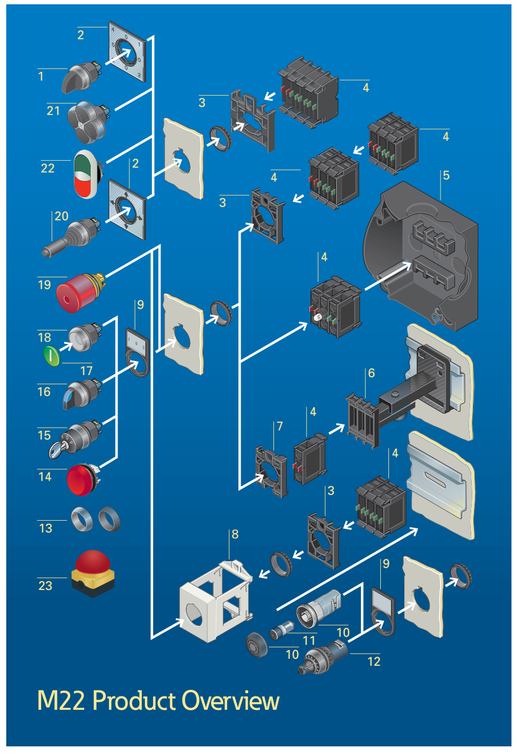
# M22 – Design and Functionality
# The new 22 mm line of pushbuttons



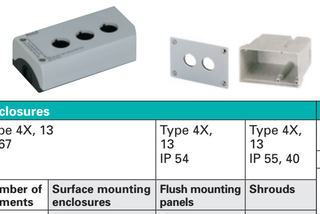

### Global 22.5 mm IEC Pushbuttons

1. Four-position selector switch
2. Legend plate for four-way selector switch/joystick
3. Mounting adapter
4. Contact block
5. Enclosure
6. Telescopic clip
7. Centering adapter
8. DIN-rail mounting adapter
9. Legend plate
10. Acoustic indicator
11. Buzzer
12. Potentiometer
13. Bezel, available in silver or black
14. Indicating light
15. Key operated selector switch
16. Selector switch
17. Button plate/button lens
18. Buttonless operator
19. Emergency-stop operator
20. Joystick
21. Four-way pushbutton
22. Double-pushbutton
23. Palm switch

| Pushbutton operators, flush | | | Pushbutton operators, extended | | Mushroom-head operators | | | | Selector switches | | | Key-operated selector switches | | Illuminated pushbutton operators | | | | | Indicating light operators |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type 4X, 13<br>IP 67, 69K<br>Black bezel: M22**S**... | | | Type 4X, 13<br>IP 67, 69K<br>Black bezel: M22**S**... | | Type 4X, 13<br>IP 67, 69K<br>Black bezel: M22**S**... | | | | Type 4X, 13<br>IP 66<br>Black bezel: M22**S**...<br>= Maintained = Momentary | | | Type 4X, 13<br>IP 66<br>Black bezel: M22**S**... | | Type 4X, 13<br>IP 67, 69K<br>Black bezel: M22**S**... | | | | | Type 4X, 13<br>IP 67, 69K |
| **Button plate** | **Operator Momentary** | **Operator Maintained** | **Operator Momentary** | **Operator Maintained** | **Button plate** | **Mush-room** | **Momentary** | **Maintained** | **Function** | **Rotary 2-Position** | **Knob 2-Position** | **MS1 lock mechanism** | **MS2-8 lock mechanism** | **Button lens** | **Operators flush, momentary** | **Operators flush, maintained** | **Operators flush, momentary** | **Operators flush, maintained** | **Flush** |
| | M22-D-S | M22-DR-S | M22-DH-S | M22-DRH-S | | | M22-DP-S | M22-DRP-S | | M22-W | M22-WK | M22-WS | M22-WS-MS_ | | M22-DL-W | M22-DRL-W | M22-DLH-W | M22-DRLH-W | M22-L-W |
| | M22-D-W | M22-DR-W | M22-DH-W | M22-DRH-W | | | M22-DP-R | M22-DRP-R | | M22-WR | M22-WRK | M22-WRS | M22-WRS-MS_ | | M22-DL-R | M22-DRL-R | M22-DLH-R | M22-DRLH-R | M22-L-R |
| | M22-D-R | M22-DR-R | M22-DH-R | M22-DRH-R | | | M22-DP-G | M22-DRP-G | | | M22-WKV | | | | M22-DL-G | M22-DRL-G | M22-DLH-G | M22-DRLH-G | M22-L-G |
| | M22-D-G | M22-DR-G | M22-DH-G | M22-DRH-G | | | M22-DP-Y | M22-DRP-Y | | **3-position** | **3-position** | **3-position** | **3-position** | | M22-DL-Y | M22-DRL-Y | M22-DLH-Y | M22-DRLH-Y | M22-L-Y |
| | M22-D-Y | M22-DR-Y | M22-DH-Y | M22-DRH-Y | without | | M22-DP-S-X | M22-DRP-S-X | | M22-W3 | M22-WK3 | M22-WS3 | M22-WS3-MS_ | | M22-DL-B | M22-DRL-B | M22-DLH-B | M22-DRLH-B | M22-L-B |
| | M22-D-B | M22-DR-B | M22-DH-B | M22-DRH-B | without | | M22-DP-R-X | M22-DRP-R-X | | M22-WR3 | M22-WRK3 | M22-WRS3 | M22-WRS3-MS_ | without | M22-DL-X | M22-DRL-X | M22-DL-X | M22-DRL-X | M22-L-X |
| | M22-D-R-X0 | M22-DR-R-X0 | M22-DH-R-X0 | M22-DRH-R-X0 | without | | M22-DP-G-X | M22-DRP-G-X | | | M22-WRK3-1 | | | | | | | | |
| | M22-D-G-X1 | M22-DR-G-X1 | M22-DH-G-X1 | M22-DRH-G-X1 | without | | M22-DP-Y-X | M22-DRP-Y-X | | | M22-WRK3-2 | | | | | | | | |
| without | M22-D-X | M22-DR-X | M22-D-X | M22-DR-X | | | | | | **4-position** | **4-position** | | | | | | **Lens Color** | | |
| without button plate with guard ring | M22-DG-X | | | | | | | | | M22-WR4 | M22-WRK4 | | | | | | **LED Color** | | |

Note: For other laser etched plates and lenses, order buttonless operator and plate separately. For example: M22-D-X (buttonless momentary pushbutton); M22-XD-G-X1 (green, flush, ⓘ)

| Double pushbutton | | Illuminated selector switches | | | | | | Joystick | | Legend plates | | Four-way pushbutton | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type 4X, 13<br>IP 67, 69K<br>Black bezel: M22**S**... | | Type 4X, 13<br>IP 66<br>Black bezel: M22**S**... | | | | | | 2 and 4-position<br>IP 66<br>Black bezel: M22**S**... | | For use with joysticks, four-way push-buttons, and 4-position selector switches | | IP 66<br>Black bezel: M22**S**... | | | |
| **Button plates** | **Buttons and Center Light Extended** | **Knob** | **2-position momentary** | **2-position maintained** | **3-position momentary** | **3-position maintained** | **2-position (V-position, 60°) maintained** | **Function** | **Catalog Number** | **Version** | **Catalog Number** | **Function** | **Inscription** | **Color** | **Catalog Number** |
| | M22-DDL-GR-X1-X0 | | M22-WLK-W | M22-WRLK-W | M22-WLK3-W | M22-WRLK3-W | M22-WLKV-W | **Momentary** | | | For use with joysticks, four-way pushbuttons, and 4-position selec-tor switch operators M22-XCK | **Buttons not mechanically interlocked** | | | |
| | M22-DDL-WS-X1-X0 | | M22-WLK-R | M22-WRLK-R | M22-WLK3-R | M22-WRLK3-R | M22-WLKV-R | 2-position horizontal | M22-WJ2H | | | All buttons Momentary | Directional arrows | Black | M22-D4-S-X7 |
| | M22-DDL-GR-GB1-GB0 | | M22-WLK-G | M22-WRLK-G | M22-WLK3-G | M22-WRLK3-G | M22-WLKV-G | 2-position vertical | M22-WJ2V | | For use with 4-position joystick M22-XCK1 | All buttons Momentary | None | Black | M22-D4-S |
| | M22-DDL-WS-GB1-GB0 | | M22-WLK-Y | M22-WRLK-Y | M22-WLK3-Y | M22-WRLK3-Y | M22-WLKV-Y | 4-position | M22-WJ4 | | For use with 4-position selector switches M22-XCK2 | **Opposing buttons mechanically interlocked** | | | |
| | M22-DDL-S-X7-X7 | | M22-WLK-B | M22-WRLK-B | M22-WLK3-B | M22-WRLK3-B | M22-WLKV-B | **Maintained** | | | | All buttons Momentary | Directional arrows | Black | M22-DI4-S-X7 |
| | M22-DDL-S-X4-X5 | | | | | | | 2-position horizontal | M22-WRJ2H | | | All buttons Momentary | None | Black | M22-DI4-S |
| | M22-DDL-GR | | | | | | | 2-position vertical | M22-WRJ2V | | For use with 2-position joysticks M22-XCK3 | | | | |
| | M22-DDL-WS | | | | | | | 4-position | M22-WRJ4 | | | | | | |



| Contact blocks | | | Mounting adapters (supplied with operators) | | | Light units | | | | | Enclosures | | | | Emergency-stop operators | | Palm switches | | | Emergency-stop palm switches | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IP 20<br>ⓘ = Positive opening safety function to IEC / EN 60 947-5-1 | | | | | | IP 20 | | | | | Type 4X, 13<br>IP 67 | | Type 4X, 13<br>IP 54 | Type 4X, 13<br>IP 55, 40 | Type 4X, 13<br>IP 66, 69K | | Type 4X, 13<br>IP 67, 69K | | | Type 4X, 13<br>IP 67, 69K | | |
| **Function** | | **Screw terminal** | **Spring Cage** | | **Note** | | | **Screw terminal** | | **Spring Cage** | **Number of elements** | **Surface mounting enclosures** | **Flush mounting panels** | **Shrouds** | **Function** | **Compliant with ISO/EN 13850/EN418** | **Mushroom head** | **Function** | **Momentary** | **Mushroom head** | **Function** | **Momentary** |
| Front mounted | 1NO | M22-K10 | M22-CK10 | | | | | **12-30 V AC/DC** | **85-264 V AC** | **12-30 V AC/DC** | | | | | Non-illuminated | | | 1NO-1NC ⓘ | FAK-S-KC11-I | | 1NO ⓘ | FAK-R-V-KC01-IY |
| | 1NC ⓘ | M22-K01 | M22-CK01 | Front mounted | M22-A<br>M22-A4 | max. 3 contact blocks<br>max. 4 contact blocks (only for 4-way pushbutton and Joystick) | Front mounted | M22-LED-W | M22-LED230-W | M22-CLED-W | 1 | M22-IY1-PG | M22-EY1 | | Non-illuminated | | | 1NO-1NC ⓘ | FAK-R-V-KC11-IY | | 1NO-1NC ⓘ | FAK-R-V-KC11-IY |
| | 1NC ⓘ | M22-K01D | M22-CK01D | | | | | M22-LED-R | M22-LED230-R | M22-CLED-R | 1 | M22-I1-PG | M22-E1 | M22-H1 | Illuminated | | | | | | 2NC ⓘ | FAK-R-V-KC02-IY |
| | 1NO-1NC ⓘ | – | M22-CK11 | | | | | M22-LED-G | M22-LED230-G | M22-CLED-G | 2 | M22-I2-PG | M22-E2 | M22-H2 | Illuminated | | | | | | 1NO-2NC ⓘ | FAK-R-V-KC12-IY |
| | 2NC ⓘ | – | M22-CK02 | | | | | M22-LED-B | M22-LED230-B | M22-CLED-B | 3 | M22-I3-PG | M22-E3 | M22-H3 | With key release MS1 individual lock mechanism | M22-PVS | | | | | | |
| | 2NO | – | M22-CK20 | Base mounted | Built into the enclosure | max. 3 contact blocks | Base mounted | M22-LEDC-W | M22-LEDC230-W | M22-CLEDC-W | 4 | M22-I4-PG | M22-E4 | M22-H4 | With key release MS2-8 individual lock mechanism | M22-PVS-MS_ | | | | | | |
| Base mounted | 1NO | M22-KC10 | M22-CKC10 | | | | | M22-LEDC-R | M22-LEDC230-R | M22-CLEDC-R | 5 | | M22-E5 | M22-H5 | | | | | | | | |
| | 1NC ⓘ | M22-KC01 | M22-CKC01 | | | | | M22-LEDC-G | M22-LEDC230-G | M22-CLEDC-G | 6 | M22-I6-PG | M22-E6 | M22-H6 | | | | | | | | |
| | | | | | | | | M22-LEDC-B | M22-LEDC230-B | M22-CLEDC-B | 12 | M22-I12[4] | | | | | | | | | | |
| | | | | | | | | | | | Connecting screw for M22-I... | M22-XI | | | | | | | | | | |

[4] Metric only. Will be introduced late 2009.

| Sealable shroud | Protective collar for Emergency-Stop pushbuttons | Emergency-Stop legend plates |
|---|---|---|
| M22-PL-PV | M22-XG-PV | see M22 Catalog Sup-plement, CA04716001E |

[2] Pull to release, [3] Twist to release

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