1 receiver The push button and receiver are factory-paired■	Ø 22 mm plastic head + 1 set of 10 different colored caps	~24 to 240	Programmable receiver with: - 2 relay outputs type RT 3A♦	XB5RFA02	510.00
	Ø 22 mm metallic head + 1 set of 10 different colored caps	~24 to 240		XB4RFA02	510.00
	Ø 22 mm plastic head	... 24	Non-programmable receiver with: - 1 relay output type RT 3A★	XB5RFB01	210.00
	Ø 22 mm metallic head	... 24	Non-programmable receiver with: - 1 relay output type RT 3A★	XB4RFB01	210.00
Packs include: - 1 push button/transmitter in handy box▼ - 1 receiver The push button and receiver are factory-paired■	Ø 22 mm plastic head + 1 set of 10 different colored caps	~24 to 240	Programmable receiver with: - 2 relay outputs type RT 3A♦	XB5RMA04	590.00
	Ø 22 mm metallic head + 1 operator head	... 24	Non-programmable receiver with: - 1 relay output type RT 3A★	XB5RMB03	290.00



Table 19.182: Transmitter Components for Wireless, Batteryless Push Buttons

Description	Type of Push	Cap Color	Catalog Number	\$ Price
Transmitter for wireless, batteryless push buttons△ □	—	—	ZBRT1	110.00
Spring return push button heads for transmitter ZBRT1	Plastic	Without cap◊	ZB5RZA0	18.60
	Metal	Without cap◊	ZB4RZA0	
Wireless, batteryless push buttons including: - a transmitter fitted with mounting collar - a spring return push button head with clipped-in cap☆	Plastic	White	ZB5RTA1	130.00
		Black	ZB5RTA2	
		Green	ZB5RTA3	
		Green with white "I"	ZB5RTA331	
		Red	ZB5RTA4	
		Red with white "O"	ZB5RTA432	
	Metal	Yellow	ZB5RTA5	
		Blue	ZB5RTA6	
		White	ZB4RTA1	130.00
		Black	ZB4RTA2	

- ▲ Wireless and batteryless push button and receiver, factory-paired.
- For additional components, these devices can be field-paired.
- ♦ Supplied with output function set to momentary. Outputs programmable to maintained and Start-Stop.
- ★ Non-programmable momentary output function.
- ▼ Supplied with a magnet.
- △ Mounting collar ZB5AZ009 (plastic) or ZB4BZ009 (metal) to be ordered separately.
- Only heads ZB4RZA0 and ZB5RZA0 are mechanically compatible.
- ◊ Cap to be ordered separately: see Table 19.184 on page 19-64.
- ☆ This cap is fitted by Schneider Electric and cannot be removed (risk of damage).



ZBRT1



ZB4RZA0



ZB5RTA4

Table 19.183: Programmable Receivers

Description	Output Type	Voltage Receiver V	Catalog Number	\$ Price
Programmable receivers equipped with: - 2 buttons ("Scroll-through", "Ok") - 6 indicating LEDs (power ON, outputs, signal strength)	4 PNP outputs, 200 mA / 24 V	— 24	ZBRRC	430.00
	2 relay outputs type RT 3A▲	~— 24 to 240	ZBRRA	430.00



ZBRRA



ZBA7235 ZBA7331



ZBA7432



ZBA79



ZBRM01



XALD02H7



ZBRA1

Table 19.184: Caps for Harmony Push Button Heads ZB5RZA0 and ZB4RZA0

Description	Background Color	Marking	Sold in lots of	Catalog Number	\$ Price
Sets of 10 different colored caps with identical marking■	White	Without	10	ZBA71	4.00
		"I" (black)	10	ZBA7131	5.30
		"I" (black)	10	ZBA7134	5.30
		"+" (black)	10	ZBA7138	5.30
	Black	Without	10	ZBA72	4.00
		"O" (white)	10	ZBA7232	5.30
		"+" (white)	10	ZBA7233	5.30
		"I" (white)	10	ZBA7235	5.30
	Green	"I" (white)	10	ZBA7237	5.30
		Without	10	ZBA73	4.00
		"I" (white)	10	ZBA7331	5.30
		"+" (white)	10	ZBA7333	5.30
	Red	"O" (white)	10	ZBA7335	5.30
		"+" (white)	10	ZBA7336	5.30
		Without	10	ZBA74	4.00
		"O" (white)	10	ZBA7432	5.30
	Yellow	Without	10	ZBA75	4.00
	Blue	Without	10	ZBA76	4.00
Set of 10 different colored caps with different markings■	White, black, green, red, yellow, blue, white "I" on green background, black "I" on white background, white "O" on red background, white "O" on black background		10	ZBA79	3.00

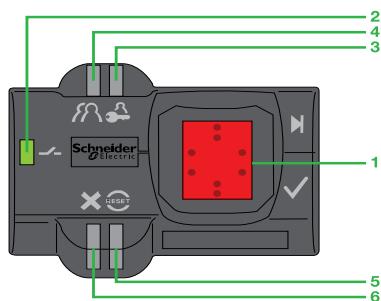
Table 19.185: Boxes for Wireless, Batteryless Push Buttons

Description	For use with:	Marking	Sold in lots of	Catalog Number	\$ Price
Handy box, plastic, empty ♦ ★	Mobile wireless,batteryless push buttons	1 cut-out	1	ZBRM01	80.00
Empty enclosures ▼	Mounted or on-board wireless,batteryless push buttons	1 cut-out 2 cut-outs	1 1	XALD01H7 XALD02H7	32.80 38.20

Table 19.186: Accessories

Description	For use with:	Marking	Sold in lots of	Catalog Number	\$ Price
External antenna △	Between transmitter and receiver, used to increase the range and/or get around obstacles	~— 24 to 240 V - 5m cable - 1 power-ON LED - 2 LEDs - reception/transmission	1	ZBRA1	170.00
Mounting collar	—	Plastic Metal	10 10	ZB5AZ009 ZB4BZ009	5.40 5.40
Legend plate, 27 x 8 mm, for engraving	For adhering to handy box ZBRM01	Self-adhesive, blank, black background	10	ZBY0101T	1.70

- ▲ Supplied with output function set to momentary Outputs programmable to maintained and Start-Stop.
- Cap can be clipped-in at 90° steps, through 360°.
- ♦ Cannot be used for wired contacts (no cable gland outlet).
- ★ Supplied with a magnet.
- ▼ Box equipped with cable gland outlets, compatible with Harmony ZB5 push button heads.
- △ Not wired to the receiver.



ZB5 SZ70



ZB5SZ72

Biometric Switches

The fingerprint-reading biometric switch is designed for use in industry to restrict access to systems or machines. No interface is required to program or operate the switch: it is an independent unit.

Two types of products are available:

- Maintained biometric switches, Type XB5S1B, with two fixed states
- Momentary biometric switches, Type XB5S2B, with pulse output

The biometric switch is aimed at two types of users:

- The administrator who manages the registration and deletion of fingerprints
- The operator who, once registered, uses the product as a control unit

The product is of monolithic design (a single plastic housing) and is mounted by a nut (hand-tightened without the need for tools) in a standard 22 mm diameter hole. It operates on a 24 Vdc supply.

The product connects to the power supply and to the control output (relay or PLC) with a 2 meter cable or with an M12 connector.

It can be installed on a flat, horizontal, or vertical surface.

Two protective covers are available (see table below)

- One to protect the active face of the sensing screen. This cover is attached with a self-adhesive hinge
- One made of 12 gauge stainless steel — designed to cover the entire switch — which protects the entire switch from the outdoor environment (rain, sleet, snow, sunlight, UV protection). It also gives some protection from someone trying to break into the switch

Description

The product consists of a dark gray housing, with the following on its front face:

- A sensing screen (1) that allows the registration of fingerprints and subsequent recognition of the registered fingerprints
- A green LED output state indicator (2), which illuminates when the output is activated (N.O. solid state contact)
- An orange LED (3), indicating an administrator's Registration mode
- An orange LED (4), indicating an operator's Registration mode
- A red Reset LED (5), which indicates in Delete mode that the administrator is deleting all or part of the memory
- A red LED (6) which flashes to indicate an unrecognized fingerprint or incorrect operation

Table 19.187: Complete Units

Description	Output	Connection	Catalog Number	\$ Price
Maintained biometric switch, 24 Vdc	PNP	2 m cable	XB5S1B2L2	580.00
		M12 connector	XB5S1B2M12	595.00
Momentary biometric switch, 24 Vdc with 0.5 s output pulse	PNP	2 m cable	XB5S2B2L2	580.00
		M12 connector	XB5S2B2M12	595.00

Table 19.188: Accessories

Description	Function	Catalog Number	\$ Price
Protective cover, translucent and self-adhesive	Protection of the sensing screen	ZB5SZ70	10.00
Mounting nut, Ø 22 mm	Replacement part	ZB5SZ71	6.00
Legend plate, 28 x 7 mm, self-adhesive, blank, with black background, for engraving		ZBY0101T	1.70
Mounting adapter	Allows this product to mount in a 30 mm mounting hole	ZBZ41	10.40
Stainless-steel protective cover	Protects switch from outside elements and vandalism	ZB5SZ72	220.00

Table 19.189: Biometric Switch Specifications

Biometric Switch, Types XB5S1B**** and XB5S2B****		UL, CSA, CE IEC 61000-6-2 / IEC 61000-6-4
Product certifications		
Degree of protection	Conforming to EN/IEC 60529	IP 65, NEMA 1, 2, 3, 3R, 12
Ambient air temperature	Storage	-25 to +70°C
	Operation	-5 to +50°C
Vibration resistance	Conforming to IEC 60068-2-6	1 gn, 9 to 500 Hz. Amplitude 3 mm, 5 to 9 Hz
Electric shock resistance	Conforming to IEC 60068-2-27	50 gn, duration 11 ms
Connection method	Cable	Length: 2 m, 3-wire, pre-wired
Materials	Connector	M12
	Housing	Polyamide PA66
Cable		PvR 3 x 0.34 mm ²
Memory capacity		200 records (100 users, operators, or administrators, each registering 2 fingerprints)
Output state indicator		Green LED
Short-circuit protection		By gG fuse, 250 mA
Rated supply voltage		24 Vdc with protection against reverse polarity
Voltage limits (including ripple)		20–30 Vdc
Switching capacity		≤ 200 mA with protection against overloads and short-circuits
Residual voltage, closed state		≤ 1 V
No-load current consumption		≤ 50 mA
Delays	First-up	< 2 s
	Response time	< 1 s
	Recovery time	< 1 s

NOTE: Momentary switch has 0.5 s output pulse.

Figure 19.1: Connections

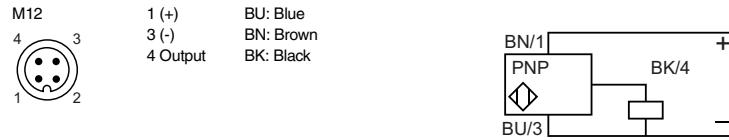
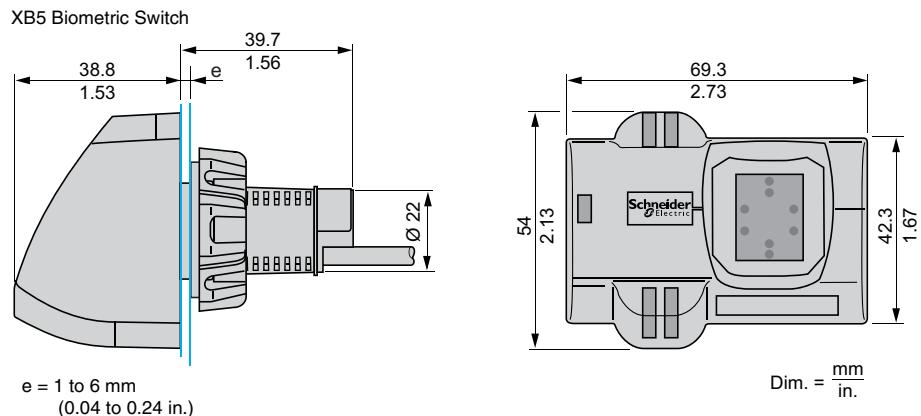


Figure 19.2: Dimensions



Stainless-Steel Cover

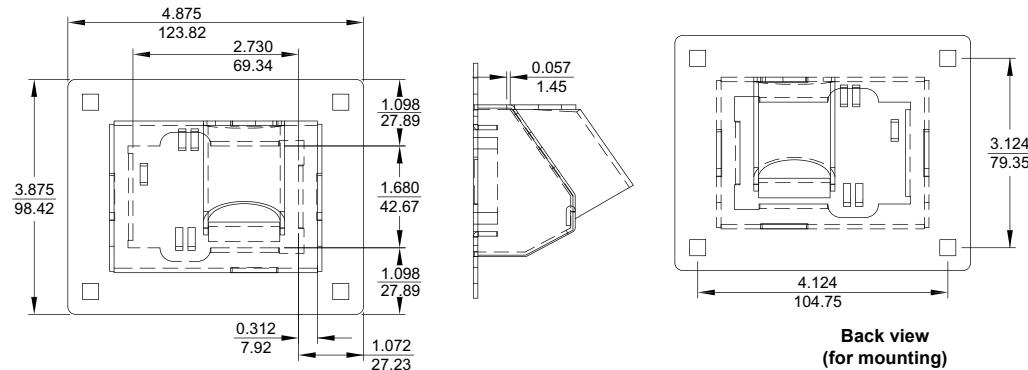
Back view
(for mounting)

Table 19.190: Non-Illuminated Momentary Push Button Operators
 UL Types 4, 13/NEMA 4, 13

For use in hazardous locations—See page 19-87.

Contact blocks and legend plate not included unless otherwise noted.

NOTE: When ordering, add prefix 9001 to the catalog number.

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	89.00	KR1BH5	KR1BH6	66.00	KR1B	38.60		
		Red	KR1RH13		KR1RH5	KR1RH6		KR1R			
		Green	KR1GH13		KR1GH5	KR1GH6		KR1G			
		Universal ▲	KR1UH13		KR1UH5	KR1UH6		KR1U			
		Other ■	KR1■H13		KR1■H5	KR1■H6		KR1■			
	No Guard	Black	KR3BH13		KR3BH5	KR3BH6		KR3B			
		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	138.00	KR2BH5	KR2BH6	112.00	KR2B	81.00		
		Red	KR2RH13		KR2RH5	KR2RH6		KR2R			
		Green	KR2GH13		KR2GH5	KR2GH6		KR2G			
		Universal ▲	KR2UH13		KR2UH5	KR2UH6		KR2U			
		Other ■	KR2■H13		KR2■H5	KR2■H6		KR2■			
	1-3/8 in. (35 mm) Diameter Mushroom Button	Snap-In Plastic Mushroom Button				KR4BH5	KR4BH6	112.00	KR4B	81.00	
		Black	KR4BH13		KR4RH5	KR4RH6	112.00	KR4R	81.00		
		Red ♦	KR4R05H13		KR4R05H5	KR4R05H6	119.00	KR4R05	86.00		
		Green	KR4GH13		KR4GH5	KR4GH6	112.00	KR4G	81.00		
		Other ★	KR4★H13		KR4★H5	KR4★H6	112.00	KR4★	81.00		
9001KR4B	1-3/8 in. (35 mm) Diameter Mushroom Button	Black	KR24BH13	138.00	KR24BH5	KR24BH6	112.00	KR24B	81.00		
		Red	KR24RH13		KR24RH5	KR24RH6		KR24R			
		Green	KR24GH13		KR24GH5	KR24GH6		KR24G			
		Other★	KR24★H13		KR24★H5	KR24★H6		KR24★			
		Black	—		—	—		—			
9001KR24BM	1-1/2 in. (40 mm) Diameter Mushroom Button	Red	—		—	—		—			
		Green	—		—	—		—			
		Black	—		—	—		—			
Screw-in Metal Mushroom Button with Set Screw Security											
9001KR5B	2-1/4 in. (57 mm) Diameter Mushroom Button	Black	—	138.00	—	—	112.00	9001KR24BM	90.00		
		Red	—		—	—		9001KR24RM			
		Green	—		—	—		9001KR24GM			
		Black	—		—	—		—			
		Red	—		—	—		—			
	2-3/8 in. (60 mm) Diameter Mushroom Button	Green	—		—	—		—			
		Other★	KR25★H13		KR25★H5	KR25★H6		KR5★			
		Black	KR25BH13		KR25BH5	KR25BH6	112.00	KR25B	81.00		
		Red	KR25RH13		KR25RH5	KR25RH6		KR25R			
		Green	KR25GH13		KR25GH5	KR25GH6		KR25G			
		Other★	KR25★H13		KR25★H5	KR25★H6		KR25★			
Screw-in Metal Mushroom Button with Set Screw Security											
9001KR25BM	2-3/8 in. (60 mm) Diameter Mushroom Button	Black	—	138.00	—	—	112.00	9001KR25BM	101.00		
		Red	—		—	—		9001KR25RM			
		Green	—		—	—		9001KR25GM			

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

■ See Table 19.191 for color code.

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

★ See Table 19.191 for color code.

Table 19.191: Color Codes

Color	KR1, 2, 3 Place Color Code in Type Number ■	KR4, 5, 24, 25 Place Color Code in Type Number ★
Blue	L	L
Yellow	Y	Y
White	W	—
Orange	S	S
Gray	E	—

NOTE: To select and order contact blocks, light modules, and accessories, see pages 19-85 through 19-92.

Table 19.192: 30 mm Multifunction Operators

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		
Non-Illuminated Push-Pull Mushroom Operators									
 KR9R94H13 Set Screw Style	Position, Plastic Head 1-5/8 in. (40 mm), Screw-On Momentary Pull Maintained Neutral Momentary Push ♦	Red Green Other ▼	KR8RH25 KR8GH25 KR8▼H25	— — —	142.00	KR8R KR8G KR8▼	86.00		
	2 Position, Plastic Head 1-5/8 in. (40 mm), Screw-On Maintained Pull Maintained Push ◊	Red ◊ Green Other ▼	— — —	KR9RH13 KR9GH13 KR9▼H13	188.00	KR9R KR9G KR9▼	129.00		
	2 Position, Plastic Head 1-5/8 in. (40 mm), Screw-On Head with Set Screw Maintained Pull Maintained Push ◊	Red	—	KR9R94H13	194.00	KR9R94	134.00		
 9001KR9RM94	2 Position, Metal Head 1-1/2 in. (40 mm) Diameter	Black	—	—	—	9001KR9BM94	138.00		
		Red	—		—	9001KR9RM94			
		Green	—		—	9001KR9GM94			
 9001KR9RM95	2 Position, Metal Head 2-3/8 in. (60 mm) Diameter	Black	—	—	—	9001KR9BM95	149.00		
		Red	—		—	9001KR9RM95			
		Green	—		—	9001KR9GM95			
Description		Color	With 1 N.O. & 1 N.C. Contact (KA1)	\$ Price	With 2 N.O. & 2 N.C. Contacts (KA2)	\$ Price	Without Contacts	\$ Price	
Non-Illuminated Turn-to-Release Mushroom Operators									
 9001KR16H2 Trigger Action	2 Position, Plastic Head Turn-to-Release Trigger Action	Red	KR16H13	172.00	KR16H2	218.00	KR16	113.00	

Screw-On Plastic Illuminated Push-Pull Mushroom Operators

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 KR8P△RH25 KR8P△▼H25	KR8P1▼H25 KR8P△▼H25 KR8P△▼H25	267.00 267.00 215.00	KR8P1▼ KR8P△▼ KR8P△▼	201.00 201.00 171.00
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 Momentary Push	110-120 V, 50-60 Hz Other—Transformer, LED, Flashing □ Other—Full Voltage, Resistor, Neon ♦	KR9P1RH13 KR9P△RH13 KR9P△▼H13	KR9P1▼H13 KR9P△▼H13 KR9P△▼H13	316.00 316.00 257.00	KR9P1▼ KR9P△▼ KR9P△▼	243.00 243.00 215.00

▼ Choose one color from the Color Codes table here, and insert the color code in Type number. **Example:** KR9 with a yellow knob = KR9Y

△ Add the voltage assembly code as chosen from page 19-86. **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 19-88. Add the "H" number chosen from page 19-88 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 19-92.
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 19-67 for contact sequences.

● See Table 19.193.

Table 19.193: Color Codes

Color	KR8, KR9
Black □	B
Red	R
Green	G
Blue	L
Yellow	Y
White	W
Orange □	S
Clear	C
Amber	A
Gray	—

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

Table 19.194: Contact Sequences

9001 KR8RH1 or H13				
		Pull	Ctr	Push
(KA1)	KA3	X	O	O
	KA2	O	O	X
9001 KR8RH25				
KA3	X	O	O	O
KA5	X	X	O	O
KA2	O	O	O	X

NOTE: To select and order contact blocks, light modules, and accessories, see pages 19-85 through 19-92.

Table 19.195: Illuminated Momentary Push Button Operators

UL Types 4, 13/NEMA 4, 13

For use in hazardous locations—See page 19-87.

Legend plate and contact block not included unless otherwise noted.

NOTE: When ordering, add prefix 9001 to the catalog number.

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	Full Guard Illuminated Push Button Clear Plastic Top	110-120 V, 50-60 Hz	Transformer	K1L1RH13	K1L1GH13	231.00	K1L1▼	184.00
		220-240 V, 50-60 Hz	Transformer	K1L7RH13	K1L7GH13	231.00	K1L7▼	184.00
		24-28 Vac/Vdc	Full Voltage	K1L35RH13	K1L35GH13	198.00	K1L35▼	138.00
		For other voltages see Table ■	Transformer or Flashing	K1L■RH13	K1L■GH13	231.00	K1L■▼	184.00
			Full Voltage	K1L■RH13	K1L■GH13	198.00	K1L■▼	138.00
			Resistor or Neon ♦	K1L■RH13	K1L■GH13	198.00	K1L■▼	138.00
			LED ★	K1L■RH13	K1L■GH13	231.00	K1L■▼	184.00
9001K3L1	Full Guard Illuminated Push Button Metal Top	110-120 V, 50-60 Hz	Transformer	K3L1RH13	K3L1GH13	231.00	K3L1▼	184.00
		220-240 V, 50-60 Hz	Transformer	K3L7RH13	K3L7GH13	231.00	K3L7▼	184.00
		24-28 Vac/Vdc	Full Voltage	K3L35RH13	K3L35GH13	198.00	K3L35▼	138.00
		For other voltages see Table ■	Transformer or Flashing	K3L■RH13	K3L■GH13	231.00	K3L■▼	184.00
			Full Voltage	K3L■RH13	K3L■GH13	198.00	K3L■▼	138.00
			Resistor or Neon ♦	K3L■RH13	K3L■GH13	231.00	K3L■▼	138.00
			LED ★	K3L■RH13	K3L■GH13	231.00	K3L■▼	184.00
9001K2L1	No Guard Illuminated Push Button	110-120 V, 50-60 Hz	Transformer	K2L1RH13	K2L1GH13	217.00	K2L1▼	153.00
		220-240 V, 50-60 Hz	Transformer	K2L7RH13	K2L7GH13	217.00	K2L7▼	153.00
		24-28 Vac/Vdc	Full Voltage	K2L35RH13	K2L35GH13	184.00	K2L35▼	125.00
		For other voltages see Table ■	Transformer or Flashing	K2L■RH13	K2L■GH13	217.00	K2L■▼	153.00
			Full Voltage	K2L■RH13	K2L■GH13	184.00	K2L■▼	125.00
			Resistor or Neon ♦	K2L■RH13	K2L■GH13	184.00	K2L■▼	125.00
			LED ★	K2L■RH13	K2L■GH13	217.00	K2L■▼	153.00
9001K2LR20	1-3/8 in. (35 mm) Illuminated Mushroom, Screw-On Plastic Head	110-120 V, 50-60 Hz	Transformer	K2L1R20H13	K2L1G20H13	217.00	Order K2L ■▼ Above △	
		220-240 V, 50-60 Hz	Transformer	K2L7R20H13	K2L7G20H13	217.00		
		24-28 Vac/Vdc	Full Voltage	K2L35R20H13	K2L35G20H13	184.00		
		For other voltages see Table ■	Transformer or Flashing	K2L■R20H13	K2L■G20H13	217.00		
			Full Voltage	K2L■R20H13	K2L■G20H13	184.00		
			Resistor or Neon ♦	K2L■R20H13	K2L■G20H13	184.00		
			LED ★	K2L■R20H13	K2L■G20H13	217.00		
9001K2LR21	2-1/4 in. (57 mm) Illuminated Mushroom, Screw-On Plastic Head	110-120 V, 50-60 Hz	Transformer	K2L1R21H13	K2L1G21H13	217.00		Order K2L ■▼ Above △
		220-240 V, 50-60 Hz	Transformer	K2L7R21H13	K2L7G21H13	217.00		
		24-28 Vac/Vdc	Full Voltage	K2L35R21H13	K2L35G21H13	184.00		
		For other voltages see Table ■	Transformer or Flashing	K2L■R21H13	K2L■G21H13	217.00		
			Full Voltage	K2L■R21H13	K2L■G21H13	184.00		
			Resistor or Neon ♦	K2L■R21H13	K2L■G21H13	184.00		
			LED ★	K2L■R21H13	K2L■G21H13	217.00		

- ▲ These operators can be ordered complete with contact blocks. For maximum block usage, see page 19-88. Add the "H" number chosen from page 19-88 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 19.248 or Table 19.249 on page 19-86. **Example:** K2L▲ with 240 Vac/Vdc = 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 136 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.

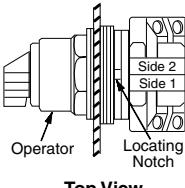
Table 19.196: Color Caps

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

NOTE: To select and order contact blocks, light modules, and accessories, see pages 19-85 through 19-92.

Table 19.197: 2-Position Selector Switches

NOTE: When ordering, add prefix 9001 to the catalog number.

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	or	KA3  KA1 	KA1  #2 	KA3  #2	1	0	0	1
					KA2  #2	0	1	1	0
	KA1	or	KA3  KA1 	KA1  #1 	KA3  #1	1	0	0	1
					KA2  #1	0	1	1	0
19-73					E				D

Non-Illuminated Operators	Cat. No.	Cat. No.	\$ Price
Manual Return ▲, Operator Only (without contact blocks)			
Without Knob	KS11	KS12	42.80
With Knob (select style and color from Table 19.198 below)	KS11*	KS12*	42.80
Key Operated with E10 Key (Code 1,2,3)	KS11K**	KS12K**	138.00
Operator with Contact Blocks and Standard black knob			
With 1 KA1 on Side #2	KS11BH13	—	106.00
With 1 KA1 on Side #1	KS11BH1	—	106.00
With 1 KA1 on Side #1 and 1 KA1 on side #2	KS11BH2	—	152.00
Spring Return from Left ▲, Operator Only (without contact blocks)			
Without Knob	KS25	—	71.00
With Knob (select style and color from Table 19.198)	KS25*	—	71.00
Key Operated with E10 Key (Code 2 only)★	KS25K2	—	167.00
Spring Return from Right ▲, Operator Only (without contact blocks)			
Without Knob	—	KS34	71.00
With Knob (select style and color from Table 19.198 below)	—	KS34*	71.00
Key Operated with E10 Key (Code 1 only)	—	KS34K1	167.00
Illuminated Operators			
Manual Return ▲, Operator Only (without contact blocks)	Cat. No.	Cat. No.	\$ Price
Without Knob, 110-120V 50-60 Hz Transformer	K11J1	K12J1	158.00
With Standard Red Knob, 110-120V 50-60 Hz Transformer	K11J1R	K12J1R	167.00
With Other Color Knob and other voltage Light Module ■ ♦	K11J■♦	K12J■♦	167.00
Spring Return from Left ▲, Operator Only (without contact blocks)			
Without Knob, 110-120V 50-60 Hz Transformer	K25J1	—	185.00
With Standard Red Knob, 110-120V 50-60 Hz Transformer	K25J1R	—	197.00
With Other Color Knob and other voltage Light Module ■ ♦	K25J■♦	—	197.00
Spring Return from Right ▲, Operator Only (without contact blocks)			
Without Knob, 110-120V 50-60 Hz Transformer	—	K34J1	185.00
With Standard Red Knob, 110-120V 50-60 Hz Transformer	—	K34J1R	197.00
With Other Color Knob and other voltage Light Module ■ ♦	—	K34J■♦	197.00

- ▲ These operators can be ordered complete with contact blocks. Add the "H code" from page 19-88 as needed for your application.
- Add the voltage assembly code as chosen from page 19-86. Example: K25J■ with 208 Vac = K25J3.
- ♦ Add the knob color code from Table 19.198. For LED, knob color must match LED.
- ★ Add the key withdrawal code from Table 19.199.

Table 19.198: Selector Switch Assembly Code and Knob Cat. No.

Color	Standard Knob		Gloved Hand Knob		\$ Price
	♦ Knob Code	Cat. No.	♦ Knob Code	Cat. No.	
Black	B	B11	FB	B25	9.90
Red	R	R8	FR	R24	
Green	G	G8	FG	G24	
Yellow	Y	Y8	FY	Y24	
Blue	L	L8	FL	L24	
White	W	W8	FW	W24	
Amber	A	A8	FA	A24	
Clear	C	C8	FC	C24	

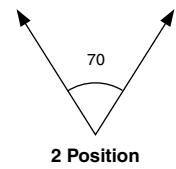


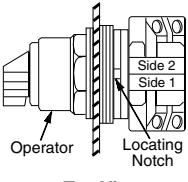
Table 19.199: ★ Key Withdrawal Codes

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

NOTE: To select and order Contact Blocks, Light Modules, Knobs, and Accessories, see pages 19-85 through 19-92.

Table 19.200: 3-Position Selector Switches

NOTE: When ordering, add prefix 9001 to the catalog number.

Contact Block Required			Mount on Side		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 	KA3  #2 KA1  or KA2 	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	
			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 KA1  #1 KA2 	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	
			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	
19-73			B	C	D	E	F	G	J	L	M	
Non-Illuminated Operators			Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	\$ Price
Manual Return, Operator Only (without contact blocks) ▲												
Without Knob			KS42	KS43	KS44	KS45	KS46	KS47	KS49	KS401	KS402	43.00
With Knob (select style and color from table 19.168 below)			KS42◆	KS43◆	KS44◆	KS45◆	KS46◆	KS47◆	KS49◆	KS401◆	KS402◆	53.00
Key Operated with E10 Key (Code 4 through 10) ▼			KS42K▼	KS43K▼	KS44K▼	KS45K▼	KS46K▼	KS47K▼	KS49K▼	KS401K▼	KS402K▼	138.00
Operator with Contact Blocks and Standard black knob ★												
With 1 KA1 on Side #2 (H13)			KS42BH13	KS43BH13	KS44BH13	KS45BH13	KS46BH13	KS47BH13	KS49BH13	KS401BH13	KS402BH13	106.00
With 1 KA1 on Side #1 (H1)			KS42BH1	KS43BH1	KS44BH1	KS45BH1	KS46BH1	KS47BH1	KS49BH1	KS401BH1	KS402BH1	106.00
With 1 KA1 on Side #1 and 1 KA1 on side #2 (H2)			KS42BH2	KS43BH2	KS44BH2	KS45BH2	KS46BH2	KS47BH2	KS49BH2	KS401BH2	KS402BH2	152.00
Spring Return from Left to Center, Operator Only (without contact blocks) ▲												
Without Knob			KS62	KS63	KS64	KS65	KS66	KS67	KS69	KS601	KS602	71.00
With Knob (select style and color from table 19.168 below)			KS62◆	KS63◆	KS64◆	KS65◆	KS66◆	KS67◆	KS69◆	KS601◆	KS602◆	81.00
Key Operated with E10 Key (Code 5, 6 or 9 only) ▼			KS62K▼	KS63K▼	KS64K▼	KS65K▼	KS66K▼	KS67K▼	KS69K▼	KS601K▼	KS602K▼	167.00
Spring Return from Right to Center, Operator Only (without contact blocks) ▲												
Without Knob			KS72	KS73	KS74	KS75	KS76	KS77	KS79	KS701	KS702	71.00
With Knob (select style and color from table 19.168 below)			KS72◆	KS73◆	KS74◆	KS75◆	KS76◆	KS77◆	KS79◆	KS701◆	KS702◆	81.00
Key Operated with E10 Key (Code 4, 5 or 7 only)			KS72K▼	KS73K▼	KS74K▼	KS75K▼	KS76K▼	KS77K▼	KS79K▼	KS701K▼	KS702K▼	167.00
Spring Return from Both Sides to Center, Operator Only (without contact blocks) ▲												
Without Knob			KS52	KS53	KS54	KS55	KS56	KS57	KS59	KS501	KS502	71.00
With Knob (select style and color from table 19.168 below)			KS52◆	KS53◆	KS54◆	KS55◆	KS56◆	KS57◆	KS59◆	KS501◆	KS502◆	81.00
Key Operated with E10 Key (Code 4, 5 or 7 only)			KS52K▼	KS53K▼	KS54K▼	KS55K▼	KS56K▼	KS57K▼	KS59K▼	KS501K▼	KS502K▼	167.00
Illuminated Operators			Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	\$ Price
Manual Return, Operator Only (without contact blocks) ▲												
Without Knob, 110-120V 50-60 Hz Transformer			K42J1	K43J1	K44J1	K45J1	K46J1	K47J1	K49J1	K401J1	K402J1	158.00
With Standard Red Knob, 110-120V 50-60 Hz Transformer			K42J1R	K43J1R	K44J1R	K45J1R	K46J1R	K47J1R	K49J1R	K401J1R	K402J1R	167.00
With Other Color Knob and other voltage Light Module ■ ◆			K42J■◆	K42J■◆	K44J■◆	K45J■◆	K46J■◆	K47J■◆	K49J■◆	K401J■◆	K402J■◆	158.00
Spring Return from Left to Center, Operator Only (without contact blocks) ▲												
Without Knob, 110-120V 50-60 Hz Transformer			K62J1	K63J1	K64J1	K65J1	K66J1	K67J1	K69J1	K601J1	K602J1	185.00
With Standard Red Knob, 110-120V 50-60 Hz Transformer			K62J1R	K63J1R	K64J1R	K65J1R	K66J1R	K67J1R	K69J1R	K601J1R	K602J1R	197.00
With Other Color Knob and other voltage Light Module ■ ◆			K62J■◆	K62J■◆	K64J■◆	K65J■◆	K66J■◆	K67J■◆	K69J■◆	K601J■◆	K602J■◆	167.00
Spring Return from Right to Center, Operator Only (without contact blocks) ▲												
Without Knob, 110-120V 50-60 Hz Transformer			K72J1	K73J1	K74J1	K75J1	K76J1	K77J1	K79J1	K701J1	K702J1	185.00
With Standard Red Knob, 110-120V 50-60 Hz Transformer			K72J1R	K73J1R	K74J1R	K75J1R	K76J1R	K77J1R	K79J1R	K701J1R	K702J1R	197.00
With Other Color Knob and other voltage Light Module ■ ◆			K72J■◆	K72J■◆	K74J■◆	K75J■◆	K76J■◆	K77J■◆	K79J■◆	K701J■◆	K702J■◆	167.00
Spring Return from Both Sides to Center, Operator Only (without contact blocks) ▲												
Without Knob, 110-120V 50-60 Hz Transformer			K52J1	K53J1	K54J1	K55J1	K56J1	K57J1	K59J1	K501J1	K502J1	185.00
With Standard Red Knob, 110-120V 50-60 Hz Transformer			K52J1R	K53J1R	K54J1R	K55J1R	K56J1R	K57J1R	K59J1R	K501J1R	K502J1R	197.00
With Other Color Knob and other voltage Light Module ■ ◆			K52J■◆	K53J■◆	K54J■◆	K55J■◆	K56J■◆	K57J■◆	K59J■◆	K501J■◆	K502J■◆	167.00

- ▲ These operators can be ordered complete with contact blocks. Add the "H code" from page 19-88 as needed for your application.
- Add the voltage assembly code as chosen from page 19-86. Example: K25J■ with 208Vac = K25J3.
- ◆ Add the knob color code from Table 19.201. For LED, knob color must match LED.
- ★ For other color knobs replace the B with knob color code from Table 19.201.
- ▼ Add the key withdrawal code from Table 19.202. Example: KS43K▼ with key withdrawal in the right position only = KS43K6.

Table 19.201: Selector Switch Assembly Code and Knob Cat. No.

Color	Standard Knob		Gloved Hand Knob		S Price
	◆ Knob Code	Cat. No.	◆ Knob Code	Cat. No.	
Black	B	B11	FB	B25	
Red	R	R8	FR	R24	
Green	G	G8	FG	G24	
Yellow	Y	Y8	FY	Y24	
Blue	L	L8	FL	L24	
White	W	W8	FW	W24	
Amber	A	A8	FA	A24	
Clear	C	C8	FC	C24	

NOTE: To select and order Contact Blocks, Light Modules, Knobs, and Accessories, see pages 19-85 through 19-92.

Table 19.202: ▼ 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

Table 19.203: 4-Position Selector Switches

NOTE: When ordering, add prefix 9001 to the catalog number.

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

Non-Illuminated Operators	Cat. No.	\$ Price
Manual Return ▲, Operator Only (without contact blocks)		
Without Knob	KS88	42.80
With Knob (select style and color from table 19.168 below)	KS88♦	53.00
Key Operated with E10 Key (Codes 11, 12, 13, 14, 15)	KS88K★	138.00

Illuminated Operators	Cat. No.	\$ Price
Manual Return ▲, Operator Only (without contact blocks)		
Without Knob, 110-120V 50-60 Hz Transformer	KS88J1	158.00
With Standard Red Knob, 110-120V 50-60 Hz Transformer	KS88J1R	167.00
With Other Color Knob and other voltage Light Module ■♦	KS88J■♦	158.00

- ▲ These operators can be ordered complete with contact blocks. Add the "H code" from page 19-88 as needed for your application.
- Add the voltage assembly code as chosen from page 19-86. Example: K25J5■ with 208Vac = K25J3.
- ◆ Add the knob color code from table 19.204. For LED, knob color must match LED.
- ★ Add the key withdrawal code from Table 19.205.

Table 19.204: Selector Switch Assembly Code and Knob Cat. No.

Color	Standard Knob		Gloved Hand Knob		\$ Price
	♦ Knob Code	Cat. No.	♦ Knob Code	Cat. No.	
Black	B	B11	FB	B25	
Red	R	R8	FR	R24	
Green	G	G8	FG	G24	
Yellow	Y	Y8	FY	Y24	
Blue	L	L8	FL	L24	
White	W	W8	FW	W24	
Amber	A	A8	FA	A24	
Clear	C	C8	FC	C24	

Table 19.205: ★ Key Withdrawal Codes

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

Potentiometers with Dial Plate

Table 19.206: Potentiometers with Dial Plate (not UL listed)—Maximum Voltage 300 Vac



Table 19.207: Potentiometer Suffixes

Power	Description	Ratings	Type	\$ Price
2 W	Operator Only, for Single Potentiometer	NEMA 4, 13	K20	201.00
	Operator with Single Potentiometer		K21	287.00
	Operator Only, for Tandem Potentiometer		K22	314.00
	Operator with Tandem Potentiometer		K23	399.00

Table 19.207: Potentiometer Suffixes

Single Potentiometer			
Suffix ▼	Resistance	Suffix ▼	Resistance
01	50 Ω	07	5 kΩ
02	100 Ω	08	10 kΩ
04	500 Ω	09	25 kΩ
05	1 kΩ	13	500 kΩ
39	2 kΩ	37	750 kΩ
06	2.5 kΩ	14	1 MΩ

Tandem Potentiometer			
Suffix ▼		Resistance	
		Front	Rear
82		1 kΩ	1 kΩ

▼ For the complete part number, add the suffix from Table 19.207 to the catalog number from Table 19.206. Example: 9001K2105.

Any potentiometer with a shaft 7/8" long and 1/4" diameter may be used with these operators.

NOTE: To select and order Contact Blocks, Light Modules, Knobs, and Accessories. See pages 19-85 through 19-92.

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 19.208, Table 19.209, or Table 19.210. For the example above, Table 19.209 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	19-70, 19-80, 19-88, 19-95, 19-97
3	Type K, Type SK, Type KX	19-71, 19-81, 19-88, 19-95, 19-97
4	Type K, Type SK, Type KX	19-72, 19-82, 19-93

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 19-71)
- Type SK—Class 9001 Type SKS46B (from page 19-81)
- Type KX—Class 9001 Type KXSDFB (from page 19-97)

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

- Type K—Class 9001 Type KS401B (from page 19-71)
- Type SK—Class 9001 Type SKS401B (from page 19-81)
- Type KX—Class 9001 Type KXSDLB (from page 19-97)

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.

Type K, KX, and SK Selector Switch Guide

Class 9001 / Refer to Catalog 9001CT1103

NOTE: When ordering, add prefix 9001 to the catalog number.

Table 19.208: 2 Position Selector Switch

If you require contact sequence—		Use Cam Type	Use Contact Block Type	Mount on side no. (See page 19-88)
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 19.209: 3 Position Selector Switch

If you require contact sequence—			Use Cam Type	Use Contact Block Type	Mount on side no. (See page 19-88)
1	0	0	G	M	KA2 1
			L		KA2 2
			C	E	KA3 1
			B	C	KA3 2
			B	G	KA5▲ 2
			D	E	KA2 1
			D	E	KA2 2
			F		KA3 1
				L	KA3 2
			C	F	KA2 1 or 2
			B	D	KA3 1
			D		KA3 2
			B		KA5▲ 1
				M	KA2 2
1	1	0	B		KA2 1
			C	F	KA5▲ 1 or 2
				M	KA3 2
			B	G	KA2 2
				G	KA5▲ 1
				L	KA5▲ 2
				M	KA3 1
1	0	1		J	KA3 1
			D	E	KA5▲ 1
			D	E	KA5▲ 2

Table 19.210: 4 Position Selector Switch

If you require contact sequence—				Use Cam Type	Use Contact Block Type	Mount on side no. (See page 19-88)
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	2
1	0	1	1	H	KA5▲ 1	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 9001CT1103

$$KA1 = KA3 + KA2$$

$$\text{Diagram: } \textcircled{O} \text{ } \text{---} \text{ } \textcircled{O} = \text{Diagram: } \textcircled{O} \text{ } \text{---} \text{ } \textcircled{O} + \text{Diagram: } \text{---} \text{ } \textcircled{O}$$

When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

For "H" Numberspage 19-88

Table 19.211: Pilot Lights—UL Types 4, 13/NEMA 4 & 13

For use in hazardous locations—See page 19-87.

Legend plates not included.

NOTE: When ordering, add prefix 9001 to the catalog number.

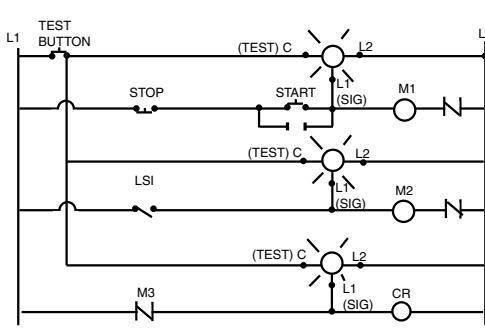
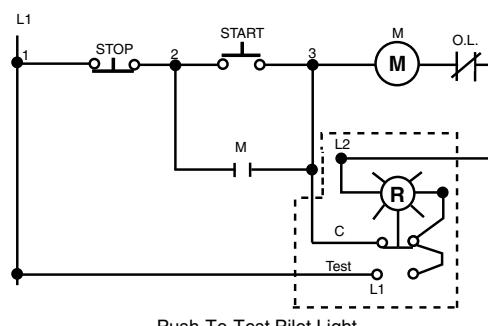
Description	Voltage	Style	With Red Fresnel Color Cap	With Green Fresnel Color Cap	With Other Color Cap	\$ Price	Without Color Cap	\$ Price
	110–120 V, 50–60 Hz 220–240 V, 50–60 Hz 24–28 Vac/Vdc	Transformer Transformer Full Voltage	KP1R31 KP7R31 KP35R31	KP1G31 KP7G31 KP35G31	KP1■ KP7■ KP35■	153.00 153.00 125.00	KP1 KP7 KP35	143.00 143.00 116.00
	For other voltages see page 19-86.	Transformer, Flashing or LED ♦ Full Voltage, Neon or Resistor ★	KP▲R31 KP▲R31	KP▲G31 KP▲G31	KP▲■ KP▲■	153.00 125.00	KP▲ KP▲	143.00 116.00
	110–120 V, 50–60 Hz 220–240 V, 50–60 Hz 24–28 Vac/Vdc	Transformer Transformer Full Voltage	KT1R31 KT7R31 KT35R31	KT1G31 KT7G31 KT35G31	KT1■ KT7■ KT35■	197.00 197.00 167.00	KT1 KT7 KT35	185.00 185.00 158.00
	For other voltages see page 19-86.	Transformer, Flashing or LED ♦ Full Voltage, Neon or Resistor ★	KT▲R31 KT▲R31	KT▲G31 KT▲G31	KT▲■ KT▲■	197.00 167.00	KT▲ KT▲	185.00 158.00
	120 Vac Only 24–28 Vac Only for other voltages	Resistor ▼ Full Voltage	KTR38R31 KTR35R31	KTR38G31 KTR35G31	KTR38■ KTR35■	197.00 197.00	KTR38 KTR35	185.00 185.00
	See page 19-86.▼	Full Voltage or Resistor ▼	KTR▲R31	KTR▲G31	KTR▲■	197.00	KTR▲	185.00

- ▲ Add the voltage assembly code as chosen from Table 19.248 or Table 19.249 on 19-86. **EXAMPLE: KT▲R31 with 208 Vac red LED = KT37LRR31**
- Add the color code as chosen from Table 19.212. **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 19.212: 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

Typical Wiring Diagram



NOTE: To select and order contact blocks, light modules, and accessories, see pages 19-85 through 19-92.

30 mm Push Buttons

Type K Heavy Duty Specialty Operators

Class 9001 / Refer to Catalog 9001CT1103



Without Latch



With Latch

Table 19.213: Joy Stick Operators—UL Types 4, 13/NEMA 4, 13
for use in hazardous locations. See page 19-87.
Contact blocks and legend plate not included unless noted.

NOTE: When ordering, add prefix 9001 to the catalog number.

Description				Operator With Contacts	\$ Price	Operator Without Contacts ▲	\$ Price
 3 Position—Center Off	Momentary Contact—Spring Return to Center	Without Latch	K71H7	326.00	K71	252.00	
		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	326.00	K31	252.00	
		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	435.00	K35	309.00	
		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 19-88 to the operator type number and add the cost of the "H" number to the operator cost.

Table 19.214: 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	—	0
		POS 2 (4)	A	—	0	0	—	1
 3	KA2	POS 1 (3)	B	1	—	0	0	—
		POS 2 (4)	B	0	—	0	1	—
 5	KA1	POS 1 (3)	A	0	1	0	0	0
		POS 2 (4)	B	1	0	0	0	0
		POS 1 (3)	A	0	0	0	0	1
		POS 2 (4)	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 19-87. 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 19-92. Up to two Type KA contact blocks can be mounted in tandem (total of four blocks). Selector push buttons cannot be illuminated.

Table 19.215: Selector Push Button Operators—UL Types 4, 13/NEMA 4, 13

Quantity and Type	Mount on Side	Contact Block Required	Two Position Operators											
			0—Contact Open				1—Contact Closed				F—Free			
			Left	Right	Left	Right	Left	Right	Left	Right	Left	Right		
 1 KA1	#2		FD	FD	FD	FD	FD	FD	FD	FD	Order Contact Blocks From Pages 19-85 and 19-87.			
			0 0	1 0	0 0	1 0	0 0	1 1	1 1	1 0	1 0			
 1 KA1	#1		0 1	0 1	0 1	0 0	0 1	0 0	0 0	0 1	0 1			
			0 0	1 1	0 0	1 0	1 1	0 0	1 0	1 1	1 1			
 Cam ♦		Color Insert	P		R		S		T		Y			
			Type		Type		Type		Type		\$ Price			
Without Insert ■ Black			KQ11		KQ12		KQ13		KQ14		KQ15		80.	
			KQ11B		KQ12B		KQ13B		KQ14B		KQ15B		81.	

- Order color inserts from page 19-92.
- ♦ Cams are not interchangeable.

For use in hazardous locations. See page 19-87. 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 19.216: 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	
			—	X	—	KR132	
			—	—	X	KR133	
			X	X	X	KR137	
		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	125.00
			—	X	—	KR142	
			—	—	X	KR143	
			X	X	X	KR147	
		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	
			—	—	X	KR153	

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

Key Operated Push Button
9001KR

Table 19.217: Illuminated and Non-Illuminated Dual 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 19-87. Legend plate
 and contact blocks not included unless otherwise noted.



9001KR7U



9001KR11U

Description	Color	With 2 N.O. (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	138.00	KR6U KR6GR KR6■	81.00
Momentary Interlocked Dual Function	Universal ▲ Green-Red Other ■	KR67UH7 KR67GRH7 KR67■H7	KR67UH37 KR67GRH37 KR67■H37	184.00	KR67U KR67GR KR67■	125.00
Maintained Interlocked Dual Function	Universal ▲ Green-Red Other ■	KR7UH7 KR7GRH7 KR7■H7	KR7UH37 KR7GRH37 KR7■H37	184.00	KR7U KR7GR KR7■	125.00
Description	Color		Contacts (KA1)	\$ Price	Without Contacts ★	\$ Price
Both Buttons Maintained Interlocked Assembly	Universal ♦ Other ★	—	KR11UH1 KR11★H1	178.00	KR11U KR11★	120.00
One Button Momentary One Button Maintained Interlocked Assembly	Universal ♦ Other ★	—	KR12UH1H1 KR12★H1H1	273.00	KR12U KR12★	162.00

- ▲ 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: 9001KR6 with left red and right black = 9001KR6RB.** See Table 19.193.
- ♦ Universal for KR11, KR12 includes 2 each of black, red, green, yellow, orange, blue, white.
- ★ Choose one color for each button from Table 19.193 and insert color code in type number. **Example: 9001KR11 with top button gray and bottom button orange = 9001KR11ES**



Emergency Break-Glass Operator 9001K15

Table 19.218: Emergency Break-Glass Operator—
UL 4, 13/NEMA 4, 13▼

Type	\$ Price
K15	125.00

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 19-106.

Table 19.219: 9001K15 Replacement Parts

Description	Part Number	\$ Price
Yellow bumper	3105211101	14.30
Hammer and chain	3105206750	57.30
Lower ring nut	6512232801	16.70
Top ring nut	9001K40	4.40
Package of 5 replacement discs	9001K57	16.70
Clip to hold hammer	2540902240	2.60



Rocker Arm Operating Lever



Push-on Push-off Module 9001K85



Time Delay Push Button 9001KRD

Table 19.220: Rocker Arm Operating Lever

Type	\$ Price
K50	77.00

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 19-67, 19-89, and 19-90—specify which marking is to be inverted.

Table 19.221: Alternate Action—Push-on, Push-off Module

Type	\$ Price
K85	42.80

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 19.222: 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	277.00
Timed Contact 2 N.O. and 2 N.C.	KRD1UH2	KRD2UH2	KRD3UH2	514.00

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 19-92 for Universal color insert. Contacts are quick make-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.

Table 19.223: Wobble Stick
For easy operation of any standard push button.

Type	\$ Price
K8	42.80

Table 19.224: Non-Illuminated Momentary Push Button Operators
UL Types 4, 4X, 13/NEMA 4, 4X, 13. For use in hazardous locations—See page 19-87. Contact blocks and legend plate not included unless otherwise noted.

NOTE: When ordering, add prefix 9001 to the catalog number.

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	89.00	SKR1BH5	SKR1BH6	66.00	SKR1B	38.60
	Red	SKR1RH13	89.00	SKR1RH5	SKR1RH6	66.00	SKR1R	38.60
	Green	SKR1GH13	89.00	SKR1GH5	SKR1GH6	66.00	SKR1G	38.60
	Universal ▲	SKR1UH13	89.00	SKR1UH5	SKR1UH6	66.00	SKR1U	38.60
	Other ■	SKR1■H13	89.00	SKR1■H5	SKR1■H6	66.00	SKR1■	38.60
9001SKR3B No Guard	Black	SKR3BH13	89.00	SKR3BH5	SKR3BH6	66.00	SKR3B	38.60
	Red	SKR3RH13	89.00	SKR3RH5	SKR3RH6	66.00	SKR3R	38.60
	Green	SKR3GH13	89.00	SKR3GH5	SKR3GH6	66.00	SKR3G	38.60
	Universal ▲	SKR3UH13	89.00	SKR3UH5	SKR3UH6	66.00	SKR3U	38.60
	Other ■	SKR3■H13	89.00	SKR3■H5	SKR3■H6	66.00	SKR3■	38.60
9001SKR2B Extended Guard	Black	SKR2BH13	89.00	SKR2BH5	SKR2BH6	66.00	SKR2B	38.60
	Red	SKR2RH13	89.00	SKR2RH5	SKR2RH6	66.00	SKR2R	38.60
	Green	SKR2GH13	89.00	SKR2GH5	SKR2GH6	66.00	SKR2G	38.60
	Universal ▲	SKR2UH13	89.00	SKR2UH5	SKR2UH6	66.00	SKR2U	38.60
	Other ■	SKR2■H13	89.00	SKR2■H5	SKR2■H6	66.00	SKR2■	38.60
Snap-In Mushroom Button								
9001SKR4B 1-3/8 in. (35 mm) Mushroom Button	Black	SKR4BH13	138.00	SKR4BH5	SKR4BH6	112.00	SKR4B	81.00
	Red	SKR4RH13	138.00	SKR4RH5	SKR4RH6	112.00	SKR4R	81.00
	Red ♦	SKR4R05H13	142.00	SKR4R05H5	SKR4R05H6	119.00	SKR4R05	86.00
	Green	SKR4GH13	138.00	SKR4GH5	SKR4GH6	112.00	SKR4G	81.00
	Other ★	SKR4★H13	138.00	SKR4★H5	SKR4★H6	112.00	SKR4★	81.00
Screw-On Mushroom Button with Set Screw Security								
9001SKR5 2-1/4 in. (57 mm) Mushroom Button	Black	SKR24BH13	138.00	SKR24BH5	SKR24BH6	112.00	SKR24B	81.00
	Red	SKR24RH13	138.00	SKR24RH5	SKR24RH6	112.00	SKR24R	81.00
	Green	SKR24GH13	138.00	SKR24GH5	SKR24GH6	112.00	SKR24G	81.00
	Other ★	SKR24★H13	138.00	SKR24★H5	SKR24★H6	112.00	SKR24★	81.00
Snap-In Mushroom Button, Plastic Head								
9001SKR5 2-1/4 in. (57 mm) Mushroom Button	Black	SKR5BH13	138.00	SKR5BH5	SKR5BH6	112.00	SKR5B	81.00
	Red	SKR5RH13	138.00	SKR5RH5	SKR5RH6	112.00	SKR5R	81.00
	Red ♦	SKR5R05H13	142.00	SKR5R05H5	SKR5R05H6	119.00	SKR5R05	86.00
	Green	SKR5GH13	138.00	SKR5GH5	SKR5GH6	112.00	SKR5G	81.00
	Other ★	SKR5★H13	138.00	SKR5★H5	SKR5★H6	112.00	SKR5★	81.00
Screw-On Mushroom Button with Set Screw Security, Plastic Head								
9001SKR5 2-1/4 in. (57 mm) Mushroom Button	Black	SKR25BH13	138.00	SKR25BH5	SKR25BH6	112.00	SKR25B	81.00
	Red	SKR25RH13	138.00	SKR25RH5	SKR25RH6	112.00	SKR25R	81.00
	Green	SKR25GH13	138.00	SKR25GH5	SKR25GH6	112.00	SKR25G	81.00
	Other ★	SKR25★H13	138.00	SKR25★H5	SKR25★H6	112.00	SKR25★	81.00

Table 19.225: 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 19.225.
- ♦ Knob has the words "Emergency Stop" in raised letters highlighted in white for readability.
- ★ See Table 19.225.
- ▼ These operators can be ordered complete with contact blocks. For maximum block usage, see page 19-88. Add the "H" number chosen from page 19-88 to the end of the operator type number and add the cost of the "H" number to the operator cost.

NOTE: To select and order contact blocks, light modules, and accessories, see pages 19-85 through 19-92.

Table 19.226: 30 mm Multifunction Operators
 UL Types 4, 4X, 13/NEMA 4, 4X, 13

NOTE: When ordering, add prefix 9001 to the catalog number.

Non-Illuminated Push-Pull Screw-on Mushroom Operators, Plastic Head							
	Description	Color	With 2 N.C. Contacts (1 KA3, 1 KA5)	With 1 N.O./1 N.C. Contact (1 KA1)	\$ Price	Without Contacts 	SPrice

 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	—	142.00	SKR8R	86.00
		Green	SKR8GH25	—		SKR8G	
		Other 	SKR8□H25	—		SKR8□	
	2 Position[△] Maintained Pull-Maintained Push	Red	—	SKR9RH13	188.00	SKR9R	129.00
		Green	—	SKR9GH13		SKR9G	
		Other 	—	SKR9□H13		SKR9□	

Non-Illuminated Turn-to-Release Mushroom Operators								
	Description	Color	With 1 N.O. Contact (KA1)	\$ Price	With 2 N.O./2 N.C. Contacts (2 KA1)	\$ Price	Without Contacts	
 9001SKR16H2	2 Position, Plastic Head Turn-to-Release Trigger Action	Red	SKR16H13	172.00	SKR16H2	218.00	SKR16	113.00

Screw-On Plastic Illuminated Push-Pull Mushroom Operators							
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
 9001SKR9P1 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 	110–120 V, 50–60 Hz	SKR8P1RH25	SKR8P1□H25	267.00	SKR8P1□	201.00
		Other—Transformer, LED, Flashing 	SKR8P□RH25	SKR8P□H25		SKR8P□	
		Other—Full Voltage, Resistor, Neon 	SKR8P□RH25	SKR8P□H25		SKR8P□	
	2 Position Maintained Pull-Maintained Push	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
		110–120 V, 50–60 Hz	SKR9P1RH13	SKR9P1□H13	316.00	SKR9P1□	243.00
		Other—Transformer, L.E.D., Flashing 	SKR9P□RH13	SKR9P□H13		SKR9P□	
		Other—Full Voltage, Resistor, Neon 	SKR9P□RH13	SKR9P□H13	257.00	SKR9P□	215.00

- △ 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 19.227 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 19-86. **Example: SKR8P□ with 277 V 50–60 Hz = SKR8P8**
- ★ 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 19-88. Add the "H" number chosen from page 19-88 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 19.228 and 19.229.

Table 19.227: 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.

Table 19.228: Positions for 9001SKR8RH1 or H13

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

Table 19.229: Positions for 9001SKR8H25

		9001SKR8H25		
		PULL	CTR	PUSH
(KA1)	KA3	X	O	O
	KA5	X	X	O
	KA2	O	O	X

NOTE: To select and order contact blocks, light modules, and accessories, see pages 19-85 through 19-92.

Table 19.230: Illuminated Push Button Operators
 UL Types 4, 4X, 13/NEMA 4, 4X, 13
 For use in hazardous locations—See page 19-87.
 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	231.00	SK1L1	158.00
		220–240 V, 50–60 Hz	Transformer	SK1L7RH13	SK1L7GH13	231.00	SK1L7	158.00
		24–28 Vac/Vdc	Full Voltage	SK1L35RH13	SK1L35GH13	198.00	SK1L35	129.00
		For other voltages See Table □	Transformer, Flashing	SK1L■RH13	SK1L■GH13	231.00	SK1L ■	158.00
			Full Voltage	SK1L■RH13	SK1L■GH13	198.00	SK1L ■	129.00
			Resistor, Neon ♦	SK1L■RH13	SK1L■GH13	198.00	SK1L ■	129.00
		LED ▼	SK1L■RH13	SK1L■GH13	231.00	SK1L ■★	158.00	
 9001SK2L1	No Guard Illuminated Push Button	110–120 V, 50–60 Hz	Transformer	SK2L1RH13	SK2L1GH13	217.00	SK2L1	143.00
		220–240 V, 50–60 Hz	Transformer	SK2L7RH13	SK2L7GH13	217.00	SK2L7	143.00
		24–28 Vac/Vdc	Full Voltage	SK2L35RH13	SK2L35GH13	184.00	SK2L35	116.00
		For other voltages See Table □	Transformer, Flashing	SK2L■RH13	SK2L■GH13	217.00	SK2L ■	143.00
			Full Voltage	SK2L■RH13	SK2L■GH13	184.00	SK2L ■	116.00
			Resistor, Neon ♦	SK2L■RH13	SK2L■GH13	184.00	SK2L ■	116.00
		LED ▼	SK2L■RH13	SK2L■GH13	217.00	SK2L ■★	143.00	
 9001SK2L1R20	1-3/8 in. (35 mm) Illuminated Mushroom, Screw-On Plastic Head	110–120 V, 50–60 Hz	Transformer	SK2L1R20H13	SK2L1G20H13	217.00	Order SK2L■★△	
		220–240 V, 50–60 Hz	Transformer	SK2L7R20H13	SK2L7G20H13	217.00		
		24–28 Vac/Vdc	Full Voltage	SK2L35R20H13	SK2L35G20H13	184.00		
		For other voltages See Table □	Transformer, Flashing	SK2L■R20H13	SK2L■G20H13	217.00		
			Full Voltage	SK2L■R20H13	SK2L■G20H13	184.00		
			Resistor, Neon ♦	SK2L■R20H13	SK2L■G20H13	184.00		
		LED ▼	SK2L■R20H13	SK2L■G20H13	217.00			
 9001SK2L1R21	2-1/4 in. (57 mm) Illuminated Mushroom, Screw-On Plastic Head	110–120 V, 50–60 Hz	Transformer	SK2L1R21H13	SK2L1G21H13	217.00	Order SK2L■★△	
		220–240 V, 50–60 Hz	Transformer	SK2L7R21H13	SK2L7G21H13	217.00		
		24–28 Vac/Vdc	Full Voltage	SK2L35R21H13	SK2L35G21H13	184.00		
		For other voltages See Table □	Transformer, Flashing	SK2L■R21H13	SK2L■G21H13	217.00		
			Full Voltage	SK2L■R21H13	SK2L■G21H13	184.00		
			Resistor, Neon ♦	SK2L■R21H13	SK2L■G21H13	184.00		
		LED ▼	SK2L■R21H13	SK2L■G21H13	217.00			

- ▲ These operators can be ordered complete with contact blocks. For maximum block usage, see page 19-88. Add the "H" number chosen from page 19-88 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 19-86. **EXAMPLE: SK2L■ with 240 Vac/Vdc = 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.

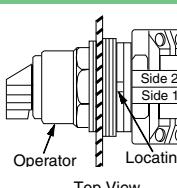
Table 19.231: Color Caps

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

NOTE: To select and order contact blocks, light modules, and accessories, see pages 19-85 through 19-92.

Table 19.232: 2-Position Selector Switches

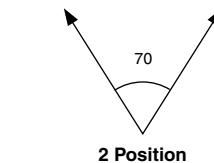
NOTE: When ordering, add prefix 9001 to the catalog number.

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					
 Cam (see page 19-73)	KA1 or KA2	KA3 or KA2	KA1 #2 or KA1 #1	KA3 #2 or KA3 #1	1	0	0	1					
		KA2 #2		KA2 #1	0	1	1	0					
	KA1 or KA2	KA3 or KA2	KA1 #1	KA3 #1	1	0	0	1					
		KA2 #1		KA2 #1	0	1	1	0					
							E	D					
Non-Illuminated Operators						Type	Type	\$ Price					
Manual Return ▲, Operator Only (without contact blocks)													
Without Knob	SKS11		SKS12		42.80								
With Knob (select style and color from Table 19.233 below)	SKS11♦		SKS12♦		53.00								
Operator with Contact Blocks and Standard black knob													
With 1 KA1 on Side #2	SKS11BH13		—		106.00								
With 1 KA1 on Side #1	SKS11BH1		—		106.00								
With 1 KA1 on Side #1 and 1 KA1 on side #2	SKS11BH2		—		152.00								
Spring Return from Left ▲, Operator Only (without contact blocks)													
Without Knob	SKS25		—		71.00								
With Knob (select style and color from Table 19.233 below)	SKS25♦		—		81.00								
Spring Return from Right ▲, Operator Only (without contact blocks)													
Without Knob	SKS34		—		71.00								
With Knob (select style and color from Table 19.233 below)	SKS34♦		—		81.00								
Illuminated Operators						Type	Type	\$ Price					
Manual Return ▲, Operator Only (without contact blocks)													
Without Knob, 110-120V 50-60 Hz Transformer	SK11J1		SK12J1		158.00								
With Standard Red Knob, 110-120V 50-60 Hz Transformer	SK11J1R		SK12J1R		167.00								
With Other Color Knob and other voltage Light Module ■♦	SK11J■♦		SK12J■♦		167.00								
Spring Return from Left ▲, Operator Only (without contact blocks)													
Without Knob, 110-120V 50-60 Hz Transformer	SK25J1		—		185.00								
With Standard Red Knob, 110-120V 50-60 Hz Transformer	SK25J1R		—		197.00								
With Other Color Knob and other voltage Light Module ■♦	SK25J■♦		—		197.00								
Spring Return from Right ▲, Operator Only (without contact blocks)													
Without Knob, 110-120V 50-60 Hz Transformer	—		SK34J1		185.00								
With Standard Red Knob, 110-120V 50-60 Hz Transformer	—		SK34J1R		197.00								
With Other Color Knob and other voltage Light Module ■♦	—		SK34J■♦		197.00								

▲ These operators can be ordered complete with contact blocks. Add the "H code" from page 19-88 as needed for your application.
 ■ Add the voltage assembly code as chosen from page 19-86. Example: K25J■ with 208Vac = K25J3
 ♦ Add the knob color code from Table 19.233. For LED, knob color must match LED.

Table 19.233: Selector Switch Assembly Code and Knob Cat. No.

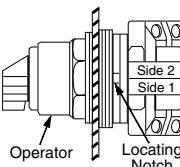
Color	Standard Knob		Gloved Hand Knob		\$ Price
	♦ Knob Code	Cat. No.	♦ Knob Code	Cat. No.	
Black	B	B11	FB	B25	
Red	R	R8	FR	R24	
Green	G	G8	FG	G24	
Yellow	Y	Y8	FY	Y24	
Blue	L	L8	FL	L24	
White	W	W8	FW	W24	
Amber	A	A8	FA	A24	
Clear	C	C8	FC	C24	



NOTE: To select and order Contact Blocks, Light Modules, Knobs, and Accessories. See pages 19-85 through 19-92.

Table 19.234: 3-Position Selector Switches

NOTE: When ordering, add prefix 9001 to the catalog number.

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 or KA2	KA3 or KA2 #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	
			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 or KA2 #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	
			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 19-73)		B	C	D	E	F	G	J	L	M	

Non-Illuminated Operators	Type	Type	\$ Price							
Manual Return, Operator Only (without contact blocks) ▲										
Without Knob	SKS42	SKS43	SKS44	SKS45	SKS46	SKS47	SKS49	SKS401	SKS402	42.80
With Knob (select style and color from Table 19.235 below)	SKS42◆	SKS43◆	SKS44◆	SKS45◆	SKS46◆	SKS47◆	SKS49◆	SKS401◆	SKS402◆	53.00
Operator with Contact Blocks and Standard black knob ★										
With 1 KA1 on Side #2 (H13)	SKS42BH13	SKS43BH13	SKS44BH13	SKS45BH13	SKS46BH13	SKS47BH13	SKS49BH13	SKS401BH13	SKS402BH13	106.00
With 1 KA1 on Side #1 (H1)	SKS42BH1	SKS43BH1	SKS44BH1	SKS45BH1	SKS46BH1	SKS47BH1	SKS49BH1	SKS401BH1	SKS402BH1	106.00
With 1 KA1 on Side #1 and 1 KA1 on side #2 (H2)	SKS42BH2	SKS43BH2	SKS44BH2	SKS45BH2	SKS46BH2	SKS47BH2	SKS49BH2	SKS401BH2	SKS402BH2	152.00
Spring Return from Left to Center, Operator Only (without contact blocks) ▲										
Without Knob	SKS62	SKS63	SKS64	SKS65	SKS66	SKS67	SKS69	SKS601	SKS602	71.00
With Knob (select style and color from Table 19.235 below)	SKS62◆	SKS63◆	SKS64◆	SKS65◆	SKS66◆	SKS67◆	SKS69◆	SKS601◆	SKS602◆	81.00
Spring Return from Right to Center, Operator Only (without contact blocks) ▲										
Without Knob	SKS72	SKS73	SKS74	SKS75	SKS76	SKS77	SKS79	SKS701	SKS702	71.00
With Knob (select style and color from Table 19.235 below)	SKS72◆	SKS73◆	SKS74◆	SKS75◆	SKS76◆	SKS77◆	SKS79◆	SKS701◆	SKS702◆	81.00
Spring Return from Both Sides to Center, Operator Only (without contact blocks) ▲										
Without Knob	SKS52	SKS53	SKS54	SKS55	SKS56	SKS57	SKS59	SKS501	SKS502	71.00
With Knob (select style and color from Table 19.235 below)	SKS52◆	SKS53◆	SKS54◆	SKS55◆	SKS56◆	SKS57◆	SKS59◆	SKS501◆	SKS502◆	81.00
Illuminated Operators	Type	Type	\$ Price							
Manual Return, Operator Only (without contact blocks) ▲										
Without Knob, 110-120V 50-60 Hz Transformer	SK42J1	SK43J1	SK44J1	SK45J1	SK46J1	SK47J1	SK49J1	SK401J1	SK402J1	158.00
With Standard Red Knob, 110-120V 50-60 Hz Transformer	SK42J1R	SK43J1R	SK44J1R	SK45J1R	SK46J1R	SK47J1R	SK49J1R	SK401J1R	SK402J1R	167.00
With Other Color Knob and other voltage Light Module ■◆	SK42J■◆	SK43J■◆	SK44J■◆	SK45J■◆	SK46J■◆	SK47J■◆	SK49J■◆	SK401J■◆	SK402J■◆	167.00
Spring Return from Left to Center, Operator Only (without contact blocks) ▲										
Without Knob, 110-120V 50-60 Hz Transformer	SK62J1	SK63J1	SK64J1	SK65J1	SK66J1	SK67J1	SK69J1	SK601J1	SK602J1	185.00
With Standard Red Knob, 110-120V 50-60 Hz Transformer	SK62J1R	SK63J1R	SK64J1R	SK65J1R	SK66J1R	SK67J1R	SK69J1R	SK601J1R	SK602J1R	197.00
With Other Color Knob and other voltage Light Module ■◆	SK62J■◆	SK63J■◆	SK64J■◆	SK65J■◆	SK66J■◆	SK67J■◆	SK69J■◆	SK601J■◆	SK602J■◆	197.00
Spring Return from Right to Center, Operator Only (without contact blocks) ▲										
Without Knob, 110-120V 50-60 Hz Transformer	SK72J1	SK73J1	SK74J1	SK75J1	SK76J1	SK77J1	SK79J1	SK701J1	SK702J1	185.00
With Standard Red Knob, 110-120V 50-60 Hz Transformer	SK72J1R	SK73J1R	SK74J1R	SK75J1R	SK76J1R	SK77J1R	SK79J1R	SK701J1R	SK702J1R	197.00
With Other Color Knob and other voltage Light Module ■◆	SK72J■◆	SK73J■◆	SK74J■◆	SK75J■◆	SK76J■◆	SK77J■◆	SK79J■◆	SK701J■◆	SK702J■◆	197.00
Spring Return from Both Sides to Center, Operator Only (without contact blocks) ▲										
Without Knob, 110-120V 50-60 Hz Transformer	SK52J1	SK53J1	SK54J1	SK55J1	SK56J1	SK57J1	SK59J1	SK501J1	SK502J1	185.00
With Standard Red Knob, 110-120V 50-60 Hz Transformer	SK52J1R	SK53J1R	SK54J1R	SK55J1R	SK56J1R	SK57J1R	SK59J1R	SK501J1R	SK502J1R	197.00
With Other Color Knob and other voltage Light Module ■◆	SK52J■◆	SK53J■◆	SK54J■◆	SK55J■◆	SK56J■◆	SK57J■◆	SK59J■◆	SK501J■◆	SK502J■◆	197.00

▲ These operators can be ordered complete with contact blocks. Add the "H code" from page 19-88 as needed for your application.

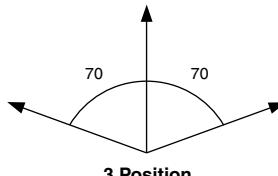
■ Add the voltage assembly code as chosen from page 19-86. Example: K25J■ with 208Vac = K25J3.

◆ Add the knob color code from Table 19.235 below. For LED, knob color must match LED.

★ For other color knobs replace the B with knob color code from Table 19.235 below.

Table 19.235: Selector Switch Assembly Code and Knob Cat. No.

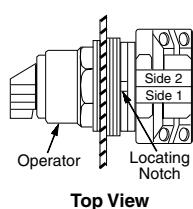
Color	Standard Knob		Gloved Hand Knob		\$ Price
	♦ Knob Code	Cat. No.	♦ Knob Code	Cat. No.	
Black	B	B11	FB	B25	
Red	R	R8	FR	R24	
Green	G	G8	FG	G24	
Yellow	Y	Y8	FY	Y24	
Blue	L	L8	FL	L24	
White	W	W8	FW	W24	
Amber	A	A8	FA	A24	
Clear	C	C8	FC	C24	
					9.90



NOTE: To select and order Contact Blocks, Light Modules, Knobs, and Accessories. See pages 19-85 through 19-92.

Table 19.236: 4-Position Selector Switches

NOTE: When ordering, add prefix 9001 to the catalog number.

Contact Block Required					1 — Contact Closed 0 — Contact Open				
Contact Block Position	Quantity and Type		Mount on Side		↗	↖	↗	↖	
 Top View	KA1 or KA1 or	KA3 or KA2 or	KA1 #2 KA1 #1	KA3 #2 KA3 #1 KA2 #1	1 0 0 0	0 1 0 0	0 0 1 0	0 1 0 0	
		KA3 or KA2 or		KA3 #1 KA2 #1	0 0 0 1	0 1 0 0	0 0 1 0	0 1 0 0	
	Cam (see page 19-73)					H			

Non-illuminated Operators	Type	\$ Price
Manual Return ▲, Operator Only (without contact blocks)		
Without Knob	SKS88	42.80
With Knob (select style and color from Table 19.237 below)	SKS88♦	52.65
Illuminated Operators		
Manual Return ▲, Operator Only (without contact blocks)		
Without Knob, 110-120V 50-60 Hz Transformer	SK88J1	158.00
With Standard Red Knob, 110-120V 50-60 Hz Transformer	SK88J1R	167.00
With Other Color Knob and other voltage Light Module ■♦	SK88J■♦	167.00

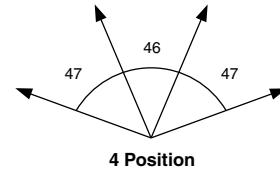
▲ These operators can be ordered complete with contact blocks. Add the "H code" from page 19-88 as needed for your application.

■ Add the voltage assembly code as chosen from page 19-86. Example: K25J■ with 208Vac = K25J3

♦ Add the knob color code from Table 19.237. For LED, knob color must match LED

Table 19.237: Selector Switch Assembly Code and Knob Cat. No.

Color	Standard Knob		Gloved Hand Knob		\$ Price
	♦ Knob Code	Cat. No.	♦ Knob Code	Cat. No.	
Black	B	B11	FB	B25	9.90
Red	R	R8	FR	R24	
Green	G	G8	FG	G24	
Yellow	Y	Y8	FY	Y24	
Blue	L	L8	FL	L24	
White	W	W8	FW	W24	
Amber	A	A8	FA	A24	
Clear	C	C8	FC	C24	



Potentiometers with Dial Plate

Table 19.238: Potentiometers with Dial Plate (not UL listed)—Maximum Voltage 300 Vac

Power	Description	Ratings	Type	\$ Price
2 W	Operator Only, for Single Potentiometer	NEMA 4, 13	SK20	201.00
	Operator with Single Potentiometer		SK21	287.00
	Operator Only, for Tandem Potentiometer		SK22	314.00
	Operator with Tandem Potentiometer		SK23	399.00

Table 19.239: Potentiometer Suffixes

Single Potentiometer			
Suffix *	Resistance	Suffix *	Resistance
01	50 Ω	07	5 kΩ
02	100 Ω	08	10 kΩ
04	500 Ω	09	25 kΩ
05	1 kΩ	13	500 kΩ
39	2 kΩ	37	750 kΩ
06	2.5 kΩ	14	1 MΩ
Tandem Potentiometer			
Suffix *	Resistance		
	Front	Rear	
82	1 kΩ	1 kΩ	

* For the complete part number, add the suffix from Table 19.239 to the catalog number from Table 19.238. Example: 9001K2105.

Any potentiometer with a shaft 7/8 in. long and 1/4 in. diameter may be used with these operators.

NOTE: To select and order Contact Blocks, Light Modules, Knobs, and Accessories. See pages 19-85 through 19-92.

Table 19.240: Pilot Lights—UL Types 4, 4X, 13/NEMA 4, 4X, 13. For use in hazardous locations, see page 19-87. Legend plate not included.

NOTE: When ordering, add prefix 9001 to the catalog number.

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■	153.00	SKP1	143.00
		220–240 V, 50–60 Hz	Transformer	SKP7R31	SKP7G31	SKP7■	153.00	SKP7	143.00
		24–28 Vac/Vdc	Full Voltage	SKP35R31	SKP35G31	SKP35■	125.00	SKP35	116.00
		For other voltages see Table ▲	Transformer, Flashing or LED♦	SKP▲R31	SKP▲G31	SKP▲■	125.00	SKP▲	116.00
			Full Voltage, Neon or Resistor★	SKP▲R31	SKP▲G31	SKP▲■	125.00	SKP▲	116.00
9001SKT1	Push-To-Test Pilot Light (Fresnel color cap shown)	110–120 V, 50–60 Hz	Transformer	SKT1R31	SKT1G31	SKT1■	197.00	SKT1	185.00
		220–240 V, 50–60 Hz	Transformer	SKT7R31	SKT7G31	SKT7■	197.00	SKT7	185.00
		24–28 Vac/Vdc	Full Voltage	SKT35R31	SKT35G31	SKT35■	167.00	SKT35	158.00
		For other voltages see Table ▲	Transformer, Flashing or LED♦	SKT▲R31	SKT▲G31	SKT▲■	197.00	SKT▲	158.00
			Full Voltage, Neon or Resistor★	SKT▲R31	SKT▲G31	SKT▲■	197.00	SKT▲	158.00
9001SKTR38	Remote Test Pilot Light (Fresnel color cap shown)	120 Vac Only	Resistor	SKTR38R31	SKTR38G31	SKTR38■	197.00	SKTR38	185.00
		24–28 Vac Only	Full Voltage	SKTR35R31	SKTR35G31	SKTR35■	197.00	SKTR35	185.00
		For other voltages see Tables ▲■▼	Full Voltage or Resistor▼	SKTR▲R31	SKTR▲G31	SKTR▲■	197.00	SKTR▲	185.00

▲ Add the voltage assembly code as chosen from Table 19.248 or Table 19.249 on page 19-86.

EXAMPLE: SKT▲R31 with 208 Vac red LED voltage = SKT37LRR31.

■ 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.

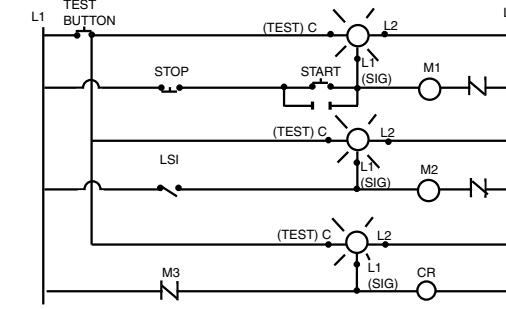
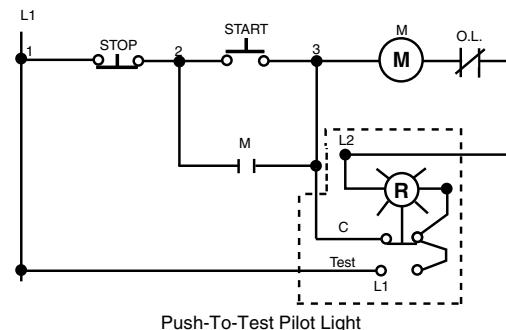
★ On neon light modules, use clear color caps only.

▼ 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 19.241: 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



NOTE: To select and order contact blocks, light modules, and accessories, see pages 19-85 through 19-92.

Table 19.242: Multifunction Operators—UL Types 4, 4X, 13/NEMA 4, 4X, 13

For use in hazardous locations—See page 19-87.

Legend plate and contact blocks not included unless otherwise noted.

NOTE: When ordering, add prefix 9001 to the catalog number.

Interlocked Assembly	Description	Color	Contacts	\$ Price	Without Contacts	\$ Price
	Interlocked Assembly Both Buttons Maintained	Universal ▲ Other ■	SKR11UH1 SKR11■H1	178.00	SKR11U SKR11■	120.00
	Interlocked Assembly One Button Momentary	Universal ▲	SKR12UH1H1		SKR12U	
9001SKR11U	Interlocked Assembly One Button Maintained	Other ■	SKR12■H1H1	273.00	SKR12■	162.00

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

■ Choose one color for each button. R = red, G = green, B = Black.

Example: 9001SKR11 with top button gray and bottom button orange = 9001SKR11ES. See Table 19.227

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 19.243: Standard Contact Blocks

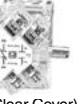
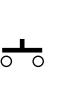
Description	Symbol	Type	\$ Price
		KA1	42.80
		KA2	21.50
		KA3	21.50
		KA4	42.80
		KA5	21.50
		KA6	21.50

Table 19.244: 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	85.60
Overlapping ▲ N.O. Contact of KA4 closes before N.C. Contact of KA5 Opens	 KA4	 KA5	Order One Type KA4 and One Type KA5	64.30

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

NOTE: When ordering, add prefix 9001 to the 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	42.80		71.00
	KA22	25-Up	21.50		35.60
	KA23	25-Up	21.50		35.60
	KA24	25-Up	42.80		71.00
	KA25	25-Up	21.50		35.60

■ 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 19.245: Contact blocks (not Fingersafe)

Symbol	Type	\$ Price	Symbol	Type	\$ Price
	KA1G	42.80		KA4G	42.80
	KA2G	21.50		KA5G	21.50
	KA3G	21.50		KA6G	21.50

 Table 19.246: Contact blocks with Quick-Connect terminals
(not Fingersafe)

Symbol	Type	\$ Price
	KA12	35.60
	KA13	35.60

Dimensions Catalog 9001CT0001

Table 19.247: Maximum Current Ratings for Control Circuit Contacts—Types KA1–KA6, KA21–KA25, KA31–KA35, KA1G–KA6G

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

For use in hazardous locations—See page 19-87.

- 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.

Table 19.248: Standard Light Modules for Types K, SK, and KX Control Units ■

NOTE: When ordering, add prefix 9001 to the catalog number.



Voltage	Description	Light Module		Voltage Assembly Code	Rating	Replacement Lamp	
		Type	\$ Price			Part Number ■	\$ Price
All	Full Voltage (without Bayonet Base Lamp)	KM40	78.00	40	—	None	—
6 Vac/Vdc	Full Voltage	KM31	86.00	31	.9 VA	2550101020	12.45
6 Vac/Vdc	LED Red	KM31LR	116.00	31LR		6508805201	42.75
6 Vac/Vdc	LED Green	KM31LG	116.00	31LG		6508805203	42.75
6 Vac/Vdc	LED Yellow	KM31LY	116.00	31LY		6508805202	28.50
12-14 Vac/Vdc	Full Voltage	KM32	86.00	32	1.2 VA	2550101037	12.45
12-14 Vac/Vdc	LED Red	KM32LR	116.00	32LR		6508805201	42.75
12-14 Vac/Vdc	LED Green	KM32LG	116.00	32LG		6508805203	42.75
12-14 Vac/Vdc	LED Yellow	KM32LY	116.00	32LY		6508805202	28.50
18 Vac/Vdc	Resistor	KM33	86.00	33	1.4 VA	2550101037	12.45
24-28 Vac/Vdc	Full Voltage	KM35	86.00	35	1.2 VA	2550101002	12.45
24-28 Vac/Vdc	LED Red	KM35LR	116.00	35LR	.28 VA	6508805210	42.75
24-28 Vac/Vdc	LED Green	KM35LG	116.00	35LG	.28 VA	6508805212	42.75
24-28 Vac/Vdc	LED Yellow	KM35LY	116.00	35LY	.28 VA	6508805211	42.75
24-28 Vac/Vdc	LED White	KM35LW	116.00	35LW	.28 VA	6508805214	42.75
24-28 Vac/Vdc	LED Blue	KM35LL	116.00	35LL	.28 VA	6508805213	42.75
48 Vac/Vdc	Full Voltage	KM36	86.00	36	2.6 VA	2550101025	12.45
110-120 V, 50-60 Hz	LED Red	KM1LR	143.00	1LR		6508805201	42.75
110-120 V, 50-60 Hz	LED Green	KM1LG	143.00	1LG		6508805203	42.75
110-120 V, 50-60 Hz	LED Yellow	KM1LY	143.00	1LY		6508805202	42.75
110-120 V, 50-60 Hz	Transformer	KM1	116.00	1	2.4 VA	2550101020	12.45
110-120 V, 50-60 Hz	Flashing	KMF1	116.00	F1	.85 VA	2550101036	16.50
120 Vac/Vdc	Full Voltage/Resistor	KM38	86.00	38	3.0 VA	2550101027	12.45
120 Vac/Vdc	Neon ▲	KM11	86.00	11	0.2 VA	2550101013	32.85
120 Vac/Vdc	LED Red	KM38LR	116.00	38LR	1.4 VA	6508805210	42.75
120 Vac/Vdc	LED Green	KM38LG	116.00	38LG	1.4 VA	6508805212	42.75
120 Vac/Vdc	LED Yellow	KM38LY	116.00	38LY	1.4 VA	6508805211	42.75
120 Vac/Vdc	LED White	KM38LW	116.00	38LW	1.4 VA	6508805214	42.75
120 Vac/Vdc	LED Blue	KM38LL	116.00	38LL	1.4 VA	6508805213	42.75
208-220 V, 50-60 Hz	Transformer	KM3	116.00	3	2.5 VA	2550101020	12.45
208-220 V, 50-60 Hz	LED Red	KM3LR	143.00	3LR		6508805201	42.75
208-220 V, 50-60 Hz	LED Green	KM3LG	143.00	3LG		6508805203	42.75
208-220 V, 50-60 Hz	LED Yellow	KM3LY	143.00	3LY		6508805202	42.75
208-220 V, 50-60 Hz	LED White	KM3LW	143.00	3LW		6508805215	42.75
208-220 V, 50-60 Hz	LED Blue	KM3LL	143.00	3LL		6508805216	42.75
220-240 V, 50-60 Hz	Transformer	KM7	116.00	7	2.0 VA	2550101020	12.45
220-240 V, 50-60 Hz	LED Red	KM7LR	143.00	7LR		6508805201	42.75
220-240 V, 50-60 Hz	LED Green	KM7LG	143.00	7LG		6508805203	42.75
220-240 V, 50-60 Hz	LED Yellow	KM7LY	143.00	7LY		6508805202	42.75
220-240 V, 50-60 Hz	LED White	KM7LW	143.00	7LW		6508805215	42.75
220-240 V, 50-60 Hz	LED Blue	KM7LL	143.00	7LL		6508805216	42.75
240 Vac/Vdc	Resistor	KM25	86.00	25	6.0 VA	2550101027	12.45
240 Vac/Vdc	Neon ▲	KM12	86.00	12	0.3 VA	2550101013	32.85
277 V, 50-60 Hz	Transformer	KM8	116.00	8	2.4 VA	2550101020	12.45
380-480 V, 50-60 Hz	Transformer	KM5	116.00	5	2.8 VA	2550101020	12.45
480 Vac/Vdc	Neon ▲	KM14	86.00	14	0.5 VA	2550101013	32.85
550-600 V, 50-60 Hz	Transformer	KM6	116.00	6	2.5 VA	2550101020	12.45

- ▲ Not for use on KX operators.
- For use with all operators except KX and remote test pilot.

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

For use in hazardous locations—See page 19-87.

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

Table 19.249: 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/Vdc	Full Voltage	KM55	86.00	55	1.2 VA	2550101002	12.45
	LED Red	KM55LR				6508805204	
	LED Green	KM55LG	116.00			6508805206	42.75
	LED Yellow	KM55LY				6508805205	
110-120 Vac/Vdc	Full Voltage	KM58	86.00	58	3.0 VA	2550101027	12.45
	LED Red	KM58LR				6508805204	
	LED Green	KM58LG	116.00			6508805206	42.75
	LED Yellow	KM58LY				6508805205	

- ♦ For use with all operators except KX and remote test pilot.



File
CCN
E78403
NKCR



File
Class
LR25490
3211 03



CE
marked

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 19.250: Square D Offering According to Class, Division, and Group

For			Use
Class	Division	Group(s)	
I	1	A	1. Intrinsically Safe System 1. 9001 BR station
I	1	B, C, D	2. Intrinsically Safe System 1. 9001 K, SK, KX control stations with restrictions ▲ 2. Intrinsically Safe System 1. 9001 BR station
I	2	A	2. 9001 K, SK, KX control stations with restrictions ▲ 3. Intrinsically Safe System 1. 9001 BR station
I	2	B, C, D	2. 9001 K, SK, KX control stations with restrictions ▲ 3. Intrinsically Safe System 1. 9001 BR station
II	1	E, F, G	2. 9001 K, SK, KX control stations with restrictions ▲ 3. Intrinsically Safe System 1. 9001 BR station
II	2	E, F	2. 9001 K, SK, KX control stations with restrictions ▲ 3. Intrinsically Safe System 1. 9001 BR station
II	2	G	2. 9001 K, SK, KX control stations with restrictions ■ 3. Intrinsically Safe System 1. 9001 BR station
III	1, 2	—	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 19.251: Hazardous Locations (see page 19-87)

Types K, SK  File CCN E10054(N) NOIV  File Class LR26817 3218 02

Type K, SK and KX Electrical Components

Class 9001 / Refer to Catalog 9001CT1103

NOTE: When ordering, add prefix 9001 to the catalog number. All contact blocks listed below accept #12-18 solid or stranded wire.

Table 19.252: Hermetically Sealed Logic Reed Contact Blocks △
Suitable for use on low energy level circuits

Description	Symbol	Type	\$ Price
	KA41	86.00	
	KA42	42.80	
	KA43	42.80	
	KA44	86.00	
	KA45	86.00	

Max. Vac/Vdc	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 19.253: Hermetically Sealed Power Reed Contact Blocks △

Description	Symbol	Type	\$ Price
	KA51	143.00	
	KA52	101.00	
	KA53	101.00	
	KA54	143.00	
	KA55	143.00	

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

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

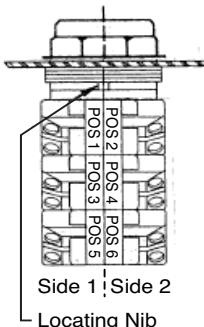
Note: The power reed contact blocks can be used with standard industrial relays and starters through NEMA Size 4. Minimum voltage is 5 V and the minimum current is 1 mA.

★ 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.



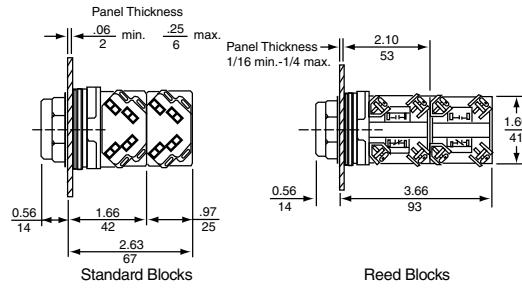
The design of the Class 9001 Type KA contact blocks allows them to be mounted side by side and/or in tandem. This enables you to specify an operator and a particular arrangement of contact blocks (shipped completely assembled) with a single Type number.

Table 19.254: "H" Codes

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	KA1		
H5	14.30	KA2					
H6	14.30	KA2	KA1				
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				
H12	57.00	KA2	KA3	KA2	KA3		
H13	28.50	KA1	KA1				
H14	14.30	KA3	KA3				
H15	42.80	KA2	KA3	KA2	KA3		
H16	42.80	KA2	KA3	KA3	KA1		
H17	71.00	KA1	KA1	KA2	KA1		
H18	71.00	KA3	KA1	KA3	KA1		
H19	143.00	KA1	KA1	KA1	KA3		
H21	28.50	KA2	KA3	KA2	KA1		
H23	171.00	KA1	KA1	KA1	KA1	KA1	KA1
H24	42.80	KA1	KA2	KA1	KA1		
H25	28.50	KA5	KA3				

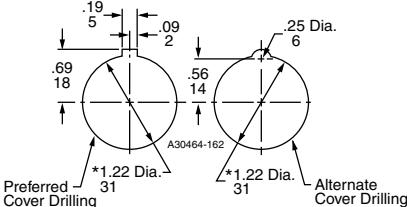
NOTE: For "H" Codes not shown in this table, contact your local Schneider Electric Customer Care Center.

Table 19.255: Dimensions When Using Contact Blocks



NOTE: When ordering, add prefix 9001 to the catalog number.

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



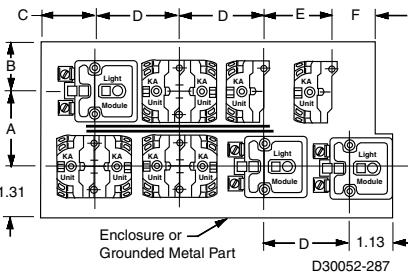
*Units also mount in 1.20 dia. 30 Dual Dimensions: INCHES Millimeters

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

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).



D30052-287

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	Standard Push Button	1.75	1.31	1.44	2.25	1.69	0.88
KN5	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							
Legend Plate	Operator	Centerline Spacing (in.)					
		A	B	C	D	E	F
Legend Plate Orientation Position #1							
KN2	Standard Push Button	1.62	1.31	1.44	2.25	1.75	0.88
KN5	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	2.00	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 19.256: 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	38.55
Non-Illuminated Push Button (No Guard)	KR3	SKR3	38.55
Non-Illuminated Push Button (Mushroom Button/Screw-On)	KR20	SKR20	38.55
Non-Illuminated Dual Push Button (Momentary)	KR6	—	78.00
Non-Illuminated Dual Push Button (Momentary Interlocked)	KR67	—	121.50
Non-Illuminated Dual Push Button (Maintained Interlocked)	KR7	—	121.50
Momentary Pull—Maintained Neutral—Momentary Push	KR8 ▲★	SKR8 ▲	75.00
Maintained Pull—Maintained Push	KR9 ▲★	SKR9 ▲	120.00
Illuminated Push Button (Full Guard—Plastic Top)	K1L ■	SK1L ■	42.75
Illuminated Push Button and Push-To-Test (No Guard)	K2L ■♦	SK2L ■♦	28.65
Illuminated Push Button (Full Guard—Metal Top)	K3L ■	—	42.75
Standard Pilot Light	KP	SKP	28.65
3 Position Maintained Selector Switch	KS4 ▲	SKS4 ▲	36.30
3 Position Spring Return Both Sides To Center—Selector Switch	KS5 ▲	SKS5 ▲	64.80
3 Position Spring Return Left To Center—Selector Switch	KS6 ▲	SKS6 ▲	64.80
3 Position Spring Return Right To Center—Selector Switch	KS7 ▲	SKS7 ▲	64.80

- ▲ 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 19-92. For 2-1/4 in.: Add () 21 to type number. The () refers to the color chosen—see page 19-92. Voids UL and NEMA 6 Rating.

Table 19.257: Legend Plates

NOTE: When ordering, add prefix 9001 to the catalog number.

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	KN200	KN300	KN800
For Push Button or Pilot Light												
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	KN201WP	KN201WP	KN201WP	KN101SP	KN101WP	KN101BP	KN701SP	KN701WP	KN701BP	KN201	KN301	KN801
Stop	KN202RP ■	KN202RP ■	KN202RP ■	KN102RP ■	KN102RP ■	KN102BP ■	KN702RP ■	KN702RP ■	KN702BP ■	KN202 ▲	KN302 ▲	KN802 ▲
On	KN203SP	KN203WP	KN203BP	KN103SP	KN103WP	KN103BP	KN703SP	KN703WP	KN703BP	KN203	KN303	KN803
Off	KN204RP ■	KN204RP ■	KN204RP ■	KN104RP ■	KN104RP ■	KN104BP ■	KN704RP ■	KN704RP ■	KN704BP ■	KN204 ▲	KN304 ▲	KN804 ▲
Emergency 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	N/A	N/A	N/A	KN179SP	KN179WP	KN179BP	KN779SP	KN779WP	KN779BP	N/A	KN379	N/A
Push To Stop												
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

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

For Pricing Informationpage 19-90

Table 19.258: Legend Plates—Special Marking

Legend Plate	Description		Type	\$ Price
KN100()P (Plastic) ▲ 2.25 in Square	Standard Markings		See page 19-89	4.40
	Special Marking ■	Silver Field, Black Letters	KN199SP	18.50
		White Field, Black Letters	KN199WP	
		Red Field, Black Letters	KN199RP	
		Black Field, White Letters	KN199BP	
KN200 Aluminum	Standard Markings		See page 19-89	4.40
	Special Marking ■	Black Field	KN299	18.50
		Red Field	KN299R	
		Blank	KN400	
KN200()P (Plastic) ▲ 1.7 in. Square	Standard Markings		See page 19-89	4.40
	Special Marking ■	Silver Field, Black Letters	KN299SP	18.50
		White Field, Black Letters	KN299WP	
		Red Field, Black Letters	KN299RP	
KN300 Aluminum	Standard Markings		See page 19-89	4.40
	Special Marking ■	Black Field	KN399	18.50
		Red Field	KN399R	
		Blank	KN400	
KN400 Aluminum	Any Marking ■		KN499	22.80
	Standard Markings		Select from Table 19.263	4.40
KN500 Aluminum	Special Marking ■	Black Field	KN599	18.50
		Green Red Field	KN519	
KN600 Aluminum	Blank		KN600	9.90
	Red Field		KN600R	
	Any Marking ■		KN699	22.80
	Red Field		KN699R	
KN700()P (Plastic) ▲ 2.5 in. Square	Standard Markings		Select from page 19-89	4.40
	Special Marking ■	Silver Field, Black Letters	KN799SP	18.50
		White Field, Black Letters	KN799WP	
		Red Field, Black Letters	KN799RP	
KN800 Aluminum	Standard Markings		Select from page 19-89	4.40
	Special Marking ■	Blue Field	KN899	18.50
		Red Field	KN899R	
		Blank	KN900	
KN900 Aluminum	Any Marking ■		KN999	18.50

▲ Other colors available (see Table 19.259).

■ Specify marking required.

Table 19.259: 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	4.40
	Green	White	KN200GP	KN100GP	KN700GP	
	Blue		KN200LP	KN100LP	KN700LP	
	Red		KN200CP	KN100CP	KN700CP	
Special Engraved Legend Plates	Yellow	Black	KN299YP	KN199YP	KN799YP	18.50
	Green	White	KN299GP	KN199GP	KN799GP	
	Blue		KN299LP	KN199LP	KN799LP	
	Red		KN299CP	KN199CP	KN799CP	

Table 19.260: 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 19.261: Circular Legends for Emergency Stop Mushroom Heads (yellow background)

Diameter	Text	Catalog Number	\$ Price
60 mm	—	9001KN9100	4.40
	EMERGENCY STOP	9001KN9330	
90 mm	—	9001KN8100	4.40
	EMERGENCY STOP	9001KN8330	

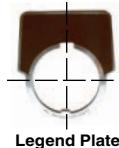
▲ Legend plate has red background with silver letters.

■ Legend plate has red background with black letters.

For Pricing Information page 19-90

Class 9001 / Refer to Catalog 9001CT1103

NOTE: When ordering, add prefix 9001 to the catalog number.



Legend Plate Position #1

Table 19.262: 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	Standard Push Button	1.75	1.31	1.44	2.25	1.69	0.88
KN5	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 Position #2

Legend Plate Orientation Position #2	Centerline Spacing (in.)						
	A	B	C	D	E	F	
Legend Plate Orientation Position #2							
KN2	Standard Push Button	1.62	1.31	1.44	2.25	1.75	0.88
KN5	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 19.263: Special Legend Plates

Type	Type KN500 (For Use with Dual Function Operators: KR6, KR7 and KR67)					
	Standard Markings					
KN500	Green					
KN501	Blank					
KN502	Start					
KN520	On					
KN521	Stop					
KN522	Forward					
KN523	Reverse					
KN524	Up					
KN525	High					
KN526	Low					
KN527	Open					
KN528	Close					

30 mm Push Buttons

Table 19.264: Padlock Attachments

	Used On	Description	Type	\$ Price
	Type K non-illuminated push button — Standard or mushroom (KR4, KR5 mushroom buttons only).	Holds button in depressed position and can be padlocked.	K4	42.80
	Types K and SK non-illuminated push buttons with or without protective boots.	Holds button in depressed position when padlocked.	K5	71.00
	Types K and SK non-illuminated push buttons, cover type attachment. KR, SKR	Attachment can be padlocked. Does not hold button in depressed position.	K97	42.80
	Types K and SK push buttons, cover type attachment.	Spring loaded cover cannot be padlocked. Does not hold button in depressed position.	K6	42.80
	Types K and SK push-pull operator and illuminated push buttons. KR8, KR9	Spring loaded cover cannot be padlocked. Does not hold button in depressed position.	K60	57.00
	KR11U and KR12U Interlocked Assembly	Holds button in depressed position and can be padlocked.	K62	71.00
	Type KR9 & SKR9 Push-Pull operators—Non-Illuminated and Illuminated	Holds button in depressed position. Can be padlocked.	K96	42.80

Table 19.265: Mushroom Button Guards

							
Type	\$ Price	Type	Used On	\$ Price	Type	Used On	\$ Price
K48	57.00	K56■	KR4, SKR4	57.00	K68	KR5	57.00
		K56◆M▲	KR8, KR9, SKR8, SKR9	68.00	K685	KR25	68.00

▲ The mushroom guard has finger holes for push-pull operators.

■ B=Black G=Green R=Red Y=Yellow

◆ R=Red Y=Yellow

Type K and SK Accessories

Class 9001 / Refer to Catalog 9001CT1103

NOTE: When ordering, add prefix 9001 to the catalog number.

Table 19.266: 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	42.80
	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	56.00
	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	42.80
	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	57.00
	Types K and SK maintained push-pull operators using 1.375 in. dia. mushroom buttons (-20 series as shown on page 19-92).	Cover type attachment that holds mushroom button in depressed position and can be padlocked.	K110	54.00

Table 19.267: Protective Boots



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 19-93) is required for installation of these boots.

For Non-Illuminated Push Buttons*			Clear Color for	Type	\$ Price
Color	Type	\$ Price			
Black	KU1	28.70	Standard knob selector switch	KU17	42.80
Red	KU2		Gloved-hand cap for use on standard knob selector switch	KU18	42.80
Blue	KU3		Standard pilot light and maintained contact push buttons	KU27	42.80
Brown	KU4		Push-to-test and illuminated push button without guard	KU37	42.80
Green	KU5		(Provides Full Guard)		
Yellow	KU6		Illuminated push button with guard	KU47	57.00
Clear	KU7				
Clear	KU8	42.80			

* Use KU27 for maintained contact push buttons.

Table 19.268: Closing Plates



Description	Type	\$ Price
Gray	K51▼	14.30
Black	K52▼	

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

Dimensions see catalog 9001CT0001

Table 19.269: Accessories

Class 9001 / Refer to Catalog 9001CT1103

NOTE: When ordering, add prefix 9001 to the catalog number.

Description	Color	Type	Package Qty.	\$ Price Each	Description	Color	Type	Package Qty.	\$ Price Each
	Black Blue Gray Green Orange Red	T8BK T8BE T8GY T8GN T8OE T8RD	10	.72		Amber Blue Clear Green Red White Yellow	A20 L20 C20 G20 R20 W20 Y2	1	9.90
Color Inserts for KR1, KR2, KR3, SKR1, SKR2, SKR3, KR11, KR12, SKR11, SKR12, KRD, T, TRD	Universal ▲	T8U	7	5.70	1-3/8 in. Mushroom Knob for Illuminated Push Buttons K2L, SK2L ☆	Amber Blue Clear Green Red White Yellow	A21 L21 C21 G21 R21 W21 Y21	1	9.90
	White	T8WH	10	.70		Amber Blue Clear Green Red White Yellow	A21 L21 C21 G21 R21 W21 Y21	1	9.90
	Yellow	T8YW			2-1/4 in. Mushroom Knob for Illuminated Push Buttons K2L, SK2L ☆	Amber Blue Clear Green Red White Yellow	A31 L31 C31 G31 R31 W31 Y31	1	9.90
	Black Blue Green Orange Red	K16B K16L K16G K16S K16R	1	42.80		Amber Blue Clear Green Red White Yellow	A31 L31 C31 G31 R31 W31 Y31	1	9.90
1.375 in. Snap-in Mushroom knob for KR4 and SKR4 ♦	Red ■	K16R05			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	9.90
	Yellow	K16Y				Amber Blue Clear Green Red White Yellow	A9 L9 C9 G9 R9 W9 Y9	1	9.90
	Black Blue Green Orange Red	K17B K17L K17G K17S K17R	1	42.80		Amber Blue Clear Green Red White Yellow	A9 L9 C9 G9 R9 W9 Y9	1	9.90
2-1/4 in. Snap-in Mushroom knob for KR5 and SKR5 ★	Red ■	K17R05			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	9.90
	Yellow	K17Y				Amber Blue Clear Green Red White Yellow	A6 L6 C6 G6 R6 W6 Y6	1	9.90
	Black Blue Green Orange Red Yellow	K92B K92L K92G K92S K92R K92Y	1	42.80		Amber Black □ Blue Clear Green Orange □ Red White Yellow	A8 B11 L8 C8 G8 S11 R8 W8 Y8	1	9.90
1-3/8 in. Screw-on Mushroom knob for KR24 and SKR24 ▼	Red	R2205			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	9.90
	Yellow	W22 Y22				Amber Black □ Blue Clear Green Orange □ Red White Yellow	A24 B25 L24 C24 G24 S25 R24 W24 Y24	1	9.90
	Amber Black □ Blue Clear Green Orange □ Red White Yellow	A22 B23 L22 C22 G22 S23 R22	1	9.90		Black Blue Green Orange Red White Yellow	T5BK T5BE T5GN T5OE T5RD T5WH T5YW	10	1.40
Push-Pull Knobs for KR8, KR9, SKR8, SKR9 Operators	Red ▽	R2205			Color Inserts for KQ and TQ Selector Push Buttons	Cam	Type	\$ Price Each	
	White	W22 Y22				B C D E F G H J L M	K13B K13C K13D K13E K13F K13G K13H K13J K13L K13M	6.30	
	Black Green Red	B19 G19 R19	10	1.40					
Color Inserts for Dual Function Operators KR6, KR7, KR67	Universal ▽	U19							
	Amber Blue Clear Green Red White Yellow	A7 L7 C7 G7 R7 W7 Y7	1	9.90					
Caps for Illuminated Push Buttons K1L, K2L, K3L, SK1L, SK2L	Red	R94	1	9.90					
	Red	R94	1	9.90					
Metal Knob for KR24	Red Green Black	K92RM K92GM K92BM	1	51.00					
Metal Knob for KR25	Red Green Black	K93RM K93GM K93BM	1	63.00					
Metal Knob for KR9 (40 mm)	Red Green Black	K94RM K94GM K94BM	1	51.00					
Metal Knob for KR9 (60 mm)	Red Green Black	K95RM K95GM K95BM	1	63.00					

- ▲ 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 SKR20 to form a 9001SKR24.
- △ 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 19-88. Using the K54 adapter voids Type 6 rating.
- ▽ Red knob with "Push Emergency Stop" marked on top of knob.

30 mm Push Buttons

Type K and SK Accessories

Class 9001 / Refer to Catalog 9001CT1103

Table 19.270: Ring Nuts

Used On	Type	Used On	Type	\$ Price
K1L	K44	SK1L	SK44	18.50
K30-K37	K45	—	—	4.40
K70-K73	K45	—	—	4.40
K20, K21, K22, K23	K45	SK20, SK21, SK22, SK23	SK45	4.40
K20, K21, K22, K23 ♦	SK46	SK20, SK21, SK22, SK23 ♦	SK46	4.40
K2L	K49	SK2L	SK49	4.40
K3L (complete)	K111	—	—	18.50
K3L (metal top only)	6515802701	—	—	12.00
KP, KTR	K41	SKP, SKTR	SK41	4.40
KR1	K41	SKR1	SK41	4.40
KR11	K42	SKR11	SK42	4.40
KR12 ▲	K42	SKR12 ▲	SK42	4.40
KR12 ■	K41	SKR12 ■	SK41	4.40
KR13, 14, 15	K55	—	—	4.40
KR2	K42	SKR2	SK42	4.40
KR20	K49	—	—	4.40
KR24	K49	—	—	4.40
KR25	K49	SKR25	SK49	4.40
KR3	K40	SKR3	SK40	4.40
KR4	K41	SKR4	SK41	4.40
KR5	K41	SKR5	SK41	4.40
KR6	K47	—	—	4.40
KR67	K47	—	—	4.40
KR7	K47	—	—	4.40
KR8	K58	SKR8	6509704401	4.40
KR9	K41	SKR9	SK41	4.40
KS	K45	SKS	SK45	4.40
KS ♦	SK46	SKS ♦ SKRU11 SKRU1,2,3,4,5,10	SK46 SK41 SK40	4.40
KT	K49	SKT	SK49	4.40

▲ Maintained button of two button operator.

■ Momentary button of two button operator.

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

Table 19.271: 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	12.45
KM3	GE44★	—	—
KM4	GE1490	2550101003	12.45
KM5	GE44★	—	—
KM6	GE44★	—	—
KM7	GE44★	—	—
KM8	GE44★	—	—
KM9	GE755	2550101020	12.45
KM11	CMDK1A5	2550105014	33.00
KM12	CMDK1A5	2550105014	33.00
KM13	CMDK1A5	2550105014	33.00
KM14	CMDK1A5	2550105014	33.00
KM15	CMDK1A5	2550105014	33.00
KM21	SYL12PSB	2550105003	16.50
KM22	SYL12PSB	2550105003	16.50
KM23	SYL28PSB	2550105008	16.50
KM25	SYL120PSB	2550105005	16.50
KM31	SYL6PSB	2550105007	16.50
KM32	SYL12PSB	2550105003	16.50
KM34	SYL24PSB	2550105004	16.50
KM35	SYL28PSB	2550105008	16.50
KM36	SYL48PSB	2550105009	16.50
KM37	SYL60PSB	2550105010	16.50
KM38	SYL120PSB	2550105005	16.50

* 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 19-86.

NOTE: When ordering, add prefix 9001 to the catalog number.

Table 19.272: Repair Parts

Description	Part Number	\$ Price
E10 Key	2941101100	9.90
Gray cap for KR11, KR12, SKR11, or SKR12	3105217001	13.80
Clear plastic top (only) for 9001K44 & SK44	4487D63XI	7.95
Ring Nut	6509701801	1.95
Gasket for Type K and SK Push-Pull Knob	6509701901	3.90
Gasket for Plastic Illuminated Lens	3105406401	1.95
Gasket for Type K and SK selector switch knob	6509702001	3.90
Black Compensating Gasket (Type K and SK Operators)	6509704901	N/C
Liner for Non-Illuminated Operators	6512231201	3.90
Nylon Spacer	6509705001	5.10
Locking Thrust Washer (Std. Type SK Operator)	6512240601	3.90
Push-Pull Mushroom Adapter▼	K54	N/C
Rubber Boot for Joystick	6512243201	7.20
Knob on Joysticks without latch	4458D20X3	12.90
Knob for SK Potentiometer	3105404408	10.65
Fingersafe™ Cover for 9001KM	6508804101	3.00

▼ Allows Type -20 and -21 mushroom color caps to be used on push-pull operators. Use of 9001K44 voids Type 6 rating.

Table 19.273: KU Replacement Ring Nuts
(Threaded Inside and Out)

Used On	Part Number	\$ Price
KU1 through KU8, KU27, KU37, KU47	3105204101	4.35
KU17, KU18	3105205901	10.65

Table 19.274: 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	28.65

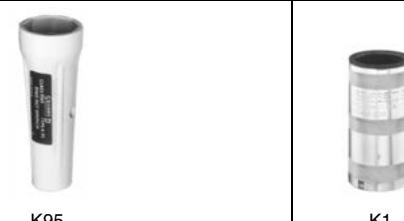
Table 19.275: Screwdriver



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

Type	\$ Price
K69	35.50

Table 19.276: Wrenches



Where Used	Type	\$ Price
For tightening ring nuts on 22 and 30 mm control units	K95	42.75
For tightening threaded protective caps	K1	71.40

NOTE: For more information, see Instruction Bulletin No. 30072-100-10.

Table 19.277: Push Buttons—Single, with Contacts

NOTE: When ordering, add prefix 9001 to the catalog number.

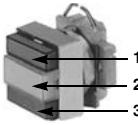


Description	Button Color	Legend Marking	Contacts	Voltage	Type	\$ Price
Non- Illuminated	Green	Start	1 N/O	—	KXRA133	64.00
	Red	Stop	1 N/C	—	KXRA134	64.00
	Amber	blank	2 C/O	—	KXRAGH2	138.00
	Green	blank	2 C/O	—	KXRAGH2	138.00
	Blue	blank	2 C/O	—	KXRALH2	138.00
Illuminated	Amber	blank	1 C/O	24	KXRB34AH1	184.00
	Green	blank	1 C/O	24	KXRB34GH1	184.00
	Red	blank	1 C/O	24	KXRB34RH1	184.00
	Amber	blank	1 C/O	110/120	KXRB1AH1	217.00
	Green	blank	1 C/O	110/120	KXRB1GH1	217.00
	Red	blank	1 C/O	110/120	KXRB1RH1	217.00

Table 19.278: Push Buttons—Dual, with Contacts



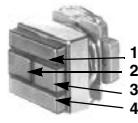
Description	Top Button (#1)	Lower Button (#2)	Contacts	Type	\$ Price
Momentary	Start (Green)	Stop (Red)	2 C/O	KXRC111	171.00
Momentary	Start (Green)	Stop (Red)	1 N/O, 1 N/C	KXRC136	129.00
Momentary	Up (Green)	Down (Green)	2 N/O	KXRDL140	135.00
Momentary	blank (Blue)	blank (Blue)	2 N/O	KXRDLH7	139.00
Maintained▲	Start (Green)	Stop (Red)	1 C/O	KXRE115	171.00
Maintained ▲	On (Blue)■	Off (Blue)■	3 C/O	KXRELLH3	273.00
Maintained ▲	On (Blue)■	Off (Blue)■	3 C/O	KXRELLH3	273.00
Maintained ▲	On (Blue)■	Off (Blue)■	2 C/O	KXRELLH2	277.00



Pilot Light at
110–120 V, 50–60 Hz
Transformer

Table 19.279: Push Buttons—Dual with One Pilot Light and Contacts

Description	Top Button (#1)	Middle Lens (#2)	Lower Button (#3)	Contacts	Voltage	Type	\$ Price
Momentary	Start (Green)	On (Red)	Stop (Red)	2 C/O	110/120	KXRG117	314.00
Momentary	Start (Green)	On (Red)	Stop (Red)	1 N/O, 1 N/C	110/120	KXRG137	270.00
Maintained ▲	Start (Green)	On (Red)	Stop (Red)	1 C/O	110/120	KXRJ119	329.00



Pilot Lights at
110–120 V, 50–60 Hz
Transformer

Table 19.280: Push Buttons—Dual with Two Pilot Lights and Contacts

Description	Top Button (#1)	Left Lens (#2)	Right Lens (#3)	Lower Button (#4)	Contacts	Voltage	Type	\$ Price
Momentary	Start (Green)	On (Red)	Off (Green)	Stop (Red)	2 C/O	110/120	KXRL121	485.00
Momentary	Start (Green)	On (Red)	Off (Green)	Stop (Red)	1 N/O, 1 N/C	110/120	KXRL138	441.00
Momentary	Start (Green)	On (Red)	Off (Green)	Stop (Red)	2 C/O	24	KXRL34GRGRH2	451.00
Momentary	Start (Green)	On (Red)	Off (Green)	Stop (Red)	1 N/O, 1 N/C	24	KXRL34GRGRH37	494.00

▲ Maintained operators are mechanically interlocked

■ Text is vertical

Table 19.281: Selector Switches—with Contacts

NOTE: When ordering, add prefix 9001 to the catalog number.

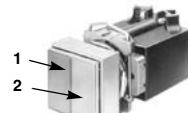


Description	Legend	Knob	Contacts	Type	\$ Price
2-position, maintained	Off-On	Black	1 0	KXSA125	99.00
2-position, maintained			0 1		
3-position, maintained	Hand-Off-Auto	Black	1 0 0 0 0 1	KXSD126	99.00

Table 19.282: Pilot Lights



110–120 V,
50–60 Hz
Transformer



110–120 V, 50–60 Hz
Transformer



110–120 V, 50–60 Hz
Transformer

Description	Voltage	Lens 1*	Lens 2*	Lens 3*	Lens 4*	Type	\$ Price
Single	24	Amber				KXPA35A	125.00
Single	24	Red				KXPA35R	125.00
Single	24	Green				KXPA35G	125.00
Single	24	White				KXPA35W	125.00
Single	110/120	Amber				KXPA1A	153.00
Single	110/120	Red				KXPA1R	153.00
Single	110/120	Green				KXPA1G	153.00
Single	110/120	White				KXPA1W	153.00
Dual	24	Amber	Amber			KXPB34AA	219.00
Dual	24	Red	Red			KXPB34RR	219.00
Dual	24	Green	Green			KXPB34GG	219.00
Dual	24	White	White			KXPB34WW	219.00
Dual	24	Red	Green			KXPB34RG	219.00
Dual	110/120	Amber	Amber			KXPB1AA	278.00
Dual	110/120	Red	Red			KXPB1RR	278.00
Dual	110/120	Green	Green			KXPB1GG	278.00
Dual	110/120	White	White			KXPB1WW	278.00
Dual	110/120	Red	Green			KXPB1RG	278.00
Quad	24	White	Amber	Green	Red	KXPC34WAGR	552.00
Quad	110/120	White	Amber	Green	Red	KXPC1WAGR	552.00
Quad	110/120	White	Blue	Green	Red	KXPC1WLGR	552.00

* Lenses are blank (no markings)

Table 19.283: Potentiometers



Description	Power	Resistance	Type	Price
Single	2 W	3.2 kΩ	KXBB06	287.00
Single	2 W	5 kΩ	KXBB07	287.00
Single	2 W	10 kΩ	KXBB08	287.00
Tandem	2 W	5 kΩ / 5 kΩ	KXBD83	399.00

Table 19.284: Push Buttons—without Contacts ▲

NOTE: When ordering, add prefix 9001 to the catalog number.

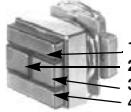
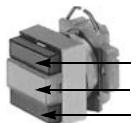
Push Button	Action	Lens Color (1)	Lens Color (2)	Type	Price
Single Push Button					
Non-illuminated	Momentary	Amber	—	KXRAA	38.60
		Green	—	KXRAG	38.60
		Blue	—	KXRAL	38.60
		Red	—	KXRAR	38.60
		White	—	KXRAW	38.60
Illuminated 24 V	Momentary	Amber	—	KXRB35A	125.00
		Green	—	KXRB35G	125.00
		Blue	—	KXRB35L	125.00
		Red	—	KXRB35R	125.00
		White	—	KXRB35W	125.00
Illuminated 110/120 V	Momentary	Amber	—	KXRB38A	125.00
		Green	—	KXRB38G	125.00
		Blue	—	KXRB38L	125.00
		Red	—	KXRB38R	125.00
		White	—	KXRB38W	125.00
Dual Push Button					
Non-illuminated	Momentary + Interlock	Green	Red	KXRCGR	77.00
		White	White	KXRCWW	77.00
		Green	Green	KXRCGG	77.00
	Maintained + Interlock	Green	Red	KXREGR	120.00
		White	White	KXREWW	120.00
		Green	Green	KXREGG	120.00

Table 19.285: Dual Push Button with Pilot Light—without Contacts ▲

Action	Voltage	Lens Color (1)	Lens Color (2)	Lens Color (3)	Lens Color (4)	Type	Price
With One Pilot Light							
Momentary	24 Vac/dc	Red	White	Green	—	KXRG35RWG	188.00
	24 Vac/dc	Green	White	Green	—	KXRG35GWG	188.00
	110/120 Vac/dc	Red	White	Green	—	KXRG38RWG	188.00
	110/120 Vac/dc	Green	White	Green	—	KXRG38GWG	188.00
Momentary + Interlock	24 Vac/dc	Red	White	Green	—	KXRH35RWG	221.00
	24 Vac/dc	Green	White	Green	—	KXRH354GWG	221.00
	110/120 Vac/dc	Red	White	Green	—	KXRH38RWG	221.00
	110/120 Vac/dc	Green	White	Green	—	KXRH38GWG	221.00
Maintained + Interlock	24 Vac/dc	Red	White	Green	—	KXRJ35RWG	243.00
	24 Vac/dc	Green	White	Green	—	KXRJ35GWG	243.00
	110/120 Vac/dc	Red	White	Green	—	KXRJ38RWG	243.00
	110/120 Vac/dc	Green	White	Green	—	KXRJ38GWG	243.00
With Two Pilot Lights							
Momentary	24 Vac/dc	Red	White	White	Green	KXRL35RWWG	324.00
	24 Vac/dc	Red	Red	Green	Green	KXRL35GGRR	324.00
	110/120 Vac/dc	Red	White	White	Green	KXRL38RWWG	324.00
	110/120 Vac/dc	Red	Red	Green	Green	KXRL38GGRR	324.00
Momentary + Interlock	24 Vac/dc	Red	White	White	Green	KXRM35RWWG	368.00
	24 Vac/dc	Red	Red	Green	Green	KXRM35RRGG	368.00
	110/120 Vac/dc	Red	White	White	Green	KXRM38RWWG	368.00
	110/120 Vac/dc	Red	Red	Green	Green	KXRM38RRGG	368.00

▲ Order contact blocks separately (See Table 19.287 on Page 19-97)

Accessories Page 19-99



**Selectors, 30 mm
Square**

KX Square Multifunction Operators

Class 9001 / Refer to Catalog 9001CT1103

Table 19.286: Selectors—without Contacts ▲

NOTE: When ordering, add prefix 9001 to the catalog number.



Description	Voltage	Knob Color	Type	\$ Price
2-Position, Maintained	Non-Illuminated	—	Black	KXSAEB 53.00
	Illuminated	24 Vac/dc	Red	KXSJE35R 138.00
	Illuminated	24 Vac/dc	Green	KXSJE35G 138.00
	Illuminated	24 Vac/dc	White	KXSJE35W 138.00
	Illuminated	120 Vac/dc	Red	KXSJE38R 138.00
	Illuminated	120 Vac/dc	Green	KXSJE38G 138.00
	Illuminated	120 Vac/dc	White	KXSJE38W 138.00
	Key (Withdraw L)	—	N/A	KXSRE1 140.00
	Key (Withdraw R)	—	N/A	KXSRE2 138.00
	Key (Withdraw Both)	—	N/A	KXSRE3 138.00
3-Position, Maintained	Non-Illuminated	—	Black	KXSDCB 53.00
	Key (Withdraw C)	—	N/A	KXSVC5 138.00
	Key (Withdraw All)	—	N/A	KXSVC10 138.00
4-Position, Maintained	Non-Illuminated	—	Black	KXSHB 58.00

▲ Order contacts separately (See Table 19.287)

Table 19.287: Contact Blocks—Purchase Separately

	Description	Type	\$ Price
 (Clear Cover)	1 N/O, 1 N/C	KA1	42.80
 (Green Cover)	1 N/O	KA2	21.50
 (Red Cover)	1 N/C	KA3	21.50
 (Clear Cover)	1 N/C, 1 N/O (Early Make)	KA4	42.80
 (Red Cover)	1 N/C (Late Break)	KA5	21.50
 (Green Cover)	1 N/O (Early Make)	KA6	21.50

Table 19.288: Legend Plates for Push Buttons or Pilot Lights

Marking	Used On						\$ Price
	A	B	C (vertical)	D	E	F	
	KXRA, KXRB, KXRN, KXRP, KXPA, KXPC, KXTA, KXTB, KXTE	KXRC, KXRD, KXRE, KXRF	KXPB, KXTD ♦	KXRG, KXRH, KXRJ, KXRK ▲	KXRL, KXRM, KXTC ■		
Blank Start Stop On Off Emerg. Stop Forward Reverse Close Open Down Up Jog Reset Run Cycle Start Motor Run Power On	KXN100 KXN101 KXN102 KXN103 KXN104 KXN105 KXN106 KXN107 KXN108 KXN109 KXN110 KXN111 KXN118 KXN123 KXN124 KXN132 KXN136 KXN138	KXN200 KXN201 KXN202 KXN203 KXN204 KXN205 KXN206 KXN207 KXN208 KXN209 KXN210 KXN211 KXN218 KXN223 KXN224 KXN232 KXN236 KXN238	KXN200 KXN201V KXN202V KXN203V KXN204V KXN205V KXN206V KXN207V KXN208V KXN209V KXN210V KXN211V KXN218V KXN223V KXN224V KXN232V KXN236V KXN238V	KXN300 KXN301 KXN302 KXN303 KXN304 KXN305 KXN306 KXN307 KXN308 KXN309 KXN310 KXN311 KXN318 KXN323 KXN324 KXN332 KXN336 KXN338	KXN400 KXN401 KXN402 KXN403 KXN404 KXN405 KXN406 KXN407 KXN408 KXN409 KXN410 KXN411 KXN418 KXN423 KXN424 KXN432 KXN436 KXN438	KXN500 KXN501 KXN502 KXN503 KXN504 KXN505 KXN506 KXN507 KXN508 KXN509 KXN510 KXN511 KXN518 KXN523 KXN524 KXN532 KXN536 KXN538	4.40
Special-Marking	KXN199	KXN299	KXN299V	KXN399	KXN499	KXN599	
▲ 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 19.289: Legend Plates for Selector Switches

Marking	Used On						\$ Price
	1.33 34 Square	0.76 19	KXN-600	1.33 34 Square	0.76 19	KXN-700	
	KXSA, KXSB, KXSC, KXSD, KXSE, KXSF, KXSG, KXSH, KXSJ, KXSK, KXSL, KXSM, KXSN, KXSO, KXSP, KXSQ			KXSR, KXSS, KXST, KXSV, KXSW, KXSS, KXSY, KXSZ			
Blank For.-Rev. Hand-Auto Man-Auto Off-On On-Off Open-Close Start-Stop Auto-Off-Hand Hand-Off-Auto Man-Off-Auto	KXN600 KXN639 KXN640 KXN643 KXN644 KXN645 KXN646 KXN651 KXN658 KXN660 KXN662			KXN700 KXN739 KXN740 KXN743 KXN744 KXN745 KXN746 KXN751 KXN758 KXN760 KXN762			4.40
Special Marking	KXN699			KXN799			

Dual Dimensions: **INCHES**
Millimeters

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

NOTE: When ordering, add prefix 9001 to the catalog number.

Table 19.290: Letter Height For Standard Legends

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

Table 19.291: Maximum Number of Lines and Characters For Type KXN Legend Inserts

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

Table 19.292: 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 1/16	4.75	6	6
	1 1/16	3	8	9
	3 1/16	4.75	10	5
	1 1/16	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 2
 9001KXN 503 in position 2
 9001KXN 504 in position 3
 9001KXN 402 in position 4

30 mm Push Buttons

Type KX Accessories

Class 9001 / Refer to Catalog 9001CT1103

NOTE: When ordering, add prefix 9001 to the catalog number.

Table 19.293: Closing Plate

Type	\$ Price
	14.30
UL Types 4, 13/NEMA 4, 13 Square Closing Plate (Chrome Plated) Same size as KX bezel	

Table 19.294: Boots

For Use On	Type	\$ Price
All KX** push buttons and pilot lights	KXAKU7	28.70
All KX** selector switches and potentiometers	KXAKU17B	42.80

Table 19.295: Shrouds

Description	For Use On	Color	Type	\$ Price
Full Shroud	All push buttons and pilot lights	Red	KXAK41R	7.20
		Black	KXAK41B	7.20
Short Shroud	Any KX operator	Red	KXAK40R	7.20
		Black	KXAK40B	7.20

Table 19.296: Lamp and Lens Removal Kit

Type	\$ Price
	21.50
Used to remove lamp and lens on all illuminated operators and pilot lights.	

Table 19.297: 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■	9.90
 Includes KXN400	KXTC (Position 1 & 4)	Red Green Amber Blue White	KXAR4 KXAG4 KXAA4 KXAL4 KXAW4	R G A L W	9.90
 Includes KXN500	KXTC (Position 2 & 3) 6	Red Green Amber Blue White	KXAR5 KXAG5 KXAA5 KXAL5 KXAW5	R G A L W	9.90
 Includes 1-KXN100	KXPC	Red Green Amber Blue White	KXAC48◆ KXAC48◆ KXAC48◆ KXAC48◆ KXAC48◆	R★ G★ A★ L★ W★	9.90
 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 KXAA1M1 KXALM1 KXAWM1	R G A L W	17.10
 Includes KXN200	KXRC KXRD KXRE KXRF	Red Green Amber Blue White	KXAR2 KXAG2 KXAA2 KXAL2 KXAW2	R G A L W	9.90
 Includes KXN300	KXRG (Position 2) KXRH (Position 2) KXRJ (Position 2) KXPK (Position 2)	Red Green Amber Blue White	KXAR3 KXAG3 KXAA3 KXAL3 KXAW3	R G A L W	9.90
 Includes KXN400	KXRG (Position 1 & 3) KXRH (Position 1 & 3) KXRJ (Position 1 & 3) KXPK (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	9.90
 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	9.90
 Includes KXN100	KXPA	Red Green Amber Blue White	KXAR8 KXAG8 KXAA8 KXAL8 KXAW8	R G A L W	9.90
 Includes KXN100	KXTA KXTB	Red Green Amber Blue White	KXAR1 KXAG1 KXAA1 KXAL1 KXAW1	R G A L W	9.90

- ▲ 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.



XALD101H29H7



XALK174H7



XALD211H29H7



XALD321H29H7

Table 19.298: 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	XALD101H29H7	73.00
	Flush red	—	1	Stop	XALD111H29H7	73.00
Marking on Legend Holder						
1 mushroom head push button Ø 40 mm, momentary	Red	—	1	Stop on red legend	XALD164H29H7	84.00

Table 19.299: Emergency Stop or Emergency Off 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	XALK174H7	117.00
	Trigger action ■	—	1	XALK178H7	147.00
1 mushroom head push button Ø 40 mm, red Key release (Key No. 455)	Standard ▲	—	1	XALK184H7	147.00
	Trigger action ■	—	1	XALK188H7	147.00
1 mushroom head push button Ø 40 mm, red Push-pull	Standard ▲	—	1	XALK194H7	99.00

▲ Emergency Off (IEC 60364-5-53)

■ Emergency Stop (EN / IEC 13850)

Table 19.300: 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	XALD211H29H7	73.00
	1 flush red	—	1	Stop		
	1 flush black	1	—	Forward	XALD251H29H7	73.00
	1 flush black	1	—	Reverse		

Table 19.301: 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 (no markings)	1 flush black 1 flush red 1 flush black	1	—	Open	XALD351H29H7	143.00
		—	1	Stop		
		1	—	Close		
		1	—	Forward		
		—	1	Stop	XALD311H29H7	143.00
		1	—	Reverse		
		1	—	Up		
		—	1	Stop	XALD321H29H7	143.00
		1	—	Down		



XALD02H7

Table 19.302: 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	XALD01H7	32.80
	2	XALD02H7	38.20
	3	XALD03H7	49.00
	4	XALD04H7	71.00
	5	XALD05H7	87.00
Light gray base RAL7035 Yellow lid RAL1012	1	XALK01H7	35.40



ZENL1111



ZALV**



ZB5SZ3



ZB5AZ905



XAPA1100



XAPA1104

Table 19.303: 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				
Metal-plate-mounting contact blocks	N.O. contact	—	ZENL1111	16.80
	N.C. contact	—	ZENL1121	16.40
Light blocks with 	24 Vac/Vdc	White	ZALVB1	
		Green	ZALVB3	
		Red	ZALVB4	
		Yellow	ZALVB5	52.00
		Blue	ZALVB6	
	120 Vac	White	ZALVG1	
		Green	ZALVG3	
		Red	ZALVG4	
		Yellow	ZALVG5	52.00
		Blue	ZALVG6	
	230 Vac	White	ZALVM1	
		Green	ZALVM3	
		Red	ZALVM4	
		Yellow	ZALVM5	52.00
		Blue	ZALVM6	

▲ For customer assembly using XB5 operators and standard screw-terminal contact blocks, see Push Buttons—ZB5 22 mm starting on page 19-45. Either mounting method can be used: contact block ZENL mounting on metal plate, or contact block ZBE mounting on operator with mounting collar.

Table 19.304: 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

Table 19.305: 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)	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	22.00
	For XAPA2100		XAPZ100	24.60
	For XAPA3100 and 4100		XAPZ200	32.00

Table 19.306: Drilled Insulated Enclosures, Glass-Reinforced Polyester ■

Type	Number of Knockouts 22 mm	Number of Rows		H x W Dimensions	Catalog Number	\$ Price	
		Vertical	Horizontal				
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	XAPA1100	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 XAPA1100	XAPZ110	22.00	
		For XAPA1120		For XAPA1104	XAPZ120	22.00	
		For XAPA2108		For XAPA3116	XAPZ208	24.60	
					XAPZ316	32.00	

■ Uses standard XB5 products from pages 19-42 through 19-62. Do not use ZENL style contact blocks.



XAPG39400

Table 19.307: 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 19.308: 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	6.89 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	6.89 x 3.15 x 3.03	175 x 80 x 77	XAPG39804	174.00
	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	6.89 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	6.89 x 3.15 x 3.03	175 x 80 x 77	XAPG39503	142.00
				4	8.66 x 3.15 x 3.03	220 x 80 x 77	XAPG49504	174.00
	Aluminum	2.93	74.5	5	12.20 x 3.35 x 3.03	310 x 85 x 77	XAPG59505	268.00

▲ Can use either XB4 or XB5 products.



XAPE303

Table 19.309: 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

■ Can use either XB4 or XB5 products.

Table 19.310: 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

30 mm Control Stations and Enclosures



NEMA 1
Surface Mounting
Type BG201



NEMA 1
Flush Mounting
(w/o pullbox)
Type BF201



NEMA 4
Type BW243



NEMA 7 and 9
Type BR103

Table 19.311: Control Stations

9001B Standard Duty Control Stations

Refer to Catalog 9001CT1104

NOTE: When ordering, add prefix 9001 to the catalog number.

No. of Buttons	Nameplate Markings and Features	Contact Symbol ▲	Surface Mounting NEMA1		Stainless Steel Flush Plate ■		Watertight and Dusttight NEMA4		For Hazardous Locations NEMA 7 & 9 ♦	
			Type	\$ Price	Type	\$ Price	Type	\$ Price	Type	\$ Price
1	Start	1	BG101	86.00	BF101	116.00	BW146	270.00	BR101	363.00
	Stop	3	BG102	86.00	BF102	116.00	BW147	270.00	—	—
	Stop (Mushroom Button)	3	BG103	99.00	—	—	BW151	287.00	BR103	378.00
	Stop (Lockout)	3	BG104	129.00	—	—	BW148	270.00	BR104	363.00
	Universal (w/o legend insert)	16	BG107	83.00	BF107	111.00	BW159	269.00	BR107	360.00
	Off-On (Selector Switch)	19	BG111	86.00	—	—	—	—	—	—
	Hand-Off-Auto (Selector Switch)	17	BG112	86.00	—	—	—	—	—	—
	Universal Selector Switch (w/o legend insert)	19 or 17	BG114	83.00	—	—	—	—	—	—
2	Start-Stop	145	BG201	86.00	BF201	116.00	BW240	270.00	BR204	363.00
	Start-Stop (for latching Applications)	146	BG202	107.00	—	—	BW252	270.00	BR202	363.00
	Start-Stop (Mushroom on Stop)	145	BG203	99.00	—	—	BW250	287.00	BR203	378.00
	Start-Stop (Lockout on Stop)	145	BG204	129.00	—	—	BW241	270.00	BR204	363.00
	Start-Stop (Mushroom on both)	145	BG205	116.00	—	—	BW246	300.00	BR205	392.00
	Forward-Reverse	146	BG206	107.00	—	—	BW242	270.00	—	—
	Open-Close	146	BG207	107.00	—	—	BW244	270.00	—	—
	Up-Down	146	BG208	107.00	BF208	135.00	BW243	270.00	BR208	363.00
	Raise-Lower	146	BG209	107.00	—	—	BW253	270.00	—	—
	On-Off	145	BG210	86.00	BF210	116.00	BW245	270.00	—	—
	On-Off	146	BG211	107.00	BF211	135.00	BW254	270.00	—	—
3	Universal (w/o legend inserts)	25	BG214	78.00	—	—	BW260	264.00	BR214	356.00
	Start-Stop (Maintained Contact)	10	BG215	129.00	BF215	158.00	BW255	314.00	BR215	405.00
	On-Off (Maintained Contact)	10	BG216	129.00	BF216	158.00	BW256	314.00	BR216	405.00
	Universal (Maintained contact w/o legend inserts)	10	BG218	122.00	—	—	—	—	BR218	399.00
	Fast-Slow-Stop	109	BG301	171.00	—	—	—	—	—	—
	Forward-Reverse-Stop	109	BG302	171.00	—	—	—	—	—	—
	Open-Close-Stop	109	BG303	171.00	BF303	207.00	—	—	—	—
	Raise-Lower-Stop	109	BG304	171.00	—	—	—	—	—	—
	Up-Down-Stop	109	BG305	171.00	BF305	207.00	—	—	—	—
	Start-Jog-Stop	109	BG316	171.00	—	—	—	—	—	—
4	Universal (w/o legend inserts)	8	BG307	162.00	—	—	—	—	—	—
	Start-Stop, Red Pilot Light: 120Vac/dc	145 & 121	BG308	314.00	BF308	342.00	—	—	—	—

▲ See Table 19.314 on page 19-104.

■ Uses standard 2.0 or 2.13 in. deep wall boxes, single gang for Types BF1 and BF2, two gang for Type BF3

♦ Also rated for Class I, Division I and II, Groups B, C, or D; Class II, Division I and II, Groups E, F, or G

Table 19.312: Accessories

Description	Color	Type	\$ Price
Mushroom Caps for NEMA 1	Red	B301	14.30
Mushroom Caps for NEMA 4	Red	B303	14.30
Lockout Kit for NEMA 1	—	B321	42.80
Pilot Light Lenses, NEMA 1 Surface Mount	Red	B331	10.70
Pilot Light Lenses, NEMA 1 Surface Mount	Green	B332	10.70
Pilot Light Lenses, NEMA 1 Flush Mount	Red	B341	10.70
Pilot Light Lenses, NEMA 1 Flush Mount	Green	B342	10.70
Replacement Covers for BW240 ▼	—	BWD219	17.90
Replacement Covers for BW241 ★▼	—	BWD220	35.60
Replacement Covers for BW242-BW260 ▼	—	BWD219	17.90

★ Includes factory installed lockout on the cover.

▼ Replacement case/covers are not available for Type BR devices.

Table 19.313: Interchangeable Push Button Legend Inserts

Marking	For NEMA 1 Surface Mount	For NEMA 4 or 7/9 Lever Type	For NEMA 4 Round Button	For NEMA4 Mushroom Button	\$ Price
Start	B101	B161	B259	B282	3.60
Stop	B102	B162	B260	B283	3.60
Fast	B103	—	—	—	3.60
Slow	B104	—	—	—	3.60
Forward	B105	—	B255	—	3.60
Reverse	B106	—	B256	—	3.60
Open	B107	—	B263	—	3.60
Close	B108	—	B264	—	3.60
Raise	B109	—	B261	—	3.60
Lower	B110	—	B262	—	3.60
Up	B111	—	B253	B276	3.60
Down	B112	—	B254	B277	3.60
On	B115	B175	B257	—	3.60
Off	B116	B176	B258	—	3.60
Hand	B117	—	B265	—	3.60
Auto	B118	—	B266	—	3.60
Jog	B119	—	—	—	3.60
Blank (Black)	B129	B189	B251	B251	3.60
Blank (Red)	B129R	B189R	B252	B252	3.60

Replacement Interiors page 19-104

Electrical Contact Ratings page 19-104



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



Type BGB214



BOC361

Table 19.314: Replacement Interiors For Type B Standard Duty Push Button Stations

NOTE: When ordering, add prefix 9001 to the catalog number.

For Control Station Types	Contact Symbol	Contact Block Assembly ▲ Type	\$ Price	Terminal Block Wiring Receptacle Type	\$ Price
BF101-BF107	16	BOC107	39.20	BFB107	42.80
BF111-BF114	19 or 17	BOC114	39.20	BFB114	42.80
BF121-BF123	121	BOC123	147.00	BFB123	42.80
BF201-BF214	25	BOC214	35.60	BFB214	42.80
BF215-BF218	10	BOC218	78.00	BFB214	42.80
BF221-BF224	7 or 19 & 121	BOC224	234.00	BFB224	64.00
BF225-BF226	17 or 19 & 16	BOC226	57.00	BFB226	64.00
BF301-BF307	8	BOC214 & BOC107	35.60 39.20	BFB214 & BFB107	42.80 42.80
BF308-BF309	25 & 121	BOC214 & BOC123	35.60 147.00	BFB214 & BFB123	42.80 42.80
BF310-BF313	10 & 121	BOC218 & BOC123	78.00 147.00	BFB214 & BFB123	42.80 42.80
BF314-BF315	17 or 19 & 25	BOC214 & BOC114	35.60 39.20	BFB214 & BFB114	42.80 42.80
BG101-BG107	16	BGC107	39.20	BGB107	42.80
BG111-BG114	17 or 19	BGC114	39.20	BGB114	42.80
BG121-BG123	121	BGC123	147.00	BGB123	42.80
BG201-BG214	25	BGC214	35.60	BGB214	42.80
BG215-BG218	10	BGC218	78.00	BGB214	42.80
BG221-BG224	17 or 19 & 121	BGC224	234.00	BGB224	64.00
BG225-BG226	17 or 19 & 16	BGC226	57.00	BGB226	64.00
BG301-BG307	8	BGC307	39.20	BGB307	57.00
BG316-BG326					
BG308-BG309	25 & 121	BGC309	212.00	BGB309	86.00
BG310-BG313	10 & 121	BGC313	242.00	BGB309	86.00
BG314-BG315	17 or 19 & 25	BGC315	75.00	BGB315	86.00
BR101-BR107	16	BOC107	39.20	BFB107	42.80
BR202-BR214	25	BOC214	35.60	BFB214	42.80
BR215-BR219	10	BOC218	78.00	BFB214	42.80
BW101-BW107	16	BOC107	39.20	BFB107	42.80
BW202-BW214	25	BOC214	35.60	BFB214	42.80
BW215-BW218	10	BOC218	78.00	BFB214	42.80
BW146-BW159	16	BOC360	126.00		
BW240-BW260	25	BOC361	126.00		
BW255-BW258	10	BOC362	126.00		

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 19-103.

C-Shaped Mounting Bracket for 9001BR Interior	
Catalog Number	\$ Price
3110112001	8.70

Table 19.315: Electrical Contact Ratings ■

Volts	AC—NEMA B600						Volts	DC—NEMA P600			
	Inductive 35% Power Factor				Resistive 75% Power Factor			Make, Break and Continuous Carrying Amperes	Inductive and Resistive		
	Make		Break		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					

■ OSHA Regulation, Section 1910.70, Overhead and Gantry Cranes, limits the voltage of pendant push buttons to 150 Vac or 300 Vdc.

Contact Symbols

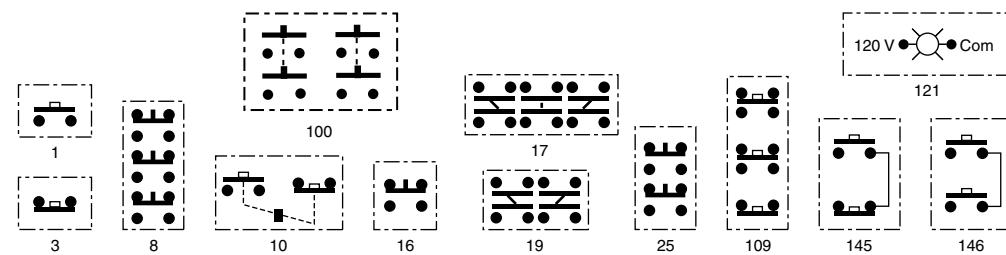


Table 19.316: Empty Enclosures (for Customer Assembly) *NOTE: When ordering, add prefix 9001 to the catalog number.*

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				
No of Holes	Sheet Steel		Die Cast Zinc		Stainless Steel (304)		Polymeric (Plastic)	
	Type	\$ Price	Type	\$ Price	Type	\$ Price	Type	\$ Price
1	KYAF1	143.00	KY1	143.00	KYSS1	257.00	SKY1	171.00
2	KYAF2	158.00	KY2 ▲	158.00	KYSS2	270.00	SKY2	201.00
3	KYAF3	185.00	KY3 ▲	185.00	KYSS3	372.00	SKY3	228.00
4	KYAF4	228.00	KY4 ▲	228.00	KYSS4	485.00	SKY4	269.00
6	KYAF6	287.00	KY6	287.00	KYSS6	714.00	SKY6	287.00

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

NOTE: See Table 19.319 on Page 19-106 for Assembled Control Stations



KYG1Y
(mushroom head
not included)

Table 19.317: Guarded Enclosures

UL Types 1, 3, 4 and 13/ NEMA 1, 3, 4 and 13				
No of Holes	Die Cast Zinc			
	Cover Color	Box Color	Type	\$ Price
1	Gray	Gray	KYG1 ■	150.00
1	Yellow	Gray	KYG1Y ■	

■ Includes 1" NPT threaded conduit opening.

NOTE: See Table 19.319 on Page 19-106 for Assembled Control Stations

Table 19.318: Stainless Steel (302) NEMA 1 Flush Plates ♦

No of Holes	Description	Type	\$ Price
1	1 Hole flush plate, cover screws, insulating liners	K25	28.70
2	2 Hole flush plate, cover screws, insulating liners	K26	42.80
3	3 Hole flush plate, cover screws, insulating liners	K27	57.00
4	4 Hole flush plate, cover screws, insulating liners	K28	86.00

♦ To be used with a standard 2 x 3 in. general purpose switch box. A 2.5 in. deep switch box should be used if two Type KA contact blocks are mounted side by side. If two Type KA contact blocks are mounted in tandem, a 3.5 in. deep box should be used.



K26

Table 19.319: Assembled Control Stations

NOTE: When ordering, add prefix 9001 to the catalog number.



Type KYK31



Type KYSS300



Type SKY201



Type KYG1Y2

No of Holes	Operator Style and Features	Type	\$ Price	Consists of				
				Enclosure	Operators	Contact Blocks	Legend Plates	
UL Types 1, 3, 4 and 13/NEMA 1, 3, 4 and 13 Die Cast Zinc Enclosure▲								
1	Selector Switch (3 Pos Maintained)	KYK11	243.	KY1	KS43B	KA1	Hand-Off-Auto	
	Selector Switch (2 Pos Maintained)	KYK10	243.	KY1	KS11B	KA1	Off-On	
	Push Button (Momentary)	KYK11	228.	KY1	KR1B	KA1	Start	
	Push Button (Momentary)	KYK13	228.	KY1	KR1R	KA1	Stop	
	Mushroom Button (Momentary)	KYK14	270.	KY1	KR4R	KA1	Stop	
	Push Button (with Lockout)	KYK15	270.	KY1	KR3R, K4	KA1	Stop	
	Break Glass Operator	KYK16	329.	KY1	K15	KA1	To Stop—Break Glass	
	Break Glass Operator (Red Enclosure)	KYK17	329.	KY1S1	K15	KA1	To Stop—Break Glass	
	2 Push Buttons (Lockout on Stop)	KYK224	372.	KY2	KR1B, KR3R, K4	KA1, KA1	Jog-Stop	
	2 Push Buttons	KYK218	329.	KY2	KR1B, KR3R	KA1, KA1	On-Off	
2	2 Push Buttons	KYK26	329.	KY2	KR1B, KR1B	KA1, KA1	Open-Close	
	2 Push Buttons	KYK25	329.	KY2	KR1B, KR1B	KA1, KA1	Up-Down	
	2 Push Buttons	KYK21	329.	KY2	KR1B, KR3R	KA1, KA1	Start-Stop	
	2 Push Buttons (with Sealed Contacts) ★	KYK223	527.	KY2	KR1B, KR3R	KA51, KA51	Start-Stop	
	2 Push Buttons (Lockout on Stop)	KYK23	372.	KY2	KR1B, KR3R, K4	KA1, KA1	Start-Stop	
	2 Push Buttons (Maintained/Interlocked)	KYK27	329.	KY2	KR11GR	KA1	Start-Stop	
	1 Push Button, 1 Mushroom Button	KYK22	372.	KY2	KR1B, KR4R	KA1, KA1	Start-Stop	
	3 Push Buttons	KYK31	441.	KY3	KR1B, KR1B, KR3R	KA1, KA1, KA1	Forward; Reverse; Stop	
	3 Push Buttons (Lockout on Stop)	KYK326	485.	KY3	KR1B, KR1B, KR3R, K4	KA1, KA1, KA1	Forward; Reverse; Stop	
	3 Push Buttons (With Sealed Contacts & Lockout on Stop) ★	KYK322	783.	KY3	KR1B, KR1B, KR3R, K4	KA51, KA51, KA51	Forward; Reverse; Stop	
3	3 Push Buttons	KYK33	441.	KY3	KR1B, KR1B, KR3R	KA1, KA1, KA1	Open; Close; Stop	
	Red 120v Pilot Light, 2 Push Buttons	KYK317	471.	KY3	KP1R31, KR1B, KR3R	KA2, KA3	Start; Stop	
	3 Push Buttons	KYK32	441.	KY3	KR1B, KR1B, KR3R	KA1, KA1, KA1	Up; Down; Stop	
	3 Push Buttons (Lockout on Stop)	KYK325	485.	KY3	KR1B, KR1B, KR3R, K4	KA1, KA1, KA1	Up; Down; Stop	
	UL Types 1, 3, 4 and 13/NEMA 1, 3, 4 and 13—Stainless Steel (304) ■							
	Push Button (Momentary)	KYSS101	342.	KYSS1	KR1B	KA1	Start	
	Push Button (Momentary)	KYSS103	320.	KYSS1	KR1B	KA3	Stop	
	Selector Switch (2 Pos Maintained)	KYSS110	356.	KYSS1	KS11B	KA1	Off-On	
	Selector Switch (3 Pos Maintained)	KYSS111	356.	KYSS1	KS43B	KA1	Hand-Off-Auto	
	2 Push Buttons	KYSS201	422.	KYSS2	KR1B, KR3R	KA1, KA3	Start; Stop	
	2 Push Buttons (Lockout on Stop)	KYSS203	491.	KYSS2	KR1B, KR3R, K5	KA1, KA3	Start; Stop	
	2 Push Buttons (Maintained with Interlock)	KYSS210	441.	KYSS2	KR11U	KA1, KA1	Start; Stop	
	2 Push Buttons	KYSS205	441.	KYSS2	KR1B, KR1B	KA1, KA1	Up; Down	
	UL Types 1, 3, 4, 4X and 13/NEMA 1, 3, 4, 4X and 13—Stainless Steel (304) ♦							
1	Push Button (Momentary)	KYSK101	342.	KYSS1	SKR1B	KA1	Start	
	Push Button (Momentary)	KYSK103	320.	KYSS1	SKR3R	KA3	Stop	
	Selector Switch (2 Pos Maintained)	KYSK110	356.	KYSS1	SKS11B	KA1	Off-On	
	Selector Switch (3 Pos Maintained)	KYSK111	356.	KYSS1	SKS43B	KA1	Hand-Off-Auto	
	2 Push Buttons	KYSK201	422.	KYSS2	SKR1B, SKR3R	KA1, KA3	Start; Stop	
	2 Push Buttons (Lockout on Stop)	KYSK203	491.	KYSS2	SKR1B, SKR3R, K5	KA1, KA3	Start; Stop	
	2 Push Buttons (Maintained with Interlock)	KYSK210	441.	KYSS2	SKR11U	KA1, KA1	Start; Stop	
	2 Push Buttons	KYSK205	441.	KYSS2	SKR1B, SKR1B	KA1, KA1	Up; Down	
	UL Types 1, 3, 4, 4X and 13/NEMA 1, 3, 4, 4X and 13—Polymeric (Plastic) ♦							
	Selector Switch (3 Pos Maintained)	SKY111	270.	SKY1	SKS43B	KA1	Hand-Off-Auto	
2	Selector Switch (2 Pos Maintained)	SKY110	270.	SKY1	SKS11B	KA1	Off-On	
	Selector Switch (2 Pos Maintained with Sealed Contacts) ★	SKY122	372.	SKY1	SKS11B	KA51	Off-On	
	Push Button (with Lockout)	SKY105	306.	SKY1	SKR3R, K5	KA3	Stop	
	2 Push Buttons	SKY201	350.	SKY2	SKR1B, SKR3R	KA1, KA3	Start-Stop	
	2 Push Buttons (Lockout on Stop)	SKY203	422.	SKY2	SKR1B, SKR1R, K5	KA1, KA3	Start-Stop	
	2 Push Buttons (With Sealed Contacts) ★	SKY223	570.	SKY2	SKR1B, SKR3R	KA51, KA51	Start-Stop	
	2 Push Buttons (With Sealed Contacts) ★	SKY222	570.	SKY2	SKR1B, SKR3R	KA51, KA51	On-Off	
	2 Push Buttons	SKY205	372.	SKY2	SKR1B, SKR1B	KA1, KA1	Up-Down	
	3 Push Buttons	SKY302	464.	SKY3	SKR1B, SKR1B, SKR3R	KA1, KA1, KA3	Up-Down-Stop	
	3 Push Buttons	SKY303	464.	SKY3	SKR1B, SKR1B, SKR3R	KA1, KA1, KA3	Open-Close-Stop	
3	Red 120v Pilot Light, 2 Push Buttons	SKY315A	531.	SKY3	SKP1R31, SKR1B, SKR3R	KA1, KA3	Start-Stop	
	UL Types 1, 3, 4 and 13/NEMA 1, 3, 4 and 13 Die Cast Zinc Enclosures with Integral Guard							
	Guarded Enclosure (grey) with 120V Red LED Pilot Light	KYG11 ▼	250.	KYG1	KP38LRR9	—	order separately	
	Guarded Enclosure (grey) with 120V Green LED Pilot Light	KYG12 ▼	250.	KYG1	KP38LGG9	—	order separately	
	Guarded Enclosure (Yellow Cover) with Red Push-Pull Mushroom	KYG1Y1 ▼	275.	KYG1Y	KR9R	KA3	Push to Stop/ Pull to Start	
	Guarded Enclosure (Yellow Cover) with Red Turn-To Release Mushroom	KYG1Y2 ▼	275.	KYG1Y	KR16	KA3	Emergency Stop	

- ▲ Uses 9001K metal operators and metal legend plates.
- Uses 9001K metal operators and plastic legend plates.
- ◆ Uses 9001SK plastic operators and plastic legend plates.
- ★ Control Station consists of components that are UL listed for use in Class 1, Division 2, Groups A, B, C, or D.
- ▼ Includes 1" NPT threaded conduit opening.



XVR 08•••



XVR 10•••



XVR 12•••



XVR 13•••



XVR ZR1



XVR Z081



XVC Z13



XVC Z23

Table 19.320: XVR Pre-Wired Rotating Mirror Beacons

Diameter (mm)	Sound Option	Enclosure Rating	Voltage	Color	Catalog Number	\$ Price
Ø 84	Without buzzer	IP 23 (IP 65 with accessories)	12 Vac/Vdc	Red	XVR 08J04	180.00
				Orange	XVR 08J05	
				Green	XVR 08J03	
				Blue	XVR 08J06	
				Red	XVR 08B04	
			24 Vac/Vdc	Orange	XVR 08B05	
				Green	XVR 08B03	
				Blue	XVR 08B06	
				Red	XVR 10J04	
				Orange	XVR 10J05	
Ø 106	Without buzzer	IP 23 (IP 55 with accessories)	12 Vac/Vdc	Green	XVR 10J03	207.00
				Blue	XVR 10J06	
				Red	XVR 10B04	
				Orange	XVR 10B05	
				Green	XVR 10B03	
			24 Vac/Vdc	Blue	XVR 10B06	
				Red	XVR 12J04	
				Orange	XVR 12J05	
				Green	XVR 12J03	
				Blue	XVR 12J06	
Ø 120	Without buzzer	IP 23	12 Vac/Vdc	Red	XVR 12B04	198.00
				Orange	XVR 12B05	
				Green	XVR 12B03	
				Blue	XVR 12B06	
			24 Vac/Vdc	Red	XVR 12J04S	
				Orange	XVR 12J05S	
				Green	XVR 12J03S	
				Blue	XVR 12J06S	
				Red	XVR 12B04S	
Ø 120	With buzzer	IP 23	12 Vac/Vdc	Orange	XVR 12B05S	216.00
				Green	XVR 12B03S	
				Blue	XVR 12B06S	
			24 Vac/Vdc	Red	XVR 13J04	
				Orange	XVR 13J05	
				Red	XVR 13B04	
				Orange	XVR 13B05	
				Red	XVR 13J04	
				Orange	XVR 13J05	
				Red	XVR 13B04	
				Orange	XVR 13B05	

Table 19.321: XVR Accessories

Description	Diameter (mm)	Height (mm)	Catalog Number	\$ Price
Reflecting prism	84	—	XVR ZR1	36.00
	106	—	XVR ZR2	
	120/130	—	XVR ZR3	
Rubber base to increase the IP degree of protection	84	—	XVR Z081	270.00
	106	—	XVR Z082	
Mount tube and base	106, 120 and 130	300	XVC Z13	27.00
L-shape mounting bracket	84, 106 and 120	—	XVC Z23	27.00



Table 19.322: XVC4 Tower Lights — 40 mm diameter (1.5 inches)

Description	Light source (included)	Voltage	Signaling colors ▲		Catalog Number	\$ Price
			Steady	Flashing		
With support tube mounting						
Without buzzer	LED for steady light only	24 Vdc	R	—	XVC 4B1	157.50
			R, O	—	XVC 4B2	198.00
			R, O, G	—	XVC 4B3	229.50
			R, O, G, B	—	XVC 4B4	283.50
			R, O, G, B, C	—	XVC 4B5	352.50
		100-240 Vac	R	—	XVC 4M1	181.50
			R, O	—	XVC 4M2	228.00
			R, O, G	—	XVC 4M3	264.00
			R, O, G, B	—	XVC 4M4	379.50
			R, O, G, B, C	—	XVC 4M5	379.50
With buzzer + flashing light	LED for steady or flashing light ■	24 Vdc	R	R	XVC 4B15S	240.00
			R, O	R, O	XVC 4B25S	271.50
			R, O, G	R, O, G	XVC 4B35S	309.00
			R, O, G, B	R, O, G, B	XVC 4B45S	378.00
			R, O, G, B, C	R, O, G, B, C	XVC 4B55S	441.00
		100-240 Vac	R	R	XVC 4M15S	276.00
			R, O	R, O	XVC 4M25S	312.00
			R, O, G	R, O, G	XVC 4M35S	355.50
			R, O, G, B	R, O, G, B	XVC 4M45S	435.00
			R, O, G, B, C	R, O, G, B, C	XVC 4M55S	507.00
For base mounting						
Without buzzer	LED for steady light only	24 Vdc	R	—	XVC 4B1K	117.00
			R, O	—	XVC 4B2K	154.50
			R, O, G	—	XVC 4B3K	189.00
			R, O, G, B	—	XVC 4B4K	255.00
			R, O, G, B, C	—	XVC 4B5K	331.50



Table 19.323: Accessories for XVC4

Description	Diameter mm	Minimum height to be added mm	Catalog Number	\$ Price
Die-cast metal mounting base (for use with XVC4** and XVC4**5S with support tube)	90	32	XVC Z11	39.00
Plastic mounting base (for use with XVC4, XVC4** and XVC4**5S — customer must discard the support tube)	84	24.5	XVC Z01	64.50

Table 19.324: XVC Tower Lights — 100 mm diameter (4 inches)

Description	Light source (included)	Voltage Vdc	Signaling colors ▲		Catalog Number	\$ Price
			Steady	Flashing		
For base mounting						
Without buzzer With flashing light	LED for steady or flashing light ■	24	R	R	XVC 1B1K	631.50
			R, O	R, O	XVC 1B2K	685.50
			R, O, G	R, O, G	XVC 1B3K	739.50
			R, O, G, B	R, O, G, B	XVC 1B4K	793.50
			R, O, G, B, C	R, O, G, B, C	XVC 1B5K	847.50
		100-240 Vac	R	R	XVC 1M1K	726.00
			R, O	R, O	XVC 1M2K	787.50
			R, O, G	R, O, G	XVC 1M3K	850.50
			R, O, G, B	R, O, G, B	XVC 1M4K	912.00
			R, O, G, B, C	R, O, G, B, C	XVC 1M5K	975.00
With buzzer + flashing light	LED for steady or flashing light ■	24	R	R	XVC 1B1SK	703.50
			R, O	R, O	XVC 1B2SK	757.50
			R, O, G	R, O, G	XVC 1B3SK	811.50
			R, O, G, B	R, O, G, B	XVC 1B4SK	865.50
			R, O, G, B, C	R, O, G, B, C	XVC 1B5SK	919.50
		100-240 Vac	R	R	XVC 1M1SK	808.50
			R, O	R, O	XVC 1M2SK	871.50
			R, O, G	R, O, G	XVC 1M3SK	933.00
			R, O, G, B	R, O, G, B	XVC 1M4SK	996.00
			R, O, G, B, C	R, O, G, B, C	XVC 1M5SK	1057.50

▲ Signaling colors: R = Red, G = Green, O = Orange, B = Blue, C = Clear. The colors are listed in the mounting order of the illuminated units from top to bottom.

■ Flashing light function selected by wiring or programming.

Table 19.325: Accessories for XVC1

Description	Diameter mm	Height mm	Catalog Number	\$ Price
Mount tube and base	140	300	XVC Z13	270.00
L-shape mount bracket	—	—	XVC Z23	27.00



Table 19.326: XVC6 Tower Lights, 60 mm diameter (2.375 inches)

Description	Light source (included)	Voltage	Signaling colors ▲		Catalog Number	\$ Price
			Steady	Flashing		
With support tube mounting						
Without buzzer	LED for steady light only	24 Vdc	R	—	XVC 6B1	169.50
			R, O	—	XVC 6B2	211.50
			R, O, G	—	XVC 6B3	252.00
			R, O, G, B	—	XVC 6B4	303.00
			R, O, G, B, C	—	XVC 6B5	426.00
		100-240 Vac	R	—	XVC 6M1	195.00
			R, O	—	XVC 6M2	243.00
			R, O, G	—	XVC 6M3	289.50
			R, O, G, B	—	XVC 6M4	348.00
			R, O, G, B, C	—	XVC 6M5	489.00
With buzzer + flashing light	LED for steady or flashing light ■	24 Vdc	R	R	XVC 6B15S	252.00
			R, O	R, O	XVC 6B25S	292.50
			R, O, G	R, O, G	XVC 6B35S	315.00
			R, O, G, B	R, O, G, B	XVC 6B45S	378.00
			R, O, G, B, C	R, O, G, B, C	XVC 6B55S	472.50
		100-240 Vac	R	R	XVC 6M15S	289.50
			R, O	R, O	XVC 6M25S	336.00
			R, O, G	R, O, G	XVC 6M35S	363.00
			R, O, G, B	R, O, G, B	XVC 6M45S	435.00
			R, O, G, B, C	R, O, G, B, C	XVC 6M55S	543.00
For base mounting						
Without buzzer	LED for steady light only	24 Vdc	R	—	XVC 6B1K	132.00
			R, O	—	XVC 6B2K	163.50
			R, O, G	—	XVC 6B3K	214.50
			R, O, G, B	—	XVC 6B4K	283.50
			R, O, G, B, C	—	XVC 6B5K	378.00
		100-240 Vac	R	—	XVC 6M1K	151.50
			R, O	—	XVC 6M2K	187.50
			R, O, G	—	XVC 6M3K	246.00
			R, O, G, B	—	XVC 6M4K	325.50
			R, O, G, B, C	—	XVC 6M5K	435.00
With buzzer + flashing light	LED for steady or flashing light ■	24 Vdc	R	R	XVC 6B15SK	205.50
			R, O	R, O	XVC 6B25SK	252.00
			R, O, G	R, O, G	XVC 6B35SK	283.50
			R, O, G, B	R, O, G, B	XVC 6B45SK	346.50
			R, O, G, B, C	R, O, G, B, C	XVC 6B55SK	426.00
		100-240 Vac	R	R	XVC 6M15SK	237.00
			R, O	R, O	XVC 6M25SK	289.50
			R, O, G	R, O, G	XVC 6M35SK	327.00
			R, O, G, B	R, O, G, B	XVC 6M45SK	399.00
			R, O, G, B, C	R, O, G, B, C	XVC 6M55SK	490.50

Table 19.327: Accessories for XVC6

Description	Diameter mm	Minimum height to be added mm	Catalog Number	\$ Price
Die-cast metal mounting base for XVC6B* and XVC6B*55 with support tube.	100	30	XVC Z02	27.00
Stamped metal mounting base for XVC6B* K and XVC6B*55K	84	21.6	XVC Z12	45.00

▲ Signaling colors: R = Red, G = Green, O = Orange, B = Blue, C = Clear. The colors are listed in the mounting order of the illuminated units from top to bottom.

■ Flashing light function selected by wiring or programming.





XVBL3*



XVBL4B*



XVBL6B*
5 Joule



XVBL8B*
10 Joule

Table 19.328: XVB Beacons with Steady Light

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 (must order bulb separately ♦)	Green Red Amber Blue Clear Yellow	XVBL33 XVBL34 XVBL35 XVBL36 XVBL37 XVBL38	114.00

Table 19.329: XVB Beacons with Flashing Light (one flash per second)

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 (must order bulb separately ♦)	Green Red Amber Blue Clear Yellow	XVBL4B3 XVBL4B4 XVBL4B5 XVBL4B6 XVBL4B7 XVBL4B8	193.50
	Bulb (10 W max) not included 48–230 Vac (must order bulb separately ♦)	Green Red Amber Blue Clear Yellow	XVBL4M3 XVBL4M4 XVBL4M5 XVBL4M6 XVBL4M7 XVBL4M8	

Table 19.330: XVB 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/Vdc (includes bulb)	Green Red Amber Blue Clear Yellow	XVBL8B3 XVBL8B4 XVBL8B5 XVBL8B6 XVBL8B7 XVBL8B8	366.00
	Strobe 120 Vac (includes bulb)	Green Red Amber Blue Clear Yellow	XVBL8G3 XVBL8G4 XVBL8G5 XVBL8G6 XVBL8G7 XVBL8G8	

▲ **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).

♦ For bulbs, see Table 19.336 on page 19-112.

NOTE: There are no replacement lenses for strobes.

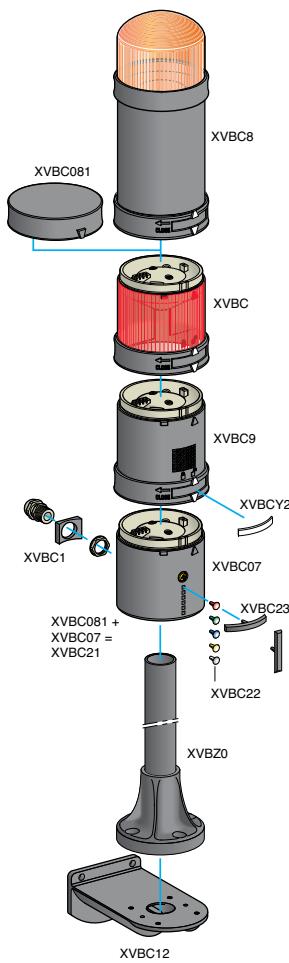


Table 19.331: XVB Lens Units for Steady Light

Description	Light Source and Voltage	Color	Catalog Number	\$ Price
Illuminated lens unit	Bulb (10 W max) not included 250 Vac/Vdc max (must order bulb separately ■)	Green Red Orange Blue Clear Yellow	XVBC33 XVBC34 XVBC35 XVBC36 XVBC37 XVBC38	60.60

Table 19.332: XVB Lens Unit for Flashing Light

Description	Light Source and Voltage	Color	Catalog Number	\$ Price
Illuminated lens unit	Bulb (10 W max) not included 24 Vac 24–48 Vdc (must order bulb separately ■)	Green Red Orange Blue Clear Yellow	XVBC4B3 XVBC4B4 XVBC4B5 XVBC4B6 XVBC4B7 XVBC4B8	141.00
	Bulb (10 W max) not included 48–230 Vac (must order bulb separately ■)	Green Red Orange Blue Clear Yellow	XVBC4M3 XVBC4M4 XVBC4M5 XVBC4M6 XVBC4M7 XVBC4M8	

Note: There are no replacement lenses units for the XVBC8** strobes.

Table 19.333: XVB Lens Units with 10 Joule Strobe

Description	Light Source and Voltage	Color	Catalog Number ▲	\$ Price
Lens unit with integral 10 Joule strobe	Strobe 24 Vac/Vdc (includes bulb)	Green Red Orange Blue Clear Yellow	XVBC8B3 XVBC8B4 XVBC8B5 XVBC8B6 XVBC8B7 XVBC8B8	313.50
	Strobe 120 Vac (includes bulb)	Green Red Orange Blue Clear Yellow	XVBC8G3 XVBC8G4 XVBC8G5 XVBC8G6 XVBC8G7 XVBC8G8	

▲ For 5 Joule units, specify XVBC6**, instead of XVBC8** (\$155.00).

■ For bulbs, see Table 19.336 on page 19-112.

Table 19.334: Audible Sounder Units

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/Vdc	XVBC9B	217.50
	120–230 Vac	XVBC9M	342.00

Table 19.335: Base Units + Cover

Description	Catalog Number	\$ Price
Base unit + cover for direct or tube mounting, bottom or side cable entry (includes gasket)	XVBC21	60.60

Table 19.336: XVB Accessories

Description	Characteristics		Catalog Number	\$ Price
	in.	mm		
Black tube with integral black plastic mounting base (includes gasket)	4.72 15.75 31.50	120 400 800	XVBZ02 XVBZ03 XVBZ04	18.75 37.50 75.00
Support tube concealment cover	3.94 15.75 31.50	100 400 800	XVBC020 XVBC030 XVBC040	11.70 34.50 62.10
Wall mount bracket (metal)	For direct mounting on base unit or with tulip XVBC11 + tube XVBC0*		XVBC12	48.45
Incandescent bulbs bayonet type BA 15d, 10 Watts	12 Vac/Vdc 24 Vac/Vdc 48 Vac/Vdc 120 Vac/Vdc 230 Vac/Vdc		DL1BLJ DL1BLB DL1BLE DL1BLG DL1BLM	8.10
Incandescent bulbs bayonet type BA 15d, 7 Watts	12 Vac/Vdc 24 Vac/Vdc 48 Vac/Vdc 120 Vac/Vdc 230 Vac/Vdc		DL1BEJ DL1BEB DL1BEE DL1BEG DL1BEM	
Steady-On LED bulbs bayonet type BA 15d (sold as single) ■	24 Vac/Vdc	White Green Red Blue Yellow Amber	DL1BDB1 DL1BDB3 DL1BDB4 DL1BDB6 DL1BDB8 DL1BDB5	108.00
	120 Vac	White Green Red Blue Yellow Amber	DL1BDG1 DL1BDG3 DL1BDG4 DL1BDG6 DL1BDG8 DL1BDG5	
Flashing LED bulbs	24 Vac/Vdc	White Green Red Amber Blue Yellow	DL1BKB1 DL1BKB3 DL1BKB4 DL1BKB5 DL1BKB6 DL1BKB8	139.50
	120 Vac	White Green Red Amber Blue Yellow	DL1BKG1 DL1BKG3 DL1BKG4 DL1BKG5 DL1BKG6 DL1BKG8	
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	7.80
Conduit adapter	1/2 in. NPT (for customer supplied tubing)		XVBC00	3.15

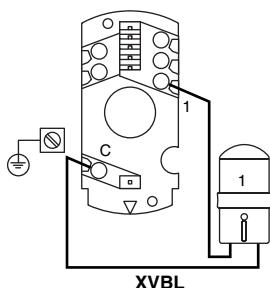
▲ Aluminum tube.
■ For 240 Vac, replace the B or G in the catalog number with M—for example, DL1BDM1. For flashing LEDs, refer to catalog 9001CT0001.

Table 19.337: XVB Accessories

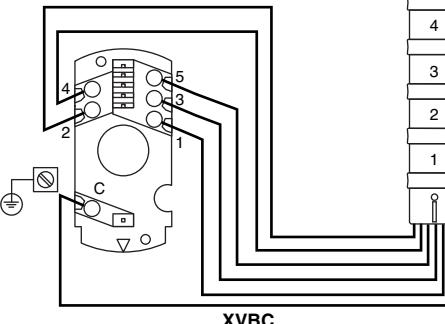
Description	Characteristics	Catalog Number	\$ Price
Set of colored markers	6 colors	XVBC22	3.15
Set of 5 legend holders	Identification of stacked units on base	XVBC23	12.45

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)



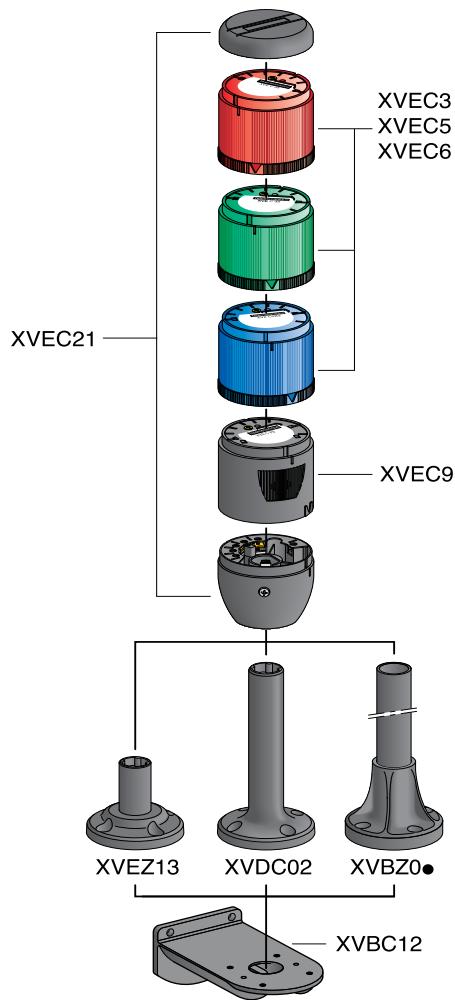


Table 19.338: XVE Lens Units with Steady Light

Description	Light source	Supply voltage	Color of lens	Catalog Number	\$ Price
Lens units only for BA 15d base fitting bulb	5 W max. (must order bulb separately ▲)	24 Vac/Vdc to 240 Vac/Vdc (Maximum)	Green	XVEC33	
			Red	XVEC34	
			Orange	XVEC35	
			Blue	XVEC36	
			Clear	XVEC37	
			Green	XVEC2B3	24.00
			Red	XVEC2B4	
			Orange	XVEC2B5	
			Blue	XVEC2B6	
			Clear	XVEC2B7	
			Green	XVEC2G3	60.00
			Red	XVEC2G4	
			Orange	XVEC2G5	
			Blue	XVEC2G6	
			Clear	XVEC2G7	

▲ Order clear incandescent bulb separately. See Table 19.336 on Page 19-112.

Table 19.339: XVE Lens Units with Flashing LED

Description	Light source	Supply voltage	Color of lens	Catalog Number	\$ Price
			Green	XVEC5B3	
			Red	XVEC5B4	
			Orange	XVEC5B5	
			Blue	XVEC5B6	
			Clear	XVEC5B7	
			Green	XVEC5G3	90.00
			Red	XVEC5G4	
			Orange	XVEC5G5	
			Blue	XVEC5G6	
			Clear	XVEC5G7	

Table 19.340: XVE Lens Units with Strobe Light

Description	Light source	Supply voltage	Color of lens	Catalog Number	\$ Price
			Green	XVEC6B3	
			Red	XVEC6B4	
			Orange	XVEC6B5	
			Blue	XVEC6B6	
			Clear	XVEC6B7	
			Green	XVEC6G3	105.00
			Red	XVEC6G4	
			Orange	XVEC6G5	
			Blue	XVEC6G6	
			Clear	XVEC6G7	

Table 19.341: XVE Audible Sounder Units

Description	Supply Voltage	Catalog Number	\$ Price
Audible Sounder Units	24 Vac/Vdc	XVEC9B	
	120 Vac	XVEC9G	
	230/240 Vac	XVEC9M	90.00

Table 19.342: XVE Base Units and Covers

Description	Catalog Number	\$ Price
Base unit + snap on cover for NEMA and UL Type 12, IP42 rating	XVEC21	24.00
Base unit + screw mounting cover for IP54 rating (includes 5 O-ring seals for lens units and 1 gasket for base unit)	XVEC21P	30.00

Table 19.343: XVE Accessories

Description	Height under base unit in. (mm)	Color	Catalog Number	\$ Price
Plastic mounting bases	0.78 (20)	Black	XVEZ13	12.00
	3.93 (100)	Black	XVDC02	15.00
Mounting bases comprising:	3.15 (80)	Black aluminium	XVBZ02	18.75
		Aluminium	XVBZ02A	
Ø 25 mm aluminium support tube + black plastic mounting support	15.7 (400)	Black aluminium	XVBZ03	37.50
		Aluminium	XVBZ03A	
Description	31.5 (800)	Black aluminium	XVBZ04	75.00
		Aluminium	XVBZ04A	
Description	Electrical characteristics		Catalog Number	\$ Price
Clear incandescent bulbs with BA 15d base fitting for lens units type XVE C3p	4 W, z 24 Vac/Vdc		DL1BEB5	
	5 W, z 120 Vac/Vdc		DL1EDGS	6.15
	5 W, z 230 Vac/Vdc		DL1BEMS	
Description			Catalog Number	\$ Price
Wall mount bracket (metal)			XVBC12	48.45

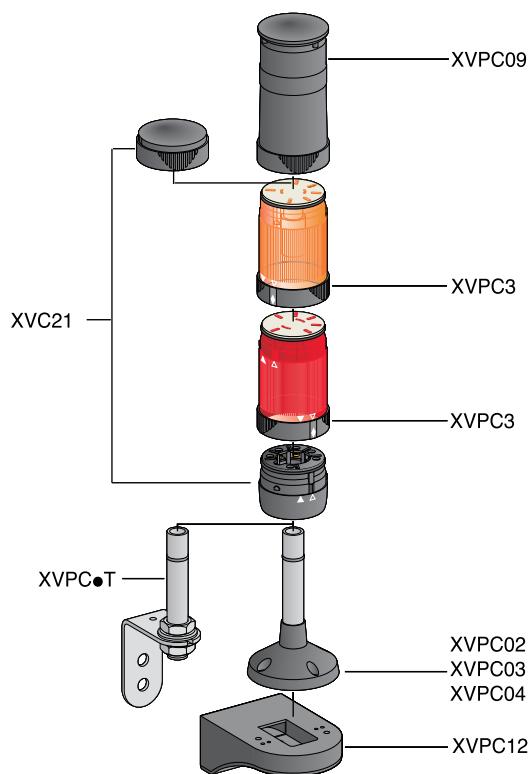


Table 19.344: Base Units + Covers

Description	Color	Catalog Number	\$ Price
Base unit and cover	Black	XVPC21	
Base unit and cover	Off-white	XVPC21W	
Base unit and cover (with ring-tongue compatible terminal)	Off-white	XVPC21WR	48.00

Table 19.345: XVP Lens Units

Description	Ring Color	Light Source and Voltage	Lens Color	Catalog Number	\$ Price
Steady or Flashing					
50 mm steady lens unit (See Table 19.347 on page 19-115 and Table 19.348 on page 19-115 for LEDs and incandescent bulbs)	Black	Bulb (7 W max) not included 250 V (must order bulb separately ▲)	Green Red Amber Blue Clear Yellow	XVPC33 XVPC34 XVPC35 XVPC36 XVPC37 XVPC38	43.50
	Off-white	Bulb (7 W max) not included 250 V max (must order bulb separately ▲)	Green Red Amber Blue Clear Yellow	XVPC33W XVPC34W XVPC35W XVPC36W XVPC37W XVPC38W	
Strobe					
Lens unit with integral strobe	Black	Strobe 24 Vdc 0.3 Joule (separate bulb not required)	Green Red Amber Blue Clear Yellow	XVPC6B3 XVPC6B4 XVPC6B5 XVPC6B6 XVPC6B7 XVPC6B8	186.00
		Strobe 120 Vac 0.6 Joule (separate bulb not required)	Green Red Amber Blue Clear Yellow	XVPC6G3 XVPC6G4 XVPC6G5 XVPC6G6 XVPC6G7 XVPC6G8	
	Off-white	Strobe 24 Vdc 0.3 Joule (separate bulb not required)	Green Red Amber Blue Clear Yellow	XVPC6B3W XVPC6B4W XVPC6B5W XVPC6B6W XVPC6B7W XVPC6B8W	
		Strobe 120 Vac 0.6 Joule (separate bulb not required)	Green Red Amber Blue Clear Yellow	XVPC6G3W XVPC6G4W XVPC6G5W XVPC6G6W XVPC6G7W XVPC6G8W	

▲For bulbs see Table 19.336 on page 19-112.

Table 19.346: XVP Audible Sounder Units

Description	Ring Color	Supply Voltage	Catalog Number	\$ Price
50 mm sounder unit (IP40 NEMA 1) Ten tone selections, 75–85 dB at 1 m	Black	24 Vdc 120 Vac 230 Vac	XVPC09B XVPC09G XVPC09M	156.00
	Off-white	24 Vdc 120 Vac 230 Vac	XVPC09BW XVPC09GW XVPC09MW	



DL1BEJ DL1BDB1



XVPC03T



XVPC12

Table 19.347: XVP LED Bulbs

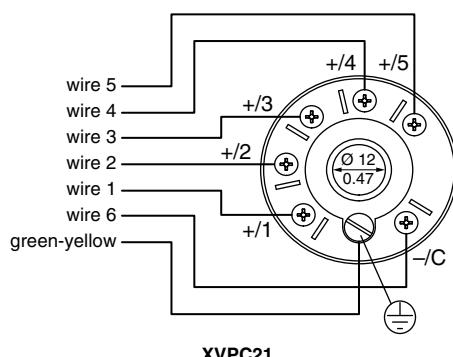
Description	Voltage	Color	Catalog Number	\$ Price
Steady-On LED bulb	24 Vac/Vdc	White Green Red Amber Blue Yellow	DL1BDB1 DL1BDB3 DL1BDB4 DL1BDB5 DL1BDB6 DL1BDB8	108.00
		White Green Red Amber Blue Yellow	DL1BDG1 DL1BDG3 DL1BDG4 DL1BDG5 DL1BDG6 DL1BDG8	
Flashing LED bulb	24 Vac/Vdc	White Green Red Amber Blue Yellow	DL1BKB1 DL1BKB3 DL1BKB4 DL1BKB5 DL1BKB6 DL1BK88	139.50
		White Green Red Amber Blue Yellow	DL1BKG1 DL1BKG3 DL1BKG4 DL1BKG5 DL1BKG6 DL1BKG8	
Incandescent bulbs Bayonet type BA 15d, 7 W	12 Vac/Vdc 24 Vac/Vdc 48 Vac/Vdc 120 Vac/Vdc 230 Vac/Vdc	Clear Clear Clear Clear Clear	DL1BEJ DL1BEB DL1BEE DL1BEG DL1BEM	8.10

Table 19.348: XVP Accessories

Description	Color	Characteristics		Catalog Number	\$ Price
		IN	mm		
Mounting tube with bracket	Silver	4	100	XVPC02T	32.55
		10	250	XVPC03T	40.35
		16	400	XVPC04T	48.00
Mounting tube with tulip base	Black	4	100	XVPC02	32.55
		10	250	XVPC03	48.00
		16	400	XVPC04	48.00
Off-white	Off-white	4	100	XVPC02W	40.35
		10	250	XVPC03W	40.35
		16	400	XVPC04W	48.00
Wall mounting bracket (plastic)	Black Off-white	—	—	XVPC12 XVPC12W	15.60
Bulb mounting and removal tool	—	—	—	XVPCX13	7.80

Wiring Diagram

Cable Connections, Supply line maximum: 1.5 mm² (16 AWG)



XVPC21



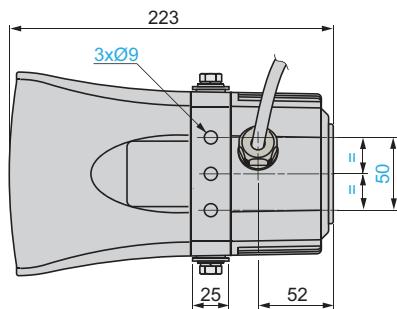
XVS14BMW

Table 19.349: XVS Sirens and Electronic Alarms

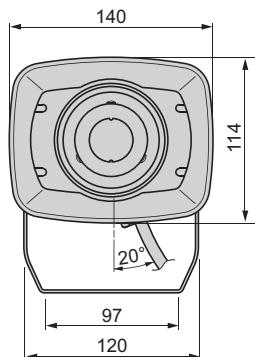
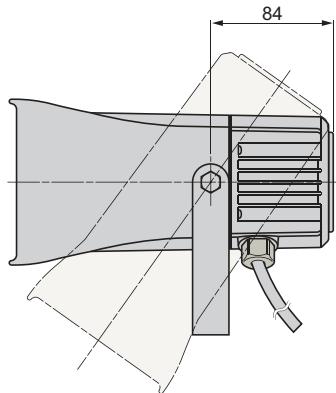
Description	Voltage	Color	Catalog Number	\$ Price
Multisound siren 105 dB, 43 tones	12/24 Vdc	White	XVS 14BMW	360.00
Electronic alarms 90 dB, 16 tones Panel Mount DIN72	12/24 Vac/Vdc	PNP, Black	XVS 72BMBP	180.00
		PNP, White	XVS 72BMWP	
		NPN, Black	XVS 72BMBN	
		NPN, White	XVS 72BMWN	

Table 19.350: Dimensions (mm)

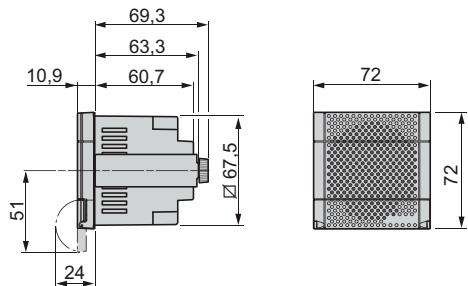
XVS 14BMW



XVS72BM



XVS 72BM^{ee}



Pendant Stations

Type BW Pendant Stations

Refer to Catalog 9001CT1001

This pre-assembled, two-button station now comes complete with internal and external strain relief. Oversized finger grips on the rear of the enclosure make it easy to grip and operate.

- Well suited for standard hoist applications
- Push button legend inserts
- Field-installable mushroom button
- Full cover gasket, to exclude harmful contaminants

Table 19.351: BW90 and BW100 Pendant Stations – with cord connector and strain relief



BW90 / BW100

Description	Legend Insert Markings	Mechanical Interlock	Enclosure Color			\$ Price	Contact Symbol	Replacement Interior ■		
			Yellow	Black	Red			9001 Type	Contact Symbol	\$ Price
Single Speed	Up-Down	Yes	BW92Y	BW92B	BW92R	136.00	146	BOC368	146	90.00
	Forward-Reverse	Yes	BW93Y	BW93B	BW93R		146	BOC368	146	
	On-Off ▲	Yes	BW94Y	BW94B	BW94R	180.00	10	BOC358	147	90.00
	Start-Stop	No	BW95Y	BW95B	BW95R	136.00	145	BOC359	25	
	Start-Stop ▲	Yes	BW96Y	BW96B	BW96R	180.00	10	BOC358	147	
	On-Off ▲	No	BW97Y	BW97B	BW97R	136.00	146	BOC359	25	90.00
	Up-Down	Yes	BW98Y	BW98B	—	147.00	100	—	—	
	without Inserts	Yes	BW90YU	BW90BU	BW90RU	130.00	147	BOC366	25	90.00
	without Inserts	No	BW91YU	BW91BU	BW91RU		25	BOC359	25	
Two Speed	without Inserts ▲	Yes	BW94YU	BW94BU	BW94RU	172.00	147	BOC358	147	158.00
	without Inserts	Yes	BW100YU	BW100BU	BW100RU	195.00	150	BOC367	150	
Up-Down	Yes	BW102Y	BW102B	BW102R	202.00	150	BOC367	150		

▲ Maintained Contact
■ Includes gasket



Y236

Table 19.352: Hanger Bracket

Description	Form	\$ Price
External Bracket (cannot be field installed)	Y236	10.50



BWSR

Table 19.354: Replacement Enclosures

Description	Color	Type	\$ Price
Box & Cover with 4 screws	Yellow	BWRY	54.00
	Red	BWRR	
	Black	BWRB	

Table 19.355: Strain Relief Replacement

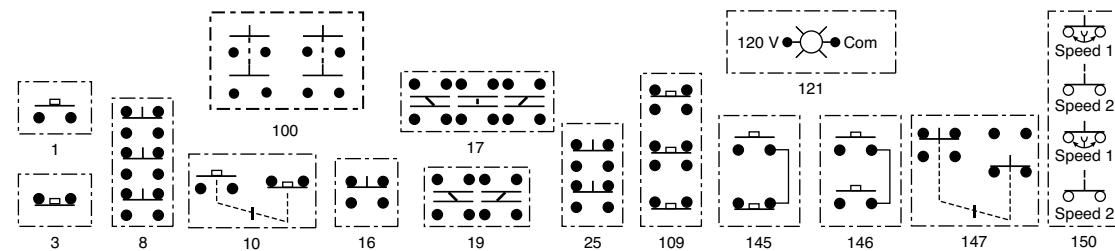
Description	Type	\$ Price
Strain Relief Replacement	BWSR	10.00

Table 19.356: Electrical Contact Ratings ★

Volts	AC—NEMA B600						DC—NEMA P600		
	Inductive 35% Power Factor				Continuous Carrying Amperes	Resistive 75% Power Factor	Volts	Inductive and Resistive	
	Make		Break					Make and Break Amperes	Continuous Carrying Amperes
Volts	A	VA	A	VA	Continuous Carrying Amperes	Resistive 75% Power Factor	Volts	Make and Break Amperes	Continuous Carrying Amperes
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			5

★ OSHA Regulation, Section 1910.70, Overhead and Gantry Cranes, limits the voltage of pendant push buttons to 150 Vac or 300 Vdc.

Contact Symbols



NOTE: When ordering, add prefix 9001 to the catalog number.

XAC pendant stations are designed for standard- or medium-duty control circuit applications.

- Single- or two-speed versions
- Double insulated
- Shock and corrosion resistant
- 2, 4, 6, 8, 12 element versions
- Ease of operation



XACA201



XACA06

XACA03
with
operators

Table 19.357: 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▲	150.00
2 N.O. (staggered) contacts per operator 2 Mechanically interlocked operators	2	↑↓↑↓	XACA207▲	222.00
1 N.O. + 1 N.C. 2 Mechanically interlocked operators	1	↑↓	XACA205▲	187.00
1 N.O. contact per direction 1 Mechanically interlocked 2 way toggle	1	↑↓	XACD21A0101■	167.00
1 N.O. + 1 N.O. staggered 1 Mechanically interlocked 2 way toggle	2	↑↓↑↓	XACD21A1231■	451.00
1 N.O. & 1 N.C. contact per direction 1 Mechanically interlocked 2 way toggle	1	↑↓	XACD21A0105■	202.00
1 N.C. + 1 N.O. + 1 N.O. staggered 1 Mechanically interlocked 2 way toggle	2	↑↓↑↓	XACD21A1241■	480.00

▲ 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.

■ 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.

Note: Legends are required to achieve NEMA4 rating.

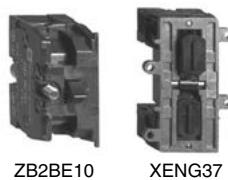
Table 19.358: General Purpose Pendants♦★

Enclosures	Catalog Number	\$ Price
2 hole enclosure	XACA02H7	192.00
3 hole enclosure	XACA03H7	220.00
4 hole enclosure	XACA04H7	250.00
6 hole enclosure	XACA06H7	306.00
8 hole enclosure	XACA08H7	382.00
12 hole enclosure	XACA12H7	478.00

♦ Standard enclosures include internal mounting plate, cable sleeve for 8 to 26 mm, internal cable clamp, suspension ring and cable tie.

★ For ordering information on custom built XACA pendants, visit our website at www.Schneider-Electric.us.

To place a custom pendant order, use the worksheet on page 19-121 as a guide. Orders must be placed through the Product Selector in Quote to Cash. There is a 10% charge for assembly.



ZB2BE10



XENG37

Table 19.359: Contact Blocks for Operators in Cover

Description	Wiring Diagram	Catalog Number	\$ Price
1 N.O./spring return/1 speed	—	ZB2BE101	
1 N.C./spring return/1 speed	—	ZB2BE102	16.40
1 N.O. early close & 1 N.C. & 1 N.O./spring return/2 speed	Figure 1	XENG1191	
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	49.00
3 N.C.—all () direct acting	Figure 5	XENT1192	

Table 19.360: Contact Blocks for Operators in Base of Enclosure ▲

1 N.O./1 speed	XACS101	
1 N.C./1 speed	XACS102	28.60
2 N.O./1 speed	XACS103	
2 N.C./1 speed	XACS104	
1 N.O. & 1 N.C./1 speed	XACS105	38.20

▲ Cannot be used with XACA03 pendant.

XENG1191

XACS10

Wiring Diagrams

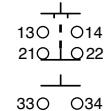


Figure 1

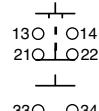


Figure 2

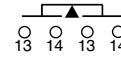


Figure 3

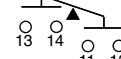


Figure 4

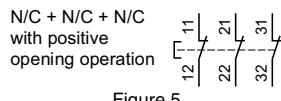


Figure 5



Booted Push Button



Mushroom Head



Selector Switch



Selector Switch
(key operated)



Wobble Stick

Table 19.361: Operators ■

Description	Color	Catalog Number	\$ Price
Booted push button	White	XACA9411	
	Black	XACA9412	
	Green	XACA9413	
	Red	XACA9414	8.20
	Yellow	XACA9415	
	Blue	XACA9416	
	Brown	XACA9419	

Table 19.362: Mushroom Operators

Description	Mushroom Size	Color	Catalog Number	\$ Price
Mushroom head, momentary	30 mm	Red	ZA2BC44	36.80
Mushroom head, push to maintain/turn-to-release	30 mm	Red	ZA2BS44	
	40 mm	Red	ZA2BS54	79.00
Mushroom head, push to maintain/turn-to-release (trigger action) ♦	30 mm	Red	ZA2BS834	
	40 mm	Red	ZA2BS844	
Mushroom head, push to maintain/key turn-to-release	30 mm	Red	ZA2BS74	112.00
	40 mm	Red	ZA2BS14	
Mushroom head, push to maintain/key turn-to-release (trigger action) ♦	40 mm	Red	ZA2BS944	

Table 19.363: Selector Switches and Wobble Stick

Description	Color	Catalog Number	\$ Price
Selector switch/2 position—maintained★	Black	ZA2BD2	
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	
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	

Table 19.364: Pilot Light Components

Description	Color	Catalog Number	\$ Price
Direct supply base/without lamp (for 6 to 120 V applications) (AC/DC) ▼	—	ZB2BV006	24.60

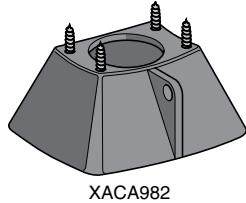
- Booted push buttons are for cover mounting only. All other operators can be mounted on cover or bottom.
- Trigger action mushroom heads are tamper proof in that a change of contact state is not possible by teasing or floating the operator.
- Not for use with XEN G contact blocks.
- For lamps, see page 19-120.



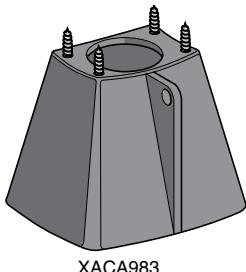
XACA971



XACB961



XACA982

DL1CE000
(Incandescent)

XACA983

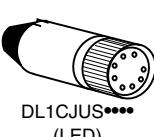
DL1CJUS****
(LED)

Table 19.365: Enclosure Accessories

Description	Catalog Number	\$ Price
Blank hole plug	ZB2S23	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	
Protective guard for bottom mounted mushroom head	XACA982	19.20
Protective guard for bottom mounted selector switch or key switch	XACA983	27.40

Table 19.366: Lamps

Type	Voltage	Watts	Catalog Number	\$ Price
Replacement bulbs (Type BA9s) Incandescent	6 Vac/Vdc	1.2	DL1CB006	
	12 Vac/Vdc	2.0	DL1CE012	
	24 Vac/Vdc	2.0	DL1CE024	
	48 Vac/Vdc	2.4	DL1CE048	
	130 Vac/Vdc	2.6	DL1CE130	11.00

Table 19.367: LED, BA9s Base

Type	Color	Voltage	Catalog Number	\$ Price
LED, BA9s base for Direct Supply blocks	Green	6 Vac/Vdc	DL1CJUS0063	
	Red	6 Vac/Vdc	DL1CJUS0064	
	Amber	6 Vac/Vdc	DL1CJUS0065	
	Green	24 Vac/Vdc	DL1CJUS0243	
	Red	24 Vac/Vdc	DL1CJUS0244	
	Amber	24 Vac/Vdc	DL1CJUS0245	
	White	24 Vac/Vdc	DL1CJ0241	
	Blue	24 Vac/Vdc	DL1CJ0246	
	Green	120 Vac/Vdc	DL1CJUS1203	
	Red	120 Vac/Vdc	DL1CJUS1204	
	Amber	120 Vac/Vdc	DL1CJUS1205	25.00

Table 19.368: PVC Standard Legend Plates 30 x 40 mm

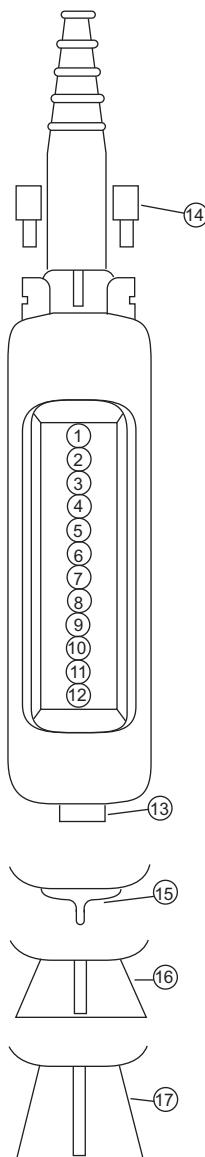
Text▲	Catalog Number	\$ Price	Text▲	Catalog Number	\$ Price	Text▲	Catalog Number	\$ Price
Bridge Forward	ZB2BY2343	4.20	Left	ZB2BY2310	4.20	Stop	ZB2BY2304	
Bridge Reverse	ZB2BY2344		Low	ZB2BY2336		Stop Start	ZB2BY2366	
Close	ZB2BY2314		Lower	ZB2BY2337		Trolley Right	ZB2BY2345	
Down	ZB2BY2308		Man Auto	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	ZB2BY2371		Open	ZB2BY2313		North	6516002379	
For-O-Rev	ZB2BY2384		Open Close	ZB2BY2376		South	6516002380	
Hand Off Auto	ZB2BY2387		Open-O-Close	ZB2BY2388		East	6516002381	4.20
High	ZB2BY2338		Out	ZB2BY2339		West	6516002382	
High Low	ZB2BY2369		Power On	ZB2BY2326				
Hoist Down	ZB2BY2342		Raise	ZB2BY2335				
Hoist Up	ZB2BY2341		Reset▲	ZB2BY2323				
In	ZB2BY2503		Reverse	ZB2BY2306				
Inch	ZB2BY2321		Right	ZB2BY2309				
Jog For	ZB2BY2381		Run	ZB2BY2334				
Jog Rev	ZB2BY2380		Slow	ZB2BY2327				
Jog Run	ZB2BY2365		Start	ZB2BY2303				

▲ 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 Blank	Black or red background—30 mm x 40 mm Yellow or white background—30 mm x 40 mm	ZB2BY2101 ZB2BY4101
PVC custom engraved	Special engraving■ Special engraving■	Black background, white letters—30 mm x 40 mm White background, black letters—30 mm x 40 mm	ZB2BY2002 ZB2BY4001

■ Please specify lettering when ordering. Two lines with 11 characters (including spaces) maximum on each plate.

Type XACA Worksheet



Use this worksheet to assist in component selection. Custom orders for XACA pendant stations must be placed through the Product Selector in Quote to Cash. There is a 10% charge for assembly.

XACA Order Guide Instructions

Custom built pendant stations

1. Determine the number of operators needed, then choose an enclosure with a corresponding number of holes.
2. Select the type of operator, contact block, and appropriate nameplate for each function required.
3. Check for special functions that may be required. These items could include mechanical interlocks, adapters for self-supporting cable, lower support rings, protective guards, etc.

Functions (optional)	Catalog number of enclosure	XACA		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
		Legends	Contact blocks and pilot light bodies	
	1			
	2			
	3			
	4			
	5			
	6			
	7			
	8			
	9			
	10			
	11			
	12			

▲ Mechanical interlock XACA009

Number of XACA009 required

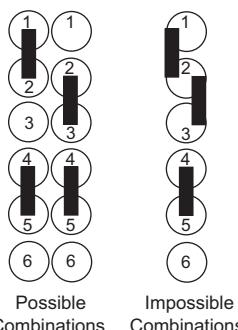
Unit mounted in base of station (facing downwards)

13			
----	--	--	--

Attachments

Position	Type	Catalog No.
14	Adapters for self-supporting cable type BBAP (available only with cable sleeve Ø8–26 mm)	XACB961
15	Lower support ring	XACA971
16	Protective guard for base mounted selector switch or 40 mm emergency-stop push button	XACA982
17	Protective guard for key switch	XACA983

Mechanical Interlock
(XACA009)



Pendant Stations

This line of pendant stations consists of polymeric enclosures (2 through 10 units), push button units (1 through 5 speed) and laminated legend plates. All enclosures have an extra single unit space near the top which permits the installation of a toggle switch, a Type SK operator or pilot light, or a warning label. All enclosures come with a stainless steel hanger bracket and internal strain relief post. Enclosures are yellow and have a threaded opening in the top.

NOTE: When ordering, add prefix 9001 to the catalog number.

Table 19.369: Enclosure Catalog Numbers

Number of Buttons	Conduit Entrance Size	Enclosure Only▲	\$ Price	Enclosure For Assembled Station■	\$ Price
		Cat. No.		Cat. No.	
2	3/4"-14 NPT	SKYP2	189.00	SKYP20	
4	3/4"-14 NPT	SKYP4	239.00	SKYP40	
6	1"-11 1/2 NPT	SKYP6	287.00	SKYP60	
8	1 1/4"-11 1/2 NPT	SKYP8	356.00	SKYP80	
10	1 1/4"-11 1/2 NPT	SKYP10	428.00	SKYP100	♦

- Class 9001 SK push-to-test pilot lights and remote test pilot lights will not fit in these enclosures.
- Assembled pendant stations consist of an enclosure, operators and legend plates. All custom orders must include the pendant key sheet available as shown on page 19-123.
- The price of an assembled pendant SKYP station includes the enclosure and components plus a 10% assembly charge. (Example: 9001 SKYP2 (\$189), + SKRU1 (\$129), + SKN201 (\$8.60) = \$326.60 + 10% = \$360.

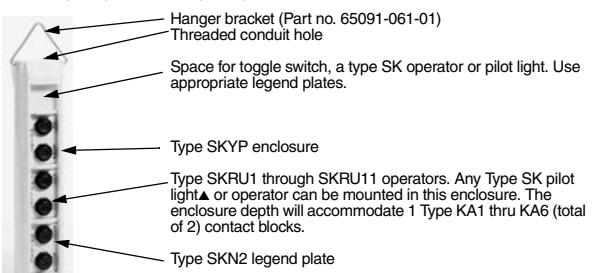
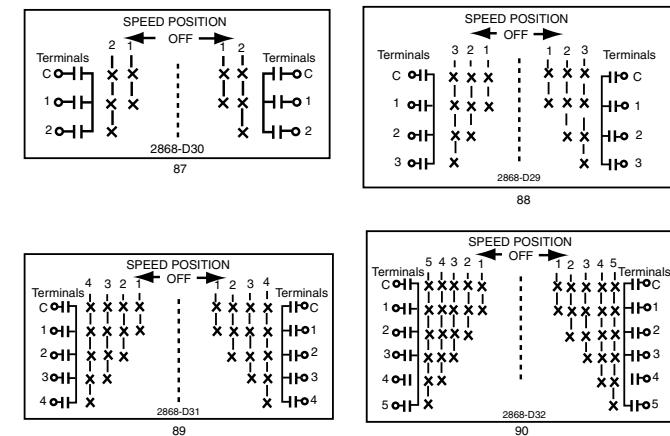


Table 19.370: Push Button Units

Number of Buttons per Unit	Description	Contact Symbol - See Below	Cat. No.★	\$ Price
2	Single Speed - Momentary Interlocked	7	SKRU1	129.00▼
2	Single Speed - Momentary Non-Interlocked	5	SKRU10	107.00▼
2	Single Speed - Maintained Interlock	10	SKRU11	149.00▼
2	Two Speed - Momentary Interlocked	87	SKRU2	270.00△
2	Three Speed - Momentary Interlocked	88	SKRU3	320.00△
2	Four Speed - Momentary Interlocked	89	SKRU4	341.00△
2	Five Speed - Momentary Interlocked	90	SKRU5	356.00△

- Types SKRU 1, 10 and 11 use Type KA contact blocks. Types SKRU 2 thru 5 are factory enclosed contact blocks.
- Boot part number is 9001KU1.
- Boot part number is 9001KU37.

Figure 19.3: Multispeed Contact Symbols (X = Contact Closed)



Application and Ordering Information

Class 9001 / Refer to Catalog 9001CT1001

Schneider
Electric
www.schneider-electric.us

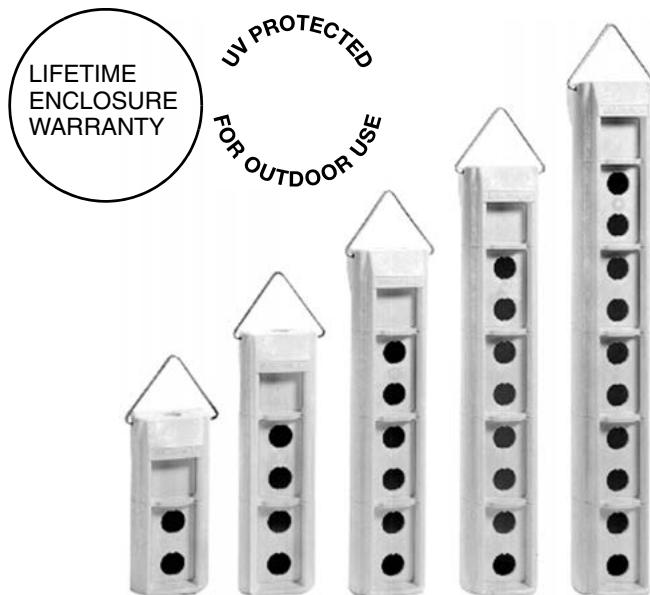


Table 19.371: Legend Plate Catalog Numbers

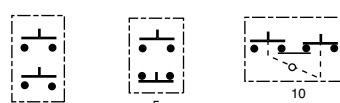
	Where Used	Marking	Cat. No.	\$ Price
	For SKRU1 through SKRU11	Blank-Blank Hoist: Up-Down Trolley: East-West Trolley: Fwd.-Rev. Trolley: North-South Bridge: Fwd.-Rev. Bridge: East-West Bridge: North-South Start-Stop Reset-Stop Aux Hoist: Up-Down Power: On-Off	SKN200♦ SKN201 SKN202 SKN203 SKN204 SKN205 SKN206 SKN207 SKN208 SKN209 SKN210 SKN211	8.60
		Specify Marking	SKN299♦	37.20
	With toggle switch□ in top space of enclosure	Blank Off-On On-Off	SKN500★ SKN544★ SKN545★	12.90
		Specify Marking	SKN599★	27.00
	With 9001SK◊ operator or pilot light in top space of enclosure	Blank On Off Emerg. Stop Run Power On Off-On	SKN100▼ SKN103 SKN104 SKN105 SKN124 SKN138 SKN144	4.40
		Specify Marking	SKN199▼	18.50

- Can be supplied by Square D as Class 9001 Type SKSTS1 - includes boot for NEMA Type 4X.
- See 9001SK on pages 19-77 thru 19-84.
- 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 19.372: Closing Plate Catalog Number

Cat. No.	\$ Price
SK52	14.30

Figure 19.4: Single Speed Contact Symbols



Worksheet for Custom Assembled Pendant Page 19-123

Type SKYP Worksheet



Control
Products

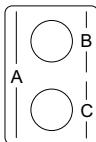
Use this worksheet to assist in component selection. SKYP Custom Pendant orders must be placed through the Product Selector in Quote to Cash. There is a 10% charge for assembly.

Class 9001

Type SKYP - _____

1. Operator or Closing Plate.
Example - SKRU1
2. Legend Plate Type Number
Example - SKN201
3. Legend Plate Marking ▲
– Used Only if Special Marking is Required
Example:
Line 2 - SKN299
Line 3 - A.) Hoist
B.) FWD
C.) REV

When operator and legend plate
use 2 adjacent holes - specify
same in both locations. Example:



ENCLOSURES – NEMA 4X, 13

Size	Conduit Entrance Size	Enclosure for Assembled Station ▲	Type
		Type	
2 Button	3/4" -14 NPT	SKYP20	
4 Button	3/4" -14 NPT	SKYP40	
6 Button	1" -14 NPT	SKYP60	
8 Button	1 1/4" -11 1/2	SKYP80	
10 Button	1 1/4" -11 1/2	SKYP100	

▲ Assembled pendant stations consist of an enclosure, operators, and legend plates.

PUSH BUTTON UNITS – NEMA / UL 4X, 13

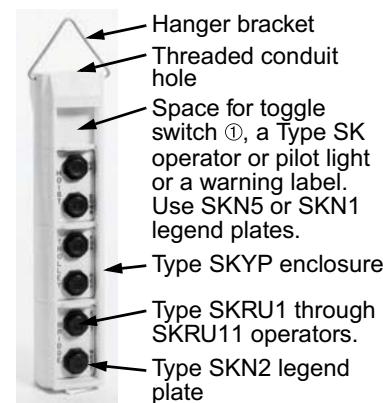
Number of Buttons per Unit	Description	Contact Symbol	Type
2	Single Speed - Momentary Interlocked	7	SKRU1
2	Single Speed - Momentary Non-Interlocked	5	SKRU10
2	Single Speed - Maintained Interlocked	10	SKRU11
2	Two Speed - Momentary Interlocked	87	SKRU2
2	Three Speed - Momentary Interlocked	88	SKRU3
2	Four Speed - Momentary Interlocked	89	SKRU4
2	Five Speed - Momentary Interlocked	90	SKRU5

CLOSING PLATE

Type
SK52

The price of the total station
consists of the price of each
individual component plus a
10% charge for assembly.

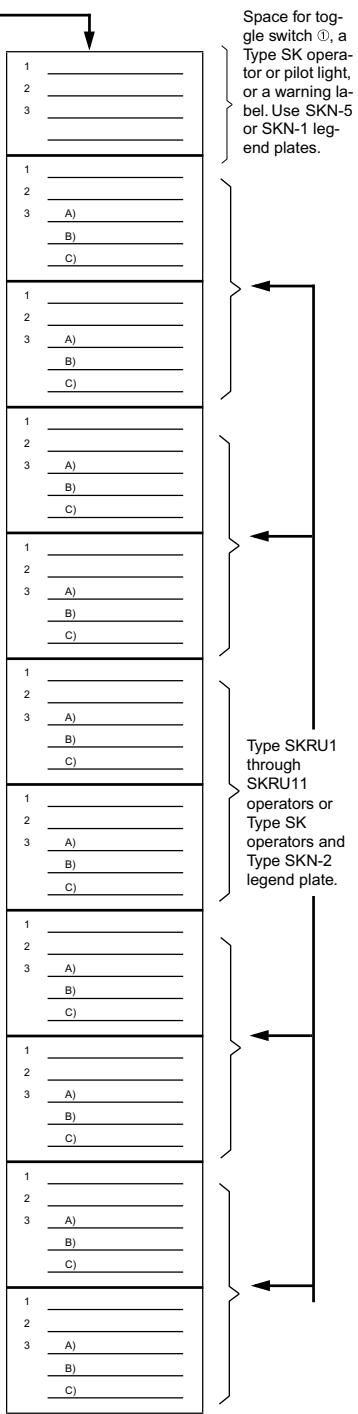
TYPE NUMBER KEY



LEGEND PLATES – NEMA / UL 4X, 13

Where Used	Marking	Type
For SKRU1 through SKRU11	Blank-Blank Hoist: Up-Down Trolley: East-West Trolley: Fwd.-Rev. Trolley: North-South Bridge: Fwd.-Rev. Bridge: East-West Bridge: North-South Start-Stop Reset-Stop Specify Marking	SKN200④ SKN201 SKN202 SKN203 SKN204 SKN205 SKN206 SKN207 SKN208 SKN209 SKN299④
With Toggle Switch ① in Top Space of Enclosure	Blank Off-On On-Off Specify Marking	SKN500 ② SKN544 ② SKN545 ② SKN599 ②
With Type SK Operator ▲ or Pilot Light in Top Space of Enclosure	Blank On Off Emerg. Stop Run Power On Off-On Specify Marking Specify Marking (Red Background)	SKN100 ③ SKN103 SKN104 SKN105 SKN124 SKN138 SKN144 SKN199 ③ SKN199R ③

① Available as 9001SKSTS1
② Includes legend plate, gasket and ground plate to be used with toggle switch.
③ Tri-laminated legend plate having a yellow or red background on a black core.
④ 19 characters each side.
▲ Class 9001 Type SK Push-To-Test Pilot lights and Remote Test Pilot lights will not fit in these enclosures.



Heavy Duty Industrial Foot Switches—Oiltight, Watertight, Dusttight and Driptight Enclosure, NEMA 2, 4 and 13


AW2
Type AW Foot Switch with
Top Pedal Shield and Side
Shields



AW132
Type AW with Oversized
Pedal Shield and Side
Shields



AW117
Type AW with Oversized
Pedal Shield, Side
Shields and Safety Door



AW1
Type AW Foot Switch
without Pedal Shield

▲ DANGER
HAZARDOUS APPLICATIONS

Do not use foot switches on machines without point-of-operation protection.

Failure to follow these instructions will result in death, serious injury, or equipment damage.

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.



AW124

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.

Operating Temperature: -30 to +60 °C (-22 to +140 °F)

NOTE: When ordering, add prefix "9002" to the catalog number.

Table 19.373: Foot Switch Catalog Numbers

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★)	
		Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	\$ Price
Single Pole ■ Double Throw	Spring Return With Mechanical Latch	AW117	750.00	AW132	750.00	AW2	363.00	AW1	396.00
Two Pole ■ Double Throw	Spring Return With Mechanical Latch	AW124▲	903.00	AW133	903.00	AW14	527.00	AW13	575.00
Two Stage ■ (One Pole Each Stage) Table 1	Spring Return With Mechanical Latch in 1st Stage With Mechanical Latch in 2nd Stage	AW119	930.00	AW134	930.00	AW6	543.00	AW5	590.00
Four Stage ■ (One Pole Each Stage) Table 2	Spring Return	AW123	1295.00	—	—	AW22	912.00	AW21	995.00
Single Pole Single Throw	Maintained Contact—Push On/Push Off	—	—	—	—	AW12	527.00	AW11	575.00
Replacement Cover Assembly	—	AC5	363.00	AC7	363.00	AC8♦	140.00	AC1	153.00

- ▲ 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.).

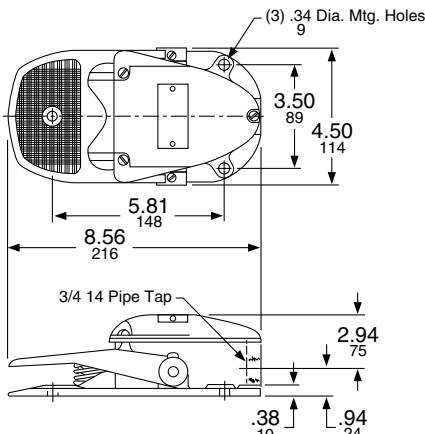


File
CCN
E42259
NKCR

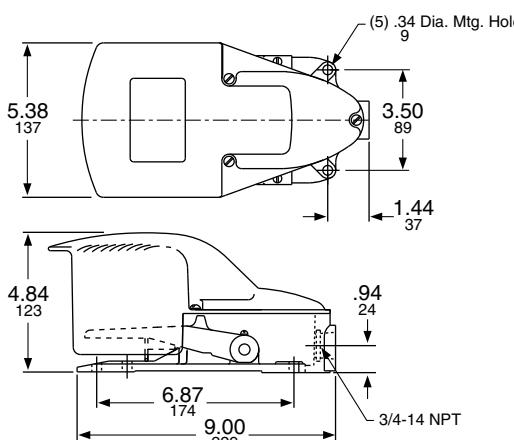


File
Class
LR25490
184 N 13.1U

For replacement parts for Class 9002 Type AW: See instruction bulletin 65013-010-31.
For contact symbol tables, see page 19-125



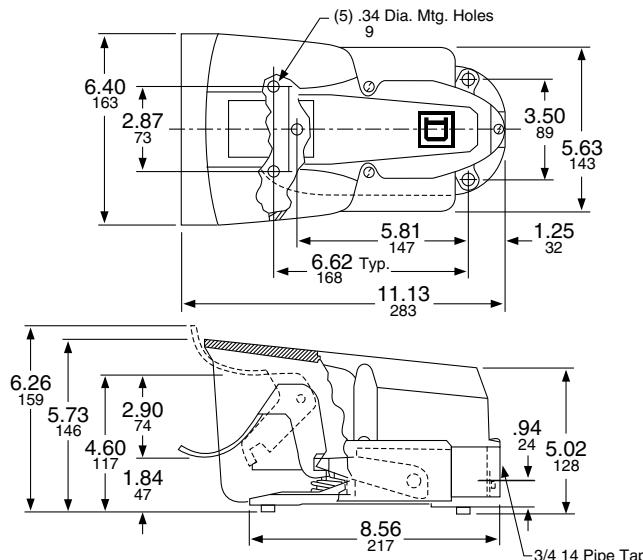
Types AW1, AW5, AW11, AW13 and AW21



Types AW2, AW6, AW12, AW14 and AW22

Dual Dimensions: **INCHES**
Millimeters

Approximate Dimensions



Types AW117, AW119, AW123, AW124
Types AW132, AW133 and AW134 (without safety door)

Table 19.374: 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			
		Make	Break			Make and Break and Continuous	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 19.375: 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 19.376: Contact Symbol—Four Stage

Unit	Circuit	Pedal Position				
		Up → Down				
1	1A1	0	0	1	1	1
	1B1	1	1	0	0	0
	2A1	0	1	1	1	1
	2B1	1	0	0	0	0
2	1A2	1	1	1	0	0
	1B2	0	0	0	1	1
	2A2	1	1	1	1	0
	2B2	0	0	0	0	1

Table 19.377: Rotary Cam Switches

Applications	Used in building control panels and consoles. Type K cam switches allow control of processes and utilities in industry and buildings, and direct control for simple machines.									
	 									
Functions	Off-On/On-Off switches Stepping switches Changeover switches Measurement switches Reversing switches Reversing star-delta switches Pole change switches									
Conventional rated thermal current (I _{th})	1 to 6-pole									
Rated insulation voltage (Ui)	1 to 6-pole									
Electrical operating characteristics	2 to 12-position, 1 to 4-pole 1 to 5-pole Voltmeter and ammeter 2 and 3-pole Star-delta 2 and 3-speed									
Front plate degree of protection	1 to 6-pole									
Product composition	Complete switches and custom Adaptable sub-assemblies									
Compatibility	Complete switches and signalling units									
Mounting	Front mounting	Multi-fixing Single Ø 22 hole	By 4 holes on 48 mm centers		By 4 holes on 68 mm centers					
	Rear mounting	Screw fixing, 4 holes on 36 mm centers	Screw fixing, 4 holes on 48 mm centers		Screw fixing, 4 holes on 68 mm centers					
Front plate dimensions (mm)	45 x 45 60 x 60 (adaptable sub-assemblies)									
	45 x 45 60 x 60 (adaptable sub-assemblies)									
Operating heads	Black and red standard and long handles Key operator Metallic head Metallic legend with black marking or black legend with white marking									
Approvals	UL-CSA cULus EN/IEC 60947-3 EN/IEC 60947-5-1									
Type	Type K2									
Cam switch model ▲	Class 9003, K2									
	K30 K50 K63 K115 K150									

Instructions for the Key Sheet on page 19-127

- From the chart below, choose the switching angle as determined on the key sheet (see page 19-127). This identifies the angular location and the position numbers for the various positions of the rotary cam switch. **Zero degrees or straight up is always position 1**. Use these position numbers when completing the target table.
- Terminals on the cam switch have the same numbers as the terminal numbers on the target table. **Contact 1-2 is a single contact**.

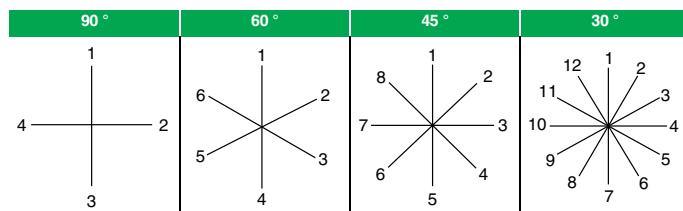
NOTE: When indicating a contact closure, place "X" within the square as shown in the contact sequence example.

Explanation of the Contact Sequence Example Below

- Contact 1-2 is open in all positions except position 2.
- Contact 3-4 is closed from the 2nd through the 4th position. The contact does not open while switching from one position to another.
- Contacts 5-6 and 7-8 overlap between positions 2 and 3.
- Contact 9-10 is closed in positions 2 and 3. It is open momentarily while switching between positions 2 and 3.
- Contact 11-12 closes momentarily when switching from position 2 to position 3. This contact is not closed in position 2 or position 3.

NOTE: Position 1 is an off position

Table 19.378: Switching Angle Chart



▲ Incomplete part numbers. Contact your local supplier for assistance.

Figure 19.5: Contact Sequence Example

C o n t a c t s	Positions							
	1	—	2	—	3	—	4	—
1-2			X					
3-4			X	X	X	X	X	
5-6				X	X			
7-8			X	X				
9-10			X		X			
11-12				X				

See Instructions on page 19-126.

Customer		F.O. NO.
Date	P.O. Number	Qty

To order custom cam switches:

1. Indicate the contact size at right (9003 K2)
2. Indicate the desired switching angle at right. **If the switching angle is not indicated, the factory will determine the angle from the table to the right.**
3. From the example shown on page 19-126, fill in the target table on page 19-128.
4. Indicate the operator/handle type.
5. If the operator/handle bezel has a legend and legend marking is desired, indicate the legend marking on the back of this form.
6. If a separate legend is required, indicate the legend type on the right and the marking on the back of this form.

Switching Angle	Maximum Number of Positions	See Ordering Instructions at Left
90 °	4	2-3
60 °	6	4-5
45 °	8	6-7
30 °	12	8-12

Contact size	Class 9003	Type	K <u>2</u>
Switching angle		Type	_____
Operator/Handle type	Class 9003	Type	_____
Separate legend	Class 9003	Type	_____

NOTE: See page 19-126 for target table explanation

Figure 19.6: Target Table

Target Table
Positions

	1	—	2	—	3	—	4	—	5	—	6	—	7	—	8	—	9	—	10	—	11	—	12																	
TERMINALS	1-2		3-4		5-6		7-8		9-10		11-12		13-14		15-16		17-18		19-20		21-22		23-24		25-26		27-28		29-30		31-32		33-34		35-36		37-38		39-40	