

# 37.5 Pushbuttons and Indicating Lights

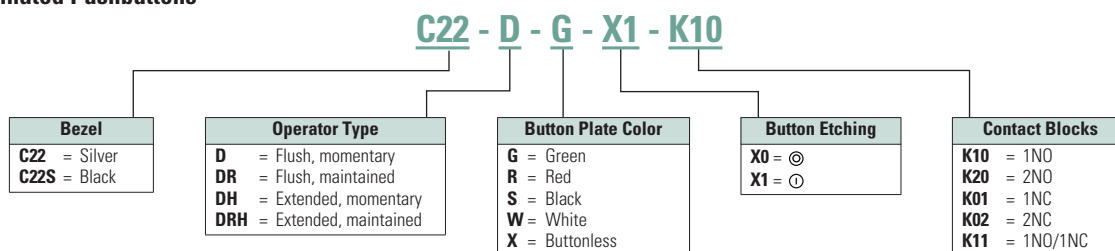
## 22.5 mm Compact Pushbuttons—C22

37

### Catalog Number Selection

Catalog Number Selection is for illustrative purposes only and not to be used to create new catalog numbers.

#### Non-Illuminated Pushbuttons



### Product Selection

#### Non-Illuminated, Flush, Momentary

C22(S)-D-\_\_

#### Non-Illuminated Pushbuttons, Flush, Momentary



| Button Color | Button Etching | Contact Block Configuration | Silver Bezel Catalog Number | Black Bezel Catalog Number |
|--------------|----------------|-----------------------------|-----------------------------|----------------------------|
| Green        | —              | 1NO                         | C22-D-G-K10                 | C22S-D-G-K10               |
|              | —              | 2NO                         | C22-D-G-K20                 | C22S-D-G-K20               |
|              | —              | 1NO/1NC                     | C22-D-G-K11                 | C22S-D-G-K11               |
|              | X1             | 1NO                         | C22-D-G-X1-K10              | C22S-D-G-X1-K10            |
|              | X1             | 2NO                         | C22-D-G-X1-K20              | C22S-D-G-X1-K20            |
|              | X1             | 1NO/1NC                     | C22-D-G-X1-K11              | C22S-D-G-X1-K11            |
| Red          | —              | 1NC                         | C22-D-R-K01                 | C22S-D-R-K01               |
|              | —              | 2NC                         | C22-D-R-K02                 | C22S-D-R-K02               |
|              | —              | 1NO/1NC                     | C22-D-R-K11                 | C22S-D-R-K11               |
|              | X0             | 1NC                         | C22-D-R-X0-K01              | C22S-D-R-X0-K01            |
|              | X0             | 2NC                         | C22-D-R-X0-K02              | C22S-D-R-X0-K02            |
|              | X0             | 1NO/1NC                     | C22-D-R-X0-K11              | C22S-D-R-X0-K11            |
| Black        | —              | 1NC                         | C22-D-S-K01                 | C22S-D-S-K01               |
|              | —              | 2NC                         | C22-D-S-K02                 | C22S-D-S-K02               |
|              | —              | 1NO/1NC                     | C22-D-S-K11                 | C22S-D-S-K11               |
|              | X0             | 1NC                         | C22-D-S-X0-K01              | C22S-D-S-X0-K01            |
|              | X0             | 2NC                         | C22-D-S-X0-K02              | C22S-D-S-X0-K02            |
|              | X0             | 1NO/1NC                     | C22-D-S-X0-K11              | C22S-D-S-X0-K11            |
| White        | —              | 1NO                         | C22-D-W-K10                 | C22S-D-W-K10               |
|              | —              | 2NO                         | C22-D-W-K20                 | C22S-D-W-K20               |
|              | —              | 1NO/1NC                     | C22-D-W-K11                 | C22S-D-W-K11               |
|              | X1             | 1NO                         | C22-D-W-X1-K10              | C22S-D-W-X1-K10            |
|              | X1             | 2NO                         | C22-D-W-X1-K20              | C22S-D-W-X1-K20            |
|              | X1             | 1NO/1NC                     | C22-D-W-X1-K11              | C22S-D-W-X1-K11            |
| Buttonless   | —              | 1NO                         | C22-D-X-K10                 | C22S-D-X-K10               |
|              | —              | 2NO                         | C22-D-X-K20                 | C22S-D-X-K20               |
|              | —              | 1NC                         | C22-D-X-K01                 | C22S-D-X-K01               |
|              | —              | 2NC                         | C22-D-X-K02                 | C22S-D-X-K02               |
|              | —              | 1NO/1NC                     | C22-D-X-K11                 | C22S-D-X-K11               |

## Technical Data and Specifications

## 22.5 mm Compact Pushbuttons—C22

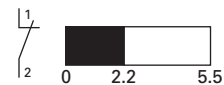
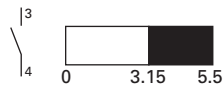
| Description                                                                         | Unit             | Pushbutton Actuators<br>Illuminated Pushbuttons C22                            |                                                                                                                                                                             |               | Indicator<br>Lights C22 | Selector Switch<br>Actuators C22                                                                                                                                            | Key-Operated<br>Buttons C22 | Emergency Stop/<br>Emergency Switching<br>OFF Pushbuttons C22 |
|-------------------------------------------------------------------------------------|------------------|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|
|                                                                                     |                  | Momentary                                                                      | Maintained                                                                                                                                                                  |               |                         |                                                                                                                                                                             |                             |                                                               |
| General                                                                             |                  |                                                                                |                                                                                                                                                                             |               |                         |                                                                                                                                                                             |                             |                                                               |
| Standards                                                                           |                  | IEC/EN 60947 VDE 0660                                                          |                                                                                                                                                                             |               |                         |                                                                                                                                                                             |                             |                                                               |
| Lifespan, mechanical                                                                | Operations       | x 10 <sup>6</sup>                                                              | 5                                                                                                                                                                           | 1             | —                       | 1                                                                                                                                                                           | 0.1                         | 0.05                                                          |
| Operating frequency                                                                 | Operations/h     |                                                                                | ≥3600                                                                                                                                                                       | ≥3600         | —                       | ≥2000                                                                                                                                                                       | ≥100                        | ≥300                                                          |
| Actuating force                                                                     |                  | N                                                                              | ≥5                                                                                                                                                                          | ≥5            | —                       | —                                                                                                                                                                           | —                           | ≥50                                                           |
| Operating torque                                                                    |                  | Nm                                                                             | —                                                                                                                                                                           | —             | —                       | ≥0.3                                                                                                                                                                        | ≥0.5                        | —                                                             |
| Terminal screw tightening torque                                                    |                  | Nm                                                                             | 0.8                                                                                                                                                                         | 0.8           | 0.8                     | 0.8                                                                                                                                                                         | 0.8                         | 0.8                                                           |
| Threaded ring tightening torque                                                     |                  | Nm                                                                             | 2                                                                                                                                                                           | 2             | 2                       | 2                                                                                                                                                                           | 2                           | 2                                                             |
| Protection type                                                                     |                  |                                                                                | IP67, IP69K                                                                                                                                                                 | IP67, IP69K   | IP67, IP69K             | IP65                                                                                                                                                                        | IP66                        | IP67, IP69K                                                   |
| Climatic proofing                                                                   |                  | Damp heat, constant, to IEC 60068-2-78<br>Damp heat, cyclic, to IEC 60068-2-30 |                                                                                                                                                                             |               |                         |                                                                                                                                                                             |                             |                                                               |
| Ambient temperature                                                                 |                  |                                                                                |                                                                                                                                                                             |               |                         |                                                                                                                                                                             |                             |                                                               |
| Open                                                                                |                  | °C                                                                             | –25° to 70°                                                                                                                                                                 | –25° to 70°   | –25° to 70°             | –25° to 70°                                                                                                                                                                 | –25° to 70°                 | –25° to 70°                                                   |
| Storage                                                                             |                  | °C                                                                             | –30° to 80°                                                                                                                                                                 | –30° to 80°   | –30° to 80°             | –30° to 80°                                                                                                                                                                 | –30° to 80°                 | –30° to 80°                                                   |
| Mounting position                                                                   |                  |                                                                                | As required                                                                                                                                                                 | As required   | As required             | As required                                                                                                                                                                 | As required                 | As required                                                   |
| Mechanical shock resistance to IEC 60068-2-27 Shock duration 11 ms, half-sinusoidal |                  | g                                                                              | 30                                                                                                                                                                          | 30            | 30                      | 30                                                                                                                                                                          | 30                          | 30                                                            |
| Terminal capacities                                                                 |                  |                                                                                |                                                                                                                                                                             |               |                         |                                                                                                                                                                             |                             |                                                               |
| Solid                                                                               |                  | mm <sup>2</sup>                                                                | 2 x 0.5–1.5                                                                                                                                                                 | 2 x 0.5–1.5   | 2 x 0.5–1.5             | 2 x 0.5–1.5                                                                                                                                                                 | 2 x 0.5–1.5                 | 2 x 0.5–1.5                                                   |
| Flexible with ferrule                                                               |                  | mm <sup>2</sup>                                                                | 2 x 0.5–1.5                                                                                                                                                                 | 2 x 0.5–1.5   | 2 x 0.5–1.5             | 2 x 0.5–1.5                                                                                                                                                                 | 2 x 0.5–1.5                 | 2 x 0.5–1.5                                                   |
| Contacts                                                                            |                  |                                                                                |                                                                                                                                                                             |               |                         |                                                                                                                                                                             |                             |                                                               |
| Rated impulse withstand voltage                                                     | U <sub>imp</sub> | Vac                                                                            | 4000                                                                                                                                                                        | 4000          | 4000                    | 4000                                                                                                                                                                        | 4000                        | 4000                                                          |
| Rated insulation voltage                                                            | U <sub>i</sub>   | V                                                                              | 250                                                                                                                                                                         | 250           | 250                     | 250                                                                                                                                                                         | 250                         | 250                                                           |
| Overvoltage category/pollution degree                                               |                  |                                                                                | III/3                                                                                                                                                                       | III/3         | III/3                   | III/3                                                                                                                                                                       | III/3                       | III/3                                                         |
| Control circuit reliability                                                         |                  |                                                                                |                                                                                                                                                                             |               |                         |                                                                                                                                                                             |                             |                                                               |
| at 5 Vdc/1 mA                                                                       | H <sub>F</sub>   | Fault probability                                                              | Values follow                                                                                                                                                               | Values follow | —                       | Values follow                                                                                                                                                               | Values follow               | Values follow                                                 |
| at 17 Vdc/7 mA                                                                      | H <sub>F</sub>   | Fault probability                                                              | N/O contact: statistically determined 1 failure per 17 x 10 <sup>6</sup> operations<br>N/C contact: statistically determined 1 failure per 0.9 x 10 <sup>6</sup> operations |               | —                       | N/O contact: statistically determined 1 failure per 17 x 10 <sup>6</sup> operations<br>N/C contact: statistically determined 1 failure per 0.9 x 10 <sup>6</sup> operations |                             |                                                               |
| at 24 Vdc/5 mA                                                                      | H <sub>F</sub>   | Fault probability                                                              | Values follow                                                                                                                                                               | Values follow | —                       | Values follow                                                                                                                                                               | Values follow               | Values follow                                                 |
| Max. short-circuit protective device                                                |                  |                                                                                |                                                                                                                                                                             |               |                         |                                                                                                                                                                             |                             |                                                               |
| Fuse                                                                                | gG/gL            | A                                                                              | 10                                                                                                                                                                          | 10            | —                       | 10                                                                                                                                                                          | 10                          | 10                                                            |

## 22.5 mm Compact Pushbuttons—C22, continued

| Description               | Unit           | Push-button Actuators<br>Illuminated Pushbuttons C22 |            | Indicator<br>Lights C22 | Selector Switch<br>Actuators C22 | Key-Operated<br>Buttons C22 | Emergency Stop/<br>Emergency Switching<br>OFF Pushbuttons C22 |
|---------------------------|----------------|------------------------------------------------------|------------|-------------------------|----------------------------------|-----------------------------|---------------------------------------------------------------|
|                           |                | Momentary                                            | Maintained |                         |                                  |                             |                                                               |
| Switching Capacity        |                |                                                      |            |                         |                                  |                             |                                                               |
| Rated operational current |                |                                                      |            |                         |                                  |                             |                                                               |
| AC-15                     |                |                                                      |            |                         |                                  |                             |                                                               |
| 24V                       | I <sub>e</sub> | A                                                    | 4          | 4                       | —                                | 4                           | 4                                                             |
| 110V                      | I <sub>e</sub> | A                                                    | 2          | 2                       | —                                | 2                           | 2                                                             |
| 230V                      | I <sub>e</sub> | A                                                    | 1.5        | 1.5                     | —                                | 1.5                         | 1.5                                                           |
| DC-13                     |                |                                                      |            |                         |                                  |                             |                                                               |
| 24V                       | I <sub>e</sub> | A                                                    | 3          | 3                       | —                                | 3                           | 3                                                             |
| 60V                       | I <sub>e</sub> | A                                                    | 1          | 1                       | —                                | 1                           | 1                                                             |
| 110V                      | I <sub>e</sub> | A                                                    | 0.6        | 0.6                     | —                                | 0.6                         | 0.6                                                           |
| 220V                      | I <sub>e</sub> | A                                                    | 0.3        | 0.3                     | —                                | 0.3                         | 0.3                                                           |
| Lifespan, electrical      |                |                                                      |            |                         |                                  |                             |                                                               |
| AC-15                     |                |                                                      |            |                         |                                  |                             |                                                               |
| 230V/0.5A                 | Operations     | x 10 <sup>6</sup>                                    | 0.4        | 0.4                     | —                                | 0.4                         | 0.4                                                           |
| 230V/1.0A                 |                | x 10 <sup>6</sup>                                    | 0.6        | 0.6                     | —                                | 0.6                         | 0.6                                                           |

## Contact Travel

## Contact Travel Diagram



 Contact closed  
 Contact open

# 37.5 Pushbuttons and Indicating Lights

## 22.5 mm Compact Pushbuttons—C22

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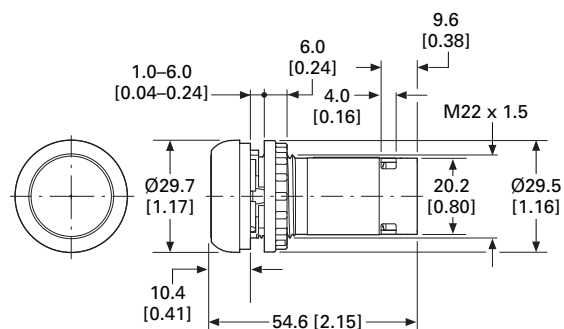
### Dimensions

Approximate Dimensions in mm [in]

#### Illuminated Pushbuttons

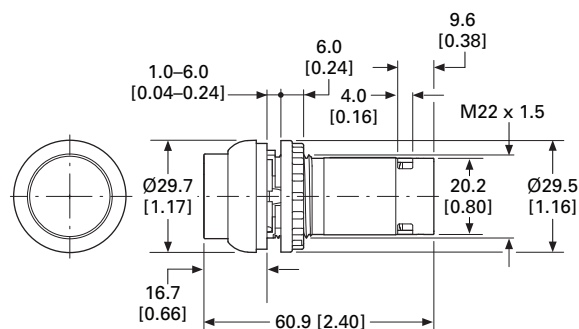
*Flat*

**C22(S)-DRL\_/C22(S)-DL\_**



*Extended*

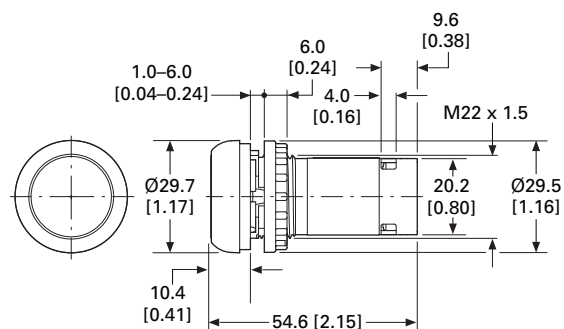
**C22(S)-DRLH\_/C22(S)-DLH\_**



#### Pushbutton Actuators

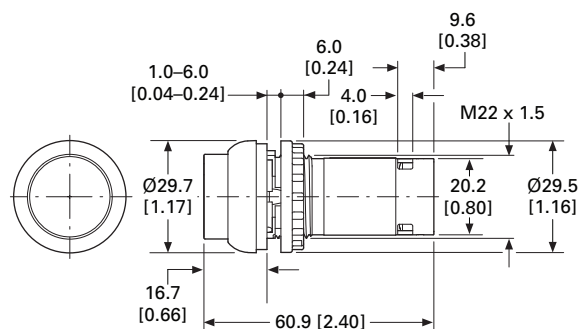
*Flat*

**C22(S)-DR\_/C22(S)-D\_**



*Extended*

**C22(S)-DRH\_/C22(S)-DH\_**



#### Indicating Lights

*Flat*

**C22-L\_**

