

Section 19

Push Buttons and Operator Interface











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Push Button Selection Guide

| Family | XB4 | XB5 | XB7 | 9001K | 9001SK | 9001KX |
|-----------------------------------|---|---|---|--|--|--|
| | | | | | | |
| Type of Product | **22 mm Push Button (metal) | **22 mm Push Button (plastic) | ***22mm 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 | 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 | UL Listed File E164353, CCN NKCR UL Recognized File E164353, CCN NKCR2 | UL File E164353, CCN NKCR | UL File E78403, CCN NKCR | UL File E78403, CCN NKCR | UL File E78403, CCN NKCR |
| | CSA File LR44087, Class 3211-03 | CSA File LR44087, Class 3211-03 | CSA File LR44087-122, Class 3211-03 | CSA File LR25490, Class 3211-03 | CSA File LR25490, Class 3211-03 | CSA File LR25490, Class 3211-03 |
| | CE Marked RoHS Compliant | CE Marked RoHS Compliant | CE Marked RoHS Compliant | CE Marked RoHS Compliant | CE Marked RoHS Compliant | CE Marked RoHS Compliant |
| Conforming to Standards | EN/IEC 60947-1, EN/IEC 60947-5-1, EN/IEC 60947-5-4, EN/IEC 60947-5-5 | EN/IEC 60947-1, EN/IEC 60947-5-1, EN/IEC 60947-5-4, EN/IEC 60947-5-5 | EN/IEC 60947-1, EN/IEC 60947-5-1 for push buttons, pilot lights, illuminated push buttons and selector switches EN/IEC 60947-1, EN/IEC 60947-5-1, EN/IEC 60947-5-5 | EN/IEC 60947-1 | EN/IEC 60947-1 | EN/IEC 60947-1 |
| | EN/IEC 60204-1 and EN/ISO 13850: 2006 (trigger action and mechanical latching emergency stop push buttons) | EN/IEC 60204-1 and EN/ISO 13850: 2006 (trigger action and mechanical latching emergency stop push button). | EN/IEC 60204-1 and EN/ISO 13850 for Emergency Stop trigger action push buttons | EN/IEC60947-5-1 | EN/IEC60947-5-1 | EN/IEC60947-5-1 |
| | EN/IEC 60364-5-53 (emergency switching of mechanical latching push buttons) | EN/IEC 60364-5-53 (emergency switching of mechanical latching push buttons) | | EN/IEC60947-5-4 | EN/IEC60947-5-4 | EN/IEC60947-5-4 |
| | — | EN81-1 (emergency stop trigger action and mechanical latching push buttons with mechanical state indicator) | | | | |
| | JIS C 4520 | JIS C 4520 | | JIS C 4520 and 852 | JIS C 4520 and 852 | JIS C 4520 and 852 |
| | UL 508 | UL 508 | UL 508 | UL 508 | UL 508 | UL 508 |
| | CSA C22.2 No.14 | CSA C22.2-2 No.14 | CSA C22.2 No.14 | CSA C22.2 No.14 | CSA C22.2 No.14 | CSA C22.2 No.14 |
| | GOST | GOST | | | | |
| | CCC | CCC | CCC | | | |
| | | | GB 14048.5 for all XB7 range | | | |
| Degree of Protection | IP65, IP69, IP69K IP66 for booted NEMA 1, 2, 3, 4, 4X, 12, 13 | IP65, IP69, IP69K IP66 for booted NEMA 1, 2, 3, 3R, 4, 4X, 12, 13 | IP54, IP65 — NEMA 3, 4, 12 | IP65 — NEMA 1, 2, 3, 3R, 4, 12, 13 | IP65 — NEMA 1, 2, 3, 3R, 4, 4X, 12, 13 | IP66 — NEMA 1, 2, 3, 3R, 4, 12, 13 |
| Operating Temperature F° (C°) | -40 to 158 (-40 to 70) | -40 to 158 (-40 to 70) | -13 to 158 (-25 to 70) | -22 to 140 (-30 to 60) | -22 to 140 (-30 to 60) | -22 to 140 (-30 to 60) |
| Storage Temperature F° (C°) | -40 to 158 (-40 to 70) | -40 to 158 (-40 to 70) | -40 to 158 (-40 to 70) | -40 to 158 (-40 to 70) | -40 to 158 (-40 to 70) | -40 to 158 (-40 to 70) |
| 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 | 24 Vac/Vdc: 18 mA 120 Vac: 14 mA | Illuminated Push Buttons: 24V - 18mA 120V - 12mA 230V - 22mA Pilot Lights 24V - 20mA 120V - 18mA 230V - 16mA | Incandescent and LED bulbs. For ratings, see Standard Light Modules, page 19-63. | Incandescent and LED bulbs. For ratings, see Standard Light Modules, page 19-63. | Incandescent |
| | 240 Vac: 14 mA | 240 Vac: 14 mA | | | | |
| Rated Operational Characteristics | AC-15; B600 Ue = 600 Vac and Ie = 1.2 A Ue = 240 Vac and Ie = 3 A Ue = 120 Vac and Ie = 6 A Continuous 10 A | AC-15; B600 Ue = 600 Vac and Ie = 1.2 A Ue = 240 Vac and Ie = 3 A Ue = 120 Vac and Ie = 6 A Continuous 10 A | AC-14; D300 Ue = 240 Vac and Ie = 0.3A Ue = 120 Vac and Ie = 0.6A Continuous 4 A | AC-15; A600 Continuous 10 A | AC-15; A600 Continuous 10 A | AC-15; A600 Continuous 10 A |
| | DC-13; Q600 Ue = 600 Vdc and Ie = 0.1 A Ue = 250 Vdc and Ie = 0.27 A Ue = 125 Vdc and Ie = 0.55 A | DC-13; Q600 Ue = 600 Vdc and Ie = 0.1 A Ue = 250Vdc and Ie = 0.27 A Ue = 125 Vdc and Ie = 0.55 A | DC-13; R300 Ue = 250 Vdc and Ie = 0.1A Ue = 125 Vdc and Ie = 0.22A | DC-13; Q600 Ue = 600 Vdc and Ie = 0.1 A Ue = 250 Vdc and Ie = 0.27 A Ue = 125 Vdc and Ie = 0.55 A | DC-13; Q600 Ue = 600 Vdc and Ie = 0.1 A Ue = 250 Vdc and Ie = 0.27 A Ue = 125 Vdc and Ie = 0.55 A | DC-13; Q600 Ue = 600 Vdc and Ie = 0.1 A Ue = 250 Vdc and Ie = 0.27 A Ue = 125 Vdc and Ie = 0.55 A |
| Connection Type | IP20 Fingersafe Screw or Spring Terminal | | Screw and captive clamp terminal connections Faston clip connections (pilot lights) | IP20 Fingersafe Screw Terminal | | |
| | Screw Terminal: | Spring 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 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 Location | XB4, page 19-10 | XB5, page 19-25 | XB7, page 19-44 | Type K, page 19-47 | Type SK, page 19-55 | KX, page |

Control Station Selection Guide

| Family | XAL | XAP | 9001B |
|-------------------------------|---|--|--|
| |  XALD02  XALDW01 |  XAPA1100  XAPA1104 |  NEMA 1 Surface Mounting 9001BG**  NEMA 1 Flush Mounting 9001BF**  NEMA 4 9001BW**  NEMA 7 and 9 9001BR** |
| 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 |
| Number of holes | 1 to 3 | 0 to 16 | 1 to 3 |
| Type of Operators | XB5 (22mm) | XB5 (22mm) | Built in |
| Available without Operators | Yes | Yes | No |
| Available with Operators | Yes | No | 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 |
| 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 |
| Degree of Protection | 1, 4, 4X, 13 IP65 IP66 - Booted | XAPA - 4, 4X, 12, IP65 XAPG - 4, 12, IP65 XAPE - 4, 4X, 12, IP65 | 9001BG - 1 9001BF - 1 9001BW - 4 9001BR - 7, 9 |
| Operating Temperature F° (C°) | -13 to 158 (-25 to 70) | -13 to 158 (-25 to 70) | |
| Storage Temperature F° (C°) | -40 to 158 (-10 to 70) | -40 to 158 (-10 to 70) | |
| 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 |
| Digest Location | XAL, page 19-72 | XAP, page 19-72 | 9001B, page 19-74 |

Pendant Station Selection Guide

| Family | ZAR eXL Hoist Compact | ZAR Pocket Remote | 9001BW | XACA2 | XACA0 |
|---------------------------------------|---|---|---|--|--|
| |  |  |  |  |  |
| Type of Product | *Wireless Pendant | *Wireless Remote | **2-Button Pendant | **2-Button Pistol Grip Pendant | **General Purpose Pendant |
| Number of operators | 6 motion, 2 auxilliary | 3, 4, 6, 8, and 10 | 2 | 2 | 2, 3, 4, 6, 8, 12 |
| Approvals | UL/CSA, CE, EAC | UL, CE | 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 |
| Conforming to Standards | For receiver: EN 300 328 V2.1.1: 2016-11 EN 301 489-1 V2.1.1: 2017-02 EN 301 489-17 V3.1.1: 2017-02 EN 60950-1:2006 + A11: 2009 EN 50581: 2012 EN ISO 13849-1:2016 For transmitter: EN 300 440 V2.1.1: 2017-03 EN 301 489-1 V2.1.1: 2017-02 EN 301 489-3 V2.1.1: 2017-03 EN 60950-1:2006 + A11: 2009 + A1: 2010 + A12: 2011 EN 62479: 2010 EN 50581: 2012 EN ISO 13849-1:2016 | For receiver: EN 300 328 V2.1.1: 2016-11 EN 301 489-1 V2.1.1: 2017-02 EN 301 489-17 V3.1.1: 2017-02 EN 60950-1:2006 + A11: 2009 EN 50581: 2012 For transmitter: EN 300 440 V2.1.1: 2017-03 EN 301 489-1 V2.1.1: 2017-02 EN 301 489-3 V2.1.1: 2017-03 EN 60950-1:2006 + A11: 2009 + A1: 2010 + A12: 2011 EN 62479: 2010 EN 50581: 2012 | 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 |
| Degree of Protection | Transmitter: IP65/NEMA 4, Receiver: IP66 | IP67 for transmitter and IP66 for receiver | NEMA 1, 3, 3R, 4, 4X | NEMA 1, 4, 4X, 5 IP65 IK08 | NEMA 1, 4, 4X, 5 IP65 IK08 |
| Operating Temperature F° (C°) | -4 to 131 (-20 to 55) | -4...131 °F (-20...55 °C) | -13 to 140 (-25 to 60) | -13 to 140 (-25 to 60) | -13 to 140 (-25 to 60) |
| Storage Temperature F° (C°) | -4 to 113 (-20 to 45) | -4...113 °F (-20...45 °C) | -40 to 158 (-40 to 70) | -40 to 158 (-40 to 70) | -40 to 158 (-40 to 70) |
| Housing Material | Polyurethane | Polyurethane | Polycarbonate / PET Polyester Blend | Yellow Polypropylene | Yellow Polypropylene |
| Rated Operational Characteristics [1] | — | — | AC - B600 DC - P600 | AC-15: A600 or Ue = 600V, Ie = 1.2A or Ue = 240V, Ie = 3A DC-13: Q600 or Ue = 600V, Ie = 0.1A or Ue = 250V, Ie = 0.27A | AC-15: A600 or Ue = 600V, Ie = 1.2A or Ue = 240V, Ie = 3A DC-13: Q600 or Ue = 600V, Ie = 0.1A or Ue = 250V, Ie = 0.27A |
| 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 |
| Cable Size | Receiver: PVC torsion cable, largest single wire Ø 0.21 mm/0.008 in., outer Ø 12.0 mm/0.47 in. | Receiver: PVC torsion cable, largest single wire Ø 0.21 mm (0.008 in.), outer Ø 12.0 mm (0.47 in.) | — | 1 x 0.5 mm² (20AWG) min. 2 x 1.5 mm² (16AWG) max. 1 x 2.5 mm² (14AWG) max. | 1 x 14 AWG (copper only) |
| Digest Location | ZAR, Harmony® eXLhoist, page 19-78 | ZAR, Remote Control Device and Base Station, page 19-79 | Type BW, page 19-81 | XAC, page 19-82 | XAC, page 19-82 |

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

Tower Lights and Beacons Selection Guide (1 of 2)

| Family | XVB L | XVB C |
|-------------------------------|--|--|
| |  |  |
| Type of Product | Beacon | Tower Light |
| Diameter | 70mm | 70mm |
| Features | 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 |
| Conforming to Standards | CE Marked IEC/EN 60947-5-1 UL 508 CSA 22.2 No 14 | CE Marked IEC/EN 60947-5-1 UL 508 CSA 22.2 No 14 |
| Degree of Protection | IP65 | IP65 |
| Operating Temperature F° (C°) | -13 to 122 (-25 to 50) | -13 to 122 (-25 to 50) |
| Storage Temperature F° (C°) | -40 to 158 (-40 to 70) | -40 to 158 (-40 to 70) |
| Light Source | LED / Incandescent | LED / Incandescent |
| Electrical Consumption | | |
| LED Steady | 24 Vac/dc: < 30 mA 120–230 Vac: < 30 mA | 24 Vac/dc: < 30 mA 120–230 Vac: < 30 mA |
| LED Flashing with Buzzer | 24 Vac/dc: < 40 mA 120–230 Vac: < 15mA 1 Hz (1 flash per second) | 24 Vac/dc: < 40 mA 120–230 Vac: < 15mA 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: 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) |
| Audible Sounders | 12–48 Vac/dc: < 20 mA 120–230 Vac: < 50 mA 90 decibels at 1 meter | 12–48 Vac/dc: < 20 mA 120–230 Vac: < 50 mA 90 decibels at 1 meter |
| Connection Type | 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 |
| Digest Location | XVB 70 mm Beacons, page 19-84 | XVB 70 mm Components, page 19-85 |

Tower Lights and Beacons Selection Guide (2 of 2)

| Family | XVC 4 | XVC 6 | XVC 1 | XVU | XVR | XVS |
|--------------------------------------|---|---|---|---|--|--|
| |  |  |  |  |  |  |
| Type of Product | *Tower Light | *Tower Light | *Tower Light | **Tower Light | ***Rotating Beacon | ***Siren and Electronic Alarm |
| Diameter | 40 mm | 60 mm | 100 mm | 60mm | 84/100/106/120/130 mm | — |
| Features | All devices are pre-assembled and pre-wired | | | Programmable LED module with multiple colors, flashing, blinking, and rotating | All devices are pre-assembled and pre-wired. XVR12***S includes buzzer: 50 to 90 decibels XVR3***S includes buzzer: 70 to 90 decibels | Adjustable Tones XVS14BMW, 0 to 105 decibels, 43 tones XVS72BM**, 0 to 90 decibels, 16 tones XVSV****, 0 to 89/97dB, 6 channels, 63 messages, 256 sec XVSV**** Programmable with software |
| Approvals | UL Recognized E164353 CNN NKCR CSA LR44087 Class 3211-03 | UL Recognized E164353 CNN NKCR CSA LR44087 Class 3211-03 | UL Recognized E164353 CNN NKCR CSA LR44087 Class 3211-03 | UL file: E164353 CCN : NKCR CSA File : 225619 CLASS : 3211-07 | UL Recognized E164353 CNN NKCR CSA LR44087 Class 3211-03 | UL Recognized E164353 CNN UCST CSA LR44087 Class 3211-03 |
| Conforming to Standards | CE Marked EN61000-6-2 EN61000-6-3 | CE Marked EN61000-6-2 EN61000-6-3 | CE Marked EN61000-6-2 EN61000-6-3 | CE Marked EN 60947-1 EN 60947-5-1 | CE Marked EN61000-6-2 EN61000-6-4 | CE Marked ce UKCA EN61000-6-2, EN61000-6-3, EN60947-1, EN60947-5-1 |
| Degree of Protection | IP54 | IP54 | IP54 | IP65 | XVR08 - XVR13: IP23 / IP55 / IP65 / IP66 / IP67 XVR3: IP23 / IP65 - NEMA 4/4X - Up to 7.1gn vibration resistance | IP53 / IP54 / IP65 |
| Operating Temperature F° (C°) | -13 to 122 (-25 to 50) | -13 to 122 (-25 to 50) | -13 to 122 (-25 to 50) | -13 to 122 (-25 to 50) | -14 to 122 (-10 to 50) / (-20 to 50) | -4 to 122 (-20 to 50) (-20 to 60 XVSV) |
| Storage Temperature F° (C°) | -40 to 158 (-40 to 70) | -40 to 158 (-40 to 70) | -40 to 158 (-40 to 70) | -13 to 150 (-25 to 65) | -31 to 158 (-35 to 70) | -31 to 158 (-35 to 70) (-10 to 55 XVSV) |
| Light Source | LED | LED | LED | LED | LED | — |
| Electrical Consumption | | | | Body unit ≤ 400mA | | |
| 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 | LED Units ≤ 50 mA | XVR08, XVR10, XVR12, and XVR13 (without buzzer) 12 Vac/dc: 360mA 24 Vac/dc: 180mA XVR3 (with-w/o buzzer) Rotating, Flashing, Blinking (10 modes) 12-24V DC: 3000mA 48V DC: 1000mA 100-230V AC: 500mA | — |
| 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 sec) | | 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 sec) | Buzzer ≤ 70 mA Flasher and multi-color ≤ 70 mA | XVR12 with buzzer: 12 Vac/dc: 400 mA 24 Vac/dc: 230 mA 3 Hz (1 flash per 3 sec) XVR3 (with-w/o buzzer) Rotating, Flashing, Blinking (10 modes) 12-24V DC, 48V DC: 3000mA 48V DC: 1000mA 100-230V AC: 500mA | — |
| 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 m XVS72BM 12 Vdc: 280 mA 24 Vdc: 190 mA 90 decibels at 1 m XVSV7BBN 24 Vdc: 75mA - 89dB at 1m XVSV9MBN 100 Vac: 100mA - 97dB at 1 m |
| Connection Type | Pre-Wired, | Pre-Wired, | Pre-Wired, | Screw Clamp | Pre-Wired | XVS14BMW |

| Family | XVC 4 | XVC 6 | XVC 1 | XVU | XVR | XVS |
|--|--|---|---|---|---|--|
| | Color-Coded Wires cable length: 600mm XVC4** 900mm XVC4**K 500mm XVC4**5S | Color-Coded Wires cable length: 600mm XVC6** 850mm XVC6**K 550mm XVC6**5S 850mm XVC6**5SK | Color-Coded Wires cable length: 500mm XVC1**K 500mm XVC1**SK 550mm XVC6**5S 850mm XVC6**5SK | | cable length: 500mm XVR08*** 400mm XVR10*** 400mm XVR12*** 400mm XVR13*** 400mm XVR3*** | Pre-Wired, Color-Coded Wires cable length: 500mm XVS14 XVS72BM** Not Pre-Wired |
| Cable Size | 22 AWG (0.33 mm ²) | 22 AWG (0.33 mm ²) | 22 AWG (0.33 mm ²) | 22 - 16 AWG | 16 AWG (1.25 mm ²) XVR13*** 18 AWG (0.75 mm ²) 20 AWG (0.57 mm ²) XVR3*** | See each product data sheet |
| Digest Location | XVC, page 19-87 | XVC, page 19-87 | XVC, page 19-87 | XVU, Tower Lights For Customer Assembly (up to 5 units), page 19-89 | XVR, page 19-93 | XVS, page 19-95 |
| <p style="text-align: center;">← For Tower Lights catalog numbers: →</p> <p style="text-align: center;">●○ first dot denotes voltage selection ○● second dot denotes color selection</p> | | | | | | |

XB4–XB5 Common Operators

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





| Operator Style | Description | Contact Block | Type | Legend Plate |
|----------------------|---|---|---------|--------------|
| XB4 Die Cast Chrome |  |  1 N.O. | XB4BA21 | ZBY2303 |
| XB5 Double Insulated |  |  1 N.O. | XB5AA21 | ZBY2303 |

Table 19.2: RED—Stop Push Buttons (extended head)





| Operator Style | Description | Contact Block | Type | Legend Plate |
|----------------------|--|---|---------|--------------|
| XB4 Die Cast Chrome |  |  1 N.C. | XB4BL42 | ZBY2304 |
| XB5 Double Insulated |  |  1 N.C. | XB5AL42 | ZBY2304 |

Table 19.3: BLACK—Off-On Selector Switch





| Operator Style | Description | Contact Block | Type | Legend Plate |
|----------------------|---|---|---------|--------------|
| XB4 Die Cast Chrome |  |  1 N.O. | XB4BD21 | ZBY2367 |
| XB5 Double Insulated |  |  1 N.O. | XB5AD21 | ZBY2367 |

Table 19.4: Hand-Off-Auto Selector Switch





| Operator Style | Description | Contact Block | Type | Legend Plate |
|----------------------|--|---|---------|--------------|
| XB4 Die Cast Chrome |  |  2 N.O. | XB4BD33 | ZBY2387 |
| XB5 Double Insulated |  |  2 N.O. | XB5AD33 | ZBY2387 |

Table 19.5: RED—120 Vac LED—On Pilot Light



| Operator Style | Description | Contact Block | Type | Legend Plate |
|----------------------|--|-----------------|---------|--------------|
| XB4 Die Cast Chrome |  | 120 Vac Red LED | XB4BVG4 | ZBY2311 |
| XB5 Double Insulated |  | 120 Vac Red LED | XB5AVG4 | ZBY2311 |

Table 19.6: GREEN—120 Vac LED—Off Pilot Light



| Operator Style | Description | Contact Block | Type | Legend Plate |
|----------------------|---|-------------------|---------|--------------|
| XB4 Die Cast Chrome |  | 120 Vac Green LED | XB4BVG3 | ZBY2312 |
| XB5 Double Insulated |  | 120 Vac Green LED | XB5AVG3 | ZBY2312 |

Table 19.7: RED—40 mm Mushroom Stop (Push-Pull)









| Operator Style | Description | Contact Block | Type | Legend Plate |
|----------------------|---|---|---------|--------------|
| XB4 Die Cast Chrome |  |  1 N.C. | XB4BT42 | ZBY9320 |
| XB5 Double Insulated |  |  1 N.C. | XB5AT42 | ZBY9320 |

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

| Operator Style | Description | Contact Block | Type | Legend Plate 60 mm Round |
|----------------------|--|--|-----------|-----------------------------|
| XB4 Die Cast Chrome |  |  1 N.O. / 1 N.C. | XB4BS8445 | ZBY9320 |
| XB5 Double Insulated |  |  1 N.O. / 1 N.C. | XB5AS8445 | ZBY9320 |

When ordering, please specify:

Quantity
Type or Catalog Number

Type K and SK Common Operators

Table 19.9: BLACK—Start Push Buttons





| Operator Style | Description | Contact Block | Type [1] | Legend Plate [1] |
|--|---|---|----------|------------------|
| 30 mm Industrial (Metal) |  |  | KR1BH13 | KN201 |
| 30 mm Corrosion Resistant (Non-Metallic) |  |  | SKR1BH13 | KN101SP |

Table 19.10: RED—Stop Push Buttons





| Operator Style | Description | Contact Block | Type [1] | Legend Plate [1] |
|--|---|---|----------|------------------|
| 30 mm Industrial (Metal) |  |  | KR1RH13 | KN202 |
| 30 mm Corrosion Resistant (Non-Metallic) |  |  | SKR1RH13 | KN102RP |

Table 19.11: BLACK—Off-On Selector Switch




| Operator Style | Description | Contact Sequence (Contact Block Included) | Type [1] | Legend Plate [1] |
|--|---|---|-----------|------------------|
| 30 mm Industrial (Metal) |  |  | KS11BH13 | KN244 |
| 30 mm Corrosion Resistant (Non-Metallic) |  | | SKS11BH13 | KN144SP |

Table 19.12: BLACK—Hand-Off-Auto Selector Switch




| Operator Style | Description | Contact Sequence (Contact Block Included) | Type [1] | Legend Plate [1] |
|--|---|---|-----------|------------------|
| 30 mm Industrial (Metal) |  |  | KS43BH13 | KN260 |
| 30 mm Corrosion Resistant (Non-Metallic) |  | | SKS43BH13 | KN160SP |

Table 19.13: RED—120 Vac—On Pilot Light



| Operator Style | Description | Type [1] | Legend Plate [1] |
|--|--|----------|------------------|
| 30 mm Industrial (Metal) |  | KP1R31 | KN203 |
| 30 mm Corrosion Resistant (Non-Metallic) |  | SKP1R31 | KN103SP |

Table 19.14: GREEN—120 Vac—Off Pilot Light

| Operator Style | Description | Type [1] | Legend Plate [1] |
|--|--|----------|------------------|
| 30 mm Industrial (Metal) |  | KP1G31 | KN204 |
| 30 mm Corrosion Resistant (Non-Metallic) |  | SKP1G31 | KN104SP |

Table 19.15: RED—120 Vac—On Push-To-Test Pilot Light





| Operator Style | Description | Type [1] | Legend Plate [1] |
|--|---|----------|------------------|
| 30 mm Industrial (Metal) |  | KT1R31 | KN203 |
| 30 mm Corrosion Resistant (Non-Metallic) |  | SKT1R31 | KN103SP |

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

| Operator Style | Description | Type [1] | Legend Plate [1] |
|--|---|----------|------------------|
| 30 mm Industrial (Metal) |  | KT1G31 | KN204 |
| 30 mm Corrosion Resistant (Non-Metallic) |  | SKT1G31 | KN104RP |

When ordering, please specify:

Quantity
Class Number (if appropriate)
Type or Catalog Number

[1] When ordering, add prefix 9001 to the catalog number.

XB4 Complete Devices—Non-Illuminated

Table 19.17: Non-Illuminated Push Buttons, Momentary (screw clamp terminal connections)



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

Table 19.18: Two Button Push Buttons, Momentary (screw clamp terminal connections)



XB4BL73415

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

Table 19.19: Two Button Push Buttons, Momentary + one white central pilot light (screw clamp terminal connections)



XB4BL73731•5

| Shape of Head | Type of Push | Type of Contact | | Marking | Degree of Protection | Pilot Light Voltage | Catalog Number |
|---------------|---|-----------------|------|---------------------------------|----------------------|---------------------|--|
| | | 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 | 24 120 240 | XB4BW73731B5 XB4BW73731G5 XB4BW73731M5 |

Table 19.20: Three Button Push Buttons, Momentary (screw clamp terminal connections)



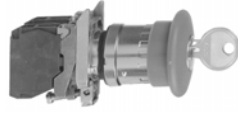
XB4BA731327

| Shape of Head | Type of Push | Type of Contact | | Degree of Protection | Marking and Cap Color | Catalog Number |
|---------------|---|-----------------|------|----------------------|--|----------------|
| | | 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 | XB4BA731327 |
| | | | | | Black "+" on white background White "—" on black background *White "Stop" on red background | XB4BA711237 |

For Legend Holders, refer to XB4 Legend Holders, page 19-24.



XB4BT845



XB4BS9445



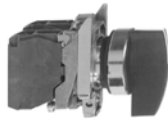
XB4BS542



XB4BG33



XB4BD33



XB4BJ33

Table 19.21: Non-Illuminated Trigger Action Emergency Stop Push Buttons, Ø 40 mm, Red (screw clamp terminal connections)

| Shape of Head | Type of Push | Type of Contact | | | Catalog Number | Components |
|---------------|--|-----------------|------|--|----------------|-----------------------|
| | | N.O. | N.C. | | | |
| | Trigger action push-pull [1] | 1 | 1 | | XB4BT845 | (ZB4BZ105 + ZB4BT84) |
| | Trigger action turn-to-release [1] | 1 | 1 | | XB4BS8445 | (ZB4BZ105 + ZB4BS844) |
| | | 1 | 2 | | XB4BS84441 | (ZB4BZ141 + ZB4BS844) |
| | Trigger action Key release [1] (No. 455) | 1 | 1 | | XB4BS9445 | (ZB4BZ105 + ZB4BS944) |
| | Trigger action Push-pull [1] | — | 1 | | XB4BT842 | (ZB4BZ102 + ZB4BT84) |
| | Trigger action Turn-to-release [1] | — | 1 | | XB4BS8442 | (ZB4BZ102 + ZB4BS844) |
| | Trigger action Key release [1] (No. 455) | — | 1 | | XB4BS9442 | (ZB4BZ102 + ZB4BS944) |

Table 19.22: Non-Illuminated Selector Switches and Key Switches (screw clamp terminal connections) [2]

| Shape of Head | Type of Operator | Type of Contact | | Number and Type of Positions | Catalog Number | Components |
|---------------|-----------------------|-----------------|------|------------------------------|----------------|-----------------------------|
| | | N.O. | N.C. | | | |
| | Standard lever, black | 1 | — | 2-maintained | | XB4BD21 (ZB4BZ101 + ZB4BD2) |
| | | 1 | 1 | 2-maintained | | XB4BD25 (ZB4BZ105 + ZB4BD2) |
| | | 2 | — | 3-maintained | | XB4BD33 (ZB4BZ103 + ZB4BD3) |
| | Extended lever, black | 1 | — | 3-momentary to center | | XB4BD53 (ZB4BZ103 + ZB4BD5) |
| | | | | 2-maintained | | XB4BJ21 (ZB4BZ101 + ZB4BJ2) |
| | | 2 | — | 3-maintained | | XB4BJ33 (ZB4BZ103 + ZB4BJ3) |
| | Key (No. 455) | 1 | — | 2-maintained | | XB4BG21 (ZB4BZ101 + ZB4BG2) |
| | | | | 2-momentary to left | | XB4BG41 (ZB4BZ101 + ZB4BG4) |
| | | 2 | — | 3-maintained | | XB4BG61 (ZB4BZ101 + ZB4BG6) |
| | | | | 3-maintained | | XB4BG03 (ZB4BZ103 + ZB4BG0) |
| | | | | 3-maintained | | XB4BG33 (ZB4BZ103 + ZB4BG3) |

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

For Legend Holders, refer to [XB4 Legend Holders](#), page 19-24.

[1] 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).

[2] For contact configurations, see [Table 19.36 Sequence of Contacts on Selector Switch Bodies](#), page 19-16.

XB4 Complete Devices—Illuminated

Table 19.23: Pilot Lights with Protected LED™ (screw clamp terminal connections) [3]



XB4BVB5

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

Table 19.24: Pilot Lights for BA9s Bulb (screw clamp terminal connections)



XB4BV64



XB4BV33

| Shape of Head | Supply Voltage | Color | Catalog Number | Components |
|---|-------------------------|--------|----------------|--------------------|
| Direct supply, for BA9s (incandescent, LED, neon) V < 250 V, 2.4 W bulb (bulb not included) | | | | |
| | < 250 Vac/Vdc | White | XB4BV61 | (ZB4BV6 + ZB4BV01) |
| | | 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) |
| | | Green | XB4BV33 | (ZB4BV3 + ZB4BV03) |
| | | Red | XB4BV34 | (ZB4BV3 + ZB4BV04) |
| | | Yellow | XB4BV35 | (ZB4BV3 + ZB4BV05) |

Table 19.25: Illuminated Push Buttons, Momentary (screw clamp terminal connections) [3]



XB4BW33B5



XB4BW3465



XB4BW3545

| Shape of Head | Description | Type of Contact | | Supply Voltage | Color of Push | Catalog Number | Components | |
|-------------------------|-------------|-----------------|----------------------|----------------|---------------|----------------|------------------------|------------------------|
| | | N.O. | N.C. | | | | | |
| Flush | | | | | | | | |
| | | 1 | 1 | 24 Vac/Vdc | White | XB4BW31B5 | (ZB4BW0B15 + ZB4BW313) | |
| | | | | | Green | XB4BW33B5 | (ZB4BW0B35 + ZB4BW333) | |
| | | | | | Red | XB4BW34B5 | (ZB4BW0B45 + ZB4BW343) | |
| | | | | | Yellow | XB4BW35B5 | (ZB4BW0B55 + ZB4BW353) | |
| | | | | | Blue | XB4BW36B5 | (ZB4BW0B65 + ZB4BW363) | |
| | | | | | 110–120 Vac | White | XB4BW31G5 | (ZB4BW0G15 + ZB4BW313) |
| | | | | | | Green | XB4BW33G5 | (ZB4BW0G35 + ZB4BW333) |
| | | | | | | Red | XB4BW34G5 | (ZB4BW0G45 + ZB4BW343) |
| | | | | Yellow | | XB4BW35G5 | (ZB4BW0G55 + ZB4BW353) | |
| | | | | Blue | | XB4BW36G5 | (ZB4BW0G65 + ZB4BW363) | |
| | | | | < 250 Vac/Vdc | | White | XB4BW3165 | (ZB4BW065 + ZB4BW31) |
| | | | | | Green | XB4BW3365 | (ZB4BW065 + ZB4BW33) | |
| | | | | | Red | XB4BW3465 | (ZB4BW065 + ZB4BW34) | |
| | | | | | Yellow | XB4BW3565 | (ZB4BW065 + ZB4BW35) | |
| 110–120 Vac 50/60 Hz | White | XB4BW3135 | (ZB4BW035 + ZB4BW31) | | | | | |
| | Green | XB4BW3335 | (ZB4BW035 + ZB4BW33) | | | | | |
| | Red | XB4BW3435 | (ZB4BW035 + ZB4BW34) | | | | | |
| | Yellow | XB4BW3535 | (ZB4BW035 + ZB4BW35) | | | | | |
| 230–240 Vac 50/60 Hz | White | XB4BW3145 | (ZB4BW045 + ZB4BW31) | | | | | |
| | Green | XB4BW3345 | (ZB4BW045 + ZB4BW33) | | | | | |
| | Red | XB4BW3445 | (ZB4BW045 + ZB4BW34) | | | | | |
| | Yellow | XB4BW3545 | (ZB4BW045 + ZB4BW35) | | | | | |
| Extended | | | | | | | | |
| | | 1 | 1 | 24 Vac/Vdc | White | XB4BW11B5 | (ZB4BW0B15 + ZB4BW113) | |
| | | | | | Green | XB4BW13B5 | (ZB4BW0B35 + ZB4BW133) | |
| | | | | | Red | XB4BW14B5 | (ZB4BW0B45 + ZB4BW143) | |
| | | | | | Yellow | XB4BW15B5 | (ZB4BW0B55 + ZB4BW153) | |
| | | | | | Blue | XB4BW16B5 | (ZB4BW0B65 + ZB4BW163) | |
| | | | | | 110–120 Vac | White | XB4BW11G5 | (ZB4BW0G15 + ZB4BW113) |
| | | | | Green | | XB4BW13G5 | (ZB4BW0G35 + ZB4BW133) | |
| | | | | Red | | XB4BW14G5 | (ZB4BW0G45 + ZB4BW143) | |
| | | | | Yellow | | XB4BW15G5 | (ZB4BW0G55 + ZB4BW153) | |
| | | | | Blue | | XB4BW16G5 | (ZB4BW0G65 + ZB4BW163) | |

For Legend Holders, refer to XB4 Legend Holders, page 19-24.

[3] 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).

XB4 Operators

Table 19.26: Non-Illuminated Operators, Momentary—Unmarked



| Shape of Head | Type of Push | Cap Color | Catalog Number |
|---------------|--|--|--|
| | Flush, without color cap [4] | — | ZB4BA0 |
| | Flush, with set of 6 color caps | White Black Green Red Yellow Blue | ZB4BA9 |
| | Flush | White Black Green Red Yellow Blue Gray | ZB4BA1 ZB4BA2 ZB4BA3 ZB4BA4 ZB4BA5 ZB4BA6 ZB4BA8 |
| | Flush with transparent cap, for insertion of legend | White Green Red Yellow Blue | ZB4BA18 ZB4BA38 ZB4BA48 ZB4BA58 ZB4BA68 |
| | Booted Flush (clear silicone) Cap color unobscured | White Black Green Red Yellow Blue | ZB4BPA1 ZB4BPA2 ZB4BPA3 ZB4BPA4 ZB4BPA5 ZB4BPA6 |
| | Booted Extended (clear silicone) Cap color unobscured | White Black Green Red Yellow Blue | ZB4BP1 ZB4BP2 ZB4BP3 ZB4BP4 ZB4BP5 ZB4BP6 |
| | Booted (colored silicone) Cap color unobscured | White Black Green Red Yellow Blue | ZB4BP1S ZB4BP2S ZB4BP3S ZB4BP4S ZB4BP5S ZB4BP6S |
| | Booted for insertion of legend (clear silicone) Cap color unobscured | White Green Red Yellow Blue | ZB4BP18 ZB4BP38 ZB4BP48 ZB4BP58 ZB4BP68 |
| | Extended | White Black Green Red Yellow Blue | ZB4BL1 ZB4BL2 ZB4BL3 ZB4BL4 ZB4BL5 ZB4BL6 |
| | Guarded Head | White Black Green Red Yellow Blue | ZB4BA16 ZB4BA26 ZB4BA36 ZB4BA46 ZB4BA56 ZB4BA66 |



Table 19.27: Non-Illuminated Operators, Momentary—Premarked

| Shape of Head | Type of Push | Marking Text | Marking Color | Cap Color | Catalog Number | |
|---------------|--------------|--------------|---------------|-----------|----------------|----------|
| | Flush | I | White | Green | ZB4BA331 | |
| | | | Black | White | ZB4BA131 | |
| | | START | White | Green | ZB4BA333 | |
| | | | Black | White | ZB4BA133 | |
| | | ON | White | Green | ZB4BA341 | |
| | | | Black | White | ZB4BA141 | |
| | | RESET | White | Black | ZB4BA222 | |
| | | JOG | White | Black | ZB4BA245 | |
| | | O | White | Black | Red | ZB4BA432 |
| | | | | White | Black | ZB4BA232 |
| | | STOP | White | Black | Red | ZB4BA434 |
| | | | | White | Black | ZB4BA234 |
| | | OFF | White | Black | Red | ZB4BA435 |
| White | Black | | | ZB4BA235 | | |
| ↑ [5] | White | Black | White | ZB4BA334 | | |
| | | White | Black | ZB4BA335 | | |
| | Extended | O | White | Black | ZB4BL432 | |
| | | | | White | ZB4BL232 | |
| | | STOP | White | Black | ZB4BL434 | |
| | | | | White | ZB4BL234 | |
| | | OFF | White | Black | ZB4BL435 | |
| | | White | Black | ZB4BL235 | | |

For Legend Holders, refer to [XB4 Legend Holders](#), page 19-24.

[4] Color cap to be ordered separately. .
[5] Cap supplied not clipped-in, allowing orientation of arrow in any one of 4 directions:



Table 19.28: Non-Illuminated Push-on/Push-off Operators

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

Table 19.29: Three Head Operators, Momentary

| Shape of Head | Description | Marking | Cap Color | Degree of Protection | Catalog Number |
|------------------|--|-----------------------------|----------------|----------------------|----------------|
| Premarked | | | | | |
| | Two flush + one central projecting red push marked "Stop" | "I" (white) "II" (white) | Green Green | IP66 IP69K | ZB4BA73132 |
| | | "=" (white) "=" (white) | Green Green | | ZB4BA73133 |
| | | "# (white) "#" (white) | Green Green | | ZB4BA73134 |
| | | "+" (white) "-" (white) | Green Green | | ZB4BA73135 |
| | | "+" (black) "-" (black) | White White | | ZB4BA71115 |
| | | "=" (black) "=" (white) | White Black | | ZB4BA71123 |
| | | "# (black) "#" (white) | White Black | | ZB4BA71124 |
| | | "# (white) "#" (white) | Black Black | | ZB4BA72124 |
| | | Without caps | | | |
| | Two flush without caps | — | — | IP66 IP69K | ZB4BA791 |

Table 19.30: Two Head Operators, Momentary

| Shape of Head | Description | Marking | Cap Color | Degree of Protection | Catalog Number |
|---------------------|---------------------------|----------------------------|----------------|----------------------|----------------|
| No Marking | | | | | |
| | Two flush | — | Green Red | IP66 IP69K | ZB4BA7340 |
| | | — | White Black | | ZB4BA7120 |
| | One flush One extended | — | Green Red | | ZB4BL7340 |
| Premarked | | | | | |
| | Two flush | "I" (white) "O" (white) | Green Red | IP66 IP69K | ZB4BA7341 |
| | | "I" (black) "O" (white) | White Black | | ZB4BA7121 |
| | One flush One extended | "I" (white) "O" (white) | Green Red | | ZB4BL7341 |
| Without caps | | | | | |
| | Two flush without caps | — | — | IP66 IP69K | ZB4BA79 |

For Legend Holders, refer to XB4 Legend Holders, page 19-24.

XB4 Operators and Emergency Stop Operators

Table 19.31: Mushroom Heads, Momentary



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

Table 19.32: Mushroom Heads for Maintained Push Buttons

| Shape of Head | Type of Push | Diameter of Head | Color | Catalog Number | |
|---|--|---|----------------------------|----------------|-------|
| For use in Emergency Stop applications | | | | | |
| | Trigger action Push-pull [6] | 40 mm | Red | ZB4BT84 | |
| | | 60 mm | Red | ZB4BX84 | |
| | Trigger action Turn-to-release [6] | 30 mm | Red | ZB4BS834 | |
| | | 40 mm | Red | ZB4BS844 | |
| | | | Red marked "EMO" | ZB4BS84430 | |
| | Trigger action Key release (No. 455) [6] | 60 mm | Red | ZB4BS864 | |
| | | 30 mm | Red | ZB4BS934 | |
| | | 40 mm | Red | ZB4BS944 [7] | |
| | Key release (No. 455) | 60 mm | Red | ZB4BS964 | |
| | | For use in non-Emergency Stop applications | | | |
| | | | Push-pull | 40 mm | Black |
| 60 mm | Black | | | ZB4BX2 | |
| | Turn-to-release | 30 mm | Black | ZB4BS42 | |
| | | 40 mm | Black | ZB4BS52 | |
| | | | Yellow | ZB4BS55 | |
| | | | Yellow marked "Robot Stop" | ZB4BS5550 | |
| | Key release (No. 455) | 60 mm | Black | ZB4BS62 | |
| | | 30 mm | Black | ZB4BS72 | |
| | | 40 mm | Black | ZB4BS12 | |
| | | 60 mm | Black | ZB4BS22 | |

Table 19.33: Circular Legends for Emergency Stop Mushroom Heads (yellow background)

| Diameter | Text | Catalog Number |
|---------------|---------------------|----------------|
| 90 mm | Blank | ZBY8101 |
| | EMERGENCY STOP | ZBY8330 |
| 60 mm Bezeled | Blank | ZBY9121 |
| | Emergency Stop | ZBY9320 |
| | Prada de Emergencia | ZBY9420 |
| | Not Halt | ZBY9220 |

For Legend Holders, refer to [XB4 Legend Holders](#), page 19-24.

[6] 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).

[7] 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.

XB4 Selector Switches

Table 19.34: Non-Illuminated Selector Switches [8]



| Color | Number and Type of Positions | | Standard Lever [9] | Extended Lever |
|-------|----------------------------------|--|--------------------|----------------|
| | | | Catalog Number | |
| Black | 2-maintained | | ZB4BD2 | ZB4BJ2 |
| Black | 2-momentary from right to left | | ZB4BD4 | ZB4BJ4 |
| Black | 3-maintained | | ZB4BD3 | ZB4BJ3 |
| Black | 3-momentary to center | | ZB4BD5 | ZB4BJ5 |
| Black | 3-momentary from left to center | | ZB4BD7 | ZB4BJ7 |
| Black | 3-momentary from right to center | | ZB4BD8 | ZB4BJ8 |



Table 19.35: Non-Illuminated Key Switches [8]

| Type of Operator | Number and Type of Positions | | Catalog Number | |
|------------------|---------------------------------|----------------------------------|----------------|--------|
| | 2-maintained | | ZB4BG2 | |
| | | | ZB4BG02 | |
| | | | ZB4BG4 | |
| | 2-momentary from right to left | | ZB4BG6 | |
| | | 3-maintained | | ZB4BG0 |
| | | | | ZB4BG3 |
| | ZB4BG03 | | | |
| | ZB4BG04 | | | |
| | ZB4BG5 | | | |
| | ZB4BG9 | | | |
| | 3-momentary from left to center | | ZB4BG1 | |
| | | | ZB4BG01 | |
| | 3-momentary to center | | ZB4BG7 | |
| | | 3-momentary from right to center | | ZB4BG8 |
| | ZB4BG05 | | | |
| | ZB4BG08 | | | |

Key (No. 455)
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 19.36: Sequence of Contacts on Selector Switch Bodies

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

For Legend Holders, refer to [XB4 Legend Holders](#), page 19-24.


For Selector Switch Sequence, refer to [Table 19.49 Sequence of Contacts on Illuminated Selector Switch Bodies](#), page 19-20.

[8] For contact configurations, see [Table 19.36 Sequence of Contacts on Selector Switch Bodies](#), page 19-16.

[9] 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).

XB4 Specialty Operators

Table 19.37: Potentiometer Operator (with Mounting Collar)

| Shape of Head | Description | Application | Catalog Number |
|---|---|-------------------------------|----------------|
|  | 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 |
| | | For shaft Ø 0.24 in. (6 mm) | ZB4BD912 |



ZB4BD922



XB4BD912R1K



ZB4BD28



XB4BA8•1

Table 19.38: Complete Potentiometers

| Description | Resistance (k Ω) | Weight (kg/lb) | Catalog Number |
|---|------------------|----------------|----------------|
| +/- 10% linear mode precision complete potentiometer with screw terminals | 1 | 0.095/0.209 | XB4BD912R1K |
| | 4.7 | 0.095/0.209 | XB4BD912R4K7 |
| | 10 | 0.095/0.209 | XB4BD912R10K |
| | 47 | 0.095/0.209 | XB4BD912R47K |
| | 100 | 0.095/0.209 | XB4BD912R100K |
| | 470 | 0.095/0.209 | XB4BD912R470K |

Table 19.39: Two Position Toggle Switch




| Shape of Head | Color | Type of Positions | Catalog Number |
|---|-------|-------------------|----------------|
|  | Black | Maintained | ZB4BD28 |
| | Black | Momentary | ZB4BD48 |

Table 19.40: Reset Operators, Flush, Adjustable Shaft

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

For Legend Holders, refer to [XB4 Legend Holders](#), page 19-24.

XB4 Pilot Lights

Table 19.41: Pilot Light Heads



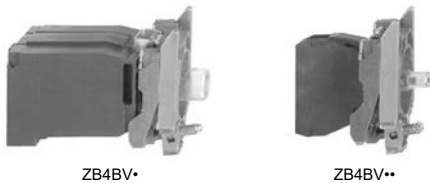
| Shape of Head | For Use with Body Comprising Light Module Type | Color of Lens | Catalog Number |
|---------------|---|--|--|
| | Protected LED™ only | White Green Red Yellow Blue | ZB4BV013 ZB4BV033 ZB4BV043 ZB4BV053 ZB4BV063 |
| | Protected LED only Fresnel (jeweled) lens [10] | White Green Red Amber Blue | ZB4BV013S ZB4BV033S ZB4BV043S ZB4BV053S ZB4BV063S |
| | For BA9s incandescent bulb, neon or LED only [11] | White Green Red Yellow Blue Clear | ZB4BV01 ZB4BV03 ZB4BV04 ZB4BV05 ZB4BV06 ZB4BV07 |
| | For BA9s incandescent bulb, neon or LED Fresnel (jeweled) lens [12] | White Green Red Amber Blue Clear | ZB4BV01S ZB4BV03S ZB4BV04S ZB4BV05S ZB4BV06S ZB4BV07S |

Table 19.42: Complete Bodies (Mounting Collar + Light Module for BA9s Incandescent Bulb, Neon or LED)



| Description | Light Source | Supply Voltage (V) | Catalog Number |
|---|---|-------------------------|----------------|
| Screw clamp terminal connections | | | |
| Direct supply | BA9s bulb 2.4 W max. Not included [12] | <250 | ZB4BV6 |
| Direct supply | BA9s incandescent bulb included | 24 v 2 Watt | ZB4BV624 |
| Direct supply | BA9s incandescent bulb included | 120 v 2.4 Watt | ZB4BV6120 |
| Transformer type 1.2 VA, 6 V secondary | BA9s incandescent bulb included | 110–120 Vac 50/60 Hz | ZB4BV3 |
| | | 230–240 Vac 50/60 Hz | ZB4BV4 |
| | | 400–50 Hz | ZB4BV5 |
| | | 440–480 Vac 60 Hz | ZB4BV8 |
| | | 550–600 Vac 60 Hz | ZB4BV9 |

Table 19.43: Complete Bodies (Mounting Collar + Light Module with Protected LED™) [13]



| Light Source | Supply Voltage | Color of Light Source | Catalog Number |
|--|----------------|---|---|
| Screw clamp terminal connections [14] | | | |
| | 12 Vac/Vdc | White Green Red Yellow Blue | ZB4BVJ1 ZB4BVJ3 ZB4BVJ4 ZB4BVJ5 ZB4BVJ6 |
| | 24 Vac/Vdc | White Green Red Yellow Blue | ZB4BV81 ZB4BV83 ZB4BV84 ZB4BV85 ZB4BV86 |
| | 24–120 Vac/Vdc | White Green Red Yellow Blue | ZB4BVBG1 ZB4BVBG3 ZB4BVBG4 ZB4BVBG5 ZB4BVBG6 |
| | 110–120 Vac | White Green Red Yellow Blue | ZB4BVG1 ZB4BVG3 ZB4BVG4 ZB4BVG5 ZB4BVG6 |
| | 24 Vac/Vdc | White Green Red Yellow Blue | ZB4BV18B1 ZB4BV18B3 ZB4BV18B4 ZB4BV18B5 ZB4BV18B6 |
| | 110–120 Vac | White Green Red Yellow Blue | ZB4BV18G1 ZB4BV18G3 ZB4BV18G4 ZB4BV18G5 ZB4BV18G6 |

For Legend Holders, refer to XB4 Legend Holders, page 19-24.

[10] For use in bright ambient conditions, for example, in sunlight.

[11] Order bulb separately.

[12] Order bulb separately.

[13] For 240 V LED, replace the last "B" or "G" in the catalog number with an "M". For example, ZB4BV81 (24 V) becomes ZB4BVM1 (240 V).

[14] 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").

XB4 Illuminated Operators

Table 19.44: Heads for Momentary Illuminated Push Buttons



| Shape of Head | Type of Push | Color | Catalog Number |
|--|--------------------------------|--------|----------------|
| Only use with Protected LED™ light modules | | | |
| | Flush | White | ZB4BW313 |
| | | Green | ZB4BW333 |
| | | Red | ZB4BW343 |
| | | Yellow | ZB4BW353 |
| | | Blue | ZB4BW363 |
| | Flush with clear silicone boot | White | ZB4BW513 |
| | | Green | ZB4BW533 |
| | | Red | ZB4BW543 |
| | | Yellow | ZB4BW553 |
| | | Blue | ZB4BW563 |
| | Flush for insertion of legend | White | ZB4BA18 |
| | | Green | ZB4BA38 |
| | | Red | ZB4BA48 |
| | | Yellow | ZB4BA58 |
| | | Blue | ZB4BA68 |
| | Extended | White | ZB4BW113 |
| | | Green | ZB4BW133 |
| | | Red | ZB4BW143 |
| | | Yellow | ZB4BW153 |
| | | Blue | ZB4BW163 |
| | Mushroom (40 mm) | Clear | ZB4BW413 |
| | | Green | ZB4BW433 |
| | | Red | ZB4BW443 |
| | | Yellow | ZB4BW453 |
| | | Blue | ZB4BW463 |
| Only use with light modules for a BA9s incandescent bulb, neon or LED | | | |
| | Flush | White | ZB4BW31 |
| | | Green | ZB4BW33 |
| | | Red | ZB4BW34 |
| | | Yellow | ZB4BW35 |
| | | Blue | ZB4BW36 |
| | | Clear | ZB4BW37 |
| | Extended | White | ZB4BW11 |
| | | Green | ZB4BW13 |
| | | Red | ZB4BW14 |
| | | Yellow | ZB4BW15 |
| | | Blue | ZB4BW16 |
| | | Clear | ZB4BW17 |

Table 19.45: Heads for Maintained Illuminated Push Buttons



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

Table 19.46: Illuminated Push-On/Push-Off Operators



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

For Legend Holders, refer to [XB4 Legend Holders](#), page 19-24.



ZB4BW7A3741



ZB4BW7A1721

Table 19.47: Two Button with Clear Pilot Light, Momentary

| Shape of Head | Description | Marking | Cap Color | Degree of Protection | Catalog Number |
|---------------------|---------------------------|----------------------------|-------------|----------------------|----------------|
| No Marking | | | | | |
| Protected LED | Two flush | — | Green Red | IP66 IP69K | ZB4BW7A3740 |
| | | — | White Black | | ZB4BW7A1720 |
| Protected LED | One flush One extended | — | Green Red | | ZB4BW7L3740 |
| Premarked | | | | | |
| Protected LED | Two flush | "I" (white) "O" (white) | Green Red | IP66 IP69K | ZB4BW7A3741 |
| | | "I" (black) "O" (white) | White Black | | ZB4BW7A1721 |
| Protected LED | One flush One extended | "I" (white) "O" (white) | Green Red | | ZB4BW7L3741 |
| Protected LED | Two flush | "4" (black) "4" (white) | White Black | | ZB4BW7A1724 |
| Protected LED | Two flush | "+" (black) "-" (white) | White Black | | ZB4BW7A1715 |
| Without caps | | | | | |
| | Two flush without caps | — | — | IP66 IP69K | ZB4BW7A9 |



ZB4BK1343

Table 19.48: Illuminated Selector Switches, Standard Lever

| Shape of Head | Number and Type of Positions | Catalog Number [15] |
|--|----------------------------------|---------------------|
| 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 |

Table 19.49: Sequence of Contacts on Illuminated Selector Switch Bodies

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

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 | 1 N.O. (left) |
| X | O | 1 N.C. (left or right) | X | O | 2 N.O. wired in parallel (side by side) |
| O | X | 1 N.O. (right) | X | O | 1 N.O. (right) |
| | | and | O | X | 1 N.C. (right) |
| X | O | 1 N.C. (left) | X | X | 1 N.C. (left) |
| | | | O | X | 2 N.C. wired in series (side by side) |

For Legend Holders, refer to [XB4 Legend Holders](#), page 19-24.

[15] • Designate color as follows: 1—white, 3—green, 4—red, 5—yellow, 6—blue.

XB4 Electrical Components

Table 19.50: Contact Blocks (Mounting Collar with Contact Blocks)



ZB4BZ101

| Description | Type of Contact | | Catalog Number |
|----------------------------------|-----------------|------|----------------|
| | N.O. | N.C. | |
| Screw clamp terminal connections | 1 | — | ZB4BZ101 |
| | — | 1 | ZB4BZ102 |
| | 2 | — | ZB4BZ103 |
| | — | 2 | ZB4BZ104 |
| | 1 | 1 | ZB4BZ105 |
| | 1 | 2 | ZB4BZ141 |

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 19.51: Complete Bodies

(Mounting Collar + Single Contact Block + Light Module with Protected LED™)



ZB4BW0•3



ZB4BW0•6

| Light Source | Type of Contact [16] | | Color | Supply Voltage [17] | |
|---|----------------------|------|--------|---------------------|-------------|
| | N.O. | N.C. | | 24 Vac/Vdc | 110–120 Vac |
| Screw clamp terminal connections | | | | | |
| Protected LED | 1 | — | White | ZB4BW0B11 | ZB4BW0G11 |
| | | | Green | ZB4BW0B31 | ZB4BW0G31 |
| | | | Red | ZB4BW0B41 | ZB4BW0G41 |
| | | | Yellow | ZB4BW0B51 | ZB4BW0G51 |
| | | | Blue | ZB4BW0B61 | ZB4BW0G61 |
| | — | 1 | White | ZB4BW0B12 | ZB4BW0G12 |
| | | | Green | ZB4BW0B32 | ZB4BW0G32 |
| | | | Red | ZB4BW0B42 | ZB4BW0G42 |
| | | | Yellow | ZB4BW0B52 | ZB4BW0G52 |
| | | | Blue | ZB4BW0B62 | ZB4BW0G62 |
| | 2 | — | White | ZB4BW0B13 | ZB4BW0G13 |
| | | | Green | ZB4BW0B33 | ZB4BW0G33 |
| | | | Red | ZB4BW0B43 | ZB4BW0G43 |
| | | | Yellow | ZB4BW0B53 | ZB4BW0G53 |
| | | | Blue | ZB4BW0B63 | ZB4BW0G63 |
| | 1 | 1 | White | ZB4BW0B15 | ZB4BW0G15 |
| | | | Green | ZB4BW0B35 | ZB4BW0G35 |
| | | | Red | ZB4BW0B45 | ZB4BW0G45 |
| | | | Yellow | ZB4BW0B55 | ZB4BW0G55 |
| | | | Blue | ZB4BW0B65 | ZB4BW0G65 |

Table 19.52: Mounting Collar, Contact Block and Light Module (with screw clamp terminal connections)



ZB4BW0-5

| Supply | Light Source | Supply Voltage | Type of Contact [18] | | Color of Light Source | Catalog Number |
|--|--|-------------------------|----------------------|------|-----------------------|----------------|
| | | | N.O. | N.C. | | |
| Screw clamp terminal connections | | | | | | |
| Direct supply | BA9s 2.4 W max. bulb Not included [19] | < 250 Vac/Vdc | 1 | — | — | ZB4BW061 |
| | | | — | 1 | — | ZB4BW062 |
| | | | 2 | — | — | ZB4BW063 |
| | | | 1 | 1 | — | ZB4BW065 |
| Transformer type 1.2 VA, 6 V secondary | BA9s incandescent bulb included | 110–120 Vac 50/60 Hz | 1 | — | — | ZB4BW031 |
| | | | 1 | 1 | — | ZB4BW035 |
| | | 230–240 Vac 50/60 Hz | 1 | — | — | ZB4BW041 |
| | | | 1 | 1 | — | ZB4BW045 |
| | | 440–480 Vac 60 Hz | 1 | — | — | ZB4BW081 |

[16] Can be fitted with additional contact blocks, see Table 19.54 Add-On Contact Block (with screw clamp terminal connections), page 19-22.

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

[18] Can be fitted with additional contact blocks, see Table 19.54 Add-On Contact Block (with screw clamp terminal connections), page 19-22.

[19] Order bulb separately, see BA9s Bulbs and Associated Accessories.



Table 19.53: Body/Mounting Collar

| For use with | Catalog Number |
|--|----------------|
| Electrical block (contact or light module) | ZB4BZ009 |

Table 19.54: Add-On Contact Block (with screw clamp terminal connections) [20][21]

| Description | Type of Contact | | Catalog Number |
|---|---|------|----------------|
| | N.O. | N.C. | |
| Standard single contact blocks [22][23] | 1 | — | ZBE101 |
| | — | 1 | ZBE102 |
| Standard double contact blocks [22][23] | 2 | — | ZBE203 |
| | — | 2 | ZBE204 |
| | 1 | 1 | ZBE205 |
| Special contact blocks for low power switching [24] | 1 | — | ZBE1016 |
| | — | 1 | ZBE1026 |
| Low-power switching | Dusty environment [24] (IP5X, 50 µm dust) | — | ZBE1016P |
| | | — | ZBE1026P |
| Staggered contacts | Early make N.O. | — | ZBE201 |
| | Late break N.C. | 1 | ZBE202 |
| | Overlapping N.O.+N.C. | 1 | ZB4BZ106 |
| | Staggered N.O.+N.C. | — | ZB4BZ107 |

Table 19.55: Light Modules (with screw clamp terminal connections) [20][21]



| Description | Supply Voltage | Color of Light Source | Catalog Number |
|---|----------------|-----------------------|----------------|
| Protected LED | 12 Vac/Vdc | White | ZBVJ1 |
| | | Green | ZBVJ3 |
| | | Red | ZBVJ4 |
| | | Yellow | ZBVJ5 |
| | | Blue | ZBVJ6 |
| | | White | ZBVB1 |
| | 24 Vac/Vdc | Green | ZBVB3 |
| | | Red | ZBVB4 |
| | | Yellow | ZBVB5 |
| | | Blue | ZBVB6 |
| | | White | ZBVG1 |
| | | Green | ZBVG3 |
| | 110–120 Vac | Red | ZBVG4 |
| | | Yellow | ZBVG5 |
| | | Blue | ZBVG6 |
| | | White | ZBVBG1 |
| | | Green | ZBVBG3 |
| | | Red | ZBVBG4 |
| | 24–120 Vac/Vdc | Yellow | ZBVBG5 |
| | | Blue | ZBVBG6 |
| | | White | ZBVM1 |
| | | Green | ZBVM3 |
| | | Red | ZBVM4 |
| | | Yellow | ZBVM5 |
| 230–240 Vac | Blue | ZBVM6 | |
| | — | ZBV6 | |
| Direct supply for BA9s 2.4 W max. bulb not included. | < 250 Vac/Vdc | — | ZBV6 |

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

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

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

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

[24] Cannot stack additional contact blocks onto these blocks.



ZB4BZ009



ZB4BZ1015

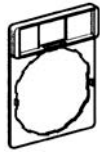
Table 19.56: Body/Mounting Collar

| For use with | Catalog Number |
|-------------------------------|----------------|
| Contact block or light module | ZB4BZ009 |

Table 19.57: Light Modules [25]

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

[25] 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.



ZBZ32



ZBY*101



ZBY2303

XB4 Legend Holders

Table 19.58: Standard (30 x 40 mm) Legend Holders for 8 x 27 mm Legends

| Description | Legend | | Catalog Number |
|--|------------------------------|--|------------------------------|
| | Color | Text | |
| Without legend | — | — | ZBZ32 |
| With blank legend (for engraving) | Black or red background | — | ZBY2101 |
| | White or yellow background | — | ZBY4101 |
| Custom Legend (Specify Engraving) 2 lines of 11 characters (including spaces) maximum per line | Black background | White | ZBY2002 |
| | Red background | White | ZBY2004 |
| | White background | Black | ZBY4001 |
| | Yellow background | Black | ZBY4005 |
| With legend marked with international language | Black or red background [26] | O (black background) | ZBY2146 |
| | | O (red background) | ZBY2931 |
| | | I | ZBY2147 |
| | | II | ZBY2148 |
| | | O-I | ZBY2178 |
| | | I-II | ZBY2179 |
| | | I-O-II | ZBY2186 |
| | | With legend marked with English language | Black or red background [26] |
| AUTO-HAND | ZBY2364 | | |
| AUTO-O-HAND | ZBY2385 | | |
| CLOSE | ZBY2314 | | |
| DOWN | ZBY2308 | | |
| EMERGENCY STOP | ZBY2330 | | |
| FAST | ZBY2328 | | |
| FORWARD | ZBY2305 | | |
| FOR-REV | ZBY2371 | | |
| HAND | ZBY2316 | | |
| HAND-OFF-AUTO | ZBY2387 | | |
| INCH | ZBY2321 | | |
| JOG | ZBY2382 | | |
| LEFT | ZBY2310 | | |
| OFF | ZBY2312 | | |
| OFF-ON | ZBY2367 | | |
| ON | ZBY2311 | | |
| OPEN | ZBY2313 | | |
| POWER ON | ZBY2326 | | |
| RESET (red background) | ZBY2323 | | |
| RESET (black background) | ZBY2322 | | |
| REVERSE | ZBY2306 | | |
| RIGHT | ZBY2309 | | |
| RUN | ZBY2334 | | |
| SLOW | ZBY2327 | | |
| START | ZBY2303 | | |
| STOP | ZBY2304 | | |
| STOP-START | ZBY2366 | | |
| UP | ZBY2307 | | |

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

XB5 Complete Devices

Table 19.59: Non-Illuminated Push Buttons, Momentary (screw clamp terminal connections)



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

Table 19.60: 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 |
|---------------|--|-----------------|------|----------------------------|----------------------|----------------|------------------------|
| | | N.O. | N.C. | | | | |
| | One flush green push* One extended red push** | 1 | 1 | **"I" ***"O" (white) | IP66 IP69K | XB5AL73415 | (ZB5AZ105 + ZB5AL7341) |

Table 19.61: 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 |
|---------------|---|-----------------|------|---------------------------------------|----------------------|---------------------|----------------|
| | | 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 | XB5AW73731B5 |
| | | | | | | 120 | XB5AW73731G5 |
| | | | | | | 240 | XB5AW73731M5 |

Table 19.62: 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 |
|---------------|---|-----------------|------|----------------------|--|----------------|
| | | 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 | XB5AA731327 |
| | | | | | Black "+" on white background White "≡" on black background *White "Stop" on red background | XB5AA711237 |

For Legend Holders, see [XB5 Legend Holders](#), page 19-40.



Table 19.63: Non-Illuminated Trigger Action Emergency Stop Push Buttons, Ø 40 mm (Red) (screw clamp terminal connections)

| Shape of Head | Type of Push | Type of Contact | | Catalog Number | Components |
|---------------|---|-----------------|------|----------------|-----------------------|
| | | N.O. | N.C. | | |
| | Trigger action push-pull [27] | 1 | 1 | XB5AT845 | (ZB5AZ105 + ZB5AT84) |
| | Trigger action turn-to-release [27] | 1 | 1 | XB5AS8445 | (ZB5AZ105 + ZB5AS844) |
| | | — | 2 | XB5AS8444 | (ZB5AZ104 + ZB5AS844) |
| | Trigger action Key release (No. 455) [27] | 1 | 1 | XB5AS9445 | (ZB5AZ105+ ZB5AS944) |
| | Trigger action Push-pull [27] | — | 1 | XB5AT842 | (ZB5AZ102 + ZB5AT84) |
| | Trigger action Turn-to-release [27] | — | 1 | XB5AS8442 | (ZB5AZ102 + ZB5AS844) |
| | Trigger action Key release (No. 455) [27] | — | 1 | XB5AS9442 | (ZB5AZ102 + ZB5AS944) |

Table 19.64: Non-Illuminated Selector Switches and Key Switches (screw clamp terminal connections) [28]



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

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

For Legend Holders, see [XB5 Legend Holders](#), page 19-40.

[27] 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).

[28] For contact configurations, see [Table 19.78 Sequence of Contacts on Selector Switch Bodies](#), page 19-32.



XB5AVB1



XB5EVG1

Table 19.65: Pilot Lights with Protected LED™ (screw clamp terminal connections)

[29]

| Shape of Head | Supply Voltage | Color | Monolithic Units | Complete Units | Complete Unit Components |
|---------------|----------------|--------|------------------|----------------|--------------------------|
| | 24 Vac/Vdc | White | XB5EVB1 | XB5AVB1 | (ZB5AVB1 + ZB5AV013) |
| | | Green | XB5EVB3 | XB5AVB3 | (ZB5AVB3 + ZB5AV033) |
| | | Red | XB5EVB4 | XB5AVB4 | (ZB5AVB4 + ZB5AV043) |
| | | Orange | XB5EVB5 | XB5AVB5 | (ZB5AVB5 + ZB5AV053) |
| | | Blue | XB5EVB6 | XB5AVB6 | (ZB5AVB6 + ZB5AV063) |
| | | Yellow | XB5EVB8 | — | — |
| | | White | XB5EVG1 | XB5AVG1 | (ZB5AVG1 + ZB5AV013) |
| | | Green | XB5EVG3 | XB5AVG3 | (ZB5AVG3 + ZB5AV033) |
| | 110–120 Vac | Red | XB5EVG4 | XB5AVG4 | (ZB5AVG4 + ZB5AV043) |
| | | Orange | XB5EVG5 | XB5AVG5 | (ZB5AVG5 + ZB5AV053) |
| | | Blue | XB5EVG6 | XB5AVG6 | (ZB5AVG6 + ZB5AV063) |
| | | Yellow | XB5EVG8 | — | — |
| | | White | XB5EVM1 | XB5AVM1 | (ZB5AVM1 + ZB5AV013) |
| | | Green | XB5EVM3 | XB5AVM3 | (ZB5AVM3 + ZB5AV033) |
| | | Red | XB5EVM4 | XB5AVM4 | (ZB5AVM4 + ZB5AV043) |
| | | Orange | XB5EVM5 | XB5AVM5 | (ZB5AVM5 + ZB5AV053) |
| | 230–240 Vac | Blue | XB5EVM6 | XB5AVM6 | (ZB5AVM6 + ZB5AV063) |
| | | Yellow | XB5EVM8 | — | — |

Table 19.66: Pilot Lights for BA9s Bulb (screw clamp terminal connections)



XB5AV63

XB5AV34

| Shape of Head | Supply Voltage | Color | Catalog Number | Components |
|---|-------------------------|--------|----------------|--------------------|
| Direct supply, for BA9s (incandescent, LED, neon) V < 250 V, 2.4 W bulb (bulb not included) | | | | |
| | < 250 Vac/Vdc | White | XB5AV61 | (ZB5AV6 + ZB5AV01) |
| | | 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) |
| | | Green | XB5AV33 | (ZB5AV3 + ZB5AV03) |
| | | Red | XB5AV34 | (ZB5AV3 + ZB5AV04) |
| | | Yellow | XB5AV35 | (ZB5AV3 + ZB5AV05) |

Table 19.67: Illuminated Push Buttons, Momentary (screw clamp terminal connections)



XB5AW31B5

XB5AW34B5

XB5AW3335

For legends, see [XB5 Legend Holders](#), page 19-40.

| Shape of Head | Description | Type of Contact | | Supply Voltage | Color of Push | Catalog Number | Components | | | | | |
|---------------|---|------------------------|------------------------|-------------------------|-----------------|----------------|------------------------|---|------------|-------|-----------|------------------------|
| | | N.O. | N.C. | | | | | | | | | |
| Flush | | | | | | | | | | | | |
| | Protected LED | 1 | 1 | 24 Vac/Vdc | White | XB5AW31B5 | (ZB5AW0B15 + ZB5AW313) | | | | | |
| | | | | | Green | XB5AW33B5 | (ZB5AW0B35 + ZB5AW333) | | | | | |
| | | | | | Red | XB5AW34B5 | (ZB5AW0B45 + ZB5AW343) | | | | | |
| | | | | | Yellow | XB5AW35B5 | (ZB5AW0B55 + ZB5AW353) | | | | | |
| | | | | | Blue | XB5AW36B5 | (ZB5AW0B65 + ZB5AW363) | | | | | |
| | | | | | White | XB5AW31G5 | (ZB5AW0G15 + ZB5AW313) | | | | | |
| | | | | 110–120 Vac | Green | XB5AW33G5 | (ZB5AW0G35 + ZB5AW333) | | | | | |
| | | | | | Red | XB5AW34G5 | (ZB5AW0G45 + ZB5AW343) | | | | | |
| | | | | | Yellow | XB5AW35G5 | (ZB5AW0G55 + ZB5AW353) | | | | | |
| | | | | | Blue | XB5AW36G5 | (ZB5AW0G65 + ZB5AW363) | | | | | |
| | | | | | White | XB5AW3165 | (ZB5AW065 + ZB5AW31) | | | | | |
| | | | | | Green | XB5AW3365 | (ZB5AW065 + ZB5AW33) | | | | | |
| | Direct supply for BA9s 2.4 W max. bulb not included | 1 | 1 | < 250 Vac/Vdc | Red | XB5AW3465 | (ZB5AW065 + ZB5AW34) | | | | | |
| | | | | | Yellow | XB5AW3565 | (ZB5AW065 + ZB5AW35) | | | | | |
| | | | | | White | XB5AW3135 | (ZB5AW035 + ZB5AW31) | | | | | |
| | | | | | Green | XB5AW3335 | (ZB5AW035 + ZB5AW33) | | | | | |
| | | | | 110–120 Vac 50/60 Hz | Red | XB5AW3435 | (ZB5AW035 + ZB5AW34) | | | | | |
| | | | | | Yellow | XB5AW3535 | (ZB5AW035 + ZB5AW35) | | | | | |
| | | | | | White | XB5AW3145 | (ZB5AW045 + ZB5AW31) | | | | | |
| | | | | | Green | XB5AW3345 | (ZB5AW045 + ZB5AW33) | | | | | |
| | | | | | Red | XB5AW3445 | (ZB5AW045 + ZB5AW34) | | | | | |
| | | | | | Yellow | XB5AW3545 | (ZB5AW045 + ZB5AW35) | | | | | |
| | | | | | Extended | | | | | | | |
| | | | | | | Protected LED | 1 | 1 | 24 Vac/Vdc | White | XB5AW11B5 | (ZB5AW0B15 + ZB5AW113) |
| Green | XB5AW13B5 | (ZB5AW0B35 + ZB5AW133) | | | | | | | | | | |
| Red | XB5AW14B5 | (ZB5AW0B45 + ZB5AW143) | | | | | | | | | | |
| Yellow | XB5AW15B5 | (ZB5AW0B55 + ZB5AW153) | | | | | | | | | | |
| 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) | | | | | | | | | |

[29] For 240V LED, replace the "B" or "G" with "M". (Example: XB5APVB1 (24 V) to XB5APVM1 (240 Vac only))

XB5 Non-Illuminated Operators

Table 19.68: Non-Illuminated Operators, Momentary—Unmarked



| Shape of Head | Type of Push | Cap Color | Catalog Number |
|---------------|---|---------------|----------------|
| | Flush, without color cap | — | ZB5AA0 |
| | Flush, with set of 6 color caps | 6 colors [30] | ZB5AA9 |
| | Flush | White | ZB5AA1 |
| | | Black | ZB5AA2 |
| | | Green | ZB5AA3 |
| | | Red | ZB5AA4 |
| | | Yellow | ZB5AA5 |
| | | Blue | ZB5AA6 |
| | Flush with transparent cap, for insertion of legend | Gray | ZB5AA8 |
| | | White | ZB5AA18 |
| | | Green | ZB5AA38 |
| | | Red | ZB5AA48 |
| | | Yellow | ZB5AA58 |
| | | Blue | ZB5AA68 |
| | Extended | White | ZB5AL1 |
| | | Black | ZB5AL2 |
| | | Green | ZB5AL3 |
| | | Red | ZB5AL4 |
| | | Yellow | ZB5AL5 |
| | | Blue | ZB5AL6 |
| | Booted Flush (clear) Cap color unobscured | White | ZB5APA1 |
| | | Black | ZB5APA2 |
| | | Green | ZB5APA3 |
| | | Red | ZB5APA4 |
| | | Yellow | ZB5APA5 |
| | | Blue | ZB5APA6 |
| | Booted Extended (clear) Cap color unobscured | White | ZB5AP1 |
| | | Black | ZB5AP2 |
| | | Green | ZB5AP3 |
| | | Red | ZB5AP4 |
| | | Yellow | ZB5AP5 |
| | | Blue | ZB5AP6 |
| | Booted (colored) Cap color unobscured | White | ZB5AP1S |
| | | Black | ZB5AP2S |
| | | Green | ZB5AP3S |
| | | Red | ZB5AP4S |
| | | Yellow | ZB5AP5S |
| | | Blue | ZB5AP6S |
| | Booted (clear) for insertion of legend Cap color unobscured | White | ZB5AP18 |
| | | Green | ZB5AP38 |
| | | Red | ZB5AP48 |
| | | Yellow | ZB5AP58 |
| | | Blue | ZB5AP68 |
| | | White | ZB5AA14 |
| | Flush Plunger (with high guard) | Black | ZB5AA24 |
| | | Green | ZB5AA34 |
| | | Red | ZB5AA44 |
| | | Yellow | ZB5AA54 |
| | | Blue | ZB5AA64 |
| | | White | ZB5CA1 |
| | Flush | Black | ZB5CA2 |
| | | Green | ZB5CA3 |
| | | Red | ZB5CA4 |
| | | Yellow | ZB5CA5 |
| | | Blue | ZB5CA6 |
| | | White | ZB5CL1 |
| | Extended | Black | ZB5CL2 |
| | | Green | ZB5CL3 |
| | | Red | ZB5CL4 |
| | | Yellow | ZB5CL5 |
| | | Blue | ZB5CL6 |
| | | White | ZB5AA16 |
| | Heads only Recessed (high guard) | Black | ZB5AA26 |
| | | Green | ZB5AA36 |
| | | Red | ZB5AA46 |
| | | Yellow | ZB5AA56 |
| | | Blue | ZB5AA66 |
| | | White | ZB5CA16 |
| | Heads only Recessed (high guard) | Black | ZB5CA26 |
| | | Green | ZB5CA36 |
| | | Red | ZB5CA46 |
| | | Yellow | ZB5CA56 |
| | | Blue | ZB5CA66 |

For Legends, see [XB5 Legend Holders](#), page 19-40.

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



Table 19.69: Non-Illuminated Operators, Momentary—Premarked

| Shape of Head | Type of Push | Marking | | Cap Color | Catalog Number |
|---------------|--------------|---------|----------|-----------|----------------|
| | | Text | Color | | |
| | Flush | I | White | Green | ZB5AA331 |
| | | | Black | White | ZB5AA131 |
| | | START | White | Green | ZB5AA333 |
| | | | Black | White | ZB5AA133 |
| | | ON | White | Green | ZB5AA341 |
| | | | Black | White | ZB5AA141 |
| | | T | White | Green | ZB5AA345 |
| | | O | White | Red | ZB5AA432 |
| | | | Black | Black | ZB5AA232 |
| | | STOP | White | Red | ZB5AA434 |
| | | | | Black | ZB5AA234 |
| | | OFF | White | Red | ZB5AA435 |
| UP | Black | White | ZB5AA235 | | |
| DOWN | White | Black | ZB5AA344 | | |
| | Black | White | ZB5AA334 | | |
| ↑ [31] | Black | White | ZB5AA335 | | |
| | White | Black | ZB5AA432 | | |
| | Extended | O | White | Red | ZB5AL432 |
| | | | Black | Black | ZB5AL232 |
| | | | Red | Red | ZB5AL434 |
| STOP | White | Black | ZB5AL234 | | |
| | | Red | ZB5AL435 | | |
| OFF | White | Black | ZB5AL235 | | |
| | Flush | I | White | Green | ZB5CA331 |
| | | | Black | White | ZB5CA432 |

Table 19.70: Mushroom Heads, Momentary

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

For legends, see XB5 Legend Holders, page 19-40.

[31] Cap supplied not clipped-in, allowing orientation of arrow in any one of 4 directions:



ZB5AH04

Table 19.71: Non-Illuminated Push-on/Push-off Operators

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



ZB5AL7341



ZB5AA7121

Table 19.72: Two Head Operators, Momentary

| Shape of Head | Description | Marking | Cap Color | Degree of Protection | Catalog Number |
|---------------------|---------------------------|----------------------------|-------------|----------------------|----------------|
| No Marking | | | | | |
| | Two flush | — | Green Red | IP66 IP69K | ZB5AA7340 |
| | | — | White Black | | ZB5AA7120 |
| | One flush One extended | — | Green Red | IP66 IP69K | ZB5AL7340 |
| Premarked | | | | | |
| | Two flush | "I" (white) "O" (white) | Green Red | IP66 IP69K | ZB5AA7341 |
| | | "I" (black) "O" (white) | White Black | | ZB5AA7121 |
| | One flush One extended | "I" (white) "O" (white) | Green Red | IP66 IP69K | ZB5AL7341 |
| Without caps | | | | | |
| | Two flush without caps | — | — | IP66 IP69K | ZB5AA79 |

Table 19.73: Three Head Operators, Momentary

| Shape of Head | Description | Marking | Cap Color | Degree of Protection | Catalog Number |
|---------------------|--|-----------------------------|-------------|----------------------|----------------|
| Premarked | | | | | |
| | Two flush + one central projecting red push marked "Stop" | "I" (white) "II" (white) | Green Green | IP66 IP69K | ZB5AA73132 |
| | | "←" (white) "→" (white) | Green Green | | ZB5AA73133 |
| | | "↑" (white) "↓" (white) | Green Green | | ZB5AA73134 |
| | | "+" (white) "-" (white) | Green Green | | ZB5AA73135 |
| | | "+" (black) "-" (black) | White White | | ZB5AA71115 |
| | | "←" (black) "→" (white) | White Black | | ZB5AA71123 |
| | | "↑" (black) "↓" (white) | White Black | | ZB5AA71124 |
| | | "I" (white) "I" (white) | Black Black | | ZB5AA72124 |
| Without caps | | | | | |
| | Two flush without caps | — | — | IP66 IP69K | ZB5AA791 |



ZB5AA73133



ZB5AA71124

XB5 Emergency Stop Operators

Table 19.74: Mushroom Heads for Maintained Push Buttons



| Shape of Head | Type of Push | Diameter of Head | Color | Catalog Number |
|---|---|------------------|--------|----------------|
| For use in Emergency Stop applications | | | | |
| | Trigger action Push-pull [32] | 30 mm | Red | ZB5AT844 |
| | | 40 mm | Red | ZB5AT84 |
| | | 60 mm | Red | ZB5AX84 |
| | Trigger action Turn-to-release [32] | 30 mm | Red | ZB5AS834 |
| | | 40 mm | Red | ZB5AS844 |
| | | 60 mm | Red | ZB5AS864 |
| | Trigger action Key release (No. 455) [32] | 30 mm | Red | ZB5AS934 |
| | | 40 mm | Red | ZB5AS944 [33] |
| | | 60 mm | Red | ZB5AS964 |
| For use in non-Emergency Stop applications | | | | |
| | Push-pull | 30 mm | Black | ZB5AT24 |
| | | 40 mm | Black | ZB5AT2 |
| | | 60 mm | Black | ZB5AX2 |
| | Turn-to-release | 30 mm | Black | ZB5AS42 |
| | | 40 mm | Black | ZB5AS52 |
| | | 40 mm | Yellow | ZB5AS55 |
| | Key release (No. 455) | 60 mm | Black | ZB5AS62 |
| | | 30 mm | Black | ZB5AS72 |
| | | 40 mm | Black | ZB5AS12 |
| 60 mm | Black | ZB5AS22 | | |

Table 19.75: Circular Legends for Emergency Stop Mushroom Heads (yellow background)



ZBY9320

| Diameter | Text | Catalog Number |
|---------------|---------------------|----------------|
| 90 mm | Blank | ZBY8101 |
| | EMERGENCY STOP | ZBY8330 |
| 60 mm Bezeled | Blank | ZBY9121 |
| | Emergency Stop | ZBY9320 |
| | Prada de Emergencia | ZBY9420 |
| | Not Halt | ZBY9220 |

For Legends, see XB5 Legend Holders, page 19-40.

[32] 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).

[33] 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.

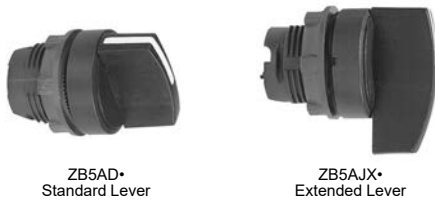
—key no. 520E: add the suffix 14 to the catalog number.

—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.

XB5 Selector Switches

Table 19.76: Non-Illuminated Selector Switches



| Color | Number and Type of Positions | | Standard Lever [34] | Extended Lever [34] |
|-------|----------------------------------|--|---------------------|---------------------|
| | | | Catalog Number | |
| Black | 2-maintained | | ZB5AD2 | ZB5AJ2 |
| Black | 2-momentary from right to left | | ZB5AD4 | ZB5AJ4 |
| Black | 3-maintained | | ZB5AD3 | ZB5AJ3 |
| Black | 3-momentary to center | | ZB5AD5 | ZB5AJ5 |
| Black | 3-momentary from left to center | | ZB5AD7 | ZB5AJ7 |
| Black | 3-momentary from right to center | | ZB5AD8 | ZB5AJ8 |

Table 19.77: Non-Illuminated Key Switches



| Type of Operator | Number and Type of Positions | Catalog Number [35] | |
|--|---------------------------------|---------------------|---------|
| <p>Key (No. 455) [35]</p> <p>NOTE: The symbol indicates key withdrawal position(s).</p> | 2-maintained | | ZB5AG2 |
| | | | ZB5AG4 |
| | | | ZB5AG02 |
| | 2-momentary from right to left | | ZB5AG6 |
| | | 3-maintained | |
| | | | ZB5AG3 |
| | | | ZB5AG5 |
| | | | ZB5AG9 |
| | | | ZB5AG09 |
| | | | ZB5AG1 |
| | 3-momentary from left to center | | ZB5AG7 |
| | 3-momentary to center | | ZB5AG8 |
| | | ZB5AG08 | |
| | | ZB5AG05 | |

Table 19.78: 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° | | | | | | |
| Operator Plunger Position | Up | | | | | | | | | | | | | | | |
| | Down | | | | | | | | | | | | | | | |
| Contact Block Location | | L | C | R | L | C | R | L | C | R | L | C | R | L | C | R |
| Contacts | N.O. | O | O | O | X | X | X | X | X | O | O | O | O | O | X | X |
| | N.C. | X | X | X | O | O | O | O | O | X | X | X | X | X | O | O |

For Selector Switch Sequence, see Table 19.49 Sequence of Contacts on Illuminated Selector Switch Bodies, page 19-20

[34] 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).

[35] 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

XB5 Specialty Operators

Table 19.79: Reset Operators



XB5AA

| Shape of Head | Actuation Distance | | Text | Color | Catalog Number |
|--|--------------------|---------|---------|------------|----------------|
| | in | mm | | | |
| Flush | | | | | |
| Adjustable Shaft Shaft only (short) is W40437632 | | | | | |
| | 0.67–4.72 | 17–120 | Without | Green | XB5AA831 |
| | | | | Red | XB5AA841 |
| | | | | Blue | XB5AA861 |
| | | | O | XB5AA84101 | |
| | | | R | XB5AA86102 | |
| | 4.72–10.12 | 120–257 | Without | Green | XB5AA832 |
| | | | | Red | XB5AA842 |
| | | | | Blue | XB5AA862 |
| | | | O | XB5AA84201 | |
| | | | R | XB5AA86202 | |
| Extended | | | | | |
| | 0.67–4.72 | 17–120 | O | Red | XB5AL84101 |
| | 4.72–10.12 | 120–257 | O | Red | XB5AL84201 |

Table 19.80: Potentiometer Operator (with Mounting Collar)



XB5AD912R1K

| Shape of Head | Description | Application | Catalog Number |
|---------------|---|--------------------------------|----------------|
| | 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 |
| | | For shaft Ø 0.24 in. (6 mm) | ZB5AD912 |

Table 19.81: Complete Potentiometers

| Description | Resistance (k Ω) | Weight (kg/lb) | Catalog Number |
|---|------------------|----------------|----------------|
| +/- 10% linear mode precision complete potentiometer with screw terminals | 1 | 0.048/0.106 | XB5AD912R1K |
| | 4.7 | 0.048/0.106 | XB5AD912R4K7 |
| | 10 | 0.048/0.106 | XB5AD912R10K |
| | 47 | 0.048/0.106 | XB5AD912R47K |
| | 100 | 0.048/0.106 | XB5AD912R100K |
| | 470 | 0.048/0.106 | XB5AD912R470K |

Table 19.82: Hour Counters (UR E191025, XHNR2 and XHNR8)



XB5DS•

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

Table 19.83: Buzzer (UR E191025, XHNR2 and XHNR8)



XB5KS•

| Characteristics | Supply Voltage | Catalog Number |
|---|-------------------------|----------------|
| 85 db buzzer:4kHz, continuous or intermittent (IP40 NEMA 1) | 24 Vdc or Vac, 50/60 Hz | XB5KSB |
| | 120 Vac, 60 Hz | XB5KSG |

Table 19.84: Two Position Toggle Switch



ZB5AD28

| Shape of Head | Color | Type of Positions | Catalog Number |
|---------------|-------|-------------------|----------------|
| | Black | Maintained | ZB5AD28 |
| | Black | Momentary | ZB5AD48 |

For legends, see XB5 Legend Holders, page 19-40.

XB5 Pilot Lights

Table 19.85: Pilot Light Heads



| Shape of Head | For use with Body Comprising Light Module Type | Color of Lens | Catalog Number |
|---------------|--|--|--|
| | Protected LED™ only | White Green Red Yellow Blue | ZB5AV013 ZB5AV033 ZB5AV043 ZB5AV053 ZB5AV063 |
| | Protected LED only Fresnel (jeweled) lens [36] | White Green Red Amber Blue | ZB5AV013S ZB5AV033S ZB5AV043S ZB5AV053S ZB5AV063S |
| | For BA9s incandescent bulb, neon or LED only | White Green Red Yellow Blue Clear | ZB5AV01 ZB5AV03 ZB5AV04 ZB5AV05 ZB5AV06 ZB5AV07 |
| | For BA9s incandescent bulb, neon or LED Fresnel (jeweled) lens | White Green Red Amber Blue Clear | ZB5AV01S ZB5AV03S ZB5AV04S ZB5AV05S ZB5AV06S ZB5AV07S |
| | Protected LED only | White Green Red Yellow Blue | ZB5CV013 ZB5CV033 ZB5CV043 ZB5CV053 ZB5CV063 |

For legends, refer to [XB5 Legend Holders](#), page 19-40.

Table 19.86: Complete Bodies (Mounting Collar + Light Module for BA9s Incandescent Bulb, Neon or LED)



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

Table 19.87: Complete Bodies (Mounting Collar + Protected LED™ Light Module) [37][38]



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

[36] For use in bright ambient conditions (i.e., sunlight).

[37] 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").

[38] For 240 V LED, replace the "B" or "G" with "M". (Example: ZB5AVB1 (24V) to ZB5AVM1 (240V))



XB5 Illuminated Operators

Table 19.88: Heads for Momentary Illuminated Push Buttons

| Shape of Head | Type of Push | Color | Catalog Number |
|--|-------------------------------|--------|----------------|
| Only use with Protected LED™ light modules | | | |
| | Flush | White | ZB5AW313 |
| | | Green | ZB5AW333 |
| | | Red | ZB5AW343 |
| | | Yellow | ZB5AW353 |
| | Flush with clear boot | Blue | ZB5AW363 |
| | | White | ZB5AW513 |
| | | Green | ZB5AW533 |
| | | Red | ZB5AW543 |
| | Flush for insertion of legend | Yellow | ZB5AW553 |
| | | Blue | ZB5AW563 |
| | | White | ZB5AA18 |
| | | Green | ZB5AA38 |
| | Extended | Red | ZB5AA48 |
| | | Yellow | ZB5AA58 |
| | | Blue | ZB5AA68 |
| | | White | ZB5AW113 |
| | Extended | Green | ZB5AW133 |
| | | Red | ZB5AW143 |
| | | Yellow | ZB5AW153 |
| | | Blue | ZB5AW163 |
| | Flush for insertion of legend | White | ZB5AW163 |
| | | Green | ZB5AW133 |
| | | Red | ZB5AW143 |
| | | Yellow | ZB5AW153 |
| | Extended | Blue | ZB5AW163 |
| | | White | ZB5CW113 |
| | | Green | ZB5CW133 |
| | | Red | ZB5CW143 |
| | Extended | Yellow | ZB5CW153 |
| | | Blue | ZB5CW163 |
| | | White | ZB5CW313 |
| | | Green | ZB5CW333 |
| | Extended | Red | ZB5CW343 |
| | | Yellow | ZB5CW353 |
| | | Blue | ZB5CW363 |
| | | White | ZB5CW373 |
| Only use with light modules for a BA9s incandescent bulb, neon or LED | | | |
| | Flush | White | ZB5AW31 |
| | | Green | ZB5AW33 |
| | | Red | ZB5AW34 |
| | | Yellow | ZB5AW35 |
| | Extended | Blue | ZB5AW36 |
| | | Clear | ZB5AW37 |
| | | White | ZB5AW11 |
| | | Green | ZB5AW13 |
| | Extended | Red | ZB5AW14 |
| | | Yellow | ZB5AW15 |
| | | Blue | ZB5AW16 |
| | | Clear | ZB5AW17 |



Table 19.89: Illuminated Push-on/Push-off Operators

| Shape of Head | Type of Push | Color of Lens | Catalog Number |
|--|--------------|---------------|----------------|
| Only use with Protected LED light modules | | | |
| | Flush | White | ZB5AH013 |
| | | Green | ZB5AH033 |
| | | Red | ZB5AH043 |
| | | Yellow | ZB5AH053 |
| | Extended | Blue | ZB5AH063 |
| | | White | ZB5AH113 |
| | | Green | ZB5AH133 |
| | | Red | ZB5AH143 |
| | Extended | Yellow | ZB5AH153 |
| | | Blue | ZB5AH163 |

For legends, refer to [XB5 Legend Holders](#), page 19-40.



ZB5AW7A3741



ZB5AW7A1721

Table 19.90: Two Button with Clear Pilot Light, Momentary







| Shape of Head | Description | Marking | Cap Color | Degree of Protection | Catalog Number |
|---|---------------------------|----------------------------|-------------|----------------------|----------------|
| No Marking | | | | | |
|  | Two flush | — | Green Red | IP66 IP69K | ZB5AW7A3740 |
| | | — | White Black | | ZB5AW7A1720 |
|  | One flush One extended | — | Green Red | | ZB5AW7L3740 |
| Premarked | | | | | |
|  | Two flush | "I" (white) "O" (white) | Green Red | IP66 IP69K | ZB5AW7A3741 |
| | | "I" (black) "O" (white) | White Black | | ZB5AW7A1721 |
|  | One flush One extended | "I" (white) "O" (white) | Green Red | | ZB5AW7L3741 |
|  | Two flush | "i" (black) "i" (white) | White Black | | ZB5AW7A1724 |
|  | Two flush | "+" (black) "-" (black) | White White | | ZB5AW7A1715 |
| Without caps | | | | | |
| Two flush without caps | | — | — | IP66, IP69K | ZB5AW7A9 |

Table 19.91: Heads for Maintained Illuminated Push Buttons



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

Table 19.92: Emergency Stop, Trigger Action and Mech Latching Push Button with Mech State Indicator for Elevator Inspection Box Applications—Heads Only

| Shape of Head | Type of Reset | Color | Catalog Number |
|---|-------------------|-------|----------------|
|  | Push-pull (40 mm) | Red | ZB5AT8643M |

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

Table 19.93: Illuminated Selector Switches, Standard Lever


| Shape of Head | Number and Type of Positions | Catalog Number [39] |
|---|----------------------------------|---------------------|
| Only use with Protected LED light modules | | |
|  | 2-maintained | ZB5AK12•3 |
| | 2-momentary from right to left | ZB5AK14•3 |
| | 3-maintained | ZB5AK13•3 |
| | 3-momentary to center | ZB5AK15•3 |
| | 3-momentary from right to center | ZB5AK18•3 |
| | 3-momentary from left to center | ZB5AK17•3 |

Table 19.94: Sequence of Contacts on Selector Switch Bodies

| Unit Type | Selector Switches | | | | | | | | | | | | | |
|--|-------------------|-----------|-----|-----------|------|-----------|------------|-----------|-----|-----------|---|---|---|---|
| | 2-position | | | | | | 3-position | | | | | | | |
| | 315° | | 45° | | 315° | | 0° | | 45° | | | | | |
| <i>Note:</i> L=Left, C=Center, R=Right, O=Open, X=Closed | | | | | | | | | | | | | | |
| Operator Plunger Position | Up | [Diagram] | | [Diagram] | | [Diagram] | | [Diagram] | | [Diagram] | | | | |
| | Down | [Diagram] | | [Diagram] | | [Diagram] | | [Diagram] | | [Diagram] | | | | |
| Contact Block Location | L | C | R | L | C | R | L | C | R | L | C | R | | |
| Contacts | N.O. | O | O | O | X | X | X | X | O | O | O | O | X | X |
| | N.C. | X | X | X | O | O | O | O | O | X | X | X | X | O |

For legends, see [XB5 Legend Holders](#), page 19-40.

[39] • Designate color as follows: 1—white, 3—green, 4—red, 5—yellow, 6—blue

XB5 Electrical Components

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



ZB5AZ101

Table 19.95: Contact Blocks
(Mounting Collar with Contact Blocks) [40] [41] [42]

| Description | Type of Contact | | Catalog Number |
|----------------------------------|-----------------|------|----------------|
| | N.O. | N.C. | |
| Screw clamp terminal connections | 1 | — | ZB5AZ101 |
| | — | 1 | ZB5AZ102 |
| | 2 | — | ZB5AZ103 |
| | — | 2 | ZB5AZ104 |
| | 1 | 1 | ZB5AZ105 |
| | 1 | 2 | ZB5AZ141 |



ZB5AW011

Table 19.96: Complete Bodies
(Mounting Collar + Single Contact Block + Light Module with Protected LED™)

| Light Source | Type of Contact [43] | | Color | Supply Voltage [44] | | Catalog Number |
|---|----------------------|------|--------|---------------------|-------------|----------------|
| | N.O. | N.C. | | 24 Vac/Vdc | 110–120 Vac | |
| Screw clamp terminal connections | | | | | | |
| Protected LED | 1 | — | White | ZB5AW0B11 | ZB5AW0G11 | |
| | | | Green | ZB5AW0B31 | ZB5AW0G31 | |
| | | | Red | ZB5AW0B41 | ZB5AW0G41 | |
| | | | Yellow | ZB5AW0B51 | ZB5AW0G51 | |
| | | | Blue | ZB5AW0B61 | ZB5AW0G61 | |
| | — | 1 | White | ZB5AW0B12 | ZB5AW0G12 | |
| | | | Green | ZB5AW0B32 | ZB5AW0G32 | |
| | | | Red | ZB5AW0B42 | ZB5AW0G42 | |
| | | | Yellow | ZB5AW0B52 | ZB5AW0G52 | |
| | | | Blue | ZB5AW0B62 | ZB5AW0G62 | |
| | 2 | — | White | ZB5AW0B13 | ZB5AW0G13 | |
| | | | Green | ZB5AW0B33 | ZB5AW0G33 | |
| | | | Red | ZB5AW0B43 | ZB5AW0G43 | |
| | | | Yellow | ZB5AW0B53 | ZB5AW0G53 | |
| | | | Blue | ZB5AW0B63 | ZB5AW0G63 | |
| | 1 | 1 | White | ZB5AW0B15 | ZB5AW0G15 | |
| | | | Green | ZB5AW0B35 | ZB5AW0G35 | |
| | | | Red | ZB5AW0B45 | ZB5AW0G45 | |
| | | | Yellow | ZB5AW0B55 | ZB5AW0G55 | |
| | | | Blue | ZB5AW0B65 | ZB5AW0G65 | |



ZB5AW065



ZB5AW035

Table 19.97: Mounting Collar, Contact Block and Light Module
(with screw clamp terminal connections)

| Supply | Light Source | Supply Voltage | Type of Contact [43] | | Color of Light Source | Catalog Number |
|--|---|-------------------------|----------------------|------|-----------------------|----------------|
| | | | N.O. | N.C. | | |
| Screw clamp terminal connections | | | | | | |
| Direct supply | BA9s 2.4 W max. bulb Not included | < 250 Vac/ Vdc | 1 | — | — | ZB5AW061 |
| | | | — | 1 | — | ZB5AW062 |
| | | | 2 | — | — | ZB5AW063 |
| | | | 1 | 1 | — | ZB5AW065 |
| Transformer type 1.2 VA, 6 V secondary | BA9s incandescent bulb included | 110–120 Vac 50/60 Hz | 1 | — | — | ZB5AW031 |
| | | | 1 | 1 | — | ZB5AW035 |
| | | 230–240 Vac 50/60 Hz | 1 | — | — | ZB5AW041 |
| | | | 1 | 1 | — | ZB5AW045 |

[40] For Ring Tongue compatible blocks add "9" to the end of the catalog number (Example: ZB5AZ1029).
 [41] Electrical components with connection by printed circuit board pins are available. Refer to Catalog [9001CT0001](#) for more information.
 [42] Electrical components with connection by plug-in connector are available. Refer to Catalog [9001CT0001](#) for more information.
 [43] Can be fitted with additional contact blocks, see [Table 19.99 Add-On Contact Blocks, page 19-38](#).
 [44] For 240V LED, replace the "B" or "G" with "M". (Example: change "ZB5AW0B11 (24 V) to ZB5AW0M11 (240 V)



ZB5AZ009



ZBE101



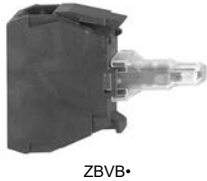
ZBE203

Table 19.98: Body/Mounting Collar

| For use with | Catalog Number |
|--|----------------|
| Electrical block (contact or light module) | ZB5AZ009 |

Table 19.99: Add-On Contact Block (with screw clamp terminal connections) [45][46]

| Description | Type of Contact | | Catalog Number | |
|---|---|------|----------------|----------|
| | N.O. | N.C. | | |
| Standard single contact blocks[47][48] | 1 | — | ZBE101 | |
| | — | 1 | ZBE102 | |
| Standard double contact blocks[47][48] | 2 | — | ZBE203 | |
| | — | 2 | ZBE204 | |
| Special contact blocks for low-power switching [49] | 1 | 1 | ZBE205 | |
| | 1 | — | ZBE1016 | |
| | — | 1 | ZBE1026 | |
| | 1 | — | ZBE1016P | |
| Low-power switching | Dusty environment [49] (IP5X, 50 µm dust) | — | 1 | ZBE1026P |
| | Early make N.O. | 1 | — | ZBE201 |
| Staggered contacts | Late break N.C. | — | 1 | ZBE202 |
| | Overlapping N.O. + N.C. | 1 | 1 | ZB4BZ106 |
| | Staggered N.O. + N.O. | — | 2 | ZB4BZ107 |



ZBVB•

Table 19.100: Light Modules (with screw clamp terminal connections)[45][46]

| Description | Supply Voltage | Color of Light Source | Catalog Number |
|--|----------------|-----------------------|----------------|
| Protected LED | 12 Vac/Vdc | White | ZBVJ1 |
| | | Green | ZBVJ3 |
| | | Red | ZBVJ4 |
| | | Yellow | ZBVJ5 |
| | | Blue | ZBVJ6 |
| | | White | ZBVB1 |
| | 24 Vac/Vdc | Green | ZBVB3 |
| | | Red | ZBVB4 |
| | | Yellow | ZBVB5 |
| | | Blue | ZBVB6 |
| | | White | ZBVG1 |
| | | Green | ZBVG3 |
| | 110–120 Vac | Red | ZBVG4 |
| | | Yellow | ZBVG5 |
| | | Blue | ZBVG6 |
| | | White | ZBVBG1 |
| | | Green | ZBVBG3 |
| | | Red | ZBVBG4 |
| | 24–120 Vac/Vdc | Yellow | ZBVBG5 |
| | | Blue | ZBVBG6 |
| | | White | ZBVM1 |
| | | Green | ZBVM3 |
| | | Red | ZBVM4 |
| | | Yellow | ZBVM5 |
| 230–240 Vac | Blue | ZBVM6 | |
| | — | — | ZBV6 |
| Direct supply for BA9s (2.4 W max. bulb not included) | < 250 Vac/Vdc | — | ZBV6 |

[45] Electrical components with connection by printed circuit board pins are available. Refer to Catalog [9001CT0001](#) for more details.

[46] Electrical components with connection by plug-in connector are available. Refer to Catalog [9001CT0001](#) for more details.

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

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

[49] Cannot stack additional contact blocks onto these blocks.



ZB5AZ009



ZB4BZ1015

Table 19.101: Body/Mounting Collar

| For use with | Catalog Number |
|-------------------------------|----------------|
| Contact block or light module | ZB5AZ009 |

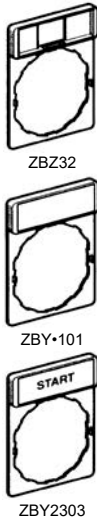
Table 19.102: Light Modules [50]

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

[50] 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.

XB5 Legend Holders

Table 19.103: Standard (30 x 40 mm) Legend Holders for 8 x 27 mm Legends



| Description | Legend | | Catalog Number |
|--|------------------------------|--------------------------|----------------|
| | Color | Text | |
| Without legend | — | — | ZBZ32 |
| With blank legend (for engraving) | Black or red background | — | ZBY2101 |
| | White or yellow background | — | ZBY4101 |
| Custom Legend (Specify Engraving) 2 lines of 11 characters (including spaces) maximum per line | Black background | White | ZBY2002 |
| | Red background | White | ZBY2004 |
| | White background | Black | ZBY4001 |
| | Yellow background | Black | ZBY4005 |
| With legend marked with international language | Black or red background [51] | O (black background) | ZBY2146 |
| | | O (red background) | ZBY2931 |
| | | I | ZBY2147 |
| | | II | ZBY2148 |
| | | O-I | ZBY2178 |
| | | I-II | ZBY2179 |
| | | I-O-II | ZBY2186 |
| | | I-O | ZBY2115 |
| With legend marked with English language | Black or red background[51] | AUTO | ZBY2115 |
| | | AUTO-HAND | ZBY2364 |
| | | AUTO-O-HAND | ZBY2385 |
| | | CLOSE | ZBY2314 |
| | | DOWN | ZBY2308 |
| | | EMERGENCY STOP | ZBY2330 |
| | | FAST | ZBY2328 |
| | | FORWARD | ZBY2305 |
| | | FOR-REV | ZBY2371 |
| | | HAND | ZBY2316 |
| | | HAND-OFF-AUTO | ZBY2387 |
| | | INCH | ZBY2321 |
| | | JOG | ZBY2382 |
| | | LEFT | ZBY2310 |
| | | OFF | ZBY2312 |
| | | OFF-ON | ZBY2367 |
| | | ON | ZBY2311 |
| | | OPEN | ZBY2313 |
| | | POWER ON | ZBY2326 |
| | | RESET (red background) | ZBY2323 |
| | | RESET (black background) | ZBY2322 |
| | | REVERSE | ZBY2306 |
| | | RIGHT | ZBY2309 |
| | | RUN | ZBY2334 |
| | | SLOW | ZBY2327 |
| | | START | ZBY2303 |
| | | STOP | ZBY2304 |
| | | STOP-START | ZBY2366 |
| | | UP | ZBY2307 |

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

New!

XB5R Plastic and XB4R Metal Wireless, Batteryless Push Buttons

Table 19.104: Ready-to-use Packs [52]



XB5RFA02

| Description | Transmitter Type | Voltage Receiver | Receiver Type | Catalog Number |
|---|--|----------------------|--|----------------|
| Packs include: - 1 push button/transmitter - 1 receiver The push button and receiver are factory-paired [53] | Ø 22 mm plastic head + 1 set of 10 different colored caps | ~ / --- 24 to 240 | Programmable receiver with: - 2 relay outputs type RT 3A[54] | XB5RFA02 |
| | Ø 22 mm metallic head + 1 set of 10 different colored caps | | | XB4RFA02 |
| Packs include: - 1 push button/transmitter in handy box [56] - 1 receiver The push button and receiver are factory-paired [53] | Ø 22 mm plastic head | --- 24 | Non-programmable receiver with: - 1 relay output type RT 3A[55] | XB5RFB01 |
| | Ø 22 mm metallic head | | | XB4RFB01 |
| Packs include: - 1 push button/transmitter - 1 receiver The push button and receiver are factory-paired [53] | Ø 22 mm plastic head + 1 set of 10 different colored caps | ~ / --- 24 to 240 | Programmable receiver with: - 2 relay outputs type RT 3A[54] | XB5RMA04 |
| | Ø 22 mm metallic head + 1 operator head | | | XB5RMB03 |



ZBRT1

Table 19.105: Transmitter Components for Wireless, Batteryless Push Buttons

| Description | Type of Push | Cap Color | Catalog Number |
|---|--|----------------------|----------------|
| Transmitter for wireless, batteryless push buttons [57] [58] | 1 radio frame sent at the push of the button | — | ZBRT1 |
| | Dual Action: 1 radio frame sent at the push of the button 1 radio frame sent at therelease of the button | — | ZBRT2 |
| Wireless, batteryless push buttons including: - a transmitter fitted with mounting collar - a spring return push button head with clipped-in cap [59] | Plastic | White | ZB5RTA1 |
| | | Black | ZB5RTA2 |
| | | Green | ZB5RTA3 |
| | | Green with white "I" | ZB5RTA331 |
| | | Red | ZB5RTA4 |
| | | Red with white "O" | ZB5RTA432 |
| | Metal | Yellow | ZB5RTA5 |
| | | Blue | ZB5RTA6 |
| | | White | ZB4RTA1 |
| | | Black | ZB4RTA2 |
| | | Green | ZB4RTA3 |
| | | Red | ZB4RTA4 |
| | | Yellow | ZB4RTA5 |

[52] Wireless and batteryless push button and receiver, factory-paired.
 [53] For additional components, these devices can be field-paired.
 [54] Supplied with output function set to momentary. Outputs programmable to maintained and Start-Stop.
 [55] Non-programmable momentary output function.
 [56] Supplied with a magnet.
 [57] Mounting collar ZB5AZ009 (plastic) or ZB4BZ009 (metal) to be ordered separately.
 [58] Only heads ZB4RZA0 and ZB5RZA0 are mechanically compatible.
 [59] This cap is fitted by Schneider Electric and cannot be removed (risk of damage).

Refer to Catalog [DIA5ED21214EN](#)



ZBRRA

Table 19.106: Programmable Receivers

| Description | Output Type | Voltage Receiver V | Catalog Number |
|---|---------------------------------|--------------------|----------------|
| 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 |
| | 2 relay outputs type RT 3A [60] | ~ / — 24 to 240 | ZBRRD |
| | 2 relay outputs type RT 3A [60] | ~ / — 24 to 240 | ZBRRA |

NOTE: Also refer to Access Point for advanced features in programmable receivers.

Table 19.107: Boxes for Wireless, Batteryless Push Buttons

| Description | For use with: | Marking | Sold in lots of | Catalog Number |
|--|---|------------|-----------------|----------------|
| Mobile box, plastic, empty [61] | For mobile and fixed applications with wireless and batteryless push buttons Support for tube or wall specific for ZBRM21 and ZBRM22 | 1 cut-out | 1 | ZBRM21 |
| | | 2 cut-outs | 1 | ZBRM22 |
| Empty plastic boxes for wireless and batteryless push buttons [62] | For fixed or on-board wireless and batteryless push buttons | — | 1 | ZBRACS |
| | | 1 cut-out | 1 | XALD01H7 |
| | | 2 cut-outs | 1 | XALD02H7 |



ZBRM22



ZBRACS



XALD02H7

New!

XB5R and XB4R Accessories

Table 19.108: Accessories

| Description | For use with: | Marking | Sold in lots of | Catalog Number |
|--|--|---|-----------------|----------------|
| External antenna [63] | 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 |
| Mounting collar | — | Plastic | 10 | ZB5AZ009 |
| | | Metal | 10 | ZB4BZ009 |
| External antenna access point 2 m/6.56 ft cable with 1 RF connector | Access point (ZBRN1 or ZBRN2) Used to increase the distance of transmission | | | ZBRA2 |

NOTE: The ZBRN2 has embedded communication port for Modbus Serial Line, where as ZBRN1 must be plugged with a communication module to support different protocols.



ZBRA1



ZBRA2

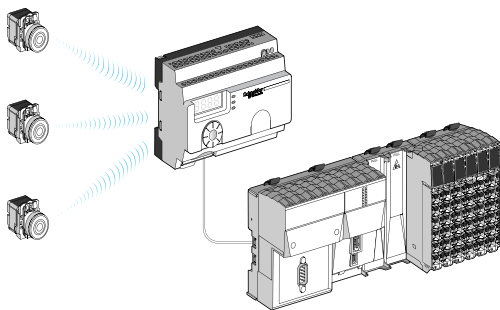
New!

ZBRN1 and ZBRN2 Access Points

The access point of Harmony® wireless and batteryless range provides network connectivity openness by operating as an intermediate equipment between the transmitter and the PLC (Programmable Logic Controller). The access point receives radio signals from the transmitters and converts them to communication protocols. Based on the model, it is connected to the PLC using either RS485 Modbus™ Serial line or Modbus/TCP protocol.

The access point can be used with transmitters such as XB4R and XB5R wireless and batteryless push buttons, rope pull switch, mushroom head push button (1), and all PLCs that support Modbus Serial line over RS485 or Modbus/TCP protocols.

Depending on the application, an external or a relay antenna can be used to improve signal reception. An access point can support up to 60 radio transmitters



Radio transmission between 3 transmitters and 1 Access Point

[60] Supplied with output function set to momentary Outputs programmable to maintained and Start-Stop.

[61] Cannot be used for wired contacts (no cable gland outlet).

[62] Box equipped with cable gland outlets, compatible with Harmony ZB5 push button heads.

[63] Not wired to the receiver.

Refer to Catalog [DIA5ED21214EN](#)



ZBRN2



ZBRN1



ZBRCETH

Table 19.109: Configurable Access Points

| Description | Data Function | Output Type | Receiver Voltage (V) | Catalog Number |
|---|--|--|---|----------------|
| Configurable access points equipped with: - 7-segment display - jog dial - 8 indicating LEDs (power ON, functions mode, communication status, signal strength) - external antenna connector and protective plug | Monostable (adjustable from 100 ms to 1 s) | 2 RS485 connectors that provides connectivity for Modbus RS485 Serial line | \sim / $\overline{\text{---}}$ 24 to 240 | ZBRN2 |
| | Monostable (adjustable from 100 ms to 1 s) | 1 slot for communication module ZBRCETH (should be ordered separately) | \sim / $\overline{\text{---}}$ 24 to 240 | ZBRN1 |

Table 19.110: Communication Module

| Description | Characteristics | Communication Port | Catalog Number |
|---|--|---|----------------|
| Modbus/TCP network communication module | Modbus/TCP protocol with embedded Web pages in 5 languages for configuration, monitoring and diagnostics | 2 RJ45 connectors that provides connectivity for daisy chain and daisy chain loop operation | ZBRCETH |

New!

XB7 Push Buttons

Table 19.111: Push Buttons Without Marking



| Shape of Head | Type of Push Button | Type of Contact | | Marking | | Color of Push Button | Sold in Lots of | Catalog Number |
|--|---------------------|-----------------|------|---------|-------|----------------------|-----------------|----------------|
| | | N.O. | N.C. | Text | Color | | | |
| Spring return push button without marking | | | | | | | | |
| ○ | Flush | 1 | — | — | — | White | 10 | XB7NA11 |
| | | 1 | — | — | — | Black | 10 | XB7NA21 |
| | | 1 | — | — | — | Green | 10 | XB7NA31 |
| | | 1 | — | — | — | Yellow | 10 | XB7NA81 |
| | | 1 | 1 | — | — | White | 10 | XB7NA15 |
| | | 1 | 1 | — | — | Black | 10 | XB7NA25 |
| | | 1 | 1 | — | — | Green | 10 | XB7NA35 |
| | | 1 | 1 | — | — | Red | 10 | XB7NA45 |
| | | 1 | 1 | — | — | Blue | 10 | XB7NA65 |
| | | — | 1 | — | — | Red | 10 | XB7NA42 |
| | | 2 | — | — | — | Black | 10 | XB7NA23 |
| | | 2 | — | — | — | Green | 10 | XB7NA33 |
| | | — | 1 | — | — | Red | 10 | XB7NL42 |
| | | 1 | 1 | — | — | Red | 10 | XB7NL45 |
| Latching push button without marking | | | | | | | | |
| ○ | Flush | 1 | — | — | — | Black | 10 | XB7NH21 |
| | | 1 | — | — | — | Green | 10 | XB7NH31 |
| | | 1 | 1 | — | — | Black | 10 | XB7NH25 |
| | | 1 | 1 | — | — | Green | 10 | XB7NH35 |

Table 19.112: Push Buttons With Marking



| Shape of Head | Type of Push Button | Type of Contact | | Marking | | Color of Push Button | Sold in Lots of | Catalog Number |
|---|---------------------|-----------------|------|---------|-------|----------------------|-----------------|----------------|
| | | N.O. | N.C. | Text | Color | | | |
| Spring return push button with marking | | | | | | | | |
| ○ | Flush | 1 | — | I | White | Green | 10 | XB7NA3131 |
| | | 1 | — | START | White | Green | 10 | XB7NA3133 |
| | | 1 | — | † | Black | White | 10 | XB7NA11341 |
| | | 1 | — | ‡ | White | Black | 10 | XB7NA21343 |
| | | 1 | — | ‡ | White | Black | 10 | XB7NA21341 |
| | | — | 1 | STOP | White | Red | 10 | XB7NA4234 |
| | | 1 | 1 | STOP | White | Red | 10 | XB7NA4534 |
| | | 1 | 1 | † | Black | White | 10 | XB7NA15341 |
| | | 1 | 1 | O | White | Red | 10 | XB7NL4532 |

New!

XB7 Illuminated Push Buttons with Projecting Push

Table 19.113: With Integral LED



XB7NW33•1

| Shape of head | Type of push and contacts | Color of lens | Sold in lots of | Unit reference by supply voltage [64] | | |
|---|---|---------------|-----------------|---------------------------------------|-----------|-----------|
| | | | | 24 V ~/— | 120 V ~ | 230 V ~ |
|  | Spring return push with N.O. and N.C. contacts [64] | Green | 10 | XB7NW33B1 | — | XB7NW33M1 |
| | | Red | 10 | XB7NW34B1 | XB7NW34G1 | XB7NW34M1 |
| | | Red | 10 | XB7NW34B2 | — | XB7NW34M2 |
| | | Orange | 10 | XB7NW35B1 | — | — |
| | | Blue | 10 | XB7NW36B1 | — | — |
| | | Clear | 10 | XB7NW37B1 | — | — |
| | Latching push | Yellow | 10 | XB7NW38B1 | — | — |
| | | Green | 10 | XB7NJ03B1 | — | XB7NJ03M1 |
| | | Red | 10 | XB7NJ04B1 | — | XB7NJ04M1 |
| | | Red | 10 | XB7NJ04B1 | — | XB7NJ04M1 |

New!

XB7 Pilot Lights

Table 19.114: With Integral LED



XB7EV08•P



| Shape of head | Type of light source (included) | Color of lens | Sold in lots of | Catalog Number by supply voltage [65] | | |
|---|---------------------------------|---------------|-----------------|---------------------------------------|-----------|-----------|
| | | | | 24 V ~/— | 120 V ~ | 230 V ~ |
|  | Integral LED | Green | 10 | XB7EV03BP | XB7EV03GP | XB7EV03MP |
| | | Red | 10 | XB7EV04BP | XB7EV04GP | XB7EV04MP |
| | | Yellow | 10 | XB7EV05BP | XB7EV05GP | XB7EV05MP |
| | | Blue | 10 | XB7EV06BP | XB7EV06GP | XB7EV06MP |
| | | Clear | 10 | XB7EV07BP | XB7EV07GP | XB7EV07MP |
| | | Orange | 10 | XB7EV08BP | XB7EV08GP | XB7EV08MP |

Table 19.115: With BA 9s base fitting



XB7EV75P

| Shape of head | Supply | Color of lens | Sold in lots of | Catalog Number[65] | |
|---|---|---------------|-----------------|--------------------|--------------|
| | | | | With bulb | Without bulb |
|  | With resistor, for 130 V, 2.6 W bulb Supply voltage: 230 V ~, 50-60 Hz | Green | 10 | XB7EV73P | — |
| | | Red | 10 | XB7EV74P | — |
| | | Yellow | 10 | XB7EV75P | — |
| | | Orange | 10 | XB7EV78P | — |
| | Direct for BA 9s base fitting incandescent bulb Supply voltage: ≤ 250 V [66] | Green | 10 | — | XB7EV63P |
| | | Red | 10 | — | XB7EV64P |
| | | Yellow | 10 | — | XB7EV65P |
| | | Clear | 10 | — | XB7EV67P |
| | | Orange | 10 | — | XB7EV68P |
| | | Orange | 10 | — | — |

[64] All product references ending in "1" are for products with "NO" contacts (example: XB7NW34B1). All product references ending in "2" are for products with "NC" contacts (example: XB7NW34B2).

[65] For Faston connection version (1 x 6.35 mm and 2 x 2.8 mm), add the number "3" to the end of the reference. Example: XB7EV07BP becomes XB7EV07BP3.

[66] Bulb characteristics for direct supply pilot lights: 250 V, 2.6 W.

New!

XB7 Selector Switches and Key Switches

Table 19.116: Title



| Shape of head | Type of operator | Type of contact | | Number and type of positions | Sold in lots of | Catalog Number | |
|---------------|------------------------|-----------------|------|--------------------------------------|-----------------|----------------|---------|
| | | N.O. | N.C. | | | | |
| | Standard handle, black | 1 | — | 2, maintained | | 10 | XB7ND21 |
| | | 1 | 1 | 2, maintained | | 10 | XB7ND25 |
| | | 2 | — | 3, maintained | | 10 | XB7ND33 |
| | Key (key No. 455) | 1 | — | 2, key withdrawal in LH position | | 10 | XB7NG21 |
| | | 2 | — | 3, key withdrawal in center position | | 10 | XB7NG33 |

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

New!

XB7 Mushroom Head Push Buttons

Table 19.117: Ø 40 mm Emergency Stop Trigger Action and Mechanically Latching Mushroom Head Pushbuttons



| Shape of head | Type of push | Standards | Type of contact | | Color | Sold in lots of | Catalog Numbers |
|---------------|----------------------|---|-----------------|------|-------|-----------------|-----------------|
| | | | N.O. | N.C. | | | |
| | Turn to release | EN/IEC 60204-1, EN/ISO 13850, EN/IEC 60947-5-5, Machinery directive 2006/42/EC and UL | — | 1 | Red | 10 | XB7NS8442 |
| | | | 1 | 1 | Red | 10 | XB7NS8445 |
| | Push-pull | | — | 2 | Red | 10 | XB7NS8444 |
| | | | — | 1 | Red | 10 | XB7NT842 |
| | | | 1 | 1 | Red | 10 | XB7NT845 |
| | | | — | 2 | Red | 10 | XB7NT844 |
| | Key release (n° 455) | | — | 2 | Red | 10 | XB7NS9444 |
| | | | — | 1 | Red | 10 | XB7NS9445 |

Table 19.118: Circular Legends, Yellow, For Mushroom Head Push Buttons










| Used for "Emergency Stop" function [67] | | | |
|---|---------------|------------------------------|----------------|
| Conforming to Standards | Diameter (mm) | Marking on Yellow Background | Catalog Number |
| EN/IEC 60204-1 and EN/ISO 13850 [67] | 60 | ARRET D'URGENCE | ZBY9130 |
| | | NOT-HALT | ZBY9230 |
| | | PARADA DE EMERGENCIA | ZBY9430 |
| | | ARRESTO DE EMERGENZA | ZBY9630 |
| | 90 | ARRET D'URGENCE | ZBY8130 |
| | | EMERGENCY STOP | ZBY8330 |
| | | PARADA DE EMERGENCIA | ZBY8430 |
| | | ARRESTO DE EMERGENZA | ZBY8630 |

[67] For compliance with standard EN/ISO 13850, paragraph 4.4.6, the Emergency stop logo has been added.

Type K Heavy Duty Operators

Table 19.119: Non-Illuminated Momentary Push Button Operators

| Description | | Color | Operator with 1 N.O. and 1 N.C. Contact (KA1) [1] | Operator with 1 N.O. Contact (KA2) [1] | Operator with 1 N.C. Contact (KA3) [1] | Operator Only with No Contacts [1] | | |
|---|--|---|---|---|--|------------------------------------|---|------------|
|  9001KR1B | Full Guard | Black | KR1BH13 | KR1BH5 | KR1BH6 | KR1B | | |
| | | Red | KR1RH13 | KR1RH5 | KR1RH6 | KR1R | | |
| | | Green | KR1GH13 | KR1GH5 | KR1GH6 | KR1G | | |
| | | Universal [2] | KR1UH13 | KR1UH5 | KR1UH6 | KR1U | | |
| | | Other [3] | KR1■H13 | KR1■H5 | KR1■H6 | KR1■ | | |
|  9001KR3B | No Guard | Black | KR3BH13 | KR3BH5 | KR3BH6 | KR3B | | |
| | | Red | KR3RH13 | KR3RH5 | KR3RH6 | KR3R | | |
| | | Green | KR3GH13 | KR3GH5 | KR3GH6 | KR3G | | |
| | | Universal [2] | KR3UH13 | KR3UH5 | KR3UH6 | KR3U | | |
| | | Other [3] | KR3■H13 | KR3■H5 | KR3■H6 | KR3■ | | |
|  9001KR2B | Extended Guard | Black | KR2BH13 | KR2BH5 | KR2BH6 | KR2B | | |
| | | Red | KR2RH13 | KR2RH5 | KR2RH6 | KR2R | | |
| | | Green | KR2GH13 | KR2GH5 | KR2GH6 | KR2G | | |
| | | Universal [2] | KR2UH13 | KR2UH5 | KR2UH6 | KR2U | | |
| | | Other [3] | KR2■H13 | KR2■H5 | KR2■H6 | KR2■ | | |
|  9001KR4B | 1-3/8 in. (35 mm) Diameter Mushroom Button | Snap-In Plastic Mushroom Button | | | | | | |
| | | Black | KR4BH13 | KR4BH5 | KR4BH6 | KR4B | | |
| | | Red | KR4RH13 | KR4RH5 | KR4RH6 | KR4R | | |
| | | Red [4] | KR4R05H13 | KR4R05H5 | KR4R05H6 | KR4R05 | | |
| | | Green | KR4GH13 | KR4GH5 | KR4GH6 | KR4G | | |
| | | Other [3] | KR4■H13 | KR4■H5 | KR4■H6 | KR4■ | | |
| | | Screw-On Mushroom Button with Set Screw Security, Plastic Head | | | | | | |
| | | Black | KR24BH13 | KR24BH5 | KR24BH6 | KR24B | | |
| | | Red | KR24RH13 | KR24RH5 | KR24RH6 | KR24R | | |
| | | Green | KR24GH13 | KR24GH5 | KR24GH6 | KR24G | | |
| | | Other [3] | KR24■H13 | KR24■H5 | KR24■H6 | KR24■ | | |
| | |  9001KR24BM | 1-1/2 in. (40 mm) Diameter Mushroom Button | Screw-On Metal Mushroom Button with Set Screw Security | | | | |
| | | | | Black | — | — | — | 9001KR24BM |
| Red | — | | | — | — | 9001KR24RM | | |
| Green | — | | | — | — | 9001KR24GM | | |
|  9001KR5B | 2-1/4 in. (57 mm) Diameter Mushroom Button | Snap-In Plastic Mushroom Button | | | | | | |
| | | Black | KR5BH13 | KR5BH5 | KR5BH6 | KR5B | | |
| | | Red | KR5RH13 | KR5RH5 | KR5RH6 | KR5R | | |
| | | Red [4] | KR5R05H13 [4] | KR5R05H5 [4] | KR5R05H6 [4] | KR5R05 [4] | | |
| | | Green | KR5GH13 | KR5GH5 | KR5GH6 | KR5G | | |
| | | Other [3] | KR5■H13 | KR5■H5 | KR5■H6 | KR5■ | | |
| | | Screw-On Mushroom Button with Set Screw Security, Plastic Head | | | | | | |
| | | Black | KR25BH13 | KR25BH5 | KR25BH6 | KR25B | | |
| | | Red | KR25RH13 | KR25RH5 | KR25RH6 | KR25R | | |
| | | Green | KR25GH13 | KR25GH5 | KR25GH6 | KR25G | | |
| | | Other [3] | KR25■H13 | KR25■H5 | KR25■H6 | KR25■ | | |
| | |  9001KR25BM | 2-3/8 in. (60 mm) Diameter Mushroom Button | Screw-On Metal Mushroom Button with Set Screw Security | | | | |
| | | | | Black | — | — | — | 9001KR25BM |
| Red | — | | | — | — | 9001KR25RM | | |
| | | Green | — | — | 9001KR25GM | | | |

NOTE: To select contact blocks, light modules, and accessories, see [Type KA Contact Blocks](#), page 19-62.





Table 19.120: 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: For use in hazardous locations—See [Square D Offering According to Class, Division, and Group](#), page 19-64. Contact blocks and legend plate not included unless otherwise noted.

[1] When ordering, add prefix 9001 to the catalog number.
 [2] The universal push button operators contain one each of the following color inserts: black, red, green, yellow, orange, blue and white.
 [3] ■ Choose color code from [Table 19.122 Color Codes for Type K Operators](#), page 19-48.
 [4] Knob has the words "Emergency Stop" in raised letters highlighted in white for readability.

Table 19.121: 30 mm Multifunction Operators

| Description [5] | | Color | With 2 N.C. Contacts (1 KA3, 1 KA5) [6] | With 1 N.O. & 1 N.C. Contact (1 KA1) [6] | Without Contacts [6] [7] |
|---|---|--------------------------------|---|--|--------------------------|
| Non-Illuminated Push-Pull Mushroom Operators | | | | | |
|  KR9R94H13 Set Screw Style | 3 Position, Plastic Head 1-5/8 in. (40 mm), Screw-On Momentary Pull Maintained Neutral Momentary Push [8] | Red Green Other [9] | KR8RH25 KR8GH25 KR8▼H25 | — — — | KR8R KR8G KR8▼ |
| | 2 Position, Plastic Head 1-5/8 in. (40 mm), Screw-On Maintained Pull Maintained Push [10] | Red [11] Green Other [9] | — — — | KR9RH13 KR9GH13 KR9▼H13 | KR9R KR9G KR9▼ |
| | 2 Position, Plastic Head 1-5/8 in. (40 mm), Screw-On Head with Set Screw Maintained Pull Maintained Push [10] | Red | — | KR9R94H13 | KR9R94 |
|  9001KR9RM94 | 2 Position, Metal Head 1-1/2 in. (40 mm) Diameter Maintained Pull Maintained Push | Black | — | — | 9001KR9BM94 |
| | | Red | — | | 9001KR9RM94 |
| | | Green | — | | 9001KR9GM94 |
|  9001KR9RM95 | 2 Position, Metal Head 2-3/8 in. (60 mm) Diameter Maintained Pull Maintained Push | Black | — | — | 9001KR9BM95 |
| | | Red | — | | 9001KR9RM95 |
| | | Green | — | | 9001KR9GM95 |
| Description | | Color | With 1 N.O. & 1 N.C. Contact (KA1) | With 2 N.O. & 2 N.C. Contacts (KA2) | Without Contacts |
| Non-Illuminated Turn-to-Release Mushroom Operators | | | | | |
|  9001KR16H2 Trigger Action | 2 Position, Plastic Head Turn-to-Release Trigger Action | Red | KR16H13 | KR16H2 | KR16 |



9001KR9P1
1.625 in. Diameter Knob
For 1-3/8 in. or 2-1/4 in. Diameter Knob [5]
Includes Type KN379
Legend Plate Marked
Pull To Start, Push To Stop

Screw-On Plastic Illuminated Push-Pull Mushroom Operators [6] [12] [9]

| Description [5] | 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) | With Other Color Knob Without Contacts [7] |
|--|---|---|--|--|
| 3 Position Illuminated Momentary Pull Maintained Neutral Momentary Push [8] | 110-120 V, 50-60 Hz Other—Transformer, LED, Flashing [13] Other—Full Voltage, Resistor, Neon [14] | KR8P1RH25 KR8P▲RH25 KR8P▲RH25 | KR8P1▼H25 KR8P▲▼H25 KR8P▲▼H25 | KR8P1▼ KR8P▲▼ KR8P▲▼ |
| Description [5] | Voltage | With Red [11] Knob & 1 N.O. & 1 N.C. Contact (KA1) | With Other Color Knob and 1 N.O. & 1 N.C. Contact (KA1) | With Other Color Knob Without Contacts |
| 2 Position Illuminated Maintained Pull Maintained Push | 110-120 V, 50-60 Hz Other—Transformer, LED, Flashing [13] Other—Full Voltage, Resistor, Neon [14] | KR9P1RH13 KR9P▲RH13 KR9P▲RH13 | KR9P1▼H13 KR9P▲▼H13 KR9P▲▼H13 | KR9P1▼ KR9P▲▼ KR9P▲▼ |

Table 19.122: Color Codes for 30 mm Multifunction Operators ▼

| Color | KR8, KR9 |
|-------------|----------|
| Black [15] | B |
| Red | R |
| Green | G |
| Blue | L |
| Yellow | Y |
| White | W |
| Orange [15] | S |
| Clear | C |
| Amber | A |
| Gray | — |

Table 19.123: Contact Sequences

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

NOTE: To select contact blocks, light modules, and accessories, see Type KA Contact Blocks, page 19-62.

[5] For 1-3/8 in. or 2-1/4 in. Dia. Knob:

- a) Order Type -20 or -21 knob.
- b) Order 9001K54 adapter—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.

[6] When ordering, add prefix 9001 to the catalog number.

[7] These operators can be ordered complete with contact blocks. For maximum block usage, see Table 19.173 "H" Codes, page 19-65. Add the chosen "H" number to the end of the operator.

[8] For contact sequences, see Table 19.123 Contact Sequences, page 19-48

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

[10] For color codes, see Color Codes for 30 mm Multifunction Operators, page 19-48.

[11] To obtain a red knob with "Push Emergency Stop" printed on the red knob—substitute "R05" in place of "R"






[12] ▲ Add the voltage assembly code as chosen from Table 19.167 Standard Light Modules for Types K, SK, and KX Control Units, page 19-63. **Example:** KR8P with a 277 V 50-60 Hz voltage = KR8P8.

[13] The knob must be the same color as the LED light module chosen, for example, for a green LED, use a green knob.

[14] On neon light modules, use clear knobs only.

[15] These colors are not available on illuminated push-pull operators.

Table 19.124: Illuminated Momentary Push Button Operators

| Description | | Voltage and Frequency | Style | With Red Color Cap and 1 N.O. and 1 N.C. Contact (KA1) [16] | With Green Color Cap and 1 N.O. and 1 N.C. Contact (KA1) [16] | With Other Color Cap Without Contact Block [17] [18] [16] |
|--|---|--------------------------|-------------------------|---|---|---|
|  9001K1L1 | Full Guard Illuminated Push Button Clear Plastic Top | 110–120 V, 50–60 Hz | Transformer | K1L1RH13 | K1L1GH13 | K1L1▼ |
| | | 220–240 V, 50–60 Hz | Transformer | K1L7RH13 | K1L7GH13 | K1L7▼ |
| | | 24–28 Vac/Vdc | Full Voltage | K1L35RH13 | K1L35GH13 | K1L35▼ |
| | | For other voltages [19]■ | Transformer or Flashing | K1L■RH13 | K1L■GH13 | K1L■▼ |
| | | | Full Voltage | K1L■RH13 | K1L■GH13 | K1L■ [18] |
| | | | Resistor or Neon [20] | K1L■RH13 | K1L■GH13 | K1L■▼ |
| LED [21] | K1L■RH13 | K1L■GH13 | K1L■▼ | | | |
|  9001K3L1 | Full Guard Illuminated Push Button Metal Top | 110–120 V, 50–60 Hz | Transformer | K3L1RH13 | K3L1GH13 | K3L1▼ |
| | | 220–240 V, 50–60 Hz | Transformer | K3L7RH13 | K3L7GH13 | K3L7▼ |
| | | 24–28 Vac/Vdc | Full Voltage | K3L35RH13 | K3L35GH13 | K3L35▼ |
| | | For other voltages [19]■ | Transformer or Flashing | K3L■RH13 | K3L■GH13 | K3L■▼ |
| | | | Full Voltage | K3L■RH13 | K3L■GH13 | K3L■ [18] |
| | | | Resistor or Neon [20] | K3L■RH13 | K3L■GH13 | K3L■▼ |
| LED [21] | K3L■RH13 | K3L■GH13 | K3L■▼ | | | |
|  9001K2L1 | No Guard Illuminated Push Button | 110–120 V, 50–60 Hz | Transformer | K2L1RH13 | K2L1GH13 | K2L1▼ |
| | | 220–240 V, 50–60 Hz | Transformer | K2L7RH13 | K2L7GH13 | K2L7▼ |
| | | 24–28 Vac/Vdc | Full Voltage | K2L35RH13 | K2L35GH13 | K2L35▼ |
| | | For other voltages [19]■ | Transformer or Flashing | K2L■RH13 | K2L■GH13 | K2L■ [18] |
| | | | Full Voltage | K2L■RH13 | K2L■GH13 | K2L■▼ |
| | | | Resistor or Neon [20] | K2L■RH13 | K2L■GH13 | K2L■▼ |
| LED [21] | K2L■RH13 | K2L■GH13 | K2L■▼ | | | |
|  9001K2LR20 | 1-3/8 in. (35 mm) Illuminated Mushroom, Screw-On Plastic Head | 110–120 V, 50–60 Hz | Transformer | K2L1R20H13 | K2L1G20H13 | Order K2L■▼ Above [22] |
| | | 220–240 V, 50–60 Hz | Transformer | K2L7R20H13 | K2L7G20H13 | |
| | | 24–28 Vac/Vdc | Full Voltage | K2L35R20H13 | K2L35G20H13 | |
| | | For other voltages [19]■ | Transformer or Flashing | K2L■R20H13 | K2L■G20H13 | |
| | | | Full Voltage | K2L■R20H13 | K2L■G20H13 | |
| | | | Resistor or Neon [20] | K2L■R20H13 | K2L■G20H13 | |
| LED [21] | K2L■R20H13 | K2L■G20H13 | | | | |
|  9001K2LR21 | 2-1/4 in. (57 mm) Illuminated Mushroom, Screw-On Plastic Head | 110–120 V, 50–60 Hz | Transformer | K2L1R21H13 | K2L1G21H13 | Order K2L■▼ Above [22] |
| | | 220–240 V, 50–60 Hz | Transformer | K2L7R21H13 | K2L7G21H13 | |
| | | 24–28 Vac/Vdc | Full Voltage | K2L35R21H13 | K2L35G21H13 | |
| | | For other voltages [19]■ | Transformer or Flashing | K2L■R21H13 | K2L■G21H13 | |
| | | | Full Voltage | K2L■R21H13 | K2L■G21H13 | |
| | | | Resistor or Neon [20] | K2L■R21H13 | K2L■G21H13 | |
| LED [21] | K2L■R21H13 | K2L■G21H13 | | | | |

NOTE: To select contact blocks, light modules, and accessories, see Type KA Contact Blocks, page 19-62.

Table 19.125: 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: UL Types 4, 13/NEMA 4, 13 For use in hazardous locations— See Square D Offering According to Class, Division, and Group, page 19-64. Contact blocks and legend plate not included unless otherwise noted.

[16] When ordering, add prefix 9001 to the catalog number.

[17] These operators can be ordered complete with contact blocks. For maximum block usage, refer to bullets to the right of Table 19.173 "H" Codes, page 19-65. Add the "H" number to the end of the operator type number. Additional "H" numbers are available.

[18] Add the color code as chosen from the color cap table. **Example:** K2L25 with a blue 1-3/8 in. mushroom button = K2L25L20.

[19] ■ Add the voltage assembly code as chosen from Standard and Shallow Depth Light Modules, page 19-63. **Example:** K2L with 240 Vac/Vdc = K2L25.

[20] On neon light modules, use clear color caps only.

[21] The cap must be the same color as the LED light module chosen, e.g., for red LED, use red color cap.

[22] The only difference between a no guard (K2L_) operator and mushroom button operator is the color cap.

9001K 2-Position Selector Switches

Table 19.126: 2-Position Selector Switches

| 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 | Left | Right | Left | Right | | |
| <p>Top View</p> | KA1 | or | KA3 | KA3 #2 | 1 | 0 | | |
| | KA1 | or | KA2 | KA2 #2 | 0 | 1 | | |
| | KA1 | or | KA3 | KA3 #1 | 1 | 0 | | |
| | KA1 | or | KA2 | KA2 #1 | 0 | 1 | | |
| For cam, see Type K, KX, and SK Selector Switch Guide, page 19-53. | | | | | E | | D | |
| Non-Illuminated Operators | | | Cat. No. [23] | | Cat. No. [23] | | | |
| Manual Return [24], Operator Only (without contact blocks) | | | | | | | | |
| Without Knob | | | KS11 | | KS12 | | | |
| With Knob (select style and color from Table 19.127 Selector Switch Assembly Codes, page 19-50) [25] | | | KS11♦ | | KS12♦ | | | |
| Key Operated with E10 Key (Code 1,2,3) [25] | | | KS11K♦ | | KS12K♦ | | | |
| Operator with Contact Blocks and Standard black knob | | | | | | | | |
| With 1 KA1 on Side #2 | | | KS11BH13 | | — | | | |
| With 1 KA1 on Side #1 | | | KS11BH1 | | — | | | |
| With 1 KA1 on Side #1 and 1 KA1 on side #2 | | | KS11BH2 | | — | | | |
| Spring Return from Left [24], Operator Only (without contact blocks) | | | | | | | | |
| Without Knob | | | KS25 | | — | | | |
| With Knob (select style and color from Table 19.127 Selector Switch Assembly Codes, page 19-50) [25] | | | KS25♦ | | — | | | |
| Key Operated with E10 Key (Code 2 only) [26] | | | KS25K2 | | — | | | |
| Spring Return from Right [24], Operator Only (without contact blocks) | | | | | | | | |
| Without Knob | | | — | | KS34 | | | |
| With Knob (select style and color from Table 19.127 Selector Switch Assembly Codes, page 19-50) [25] | | | — | | KS34♦ | | | |
| Key Operated with E10 Key (Code 1 only) | | | — | | KS34K1 | | | |
| Illuminated Operators | | | Cat. No. [23] | | Cat. No. [23] | | | |
| Manual Return [24], Operator Only (without contact blocks) | | | | | | | | |
| Without Knob, 110-120V 50-60 Hz Transformer | | | K11J1 | | K12J1 | | | |
| With Standard Red Knob, 110-120V 50-60 Hz Transformer | | | K11J1R | | K12J1R | | | |
| With Other Color Knob and other voltage Light Module [27], [25] | | | K11J♦ | | K12J♦ | | | |
| Spring Return from Left [24], Operator Only (without contact blocks) | | | | | | | | |
| Without Knob, 110-120V 50-60 Hz Transformer | | | K25J1 | | — | | | |
| With Standard Red Knob, 110-120V 50-60 Hz Transformer | | | K25J1R | | — | | | |
| With Other Color Knob and other voltage Light Module [27], [25] | | | K25J♦ | | — | | | |
| Spring Return from Right [24], Operator Only (without contact blocks) | | | | | | | | |
| Without Knob, 110-120V 50-60 Hz Transformer | | | — | | K34J1 | | | |
| With Standard Red Knob, 110-120V 50-60 Hz Transformer | | | — | | K34J1R | | | |
| With Other Color Knob and other voltage Light Module [27], [25] | | | — | | K34J♦ | | | |

Table 19.127: Selector Switch Assembly Code and Knob Cat. No.

| Color | Standard Knob | | Gloved Hand Knob | |
|--------|---------------|---------------|------------------|---------------|
| | ♦ Knob Code | Cat. No. [23] | ♦ Knob Code | Cat. No. [23] |
| 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 19.128: Key Withdrawal Codes

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

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2 Position

NOTE: To select and order Contact Blocks, Light Modules, Knobs, and Accessories, see Type KA Contact Blocks, page 19-62 through Hermetically Sealed Power Reed Contact Blocks, page 19-64.

[23] When ordering, add prefix 9001 to the catalog number.

[24] These operators can be ordered complete with contact blocks. Add the "H code" from Table 19.173 "H" Codes, page 19-65 as needed for your application.

[25] ♦ Add the knob color code from Table 19.127 Selector Switch Assembly Codes, page 19-50

[26] Add the key withdrawal code from Table 19.128 Key Withdrawal Codes, page 19-50

[27] ■ Add the voltage assembly code as chosen from Standard and Shallow Depth Light Modules, page 19-63. Example: K25J■ with 208Vac = K25J3

9001K 3-Position Selector Switches

Table 19.129: 3-Position Selector Switches

| Contact Block Required | | | | 1 - Contact Closed 0 - Contact Open | | | | | | | | | | | | | | | |
|---|-------------------|----|---------------|-------------------------------------|-----------|-----------|----------|----------|----------|----------|------------|------------|----------|----------|-------|--------|-------|---|---|
| Contact Block Position | Quantity and Type | | Mount on Side | ↕↕↕ | ↕↕↕ | ↕↕↕ | ↕↕↕ | ↕↕↕ | ↕↕↕ | ↕↕↕ | ↕↕↕ | ↕↕↕ | ↕↕↕ | ↕↕↕ | | | | | |
| | | | | Left | Right | Left | Right | Left | Right | Left | Right | Left | Right | Left | Right | Left | Right | | |
| <p>Top View</p> | KA1 | or | KA1 #2 | KA3 #2 | 1 | 0 | 0 | KA2 #2 | 0 | 1 | 1 | KA3 #1 | 0 | 0 | 1 | KA2 #1 | 1 | 1 | 0 |
| | | | | KA3 #1 | 0 | 1 | 1 | KA2 #1 | 0 | 0 | 1 | KA3 #2 | 1 | 0 | 0 | KA2 #2 | 0 | 0 | 1 |
| | KA1 | or | KA1 #1 | KA3 #2 | 1 | 0 | 0 | KA2 #2 | 0 | 1 | 1 | KA3 #1 | 0 | 0 | 1 | KA2 #1 | 1 | 1 | 0 |
| | | | | KA3 #1 | 0 | 1 | 1 | KA2 #1 | 0 | 0 | 1 | KA3 #2 | 1 | 0 | 0 | KA2 #2 | 0 | 0 | 1 |
| For cam, see Type K, KX, and SK Selector Switch Guide, page 19-53. | | | | 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. | Cat. No. | Cat. No. | | | | | |
| Manual Return, Operator Only (without contact blocks) [29] | | | | | | | | | | | | | | | | | | | |
| Without Knob | | | | KS42 | KS43 | KS44 | KS45 | KS46 | KS47 | KS49 | KS401 | KS402 | | | | | | | |
| With Knob [30] | | | | KS42+ | KS43+ | KS44+ | KS45+ | KS46+ | KS47+ | KS49+ | KS401+ | KS402+ | | | | | | | |
| Key Operated with E10 Key (Code 4 through 10) [31] | | | | KS42K | KS43K | KS44K | KS45K | KS46K | KS47K | KS49K | KS401K | KS402K | | | | | | | |
| Operator with Contact Blocks and Standard black knob [32] | | | | | | | | | | | | | | | | | | | |
| With 1 KA1 on Side #2 (H13) | | | | KS42B-H13 | KS43B-H13 | KS44B-H13 | KS45BH13 | KS46BH13 | KS47BH13 | KS49BH13 | KS401B-H13 | KS402B-H13 | | | | | | | |
| With 1 KA1 on Side #1 (H1) | | | | KS42BH1 | KS43BH1 | KS44BH1 | KS45BH1 | KS46BH1 | KS47BH1 | KS49BH1 | KS401BH1 | KS402BH1 | | | | | | | |
| With 1 KA1 on Side #1 and 1 KA1 on side #2 (H2) | | | | KS42BH2 | KS43BH2 | KS44BH2 | KS45BH2 | KS46BH2 | KS47BH2 | KS49BH2 | KS401BH2 | KS402BH2 | | | | | | | |
| Spring Return from Left to Center, Operator Only (without contact blocks) [29] | | | | | | | | | | | | | | | | | | | |
| Without Knob | | | | KS62 | KS63 | KS64 | KS65 | KS66 | KS67 | KS69 | KS601 | KS602 | | | | | | | |
| With Knob [30] | | | | KS62+ | KS63+ | KS64+ | KS65+ | KS66+ | KS67+ | KS69+ | KS601+ | KS602+ | | | | | | | |
| Key Operated with E10 Key (Code 5, 6 or 9 only) [31] | | | | KS62K | KS63K | KS64K | KS65K | KS66K | KS67K | KS69K | KS601K | KS602K | | | | | | | |
| Spring Return from Right to Center, Operator Only (without contact blocks) [29] | | | | | | | | | | | | | | | | | | | |
| Without Knob | | | | KS72 | KS73 | KS74 | KS75 | KS76 | KS77 | KS79 | KS701 | KS702 | | | | | | | |
| With Knob [30] | | | | KS72+ | KS73+ | KS74+ | KS75+ | KS76+ | KS77+ | KS79+ | KS701+ | KS702+ | | | | | | | |
| Key Operated with E10 Key (Code 4, 5 or 7 only) [31] | | | | KS72K | KS73K | KS74K | KS75K | KS76K | KS77K | KS79K | KS701K | KS702K | | | | | | | |
| Spring Return from Both Sides to Center, Operator Only (without contact blocks) [29] | | | | | | | | | | | | | | | | | | | |
| Without Knob | | | | KS52 | KS53 | KS54 | KS55 | KS56 | KS57 | KS59 | KS501 | KS502 | | | | | | | |
| With Knob [30] | | | | KS52+ | KS53+ | KS54+ | KS55+ | KS56+ | KS57+ | KS59+ | KS501+ | KS502+ | | | | | | | |
| Key Operated with E10 Key (Code 4, 5 or 7 only) [31] | | | | KS52K | KS53K | KS54K | KS55K | KS56K | KS57K | KS59K | KS501K | KS502K | | | | | | | |
| Illuminated Operators | | | | Cat. No. | Cat. No. | Cat. No. | Cat. No. | Cat. No. | Cat. No. | Cat. No. | Cat. No. | Cat. No. | Cat. No. | | | | | | |
| Manual Return, Operator Only (without contact blocks) [29] | | | | | | | | | | | | | | | | | | | |
| Without Knob, 110-120V 50-60 Hz Transformer | | | | K42J1 | K43J1 | K44J1 | K45J1 | K46J1 | K47J1 | K49J1 | K401J1 | K402J1 | | | | | | | |
| With Standard Red Knob, 110-120V 50-60 Hz Transformer | | | | K42J1R | K43J1R | K44J1R | K45J1R | K46J1R | K47J1R | K49J1R | K401J1R | K402J1R | | | | | | | |
| With Other Color Knob and other voltage Light Module [33] [30] | | | | K42J+ | K43J+ | K44J+ | K45J+ | K46J+ | K47J+ | K49J+ | K401J+ | K402J+ | | | | | | | |
| Spring Return from Left to Center, Operator Only (without contact blocks) [29] | | | | | | | | | | | | | | | | | | | |
| Without Knob, 110-120V 50-60 Hz Transformer | | | | K62J1 | K63J1 | K64J1 | K65J1 | K66J1 | K67J1 | K69J1 | K601J1 | K602J1 | | | | | | | |
| With Standard Red Knob, 110-120V 50-60 Hz Transformer | | | | K62J1R | K63J1R | K64J1R | K65J1R | K66J1R | K67J1R | K69J1R | K601J1R | K602J1R | | | | | | | |
| With Other Color Knob and other voltage Light Module [33] [30] | | | | K62J+ | K63J+ | K64J+ | K65J+ | K66J+ | K67J+ | K69J+ | K601J+ | K602J+ | | | | | | | |
| Spring Return from Right to Center, Operator Only (without contact blocks) [29] | | | | | | | | | | | | | | | | | | | |
| Without Knob, 110-120V 50-60 Hz Transformer | | | | K72J1 | K73J1 | K74J1 | K75J1 | K76J1 | K77J1 | K79J1 | K701J1 | K702J1 | | | | | | | |
| With Standard Red Knob, 110-120V 50-60 Hz Transformer | | | | K72J1R | K73J1R | K74J1R | K75J1R | K76J1R | K77J1R | K79J1R | K701J1R | K702J1R | | | | | | | |
| With Other Color Knob and other voltage Light Module [33] [30] | | | | K72J+ | K73J+ | K74J+ | K75J+ | K76J+ | K77J+ | K79J+ | K701J+ | K702J+ | | | | | | | |
| Spring Return from Both Sides to Center, Operator Only (without contact blocks) [29] | | | | | | | | | | | | | | | | | | | |
| Without Knob, 110-120V 50-60 Hz Transformer | | | | K52J1 | K53J1 | K54J1 | K55J1 | K56J1 | K57J1 | K59J1 | K501J1 | K502J1 | | | | | | | |
| With Standard Red Knob, 110-120V 50-60 Hz Transformer | | | | K52J1R | K53J1R | K54J1R | K55J1R | K56J1R | K57J1R | K59J1R | K501J1R | K502J1R | | | | | | | |
| With Other Color Knob and other voltage Light Module [33] [30] | | | | K52J+ | K53J+ | K54J+ | K55J+ | K56J+ | K57J+ | K59J+ | K501J+ | K502J+ | | | | | | | |

Table 19.130: Selector Switch Assembly Code and Knob Cat. No. [30]

| Color | Standard Knob | | Gloved Hand Knob | |
|--------|----------------|---------------|------------------|---------------|
| | [30] Knob Code | Cat. No. [28] | [30] Knob Code | Cat. No. [28] |
| 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 19.131: Key Withdrawal Codes [34]

| 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 |

NOTE: To select and order Contact Blocks, Light Modules, Knobs, and Accessories, see Type KA Contact Blocks, page 19-62 through Hermetically Sealed Power Reed Contact Blocks, page 19-64.

[28] When ordering, add prefix 9001 to the catalog number.
 [29] These operators can be ordered complete with contact blocks. Add the "H code" from Table 19.173 "H" Codes, page 19-65 as needed for your application.
 [30] Add the knob color code from Table 19.130 Selector Switch Assembly Code, page 19-51. For LED, knob color must match LED.
 [31] Add the key withdrawal code from Key Withdrawal Codes table. Example: KS43K with key withdrawal in the right position only = KS43K6.
 [32] For other color knobs replace the B with knob color code from the Selector Switch Assembly Code table.
 [33] Add the voltage assembly code as chosen from page 19-86.
 [34] Add the key withdrawal code from Key Withdrawal Codes table. Example: KS43K with key withdrawal in the right position only = KS43K6.

9001K 4-Position Selector Switches

Table 19.132: 4-Position Selector Switches

| 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 | | |
| <p>Top View</p> | | or | | | or | | |
| | | | | | | | |
| | | or | | | or | | |
| | | | | | | | |
| For cam, see Type K, KX, and SK Selector Switch Guide, page 19-53. | | | | | | | |
| Non-Illuminated Operators | | | | | | Cat. No. [35] | |
| Manual Return [36], Operator Only (without contact blocks) | | | | | | | |
| Without Knob | | | | | | KS88 | |
| With Knob♦[37] | | | | | | KS88♦ | |
| Key Operated with E10 Key (Codes 11, 12, 13, 14, 15) | | | | | | KS88K[38] | |
| Illuminated Operators | | | | | | Cat. No. [35] | |
| Manual Return [36], Operator Only (without contact blocks) | | | | | | | |
| Without Knob, 110-120V 50-60 Hz Transformer | | | | | | K88J1 | |
| With Standard Red Knob, 110-120V 50-60 Hz Transformer | | | | | | K88J1R | |
| With Other Color Knob and other voltage Light Module ■[39] ♦[37][40] | | | | | | K88J■♦ | |

Table 19.133: Selector Switch Assembly Code and Knob Cat. No.

| Color | Standard Knob | | Gloved Hand Knob | |
|--------|---------------|----------|------------------|----------|
| | 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 19.134: 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 |

NOTE: To select and order Contact Blocks, Light Modules, Knobs, and Accessories, see Type KA Contact Blocks, page 19-62 through Hermetically Sealed Power Reed Contact Blocks, page 19-64.

Potentiometers with Dial Plate

Table 19.135: Potentiometers with Dial Plate (not UL listed)—Maximum Voltage 300 Vac

| Power | Description | Ratings | Type |
|-------|---|------------|------|
| 2 W | Operator Only, for Single Potentiometer | NEMA 4, 13 | K20 |
| | Operator with Single Potentiometer | | K21 |

Table 19.136: Potentiometer Suffixes

| Single Potentiometer | | | |
|----------------------|------------|-------------|------------|
| Suffix [41] | Resistance | Suffix [41] | 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 [41] | Resistance | | Rear |
| | Front | 1 kW | |
| 82 | 1 kW | 1 kW | |

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



[35] When ordering, add prefix 9001 to the catalog number.

[36] These operators can be ordered complete with contact blocks. Add the "H" code from Table 19.173 "H" Codes, page 19-65 as needed for your application.

[37] ♦ Add the knob color code from the Selector Switch Assembly Code table. For LED, knob color must match LED.

[38] Add the key withdrawal code from the Key Withdrawal Codes table.

[39] ■ Add the key withdrawal code from Key Withdrawal Codes table. Example: KS43K with key withdrawal in the right position only = KS43K6.

[40] Add the knob color code from the Selector Switch Assembly Code table. For LED, knob color must match LED.

[41] For the complete part number, add the suffix from Table 19.136 Potentiometer Suffixes, page 19-52 to the catalog number. Example: 9001K2105.

Type K, KX, and SK Selector Switch Guide

Table 19.137: 2 Position Selector Switch

Selection
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 |

| If you require contact sequence— | | Use Cam Type | Use Contact Block Type | Mount on side no. [42] |
|----------------------------------|---|--------------|------------------------|------------------------|
| ↖ | ↗ | | | |
| 1 | 0 | E | KA3 | 1 or 2 |
| | | D | KA2 | 1 or 2 |
| 0 | 1 | E | KA2 | 1 or 2 |
| | | D | KA3 | 1 or 2 |

Step No. 2
Look for a cam type common to all sequences in:
Table 19.137 2 Position Selector Switch, page 19-53,
Table 19.138 3 Position Selector Switch, page 19-53, or
Table 19.139 4 Position Selector Switch, page 19-53.
For the example above, Table 19.138 3 Position Selector Switch, page 19-53 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 reference topic as indicated in the table below:

| Number of Positions | Push Button Line | Reference topics |
|---------------------|--------------------|---|
| 2 | Type K, Type SK | Type K, page 19-50 Type SK, page 19-58 "H" Numbers, page 19-65. |
| 3 | Type K, Type SK | Type K, page 19-51 Type SK, page 19-59 "H" Numbers, page 19-65. |
| 4 | Type K, Type SK | Type K, page 19-52 Type SK, page 19-60. |

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, page 19-51
- Type SK—Class 9001 Type SKS46B, page 19-59

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

- Type K—Class 9001 Type KS401B, page 19-51
- Type SK—Class 9001 Type SKS401B, page 19-59

Step No. 4:
Determine the contact blocks required by using the same table in Step No. 2.
If, for the example above, the F cam type is chosen:

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

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

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

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

Table 19.138: 3 Position Selector Switch

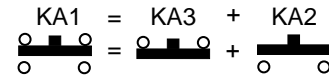
| If you require contact sequence— | | | Use Cam Type | Use Contact Block Type | Mount on side no. [42] | | | |
|----------------------------------|---|---|--------------|------------------------|------------------------|----------|----------|-----|
| ↖ | ↑ | ↗ | | | | | | |
| 1 | 0 | 0 | G | M | KA2 | 1 | | |
| | | | | L | KA2 | 2 | | |
| | | | C | E | KA3 | 1 | | |
| | | | B | C | E | F | G | J |
| 0 | 1 | 0 | | | G | J | KA5 [43] | 2 |
| | | | D | E | J | L | KA2 | 1 |
| | | | | | F | KA3 | 2 | |
| | | | | | | L | KA3 | 2 |
| 0 | 0 | 1 | C | F | KA2 | 1 or 2 | | |
| | | | B | D | G | L | KA3 | 1 |
| | | | | D | KA3 | 2 | | |
| | | | B | | | | KA5 [43] | 1 |
| 1 | 1 | 0 | | | M | KA2 | 2 | |
| | | | | | | | KA2 | 1 |
| | | | | | F | KA5 [43] | 1 or 2 | |
| | | | B | | | | M | KA3 |
| 0 | 1 | 1 | | | G | J | KA2 | 2 |
| | | | | | G | | KA5 [43] | 1 |
| | | | | | | L | KA5 [43] | 2 |
| | | | | | | M | KA3 | 1 |
| 1 | 0 | 1 | J | L | KA3 | 1 | | |
| | | | D | E | J | L | KA5 [43] | 1 |
| | | | D | E | KA5 [43] | 2 | | |

Table 19.139: 4 Position Selector Switch

| If you require contact sequence— | | | | Use Cam Type | Use Contact Block Type | Mount on side no. [42] |
|----------------------------------|---|---|---|--------------|----------------------------|------------------------|
| ↖ | ↗ | ↑ | ↘ | | | |
| 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 [43] | 2 |
| 1 | 0 | 1 | 1 | H | KA5 [43] | 1 |

NOTE: For Outline Dimensions see Catalog 9001CT1103

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



When ordering, please specify:

- Quantity
- Class Number
- Type or Catalog Number

For "H" Numbers, see Type K, SK, and KX Contact Block "H" Numbers, page 19-65

[42] See Type K, SK, and KX Contact Block "H" Numbers, page 19-65

[43] 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.

Type K Heavy Duty Pilot Lights

When ordering, add prefix 9001 to the catalog number.

Table 19.140: Pilot Lights—UL Types 4, 13/NEMA 4 & 13[44][45]




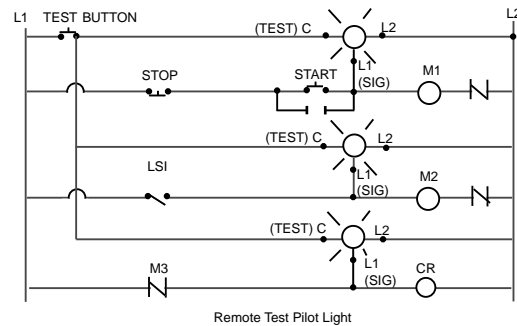
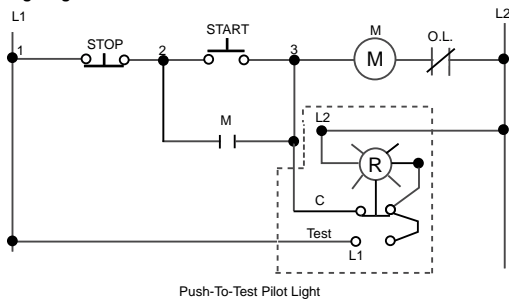
| Description | Voltage | Style | With Red Fresnel Color Cap [46] | With Green Fresnel Color Cap [46] | With Other Color Cap [46] [47] | Without Color Cap [46] |
|---|--|--|---------------------------------|-----------------------------------|--------------------------------|------------------------|
|  Standard Pilot Light (Plastic Fresnel Color Cap Shown) | 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■ | KP1 KP7 KP35 |
| | For other voltages see Standard and Shallow Depth Light Modules, page 19-63. | Transformer, Flashing or LED [48] Full Voltage, Neon or Resistor [49] | KP▲R31 KP▲R31 | KP▲G31 KP▲G31 | KP▲■ KP▲■ | KP▲ KP▲ |
|  Push-To-Test Pilot Light (Glass Color Cap Shown) | 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■ | KT1 KT7 KT35 |
| | For other voltages see Standard and Shallow Depth Light Modules, page 19-63. | Transformer, Flashing or LED [48] Full Voltage, Neon or Resistor [49] | KT▲R31 KT▲R31 | KT▲G31 KT▲G31 | KT▲■ KT▲■ | KT▲ KT▲ |
|  Remote Test Pilot Light (Glass Color Cap Shown) | 120 Vac Only 24–28 Vac Only for other voltages | Resistor [50] Full Voltage [50] | KTR38R31 KTR35R31 | KTR38G31 KTR35G31 | KTR38■ KTR35■ | KTR38 KTR35 |
| | See Standard and Shallow Depth Light Modules, page 19-63.[50] | Full Voltage or Resistor [50] | KTR▲R31 | KTR▲G31 | KTR▲■ | KTR▲ |

Table 19.141: Color Caps

| Color | Plastic Fresnel | Plastic Dorned | 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



For Contact Blocks, see Type KA Contact Blocks, page 19-62
For Light Modules, see Standard and Shallow Depth Light Modules, page 19-63

[44] For use in hazardous locations, see Square D Offering According to Class, Division, and Group, page 19-64

[45] Legend plates not included.

[46] When ordering, add prefix 9001 to the catalog number.

[47] ■ Add the color code as chosen from Table 19.141 Color Caps, page 19-54. EXAMPLE: KP1 with a blue fresnel cap = KP1L31

[48] The cap must be the same color as the LED light module chosen, e.g., for green LED, use green color cap.

[49] On neon light modules, use clear color caps only.

[50] On remote test pilot lights use only full voltage or resistor voltage assembly codes. Do not choose LED (exception - these LED codes are allowed: 38LG, 38LL, 38LR, 38LW, 38LY), neon or transformer codes. For AC use only.

**30 mm Momentary Push Button Operators, UL Types 4, 4X, 13/
NEMA 4, 4X, 13**

Table 19.142: Non-Illuminated Momentary Push Button Operators^[51]






| Description | Color | Operator with 1 N.O. and 1 N.C. Contact (KA1) | Operator with 1 N.O. Contact (KA2) | Operator with 1 N.C. Contact (KA3) | Operator Only No Contacts ^[52] |
|---|---|---|------------------------------------|------------------------------------|---|
|  9001SKR1B Full Guard | Black | SKR1BH13 | SKR1BH5 | SKR1BH6 | SKR1B |
| | Red | SKR1RH13 | SKR1RH5 | SKR1RH6 | SKR1R |
| | Green | SKR1GH13 | SKR1GH5 | SKR1GH6 | SKR1G |
| | Universal ^[53] | SKR1UH13 | SKR1UH5 | SKR1UH6 | SKR1U |
| | Other ^[54] | SKR1■H13 | SKR1■H5 | SKR1■H6 | SKR1■ |
|  9001SKR3B No Guard | Black | SKR3BH13 | SKR3BH5 | SKR3BH6 | SKR3B |
| | Red | SKR3RH13 | SKR3RH5 | SKR3RH6 | SKR3R |
| | Green | SKR3GH13 | SKR3GH5 | SKR3GH6 | SKR3G |
| | Universal ^[53] | SKR3UH13 | SKR3UH5 | SKR3UH6 | SKR3U |
| | Other ^[54] | SKR3■H13 | SKR3■H5 | SKR3■H6 | SKR3■ |
|  9001SKR2B Extended Guard | Black | SKR2BH13 | SKR2BH5 | SKR2BH6 | SKR2B |
| | Red | SKR2RH13 | SKR2RH5 | SKR2RH6 | SKR2R |
| | Green | SKR2GH13 | SKR2GH5 | SKR2GH6 | SKR2G |
| | Universal ^[53] | SKR2UH13 | SKR2UH5 | SKR2UH6 | SKR2U |
| | Other ^[54] | SKR2■ | SKR2■H5 | SKR2■H6 | SKR2■ |
|  9001SKR4B 1-3/8 in. (35 mm) Mushroom Button | Snap-In Mushroom Button | | | | |
| | Black | SKR4BH13 | SKR4BH5 | SKR4BH6 | SKR4B |
| | Red | SKR4RH13 | SKR4RH5 | SKR4RH6 | SKR4R |
| | Red ^[55] | SKR4R05H13 | SKR4R05H5 | SKR4R05H6 | SKR4R05 |
| | Green | SKR4GH13 | SKR4GH5 | SKR4GH6 | SKR4G |
| | Other ^[56] | SKR4▲H13 | SKR4▲H5 | SKR4▲H6 | SKR4▲ |
| | Screw-On Mushroom Button with Set Screw Security | | | | |
| | Black | SKR24BH13 | SKR24BH5 | SKR24BH6 | SKR24B |
| | Red | SKR24RH13 | SKR24RH5 | SKR24RH6 | SKR24R |
| | Green | SKR24GH13 | SKR24GH5 | SKR24GH6 | SKR24G |
| Other ^[56] | SKR24▲H13 | SKR24▲H5 | SKR24▲H6 | SKR24▲ | |
|  9001SKR5 2-1/4 in. (57 mm) Mushroom Button | Snap-In Mushroom Button, Plastic Head | | | | |
| | Black | SKR5BH13 | SKR5BH5 | SKR5BH6 | SKR5B |
| | Red | SKR5RH13 | SKR5RH5 | SKR5RH6 | SKR5R |
| | Red ^[55] | SKR5R05H13 | SKR5R05H5 | SKR5R05H6 | SKR5R05 |
| | Green | SKR5GH13 | SKR5GH5 | SKR5GH6 | SKR5G |
| | Other ^[56] | SKR5▲H13 | SKR5▲H5 | SKR5▲H6 | SKR5▲ |
| | Screw-On Mushroom Button with Set Screw Security, Plastic Head | | | | |
| | Black | SKR25BH13 | SKR25BH5 | SKR25BH6 | SKR25B |
| | Red | SKR25RH13 | SKR25RH5 | SKR25RH6 | SKR25R |
| | Green | SKR25GH13 | SKR25GH5 | SKR25GH6 | SKR25G |
| Other ^[56] | SKR25▲H13 | SKR25▲H5 | SKR25▲H6 | SKR25▲ | |

Table 19.143: 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 | — |

NOTE: To select and order Contact Blocks, Light Modules, Knobs, and Accessories, see Type KA Contact Blocks, page 19-62 through Hermetically Sealed Power Reed Contact Blocks, page 19-64.

NOTE: For use in hazardous locations—See Square D Offering According to Class, Division, and Group, page 19-64. Contact blocks and legend plate not included unless otherwise noted.

[51] When ordering, add prefix 9001 to the catalog number.

[52] These operators can be ordered complete with contact blocks. For maximum block usage, see Table 19.173 "H" Codes, page 19-65. Add the "H" number to the end of the operator type number.

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

[54] ■ See Table 19.143 Color Codes, page 19-55.

[55] Knob has the words "Emergency Stop" in raised letters highlighted in white for readability.

[56] ▲ See Table 19.143 Color Codes, page 19-55.

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

Table 19.144: Non-Illuminated Push-Pull Screw-on Mushroom Operators, Plastic Head^[57]


| | Description | Color | With 2 N.C. Contacts (1 KA3, 1 KA5) | With 1 N.O. / 1 N.C. Contact (1 KA1) | Without Contacts ^[58] |
|---|--|-----------------------|-------------------------------------|--------------------------------------|----------------------------------|
|  <p>9001SKR9R Non-Illuminated 1-5/8 in. Diameter Knob Includes Type KN179WP Legend Plate Marked Pull To Start Push To Stop</p> | 3 Position | | | | |
| | Momentary Pull-Maintained Neutral-Momentary Push ^[59] | Red | SKR8RH25 | — | SKR8R |
| | | Green | SKR8GH25 | — | SKR8G |
| | | Other ^[60] | SKR8▲H25 | — | SKR8▲ |
| | 2 Position^[61] | | | | |
| | Maintained Pull-Maintained Push | Red | — | SKR9RH13 | SKR9R |
| Green | | — | SKR9GH13 | SKR9G | |
| Other ^[60] | | — | SKR9▲H13 | SKR9▲ | |

Table 19.145: Non-Illuminated Turn-to-Release Mushroom Operators^[57]


| | Description | Color | With 1 N.O. Contact (KA1) | With 2 N.O. / 2 N.C. Contacts (2 KA1) | Without Contacts |
|--|---|-------|---------------------------|---------------------------------------|------------------|
|  <p>9001SKR16H2</p> | 2 Position, Plastic Head Turn-to-Release Trigger Action | Red | SKR16H13 | SKR16H2 | SKR16 |

Table 19.146: Screw-On Plastic Illuminated Push-Pull Mushroom Operators^[57]


| Illuminated | Description | Voltage | With Red Knob and 2 N.C. Contacts (1 KA3, 1 KA5) ^[62] | With Other Color Knob and 2 N.C. Contacts ^[60] ^[62] | With Other Color Knob Without Contacts ^[58] ^[60] ^[62] | |
|---|--|--|--|--|--|---|
|  <p>9001SKR9P1 Illuminated 1-5/8 in. Diameter Knob Includes Type KN179WP Legend Plate Marked Pull to Start Push To Stop</p> | 3 Position | | | | | |
| | Momentary Pull-Maintained Neutral-Momentary Push ^[63] | 110–120 V, 50–60 Hz | SKR8P1RH25 | SKR8P1▲H25 | SKR8P1▲ | |
| | | Other—Transformer, LED, Flashing ^[64] | SKR8P♦RH25 | SKR8P♦▲H25 | SKR8P♦▲ | |
| | | Other—Full Voltage, Resistor, Neon ^[59] | SKR8P♦RH25 | SKR8P♦▲H25 | SKR8P♦▲ | |
| | Description | | Voltage | With Red ^[61] Knob and 1 N.O. & 1 N.C. Contact (KA1) | With Other Color Knob and 1 N.O. & 1 N.C. Contact (KA1) ^[60] | With Other Color Knob Without Contacts ^[60] |
| | 2 Position | | | | | |
| Maintained Pull-Maintained Push | 110–120 V, 50–60 Hz | SKR9P1RH13 | SKR9P1▲H13 | SKR9P1▲ | | |
| | Other—Transformer, L.E.D., Flashing ^[64] | SKR9P♦RH13 | SKR9P♦▲H13 | SKR9P♦▲ | | |
| | Other—Full Voltage, Resistor, Neon ^[59] | SKR9P♦RH13 | SKR9P♦▲H13 | SKR9P♦▲ | | |

Table 19.147: Color Codes

| Color | SKR11, SKR12 | SKR8, SKR9 |
|------------------------|--------------|------------|
| Black ^[65] | B | B |
| Red | R | R |
| Green | G | G |
| Blue | L | L |
| Yellow | Y | Y |
| White | W | W |
| Orange ^[65] | S | S |
| Clear | — | C |
| Amber | — | A |
| Gray | E | — |

Table 19.148: Positions for 9001SKR8RH1 or H13

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

Table 19.149: Positions for 9001SKR8H25

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

NOTE: To select and order Contact Blocks, Light Modules, Knobs, and Accessories, see Type KA Contact Blocks, page 19-62 through Hermetically Sealed Power Reed Contact Blocks, page 19-64.

^[57] When ordering, add prefix 9001 to the catalog number.

^[58] These operators can be ordered complete with contact blocks. For maximum block usage, see Table 19.173 "H" Codes, page 19-65. Add the chosen "H" number to the end of the operator.

^[59] On neon light modules, use clear knobs only.

^[60] ▲ See Table 19.147 Color Codes, page 19-56 and insert the color code in the Type number. Example: SKR9() with a yellow knob = SKR9Y

^[61] To obtain a red knob with "Push Emergency Stop" printed on the red knob—substitute "R05" in place of "R"

^[62] ♦ Add the voltage assembly code as chosen from Standard and Shallow Depth Light Modules, page 19-63. Example: SKR8P♦ with 277 V 50–60 Hz = SKR8P♦

^[63] For positions, refer to Table 19.148 Positions for 9001SKR8RH1 or H13, page 19-56 and Table 19.149 Positions for 9001SKR8H25, page 19-56.

^[64] The knob must be the same color as the LED light module chosen, for example, for a green LED, use a green knob.

^[65] These colors are not available on illuminated push-pull operators.

Type SK Corrosion Resistant Illuminated Operators

Table 19.150: Illuminated Push Button Operators





| Description | Voltage and Frequency | Style | With Red Color Cap and 1 N.O. and 1 N.C. Contact (KA1) [66] | With Green Color Cap and 1 N.O. and 1 N.C. Contact (KA1) [66] | With Other Color Cap Without Contact Blocks [67] [68] |
|--|-----------------------------------|-----------------------|---|---|---|
|  9001SK1L1 | 110–120 V, 50–60 Hz | Transformer | SK1L1RH13 | SK1L1GH13 | SK1L1 |
| | 220–240 V, 50–60 Hz | Transformer | SK1L7RH13 | SK1L7GH13 | SK1L7 |
| | 24–28 Vac/Vdc | Full Voltage | SK1L35RH13 | SK1L35GH13 | SK1L35 |
| | For other voltages See Table [68] | Transformer, Flashing | SK1L■RH13 | SK1L■GH13 | SK1L ■ |
| | | Full Voltage | SK1L■RH13 | SK1L■GH13 | SK1L ■ |
| | | Resistor, Neon [69] | SK1L■RH13 | SK1L■GH13 | SK1L ■ |
| LED [70] | SK1L■RH13 | SK1L■GH13 | SK1L ■ [71] | | |
|  9001SK2L1 | 110–120 V, 50–60 Hz | Transformer | SK2L1RH13 | SK2L1GH13 | SK2L1 |
| | 220–240 V, 50–60 Hz | Transformer | SK2L7RH13 | SK2L7GH13 | SK2L7 |
| | 24–28 Vac/Vdc | Full Voltage | SK2L35RH13 | SK2L35GH13 | SK2L35 |
| | For other voltages See Table [68] | Transformer, Flashing | SK2L■RH13 | SK2L■GH13 | SK2L ■ |
| | | Full Voltage | SK2L■RH13 | SK2L■GH13 | SK2L ■ |
| | | Resistor, Neon [69] | SK2L■RH13 | SK2L■GH13 | SK2L ■ |
| LED [70] | SK2L■RH13 | SK2L■GH13 | SK2L ■ [71] | | |
|  9001SK2L1R20 | 110–120 V, 50–60 Hz | Transformer | SK2L1R20H13 | SK2L1G20H13 | Order SK2L■ [71][72] |
| | 220–240 V, 50–60 Hz | Transformer | SK2L7R20H13 | SK2L7G20H13 | |
| | 24–28 Vac/Vdc | Full Voltage | SK2L35R20H13 | SK2L35G20H13 | |
| | For other voltages See Table [68] | Transformer, Flashing | SK2L■R20H13 | SK2L■G20H13 | |
| | | Full Voltage | SK2L■R20H13 | SK2L■G20H13 | |
| | | Resistor, Neon [69] | SK2L■R20H13 | SK2L■G20H13 | |
| LED [70] | SK2L■R20H13 | SK2L■G20H13 | | | |
|  9001SK2L1R21 | 110–120 V, 50–60 Hz | Transformer | SK2L1R21H13 | SK2L1G21H13 | Order SK2L■ [71][72] |
| | 220–240 V, 50–60 Hz | Transformer | SK2L7R21H13 | SK2L7G21H13 | |
| | 24–28 Vac/Vdc | Full Voltage | SK2L35R21H13 | SK2L35G21H13 | |
| | For other voltages See Table [68] | Transformer, Flashing | SK2L■R21H13 | SK2L■G21H13 | |
| | | Full Voltage | SK2L■R21H13 | SK2L■G21H13 | |
| | | Resistor, Neon [69] | SK2L■R21H13 | SK2L■G21H13 | |
| LED [70] | SK2L■R21H13 | SK2L■G21H13 | | | |

Table 19.151: 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, Knobs, and Accessories, see Type KA Contact Blocks, page 19-62 through Hermetically Sealed Power Reed Contact Blocks, page 19-64.

NOTE: For use in hazardous locations—See Square D Offering According to Class, Division, and Group, page 19-64. Contact blocks and legend plate not included unless otherwise noted.

[66] When ordering, add prefix 9001 to the catalog number.

[67] These operators can be ordered complete with contact blocks. For maximum block usage, see Table 19.173 "H" Codes, page 19-65. Add the "H" number to the end of the operator type number.

[68] ■ Add the voltage assembly code as chosen from Standard and Shallow Depth Light Modules, page 19-63. **EXAMPLE:** SK2L_ with 240 Vac/Vdc = SK2L25.

[69] On neon light modules, use clear color caps only.

[70] Add the color code as chosen from the color cap table below. **EXAMPLE:** SK2L25 with a blue 1-3/8 in. mushroom button = SK2L25L20.

[71] The cap must be the same color as the LED light module chosen, e.g., for green LED, use green color cap.

[72] The only difference between a no guard (SK2L) operator and mushroom button operator is the color cap.

9001SK 2-Position Selector Switches

Table 19.152: 2-Position Selector Switches

| 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 | | |
| | | | | | ↙ | ↘ | ↙ | ↘ | | |
| <p>Top View</p> | KA1 | or | KA3 | KA1 #2 | or | KA3 #2 | 1 | 0 | 0 | 1 |
| | | | | | | KA2 #2 | 0 | 1 | 1 | 0 |
| | KA1 | or | KA3 | KA1 #1 | or | KA3 #1 | 1 | 0 | 0 | 1 |
| | | | | | | KA2 #1 | 0 | 1 | 1 | 0 |
| For Cam, see Type K, KX, and SK Selector Switch Guide, page 19-53 | | | | | | E | D | | | |
| Non-Illuminated Operators | | | | | | Type [73] | | Type [73] | | |
| Manual Return [74], Operator Only (without contact blocks) | | | | | | | | | | |
| Without Knob | | | | | | SKS11 | | SKS12 | | |
| With Knob [75] | | | | | | SKS11♦ | | SKS12♦ | | |
| Operator with Contact Blocks and Standard black knob | | | | | | | | | | |
| With 1 KA1 on Side #2 | | | | | | SKS11BH13 | | — | | |
| With 1 KA1 on Side #1 | | | | | | SKS11BH1 | | — | | |
| With 1 KA1 on Side #1 and 1 KA1 on side #2 | | | | | | SKS11BH2 | | — | | |
| Spring Return from Left [74], Operator Only (without contact blocks) | | | | | | | | | | |
| Without Knob | | | | | | SKS25 | | — | | |
| With Knob [75] | | | | | | SKS25♦ | | — | | |
| Spring Return from Right [74], Operator Only (without contact blocks) | | | | | | | | | | |
| Without Knob | | | | | | — | | SKS34 | | |
| With Knob [75] | | | | | | — | | SKS34♦ | | |
| Illuminated Operators | | | | | | Type [73] | | Type [73] | | |
| Manual Return [74], Operator Only (without contact blocks) | | | | | | | | | | |
| Without Knob, 110-120V 50-60 Hz Transformer | | | | | | SK11J1 | | SK12J1 | | |
| With Standard Red Knob, 110-120V 50-60 Hz Transformer | | | | | | SK11J1R | | SK12J1R | | |
| With other Color Knob [75] and other Voltage Light Module [76] | | | | | | SK11J■♦ | | SK12J■♦ | | |
| Spring Return from Left [74], Operator Only (without contact blocks) | | | | | | | | | | |
| Without Knob, 110-120V 50-60 Hz Transformer | | | | | | SK25J1 | | — | | |
| With Standard Red Knob, 110-120V 50-60 Hz Transformer | | | | | | SK25J1R | | — | | |
| With other Color Knob [75] and other Voltage Light Module [76] | | | | | | SK25J■♦ | | — | | |
| Spring Return from Right [74], Operator Only (without contact blocks) | | | | | | | | | | |
| Without Knob, 110-120V 50-60 Hz Transformer | | | | | | — | | SK34J1 | | |
| With Standard Red Knob, 110-120V 50-60 Hz Transformer | | | | | | — | | SK34J1R | | |
| With other Color Knob [75] and other Voltage Light Module [76] | | | | | | — | | SK34J■♦ | | |

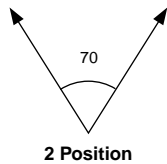


Table 19.153: Selector Switch Assembly Code and Knob Cat. No.

| Color | Standard Knob | | Gloved Hand Knob | |
|--------|---------------|---------------|------------------|---------------|
| | Knob Code | Cat. No. [73] | Knob Code | Cat. No. [73] |
| 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 |

Contact Blocks: Contact Blocks, page 19-62, Hermetically Sealed Logic Reed Contact Blocks, page 19-64, Hermetically Sealed Power Reed Contact Blocks, page 19-64
Light Modules: Standard Light Modules, page 19-63

[73] When ordering, add prefix 9001 to the catalog number.

[74] These operators can be ordered complete with contact blocks. For maximum block usage, see Table 19.173 "H" Codes, page 19-65. Add the chosen "H" number to the end of the operator.

[75] ♦ Add the knob color code chosen from Table 19.153 Selector Switch Assembly Code and Knob Cat. No., page 19-58. For LED, knob color must match LED.

[76] ■ Add the voltage assembly code as chosen from Standard Light Modules, page 19-63. Example: K25J with 208Vac = K25J3

9001SK 3-Position Selector Switches

Table 19.154: 3-Position Selector Switches

| Contact Block Required | | | 1 — Contact Closed | | | | | | 0 — Contact Open | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------------|------------------|--------------------|--------|----------|---|----------|---|------------------|---|----------|---|----------|---|----------|---|----------|---|----------|---|---|---|---|---|---|---|---|---|---|---|---|
| Contact Block Position | Quantity and Type | Mount on Side | ↕↕↕ | | ↕↕↕ | | ↕↕↕ | | ↕↕↕ | | ↕↕↕ | | ↕↕↕ | | ↕↕↕ | | | | | | | | | | | | | | | | |
| <p>Top View</p> | KA1 | KA3 or KA2 | KA1 #2 | KA3 #2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| | | | | | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | | | |
| | KA1 | KA3 or KA2 | KA1 #1 | KA3 #1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 |
| | | | | | 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 |
| For Cam, see Type K, KX, and SK Selector Switch Guide, page 19-53 | | | B | | C | | D | | E | | F | | G | | J | | L | | M | | | | | | | | | | | | |

| Non-Illuminated Operators [77] | Type | Type | Type | Type | Type | Type | Type | Type | Type |
|---|------------|------------|------------|------------|-----------|------------|------------|-------------|-------------|
| Manual Return, Operator Only (without contact blocks) [78] | | | | | | | | | |
| Without Knob | SKS42 | SKS43 | SKS44 | SKS45 | SKS46 | SKS47 | SKS49 | SKS401 | SKS402 |
| With Knob [79] | SKS42♦ | SKS43♦ | SKS44♦ | SKS45♦ | SKS46♦ | SKS47♦ | SKS49♦ | SKS401♦ | SKS402♦ |
| Operator with Contact Blocks and Standard black knob [80] | | | | | | | | | |
| With 1 KA1 on Side #2 (H13) | SKS42B-H13 | SKS43B-H13 | SKS44B-H13 | SKS45B-H13 | SKS46BH13 | SKS47B-H13 | SKS49B-H13 | SKS401B-H13 | SKS402B-H13 |
| With 1 KA1 on Side #1 (H1) | SKS42B-H1 | SKS43BH1 | SKS44BH1 | SKS45B-H1 | SKS46BH1 | SKS47BH1 | SKS49BH1 | SKS401BH1 | SKS402BH1 |
| With 1 KA1 on Side #1 and 1 KA1 on side #2 (H2) | SKS42B-H2 | SKS43BH2 | SKS44BH2 | SKS45B-H2 | SKS46BH2 | SKS47BH2 | SKS49BH2 | SKS401BH2 | SKS402BH2 |
| Spring Return from Left to Center, Operator Only (without contact blocks) [78] | | | | | | | | | |
| Without Knob | SKS62 | SKS63 | SKS64 | SKS65 | SKS66 | SKS67 | SKS69 | SKS601 | SKS602 |
| With Knob [79] | SKS62♦ | SKS63♦ | SKS64♦ | SKS65♦ | SKS66♦ | SKS67♦ | SKS69♦ | SKS601♦ | SKS602♦ |
| Spring Return from Right to Center, Operator Only (without contact blocks) [78] | | | | | | | | | |
| Without Knob | SKS72 | SKS73 | SKS74 | SKS75 | SKS76 | SKS77 | SKS79 | SKS701 | SKS702 |
| With Knob [79] | SKS72♦ | SKS73♦ | SKS74♦ | SKS75♦ | SKS76♦ | SKS77♦ | SKS79♦ | SKS701♦ | SKS702♦ |
| Spring Return from Both Sides to Center, Operator Only (without contact blocks) [78] | | | | | | | | | |
| Without Knob | SKS52 | SKS53 | SKS54 | SKS55 | SKS56 | SKS57 | SKS59 | SKS501 | SKS502 |
| With Knob [79] | SKS52♦ | SKS53♦ | SKS54♦ | SKS55♦ | SKS56♦ | SKS57♦ | SKS59♦ | SKS501♦ | SKS502♦ |
| Illuminated Operators [77] | Type | Type | Type | Type | Type | Type | Type | Type | Type |
| Manual Return, Operator Only (without contact blocks) [78] | | | | | | | | | |
| Without Knob, 110-120V 50-60 Hz Transformer | SK42J1 | SK43J1 | SK44J1 | SK45J1 | SK46J1 | SK47J1 | SK49J1 | SK401J1 | SK402J1 |
| With Standard Red Knob, 110-120V 50-60 Hz Transformer | SK42J1R | SK43J1R | SK44J1R | SK45J1R | SK46J1R | SK47J1R | SK49J1R | SK401J1R | SK402J1R |
| With other Color Knob [79] and other Voltage Light Module [81] | SK42J♦ | SK43J♦ | SK44J♦ | SK45J♦ | SK46J♦ | SK47J♦ | SK49J♦ | SK401J♦ | SK402J♦ |
| Spring Return from Left to Center, Operator Only (without contact blocks) [78] | | | | | | | | | |
| Without Knob, 110-120V 50-60 Hz Transformer | SK62J1 | SK63J1 | SK64J1 | SK65J1 | SK66J1 | SK67J1 | SK69J1 | SK601J1 | SK602J1 |
| With Standard Red Knob, 110-120V 50-60 Hz Transformer | SK62J1R | SK63J1R | SK64J1R | SK65J1R | SK66J1R | SK67J1R | SK69J1R | SK601J1R | SK602J1R |
| With other Color Knob [79] and other Voltage Light Module [81] | SK62J♦ | SK63J♦ | SK64J♦ | SK65J♦ | SK66J♦ | SK67J♦ | SK69J♦ | SK601J♦ | SK602J♦ |
| Spring Return from Right to Center, Operator Only (without contact blocks) [78] | | | | | | | | | |
| Without Knob, 110-120V 50-60 Hz Transformer | SK72J1 | SK73J1 | SK74J1 | SK75J1 | SK76J1 | SK77J1 | SK79J1 | SK701J1 | SK702J1 |
| With Standard Red Knob, 110-120V 50-60 Hz Transformer | SK72J1R | SK73J1R | SK74J1R | SK75J1R | SK76J1R | SK77J1R | SK79J1R | SK701J1R | SK702J1R |
| With other Color Knob [79] and other Voltage Light Module [81] | SK72J♦ | SK73J♦ | SK74J♦ | SK75J♦ | SK76J♦ | SK77J♦ | SK79J♦ | SK701J♦ | SK702J♦ |
| Spring Return from Both Sides to Center, Operator Only (without contact blocks) [78] | | | | | | | | | |
| Without Knob, 110-120V 50-60 Hz Transformer | SK52J1 | SK53J1 | SK54J1 | SK55J1 | SK56J1 | SK57J1 | SK59J1 | SK501J1 | SK502J1 |
| With Standard Red Knob, 110-120V 50-60 Hz Transformer | SK52J1R | SK53J1R | SK54J1R | SK55J1R | SK56J1R | SK57J1R | SK59J1R | SK501J1R | SK502J1R |
| With other Color Knob [79] and other Voltage Light Module [81] | SK52J♦ | SK53J♦ | SK54J♦ | SK55J♦ | SK56J♦ | SK57J♦ | SK59J♦ | SK501J♦ | SK502J♦ |

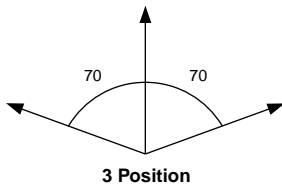


Table 19.155: Selector Switch Assembly Code and Knob Cat. No.

| Color | Standard Knob | | Gloved Hand Knob | |
|--------|----------------|---------------|------------------|---------------|
| | [82] Knob Code | Cat. No. [77] | [82] Knob Code | Cat. No. [77] |
| 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 |

Contact Blocks: Contact Blocks, page 19-62, Hermetically Sealed Logic Reed Contact Blocks, page 19-64, Hermetically Sealed Power Reed Contact Blocks, page 19-64
Light Modules: Standard Light Modules, page 19-63

[77] When ordering, add prefix 9001 to the catalog number.
 [78] These operators can be ordered complete with contact blocks. Add the "H code" from Table 19.173 "H" Codes, page 19-65 as needed for your application.
 [79] ♦ Add the knob color code chosen from the Selector Switch Assembly Code table. For LED, knob color must match LED.
 [80] For other color knobs replace the B with knob color code. See Table 19.155 Selector Switch Assembly Code and Knob Cat. No., page 19-59.
 [81] ■ Add the voltage assembly code as chosen from Standard Light Modules, page 19-63. Example: K25J with 208Vac = K25J3
 [82] Add the knob color code. For LED, knob color must match LED.

9001SK 4-Position Selector Switches

Table 19.156: 4-Position Selector Switches

| Contact Block Required | | | | | | 1 — Contact Closed 0 — Contact Open | | | | |
|--|-------------------|----|---------------|--------|----|--|---|---|---|---|
| Contact Block Position | Quantity and Type | | Mount on Side | | | | | | | |
| <p>Top View</p> | | or | KA3 | KA1 #2 | or | KA3 #2 | 1 | 0 | 0 | 0 |
| | | | KA2 | | | KA2 #2 | 0 | 0 | 1 | 0 |
| | | or | KA3 | KA1 #1 | or | KA3 #1 | 0 | 0 | 0 | 1 |
| | | | KA2 | | | KA2 #1 | 0 | 1 | 0 | 0 |
| Cam (see Type K, KX, and SK Selector Switch Guide, page 19-53) | | | | | | H | | | | |

| Non-Illuminated Operators | Type [83] |
|---|------------------|
| Manual Return [84], Operator Only (without contact blocks) | |
| Without Knob | SKS88 |
| With other Color Knob [85] | SKS88♦ |
| Illuminated Operators | Type [83] |
| Manual Return [84], Operator Only (without contact blocks) | |
| Without Knob, 110-120V 50-60 Hz Transformer | SK88J1 |
| With Standard Red Knob, 110-120V 50-60 Hz Transformer | SK88J1R |
| With other Color Knob [85] and other Voltage Light Module [86] | SK88J♦ |

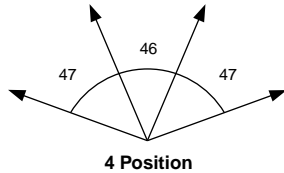


Table 19.157: Selector Switch Assembly Code and Knob Cat. No.

| Color | Standard Knob | | Gloved Hand Knob | |
|--------|----------------|---------------|------------------|---------------|
| | [87] Knob Code | Cat. No. [83] | [87] Knob Code | Cat. No. [83] |
| 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 |

For Contact Blocks, see Contact Blocks, page 19-62, Hermetically Sealed Logic Reed Contact Blocks, page 19-64, Hermetically Sealed Power Reed Contact Blocks, page 19-64
For Light Modules, see Standard Light Modules, page 19-63

Potentiometers with Dial Plate

Table 19.158: Potentiometers with Dial Plate (not UL listed)—Maximum Voltage 300 Vac

| Power | Description | Ratings | Type |
|-------|---|------------|------|
| 2 W | Operator Only, for Single Potentiometer | NEMA 4, 13 | SK20 |
| | Operator with Single Potentiometer | | SK21 |
| | Operator Only, for Tandem Potentiometer | | SK22 |
| | Operator with Tandem Potentiometer | | SK23 |

When ordering, add prefix 9001 to the catalog number.

Table 19.159: Potentiometer Suffixes

| Single Potentiometer | | | |
|----------------------|------------|-------------|------------|
| Suffix [88] | Resistance | Suffix [88] | 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 [88] | Resistance | | |
| | Front | Rear | |
| 82 | 1 kΩ | 1 kΩ | |

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

[83] When ordering, add prefix 9001 to the catalog number.

[84] These operators can be ordered complete with contact blocks. Add the "H" code from Table 19.173 "H" Codes, page 19-65 as needed for your application.

[85] ♦ Add the knob color code chosen from the Selector Switch Assembly Code table. For LED, knob color must match LED.

[86] ■ Add the voltage assembly code as chosen from Standard Light Modules, page 19-63. Example: K25J with 208Vac = K25J3

[87] Add the knob color code from Table 19.237. For LED, knob color must match LED

[88] For the complete part number, add the suffix from this table to the catalog number from Table 19.158 Potentiometers with Dial Plate, page 19-60. Example: 9001K2105.

Type SK Corrosion Resistant Pilot Lights

Table 19.160: Pilot Lights—UL Types 4, 4X, [89]

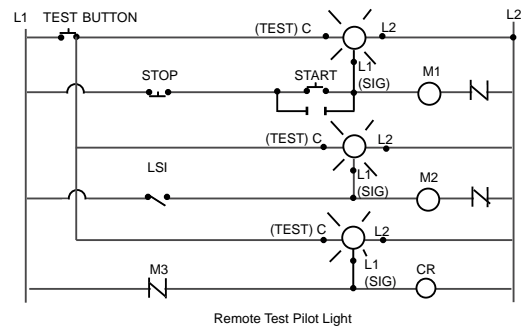
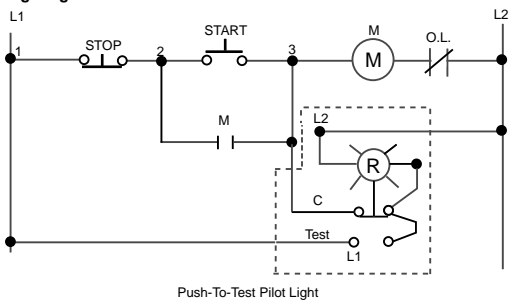
| Description | | | Voltage | Style | With Red Fresnel Color Cap [90] | With Green Fresnel Color Cap [90] | With Other Color Cap [90] [91] | Without Color Cap [90] |
|-------------|------------|--|-----------------------------------|-------------------------------------|---------------------------------|-----------------------------------|--------------------------------|------------------------|
| | 9001SKP1 | Standard Pilot Light (Fresnel color cap shown) | 110–120 V, 50–60 Hz | Transformer | SKP1R31 | SKP1G31 | SKP1■ | SKP1 |
| | | | 220–240 V, 50–60 Hz | Transformer | SKP7R31 | SKP7G31 | SKP7■ | SKP7 |
| | | | 24–28 Vac/Vdc | Full Voltage | SKP35R31 | SKP35G31 | SKP35■ | SKP35 |
| | | | For other voltages [90] | Transformer, Flashing or LED [92] | SKP▲R31 | SKP▲G31 | SKP▲■ | SKP▲ |
| | | | | Full Voltage, Neon or Resistor [93] | SKP▲R31 | SKP▲G31 | SKP▲■ | SKP▲ |
| | 9001SKT1 | Push-To-Test Pilot Light (Fresnel color cap shown) | 110–120 V, 50–60 Hz | Transformer | SKT1R31 | SKT1G31 | SKT1■ | SKT1 |
| | | | 220–240 V, 50–60 Hz | Transformer | SKT7R31 | SKT7G31 | SKT7■ | SKT7 |
| | | | 24–28 Vac/Vdc | Full Voltage | SKT35R31 | SKT35G31 | SKT35■ | SKT35 |
| | | | For other voltages [90] | Transformer, Flashing or LED [92] | SKT▲R31 | SKT▲G31 | SKT▲■ | SKT▲ |
| | | | | Full Voltage, Neon or Resistor [93] | SKT▲R31 | SKT▲G31 | SKT▲■ | SKT▲ |
| | 9001SKTR38 | Remote Test Pilot Light (Fresnel color cap shown) | 120 Vac Only | Resistor | SKTR38R31 | SKTR38G31 | SKTR38■ | SKTR38 |
| | | | 24–28 Vac Only | Full Voltage | SKTR35R31 | SKTR35G31 | SKTR35■ | SKTR35 |
| | | | For other voltages [90] [91] [94] | Full Voltage or Resistor [95] | SKTR▲R31 | SKTR▲G31 | SKTR▲■ | SKTR▲ |
| | | | | | | | | |



Table 19.161: Color Caps

| Color | Plastic Fresnel [96] | Plastic Domed [96] |
|--------|----------------------|--------------------|
| 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, Knobs, and Accessories, see Type KA Contact Blocks, page 19-62 through Hermetically Sealed Power Reed Contact Blocks, page 19-64.
NOTE: For use in hazardous locations—See Square D Offering According to Class, Division, and Group, page 19-64. Contact blocks and legend plate not included unless otherwise noted.

[89] When ordering, add prefix 9001 to the catalog number.
 [90] ▲ Add the voltage assembly code as chosen from Standard and Shallow Depth Light Modules, page 19-63. **EXAMPLE:** SKT***R31 with 208 Vac red LED voltage = SKT37LRR31.
 [91] ■ Add the color code as chosen from the color cap table below. **EXAMPLE:** SKP1 with a blue fresnel cap = SKP1L31.
 [92] The cap must be the same color as the LED light module chosen, e.g., for a green LED, use a green color cap.
 [93] On neon light modules, use clear color caps only.
 [94] 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.
 [95] Use only full voltage or resistor voltage assembly codes on remote test pilot lights. Do not choose LED (exception — these LED codes are allowed: 38LG, 38LL, 38LR, 38LW, 38LY), neon or transformer codes. For AC use only.
 [96] Add the color code as chosen from the color cap table below. **EXAMPLE:** SKP1 with a blue fresnel cap = SKP1L31.

Table 19.162: Standard Contact Blocks

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

Type KA Contact Blocks

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.

| Symbol | Contact Blocks with Binder Head Screws (not Fingersafe) | | Gold Flashed Contacts with Standard Pressure Wire Terminals |
|-------------------------------|---|---------------|---|
| | Type [98] | Quantity [99] | Type [98] |
| | KA21 | 25–Up | KA31 |
| | KA22 | 25–Up | KA32 |
| | KA23 | 25–Up | KA33 |
| N.O. Early Closing | KA24 | 25–Up | KA34 |
| N.C. Contact Late Opening | KA25 | 25–Up | KA35 |

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 19.164: Contact blocks (not Fingersafe)

| Symbol | Type [98] | Symbol | Type [98] |
|--------|-----------|--------------------------------|-----------|
| | KA1G | N.O. Contact Early Closing | KA4G |
| | KA2G | N.C. Contact Late Opening | KA5G |
| | KA3G | N.O. Contact Early Closing | KA6G |

Table 19.165: Contact blocks with Quick-Connect terminals (not Fingersafe)

| Symbol | Type [98] |
|--------|-----------|
| | KA12 |
| | KA13 |

Table 19.163: Additional Circuit Arrangements

| Description | Symbol | | Type |
|---|---------|---------|-------------------------------------|
| Sequencing [97] N.O. Contact of KA4 closes before N.O. Contact on KA1 | KA4 | KA1 | Order One Type KA4 and One Type KA1 |
| Overlapping [97] N.O. Contact of KA4 closes before N.C. Contact of KA5 Opens | KA4 | KA5 | Order One Type KA4 and One Type KA5 |

Table 19.166: Maximum Current Ratings for Control Circuit Contacts—Types KA1–KA6, KA21–KA25, KA31–KA35, KA1G–KA6G

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

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

[98] When ordering, add prefix 9001 to the catalog number.

[99] Minimum order quantity is 25.

Standard and Shallow Depth Light Modules

Table 19.167: Standard Light Modules for Types K, SK, and KX Control Units [100][101][102][103]

| | Voltage | Description | Light Module | Voltage Assembly Code | Rating | Temperature Code T-Code | Replacement Lamp |
|--|---------------------|--|--------------|-----------------------|--------|-------------------------|-------------------|
| | | | Type [104] | | | | Part Number [100] |
| | All | Full Voltage (without Bayonet Base Lamp) | KM40 | 40 | — | — | None |
| | 6 Vac/Vdc | Full Voltage | KM31 | 31 | .9 VA | T5 | 2550101020 |
| | 6 Vac/Vdc | LED Red | KM31LR | 31LR | | T6 | 6508805201 |
| | 6 Vac/Vdc | LED Green | KM31LG | 31LG | | T6 | 6508805203 |
| | 6 Vac/Vdc | LED Yellow | KM31LY | 31LY | | T6 | 6508805202 |
| | 12–14 Vac/Vdc | Full Voltage | KM32 | 32 | 1.2 VA | T5 | 2550101037 |
| | 12–14 Vac/Vdc | LED Red | KM32LR | 32LR | | T6 | 6508805201 |
| | 12–14 Vac/Vdc | LED Green | KM32LG | 32LG | | T6 | 6508805203 |
| | 12–14 Vac/Vdc | LED Yellow | KM32LY | 32LY | | T6 | 6508805202 |
| | 18 Vac/Vdc | Resistor | KM33 | 33 | 1.4 VA | T5 | 2550101037 |
| | 24–28 Vac/Vdc | Full Voltage | KM35 | 35 | 1.2 VA | T3C | 2550101002 |
| | 24–28 Vac/Vdc | LED Red | KM35LR | 35LR | .28 VA | T4 | 6508805210 |
| | 24–28 Vac/Vdc | LED Green | KM35LG | 35LG | .28 VA | T4 | 6508805212 |
| | 24–28 Vac/Vdc | LED Yellow | KM35LY | 35LY | .28 VA | T4 | 6508805211 |
| | 24–28 Vac/Vdc | LED White | KM35LW | 35LW | .28 VA | T4 | 6508805214 |
| | 24–28 Vac/Vdc | LED Blue | KM35LL | 35LL | .28 VA | T4 | 6508805213 |
| | 48 Vac/Vdc | Full Voltage | KM36 | 36 | 2.6 VA | T3A | 2550101025 |
| | 110–120 V, 50–60 Hz | LED Red | KM1LR | 1LR | | T6 | 6508805201 |
| | 110–120 V, 50–60 Hz | LED Green | KM1LG | 1LG | | T6 | 6508805203 |
| | 110–120 V, 50–60 Hz | LED Yellow | KM1LY | 1LY | | T6 | 6508805202 |
| | 110–120 V, 50–60 Hz | Transformer | KM1 | 1 | 2.4 VA | T6 | 2550101020 |
| | 110–120 V, 50–60 Hz | Flashing | KMF1 | F1 | .85 VA | T6 | 2550101036 |
| | 120 Vac/Vdc | Full Voltage/Resistor | KM38 | 38 | 3.0 VA | T4 | 2550101027 |
| | 120 Vac/Vdc | Neon [105] | KM11 | 11 | 0.2 VA | T6 | 2550101013 |
| | 120 Vac/Vdc | LED Red | KM38LR | 38LR | 1.4 VA | T4A | 6508805210 |
| | 120 Vac/Vdc | LED Green | KM38LG | 38LG | 1.4 VA | T4A | 6508805212 |
| | 120 Vac/Vdc | LED Yellow | KM38LY | 38LY | 1.4 VA | T4A | 6508805211 |
| | 120 Vac/Vdc | LED White | KM38LW | 38LW | 1.4 VA | T4A | 6508805214 |
| | 120 Vac/Vdc | LED Blue | KM38LL | 38LL | 1.4 VA | T4A | 6508805213 |
| | 208–220 V, 50–60 Hz | Transformer | KM3 | 3 | 2.5 VA | T6 | 2550101020 |
| | 208–220 V, 50–60 Hz | LED Red | KM3LR | 3LR | | T6 | 6508805201 |
| | 208–220 V, 50–60 Hz | LED Green | KM3LG | 3LG | | T6 | 6508805203 |
| | 208–220 V, 50–60 Hz | LED Yellow | KM3LY | 3LY | | T6 | 6508805202 |
| | 208–220 V, 50–60 Hz | LED White | KM3LW | 3LW | | T6 | 6508805215 |
| | 208–220 V, 50–60 Hz | LED Blue | KM3LL | 3LL | | T6 | 6508805216 |
| | 220–240 V, 50–60 Hz | Transformer | KM7 | 7 | 2.0 VA | T6 | 2550101020 |
| | 220–240 V, 50–60 Hz | LED Red | KM7LR | 7LR | | T6 | 6508805201 |
| | 220–240 V, 50–60 Hz | LED Green | KM7LG | 7LG | | T6 | 6508805203 |
| | 220–240 V, 50–60 Hz | LED Yellow | KM7LY | 7LY | | T6 | 6508805202 |
| | 220–240 V, 50–60 Hz | LED White | KM7LW | 7LW | | T6 | 6508805215 |
| | 220–240 V, 50–60 Hz | LED Blue | KM7LL | 7LL | | T6 | 6508805216 |
| | 240 Vac/Vdc | Resistor | KM25 | 25 | 6.0 VA | T3A | 2550101027 |
| | 240 Vac/Vdc | Neon [105] | KM12 | 12 | 0.3 VA | T6 | 2550101013 |
| | 277 V, 50–60 Hz | Transformer | KM8 | 8 | 2.4 VA | T6 | 2550101020 |
| | 380–480 V, 50–60 Hz | Transformer | KM5 | 5 | 2.8 VA | T6 | 2550101020 |
| | 480 Vac/Vdc | Neon [105] | KM14 | 14 | 0.5 VA | T6 | 2550101013 |
| | 550–600 V, 50–60 Hz | Transformer | KM6 | 6 | 2.5 VA | T6 | 2550101020 |




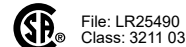
NOTE: Light modules are available in other voltages. For additional information, refer to Catalog 9001CT0001.

The products in Table 19.167 have been assigned Temperature Classifications (T-Codes) in accordance with UL 121201 (2017) — Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations. These codes can aid the user in proper application of these products in accordance with ISO/ISA/IEC 60079-0 (2017–12) Explosive Atmospheres — Part 0: Equipment — General Requirements and the National Electric Code NFPA 70 — Article 500.

NOTE: Light modules shown in Table 19.168 are not UL Certified for use in hazardous locations.

Table 19.168: Shallow Depth Light Modules For Types K and SK Control Units [100] [102] [106] [101]

| | Voltage | Description | Light Module | Voltage Assembly Code | Rating | Temperature Code T-Code | Replacement Lamp |
|---|-----------------|--------------|--------------|-----------------------|--------|-------------------------|------------------|
| | | | Type [104] | | | | Part Number |
|  | 24–28 Vac/Vdc | Full Voltage | KM55 | 55 | 1.2 VA | — | 2550101002 |
| | | LED Red | KM55LR | 55LR | 0.5 VA | — | 6508805204 |
| | | LED Green | KM55LG | 55LG | | — | 6508805206 |
| | | LED Yellow | KM55LY | 55LY | | — | 6508805205 |
| | 110–120 Vac/Vdc | Full Voltage | KM58 | 58 | 3.0 VA | — | 2550101027 |
| | | LED Red | KM58LR | 58LR | 0.5 VA | — | 6508805204 |
| | | LED Green | KM58LG | 58LG | | — | 6508805206 |
| | | LED Yellow | KM58LY | 58LY | | — | 6508805205 |



[100] For use with all operators except KX and remote test pilot.

[101] For use in hazardous locations—See Square D Offering According to Class, Division, and Group, page 19-64.

[102] With LED light modules, use either a clear color cap or a cap the same color as the LED.

[103] With neon type light modules, use a clear color cap only.

[104] When ordering, add prefix 9001 to the catalog number.

[105] Not for use on KX operators.

[106] Reduces the depth of illuminated push buttons with contact blocks by over 33%.

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 19.169: Hazardous Locations

Types K, SK



File: E10054 (N)
CCN: NOIV



File: LR26817
Class: 3218 02

Square D Offering According to Class, Division, and Group

Table 19.170: Square D Offering According to Class, Division, and Group

| Class | For | | Use |
|-------|----------|----------|--|
| | Division | Group(s) | |
| I | 1 | A | 1. Intrinsically Safe System |
| I | 1 | B, C, D | 1. 9001 BR station |
| | | | 2. Intrinsically Safe System |
| I | 2 | A | 1. 9001 K, SK, KX control stations with restrictions [107] [108] |
| | | | 2. Intrinsically Safe System |
| I | 2 | B, C, D | 1. 9001 BR station |
| | | | 2. 9001 K, SK, KX control stations with restrictions [107] [108] |
| | | | 3. Intrinsically Safe System |
| II | 1 | E, F, G | 1. 9001 BR station |
| | | | 2. Intrinsically Safe System |
| II | 2 | E, F | 1. 9001 BR station |
| | | | 2. 9001 K, SK, KX control stations with restrictions [107] [108] |
| | | | 3. Intrinsically Safe System |
| II | 2 | G | 1. 9001 BR station |
| | | | 2. 9001 K, SK, KX control stations with restrictions [109] [108] |
| | | | 3. Intrinsically Safe System |
| III | 1, 2 | — | 1. 9001 BR Station |
| | | | 2. 9001 K, SK, KX control stations with restrictions [109] [108] |
| | | | 3. Intrinsically Safe System |

Hermetically Sealed Logic Reed Contact Blocks

Table 19.171: Hermetically Sealed Logic Reed Contact Blocks [110] [111]

Suitable for use on low energy level circuits



| Description | Symbol | Type [112] |
|---|--------|------------|
| 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 : <ul style="list-style-type: none"> 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. | | KA41 |
| | | KA42 |
| | | KA43 |
| | | KA44 |
| | | KA45 |

| Max. Vac/Vdc | Maximum Load | | |
|--------------|--------------|-----------|------------|
| | Resistive | Inductive | Continuous |
| 32/30 | .25 A | .10 A | .5 A |
| 120/100 | 8 VA | 3 VA | .5 A |

Hermetically Sealed Power Reed Contact Blocks

Table 19.172: Hermetically Sealed Power Reed Contact Blocks [110] [111] [113]



| Description | Symbol | Type [112] |
|---|--------|------------|
| 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 : <ul style="list-style-type: none"> 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. | | KA51 |
| | | KA52 |
| | | KA53 |
| | | KA54 |
| | | KA55 |

| Volts | Make | | Break | | Continuous |
|---------------------------|-------|------|-------|-----|------------|
| | A | VA | A | VA | |
| AC NEMA C300 [114] | | | | | |
| 120 | 10.00 | 1200 | 1.000 | 120 | 3.0 |
| 240 | 5.00 | | .500 | | |
| DC NEMA Q150 [115] | | | | | |
| 115 | .50 | 58 | .50 | 58 | 3.0 |

[107] Any Class 9001 Type K, SK or KX operator can be used in an area classified as Class I, Division 2 hazardous locations, if:

- Only logic (KA40 series) or power (KA50 series) reed contact blocks are used.
- All Type K and SK illuminated operators are UL approved for use in Class I Division 2 areas. (Add Form Y243 to single lamp Push-To-Test pilot lights.)
- Type KX illuminated operators do not use 4 lamp light modules, or 2 lamp light modules other than the transformer type. (Add Form Y243 to single lamp Push-To-Test pilot lights.)
- The operators are mounted in any NEMA 4 & 13 enclosures.

[108] UL Listed: File E10054(N), CCN NOIV.

[109] 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.

[110] Not for use in pendant stations.

[111] When ordering, add prefix 9001 to the catalog number.

[112] All contact blocks listed below accept #12–18 solid or stranded wire.

[113] 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.

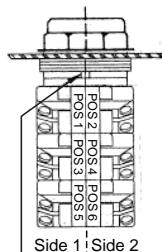
[114] Inductive Rating—35% Power Factor.

[115] Inductive and Resistive Ratings

Type K, SK, and KX Contact Block "H" Numbers

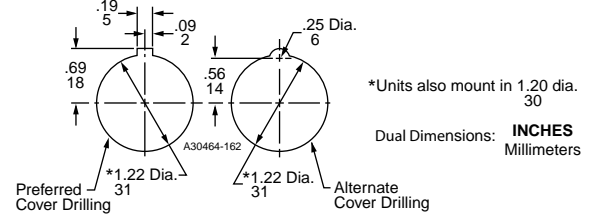
The design of Class 9001 Type KA contact blocks allows them to be mounted side by side and/or in tandem. This enables you to specify an operator and a specific arrangement of contact blocks (shipped fully assembled) with a single Type number.

Table 19.173: "H" Codes

| | Suffix No. (Add to Operator Type) | Positions | | | | | |
|---|--------------------------------------|-----------|-----|-----|-----|-----|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 |
|  <p>Example: A Type KR1B push button with 2 Type KA1 contact blocks would be Class 9001 Type KR1BH2.</p> | H1 | KA1 | | | | | |
| | H2 | KA1 | KA1 | | | | |
| | H3 | KA1 | KA1 | KA1 | KA1 | | |
| | H4 | KA1 | KA1 | | | | |
| | H5 | KA2 | | | | | |
| | H6 | KA3 | | | | | |
| | H7 | KA2 | KA2 | | | | |
| | H8 | KA3 | KA3 | | | | |
| | H9 | KA4 | KA1 | | | | |
| | H10 | KA4 | KA5 | | | | |
| | H11 | KA1 | KA1 | | KA1 | | |
| | H12 | KA2 | KA3 | KA2 | KA3 | | |
| | H13 | | KA1 | | | | |
| | H14 | | KA3 | | | | |
| | H15 | KA2 | KA3 | KA2 | KA3 | | |
| | H16 | KA2 | KA3 | | | | |
| | H17 | KA1 | KA1 | KA2 | | | |
| | H18 | KA1 | KA1 | KA2 | | | |
| | H19 | KA1 | KA1 | KA3 | | KA3 | |
| | H21 | KA2 | KA3 | KA1 | KA1 | KA1 | |
| H23 | KA1 | KA1 | KA1 | KA1 | KA1 | KA1 | |
| H24 | KA1 | KA2 | | | | | |
| H25 | KA5 | KA3 | | | | | |

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

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



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 1 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).

Table 19.174: Dimensions When Using Contact Blocks

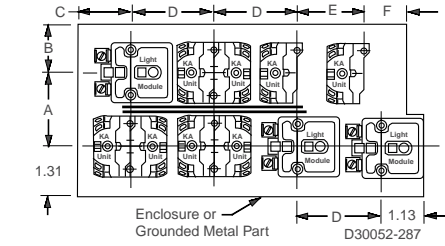
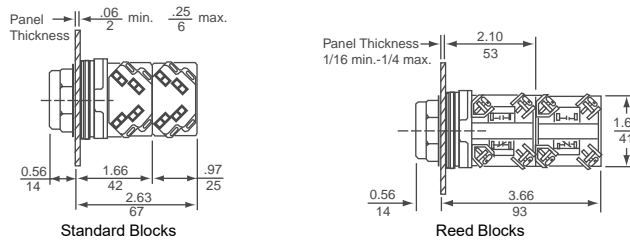


Table 19.175: Basic Operators (Without Color Caps, Mushroom Buttons, Knobs, Selector Switch Cams, Contact Blocks, Light Modules, or Legend Plates)

| Description | For UL Types/NEMA | |
|---|------------------------|------------------|
| | 1, 3R, 4, 12, 13 [116] | 4, 4X, 13 [116] |
| Non-Illuminated Push Button (Extended Guard) | KR2 | SKR2 |
| Non-Illuminated Push Button (No Guard) | KR3 | SKR3 |
| Non-Illuminated Push Button (Mushroom Button/Screw-On) | KR20 | SKR20 |
| Non-Illuminated Dual Push Button (Momentary) | KR6 | — |
| Non-Illuminated Dual Push Button (Momentary Interlocked) | KR67 | — |
| Non-Illuminated Dual Push Button (Maintained Interlocked) | KR7 | — |
| Momentary Pull—Maintained Neutral—Momentary Push | KR8 [117] [118] | SKR8 [117] |
| Maintained Pull—Maintained Push | KR9 [117] [118] | SKR9 [117] |
| Illuminated Push Button (Full Guard—Plastic Top) | K1L [119] | SK1L [119] |
| Illuminated Push Button and Push-To-Test (No Guard) | K2L [119] [120] | SK2L [119] [120] |
| Illuminated Push Button (Full Guard—Metal Top) | K3L [119] | — |
| Standard Pilot Light | KP | SKP |
| 3 Position Maintained Selector Switch | KS4 [117] | SKS4 [117] |
| 3 Position Spring Return Both Sides To Center—Selector Switch | KS5 [117] | SKS5 [117] |
| 3 Position Spring Return Left To Center—Selector Switch | KS6 [117] | SKS6 [117] |
| 3 Position Spring Return Right To Center—Selector Switch | KS7 [117] | SKS7 [117] |

Table 19.176: 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 |
| | 1.375 in. Dia. Mushroom | 1.75 | 1.31 | 1.44 | 2.25 | 1.69 | 0.88 |
| KN5 | 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 |
| KN3 | 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 |
| KN4 | 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 |
| KN6 | 2.25 in. Dia. Mushroom | 2.38 | 1.62 | 1.44 | 2.25 | 2.25 | 1.12 |
| | Selector Switch Knobs | 2.38 | 1.62 | 1.44 | 2.25 | 2.25 | 1.12 |
| Legend Plate Orientation Position #2 | | | | | | | |
| KN2 | Standard Push Button | 1.62 | 1.31 | 1.44 | 2.25 | 1.75 | 0.88 |
| | 1.375 in. Dia. Mushroom | 1.62 | 1.31 | 1.44 | 2.25 | 1.75 | 0.88 |
| KN5 | 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 |
| KN3 | 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 |
| KN4 | 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 |
| KN6 | 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 |

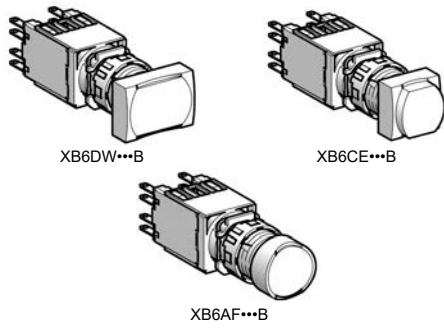
[116] When ordering, add prefix 9001 to the catalog number.

[117] Operator can be converted to an illuminated operator by removing the liner (6512240601) and adding a light module.

[118] 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. For 2-1/4 in.: Add () 21 to type number. The () refers to the color chosen. Voids UL and NEMA 6 Rating.

[119] Operator can be converted to a non-illuminated operator by adding liner (6512240601).

[120] Operator includes jumper wires for push-to-test conversion.



XB6 Complete Devices

**Table 19.177: Illuminated Push Buttons (12–24 Vac/Vdc LED included)
Complete Units with Quick Connectors/Solder Tabs**

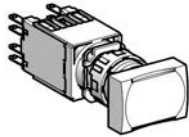
| Type of Operator | Type of Contact | | Color | Rectangular | Square | Round |
|-------------------------|-----------------|------|-----------|----------------|-----------|-----------|
| | N.O. | N.C. | | Catalog Number | | |
| Flush, spring return | 1 | — | White | XB6DW1B1B | XB6CW1B1B | XB6AW1B1B |
| | | | Green | XB6DW3B1B | XB6CW3B1B | XB6AW3B1B |
| | — | 1 | Red | XB6DW4B2B | XB6CW4B2B | XB6AW4B2B |
| | | | White | XB6DW1B5B | XB6CW1B5B | XB6AW1B5B |
| | 1 | 1 | Green | XB6DW3B5B | XB6CW3B5B | XB6AW3B5B |
| | | | Red | XB6DW4B5B | — | XB6AW4B5B |
| | | | Yellow | XB6DW5B5B | XB6CW5B5B | — |
| | | | Blue | XB6DW6B5B | — | XB6AW6B5B |
| | | | Green | XB6DF3B1B | XB6CF3B1B | XB6AF3B1B |
| | | | Yellow | XB6DF5B1B | — | — |
| | 1 | 1 | White | XB6DF1B5B | XB6CF1B5B | XB6AF1B5B |
| | | | Green | XB6DF3B5B | XB6CF3B5B | XB6AF3B5B |
| Red | | | XB6DF4B5B | — | — | |
| White | | | — | XB6CE1B1B | — | |
| Extended, spring return | 1 | — | Green | — | — | XB6AE3B1B |
| | | | Green | — | — | XB6AE3B5B |



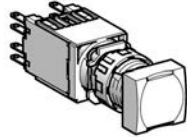
XB6AV**B

Table 19.178: Pilot Lights (120 Vac LED)
Complete Units with Quick Connectors/Solder Tabs

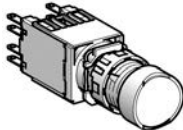
| Color | Rectangular | Square | Round |
|--------|----------------|--------|----------|
| | Catalog Number | | |
| Green | — | — | XB6AV3GB |
| Red | — | — | XB6AV4GB |
| Yellow | — | — | XB6AV5GB |



XB6DA**B



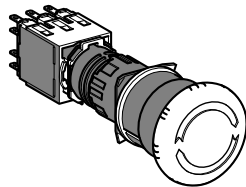
XB6CA**B



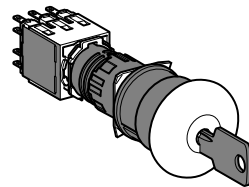
XB6AA**B

Table 19.179: Push Buttons (Non-Illuminated)
Complete Units with Quick Connectors/Solder Tabs

| Type of Push | Type of Contact | | Color | Rectangular | Square | Round |
|----------------------|-----------------|------|-------|----------------|----------|----------|
| | N.O. | N.C. | | Catalog Number | | |
| Flush, spring return | 1 | — | White | XB6DA11B | XB6CA11B | — |
| | | | Black | — | XB6CA21B | XB6AA21B |
| | | | Green | XB6DA31B | — | XB6AA31B |
| | | | Blue | XB6DA61B | — | — |
| | — | 1 | Black | XB6DA22B | — | — |
| | | | Black | — | XB6CA25B | XB6AA25B |
| | | | Green | XB6DA35B | — | XB6AA35B |
| | | | Red | XB6DA45B | XB6CA45B | — |



XB6AS8345B



XB6AS9345B

Table 19.180: Trigger Action Emergency Stop Mushroom Head Push Buttons (Color Red) [1]

| Shape of Head | Type of Push | Type of Contact | | Diameter of Head (mm) | Catalog Number |
|---------------|-----------------|-----------------|------|-----------------------|----------------|
| | | N.O. | N.C. | | |
| ● | Turn-to-release | — | 1 | 30 | XB6AS8342B |
| | | 1 | 1 | 30 | XB6AS8345B |
| ⊕ | Key release | — | 1 | 30 | — |
| | | 1 | 1 | 30 | — |

[1] Complies with ISO 13850 standards for Emergency Stop push buttons when used with circular Legend Plate ZB6Y7330.

Class 9003
Type K 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 | 1 to 6-pole | 1 to 6-pole | | | | |
| | Stepping switches | 2 to 12-position, 1 to 4-pole | — | | | | |
| | Changeover switches | 1 to 5-pole | 1 to 4-pole | | | | |
| | Measurement switches | Voltmeter and ammeter | — | | | | |
| | Reversing switches | 2 and 3-pole | 2 and 3-pole | | | | |
| | Reversing star-delta switches | Star-delta | Star-delta | | | | |
| | Pole change switches | 2 and 3-speed | 2-speed | | | | |
| Conventional rated thermal current (Ith) | | 20 A | 32 A | 50 A | 63 A | 115 A | 150 A |
| Electrical operating characteristics | | 690 V | 690 V | 690 V | 690 V | 690 V | 690 V |
| | | AC-3 - 3-phase | AC-3 - 3-phase | AC-3 - 3-phase | AC-3 - 3-phase | AC-3 - 3-phase | AC-3 - 3-phase |
| | | 230 V - 2.2 kW - 8.3 A | 230 V - 5.5 kW | 230 V - 7.5 kW | 230 V - kW | 230 V - 5 kW | 230 V - 22 kW |
| | | AC - 15 | AC - 15 | AC - 15 | — | — | — |
| | | 230 V - 4 A | 230 V - 14 A | 230 V - 6 A | — | — | — |
| Front plate degree of protection | | IP 40 IP 65 (with seal) | IP 40 | | | | |
| Product Composition | | Complete switches and custom Adaptable sub-assemblies | Complete switches | | | | |
| Compatibility | | Ø 22 control 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) | 64 x 64 | | | 88 x 88 | |
| Operating heads | | Black and red standard and long handles | Black standard handle Metallic legend, black marking | | | | |
| | | Key operator | | | | | |
| | | Metallic head | | | | | |
| | | Metallic legend with black marking or black legend with white marking | | | | | |
| | | UL-CSA | | | | | |
| Approvals | | EN/IEC 60947-3 EN/IEC 60947-5-1 | cULus EN/IEC 60947-3 | | | | |
| Type | | Type K2 | Type K30–K150 | | | | |
| Cam switch model [1] | | Class 9003, K2 | K30 | K50 | K63 | K115 | K150 |

[1] Incomplete part numbers. Contact your local supplier for assistance.

Instructions for 9003K2 Key Sheet

The Key Sheet for ordering a 9003K2 cam switch is on [page 19-70](#), and an example of a completed key sheet is on [page 19-71](#). The instructions below are for filling out the key sheet on [page 19-70](#).

1. Select the box for K2 (20 A).
2. Identify the Product quantity in the box provided.
3. Verify front mounting by selecting the box: Front Mounting.
4. If ordering a base/contact block only, select 22 mm plastic or 22 mm metal mounting. Then complete the following:
 - a. ③ Switching Angle (positions)
 - b. ④ Contact scheme and jumpers (pre-wired)
5. If ordering a complete switch (base/contact block, head, legend), check the box. Then complete the following:
 - a. ① Operating head preference
 - b. ② Legend preference
 - c. ③ Switching angle (positions)
 - d. ④ Contact scheme and jumpers (pre-wired)
6. Operating head preference ① (identify the operating head preferred)
7. Legend preference ② (identify the legend preference)
8. Switching angle (positions) ③ and special legend marking
 - a. Identify whether the switch need is 30° or 60°, or 45° or 90° switching angle.
 - b. Fill in the legend markings desired at the positions indicated. Zero degrees is always straight up.
9. The rotation of the operator stops clockwise at the top or 0° position. If full rotation through 360° is desired, the Full rotation through 360° box must be checked.
10. Contact scheme and jumpers (pre-wired) ④
 - a. If jumpers are desired to be pre-wired, draw a horizontal line between the terminals to be jumpered per the example on [page 19-71](#).
 - b. Refer to the Legend at the bottom of [page 19-70](#) for contact sequences, i.e.: X indicates contact closure. See [page 19-71](#) for examples of filling in this portion of the key sheet.

9003K2 Cam Switch Order Form

Order No. _____ **Date :** _____

Agency: _____
Branch: _____
Customer: _____
Address: _____

9003K2 (20 A):

Product quantity: **Front mounting**

Base/contact block only (no operating head):

Ø 22 plastic: Ø 22 metal:

Complete: ① ② ③ ④

Complete switch (base/contact block, head, legend)

Complete: ① ② ③ ④

For 22 mm plastic mounting:

① Operating head reference: **9003K**

② Legend reference: **9003KZ.....**

or for mounting with metal base:

① Operating head reference: **KAX Z.....**

② Legend reference: **XBCY**

Special legend marking:

As per diagram on left: As per form: **FAX**

Accessories / comments:

Delivery instructions: _____

Product reference:
Type : **K.....**

③ **Switching angle (positions)**
30° or 60° 45° or 90°

Full rotation through 360°:

④ **Contact scheme and jumpers (pre-wired):**

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

| * x | / | 1 | 3 | 5 | 7 | 9 | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | 37 | 39 | | | | | | | | | | | | | | | | | |
|-----|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | | | | | | | | | | | | | | | | | |
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(x) Key withdrawal position for key operators; by default, withdrawal in all positions.

Conditions for provision of spring return function:

R, Spring return to 30° from 0° position or to last position after a 90° angle (for maximum of 3 contacts simultaneously)

| | | | | | |
|---|--|--|---|---|--|
| <input checked="" type="checkbox"/> Contact closed in 1 position. | <input checked="" type="checkbox"/> Contact closed with break between the 2 positions (for angle >= 45°) | <input checked="" type="checkbox"/> Contact closed and maintained between several successive positions | <input checked="" type="checkbox"/> Contact closed and maintained between two positions | <input checked="" type="checkbox"/> Overlap of two contacts between two positions | <input checked="" type="checkbox"/> Contact overlapping on previous and next positions |
|---|--|--|---|---|--|

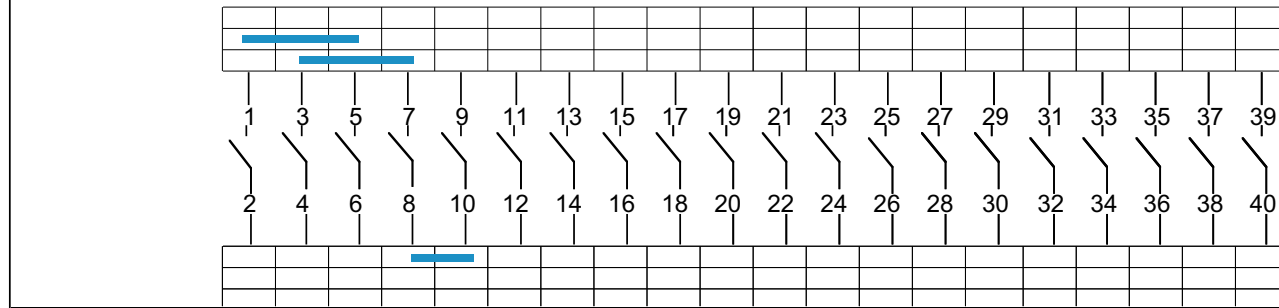
Check the box to confirm selection Fill in with text

19 PUSH BUTTONS AND OPERATOR INTERFACE

9003K2 Cam Switch Order Form—Example

| | |
|---|---|
| <p>Order No. _____ Date : _____</p> <p>Agency: _____ Branch: _____ Customer: _____ Address: _____</p> <p>Delivery instructions: _____</p> <p>Product reference: Type : K.....</p> <p>③ Switching angle (positions) 30° or 60° 45° or 90°</p> <div style="text-align: center;"> </div> <p>Full rotation through 360°: <input type="checkbox"/></p> | <p style="text-align: right;">9003K2 (20 A): <input checked="" type="checkbox"/></p> <p>Product quantity: <input style="width: 20px; text-align: center;" type="text" value="1"/> Front mounting <input checked="" type="checkbox"/></p> <p>Base/contact block only (no operating head): ∅ 22 plastic: <input type="checkbox"/> ∅ 22 metal: <input type="checkbox"/> Complete: ③ ④</p> <p>Complete switch (base/contact block, head, legend) <input checked="" type="checkbox"/> Complete: ① ② ③ ④ For 22 mm plastic mounting: _____</p> <p>① Operating head reference: <input type="text" value="9003KAC1B"/> ② Legend reference: <input type="text" value="9003KZ18"/> or for mounting with metal base: _____</p> <p>① Operating head reference: <input type="text" value="KAX Z....."/> ② Legend reference: <input type="text" value="XBC Y....."/> Special legend marking: As per diagram on left: <input type="checkbox"/> As per form: <input type="checkbox"/> FAX</p> <p>Accessories / comments: KZ 36.....</p> |
|---|---|

④ Contact scheme and jumpers (pre-wired):



| *: | x | Angle | Contact Points | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------|---|-------|----------------|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| | | | 1 | 3 | 5 | 7 | 9 | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | 37 | 39 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 |
| A | | 330° | | x | | x | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | | 0° | | x | | | | x | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | | 30° | | | | x | | | x | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | 60° | x | | | x | | x | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

↑ (x) Key withdrawal position for key operators; by default, withdrawal in all positions.

Conditions for provision of spring return function:
R, Spring return to 30° from 0° position or to last position after a 90° angle (for maximum of 3 contacts simultaneously)

| | | | | | |
|---|--|--|---|---|--|
| <input checked="" type="checkbox"/> Contact closed in 1 position. | <input checked="" type="checkbox"/> Contact closed with break between the 2 positions (for angle >= 45°) | <input checked="" type="checkbox"/> Contact closed and maintained between several successive positions | <input checked="" type="checkbox"/> Contact closed and maintained between two positions | <input checked="" type="checkbox"/> Overlap of two contacts between two positions | <input checked="" type="checkbox"/> Contact overlapping on previous and next positions |
|---|--|--|---|---|--|

Check the box to confirm selection Fill in with text

XAL Control Stations, Enclosures, and Accessories

Table 19.181: Start or Stop Function Polycarbonate; Light gray base, RAL7035; Dark gray lid, RAL7016



| Description | Type of Push | Type of Contact | | Marking | Catalog Number |
|--|--------------|-----------------|------|--------------------|----------------|
| | | N.O. | N.C. | | |
| Marking on Legend Holder | | | | | |
| 1 momentary push button | Flush black | 1 | — | Start | XALD101H29H7 |
| | Flush red | — | 1 | Stop | XALD111H29H7 |
| Marking on Legend Holder | | | | | |
| 1 mushroom head push button Ø 40 mm, momentary | Red | — | 1 | Stop on red legend | XALD164H29H7 |

Table 19.182: Trigger Action Emergency Stop Polycarbonate; Light gray base, RAL7035; Yellow lid, RAL1012



| Description | Type | Type of Contact | | Catalog Number |
|--|--------------------|-----------------|------|----------------|
| | | N.O. | N.C. | |
| 1 mushroom head push button Ø 40 mm, red Turn-to-release | Trigger action [1] | — | 1 | XALK178H7 |
| 1 mushroom head push button Ø 40 mm, red Key release (Key No. 455) | Trigger action [1] | — | 1 | XALK188H7 |
| 1 mushroom head push button Ø 40 mm, red Push-pull | Trigger action [2] | — | 1 | XALK198H7 |

Table 19.183: Start-Stop Function Polycarbonate; Light gray base, RAL7035; Dark gray lid, RAL7016



| Description | Type of Push | Type of Contact | | Text | Catalog Number |
|--------------------------|--------------------------------|-----------------|--------|--------------------|----------------|
| | | N.O. | N.C. | | |
| 2 momentary push buttons | 1 flush black 1 flush red | 1 — | — 1 | Start Stop | XALD211H29H7 |
| | 1 flush black 1 flush black | 1 1 | — — | Forward Reverse | XALD251H29H7 |

Table 19.184: Three Function Polycarbonate; Light gray base, RAL7035; Dark gray lid, RAL7016

| Description | Type of Push | Type of Contact | | Text | Catalog Number |
|--|---|-----------------|------|--------------|----------------|
| | | N.O. | N.C. | | |
| 3 momentary push buttons (no markings) | 1 flush black 1 flush red 1 flush black | 1 | — | Open | XALD351H29H7 |
| | | — | 1 | Stop | |
| | | 1 | — | Close | |
| | | 1 | — | Forward | XALD311H29H7 |
| | | — | 1 | Reverse | |
| | | 1 | — | Reverse | |
| | | 1 | — | Up | XALD321H29H7 |
| | | — | 1 | Stop Down | |

Table 19.185: Empty Enclosures [3]



| Description | Number of Holes | Catalog Number |
|---|-----------------|----------------|
| For normal environments, CSA approved and UL Listed (with stainless steel lid mounting screws) | | |
| Light gray base RAL7035 Dark gray lid RAL7016 | 1 | XALD01H7 |
| | 2 | XALD02H7 |
| | 3 | XALD03H7 |
| | 4 | XALD04H7 |
| | 5 | XALD05H7 |
| Light gray base RAL7035 Yellow lid RAL1012 | 1 | XALK01H7 |

[1] Emergency Stop (EN / IEC 13850)
 [2] Emergency Off (IEC 60364-5-53)
 [3] For customer assembly using XB5 operators and standard screw-terminal contact blocks, see XB5 Non-Illuminated Operators, page 19-28.
 Either mounting method can be used: contact block ZENL mounting on metal plate, or contact block ZBE mounting on operator with mounting collar.

XAP Enclosures and Accessories

Table 19.186: Undrilled Enclosures, Glass-Reinforced Polyester



XAPA1100



XAPA1104

| Type | | H x W Dimensions | | Catalog Number |
|---|----------------|------------------|-----------|----------------|
| | | IN | mm | |
| NEMA 4, 4X, 13 Usable depth 3.27 in. (83 mm) | Without hinges | 3.34 x 5.75 | 85 x 146 | XAPA1100 |
| | | 3.34 x 8.90 | 85 x 226 | XAPA2100 |
| | | 5.95 x 9.49 | 151 x 241 | XAPA3100 |

Table 19.187: Drilled Insulated Enclosures, Glass-Reinforced Polyester [4]

| Type | Number of Knockouts 22 mm | Number of Rows | | H x W Dimensions | | Catalog Number |
|--|---------------------------|----------------|------------|------------------|-----------|----------------|
| | | Vertical | Horizontal | IN | mm | |
| NEMA 4, 4X, 13 Usable depth 3.27 in. (83 mm) 1.58 in. (40 mm) centerline spacing of holes | 1 | 1 | 1 | 3.35 X 5.75 | 85 X 146 | XAPA1110 |
| | 2 | 1 | 2 | 3.35 X 5.75 | 85 X 146 | XAPA1120 |
| | 4 | 2 | 2 | 3.35 X 5.75 | 85 X 146 | XAPA1104 |
| | 8 | 2 | 4 | 3.35 X 8.90 | 85 X 226 | XAPA2108 |
| | 16 | 4 | 4 | 5.94 X 9.49 | 151 X 241 | XAPA3116 |

Table 19.188: Drilled Die Cast Enclosures (Painted Gray RAL7032) [5]

| | Type | Material | Usable Depth | | Number of 22 mm holes | H x W x D Dimensions | | Catalog Number | | |
|------------------|---|----------|--------------|---------------------|-----------------------|----------------------|--------------------|--------------------|---------------|-----------|
| | | | IN | mm | | IN | mm | | | |
| <p>XAPG29703</p> | 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 | | |
| | | | | | 3 | 5.12 x 3.15 x 2.03 | 130 x 80 x 51.5 | XAPG29703 | | |
| | | | | | 4 | 6.90 x 3.15 x 2.03 | 175 x 80 x 51.5 | XAPG39704 | | |
| | | | | | 2.93 | 74.5 | 4 | 6.90 x 3.15 x 3.03 | 175 x 80 x 77 | XAPG39804 |
| | | | | | 1 | | 3.15 x 3.15 x 2.03 | 80 x 80 x 51.5 | XAPG19201 | |
| | NEMA 4, 13 1.58 in. (40 mm) centerline spacing of holes for vertical mount | Zinc | 1.93 | 1.93 | 2 | 5.12 x 3.15 x 2.03 | 130 x 80 x 51.5 | XAPG29202 | | |
| | | | | | 3 | 6.90 x 3.15 x 2.03 | 175 x 80 x 51.5 | XAPG39203 | | |
| | | | | | 2.93 | 74.5 | 1 | 3.15 x 3.15 x 3.03 | 80 x 80 x 77 | XAPG19501 |
| | | | | | 2 | | 5.12 x 3.15 x 3.03 | 130 x 80 x 77 | XAPG29502 | |
| | | | | | 3 | | 6.90 x 3.15 x 3.03 | 175 x 80 x 77 | XAPG39503 | |
| Aluminum | 2.93 | 74.5 | 4 | 8.66 x 3.15 x 3.03 | 220 x 80 x 77 | XAPG49504 | | | | |
| | | | 5 | 12.20 x 3.35 x 3.03 | 310 x 85 x 77 | XAPG59505 | | | | |



XAPE302



XAPE303

Table 19.189: Drilled Flush Plates [5]

| Type | Material | Number of 22 mm holes | H x W x D Dimensions | | Catalog Number |
|--|-------------------|-----------------------|----------------------|----------|----------------|
| | | | 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 |
| | | 2 | 4.13 x 2.83 | 105 x 72 | XAPE302 |
| | | 3 | 5.43 x 2.83 | 138 x 72 | XAPE303 |
| | | 4 | 6.73 x 2.83 | 171 x 72 | XAPE304 |
| | | 5 | 8.03 x 2.83 | 204 x 72 | XAPE305 |

Table 19.190: Optional Back Box (for finger protection, if required)

| Type | Material | For Use With | Catalog Number |
|------------------------|-----------------------|---------------------|----------------|
| Protective rear covers | Insulating Fiberglass | Flush plate XAPE301 | XAPE901 |
| | | Flush plate XAPE302 | XAPE902 |
| | | Flush plate XAPE303 | XAPE903 |
| | | Flush plate XAPE304 | XAPE904 |
| | | Flush plate XAPE305 | XAPE905 |

[4] Uses standard XB5 products such as XB5 Complete Devices, page 19-25. Do not use ZENL style contact blocks.

[5] Can use either XB4 or XB5 products.

9001B Standard Duty Control Stations

Table 19.191: Control Stations



| No. of Buttons | Nameplate Markings and Features | Contact Symbol [6] | Surface Mounting NEMA1 | Stainless Steel Flush Plate [7] | Watertight and Dusttight NEMA4 | For Hazardous Locations NEMA 7 & 9 [8] |
|--|---|----------------------|------------------------|---------------------------------|--------------------------------|--|
| | | | Type [9] | Type [9] | Type [9] | Type [9] |
| | Stop (Mushroom Button) | 3 | — | — | BW151 | BR103 |
| | Stop (Lockout) | 3 | — | — | BW148 | BR104 |
| | Off-On (Selector Switch) | 19 | BG111 | — | — | — |
| | Hand-Off-Auto (Selector Switch) | 17 | BG112 | — | — | — |
| 2 | Start-Stop | 145 | BG201 | BF201 | BW240 | BR204 |
| | Start-Stop (Mushroom on Stop) | 145 | BG203 | — | BW250 | — |
| | Start-Stop (Lockout on Stop) | 145 | BG204 | — | BW241 | BR204 |
| | Forward-Reverse | 146 | BG206 | — | BW242 | — |
| | Open-Close | 146 | BG207 | — | BW244 | — |
| | Up-Down | 146 | BG208 | — | BW243 | BR208 |
| | Raise-Lower | 146 | BG209 | — | — | — |
| | On-Off | 145 | — | — | BW245 | — |
| | On-Off | 146 | — | BF211 | — | — |
| | Universal (w/o legend inserts) | 25 | BG214 | — | BW260 | — |
| | Start-Stop (Maintained Contact) | 10 | BG215 | — | BW255 | — |
| | On -Off (Maintained Contact) | 10 | — | — | BW256 | BR216 |
| | Universal (Maintained contact w/o legend inserts) | 10 | — | — | — | BR218 |
| | | Forward-Reverse-Stop | 109 | BG302 | — | — |
| Opn-Close-Stop | | 109 | BG303 | — | — | — |
| Up-Down-Stop | | 109 | BG305 | — | — | — |
| Start-Jog-Stop | | 109 | BG316 | — | — | — |
| Universal (w/o legend inserts) | | 8 | BG307 | — | — | — |
| Start-Stop, Red Pilot Light: 120Vac/dc | | 145 & 121 | BG308 | — | — | — |

For Replacement Interiors, see Replacement Interiors for Type B Standard Duty Push Button Stations, page 19-75.

For Ratings, see Electrical Contact Ratings, page 19-75.

[6] See Replacement Parts for Type B Standard Duty Control Stations, page 19-75.
 [7] Uses standard 2.0 or 2.13 in. deep wall boxes, single gang for Types BF1 and BF2, two gang for Type BF3
 [8] 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
 [9] When ordering, add prefix 9001 to the catalog number.

Replacement Parts for Type B Standard Duty Control Stations

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.

Table 19.192: Mounting Bracket

| Description | Catalog Number |
|---|----------------|
| C-Shaped Mounting Bracket for 9001BR Interior | 3110112001 |



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



Type BGB214

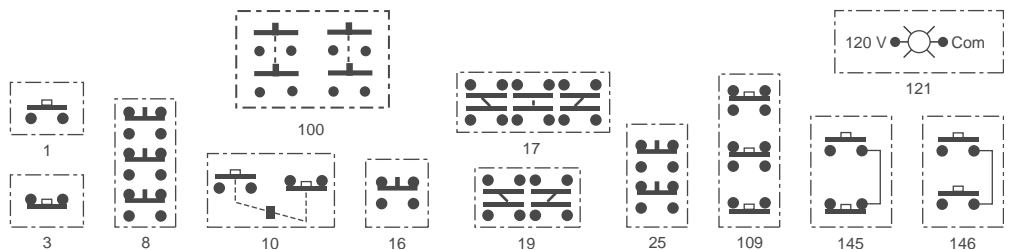


BOC361

Table 19.193: Electrical Contact Ratings [10]

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





Contact Symbols



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

9001KY and 9001SKY Control Stations

Table 19.194: Empty Enclosures (for Customer Assembly) [11]

| | 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 | UL Types 1, 3, 4 and 13/ NEMA 1, 3, 4 and 13 |
|-------------|---|---|--|---|
| |  |  |  |  |
| No of Holes | Sheet Steel Type | Die Cast Zinc Type | Stainless Steel (304) Type | Polymeric (Plastic) Type |
| 1 | KYAF1 | KY1 | KYSS1 | SKY1 |
| 2 | KYAF2 | KY2 [12] | KYSS2 | SKY2 |
| 3 | KYAF3 | KY3 [12] | KYSS3 | SKY3 |
| 4 | KYAF4 | KY4 [12] | KYSS4 | SKY4 |
| 6 | KYAF6 | KY6 | KYSS6 | — |

NOTE: See Assembled Control Stations , page 19-76

Table 19.195: Guarded Enclosures



KYG1Y
(mushroom head not included)

| No of Holes | UL Types 1, 3, 4 and 13/ NEMA 1, 3, 4 and 13 | | |
|-------------|---|----------------------------|------------|
| | Cover Color | Die Cast Zinc Box Color | Type |
| 1 | Gray | Gray | KYG1 [13] |
| 1 | Yellow | Gray | KYG1Y [13] |

NOTE: See Assembled Control Stations , page 19-76

Table 19.196: Stainless Steel (302) NEMA 1 Flush Plates [14]



K26

| No of Holes | Description | Type |
|-------------|---|------|
| 1 | 1 Hole flush plate, cover screws, insulating liners | K25 |
| 2 | 2 Hole flush plate, cover screws, insulating liners | K26 |
| 3 | 3 Hole flush plate, cover screws, insulating liners | K27 |
| 4 | 4 Hole flush plate, cover screws, insulating liners | K28 |

Assembled 9001KY/SKY Control Stations

Table 19.197: Assembled Control Stations

| | No of Holes | Operator Style and Features | Type | 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 [15] | | | | | |
|  | 1 | Selector Switch (3 Pos Maintained) | — | KY1 | KS43B | KA1 | Hand-Off-Auto |
| | | Selector Switch (2 Pos Maintained) | — | KY1 | KS11B | KA1 | Off-On |
| | | Push Button (Momentary) | KYK11 | KY1 | KR1B | KA1 | Start |
| | | Push Button (Momentary) | — | KY1 | KR1R | KA1 | Stop |
| | | Mushroom Button (Momentary) | KYK14 | KY1 | KR4R | KA1 | Stop |
| | | Push Button (with Lockout) | — | KY1 | KR3R, K4 | KA1 | Stop |
| | | Break Glass Operator | KYK116 | KY1 | K15 | KA1 | To Stop—Break Glass |
| | | Break Glass Operator (Red Enclosure) | KYK117 | KY1S1 | K15 | KA1 | To Stop—Break Glass |
| | 2 | 2 Push Buttons (Lockout on Stop) | — | KY2 | KR1B, KR3R, K4 | KA1, KA1 | Jog-Stop |
| | | 2 Push Buttons | KYK218 | KY2 | KR1B, KR3R | KA1, KA1 | On-Off |
| | | 2 Push Buttons | KYK26 | KY2 | KR1B, KR1B | KA1, KA1 | Open-Close |
| | | 2 Push Buttons | KYK25 | KY2 | KR1B, KR1B | KA1, KA1 | Up-Down |
| | | 2 Push Buttons | KYK21 | KY2 | KR1B, KR3R | KA1, KA1 | Start-Stop |
| | | 2 Push Buttons (with Sealed Contacts) [16] | — | KY2 | KR1B, KR3R | KA51, KA51 | Start-Stop |
| | | 2 Push Buttons (Lockout on Stop) | KYK23 | KY2 | KR1B, KR3R, K4 | KA1, KA1 | Start-Stop |
| 2 Push Buttons (Maintained/Interlocked) | KYK27 | KY2 | KR11GR | KA1 | Start-Stop | | |
| | | 1 Push Button, 1 Mushroom Button | — | KY2 | KR1B, KR4R | KA1, KA1 | Start-Stop |

[11] When ordering, add prefix 9001 to the catalog number.

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

[13] Includes 1" NPT threaded conduit opening.

[14] 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.

[15] Uses 9001K metal operators and metal legend plates.

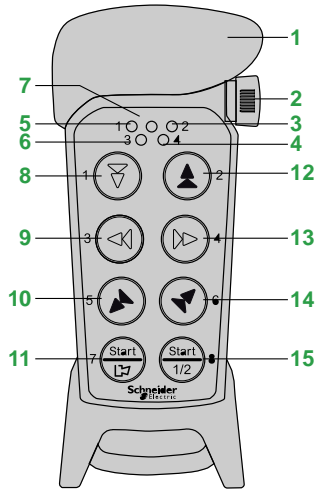
[16] Control Station consists of components that are UL listed for use in Class 1, Division 2, Groups A, B, C, or D.

Table 19.197 Assembled Control Stations (cont'd.)

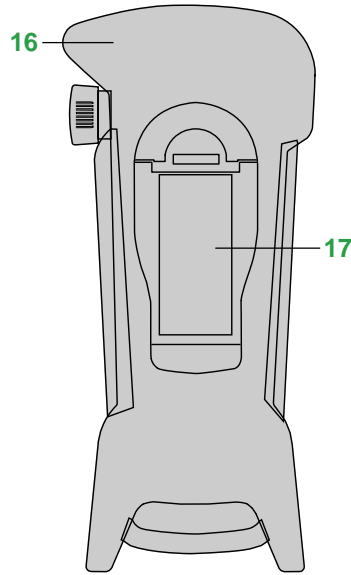
| | No of Holes | Operator Style and Features | Type | Consists of | | | Legend Plates | |
|---|---|---|--|---------------------|-----------------------|--------------------------------|------------------------|-------------|
| | | | | Enclosure | Operators | Contact Blocks | | |
|  | 3 | 3 Push Buttons | KYK31 | KY3 | KR1B, KR1B, KR3R | KA1, KA1, KA1 | Forward; Reverse; Stop | |
| | | 3 Push Buttons (Lockout on Stop) | — | KY3 | KR1B, KR1B, KR3R, K4 | KA1, KA1, KA1 | Forward; Reverse; Stop | |
| | | 3 Push Buttons (With Sealed Contacts & Lockout on Stop) [17] | — | KY3 | KR1B, KR1B, KR3R, K4 | KA51, KA51, KA51 | Forward; Reverse; Stop | |
| | | 3 Push Buttons | KYK33 | KY3 | KR1B, KR1B, KR3R | KA1, KA1, KA1 | Open; Close; Stop | |
| | | Red 120v Pilot Light, 2 Push Buttons | KYK317 | KY3 | KP1R31, KR1B, KR3R | KA2, KA3 | Start; Stop | |
| | 1 | 3 Push Buttons | KYK32 | KY3 | KR1B, KR1B, KR3R | KA1, KA1, KA1 | Up; Down; Stop | |
| | | 3 Push Buttons (Lockout on Stop) | — | 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) [18] | | | | | | |
| | | Push Button (Momentary) | KYSS101 | KYSS1 | KR1B | KA1 | Start | |
| | | Push Button (Momentary) | — | KYSS1 | KR1B | KA3 | Stop | |
| 2 | Selector Switch (2 Pos Maintained) | — | KYSS1 | KS11B | KA1 | Off-On | | |
| | Selector Switch (3 Pos Maintained) | KYSS111 | KYSS1 | KS43B | KA1 | Hand-Off-Auto | | |
| | 2 Push Buttons | KYSS201 | KYSS2 | KR1B, KR3R | KA1, KA3 | Start; Stop | | |
| | 2 Push Buttons (Lockout on Stop) | — | KYSS2 | KR1B, KR3R, K5 | KA1, KA3 | Start; Stop | | |
| | 2 Push Buttons (Maintained with Interlock) | — | KYSS2 | KR11U | KA1, KA1 | Start; Stop | | |
|  | 1 | 2 Push Buttons | — | 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) [19] | | | | | | |
| | | Push Button (Momentary) | — | KYSS1 | SKR1B | KA1 | Start | |
| | | Push Button (Momentary) | KYSK103 | KYSS1 | SKR3R | KA3 | Stop | |
| | 2 | Selector Switch (2 Pos Maintained) | — | KYSS1 | SKS11B | KA1 | Off-On | |
| | | Selector Switch (3 Pos Maintained) | KYSK111 | KYSS1 | SKS43B | KA1 | Hand-Off-Auto | |
| | | 2 Push Buttons | KYSK201 | KYSS2 | SKR1B, SKR3R | KA1, KA3 | Start; Stop | |
| | | 2 Push Buttons (Lockout on Stop) | — | KYSS2 | SKR1B, SKR3R, K5 | KA1, KA3 | Start; Stop | |
| |  | 1 | 2 Push Buttons (Maintained with Interlock) | — | KYSS2 | SKR11U | KA1, KA1 | Start; Stop |
| | | | 2 Push Buttons | — | KYSS2 | SKR1B, SKR1B | KA1, KA1 | Up; Down |
| UL Types 1, 3, 4, 4X and 13/NEMA 1, 3, 4, 4X and 13—Polymeric (Plastic) [19] | | | | | | | | |
| Selector Switch (3 Pos Maintained) | | | SKY111 | SKY1 | SKS43B | KA1 | Hand-Off-Auto | |
| 2 | | Selector Switch (2 Pos Maintained) | — | SKY1 | SKS11B | KA1 | Off-On | |
| | | Selector Switch (2 Pos Maintained with Sealed Contacts) [17] | — | SKY1 | SKS11B | KA51 | Off-On | |
| | | Push Button (with Lockout) | SKY105 | SKY1 | SKR3R, K5 | KA3 | Stop | |
| | | 2 Push Buttons | SKY201 | SKY2 | SKR1B, SKR3R | KA1, KA3 | Start-Stop | |
| | | 2 Push Buttons (Lockout on Stop) | SKY203 | SKY2 | SKR1B, SKR1R, K5 | KA1, KA3 | Start-Stop | |
| | | 2 Push Buttons (With Sealed Contacts) [17] | — | SKY2 | SKR1B, SKR3R | KA51, KA51 | Start-Stop | |
| | 2 Push Buttons (With Sealed Contacts) [17] | — | SKY2 | SKR1B, SKR3R | KA51, KA51 | On-Off | | |
| | 2 Push Buttons | — | SKY2 | SKR1B, SKR1B | KA1, KA1 | Up-Down | | |
| 3 | 3 Push Buttons | SKY302 | SKY3 | SKR1B, SKR1B, SKR3R | KA1, KA1, KA3 | Up-Down-Stop | | |
| | 3 Push Buttons | — | SKY3 | SKR1B, SKR1B, SKR3R | KA1, KA1, KA3 | Open-Close-Stop | | |
|  | 1 | Red 120v Pilot Light, 2 Push Buttons | — | 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 | — | KYG1 | KP38LRR9 | — | order separately | |
| | | Guarded Enclosure (grey) with 120V Green LED Pilot Light | — | KYG1 | KP38LGG9 | — | order separately | |
| 1 | Guarded Enclosure (Yellow Cover) with Red Push-Pull Mushroom | KYG1Y1 [20] | KYG1Y | KR9R | KA3 | Push to Stop/ Pull to Start | | |
| | Guarded Enclosure (Yellow Cover) with Red Turn-To Release Mushroom | KYG1Y2 [20] | KYG1Y | KR16 | KA3 | Emergency Stop | | |

[17] Control Station consists of components that are UL listed for use in Class 1, Division 2, Groups A, B, C, or D.
 [18] Uses 9001K metal operators and plastic legend plates.
 [19] Uses 9001SK plastic operators and plastic legend plates.
 [20] Includes 1" NPT threaded conduit opening.

Harmony® eXLhoist



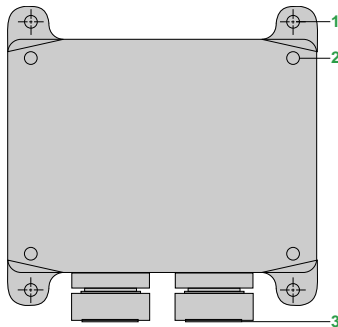
Front view of ZART8LS remote device



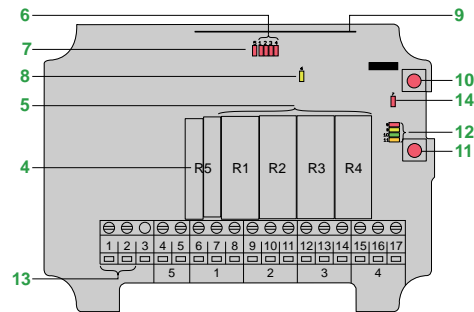
Rear view of remote device

Remote Control Device Description

| Front View | |
|------------|-----------------------------|
| 1 | Rubber cover |
| 2 | Stop button |
| 3 | LED 2 (red) |
| 4 | LED 4 (red) |
| 5 | LED 1 (red) |
| 6 | LED 3 (red) |
| 7 | Top LED (red, green) |
| 8 | Button 1 |
| 9 | Button 3 |
| 10 | Button 5 |
| 11 | Button 7-left start button |
| 12 | Button 2 |
| 13 | Button 4 |
| 14 | Button 6 |
| 15 | Button 8-right start button |
| Rear View | |
| 16 | Rubber protection cover |
| 17 | Battery pack |



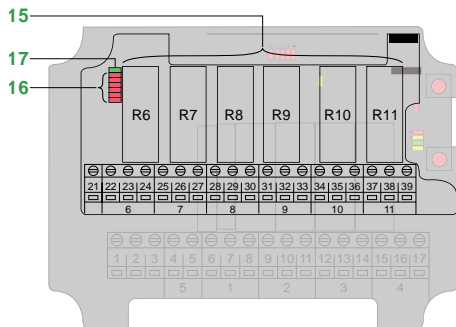
Front view of base station



Internal board view of base station

Base Station

| Front View | |
|----------------------|--|
| 1 | 4 x Ø5 mm/0.20 in. holes for standard mounting on a support |
| 2 | 4 x screws to maintain the cover of the receiver |
| 3 | 2 x cable glands for cables Ø 6...13 mm/0.25...0.50 in. |
| Internal Board View | |
| 4 | Stop relays |
| 5 | Relays R1 ...R4 |
| 6 | Relay LEDs (red) |
| 7 | Stop relay LED (red) |
| 8 | Power LED (yellow) |
| 9 | Radio module |
| 10 | Function button (cancel) |
| 11 | Select button (OK) |
| 12 | Function LEDs (8 = red, 9 = yellow, 10 = green, 11 = orange) |
| 13 | Terminal block for input power |
| 14 | PLd (Performance Level d) status LED |
| Expansion Board View | |
| 15 | Relays R6...R11 |
| 16 | Relay LEDs (red) |
| 17 | Communication LED (green) |



Expansion board view of base station



ZART8LS



ZARB10WS

Remote Control Device and Base Station

Table 19.198: Remote Control Device

| Description | Characteristics | | Reference | | Weight kg/lb |
|-------------|---------------------|------------------------|-----------|--------------------|--------------|
| | Motion push buttons | Auxiliary push buttons | Standard | MBC ^[1] | |
| With LEDs | 6 | 1 | ZART8LS | — | 0.300/0.661 |

Table 19.199: Base Station

| Description | Characteristics | | Power Supply (V) | Reference | | Weight kg/lb |
|---|-----------------------------|--------|------------------|-----------|--------------------|--------------|
| | Outputs | Inputs | | Standard | MBC ^[1] | |
| Wired connection cable gland | 10 relays + 2 safety relays | — | ~ 48–240 | ZARB10WS | — | 0.430/0.947 |
| Wired connection (pre-wired with 1.5 m/4.92 ft cable) | 10 relays + 2 safety relays | — | ~ 48–240 | ZARB10WSP | — | 0.880/1.940 |

Accessories

Table 19.200: Accessories

| Description | Characteristics | Reference | Weight kg/lb |
|--|--------------------------------|-----------|--------------|
| Multi-charger power supply 6W, 5 Vdc /1.2 A (for ZARC702 Li-Ion rechargeable battery only) | ~100–240 V power supply | ZARC701 | 0.100/0.220 |
| Li-Ion rechargeable battery with battery table charger | 83 x 46 mm/ 3.268 x 1.811 in. | ZARC702 | 0.050/0.110 |
| Battery pack for 3 x AAA (batteries not included) | 83 x 46 mm/ 3.268 x 1.811 in. | ZARC704 | 0.020/0.044 |
| Battery table charger, (for ZARC702 Li-Ion rechargeable battery only) | 5 Vdc power supply | ZARC703 | 0.120/0.265 |
| Front label cover for ZART8LS push buttons | 120 x 60 mm/ 4.724 x 2.362 in. | ZARC705 | 0.005/0.011 |
| Rubber protection cover for ZART8LS | Rubber material, black | ZARC706 | 0.107/0.24 |
| Shoulder belt to support ZART8LS | Nylon material, black | ZARC707 | 0.130/0.29 |



ZARC701



ZARC702



ZARC703



ZARC704



ZARC705



ZARC706

[1] MBC: Multi base control (tandem).



ZARTxx + ZARB05WSP

Table 19.201: Transmitter — Pocket Remote

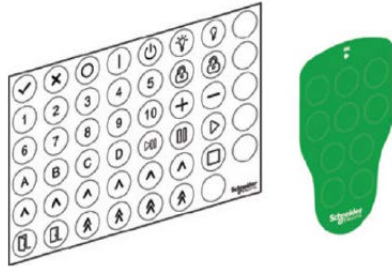
| Description | Battery | Number of Pushbuttons | Reference | Weight kg/lb |
|------------------------|--|-----------------------|-----------|--------------|
| Single-step pushbutton | 2 x 1.5 V AAA/LR06 Alkaline ^[2] | 3 | ZART03 | 0.135/0.298 |
| | | 4 | ZART04 | |
| | | 6 | ZART06 | |
| | | 8 | ZART08 | |
| | | 10 | ZART10 | |

Table 19.202: Receiver — Pocket Remote

| Description | Relay outputs | Power supply V | Reference | Weight kg/lb |
|---|---------------|----------------|-----------|--------------|
| Wired connection (pre-wired with 1.5 m/4.92 ft cable) | 5 relays | 12–24 | ZARB05WSP | 0.400/0.882 |
| | 11 relays | 12–24 | ZARB11WSP | |

Table 19.203: Accessories — Pocket Remote

| Description | For use with | Sold in lots of ^[3] | Reference | Weight kg/lb |
|---|--|--------------------------------|------------------------|--------------|
| Customizable label kit for remote transmitter 66 x 114 mm/2.60 x 4.49 in. | ZART03, ZART04, ZART06, ZART08, ZART10 | 1 | ZARC620 ^[4] | 0.135/0.298 |



ZARC620

^[2] 2 batteries are included in packaging.

^[3] Pack consists of 5 sheets of label kit.

^[4] 1 polyester base layer for graphic printing, 1 set of unique legends.

Type BW Pendant Stations and Accessories

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

| Description | Legend Insert Markings | Mechanical Interlock | Enclosure Color | | Contact Symbol | Replacement Interior [5] | | |
|---|------------------------|----------------------|-----------------|---------|----------------|--------------------------|----------------|-----|
| | | | Yellow | Red | | 9001 Type | Contact Symbol | |
|  BW90 / BW100 | Single Speed | Up-Down | Yes | BW92Y | — | 146 | BOC368 | 146 |
| | | Forward-Reverse | Yes | BW93Y | — | 146 | BOC368 | 146 |
| | | On-Off [6] | Yes | BW94Y | — | 10 | — | 147 |
| | | Start-Stop | No | BW95Y | — | 145 | — | 25 |
| | | Start-Stop [6] | Yes | BW96Y | — | 10 | — | 147 |
| | | On-Off [6] | No | — | — | 146 | — | 25 |
| | Two Speed | Up-Down | Yes | BW98Y | — | 100 | — | — |
| | | without Inserts | Yes | BW90YU | — | 147 | — | 25 |
| | | without Inserts | No | BW91YU | — | 25 | — | 25 |
| | | without Inserts [6] | Yes | — | — | 147 | — | 147 |
| | | without Inserts | Yes | BW100YU | BW100RU | 150 | — | 150 |
| | | Up-Down | Yes | BW102Y | — | 150 | — | 150 |

Table 19.205: Hanger Brackets


| Description | Form |
|---|--|
|  Y236 | External Bracket (cannot be field installed) Y236 |

Table 19.206: Strain Relief Replacement


| Description | Type |
|---|-----------------------------------|
|  BWSR | Strain Relief Replacement BWSR |

Table 19.207: Interchangeable Legend Inserts for Type BW Pendant Stations [7]

| Marking | Type |
|---------|------|
| Forward | B255 |
| Reverse | B256 |
| Up | B253 |
| Down | B254 |

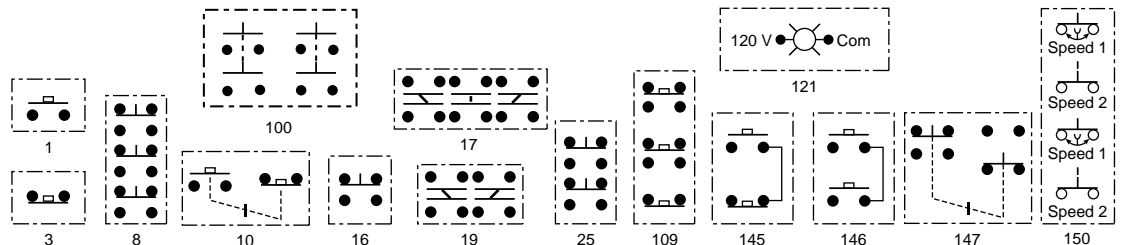
Table 19.208: Replacement Enclosures

| Description | Color | Type |
|---------------------------|--------|------|
| Box & Cover with 4 screws | Yellow | BWRY |
| | Red | BWRR |
| | Black | BWRB |

Table 19.209: Electrical Contact Ratings [8]

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

Contact Symbols (Type BW Pendant Stations)



[5] Includes gasket
 [6] Maintained Contact
 [7] Order must specify a quantity of 10 or multiples of 10.
 [8] OSHA Regulation, Section 1910.70, Overhead and Gantry Cranes, limits the voltage of pendant push buttons to 150 Vac or 300 Vdc.

XAC Pistol Grip Stations and General Purpose Pendants

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

Table 19.210: Pistol Grip Stations

| Description | Speeds | Function | | Catalog Number |
|--|--------|----------|---------|------------------|
| | | 1 speed | 2 speed | |
| 1 N.O. contact per operator 2 Mechanically interlocked operators | 1 | ↑ ↓ | | XACA201 [9] |
| 2 N.O. (staggered) contacts per operator 2 Mechanically interlocked operators | 2 | | ↑ ↓ | XACA207 [9] |
| 1 N.O. + 1 N.C. 2 Mechanically interlocked operators | 1 | ↑ ↓ | | XACA205 [9] |
| 1 N.O. contact per direction 1 Mechanically interlocked 2 way toggle | 1 | ↑ ↓ | | XACD21A0101 [10] |

NOTE: Legends are required to achieve NEMA4 rating.



XACA201



XACA06



XACA03 with operators

Table 19.211: General Purpose Pendants [11][12]

| Enclosures | Catalog Number |
|-------------------|----------------|
| 2 hole enclosure | XACA02H7 |
| 3 hole enclosure | XACA03H7 |
| 4 hole enclosure | XACA04H7 |
| 6 hole enclosure | XACA06H7 |
| 8 hole enclosure | XACA08H7 |
| 12 hole enclosure | XACA12H7 |

To place a custom pendant order, use the worksheet *Type XACA Worksheet*, page 19-83 as a guide. Orders must be placed through the Product Selector in Quote to Cash. There is a 10% charge for assembly.

XAC Contact Blocks

Table 19.212: Contact Blocks for Operators in Cover

| Description | Wiring Diagram | Catalog Number |
|--|----------------|----------------|
| 1 N.O./spring return/1 speed | — | ZB2BE101 |
| 1 N.C./spring return/1 speed | — | ZB2BE102 |
| 1 N.O. early close & 1 N.C. & 1 N.O./spring return/2 speed | Figure 1 | XENG1191 |
| 1 N.C. & 2 N.O./spring return/1 speed | Figure 2 | XENG1491 |
| 1 N.O. & 1 N.O. latching/1 speed/interlocked | Figure 3 | XENG3781 |
| 1 N.O. & 1 N.C. latching/1 speed/interlocked | Figure 4 | XENG3791 |
| 3 N.C.—all direct acting | Figure 5 | XENT1192 |



ZB2BE10



XENG37



XENG1191

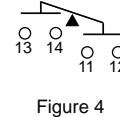
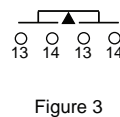
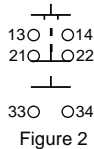
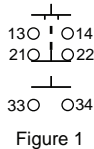


XACS10

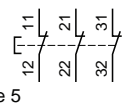
Table 19.213: Contact Blocks for Operators in Base of Enclosure [13]

| Description | Catalog Number |
|----------------|----------------|
| 1 N.O./1 speed | XACS101 |
| 1 N.C./1 speed | XACS102 |
| 2 N.C./1 speed | XACS104 |

Wiring Diagrams



N/C + N/C + N/C with positive opening operation



[9] 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.

[10] 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.

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

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

[13] Cannot be used with XACA03 pendant.

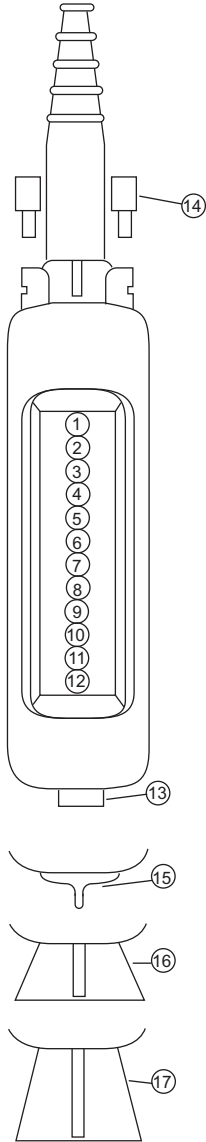
Type XACA Worksheet

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.

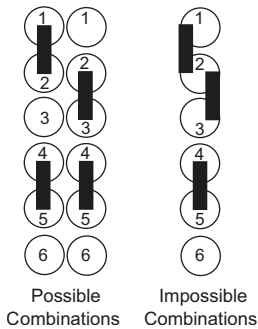
XACA Order Guide Instructions

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.



Mechanical Interlock (XACA009)



| Functions (optional) | Catalog number of enclosure | XACA | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|----------------------|---|---------|---------------------------------------|--|--------------------------|--------------------------|
| | Mechanical interlock (draw a vertical line between the 2 units to be interlocked ^) | Legends | Contact blocks and pilot light bodies | Push button Pilot light or Blanking plug | | |
| | 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 |

XVB 70 mm Diameter Beacons

Table 19.214: XVB Beacons with Steady Light



XVBL3•

XVBL4B•

| Description | Light Source and Voltage | Color | Catalog Number |
|--|---|--------|----------------|
| 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) <i>[1]</i> | Green | XVBL33 |
| | | Red | XVBL34 |
| | | Amber | XVBL35 |
| | | Blue | XVBL36 |
| | | Clear | XVBL37 |
| | | Yellow | XVBL38 |

Table 19.215: XVB Beacons with Flashing Light (one flash per second)

| Description | Light Source and Voltage | Color | Catalog Number |
|--|---|--------|----------------|
| 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) <i>[1]</i> | Green | XVBL4B3 |
| | | Red | XVBL4B4 |
| | | Amber | XVBL4B5 |
| | Bulb (10 W max) not included 48–230 Vac (must order bulb separately) <i>[1]</i> | Red | XVBL4M4 |
| | | Amber | XVBL4M5 |
| | | Yellow | XVBL4M8 |

Table 19.216: XVB Beacons with 10 Joule Strobe (2.75 in./70 mm diameter) *[2]*



XVBL6B•
5 Joule

XVBL8B•
10 Joule

| Description | Light Source and Voltage | Color | Catalog Number <i>[3]</i> |
|--|---|--------|---------------------------|
| Complete unit, includes: 1 lens unit 1 base unit (direct or tube mounting) | Strobe 24 Vac/Vdc (includes bulb) | Red | XVBL8B4 |
| | | Amber | XVBL8B5 |
| | | Blue | XVBL8B6 |
| | | Clear | XVBL8B7 |
| | | Yellow | XVBL8B8 |
| | Strobe 120 Vac (includes bulb) | Red | XVBL8G4 |
| | | Amber | XVBL8G5 |
| | | Blue | XVBL8G6 |
| | | Yellow | XVBL8G8 |

NOTE: There are no replacement lenses for strobes.

[1] For bulbs, see Table 19.222 XVB Accessories, page 19-86.

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

[3] For 5 Joule units, specify XVBL6••, instead of XVBL8••.

XVB 70 mm Components

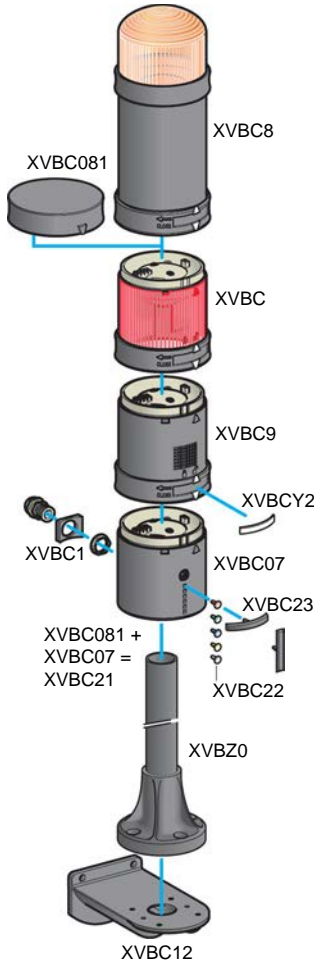


Table 19.217: XVB Lens Units for Steady Light

| Description | Light Source and Voltage | Color | Catalog Number |
|-----------------------|--|--------|----------------|
| Illuminated lens unit | Bulb (10 W max) not included 250 Vac/Vdc max (must order bulb separately [4]) | Green | XVBC33 |
| | | Red | XVBC34 |
| | | Orange | XVBC35 |
| | | Blue | XVBC36 |
| | | Clear | XVBC37 |
| | | Yellow | XVBC38 |

Table 19.218: XVB Lens Unit for Flashing Light

| Description | Light Source and Voltage | Color | Catalog Number |
|-----------------------|--|--------|----------------|
| Illuminated lens unit | Bulb (10 W max) not included 24 Vac 24–48 Vdc (must order bulb separately [4]) | Green | XVBC4B3 |
| | | Red | XVBC4B4 |
| | | Orange | XVBC4B5 |
| | | Blue | XVBC4B6 |
| | | Yellow | XVBC4B8 |
| | | Green | XVBC4M3 |
| | Bulb (10 W max) not included 48–230 Vac (must order bulb separately [4]) | Red | XVBC4M4 |
| | | Orange | XVBC4M5 |
| | | Blue | XVBC4M6 |
| | | Yellow | XVBC4M8 |

NOTE: There are no replacement lenses units for the XVBBC8** strobes.

Table 19.219: XVB Lens Units with 10 Joule Strobe

| Description | Light Source and Voltage | Color | Catalog Number [5] |
|---|--------------------------------------|--------|--------------------|
| Lens unit with integral 10 Joule strobe | Strobe 24 Vac/Vdc (includes bulb) | Red | XVBC8B4 |
| | | Orange | XVBC8B5 |
| | | Blue | XVBC8B6 |
| | | Clear | XVBC8B7 |
| | | Yellow | XVBC8B8 |
| | | Red | XVBC8G4 |
| | Strobe 120 Vac (includes bulb) | Orange | XVBC8G5 |
| | | Blue | XVBC8G6 |
| | | Yellow | XVBC8G8 |

Table 19.220: Audible Sounder Units

| Description | Supply Voltage | Catalog Number |
|--|----------------|----------------|
| Sounder unit 90 dB at 1 m | 12–48 Vac/Vdc | XVBC9B |
| Adjustable from 75–90 dB Continuous or intermittent modes | 120–230 Vac | XVBC9M |

Table 19.221: Base Units + Cover

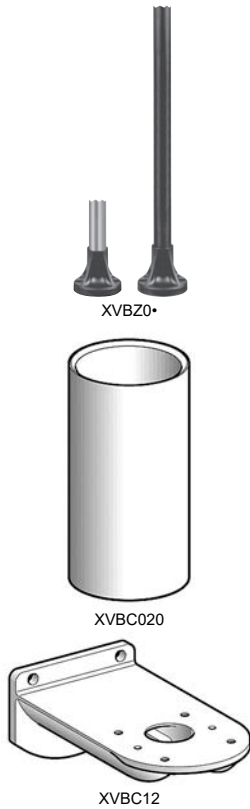
| Description | Catalog Number |
|---|----------------|
| Base unit + cover for direct or tube mounting, bottom or side cable entry (includes gasket) | XVBC21 |

[4] For bulbs, see Table 19.222 XVB Accessories, page 19-86.
[5] For 5 Joule units, specify XVBBC6**, instead of XVBBC8**

XVB 70 mm Accessories

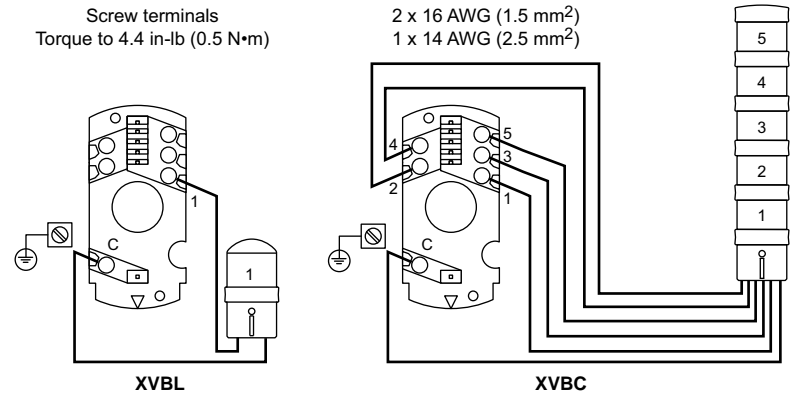
Table 19.222: XVB Accessories

| Description | Characteristics | | Catalog Number | |
|--|---|--------|----------------|-------------|
| | in. | mm | | |
| Black tube with integral black plastic mounting base (includes gasket) | 4.72 | 120 | XVBZ02 | XVBZ02A [6] |
| | 15.75 | 400 | XVBZ03 | — |
| | 31.50 | 800 | XVBZ04 | — |
| Support tube concealment cover | 3.94 | 100 | XVBC020 | |
| Incandescent bulbs bayonet type BA 15d, 10 Watts | 24 Vac/Vdc | | DL1BLB | |
| | 120 Vac/Vdc | | DL1BLG | |
| | 230 Vac/Vdc | | DL1BLM | |
| Incandescent bulbs bayonet type BA 15d, 7 Watts | 24 Vac/Vdc | | DL1BEB | |
| | 120 Vac/Vdc | | DL1BEG | |
| | 230 Vac/Vdc | | DL1BEM | |
| Steady-On LED bulbs bayonet type BA 15d (sold as single) [7] | 24 Vac/Vdc | White | DL1BDB1 | |
| | | Green | DL1BDB3 | |
| | | Red | DL1BDB4 | |
| | | Blue | DL1BDB6 | |
| | | Yellow | DL1BDB8 | |
| | | Amber | DL1BDB5 | |
| | 120 Vac | White | DL1BDG1 | |
| | | Green | DL1BDG3 | |
| | | Red | DL1BDG4 | |
| | | Blue | DL1BDG6 | |
| | | Yellow | DL1BDG8 | |
| | | Amber | DL1BDG5 | |
| Flashing LED bulbs | 24 Vac/Vdc | White | DL1BKB1 | |
| | | Green | DL1BKB3 | |
| | | Red | DL1BKB4 | |
| | | Amber | DL1BKB5 | |
| | 120 Vac | Red | DL1BKG4 | |
| 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 | |
| Conduit adapter | 1/2 in. NPT (for customer supplied tubing) | | XVBC00 | |



Wiring Diagrams, Base Units

Screw terminals
Torque to 4.4 in-lb (0.5 N•m)



[6] Aluminum tube.

[7] For 240 Vac, replace the B or G in the catalog number with M—for example, DL1BDM1. For flashing LEDs, refer to catalog 9001CT0001.

XVC Tower Lights and Accessories

Table 19.223: XVC4 Tower Lights — 40 mm diameter (1.5 inches)



| Description | Light source (included) | Voltage | Signaling colors [8] | | Catalog Number |
|-----------------------------------|--------------------------------------|---------|----------------------|--------------------------|--------------------------|
| | | | Steady | Flashing | |
| With support tube mounting | | | | | |
| Without buzzer | LED for steady light only | 24 Vdc | R | — | XVC4B1 |
| | | | R, O | — | XVC4B2 |
| | | | R, O, G | — | XVC4B3 |
| | | | R, O, G, B | — | XVC4B4 |
| | | | R, O, G, B, C | — | XVC4B5 |
| With buzzer + flashing light | LED for steady or flashing light [9] | 24 Vdc | R | R | XVC4B15S |
| | | | R, O | R, O | XVC4B25S |
| | | | R, O, G | R, O, G | XVC4B35S |
| | | | R, O, G, B | R, O, G, B | XVC4B45S |
| | | | R, O, G, B, C | R, O, G, B, C | XVC4B55S |
| 100-240 Vac | R, O, G | R | R | XVC4M15S | |
| | | R, O, G | R, O, G | XVC4M35S | |
| For base mounting | | | | | |
| Without buzzer | LED for steady light only | 24 Vdc | R | — | XVC4B1K |
| | | | R, O | — | XVC4B2K |
| | | | R, O, G | — | XVC4B3K |
| | | | R, O, G, B | — | XVC4B4K |
| | | | R, O, G, B, C | — | XVC4B5K |



Table 19.224: Accessories for XVC4

| Description | Diameter mm | Minimum height to be added mm | Catalog Number |
|---|-------------|-------------------------------|------------------------|
| Die-cast metal mounting base (for use with XVC4** and XVC4**5S with support tube) | 90 | 32 | XVCZ11 |

Table 19.225: XVC Tower Lights — 100 mm diameter (4 inches)



| Description | Light source (included) | Voltage Vdc | Signaling colors [8] | | Catalog Number |
|---------------------------------------|--------------------------------------|-------------|----------------------|---------------|--------------------------|
| | | | Steady | Flashing | |
| For base mounting | | | | | |
| Without buzzer With flashing light | LED for steady or flashing light [9] | 24 | R | R | XVC1B1K |
| | | | R, O, G | R, O, G | XVC1B3K |
| | | | R, O, G, B | R, O, G | XVC1M3K |
| With buzzer + flashing light | LED for steady or flashing light [9] | 100-240 Vac | R, O, G, B, C | R, O, G, B, C | XVC1M5K |
| | | | R, O, G | R, O, G | XVC1B3SK |

Table 19.226: Accessories for XVC1

| Description | Diameter mm | Height mm | Catalog Number |
|-----------------------|-------------|-----------|------------------------|
| Mount tube and base | 140 | 300 | XVCZ13 |
| L-shape mount bracket | — | — | XVCZ23 |



[8] 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.
[9] Flashing light function selected by wiring or programming.



XVC6B5K



XVC6B55SK



XVCZ02



XVCZ12

Table 19.227: XVC6 Tower Lights, 60 mm diameter (2.375 inches)

| Description | Light source (included) | Voltage | Signaling colors [10] | | Catalog Number | | |
|-----------------------------------|---------------------------------------|--------------------------|---------------------------|---------------|----------------|---|---------|
| | | | Steady | Flashing | | | |
| With support tube mounting | | | | | | | |
| Without buzzer | LED for steady light only | 24 Vdc | R | – | XVC6B1 | | |
| | | | R, O, G | – | XVC6B3 | | |
| | | | R, O, G, B | – | XVC6B4 | | |
| | | 100-240 Vac | R, O, G, B, C | – | XVC6B5 | | |
| | | | R, O, G | – | XVC6M3 | | |
| With buzzer + flashing light | LED for steady or flashing light [11] | 24 Vdc | R, O, G, B | – | XVC6M4 | | |
| | | | R, O, G | R, O, G | XVC6B35S | | |
| | | | R, O, G, B | R, O, G, B | XVC6B45S | | |
| | | 100-240 Vac | R, O, G, B, C | R, O, G, B, C | XVC6B55S | | |
| | | | R | R | XVC6M15S | | |
| | | | R, O, G | R, O, G | XVC6M35S | | |
| | | R, O, G, B | R, O, G, B | XVC 6M45S | | | |
| | | For base mounting | | | | | |
| | | Without buzzer | LED for steady light only | 24 Vdc | R, O, G | – | XVC6B3K |
| 100-240 Vac | R, O, G | | | – | XVC6M3K | | |
| With buzzer + flashing light | LED for steady or flashing light [11] | 24 Vdc | R | R | XVC6B15SK | | |
| | | | R, O | R, O | XVC6B25SK | | |
| | | | R, O, G | R, O, G | XVC 6B35SK | | |
| | | | R, O, G, B | R, O, G, B | XVC6B45SK | | |
| | | | R, O, G, B, C | R, O, G, B, C | XVC6B55SK | | |
| | | 100-240 Vac | R | R | XVC6M15SK | | |
| | | | R, O, G | R, O, G | XVC6M35SK | | |
| | | | R, O, G, B | R, O, G, B | XVC6M45SK | | |
| | | | R, O, G, B, C | R, O, G, B, C | XVC6M55SK | | |

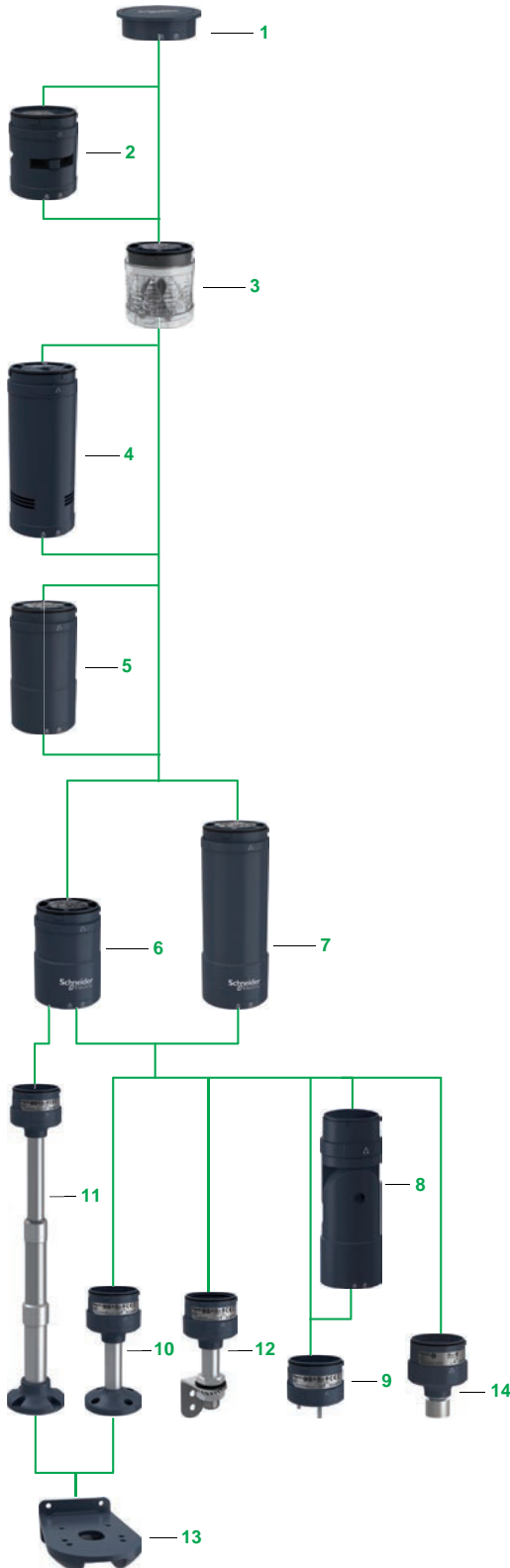
Table 19.228: Accessories for XVC6

| Description | Diameter mm | Minimum height to be added mm | Catalog Number |
|---|-------------|-------------------------------|----------------|
| Die-cast metal mounting base for XVC6B• and XVC6B•5S with support tube. | 100 | 30 | XVCZ02 |
| Stamped metal mounting base for XVC6B• K and XVC6B•5SK | 84 | 21.6 | XVCZ12 |

[10] 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.

[11] Flashing light function selected by wiring or programming.

Tower Lights For Customer Assembly (up to 5 units)



| Tower Lights | |
|--|---|
| The XVU tower lights are customer assembled products comprising: | |
| 1 | Top cover (black or silver) |
| 2 | Buzzer unit (black or silver) ^[12] |
| 3 | Illuminated units: ^[13] |
| 3.1 | LED illuminated units with steady or blinking light signaling (colors: green, red, orange, blue, white, or yellow) |
| 3.2 | Multi-color LED unit (colors: green, red, orange, blue, white, or yellow. Patterns: steady, blinking, flashing, or rotating) |
| 3.3 | Pulse signal multi-color LED unit (colors: green, red, orange, or blue. Patterns: steady, blinking, flashing, or rotating) ^{[14][15]} |
| 4 | Sound units |
| 4.1 | Sound unit |
| 4.2 | Sound unit, plus signal ^[15] |
| 5 | Extender unit (black or silver) |
| 6 | Base unit, DC (black or silver) |
| 7 | Base unit, AC (black or silver) |
| 8 | Flexible mounting unit |
| 9 | Direct mounting plate (black or silver) |
| 10 | 100 mm/3.927 in., 400 mm/15.748 in., or 800 mm/31.496 in. pole with integrated mounting plate (black or silver for 100 mm pole, and black for 400 mm and 800 mm pole) |
| 11 | Adjustable height pole from 210 to 385 mm/8.268 to 15.157 in. ^[16] with integrated mounting plate |
| 12 | 100 mm/3.927 in., 250 mm/9.842 in., or 400 mm/15.748 in. pole with metal bracket (black) |
| 13 | Mounting plate for use on vertical support (black) ^[17] |
| 14 | 1/2" NPT conduit adapter for customer supplied tubing |

Composition

- XVU tower lights are customer assembled signaling units that are mounted vertically or horizontally with the support of a mounting accessory.
- Maximum of 5 illuminated units or 4 illuminated units with 1 audible unit can be assembled. The illuminated or audible unit^[18], stack vertically.
- With the indicator marks on these units they can be easily assembled.
- Electrical connections between each unit are made automatically as they are mechanically assembled.
- The signaling units are identical in size and their positioning is unrestricted.

Mounting

- Horizontal mounting: Fixed into support panel with direct mounting plate, poles or adjustable height pole with integrated mounting plate
- Vertical mounting: Fixed into support panel with mounting plate using pole with metal bracket or mounting plate for use on vertical support
- Horizontal or vertical mounting: Fixed into support panel with mounting plate using flexible mounting unit
- Mounting plate with aluminium 1/2" NPT adapter.

Cabling

By means of spring cage connection terminal block incorporated in mounting unit (Direct mounting plate, pole with plate, adjustment pole)

[12] Always mounted on the top .
 [13] Up to 5 LED illuminated units without sound unit; Up to 4 LED illuminated units with sound unit .
 [14] Pulse signal multi-color LED unit cannot be combined with standard sound unit (XVUC9V).
 [15] Up to 4 illuminated and sound units when pulse signal technology is used.
 [16] Only for DC body unit.
 [17] Compatible with XVUZ02, XVUZ02Q, XVUZ03, XVUZ400, XVUZ800, and XVUZ05.
 [18] Sound unit cannot be combined with buzzer unit at the same time.

Illuminated Units, High Flash LED Units



XVUC23
XVUC43



XVUC24
XVUC44



XVUC25
XVUC45



XVUC6
XVUC46



XVUC27
XVUC47



XVUC28
XVUC48



XVUC29
XVUC29P

| Illuminated LED Units: IP 65 | | | | | | |
|--|--------------------------------------|-----------------|-------|---|-----------|--------------|
| Description | Signaling Type | Characteristics | | Color | Reference | Weight kg/lb |
| | | Voltage | Power | | | |
| High brightness LED Units | Steady | 24 V | 2.5 W | Green | XVUC23 | 0.064/0.141 |
| | | 24 V | 2.0 W | Red | XVUC24 | 0.064/0.141 |
| | | 24 V | 2.0 W | Orange | XVUC25 | 0.064/0.141 |
| | | 24 V | 2.5 W | Blue | XVUC26 | 0.064/0.141 |
| | | 24 V | 2.5 W | White | XVUC27 | 0.064/0.141 |
| | | 24 V | 2.5 W | Yellow | XVUC28 | 0.064/0.141 |
| | Blinking | 24 V | 1.2 W | Green | XVUC43 | 0.064/0.141 |
| | | 24 V | 0.9 W | Red | XVUC44 | 0.064/0.141 |
| | | 24 V | 0.9 W | Orange | XVUC45 | 0.064/0.141 |
| | | 24 V | 1.2 W | Blue | XVUC46 | 0.064/0.141 |
| | | 24 V | 1.2 W | White | XVUC47 | 0.064/0.141 |
| | | 24 V | 1.2 W | Yellow | XVUC48 | 0.064/0.141 |
| Multi-color LED unit | Steady/ blinking/ flashing/ rotating | 24 V | 1.5 W | Multi-color (green, red, orange, blue, white, and yellow) | XVUC29 | 0.064/0.141 |
| Pulse signal Multi-color LED unit [19] | Steady/ blinking/ flashing/ rotating | 24 V | 1.7 W | Multi-color (green, red, orange, and blue) | XVUC29P | 0.069/0.152 |

[19] 1 signal wire, 2 power wires. Adaptable for both NPN and PNP. Controlled by PLC dynamically.

Audible and Base Units



XVUC9S



XVUC9SQ



XVUC9V



XVUC21BQ



XVUC21M

| Audible Units: IP 54 | | | | | |
|--|-----------------|-------|--------|-----------|--------------|
| Description | Characteristics | | Color | Reference | Weight kg/lb |
| | Voltage | Power | | | |
| Buzzer, adjustable 70...85 dB at 1 m/3.281 ft (4 configurations of audible signal) | 24 V | 1.7 W | Black | XVUC9S | 0.077/0.170 |
| | | | Silver | XVUC9SQ | 0.077/0.170 |
| Sound, adjustable 0...86 dB at 1m/3.281 ft (4 channels) | 24 V | 1.7 W | Black | XVUC9V | 0.217/0.480 |
| Sound unit, pulse signal 0...86 dB at 1m/3.281 ft (16 channels) ^[20] | 24 V | 4.1 W | Black | XVUC9VP | 0.219/0.483 |

| Base Units: IP 65 | | | | |
|--|----------------|--------|--------------------------|--------------|
| Description | Voltage | Color | Reference | Weight kg/lb |
| Base unit with top cover ^[21] | 24 Vac/Vdc | Black | XVUC21B | 0.110/0.243 |
| | | Silver | XVUC21BQ | 0.110/0.243 |
| | 100 to 240 Vac | Black | XVUC21M ^[22] | 0.235/0.518 |
| | | Black | XVUC21MP ^[23] | 0.235/0.518 |

[20] 1 signal wire, 2 power wires. Adaptable for both NPN and PNP. 16 channels can be controlled by PLC.
 [21] Direct mounting plate XVUZ01• needed for direct mounting.
 [22] NPN type.
 [23] PNP type.

Accessories

| Accessories | | | | | |
|---|------------|--------------------------------|--------|--------------|--------------|
| Description | Voltage | Height of aluminum pole mm/in. | Color | Reference | Weight kg/lb |
| Body extender | 24 Vac/Vdc | — | Black | XVUC020 | 0.093/0.205 |
| Direct Mounting Plate | | — | Black | XVUZ01 [24] | 0.063/0.139 |
| | | | | XVUZ03 [25] | 0.063/0.139 |
| | | | | XVUZ04 [26] | 0.063/0.139 |
| | | | Silver | XVUZ01Q [25] | 0.063/0.139 |
| Mounting plate with aluminum pole | | 100/3.927 | Black | XVUZ02 | 0.132/0.291 |
| | | 100/3.927 | Silver | XVUZ02Q | 0.132/0.291 |
| | | 400/15.748 | Black | XVUZ400 | 0.236/0.520 |
| | | 800/31.496 | Black | XVUZ800 | 0.430/0.945 |
| Mounting plate with adjustable height aluminum pole [27] | | 210 to 385/ 8.268 to 15.157 | Black | XVUZ05 | 0.253/0.558 |
| Flexible mounting unit for use on horizontal or vertical support, IP 55 | | — | Black | XVUZ06 | 0.193/0.425 |
| Metal bracket with aluminum pole, IP42 | | 100/3.927 | Black | XVUZ100T | 0.220/0.485 |
| | | 250/9.842 | Black | XVUZ250T | 0.240/0.529 |
| | | 400/15.74 | Black | XVUZ400T | 0.320/0.705 |
| Mounting plate for use on vertical support | | — | Black | XVUZ12 | 0.360/0.794 |
| Mounting plate with aluminium 1/2" NPT adapter | | — | Black | XVUZ00 | 0.095/0.209 |



XVUC020



XVUZ01Q



XVUZ400



XVUZ05



XVUZ100T



XVUZ06



XVUZ12



XVUZ00

[24] Three-pin mounting.
[25] Two-pin mounting.
[26] Four-pin mounting.
[27] Only for use with DC body unit.

XVR Pre-Wired Beacons and Accessories
Table 19.229: XVR Pre-Wired Rotating Mirror Beacons



| Diameter (mm) | Sound Option | Enclosure Rating | Voltage | Color | Catalog Number |
|---------------|----------------|-----------------------------------|------------|--------|---------------------------|
| Ø 84 | Without buzzer | IP 23 (IP 65 with accessories) | 24 Vac/Vdc | Red | XVR08B04 |
| | | | | Orange | XVR08B05 |
| | | | | Green | XVR08B03 |
| | | | | Blue | XVR08B06 |
| Ø 106 | Without buzzer | IP 23 (IP 55 with accessories) | 24 Vac/Vdc | Red | XVR10B04 |
| | | | | Orange | XVR10B05 |
| Ø 120 | Without buzzer | IP 23 | 24 Vac/Vdc | Red | XVR12B04 |
| | | | | Orange | XVR12B05 |
| | | | | Blue | XVR12B06 |
| Ø 120 | With buzzer | IP 23 | 24 Vac/Vdc | Red | XVR12B04S |
| | | | | Orange | XVR12B05S |
| | | | | Blue | XVR12B06S |
| Ø 130 | Without buzzer | IP 23 Resistant to vibration | 24 Vdc | Red | XVR13B04 |
| | | | | Orange | XVR13B05 |

Table 19.230: XVR Accessories



| Description | Diameter (mm) | Height (mm) | Catalog Number |
|---|------------------|-------------|-------------------------|
| Rubber base to increase the IP degree of protection | 84 | — | XVRZ081 |
| Mount tube and base | 106, 120 and 130 | 300 | XVCZ13 |
| L-shape mounting bracket | 84, 106 and 120 | — | XVCZ23 |

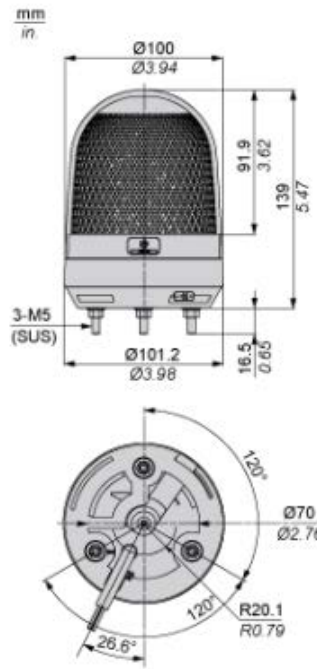
XVR Complete Pre-Cabled Motor-Less Rotating/Flashing Beacons

Table 19.231: Complete, Pre-cabled Motor-less Rotating/Flashing Beacons



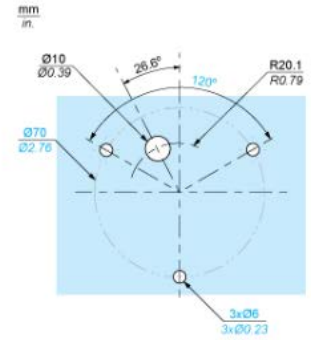
| Diameter (Ø mm/in.) | Sound option | IP Degree of Protection | Voltage V | Color | Reference Number | Weight (kg/lb) |
|---------------------|---|---|-----------|----------|------------------|----------------|
| 100/3.94 | Without buzzer | IP 65 (upright) IP 23 (sideways, inverted) | 12-24 | Green | XVR3B03 | 0.484/1.067 |
| | | | | Red | XVR3B04 | |
| | | | | Orange | XVR3B05 | |
| | | | 100-230 | Blue | XVR3B06 | |
| | | | | Green | XVR3M03 | |
| | | | | Red | XVR3M04 | |
| | With buzzer | IP 23 (upright, sideways, inverted) | 12-24 | Orange | XVR3M05 | |
| | | | | Blue | XVR3M06 | |
| | | | | Green | XVR3B03S | |
| | | | Red | XVR3B04S | | |
| | | | Orange | XVR3B05S | | |
| | | | 100-230 | Blue | XVR3B06S | |
| Green | XVR3M03S | | | | | |
| Red | XVR3M04S | | | | | |
| Without buzzer | IP 65 (upright) IP 23 (sideways, inverted) | 100-230 | Orange | XVR3M05S | 0.484/1.067 | |
| | | | Blue | XVR3M06S | | |
| | | | Green | XVR3E03 | | |
| | | 48 | Red | XVR3E04 | | |
| | | | Orange | XVR3E05 | | |
| | | | Blue | XVR3E06 | | |

Dimensions

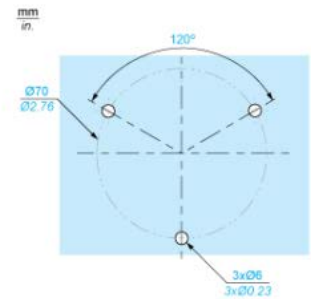


Panel Cut-out

Straight wiring



Side wiring



XVS Sirens and Electronic Alarms

Table 19.232: XVS Sirens and Electronic Alarms

| Description | Voltage | Color | Catalog Number |
|---|---------------|------------|----------------------------|
| Multisound siren 105 dB, 43 tones | 12/24 Vdc | White | XVS14BMW |
| Electronic alarms 90 dB, 16 tones Panel Mount DIN72 | 12/24 Vac/Vdc | PNP, Black | XVS72BMBP |
| | | PNP, White | XVS72BMW/P |
| | | NPN, Black | XVS72BMBN |
| | | NPN, White | XVS72BMW/N |



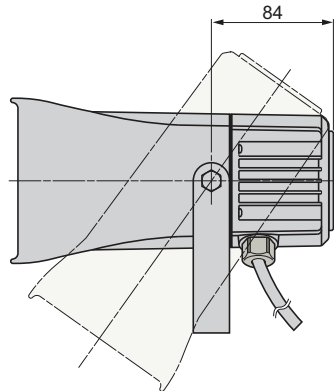
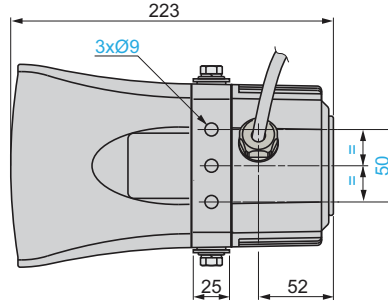
XVS14BMW



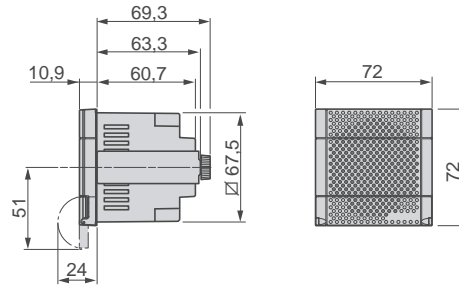
XVS72BM

Table 19.233: XVS Dimensions (mm)

XVS 14BMW



XVS 72BM●●



XVS77BBN and XVS99MWN

XVSV Editable Voice Alarms

Table 19.234: XVSV Editable Voice Alarms

| Description | Voltage V | Color | Reference | Weight kg/lb |
|--|-----------|------------|---------------------------|--------------|
| Editable alarms, DIN72 | 12–24 | NPN, Black | XVSV77BBN | 0.142/0.313 |
| | | NPN, White | XVSV77BWN | |
| | | PNP, Black | XVSV77BBP | |
| Editable alarms, DIN96 | 12–24 | NPN, Black | XVSV99BBN | 0.268/0.591 |
| | | NPN, White | XVSV99BWN | |
| | 100–230 | PNP, Black | XVSV99BBP | 0.267/0.589 |
| | | NPN, Black | XVSV99MBN | |
| Wall mounting plate for DIN72 and DIN96 | | | XVSV2016 | 0.148/0.326 |

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

⚠ 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.



9002AW2
Type AW Foot Switch with
Top Pedal Shield and Side
Shields



9002AW132
Type AW with Oversized
Pedal Shield and Side Shields



9002AW117
Type AW Foot Switch with
Oversized Pedal Shield, Side
Shields and Safety Door



9002AW1
Type AW Foot Switch
without Pedal Shield

Foot Switch Selection

Foot switches are used to control many industrial processes, while leaving the operator's hands free to perform other functions. The type or model of foot switch suitable for each application will vary depending on factors such as the control function required, degree of protection required, production methods, unusual conditions, government regulations, etc. In some applications more than one foot switch may be required, as when two or more persons are operating a machine. In these cases, safe practice and regulations require that the foot switches be wired in series making it necessary that each operator's foot switch be actuated before the machine will cycle.

Only the user can be aware of all the conditions and factors present during setup, operation and maintenance of the machine; therefore, only the user can determine which foot switch(es) can be properly used. When selecting a foot switch for a particular application, the user should refer to the applicable ANSI standards and OSHA regulations. The National Safety Council's Accident Prevention Manual also provides much useful information.

In some applications, such as power presses, additional operator protection such as point-of-operation guarding must be provided when a foot switch is used as an actuator. This is necessary since the operator's hands and other parts of the body are free to enter the pinch point area and serious injury can occur. The shielding provided on foot switches cannot protect an operator from injury. For this reason the foot switch cannot be substituted for or take the place of point-of-operation protection.

A Trilingual Danger Sign regarding the need for point-of-operation protection is supplied with each foot switch. The sign incorporates three languages: English, Spanish and French. Additional copies of the sign are available by contacting your Square D sales office.

Type AW Fully Shielded Foot Switch with Oversized Pedal Shield, Side Shields and Safety Door. The Safety Door is interlocked with the pedal to prevent operation due to shock or vibration. It prevents accidental pedal operation by requiring a simple but intentional motion to lift the door before inserting the foot.

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



9002AW124

Table 19.235: Foot Switch Catalog Numbers [1]

| 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[2]) |
|---|---|--|--|------------------------------------|----------------------------------|
| | | Catalog Number | Catalog Number | Catalog Number | Catalog Number |
| Single Pole [3] Double Throw | Spring Return With Mechanical Latch | AW117 | AW132 | AW2 AW7 | AW1 |
| Two Pole [3] Double Throw | Spring Return With Mechanical Latch | AW124 [4] | AW133 | AW14 AW15 | AW13 |
| Two Stage [3] (One Pole Each Stage) Table 1 | Spring Return With Mechanical Latch in 1st Stage With Mechanical Latch in 2nd Stage | AW119 | AW134 | AW6 AW9 | AW5 |
| Four Stage [3] (One Pole Each Stage) Table 2 | Spring Return | AW123 | — | — | AW21 |
| Single Pole Single Throw | Maintained Contact—Push On/Push Off | — | — | AW12 | AW11 |
| Replacement Cover Assembly | — | — | — | AC8 [5] | — |



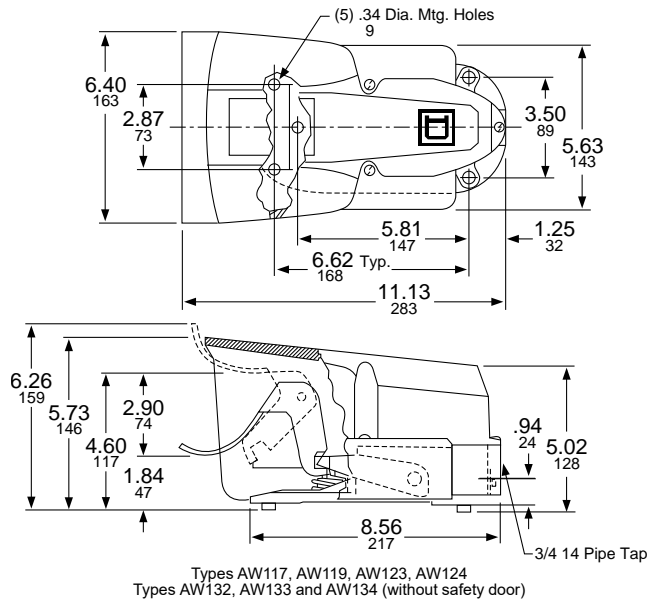
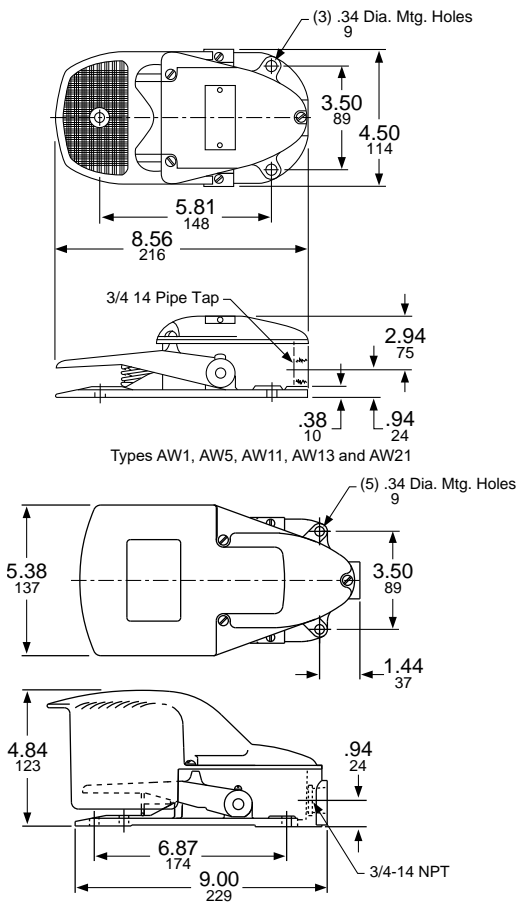
File: E78403
CCN: NKCR



File: LR25490
Class: 3211-03

For replacement parts for Class 9002 Type AW: See instruction bulletin 65013-010-31. Also see Table 19.237 Contact Symbol—Two Stage, page 19-98 and Table 19.238 Contact Symbol—Four Stage, page 19-98.

Approximate Dimensions



Dual Dimensions: INCHES
Millimeters

- [1] When ordering, add prefix "9002" to the catalog number.
- [2] 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.).
- [3] 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.
- [4] 2 N.O. and 2 N.C. isolated, direct acting contacts.
- [5] For replacement cover drilled to accept latch. For Series C foot switches order AC9. No replacement cover available for Series A or B devices drilled to accept latch. AC8 is spring return only.

Table 19.236: 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, Break and Continuous | | Make and Break | | Continuous |
| | | | | | | Single Throw | Double Throw | |
| AW1 through AW09, AW117, AW119, AW132 | 120 | 40 | 15 | 15 | 125 250 600 | 2.0 | 0.5 | 15 |
| | 240 | 20 | 10 | 10 | | 0.5 | 0.2 | 15 |
| | 480 | 10 | 6 | 6 | | 0.1 | 0.02 | 15 |
| | 600 | 8 | 5 | 5 | | | | |
| AW13, AW14, AW15, AW133 | 120 | 30 | 3 | 3 | 125 250 600 — | 1.0 | 0.2 | 10 |
| | 240 | 15 | 1.5 | 1.5 | | 0.3 | 0.1 | 10 |
| | 480 | 7.5 | 0.75 | 0.75 | | 0.1 | — | 10 |
| | 600 | 6 | 0.6 | 0.6 | | — | — | — |
| AW11, AW12 | 115 | 36 | 6 | — | 125 250 | 2.2 | — | — |
| | 230 | 18 | 3 | — | | 1.1 | — | — |
| AW21 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 | 120 240 600 | 1.1 | — | 10 |
| | 240 | 30 | 3 | 10 | | 0.55 | — | 10 |
| | 480 | 15 | 1.5 | 10 | | 0.2 | — | 10 |
| | 600 | 12 | 1.2 | 10 | | | | |

NOTE: Double throw switches are rated 250 Vdc maximum.

Table 19.237: Contact Symbol—Two Stage

| Unit | Snap Switch | | Pedal | | |
|------|-------------|----|-----------|-----------|--|
| | 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 19.238: Contact Symbol—Four Stage

| Unit | Snap Switch | | Pedal Position | | | |
|------|-------------|----|----------------|------|---|---|
| | Circuit | 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 |