

1SFC151001C0201 December 2004  
Supersedes Catalogue 1SFC261001-EN, Edition 5 February 2003

**Revised April 19, 2005**



1SFC151169F0001

# ABB – A sure hit in Pilot Devices



## Part of comprehensive ABB program

The ABB Pilot Devices are part of the comprehensive ABB program of high quality Low Voltage Products and Systems for buildings, industries and OEM's. Much of this is sold through external channel partners such as distributors, system integrators and panel builders. Our products meet all

essential national and international standards such as IEC, EN, UL, CSA, CCC etc.

ABB offers a modern range of Control products such as contactors, soft starters, DOL & Y/D starters and a wider range of electronic relays, switches and sensors.



## Pilot Devices

ABB offers a complete range of 22 mm pushbuttons, emergency stops, selector switches and signalling units. These are complemented with enclosures and a wide range of accessories.

The main advantage is the robustness and the fast and easy installation ensuring cost efficiency for our customers. The ABB Pilot Devices are suitable for all types of industrial environments, indoor as well as outdoor. Other sectors of common usage include trucks, buses, trains and official buildings.

## Complete range

The ABB Pilot Device family is divided into two ranges; the **Modular** range includes operators, holders, contact blocks and accessories that can be combined with high flexibility. The **Compact** range has all functions built-in in one single unit.

## Modular pilot devices

The Modular range is extensive and well known all around the world for its flexibility and robustness. By combining a few basic components a large number of different devices can be acquired.

The Modular range includes pushbuttons, mushroom buttons, selector switches and emergency stops. Non-illuminated or illuminated. Further on we offer pilot lights with filament bulbs or LEDs. Buzzers, potentiometers, toggle switches, reset buttons and special definite purpose buttons (30 mm) complete the range.

The main benefits are:

- Made for tough environments
- Large text and push area
- Up to six contact blocks on one actuator
- Easy to mount and to wire

## Compact pilot devices

The exciting new family of Compact pilot devices is establishing new standards of performance. No matter what your application, the new range will improve your product and streamline your cost.

The all-in-one design makes everything easier; the entire functionality is condensed into one unit. You never need to match items together and each item has a single ordering number.

The Compact range includes pushbuttons, selector switches, emergency stops and pilot lights. These work in perfect harmony with the extensive Modular range since the front design is identical.

The main benefits are:

- Robust design
- Fast mounting
- Built in LED as an option
- Reduced stock keeping
- Low built-in depth

**22 mm or 30 mm** Both ranges for 22 mm can be used in 30 mm mounting holes (1.5 - 4 mm panels) by combining the pilot device with a 30 mm adaptor.



### Emergency stop devices

In the Modular range the Emergency stop pushbuttons from ABB were in the front line to pass the tough tests required to fulfil the standard IEC 60 947-5-5.

The product standard for electrical emergency stop devices with mechanical latching function, IEC 60 947-5-5, verifies the demands from Machine Directive and its reference standard EN 60204 (Safety of machinery).

Now we also can offer Emergency stop devices in our Compact range.



### Signal Towers and Signal Beacons

A wide range of signal devices with optical and audible signal elements.

For Signal Towers up to five elements can be used. With bracket for 2-sided mounting up to ten elements can be mounted.

### Assembled stations and enclosures

There are assembled stations of two types: In plastic enclosures and in metallic enclosures. Both types of enclosures are available in 1-, 2-, 3-, 4- or 6-seat.



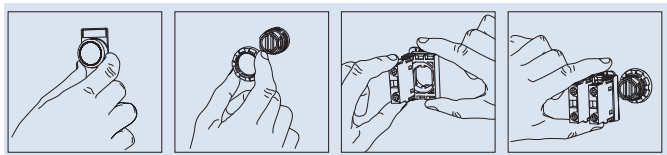
### Accessories

There is a wide assortment of accessories including legend plates, bulbs/LEDs, special blocks, different shrouds and adaptors.



### Fast and easy to install

All pilot devices are easy to install. Spring-loaded tabs ensure that actuators and legend plates are in correct position. Same actuator can be used in both notched and round holes.

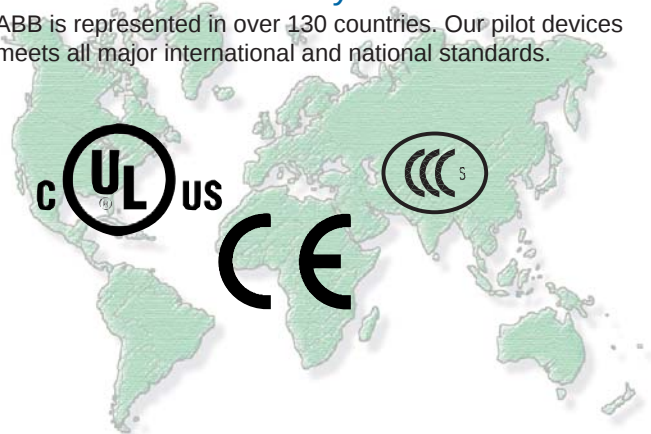


### Aesthetic – Functional – Flexible

- The pilot devices have an aesthetic and functional design
  - Tight, withstanding even the toughest environment.
  - No additional protective boot is needed.
- Large text and push area, clear and visible markings for quick and easy handling.
- Different choices of bezels - black plastic or metal. Grey plastic as accessory.
- Contacts are provided with wiping action. The tips of the contacts rub against each other each time the contacts close, thus forcing dust and oxide to the side. The NC block has positive opening for high performance in safety circuits.

### Worldwide availability

ABB is represented in over 130 countries. Our pilot devices meets all major international and national standards.





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## Ordering details

When ordering please give either the **"Type"** or the **"Order Code"**

Where not other is stated Type and Order Code refer to one piece.

The products described in this catalogue can be subject to change (design, dimensions, technical data, etc.) without prior notice.

## Notes



# ABB

## Pilot devices

### Modular range



#### General construction

- Snap-on feature reduces installation time
- Bezels: Black plastic, chrome plastic or metal. Grey plastic available as accessory.
- Contact block holder features rear mounting with quick-release locking mechanism for high security
- Buttons available in several colors
- Engraved text caps available
- Custom-specific markings on request

#### Operators

- Pushbuttons, illuminated and non-illuminated
- Double pushbuttons, illuminated and non-illuminated
- Mushroom pushbuttons, illuminated and non-illuminated, Ø 40 mm and Ø 60 mm
- Emergency stop pushbuttons, illuminated and non-illuminated, twist or pull release
- Selector switches, illuminated and non-illuminated, 2 or 3 position, short or long handle
- Key operated selector switches, 2 or 3 position
- Toggle switches, 2 or 3 position

#### Pilot lights

- Full voltage, resistor and transformer types
- LED & filament bulbs available for illuminated pushbuttons and pilot lights

#### Contact blocks

- Quick-mount, quick-release contact block holder for fast and easy assembly
- NO & NC contact blocks are color coded for easy identification: Green = NO, Red = NC
- Silver tipped contacts
- Wiping action for high reliability
- Low energy gold plated contact blocks
- Base mounted contact blocks which snap onto a 35 mm DIN rail or into a plastic enclosure
- Contact block holder for three or five blocks in a single row

#### Additional products

- Buzzer, continuous and pulsating
- 5 kΩ and 10 kΩ potentiometers
- Definite purpose pushbuttons
- Reset pushbuttons
- Broad range of accessories

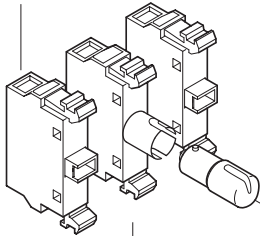
# Pilot devices - Modular range

## Mounting

### Exploded view

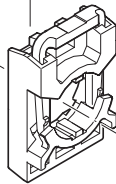
#### Contact block

Single pole with making or breaking contact



#### Holder

Available either for three or five blocks in one single row. Additional blocks can be stacked on holders for three blocks.

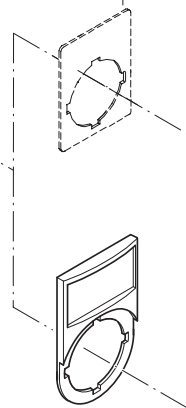


#### Nut



#### Legend plates

Of aluminium with slots that guide the legend plate and the operator into the correct position. Please, see the chapter 'legend plates' for more information.

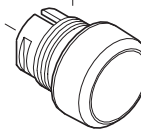


#### Legend plate holder

Of black plastic. Insert of brushed aluminium. Please, see the chapter 'legend plates' for more information.

#### Operator

Buttons, lenses and handles in several colors. Illuminated or non-illuminated.



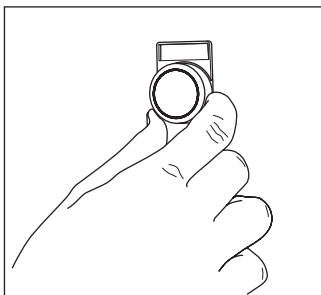
#### Bezels

Pushbuttons, selector switches and toggle switches with bezel in black plastic, chrome plastic or metal are available.

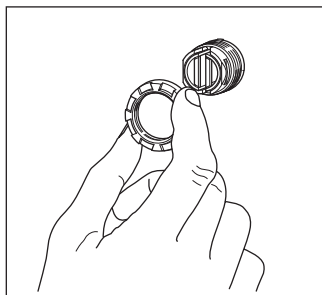
#### Lamp block

Illuminated pushbuttons, illuminated selector switches and pilot lights have a lamp block in the center position of the holder.

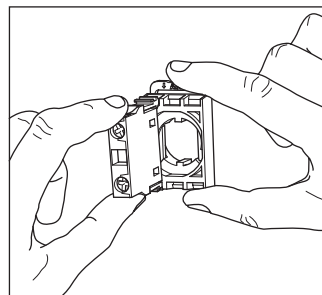
### Easy to mount



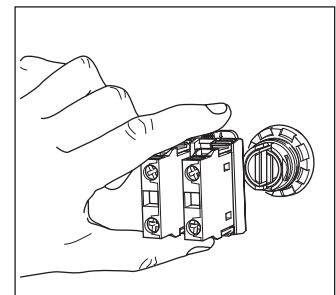
The operator is to be inserted from the front....



...and secured at the back with a nut.

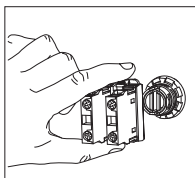
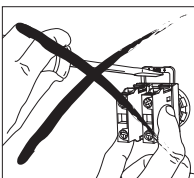


The contact blocks/lamp block are then snapped on to the holder...



...and the holder snaps on to the operator.

### ...and to demount

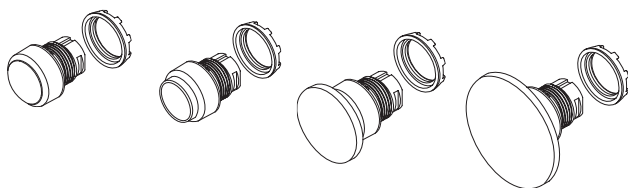


Press down the spring on the holder and pull the holder from the actuator.

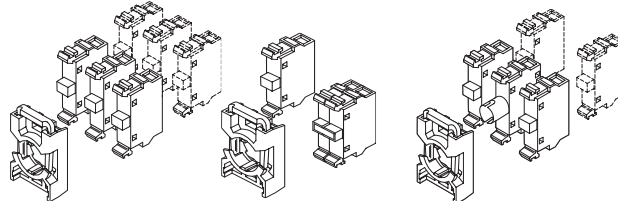
# Pilot devices - Modular range

## Selection Guide

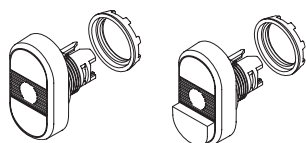
### Pushbuttons and Mushroom pushbuttons



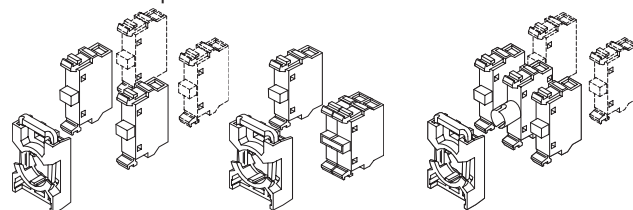
#### Contact block/lamp block combinations



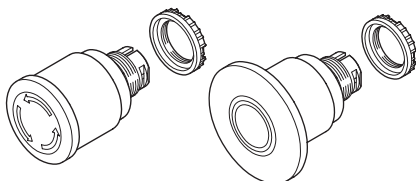
### Double pushbuttons



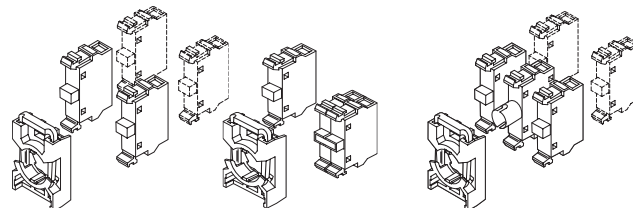
#### Contact block/lamp block combinations



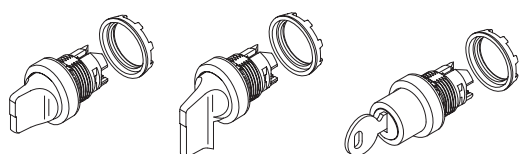
### Emergency stop pushbuttons



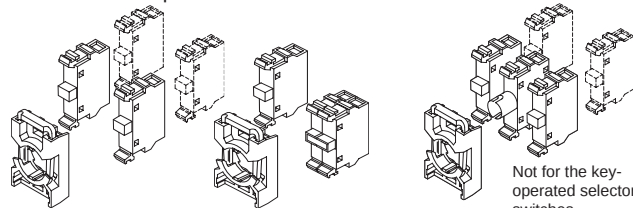
#### Contact block/lamp block combinations



### Selector switches

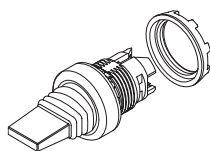


#### Contact block/lamp block combinations

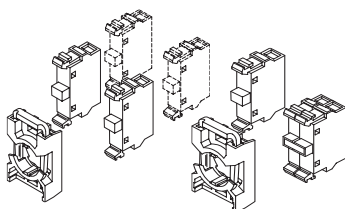


Not for the key-operated selector switches

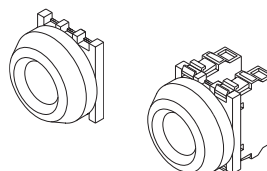
### Toggle switches



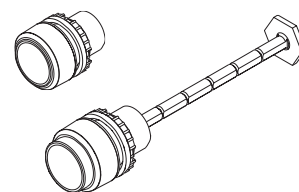
#### Contact block combinations



### Definite purpose push-buttons

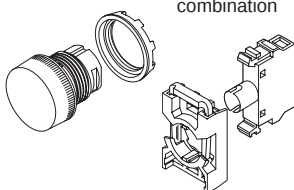


### Reset pushbuttons



### Pilot lights

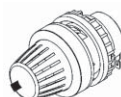
Lamp block combination



### Buzzers

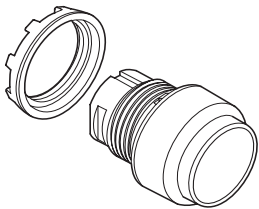
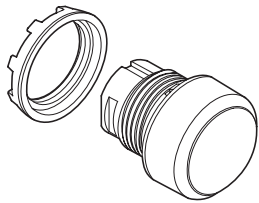


### Potentiometers



## Pilot devices - Modular range

Flush and extended pushbuttons, non-illuminated  
Momentary and maintained



Bezel in black plastic as standard

Bezel in metal:

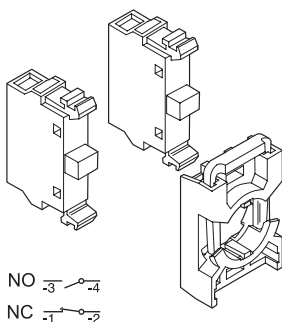
Replace '1' in the:

Type MPX-1 0X

Order Code 1SFA 611XXX R 1XXX

2 for chrome plastic bezel

3 for metal bezel



### Operator ...

| Description | Type | Order Code | Weight, kg |
|-------------|------|------------|------------|
|-------------|------|------------|------------|

#### with flush button

##### Momentary

|        |                |                    |       |
|--------|----------------|--------------------|-------|
| Red    | <b>MP1-10R</b> | 1SFA 611 100 R1001 | 0.016 |
| Green  | <b>MP1-10G</b> | 1SFA 611 100 R1002 | 0.016 |
| Yellow | <b>MP1-10Y</b> | 1SFA 611 100 R1003 | 0.016 |
| Blue   | <b>MP1-10L</b> | 1SFA 611 100 R1004 | 0.016 |
| White  | <b>MP1-10W</b> | 1SFA 611 100 R1005 | 0.016 |
| Black  | <b>MP1-10B</b> | 1SFA 611 100 R1006 | 0.016 |
| Clear  | <b>MP1-10C</b> | 1SFA 611 100 R1008 | 0.016 |

##### Maintained <sup>1)</sup>

|        |                |                    |       |
|--------|----------------|--------------------|-------|
| Red    | <b>MP2-10R</b> | 1SFA 611 101 R1001 | 0.016 |
| Green  | <b>MP2-10G</b> | 1SFA 611 101 R1002 | 0.016 |
| Yellow | <b>MP2-10Y</b> | 1SFA 611 101 R1003 | 0.016 |
| Blue   | <b>MP2-10L</b> | 1SFA 611 101 R1004 | 0.016 |
| White  | <b>MP2-10W</b> | 1SFA 611 101 R1005 | 0.016 |
| Black  | <b>MP2-10B</b> | 1SFA 611 101 R1006 | 0.016 |
| Clear  | <b>MP2-10C</b> | 1SFA 611 101 R1008 | 0.016 |

#### with extended button

##### Momentary

|        |                |                    |       |
|--------|----------------|--------------------|-------|
| Red    | <b>MP3-10R</b> | 1SFA 611 102 R1001 | 0.016 |
| Green  | <b>MP3-10G</b> | 1SFA 611 102 R1002 | 0.016 |
| Yellow | <b>MP3-10Y</b> | 1SFA 611 102 R1003 | 0.016 |
| Blue   | <b>MP3-10L</b> | 1SFA 611 102 R1004 | 0.016 |
| White  | <b>MP3-10W</b> | 1SFA 611 102 R1005 | 0.016 |
| Black  | <b>MP3-10B</b> | 1SFA 611 102 R1006 | 0.016 |
| Clear  | <b>MP3-10C</b> | 1SFA 611 102 R1008 | 0.016 |

##### Maintained <sup>1)</sup>

|        |                |                    |       |
|--------|----------------|--------------------|-------|
| Red    | <b>MP4-10R</b> | 1SFA 611 103 R1001 | 0.016 |
| Green  | <b>MP4-10G</b> | 1SFA 611 103 R1002 | 0.016 |
| Yellow | <b>MP4-10Y</b> | 1SFA 611 103 R1003 | 0.016 |
| Blue   | <b>MP4-10L</b> | 1SFA 611 103 R1004 | 0.016 |
| White  | <b>MP4-10W</b> | 1SFA 611 103 R1005 | 0.016 |
| Black  | <b>MP4-10B</b> | 1SFA 611 103 R1006 | 0.016 |
| Clear  | <b>MP4-10C</b> | 1SFA 611 103 R1008 | 0.016 |

### Contact blocks, and holder

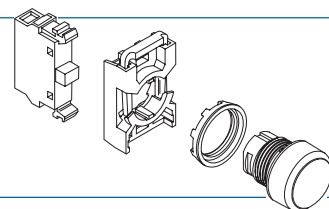
| Blocks                  | Type           | Order Code         | Weight, kg |
|-------------------------|----------------|--------------------|------------|
| 1 NO with holder        | <b>MCBH-10</b> | 1SFA 611 605 R1101 | 0.019      |
| 1 NC with holder        | <b>MCBH-01</b> | 1SFA 611 605 R1110 | 0.019      |
| 2 NO with holder        | <b>MCBH-20</b> | 1SFA 611 605 R1102 | 0.032      |
| 2 NC with holder        | <b>MCBH-02</b> | 1SFA 611 605 R1120 | 0.032      |
| 1 NO + 1 NC with holder | <b>MCBH-11</b> | 1SFA 611 605 R1111 | 0.032      |
| 1 NO without holder     | <b>MCB-10</b>  | 1SFA 611 610 R1001 | 0.013      |
| 1 NC without holder     | <b>MCB-01</b>  | 1SFA 611 610 R1010 | 0.013      |
| Holder for 3 blocks     | <b>MCBH-00</b> | 1SFA 611 605 R1100 | 0.006      |

<sup>1)</sup> No contact block in the center position

### Ordering example

Requested: A modular pushbutton, momentary,  
with red flush button and one NO contact.

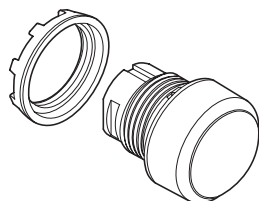
Order: 1 piece of MP1-10R + 1 piece of MCBH-10



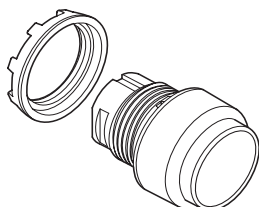
# Pilot devices - Modular range

Flush and extended pushbuttons, illuminated  
Momentary and maintained

Bulb max 1.2 W



1SFC151073P0001



1SFC151074F0001

Bezel in black plastic as standard

Bezel in metal:

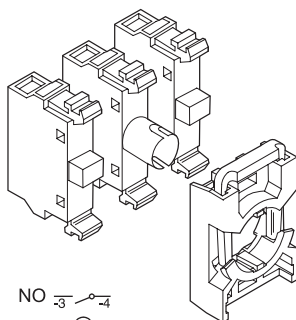
Replace '1' in the:

Type MPX-1 0X

Order Code 1SFA611XXX R 1XXX

2 for chrome plastic bezel

3 for metal bezel



NO 3-4  
LB X1 X2  
NC 1-2

## Operator ...

| Description                        | Type    | Order Code         | Weight, kg |
|------------------------------------|---------|--------------------|------------|
| <b>with flush button</b>           |         |                    |            |
| <b>Momentary</b> <sup>1)</sup>     |         |                    |            |
| Red                                | MP1-11R | 1SFA 611 100 R1101 | 0.016      |
| Green                              | MP1-11G | 1SFA 611 100 R1102 | 0.016      |
| Yellow                             | MP1-11Y | 1SFA 611 100 R1103 | 0.016      |
| Blue                               | MP1-11L | 1SFA 611 100 R1104 | 0.016      |
| White                              | MP1-11W | 1SFA 611 100 R1105 | 0.016      |
| Clear                              | MP1-11C | 1SFA 611 100 R1108 | 0.016      |
| <b>Maintained</b> <sup>1) 3)</sup> |         |                    |            |
| Red                                | MP2-11R | 1SFA 611 101 R1101 | 0.016      |
| Green                              | MP2-11G | 1SFA 611 101 R1102 | 0.016      |
| Yellow                             | MP2-11Y | 1SFA 611 101 R1103 | 0.016      |
| Blue                               | MP2-11L | 1SFA 611 101 R1104 | 0.016      |
| White                              | MP2-11W | 1SFA 611 101 R1105 | 0.016      |
| Clear                              | MP2-11C | 1SFA 611 101 R1108 | 0.016      |
| <b>with extended button</b>        |         |                    |            |
| <b>Momentary</b> <sup>1)</sup>     |         |                    |            |
| Red                                | MP3-11R | 1SFA 611 102 R1101 | 0.016      |
| Green                              | MP3-11G | 1SFA 611 102 R1102 | 0.016      |
| Yellow                             | MP3-11Y | 1SFA 611 102 R1103 | 0.016      |
| Blue                               | MP3-11L | 1SFA 611 102 R1104 | 0.016      |
| White                              | MP3-11W | 1SFA 611 102 R1105 | 0.016      |
| Clear                              | MP3-11C | 1SFA 611 102 R1108 | 0.016      |
| <b>Maintained</b> <sup>1) 3)</sup> |         |                    |            |
| Red                                | MP4-11R | 1SFA 611 103 R1101 | 0.016      |
| Green                              | MP4-11G | 1SFA 611 103 R1102 | 0.016      |
| Yellow                             | MP4-11Y | 1SFA 611 103 R1103 | 0.016      |
| Blue                               | MP4-11L | 1SFA 611 103 R1104 | 0.016      |
| White                              | MP4-11W | 1SFA 611 103 R1105 | 0.016      |
| Clear                              | MP4-11C | 1SFA 611 103 R1108 | 0.016      |

## Contact blocks, lamp block and holder <sup>2)</sup>

| Blocks                                          | Type     | Order Code         | Weight, kg |
|-------------------------------------------------|----------|--------------------|------------|
| 1 NO + 1 LB with holder                         | MCBH-101 | 1SFA 611 605 R1201 | 0.034      |
| 1 NC + 1 LB with holder                         | MCBH-011 | 1SFA 611 605 R1210 | 0.034      |
| 2 NO + 1 LB with holder                         | MCBH-201 | 1SFA 611 605 R1202 | 0.047      |
| 2 NC + 1 LB with holder                         | MCBH-021 | 1SFA 611 605 R1220 | 0.047      |
| 1 NO + 1 NC + 1 LB with holder                  | MCBH-111 | 1SFA 611 605 R1211 | 0.047      |
| 1 NO without holder                             | MCB-10   | 1SFA 611 610 R1001 | 0.013      |
| 1 NC without holder                             | MCB-01   | 1SFA 611 610 R1010 | 0.013      |
| Lamp block for 2 W, max 230 V AC/DC bulb or LED | MLB-1    | 1SFA 611 620 R1001 | 0.015      |
| Holder for 3 blocks                             | MCBH-00  | 1SFA 611 605 R1100 | 0.006      |

<sup>1)</sup> No contact block in the center position

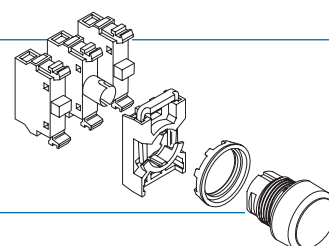
<sup>2)</sup> Lamp block MLB-1. Bulb not included. For other lamp blocks see Accessories.

<sup>3)</sup> Bulb max 1.2 W, not included.

## Ordering example

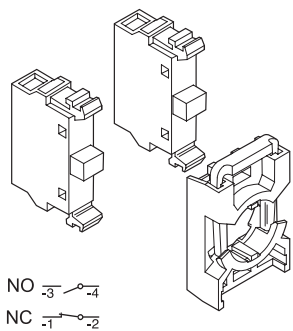
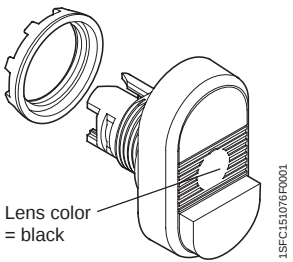
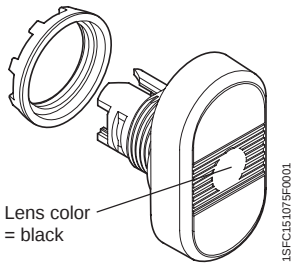
Requested: A modular pushbutton, maintained and illuminated with green flush button and one NO + one NC contact.

Order: 1 piece of MP2-11G + 1 piece of MCBH-111  
Bulb - see accessories



# Pilot devices - Modular range

## Double pushbuttons, non-illuminated



### Operator ...

| Upper button                             |         | Lower button |         | Type      | Order Code         | Weight, kg |
|------------------------------------------|---------|--------------|---------|-----------|--------------------|------------|
| Color                                    | Text    | Color        | Text    |           |                    |            |
| with flush buttons <sup>1)</sup>         |         |              |         |           |                    |            |
| Green                                    | No text | Red          | No text | MPD1-11B  | 1SFA 611 130 R1106 | 0.025      |
|                                          | I       |              | O       | MPD2-11B  | 1SFA 611 131 R1106 | 0.025      |
|                                          | ON      |              | OFF     | MPD3-11B  | 1SFA 611 132 R1106 | 0.025      |
|                                          | START   |              | STOP    | MPD4-11B  | 1SFA 611 133 R1106 | 0.025      |
| White                                    | No text | Black        | No text | MPD5-11B  | 1SFA 611 134 R1106 | 0.025      |
|                                          | I       |              | O       | MPD6-11B  | 1SFA 611 135 R1106 | 0.025      |
|                                          | ON      |              | OFF     | MPD7-11B  | 1SFA 611 136 R1106 | 0.025      |
|                                          | START   |              | STOP    | MPD8-11B  | 1SFA 611 137 R1106 | 0.025      |
| with extended lower button <sup>1)</sup> |         |              |         |           |                    |            |
| Green                                    | No text | Red          | No text | MPD12-11B | 1SFA 611 141 R1106 | 0.025      |
|                                          | I       |              | O       | MPD13-11B | 1SFA 611 142 R1106 | 0.025      |
|                                          | ON      |              | OFF     | MPD14-11B | 1SFA 611 143 R1106 | 0.025      |
|                                          | START   |              | STOP    | MPD15-11B | 1SFA 611 144 R1106 | 0.025      |
| White                                    | No text | Black        | No text | MPD16-11B | 1SFA 611 145 R1106 | 0.025      |
|                                          | I       |              | O       | MPD17-11B | 1SFA 611 146 R1106 | 0.025      |
|                                          | ON      |              | OFF     | MPD18-11B | 1SFA 611 147 R1106 | 0.025      |
|                                          | START   |              | STOP    | MPD19-11B | 1SFA 611 148 R1106 | 0.025      |

### Contact blocks, and holder

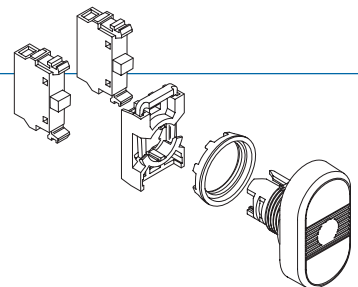
| Blocks                  | Type           | Order Code         | Weight, kg |
|-------------------------|----------------|--------------------|------------|
| 2 NO with holder        | <b>MCBH-20</b> | 1SFA 611 605 R1102 | 0.032      |
| 2 NC with holder        | <b>MCBH-02</b> | 1SFA 611 605 R1120 | 0.032      |
| 1 NO + 1 NC with holder | <b>MCBH-11</b> | 1SFA 611 605 R1111 | 0.032      |
| 1 NO without holder     | <b>MCB-10</b>  | 1SFA 611 610 R1001 | 0.013      |
| 1 NC without holder     | <b>MCB-01</b>  | 1SFA 611 610 R1010 | 0.013      |
| Holder for 3 blocks     | <b>MCBH-00</b> | 1SFA 611 605 R1100 | 0.006      |

<sup>1)</sup> No contact block in the center position.

### Ordering example – Double pushbutton

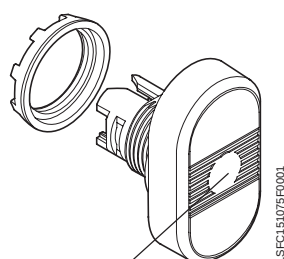
Requested: A non-illuminated double pushbutton, Green/Red, No text, with 2 NO blocks

Order: 1 piece of MPD1-11B + 1 piece of MCBH-20

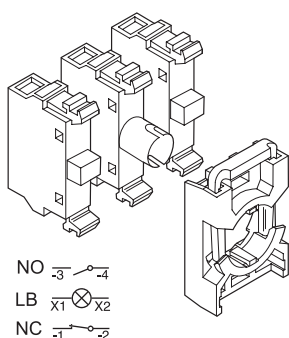


# Pilot devices - Modular range

## Double pushbuttons, illuminated



Lens colors:  
Red  
Green  
Yellow  
Clear



### Operator ...

| Upper button                     |         | Lower button |         | Type     | Order Code         | Weight, kg |
|----------------------------------|---------|--------------|---------|----------|--------------------|------------|
| Color                            | Text    | Color        | Text    |          |                    |            |
| with flush buttons <sup>1)</sup> |         |              |         |          |                    |            |
| Red lens                         |         |              |         |          |                    |            |
| Green                            | No text | Red          | No text | MPD1-11R | 1SFA 611 130 R1101 | 0.025      |
|                                  | I       |              | O       | MPD2-11R | 1SFA 611 131 R1101 | 0.025      |
|                                  | ON      |              | OFF     | MPD3-11R | 1SFA 611 132 R1101 | 0.025      |
|                                  | START   |              | STOP    | MPD4-11R | 1SFA 611 133 R1101 | 0.025      |
| White                            | No text | Black        | No text | MPD5-11R | 1SFA 611 134 R1101 | 0.025      |
|                                  | I       |              | O       | MPD6-11R | 1SFA 611 135 R1101 | 0.025      |
|                                  | ON      |              | OFF     | MPD7-11R | 1SFA 611 136 R1101 | 0.025      |
|                                  | START   |              | STOP    | MPD8-11R | 1SFA 611 137 R1101 | 0.025      |
| Green lens                       |         |              |         |          |                    |            |
| Green                            | No text | Red          | No text | MPD1-11G | 1SFA 611 130 R1102 | 0.025      |
|                                  | I       |              | O       | MPD2-11G | 1SFA 611 131 R1102 | 0.025      |
|                                  | ON      |              | OFF     | MPD3-11G | 1SFA 611 132 R1102 | 0.025      |
|                                  | START   |              | STOP    | MPD4-11G | 1SFA 611 133 R1102 | 0.025      |
| White                            | No text | Black        | No text | MPD5-11G | 1SFA 611 134 R1102 | 0.025      |
|                                  | I       |              | O       | MPD6-11G | 1SFA 611 135 R1102 | 0.025      |
|                                  | ON      |              | OFF     | MPD7-11G | 1SFA 611 136 R1102 | 0.025      |
|                                  | START   |              | STOP    | MPD8-11G | 1SFA 611 137 R1102 | 0.025      |
| Yellow lens                      |         |              |         |          |                    |            |
| Green                            | No text | Red          | No text | MPD1-11Y | 1SFA 611 130 R1103 | 0.025      |
|                                  | I       |              | O       | MPD2-11Y | 1SFA 611 131 R1103 | 0.025      |
|                                  | ON      |              | OFF     | MPD3-11Y | 1SFA 611 132 R1103 | 0.025      |
|                                  | START   |              | STOP    | MPD4-11Y | 1SFA 611 133 R1103 | 0.025      |
| White                            | No text | Black        | No text | MPD5-11Y | 1SFA 611 134 R1103 | 0.025      |
|                                  | I       |              | O       | MPD6-11Y | 1SFA 611 135 R1103 | 0.025      |
|                                  | ON      |              | OFF     | MPD7-11Y | 1SFA 611 136 R1103 | 0.025      |
|                                  | START   |              | STOP    | MPD8-11Y | 1SFA 611 137 R1103 | 0.025      |
| Clear lens                       |         |              |         |          |                    |            |
| Green                            | No text | Red          | No text | MPD1-11C | 1SFA 611 130 R1108 | 0.025      |
|                                  | I       |              | O       | MPD2-11C | 1SFA 611 131 R1108 | 0.025      |
|                                  | ON      |              | OFF     | MPD3-11C | 1SFA 611 132 R1108 | 0.025      |
|                                  | START   |              | STOP    | MPD4-11C | 1SFA 611 133 R1108 | 0.025      |
| White                            | No text | Black        | No text | MPD5-11C | 1SFA 611 134 R1108 | 0.025      |
|                                  | I       |              | O       | MPD6-11C | 1SFA 611 135 R1108 | 0.025      |
|                                  | ON      |              | OFF     | MPD7-11C | 1SFA 611 136 R1108 | 0.025      |
|                                  | START   |              | STOP    | MPD8-11C | 1SFA 611 137 R1108 | 0.025      |

### Contact blocks, lamp block and holder <sup>2)</sup>

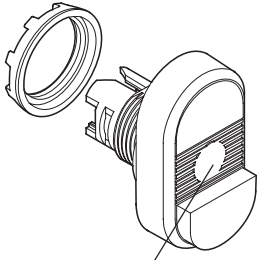
| Blocks                                          | Type     | Order Code         | Weight, kg |
|-------------------------------------------------|----------|--------------------|------------|
| 2 NO + 1 LB with holder                         | MCBH-201 | 1SFA 611 605 R1202 | 0.047      |
| 2 NC + 1 LB with holder                         | MCBH-021 | 1SFA 611 605 R1220 | 0.047      |
| 1 NO + 1 NC + 1 LB with holder                  | MCBH-111 | 1SFA 611 605 R1211 | 0.047      |
| 1 NO without holder                             | MCB-10   | 1SFA 611 610 R1001 | 0.013      |
| 1 NC without holder                             | MCB-01   | 1SFA 611 610 R1010 | 0.013      |
| Lamp block for 2 W, max 230 V AC/DC bulb or LED | MLB-1    | 1SFA 611 620 R1001 | 0.015      |
| Holder for 3 blocks                             | MCBH-00  | 1SFA 611 605 R1100 | 0.006      |

<sup>1)</sup> No contact block in the center position.

<sup>2)</sup> Lamp block MLB-1. Bulb not included. For other lamp blocks see Accessories, bulb max 2 W.

# Pilot devices - Modular range

## Double pushbuttons, illuminated



Lens colors:  
Red  
Green  
Yellow  
Clear

### Operator ...

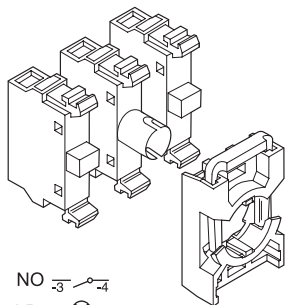
| Upper button                             |         | Lower button |         | Type      | Order Code         | Weight, kg |
|------------------------------------------|---------|--------------|---------|-----------|--------------------|------------|
| Color                                    | Text    | Color        | Text    |           |                    |            |
| with extended lower button <sup>1)</sup> |         |              |         |           |                    |            |
| Red lens                                 |         |              |         |           |                    |            |
| Green                                    | No text | Red          | No text | MPD12-11R | 1SFA 611 141 R1101 | 0.025      |
|                                          | I       |              | O       | MPD13-11R | 1SFA 611 142 R1101 | 0.025      |
|                                          | ON      |              | OFF     | MPD14-11R | 1SFA 611 143 R1101 | 0.025      |
|                                          | START   |              | STOP    | MPD15-11R | 1SFA 611 144 R1101 | 0.025      |
| White                                    | No text | Black        | No text | MPD16-11R | 1SFA 611 145 R1101 | 0.025      |
|                                          | I       |              | O       | MPD17-11R | 1SFA 611 146 R1101 | 0.025      |
|                                          | ON      |              | OFF     | MPD18-11R | 1SFA 611 147 R1101 | 0.025      |
|                                          | START   |              | STOP    | MPD19-11R | 1SFA 611 148 R1101 | 0.025      |
| Green lens                               |         |              |         |           |                    |            |
| Green                                    | No text | Red          | No text | MPD12-11G | 1SFA 611 141 R1102 | 0.025      |
|                                          | I       |              | O       | MPD13-11G | 1SFA 611 142 R1102 | 0.025      |
|                                          | ON      |              | OFF     | MPD14-11G | 1SFA 611 143 R1102 | 0.025      |
|                                          | START   |              | STOP    | MPD15-11G | 1SFA 611 144 R1102 | 0.025      |
| White                                    | No text | Black        | No text | MPD16-11G | 1SFA 611 145 R1102 | 0.025      |
|                                          | I       |              | O       | MPD17-11G | 1SFA 611 146 R1102 | 0.025      |
|                                          | ON      |              | OFF     | MPD18-11G | 1SFA 611 147 R1102 | 0.025      |
|                                          | START   |              | STOP    | MPD19-11G | 1SFA 611 148 R1102 | 0.025      |
| Yellow lens                              |         |              |         |           |                    |            |
| Green                                    | No text | Red          | No text | MPD12-11Y | 1SFA 611 141 R1103 | 0.025      |
|                                          | I       |              | O       | MPD13-11Y | 1SFA 611 142 R1103 | 0.025      |
|                                          | ON      |              | OFF     | MPD14-11Y | 1SFA 611 143 R1103 | 0.025      |
|                                          | START   |              | STOP    | MPD15-11Y | 1SFA 611 144 R1103 | 0.025      |
| White                                    | No text | Black        | No text | MPD16-11Y | 1SFA 611 145 R1103 | 0.025      |
|                                          | I       |              | O       | MPD17-11Y | 1SFA 611 146 R1103 | 0.025      |
|                                          | ON      |              | OFF     | MPD18-11Y | 1SFA 611 147 R1103 | 0.025      |
|                                          | START   |              | STOP    | MPD19-11Y | 1SFA 611 148 R1103 | 0.025      |
| Clear lens                               |         |              |         |           |                    |            |
| Green                                    | No text | Red          | No text | MPD12-11C | 1SFA 611 141 R1108 | 0.025      |
|                                          | I       |              | O       | MPD13-11C | 1SFA 611 142 R1108 | 0.025      |
|                                          | ON      |              | OFF     | MPD14-11C | 1SFA 611 143 R1108 | 0.025      |
|                                          | START   |              | STOP    | MPD15-11C | 1SFA 611 144 R1108 | 0.025      |
| White                                    | No text | Black        | No text | MPD16-11C | 1SFA 611 145 R1108 | 0.025      |
|                                          | I       |              | O       | MPD17-11C | 1SFA 611 146 R1108 | 0.025      |
|                                          | ON      |              | OFF     | MPD18-11C | 1SFA 611 147 R1108 | 0.025      |
|                                          | START   |              | STOP    | MPD19-11C | 1SFA 611 148 R1108 | 0.025      |

### Contact blocks, lamp block and holder <sup>2)</sup>

| Blocks                                          | Type            | Order Code         | Weight, kg |
|-------------------------------------------------|-----------------|--------------------|------------|
| 2 NO + 1 LB with holder                         | <b>MCBH-201</b> | 1SFA 611 605 R1202 | 0.047      |
| 2 NC + 1 LB with holder                         | <b>MCBH-021</b> | 1SFA 611 605 R1220 | 0.047      |
| 1 NO + 1 NC + 1 LB with holder                  | <b>MCBH-111</b> | 1SFA 611 605 R1211 | 0.047      |
| 1 NO without holder                             | <b>MCB-10</b>   | 1SFA 611 610 R1001 | 0.013      |
| 1 NC without holder                             | <b>MCB-01</b>   | 1SFA 611 610 R1010 | 0.013      |
| Lamp block for 2 W, max 230 V AC/DC bulb or LED | <b>MLB-1</b>    | 1SFA 611 620 R1001 | 0.015      |
| Holder for 3 blocks                             | <b>MCBH-00</b>  | 1SFA 611 605 R1100 | 0.006      |

<sup>1)</sup> No contact block in the center position

<sup>2)</sup> Lamp block MLB-1. Bulb not included. Other lamp block see Accessories, bulb max 2 W.



NO 3  
LB 1 2  
NC 4

## Pilot devices - Modular range

### Mushroom pushbuttons, momentary Non-illuminated and illuminated

#### Operator ...

| Operator material                | Button color | Type            | Order Code         | Weight, kg |
|----------------------------------|--------------|-----------------|--------------------|------------|
| <b>non-illuminated</b>           |              |                 |                    |            |
| <b>Ø 40 mm</b>                   |              |                 |                    |            |
| Plastic                          | Red          | <b>MPM1-10R</b> | 1SFA 611 124 R1001 | 0.018      |
|                                  | Yellow       | <b>MPM1-10Y</b> | 1SFA 611 124 R1003 | 0.018      |
|                                  | Black        | <b>MPM1-10B</b> | 1SFA 611 124 R1006 | 0.018      |
| <b>Ø 60 mm</b>                   |              |                 |                    |            |
| Plastic                          | Red          | <b>MPM2-10R</b> | 1SFA 611 125 R1001 | 0.020      |
|                                  | Yellow       | <b>MPM2-10Y</b> | 1SFA 611 125 R1003 | 0.020      |
|                                  | Black        | <b>MPM2-10B</b> | 1SFA 611 125 R1006 | 0.020      |
| <b>illuminated <sup>1)</sup></b> |              |                 |                    |            |
| <b>Ø 40 mm</b>                   |              |                 |                    |            |
| Plastic                          | Red          | <b>MPM1-11R</b> | 1SFA 611 124 R1101 | 0.018      |
|                                  | Yellow       | <b>MPM1-11Y</b> | 1SFA 611 124 R1103 | 0.018      |
| <b>Ø 60 mm</b>                   |              |                 |                    |            |
| Plastic                          | Red          | <b>MPM2-11R</b> | 1SFA 611 125 R1101 | 0.020      |
|                                  | Yellow       | <b>MPM2-11Y</b> | 1SFA 611 125 R1103 | 0.020      |

Bezel in black plastic as standard

Bezel in metal:

Replace '1' in the:

Type MPMX-1 0X

Order Code 1SFA611XXX R 1XXX

2 for chrome plastic bezel

3 for metal bezel

#### Contact blocks, lamp block and holder <sup>2)</sup>

| Blocks                                          | Type            | Order Code         | Weight, kg |
|-------------------------------------------------|-----------------|--------------------|------------|
| 1 NO with holder                                | <b>MCBH-10</b>  | 1SFA 611 605 R1101 | 0.019      |
| 1 NC with holder                                | <b>MCBH-01</b>  | 1SFA 611 605 R1110 | 0.019      |
| 2 NO with holder                                | <b>MCBH-20</b>  | 1SFA 611 605 R1102 | 0.032      |
| 2 NC with holder                                | <b>MCBH-02</b>  | 1SFA 611 605 R1120 | 0.032      |
| 1 NO + 1 NC with holder                         | <b>MCBH-11</b>  | 1SFA 611 605 R1111 | 0.032      |
| 1 NO + 1 LB with holder                         | <b>MCBH-101</b> | 1SFA 611 605 R1201 | 0.034      |
| 1 NC + 1 LB with holder                         | <b>MCBH-011</b> | 1SFA 611 605 R1210 | 0.034      |
| 2 NO + 1 LB with holder <sup>1)</sup>           | <b>MCBH-201</b> | 1SFA 611 605 R1202 | 0.047      |
| 2 NC + 1 LB with holder                         | <b>MCBH-021</b> | 1SFA 611 605 R1220 | 0.047      |
| 1 NO + 1 NC + 1 LB with holder                  | <b>MCBH-111</b> | 1SFA 611 605 R1211 | 0.047      |
| 1 NO without holder                             | <b>MCB-10</b>   | 1SFA 611 610 R1001 | 0.013      |
| 1 NC without holder                             | <b>MCB-01</b>   | 1SFA 611 610 R1010 | 0.013      |
| Lamp block for 2 W, max 230 V AC/DC bulb or LED | <b>MLB-1</b>    | 1SFA 611 620 R1001 | 0.015      |
| Holder for 3 blocks                             | <b>MCBH-00</b>  | 1SFA 611 605 R1100 | 0.006      |

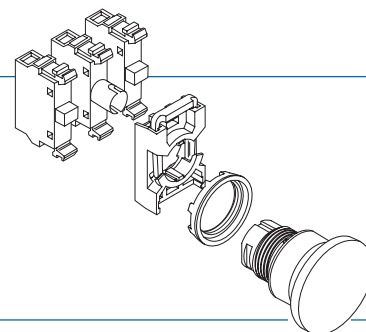
<sup>1)</sup> No contact block in the center position

<sup>2)</sup> Lamp block MLB-1. Bulb not included. Other lamp block see Accessories, bulb max 2 W.

#### Ordering example – Mushroom Pushbutton

Requested: A modular mushroom pushbutton, Ø 40 mm, illuminated, red, with one NO + one NC contact and a standard lamp block

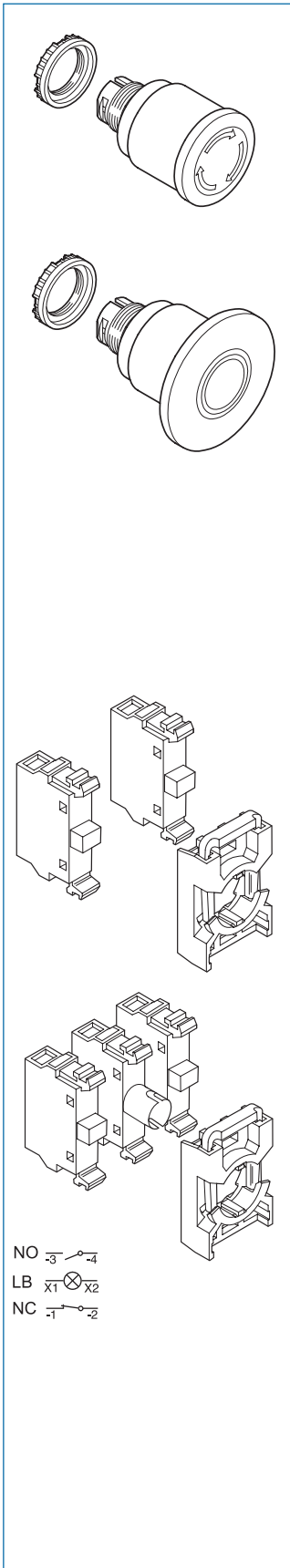
Order: 1 piece of MPM1-11R + 1 piece of MCBH-111  
Bulb - see accessories



## Pilot devices - Modular range

### Emergency stop pushbuttons Non-illuminated and illuminated

Fulfills IEC 60947-5-5



#### Operator ...

| Operator function                | Button color and material | Type             | Order Code         | Weight, kg |
|----------------------------------|---------------------------|------------------|--------------------|------------|
| <b>non-illuminated</b>           |                           |                  |                    |            |
| <b>Ø 40 mm</b>                   |                           |                  |                    |            |
| Twist release                    | Red, plastic              | <b>MPMT3-10R</b> | 1SFA 611 510 R1001 | 0.041      |
| Pull release                     | Red, plastic              | <b>MPMP3-10R</b> | 1SFA 611 511 R1001 | 0.041      |
| <b>Ø 60 mm</b>                   |                           |                  |                    |            |
| Twist release                    | Red, plastic              | <b>MPMT4-10R</b> | 1SFA 611 513 R1001 | 0.048      |
| Pull release                     | Red, plastic              | <b>MPMP4-10R</b> | 1SFA 611 514 R1001 | 0.048      |
| <b>illuminated <sup>1)</sup></b> |                           |                  |                    |            |
| <b>Ø 40 mm</b>                   |                           |                  |                    |            |
| Twist release                    | Red, plastic              | <b>MPMT3-11R</b> | 1SFA 611 510 R1101 | 0.041      |
| Pull release                     | Red, plastic              | <b>MPMP3-11R</b> | 1SFA 611 511 R1101 | 0.041      |
| <b>Ø 60 mm</b>                   |                           |                  |                    |            |
| Twist release                    | Red, plastic              | <b>MPMT4-11R</b> | 1SFA 611 513 R1101 | 0.048      |
| Pull release                     | Red, plastic              | <b>MPMP4-11R</b> | 1SFA 611 514 R1101 | 0.048      |

#### Contact blocks, lamp block and holder <sup>2)</sup>

| Blocks                                          | Type            | Order Code         | Weight, kg |
|-------------------------------------------------|-----------------|--------------------|------------|
| 1 NO with holder                                | <b>MCBH-10</b>  | 1SFA 611 605 R1101 | 0.019      |
| 1 NC with holder                                | <b>MCBH-01</b>  | 1SFA 611 605 R1110 | 0.019      |
| 2 NO with holder                                | <b>MCBH-20</b>  | 1SFA 611 605 R1102 | 0.032      |
| 2 NC with holder                                | <b>MCBH-02</b>  | 1SFA 611 605 R1120 | 0.032      |
| 1 NO + 1 NC with holder                         | <b>MCBH-11</b>  | 1SFA 611 605 R1111 | 0.032      |
| 1 NO + 1 LB with holder                         | <b>MCBH-101</b> | 1SFA 611 605 R1201 | 0.034      |
| 1 NC + 1 LB with holder                         | <b>MCBH-011</b> | 1SFA 611 605 R1210 | 0.034      |
| 2 NO + 1 LB with holder                         | <b>MCBH-201</b> | 1SFA 611 605 R1202 | 0.047      |
| 2 NC + 1 LB with holder                         | <b>MCBH-021</b> | 1SFA 611 605 R1220 | 0.047      |
| 1 NO + 1 NC + 1 LB with holder                  | <b>MCBH-111</b> | 1SFA 611 605 R1211 | 0.047      |
| 1 NO without holder                             | <b>MCB-10</b>   | 1SFA 611 610 R1001 | 0.019      |
| 1 NC without holder                             | <b>MCB-01</b>   | 1SFA 611 610 R1010 | 0.019      |
| Lamp block for 2 W, max 230 V AC/DC bulb or LED | <b>MLB-1</b>    | 1SFA 611 620 R1001 | 0.015      |
| Holder for 3 blocks                             | <b>MCBH-00</b>  | 1SFA 611 605 R1100 | 0.006      |

<sup>1)</sup> No contact in the center position

<sup>2)</sup> Lamp block MLB-1. Bulb not included. Other lamp block see Accessories, bulb max 2 W.

#### To comply with the standard, IEC 60947-5-5, a number of tests have to be conducted:

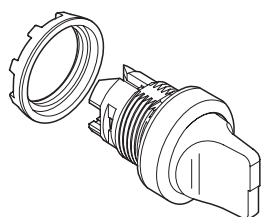
|                        |                                                                                                               |                                                 |                                               |
|------------------------|---------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-----------------------------------------------|
| <b>Durability test</b> | 6 050 cycles. This is not a test of mechanical life. The product has a mechanical life of 100 000 manoeuvres. | <b>Latching test</b>                            | Impulse voltage test at 2 500 V               |
| <b>Robustness</b>      | The force 113 N applied in three axes                                                                         | <b>Resetting test</b>                           | Pulling force < 50 N<br>Turning torque < 1 Nm |
| <b>Conditioning</b>    | Heat and cold, moist atmosphere, and in 5 % NaC                                                               | <b>Shock</b>                                    | 15 g shock                                    |
|                        |                                                                                                               | <b>Vibration</b>                                | 2 h at 50m/s <sup>2</sup>                     |
|                        |                                                                                                               | <b>Contacts with positive opening operation</b> | 15 g shock                                    |

# Notes

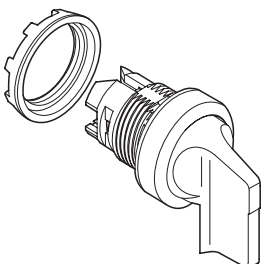


# Pilot devices - Modular range

## Two-position selector switches, non-illuminated



1SFC151079F0001



1SFC151080F0001

**Bezel in black plastic as standard**  
**Bezel in metal:**

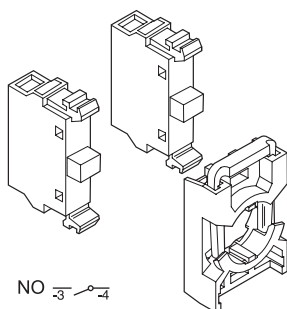
Replace '1' in the:

Type M2SSX-1 0X

Order Code 1SFA61 XXX R 1XXX

2 for chrome plastic bezel

3 for metal bezel



NO -3-4  
NC -1-2

### Contact functions

Block positions as seen from operator front.

| Handle position | Left block | Right block |
|-----------------|------------|-------------|
| A (B)           | O          | O           |
| C               | x          | x           |

O = not actuated (normal state)  
x = actuated (state changed)

### Operator ...

| Symbol | Handle color | Type | Order Code | Weight, kg |
|--------|--------------|------|------------|------------|
|--------|--------------|------|------------|------------|

#### with short handle <sup>1)</sup>

##### Maintained



Red  
Black  
Grey

**M2SS1-10R**  
**M2SS1-10B**  
**M2SS1-10U**

1SFA 611 200 R1001  
1SFA 611 200 R1006  
1SFA 611 200 R1007

0.015  
0.015  
0.015

##### Maintained



Red  
Black  
Grey

**M2SS2-10R**  
**M2SS2-10B**  
**M2SS2-10U**

1SFA 611 201 R1001  
1SFA 611 201 R1006  
1SFA 611 201 R1007

0.015  
0.015  
0.015

#### Momentary, spring return from C to B



Red  
Black  
Grey

**M2SS3-10R**  
**M2SS3-10B**  
**M2SS3-10U**

1SFA 611 202 R1001  
1SFA 611 202 R1006  
1SFA 611 202 R1007

0.015  
0.015  
0.015

#### with long handle <sup>1)</sup>

##### Maintained



Red  
Black  
Grey

**M2SS4-10R**  
**M2SS4-10B**  
**M2SS4-10U**

1SFA 611 203 R1001  
1SFA 611 203 R1006  
1SFA 611 203 R1007

0.018  
0.018  
0.018

##### Maintained



Red  
Black  
Grey

**M2SS5-10R**  
**M2SS5-10B**  
**M2SS5-10U**

1SFA 611 204 R1001  
1SFA 611 204 R1006  
1SFA 611 204 R1007

0.018  
0.018  
0.018

#### Momentary, spring return from C to B



Red  
Black  
Grey

**M2SS6-10R**  
**M2SS6-10B**  
**M2SS6-10U**

1SFA 611 205 R1001  
1SFA 611 205 R1006  
1SFA 611 205 R1007

0.018  
0.018  
0.018

### Contact blocks and holder

| Blocks                  | Type           | Order Code         | Weight, kg |
|-------------------------|----------------|--------------------|------------|
| 1 NO with holder        | <b>MCBH-10</b> | 1SFA 611 605 R1101 | 0.019      |
| 1 NC with holder        | <b>MCBH-01</b> | 1SFA 611 605 R1110 | 0.019      |
| 2 NO with holder        | <b>MCBH-20</b> | 1SFA 611 605 R1102 | 0.032      |
| 2 NC with holder        | <b>MCBH-02</b> | 1SFA 611 605 R1120 | 0.032      |
| 1 NO + 1 NC with holder | <b>MCBH-11</b> | 1SFA 611 605 R1111 | 0.032      |
| 1 NO without holder     | <b>MCB-10</b>  | 1SFA 611 610 R1001 | 0.013      |
| 1 NC without holder     | <b>MCB-01</b>  | 1SFA 611 610 R1010 | 0.013      |
| Holder for 3 blocks     | <b>MCBH-00</b> | 1SFA 611 605 R1100 | 0.006      |

<sup>1)</sup> No contact block in the center position

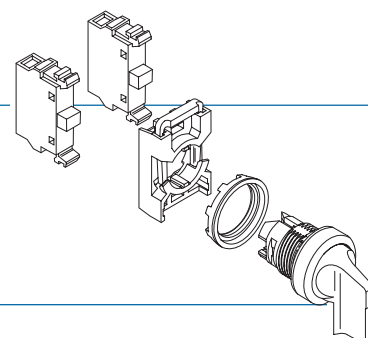
### Ordering example

Requested: A non-illuminated modular selector switch. Black. Maintained.

Handle positions: A and C

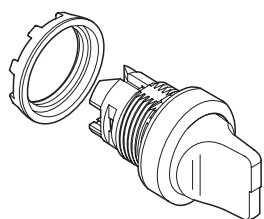
With 2 NC contacts

Order: 1 piece of M2SS2-10B + 1 piece of MCBH-02

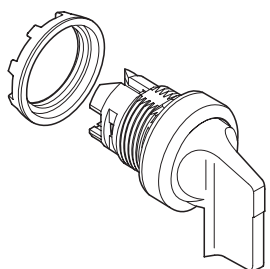


# Pilot devices - Modular range

## Three-position selector switches, non-illuminated



1SFC151079P001



1SFC151080P001

Bezel in black plastic as standard

Bezel in metal:

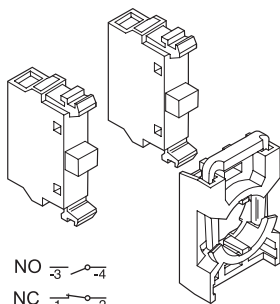
Replace **1** in the:

Type M3SSX-**1** 0X

Order Code 1SFA611XXX R **1**XXX

**2** for chrome plastic bezel

**3** for metal bezel



NO  $\overline{3} \rightarrow 4$   
NC  $\overline{1} \rightarrow 2$

### Contact functions

Block positions as seen from operator front.

| Handle position | Left block | Right block |
|-----------------|------------|-------------|
| A               | x          | O           |
| B               | O          | O           |
| C               | O          | x           |

### Operator ...

| Symbol | Handle color | Type | Order Code | Weight, kg |
|--------|--------------|------|------------|------------|
|--------|--------------|------|------------|------------|

#### with short handle <sup>1)</sup>

##### Maintained



Red  
Black  
Grey

**M3SS1-10R**  
**M3SS1-10B**  
**M3SS1-10U**

1SFA 611 210 R1001  
1SFA 611 210 R1006  
1SFA 611 210 R1007

0.015  
0.015  
0.015

##### Momentary, spring return from A to B and from C to B



Red  
Black  
Grey

**M3SS2-10R**  
**M3SS2-10B**  
**M3SS2-10U**

1SFA 611 211 R1001  
1SFA 611 211 R1006  
1SFA 611 211 R1007

0.015  
0.015  
0.015

##### Momentary, spring return from C to B



Red  
Black  
Grey

**M3SS3-10R**  
**M3SS3-10B**  
**M3SS3-10U**

1SFA 611 212 R1001  
1SFA 611 212 R1006  
1SFA 611 212 R1007

0.015  
0.015  
0.015

##### Momentary, spring return from A to B



Red  
Black  
Grey

**M3SS7-10R**  
**M3SS7-10B**  
**M3SS7-10U**

1SFA 611 216 R1001  
1SFA 611 216 R1006  
1SFA 611 216 R1007

0.015  
0.015  
0.015

#### with long handle <sup>1)</sup>

##### Maintained



Red  
Black  
Grey

**M3SS4-10R**  
**M3SS4-10B**  
**M3SS4-10U**

1SFA 611 213 R1001  
1SFA 611 213 R1006  
1SFA 611 213 R1007

0.018  
0.018  
0.018

##### Momentary, spring return from A to B and from C to B



Red  
Black  
Grey

**M3SS5-10R**  
**M3SS5-10B**  
**M3SS5-10U**

1SFA 611 214 R1001  
1SFA 611 214 R1006  
1SFA 611 214 R1007

0.018  
0.018  
0.018

##### Momentary, spring return from C to B



Red  
Black  
Grey

**M3SS6-10R**  
**M3SS6-10B**  
**M3SS6-10U**

1SFA 611 215 R1001  
1SFA 611 215 R1006  
1SFA 611 215 R1007

0.018  
0.018  
0.018

##### Momentary, spring return from A to B



Red  
Black  
Grey

**M3SS8-10R**  
**M3SS8-10B**  
**M3SS8-10U**

1SFA 611 217 R1001  
1SFA 611 217 R1006  
1SFA 611 217 R1007

0.018  
0.018  
0.018

### Contact blocks and holder

| Blocks                  | Type           | Order Code         | Weight, kg |
|-------------------------|----------------|--------------------|------------|
| 1 NO with holder        | <b>MCBH-10</b> | 1SFA 611 605 R1101 | 0.019      |
| 1 NC with holder        | <b>MCBH-01</b> | 1SFA 611 605 R1110 | 0.019      |
| 2 NO with holder        | <b>MCBH-20</b> | 1SFA 611 605 R1102 | 0.032      |
| 2 NC with holder        | <b>MCBH-02</b> | 1SFA 611 605 R1120 | 0.032      |
| 1 NO + 1 NC with holder | <b>MCBH-11</b> | 1SFA 611 605 R1111 | 0.032      |
| 1 NO without holder     | <b>MCB-10</b>  | 1SFA 611 610 R1001 | 0.013      |
| 1 NC without holder     | <b>MCB-01</b>  | 1SFA 611 610 R1010 | 0.013      |
| Holder for 3 blocks     | <b>MCBH-00</b> | 1SFA 611 605 R1100 | 0.006      |

<sup>1)</sup> No contact block in center position

# Pilot devices - Modular range

## Two-position selector switches, Illuminated

### Operator ...

| Symbol                                      | Handle color | Type             | Order Code         | Weight, kg |
|---------------------------------------------|--------------|------------------|--------------------|------------|
| <b>with short handle <sup>1)</sup></b>      |              |                  |                    |            |
| <b>Maintained</b>                           |              |                  |                    |            |
|                                             | Red          | <b>M2SS1-11R</b> | 1SFA 611 200 R1101 | 0.015      |
|                                             | Green        | <b>M2SS1-11G</b> | 1SFA 611 200 R1102 | 0.015      |
|                                             | Yellow       | <b>M2SS1-11Y</b> | 1SFA 611 200 R1103 | 0.015      |
|                                             | Blue         | <b>M2SS1-11L</b> | 1SFA 611 200 R1104 | 0.015      |
|                                             | Clear        | <b>M2SS1-11C</b> | 1SFA 611 200 R1108 | 0.015      |
| <b>Maintained</b>                           |              |                  |                    |            |
|                                             | Red          | <b>M2SS2-11R</b> | 1SFA 611 201 R1101 | 0.015      |
|                                             | Green        | <b>M2SS2-11G</b> | 1SFA 611 201 R1102 | 0.015      |
|                                             | Yellow       | <b>M2SS2-11Y</b> | 1SFA 611 201 R1103 | 0.015      |
|                                             | Blue         | <b>M2SS2-11L</b> | 1SFA 611 201 R1104 | 0.015      |
|                                             | Clear        | <b>M2SS2-11C</b> | 1SFA 611 201 R1108 | 0.015      |
| <b>Momentary, spring return from C to B</b> |              |                  |                    |            |
|                                             | Red          | <b>M2SS3-11R</b> | 1SFA 611 202 R1101 | 0.015      |
|                                             | Green        | <b>M2SS3-11G</b> | 1SFA 611 202 R1102 | 0.015      |
|                                             | Yellow       | <b>M2SS3-11Y</b> | 1SFA 611 202 R1103 | 0.015      |
|                                             | Blue         | <b>M2SS3-11L</b> | 1SFA 611 202 R1104 | 0.015      |
|                                             | Clear        | <b>M2SS3-11C</b> | 1SFA 611 202 R1108 | 0.015      |
| <b>with long handle <sup>1)</sup></b>       |              |                  |                    |            |
| <b>Maintained</b>                           |              |                  |                    |            |
|                                             | Red          | <b>M2SS4-11R</b> | 1SFA 611 203 R1101 | 0.018      |
|                                             | Green        | <b>M2SS4-11G</b> | 1SFA 611 203 R1102 | 0.018      |
|                                             | Yellow       | <b>M2SS4-11Y</b> | 1SFA 611 203 R1103 | 0.018      |
|                                             | Blue         | <b>M2SS4-11L</b> | 1SFA 611 203 R1104 | 0.018      |
|                                             | Clear        | <b>M2SS4-11C</b> | 1SFA 611 203 R1108 | 0.018      |
| <b>Maintained</b>                           |              |                  |                    |            |
|                                             | Red          | <b>M2SS5-11R</b> | 1SFA 611 204 R1101 | 0.018      |
|                                             | Green        | <b>M2SS5-11G</b> | 1SFA 611 204 R1102 | 0.018      |
|                                             | Yellow       | <b>M2SS5-11Y</b> | 1SFA 611 204 R1103 | 0.018      |
|                                             | Blue         | <b>M2SS5-11L</b> | 1SFA 611 204 R1104 | 0.018      |
|                                             | Clear        | <b>M2SS5-11C</b> | 1SFA 611 204 R1108 | 0.018      |
| <b>Momentary, spring return from C to B</b> |              |                  |                    |            |
|                                             | Red          | <b>M2SS6-11R</b> | 1SFA 611 205 R1101 | 0.018      |
|                                             | Green        | <b>M2SS6-11G</b> | 1SFA 611 205 R1102 | 0.018      |
|                                             | Yellow       | <b>M2SS6-11Y</b> | 1SFA 611 205 R1103 | 0.018      |
|                                             | Blue         | <b>M2SS6-11L</b> | 1SFA 611 205 R1104 | 0.018      |
|                                             | Clear        | <b>M2SS6-11C</b> | 1SFA 611 205 R1108 | 0.018      |

### Contact blocks, lamp block and holder <sup>2)</sup>

| Blocks                                          | Type            | Order Code         | Weight, kg |
|-------------------------------------------------|-----------------|--------------------|------------|
| 1 NO + 1 LB with holder                         | <b>MCBH-101</b> | 1SFA 611 605 R1201 | 0.034      |
| 1 NC + 1 LB with holder                         | <b>MCBH-011</b> | 1SFA 611 605 R1210 | 0.034      |
| 2 NO + 1 LB with holder                         | <b>MCBH-201</b> | 1SFA 611 605 R1202 | 0.047      |
| 2 NC + 1 LB with holder                         | <b>MCBH-021</b> | 1SFA 611 605 R1220 | 0.047      |
| 1 NO + 1 NC with holder                         | <b>MCBH-111</b> | 1SFA 611 605 R1211 | 0.047      |
| 1 NO without holder                             | <b>MCB-10</b>   | 1SFA 611 610 R1001 | 0.013      |
| 1 NC without holder                             | <b>MCB-01</b>   | 1SFA 611 610 R1010 | 0.013      |
| Lamp block for 2 W, max 230 V AC/DC bulb or LED | <b>MLB-1</b>    | 1SFA 611 620 R1001 | 0.015      |
| Holder for 3 blocks                             | <b>MCBH-00</b>  | 1SFA 611 605 R1100 | 0.006      |

<sup>1)</sup> No contact block in the center position

<sup>2)</sup> Lamp block MLB-1. Bulb not included. Other lamp block see Accessories, bulb max 2 W.

**Contact functions** See Page 18

**Ordering example** See Page 18

Bezel in black plastic as standard

Bezel in metal:

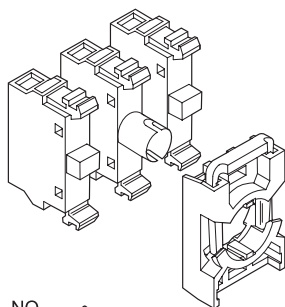
Replace '1' in the:

Type M2SSX-1 0X

Order Code 1SFA61 XXX R 1XXX

2 for chrome plastic bezel

3 for metal bezel



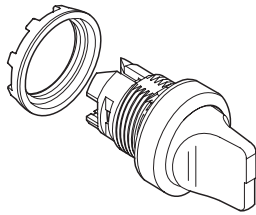
NO

LB

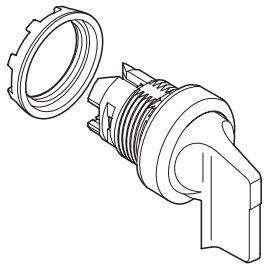
NC

# Pilot devices - Modular range

## Three-position selector switches, Illuminated



1SFC151079F0001



1SFC151080F0001

**Bezel in black plastic as standard**

**Bezel in metal:**

Replace '1' in the:

Type M3SSX-1 0X

Order Code 1SFA611XXX R 1XXX

**2** for chrome plastic bezel

**3** for metal bezel

### Operator ...

| Symbol                                                      | Handle color | Type             | Order Code         | Weight, kg |
|-------------------------------------------------------------|--------------|------------------|--------------------|------------|
| <b>with short handle <sup>1)</sup></b>                      |              |                  |                    |            |
| <b>Maintained</b>                                           |              |                  |                    |            |
|                                                             | Red          | <b>M3SS1-11R</b> | 1SFA 611 210 R1101 | 0.015      |
|                                                             | Green        | <b>M3SS1-11G</b> | 1SFA 611 210 R1102 | 0.015      |
|                                                             | Yellow       | <b>M3SS1-11Y</b> | 1SFA 611 210 R1103 | 0.015      |
|                                                             | Blue         | <b>M3SS1-11L</b> | 1SFA 611 210 R1104 | 0.015      |
|                                                             | Clear        | <b>M3SS1-11C</b> | 1SFA 611 210 R1108 | 0.015      |
| <b>Momentary, spring return from A to B and from C to B</b> |              |                  |                    |            |
|                                                             | Red          | <b>M3SS2-11R</b> | 1SFA 611 211 R1101 | 0.015      |
|                                                             | Green        | <b>M3SS2-11G</b> | 1SFA 611 211 R1102 | 0.015      |
|                                                             | Yellow       | <b>M3SS2-11Y</b> | 1SFA 611 211 R1103 | 0.015      |
|                                                             | Blue         | <b>M3SS2-11L</b> | 1SFA 611 211 R1104 | 0.015      |
|                                                             | Clear        | <b>M3SS2-11C</b> | 1SFA 611 211 R1108 | 0.015      |
| <b>Momentary, spring return from C to B</b>                 |              |                  |                    |            |
|                                                             | Red          | <b>M3SS3-11R</b> | 1SFA 611 212 R1101 | 0.015      |
|                                                             | Green        | <b>M3SS3-11G</b> | 1SFA 611 212 R1102 | 0.015      |
|                                                             | Yellow       | <b>M3SS3-11Y</b> | 1SFA 611 212 R1103 | 0.015      |
|                                                             | Blue         | <b>M3SS3-11L</b> | 1SFA 611 212 R1104 | 0.015      |
|                                                             | Clear        | <b>M3SS3-11C</b> | 1SFA 611 212 R1108 | 0.015      |
| <b>Momentary, spring return from A to B</b>                 |              |                  |                    |            |
|                                                             | Red          | <b>M3SS7-11R</b> | 1SFA 611 216 R1101 | 0.015      |
|                                                             | Green        | <b>M3SS7-11G</b> | 1SFA 611 216 R1102 | 0.015      |
|                                                             | Yellow       | <b>M3SS7-11Y</b> | 1SFA 611 216 R1103 | 0.015      |
|                                                             | Blue         | <b>M3SS7-11L</b> | 1SFA 611 216 R1104 | 0.015      |
|                                                             | Clear        | <b>M3SS7-11C</b> | 1SFA 611 216 R1108 | 0.015      |
| <b>with long handle <sup>1)</sup></b>                       |              |                  |                    |            |
| <b>Maintained</b>                                           |              |                  |                    |            |
|                                                             | Red          | <b>M3SS4-11R</b> | 1SFA 611 213 R1101 | 0.018      |
|                                                             | Green        | <b>M3SS4-11G</b> | 1SFA 611 213 R1102 | 0.018      |
|                                                             | Yellow       | <b>M3SS4-11Y</b> | 1SFA 611 213 R1103 | 0.018      |
|                                                             | Blue         | <b>M3SS4-11L</b> | 1SFA 611 213 R1104 | 0.018      |
|                                                             | Clear        | <b>M3SS4-11C</b> | 1SFA 611 213 R1108 | 0.018      |
| <b>Momentary, spring return from A to B and from C to B</b> |              |                  |                    |            |
|                                                             | Red          | <b>M3SS5-11R</b> | 1SFA 611 214 R1101 | 0.018      |
|                                                             | Green        | <b>M3SS5-11G</b> | 1SFA 611 214 R1102 | 0.018      |
|                                                             | Yellow       | <b>M3SS5-11Y</b> | 1SFA 611 214 R1103 | 0.018      |
|                                                             | Blue         | <b>M3SS5-11L</b> | 1SFA 611 214 R1104 | 0.018      |
|                                                             | Clear        | <b>M3SS5-11C</b> | 1SFA 611 214 R1108 | 0.018      |
| <b>Momentary, spring return from C to B</b>                 |              |                  |                    |            |
|                                                             | Red          | <b>M3SS6-11R</b> | 1SFA 611 215 R1101 | 0.018      |
|                                                             | Green        | <b>M3SS6-11G</b> | 1SFA 611 215 R1102 | 0.018      |
|                                                             | Yellow       | <b>M3SS6-11Y</b> | 1SFA 611 215 R1103 | 0.018      |
|                                                             | Blue         | <b>M3SS6-11L</b> | 1SFA 611 215 R1104 | 0.018      |
|                                                             | Clear        | <b>M3SS6-11C</b> | 1SFA 611 215 R1108 | 0.018      |
| <b>Momentary, spring return from A to B</b>                 |              |                  |                    |            |
|                                                             | Red          | <b>M3SS8-11R</b> | 1SFA 611 217 R1101 | 0.018      |
|                                                             | Green        | <b>M3SS8-11G</b> | 1SFA 611 217 R1102 | 0.018      |
|                                                             | Yellow       | <b>M3SS8-11Y</b> | 1SFA 611 217 R1103 | 0.018      |
|                                                             | Blue         | <b>M3SS8-11L</b> | 1SFA 611 217 R1104 | 0.018      |
|                                                             | Clear        | <b>M3SS8-11C</b> | 1SFA 611 217 R1108 | 0.018      |

<sup>1)</sup> No contact block in the center position

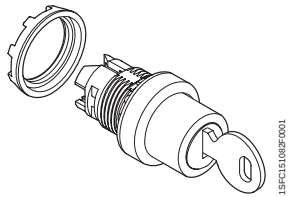
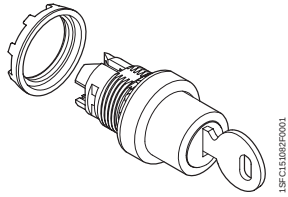
**Contact blocks, lamp block and holder** See Page 20

**Contact functions** See Page 19

**Ordering example** See Page 18

# Pilot devices - Modular range

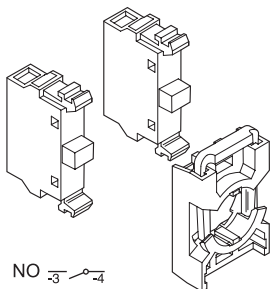
## Key-operated selector switches, two and three positions



Bezel in black plastic as standard  
**Bezel in metal:**  
 Replace '1' in the:  
 Type MXSSKX-1 0 ■  
 Order Code 1SFA6112XX R 1XX ■  
 2 for chrome plastic bezel  
 3 for metal bezel

<sup>2)</sup> **Key codes**  
 71 (standard) ■ =1  
 72 ■ =2  
 73 ■ =3  
 Other (on request)

<sup>3)</sup> **Key codes**  
 71 (standard) ■ =1  
 72 ■ =2



NO  $\frac{3}{-}$   $\frac{4}{-}$   
 NC  $\frac{1}{-}$   $\frac{2}{-}$

### Operator ...

| Symbol                                                          | The key can be removed in | Type                             | Order Code                        | Weight, kg |
|-----------------------------------------------------------------|---------------------------|----------------------------------|-----------------------------------|------------|
| <b>two positions</b> <sup>1)</sup>                              |                           |                                  |                                   |            |
| <b>Maintained</b><br>                                           | in both positions         | <b>M2SSK1-10</b> ■ <sup>2)</sup> | 1SFA 611 280 R100 ■ <sup>2)</sup> | 0.045      |
| <b>Maintained</b><br>                                           | in position B only        | <b>M2SSK2-10</b> ■ <sup>2)</sup> | 1SFA 611 281 R100 ■ <sup>2)</sup> | 0.045      |
| <b>Momentary, spring return from C to B</b><br>                 | in position B only        | <b>M2SSK3-10</b> ■ <sup>2)</sup> | 1SFA 611 282 R100 ■ <sup>2)</sup> | 0.045      |
| <b>three positions</b> <sup>1)</sup>                            |                           |                                  |                                   |            |
| <b>Maintained</b><br>                                           | in all positions          | <b>M3SSK1-10</b> ■ <sup>2)</sup> | 1SFA 611 283 R100 ■ <sup>2)</sup> | 0.045      |
| <b>Maintained</b><br>                                           | in position B only        | <b>M3SSK2-10</b> ■ <sup>2)</sup> | 1SFA 611 284 R100 ■ <sup>2)</sup> | 0.045      |
| <b>Momentary, spring return from A to B and from C to B</b><br> | in position B only        | <b>M3SSK3-10</b> ■ <sup>2)</sup> | 1SFA 611 285 R100 ■ <sup>2)</sup> | 0.045      |
| <b>Momentary, spring return from C to B</b><br>                 | in position A only        | <b>M3SSK4-10</b> ■ <sup>3)</sup> | 1SFA 611 286 R100 ■ <sup>3)</sup> | 0.045      |
| <b>Momentary, spring return from C to B</b><br>                 | in all positions          | <b>M3SSK5-10</b> ■ <sup>2)</sup> | 1SFA 611 287 R100 ■ <sup>2)</sup> | 0.045      |

<sup>1)</sup> No contact block in the center position

### Contact blocks and holder

| Blocks                  | Type           | Order Code         | Weight, kg |
|-------------------------|----------------|--------------------|------------|
| 2 NO with holder        | <b>MCBH-20</b> | 1SFA 611 605 R1102 | 0.032      |
| 2 NC with holder        | <b>MCBH-02</b> | 1SFA 611 605 R1120 | 0.032      |
| 1 NO + 1 NC with holder | <b>MCBH-11</b> | 1SFA 611 605 R1111 | 0.032      |
| 1 NO without holder     | <b>MCB-10</b>  | 1SFA 611 610 R1001 | 0.013      |
| 1 NC without holder     | <b>MCB-01</b>  | 1SFA 611 610 R1010 | 0.013      |
| Holder for 3 blocks     | <b>MCBH-00</b> | 1SFA 611 605 R1100 | 0.006      |

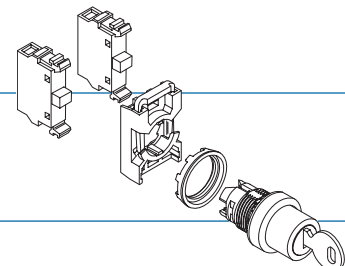
### Contact functions

Two positions: See Page 18  
 Three positions: See Page 19

### Ordering example

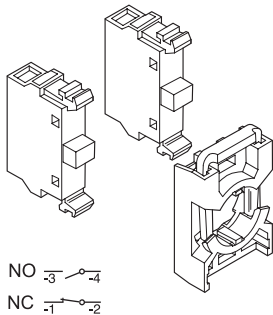
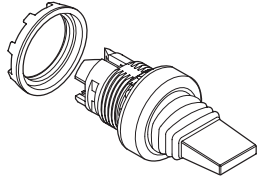
Requested: A key-operated selector switch. Three positions. Maintained. The key removeable in position B. Key code 72. With 2 NC contacts

Order: 1 piece of M3SSK2-102 + 1 piece of MCBH-02



# Pilot devices - Modular range

## Toggle switches, two and three positions



### Operator

| Symbol                                  | Bezel          | Type            | Order Code          | Weight, kg |
|-----------------------------------------|----------------|-----------------|---------------------|------------|
| <b>Toggle switch with two positions</b> |                |                 |                     |            |
| <b>Maintained</b>                       |                |                 |                     |            |
|                                         | Black plastic  | <b>MTS1-10B</b> | 1SFA 611 300 R1006  | 0.021      |
|                                         | Chrome plastic | <b>MTS1-20B</b> | 1SFA 611 300 R 2006 | 0.021      |
|                                         | Metal          | <b>MTS1-30B</b> | 1SFA 611 300 R 3006 | 0.021      |

### Toggle switch with three positions

#### Momentary, spring return from A to B and from C to B

|  |                |                 |                     |       |
|--|----------------|-----------------|---------------------|-------|
|  | Black plastic  | <b>MTS2-10B</b> | 1SFA 611 301 R1006  | 0.021 |
|  | Chrome plastic | <b>MTS2-20B</b> | 1SFA 611 301 R 2006 | 0.021 |
|  | Metal          | <b>MTS2-30B</b> | 1SFA 611 301 R 3006 | 0.021 |

#### Maintained

|  |                |                 |                     |       |
|--|----------------|-----------------|---------------------|-------|
|  | Black plastic  | <b>MTS3-10B</b> | 1SFA 611 302 R1006  | 0.021 |
|  | Chrome plastic | <b>MTS3-20B</b> | 1SFA 611 302 R 2006 | 0.021 |
|  | Metal          | <b>MTS3-30B</b> | 1SFA 611 302 R 3006 | 0.021 |

### Contact blocks and holder

| Blocks                  | Type           | Order Code         | Weight, kg |
|-------------------------|----------------|--------------------|------------|
| 1 NO with holder        | <b>MCBH-10</b> | 1SFA 611 605 R1101 | 0.019      |
| 1 NC with holder        | <b>MCBH-01</b> | 1SFA 611 605 R1110 | 0.019      |
| 2 NO with holder        | <b>MCBH-20</b> | 1SFA 611 605 R1102 | 0.032      |
| 2 NC with holder        | <b>MCBH-02</b> | 1SFA 611 605 R1120 | 0.032      |
| 1 NO + 1 NC with holder | <b>MCBH-11</b> | 1SFA 611 605 R1111 | 0.032      |
| 1 NO without holder     | <b>MCB-10</b>  | 1SFA 611 610 R1001 | 0.013      |
| 1 NC without holder     | <b>MCB-01</b>  | 1SFA 611 610 R1010 | 0.013      |
| Holder for 3 blocks     | <b>MCBH-00</b> | 1SFA 611 605 R1100 | 0.006      |

### Contact block functions

Block positions as seen from operator front.

#### Two-position maintained switch

| Handle position | Left block | Right block |
|-----------------|------------|-------------|
| A               | O          | O           |
| C               | x          | x           |

O = not actuated (normal state)

x = actuated (state changed)

#### Three-position switch

| Handle position | Left block | Middle block | Right block |
|-----------------|------------|--------------|-------------|
| A               | O          | x            | x           |
| B               | O          | O            | O           |
| C               | x          | x            | O           |

O = not actuated (normal state)

x = actuated (state changed)

# Pilot devices - Modular range

## Definite purpose pushbutton, 30 mm

### Definite purpose pushbutton

The definite purpose pushbutton, 30 mm, is a robust and compact pushbutton for use in cold, hot, damped, oily and other tough environments.

Suitable especially for hydraulic lifts, compact pendant controllers and pushbutton stations.

| Included contact blocks | Membrane color | Type           | Order Code                | Weight, kg |
|-------------------------|----------------|----------------|---------------------------|------------|
| –                       | Red            | <b>KP6-40R</b> | 1SFA 616 105 R4001        | 0.022      |
| –                       | Green          | <b>KP6-40G</b> | 1SFA 616 105 R4002        | 0.022      |
| –                       | Black          | <b>KP6-40B</b> | 1SFA 616 105 R4006        | 0.022      |
| 1 NO + 1 NC             | Black          | –              | <b>1SFA 616 105 R4076</b> | 0.048      |
| 1 NO                    | Black          | –              | <b>1SFA 616 105 R4016</b> | 0.035      |
| 1 NC                    | Black          | –              | <b>1SFA 616 105 R4046</b> | 0.035      |
| 2 NO                    | Black          | –              | <b>1SFA 616 105 R4026</b> | 0.048      |
| 2 NC                    | Black          | –              | <b>1SFA 616 105 R4056</b> | 0.048      |

### Contact block

| Description | Type          | Order Code         | Weight, kg |
|-------------|---------------|--------------------|------------|
| 1 NO        | <b>MCB-10</b> | 1SFA 611 610 R1001 | 0.013      |
| 1 NC        | <b>MCB-01</b> | 1SFA 611 610 R1010 | 0.013      |

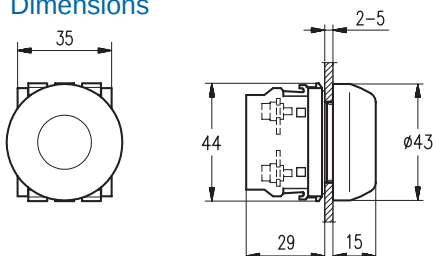
### Accessories

| Description                                    | Type | Order Code        | Weight, kg |
|------------------------------------------------|------|-------------------|------------|
| Guide washer for positioning and anti rotation | –    | <b>2154 373-1</b> | 0.003      |

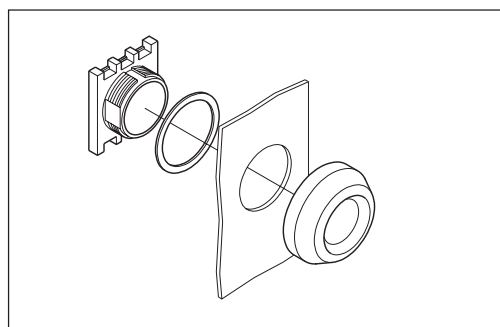
### Technical data

|                      |              |
|----------------------|--------------|
| Degree of protection | IP66         |
| Ambient temperature  | -30° ...+70° |

### Dimensions



### Mounting



# Pilot devices - Modular range

## Reset pushbuttons

### Reset pushbutton without shaft

| Lens Colour                 | Text    | Type             | Order Code         | Weight, kg |
|-----------------------------|---------|------------------|--------------------|------------|
| <b>With flush button</b>    |         |                  |                    |            |
| Red                         | No text | <b>KPR1-100R</b> | 1SFA 616 160 R1001 | 0.020      |
| Green                       | No text | <b>KPR1-100G</b> | 1SFA 616 160 R1002 | 0.020      |
|                             | II      | <b>KPR1-103G</b> | 1SFA 616 160 R1032 | 0.020      |
| Yellow                      | No text | <b>KPR1-100Y</b> | 1SFA 616 160 R1003 | 0.020      |
| Blue                        | No text | <b>KPR1-100L</b> | 1SFA 616 160 R1004 | 0.020      |
|                             | R       | <b>KPR1-101L</b> | 1SFA 616 160 R1014 | 0.020      |
| White                       | No text | <b>KPR1-100W</b> | 1SFA 616 160 R1005 | 0.020      |
|                             | R       | <b>KPR1-101W</b> | 1SFA 616 160 R1015 | 0.020      |
|                             | I       | <b>KPR1-102W</b> | 1SFA 616 160 R1025 | 0.020      |
|                             | II      | <b>KPR1-103W</b> | 1SFA 616 160 R1035 | 0.020      |
| Black                       | No text | <b>KPR1-100B</b> | 1SFA 616 160 R1006 | 0.020      |
|                             | RESET   | <b>KPR1-104B</b> | 1SFA 616 160 R1046 | 0.020      |
| <b>With extended button</b> |         |                  |                    |            |
| Red                         | No text | <b>KPR2-100R</b> | 1SFA 616 161 R1001 | 0.021      |
|                             | O       | <b>KPR2-105R</b> | 1SFA 616 161 R1051 | 0.021      |
| White                       | No text | <b>KPR2-100W</b> | 1SFA 616 161 R1005 | 0.021      |
| Black                       | No text | <b>KPR2-100B</b> | 1SFA 616 161 R1006 | 0.021      |
|                             | O       | <b>KPR2-105B</b> | 1SFA 616 161 R1056 | 0.021      |

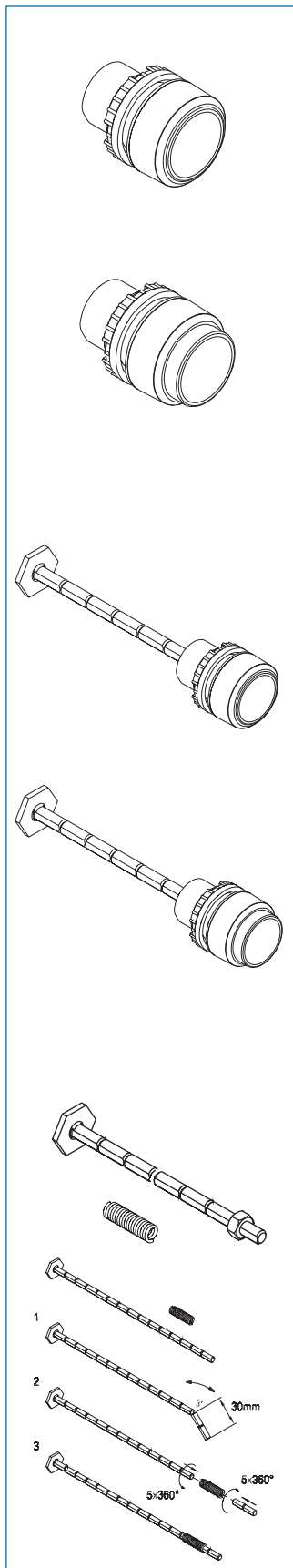
### Reset pushbutton with shaft The shaft can be cut to desired length

| Lens Colour                 | Text    | Type             | Order Code         | Weight, kg |
|-----------------------------|---------|------------------|--------------------|------------|
| <b>With flush button</b>    |         |                  |                    |            |
| Red                         | No text | <b>KPR3-100R</b> | 1SFA 616 162 R1001 | 0.027      |
| Green                       | No text | <b>KPR3-100G</b> | 1SFA 616 162 R1002 | 0.027      |
|                             | II      | <b>KPR3-103G</b> | 1SFA 616 162 R1032 | 0.027      |
| Yellow                      | No text | <b>KPR3-100Y</b> | 1SFA 616 162 R1003 | 0.027      |
| Blue                        | No text | <b>KPR3-100L</b> | 1SFA 616 162 R1004 | 0.027      |
|                             | R       | <b>KPR3-101L</b> | 1SFA 616 162 R1014 | 0.027      |
| White                       | No text | <b>KPR3-100W</b> | 1SFA 616 162 R1005 | 0.027      |
|                             | R       | <b>KPR3-101W</b> | 1SFA 616 162 R1015 | 0.027      |
|                             | I       | <b>KPR3-102W</b> | 1SFA 616 162 R1025 | 0.027      |
|                             | II      | <b>KPR3-103W</b> | 1SFA 616 162 R1035 | 0.027      |
| Black                       | No text | <b>KPR3-100B</b> | 1SFA 616 162 R1006 | 0.027      |
|                             | RESET   | <b>KPR3-104B</b> | 1SFA 616 162 R1046 | 0.027      |
| <b>With extended button</b> |         |                  |                    |            |
| Red                         | No text | <b>KPR4-100R</b> | 1SFA 616 163 R1001 | 0.028      |
|                             | O       | <b>KPR4-105R</b> | 1SFA 616 163 R1051 | 0.028      |
| White                       | No text | <b>KPR4-100W</b> | 1SFA 616 163 R1005 | 0.028      |
| Black                       | No text | <b>KPR4-100B</b> | 1SFA 616 163 R1006 | 0.028      |
|                             | O       | <b>KPR4-105B</b> | 1SFA 616 163 R1056 | 0.028      |

### Accessories

In application with a long shaft, a flexible joint can be used to avoid damages caused by incautious handling of the shaft.

| Description           | Type            | Order Code         | Qty (pcs) | Weight, kg |
|-----------------------|-----------------|--------------------|-----------|------------|
| <b>Shaft</b>          |                 |                    |           |            |
| including fixing nut  | <b>KA1-8046</b> | 1SFA 616 920 R8046 | 10        | 0.070      |
| <b>Flexible joint</b> | <b>KA1-8047</b> | 1SFA 616 920 R8047 | 10        | 0.051      |



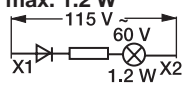
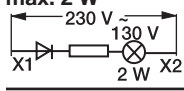
# Pilot devices - Modular range

## Pilot lights and Buzzers

### Pilot light head <sup>1)</sup>

| Lens color | Type            | Order Code         | Weight, kg |
|------------|-----------------|--------------------|------------|
| Red        | <b>ML1-100R</b> | 1SFA 611 400 R1001 | 0.018      |
| Green      | <b>ML1-100G</b> | 1SFA 611 400 R1002 | 0.018      |
| Yellow     | <b>ML1-100Y</b> | 1SFA 611 400 R1003 | 0.018      |
| Blue       | <b>ML1-100L</b> | 1SFA 611 400 R1004 | 0.018      |
| White      | <b>ML1-100W</b> | 1SFA 611 400 R1005 | 0.018      |
| Clear      | <b>ML1-100C</b> | 1SFA 611 400 R1008 | 0.016      |

### Lamp blocks with holder <sup>1)</sup>

| Supply voltage                                                                                                                                                                           | Type            | Order Code         | Weight, kg |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------|------------|
| <b>For max. 2 W, 230 V AC and DC filament bulb or LED</b><br><br>230 V, 2 W<br>115 V AC supply voltage. | <b>MCBH-001</b> | 1SFA 611 605 R1200 | 0.021      |
| <b>For 60 V filament bulb max. 1.2 W</b><br><br>115 V AC supply voltage.                                | <b>MCBH-002</b> | 1SFA 611 605 R1300 | 0.023      |
| <b>For 130 V filament bulb max. 2 W</b><br><br>230 V AC supply voltage.                                | <b>MCBH-003</b> | 1SFA 611 605 R1400 | 0.026      |

### Light diffusing lens –

To improve illumination. *Note: Cannot be used with text cap.*

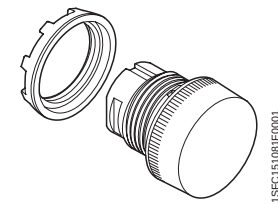
| Description                          | Type            | Order Code         | Weight, kg |
|--------------------------------------|-----------------|--------------------|------------|
| The lens is used instead of text cap | <b>KA1-8005</b> | 1SFA 616 920 R8005 | 0.001      |

### Buzzers

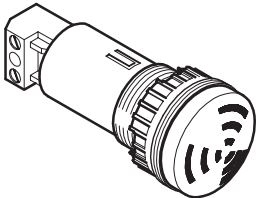
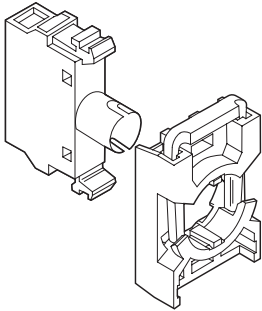
Black. Frequency: Approx. 2400 Hz. Loudness: Min 80 dB (A)/10 cm  
 Rated current: ≤ 8 mA. Service life:>5000 h

| Supply voltage | Tone type  | Type            | Order Code         | Weight, kg |
|----------------|------------|-----------------|--------------------|------------|
| 24 V AC/DC     | Continuous | <b>KB1-4010</b> | 1SFA 616 401 R4010 | 0.020      |
| 115 V AC/DC    | Continuous | <b>KB1-4030</b> | 1SFA 616 401 R4030 | 0.020      |
| 230 V AC       | Continuous | <b>KB1-4040</b> | 1SFA 616 401 R4040 | 0.020      |
| 24 V AC/DC     | Pulsating  | <b>KB1-4110</b> | 1SFA 616 401 R4110 | 0.020      |
| 115 V AC/DC    | Pulsating  | <b>KB1-4130</b> | 1SFA 616 401 R4130 | 0.020      |
| 230 V AC       | Pulsating  | <b>KB1-4140</b> | 1SFA 616 401 R4140 | 0.020      |

<sup>1)</sup> Bulb not included

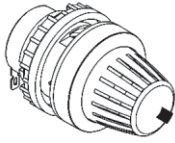


1SFC151081F0001



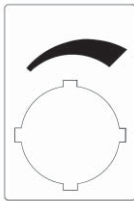
# Pilot devices - Modular range

## Potentiometers

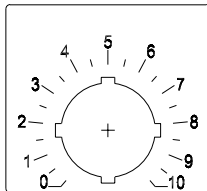


### Resistor data

|                       |             |
|-----------------------|-------------|
| Element type          | Cermet      |
| Power rating          | 2 W         |
| Mechanical angle      | 280°        |
| Terminals             | Solder lugs |
| Insulation voltage    | 900 V       |
| Operating temperature | -1 – +70 °C |



29.6 x 44.5 mm



48.5 x 44.5 mm

### Complete potentiometers

Black knob with integrated position indication and marking in white.

| Description                    | Type           | Order Code         | Weight, kg |
|--------------------------------|----------------|--------------------|------------|
| <b>- with resistor 5 kohm</b>  |                |                    |            |
| Black plastic                  | <b>KT-105B</b> | 1SFA 616 410 R1056 | 0.034      |
| Chrome plastic                 | <b>KT-205B</b> | 1SFA 616 410 R2056 | 0.034      |
| Metal                          | <b>KT-305B</b> | 1SFA 616 410 R3056 | 0.042      |
| <b>- with resistor 10 kohm</b> |                |                    |            |
| Black plastic                  | <b>KT-110B</b> | 1SFA 616 410 R1106 | 0.034      |
| Chrome plastic                 | <b>KT-210B</b> | 1SFA 616 410 R2106 | 0.034      |
| Metal                          | <b>KT-310B</b> | 1SFA 616 410 R3106 | 0.042      |

### Operating knob – without resistor

Black knob with integrated position indication and marking in white.

For shaft diameter 6 - 6.35 mm.  
Min. shaft length 20 mm

| Description    | Type           | Order Code         | Weight, kg |
|----------------|----------------|--------------------|------------|
| Black plastic  | <b>KT-100B</b> | 1SFA 616 410 R1006 | 0.034      |
| Chrome plastic | <b>KT-200B</b> | 1SFA 616 410 R2006 | 0.034      |
| Metal          | <b>KT-300B</b> | 1SFA 616 410 R3006 | 0.042      |

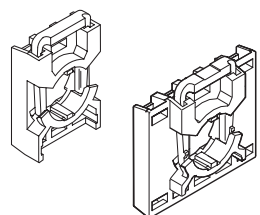
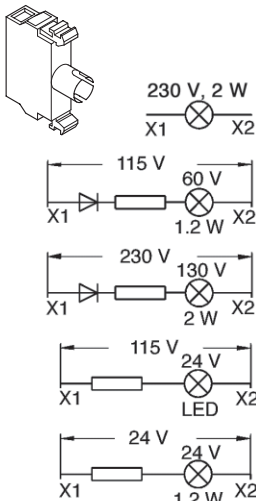
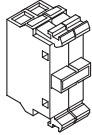
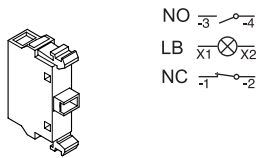
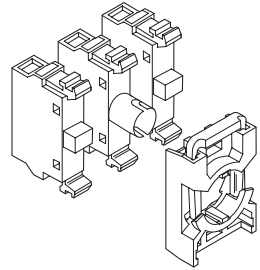
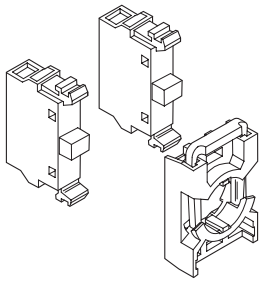
### Legend plates

Aluminium

| Description         | Order Code           | Weight, kg |
|---------------------|----------------------|------------|
| Symbol - see figure | <b>SK 615 562-87</b> | 0.002      |
| Scale: 0 - 10       | <b>SK 615 562-88</b> | 0.002      |

## Pilot devices - Modular range

### Accessories



#### Contact blocks and lamp blocks with holder for front mounting

| Max. number of blocks in holder | Included blocks | Type           | Order Code         | Weight, kg |
|---------------------------------|-----------------|----------------|--------------------|------------|
| 3                               | 1 NC            | <b>MCBH-01</b> | 1SFA 611 605 R1110 | 0.019      |
| 3                               | 1 NO            | <b>MCBH-10</b> | 1SFA 611 605 R1101 | 0.019      |
| 3                               | 2 NC            | <b>MCBH-02</b> | 1SFA 611 605 R1120 | 0.032      |
| 3                               | 2 NO            | <b>MCBH-20</b> | 1SFA 611 605 R1102 | 0.032      |
| 3                               | 3 NC            | <b>MCBH-03</b> | 1SFA 611 605 R1130 | 0.045      |
| 3                               | 3 NO            | <b>MCBH-30</b> | 1SFA 611 605 R1103 | 0.045      |
| 3                               | 1 NO + 1 NC     | <b>MCBH-11</b> | 1SFA 611 605 R1111 | 0.032      |
| 3                               | 1 NO + 2 NC     | <b>MCBH-12</b> | 1SFA 611 605 R1121 | 0.045      |
| 3                               | 2 NO + 1 NC     | <b>MCBH-21</b> | 1SFA 611 605 R1112 | 0.045      |

#### For illuminated operators

|   |                    |                 |                    |       |
|---|--------------------|-----------------|--------------------|-------|
| 3 | 1 NC + 1 LB        | <b>MCBH-011</b> | 1SFA 611 605 R1210 | 0.034 |
| 3 | 1 NO + 1 LB        | <b>MCBH-101</b> | 1SFA 611 605 R1201 | 0.034 |
| 3 | 1 NO + 1 NC + 1 LB | <b>MCBH-111</b> | 1SFA 611 605 R1211 | 0.047 |
| 3 | 2 NC + 1 LB        | <b>MCBH-021</b> | 1SFA 611 605 R1220 | 0.047 |
| 3 | 2 NO + 1 LB        | <b>MCBH-201</b> | 1SFA 611 605 R1202 | 0.047 |

#### Single contact blocks for front mounting

| Included blocks                | Type           | Order Code         | Weight, kg |
|--------------------------------|----------------|--------------------|------------|
| 1 NO                           | <b>MCB-10</b>  | 1SFA 611 610 R1001 | 0.013      |
| 1 NC                           | <b>MCB-01</b>  | 1SFA 611 610 R1010 | 0.013      |
| 1 NO with gold plated contacts | <b>MCB-10G</b> | 1SFA 611 610 R1101 | 0.013      |
| 1 NC with gold plated contacts | <b>MCB-01G</b> | 1SFA 611 610 R1110 | 0.013      |

#### Double contact block for front mounting

To be used together with MCBH5-00 when contact blocks in position 4- and 5- are needed.  
Also when using MCBH-00 together with selector switch and contact block in position 3- is needed

| Included blocks | Type          | Order Code         | Weight, kg |
|-----------------|---------------|--------------------|------------|
| 2 NO            | <b>MCB-20</b> | 1SFA 611 610 R1002 | 0.026      |
| 2 NC            | <b>MCB-02</b> | 1SFA 611 610 R1020 | 0.026      |
| 1 NO + 1 NC     | <b>MCB-11</b> | 1SFA 611 610 R1011 | 0.026      |

#### Single lamp blocks for front mounting, Ba 9s base

| Description                                                                                                                                                                                                            | Type         | Order Code         | Weight, kg |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------|------------|
| <b>For max. 2 W, 230 V AC and DC filament bulb or LED</b>                                                                                                                                                              | <b>MLB-1</b> | 1SFA 611 620 R1001 | 0.015      |
| 115 V AC supply voltage.<br><b>For 60 V filament bulb max. 1.2 W</b>                                                                                                                                                   | <b>MLB-2</b> | 1SFA 611 620 R1002 | 0.017      |
| 230 V AC supply voltage.<br><b>For 130 V filament bulb max. 2 W</b>                                                                                                                                                    | <b>MLB-3</b> | 1SFA 611 620 R1003 | 0.020      |
| 115 V AC and DC supply voltage<br><b>For 24 V LED</b>                                                                                                                                                                  | <b>MLB-4</b> | 1SFA 611 620 R1004 | 0.017      |
| 24 V AC and DC supply voltage.<br>With resistor. Intended for electronic circuits. The resistor limits the making current and protects against disturbances in the electronic circuit<br><b>For 24 V filament bulb</b> | <b>MLB-5</b> | 1SFA 611 620 R1005 | 0.017      |

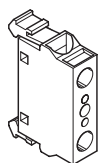
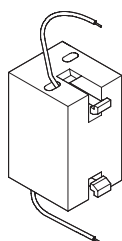
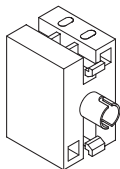
#### Holders

| Description                | Type            | Order Code         | Weight, kg |
|----------------------------|-----------------|--------------------|------------|
| Holders for front mounting |                 |                    |            |
| For three blocks           | <b>MCBH-00</b>  | 1SFA 611 605 R1100 | 0.006      |
| For five blocks            | <b>MCBH5-00</b> | 1SFA 611 601 R1100 | 0.008      |

Contact blocks and lamp blocks for rear mounting See Page 49

# Pilot devices - Modular range

## Accessories



### Transformer block

For 6 or 24 V filament bulb and 24 V LED. Rated power 1.5 W.

| Primary voltage | Secondary voltage | Type | Order Code | Weight, kg |
|-----------------|-------------------|------|------------|------------|
|-----------------|-------------------|------|------------|------------|

#### With lamp holder for front mounting, Ba 9s base

Intended to supply a 1.2 W filament bulb.

|                |                       |                  |                    |       |
|----------------|-----------------------|------------------|--------------------|-------|
| 110 - 127V AC  | 6 V AC                | <b>KTR1-1001</b> | 1SFA 616 950 R1001 | 0.095 |
| 220 - 250 V AC | 6 V AC                | <b>KTR1-1002</b> | 1SFA 616 950 R1002 | 0.095 |
| 380 - 420 V AC | 6 V AC                | <b>KTR1-1003</b> | 1SFA 616 950 R1003 | 0.095 |
| 440 - 480 V AC | 6 V AC                | <b>KTR1-1004</b> | 1SFA 616 950 R1004 | 0.095 |
| 500 - 600 V AC | 6 V AC                | <b>KTR1-1005</b> | 1SFA 616 950 R1005 | 0.095 |
| 110 - 127 V AC | 24 V AC <sup>1)</sup> | <b>KTR1-1011</b> | 1SFA 616 950 R1011 | 0.095 |
| 220 - 250 V AC | 24 V AC <sup>1)</sup> | <b>KTR1-1012</b> | 1SFA 616 950 R1012 | 0.095 |
| 380 - 420 V AC | 24 V AC <sup>1)</sup> | <b>KTR1-1013</b> | 1SFA 616 950 R1013 | 0.095 |
| 440 - 480 V AC | 24 V AC <sup>1)</sup> | <b>KTR1-1014</b> | 1SFA 616 950 R1014 | 0.095 |

#### For illuminated operators <sup>2)</sup>

Intended to supply a 1.2 W filament bulb mounted in lamp block MLB-1 (1SFA 611 620 R1001) only.

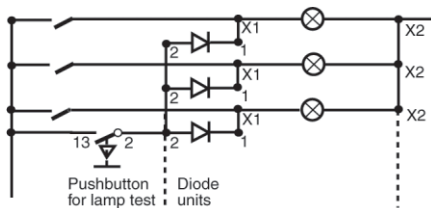
|                |                       |                  |                    |       |
|----------------|-----------------------|------------------|--------------------|-------|
| 110 - 127V AC  | 6 V AC                | <b>KTR1-2001</b> | 1SFA 616 950 R2001 | 0.095 |
| 220 - 250 V AC | 6 V AC                | <b>KTR1-2002</b> | 1SFA 616 950 R2002 | 0.095 |
| 380 - 420 V AC | 6 V AC                | <b>KTR1-2003</b> | 1SFA 616 950 R2003 | 0.095 |
| 440 - 480 V AC | 6 V AC                | <b>KTR1-2004</b> | 1SFA 616 950 R2004 | 0.095 |
| 500 - 600 V AC | 6 V AC                | <b>KTR1-2005</b> | 1SFA 616 950 R2005 | 0.095 |
| 110 - 127 V AC | 24 V AC <sup>1)</sup> | <b>KTR1-2011</b> | 1SFA 616 950 R2011 | 0.095 |
| 220 - 250 V AC | 24 V AC <sup>1)</sup> | <b>KTR1-2012</b> | 1SFA 616 950 R2012 | 0.095 |
| 380 - 420 V AC | 24 V AC <sup>1)</sup> | <b>KTR1-2013</b> | 1SFA 616 950 R2013 | 0.095 |
| 440 - 480 V AC | 24 V AC <sup>1)</sup> | <b>KTR1-2014</b> | 1SFA 616 950 R2014 | 0.095 |

### Diode block

To be used if several lamps are to be connected to a common lamp-test pushbutton. A diode must be connected in series with each lamp. The diode block snaps onto the lamp block or is placed at the side.

| Description | Type            | Order Code         | Weight, kg |
|-------------|-----------------|--------------------|------------|
| Diode block | <b>MDB-1001</b> | 1SFA 611 630 R1001 | 0.015      |

#### Diagram for lamp test with three diode block



<sup>1)</sup> Can be used with LED bulb

<sup>2)</sup> To be used with with directly supplied lamp blocks only.

# Pilot devices - Modular range

## Accessories



**Filament bulbs** Ba 9s base Type of current: AC/DC. A lamp changing tool is required for changing bulb.

| Description     |                  |                |                |               | Type | Order Code         | Weight, kg |
|-----------------|------------------|----------------|----------------|---------------|------|--------------------|------------|
| Rated voltage V | Rated current mA | Rated output W | Service life h | Luminance mcd |      |                    |            |
| 6               | 200              | 1.2            | 10 000         | 350           |      | <b>5911 086-11</b> | 0.002      |
| 12              | 100              | 1.2            | 10 000         | 230           |      | <b>5911 086-12</b> | 0.002      |
| 24              | 50               | 1.2            | 10 000         | 280           |      | <b>5911 086-13</b> | 0.002      |
| 30              | 40               | 1.2            | 10 000         | 250           |      | <b>5911 086-4</b>  | 0.002      |
| 48              | 42               | 2              | 6 000          | 500           |      | <b>5911 086-5</b>  | 0.002      |
| 60              | 20               | 1.2            | 5 000          | 190           |      | <b>5911 086-14</b> | 0.002      |
| 110             | 18               | 2              | 7 500          | 250           |      | <b>5911 086-7</b>  | 0.002      |
| 130             | 15               | 2              | 7 500          | 120           |      | <b>5911 086-15</b> | 0.002      |

### LEDs

With one diode chip mounted on a Ba 9s base. Choose the same color for the LED and the lamp cap or else use a clear lamp cap.

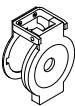
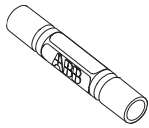
For white light use white LED with clear lamp cap. At DC the lamp base have to be connected to cathode (-) and the bottom contact to anode (+).

| Description                                                               |                  |                  |               |                 | Order Code                | Weight, kg |
|---------------------------------------------------------------------------|------------------|------------------|---------------|-----------------|---------------------------|------------|
| Color                                                                     | Rated current mA | Wave-length nm   | Luminance mcd |                 |                           |            |
| <b>Rated voltage 12 V, DC</b> Service life >50 000 h                      |                  |                  |               |                 |                           |            |
| Red                                                                       | 15               | 630              | 250           | <b>KA2-2011</b> | <b>1SFA 616 921 R2011</b> | 0.005      |
| Green                                                                     | 15               | 525              | 1000          | <b>KA2-2012</b> | <b>1SFA 616 921 R2012</b> | 0.005      |
| Yellow                                                                    | 15               | 592              | 250           | <b>KA2-2013</b> | <b>1SFA 616 921 R2013</b> | 0.005      |
| Blue                                                                      | 15               | 470              | 450           | <b>KA2-2014</b> | <b>1SFA 616 921 R2014</b> | 0.005      |
| White                                                                     | 15               | x=0.31<br>y=0.32 | 600           | <b>KA2-2015</b> | <b>1SFA 616 921 R2015</b> | 0.005      |
| <b>Rated voltage 24 V, (AC)/DC</b> <sup>1)</sup> Service life >50 000 h   |                  |                  |               |                 |                           |            |
| Red                                                                       | 15               | 630              | 250           | <b>KA2-2021</b> | <b>1SFA 616 921 R2021</b> | 0.005      |
| Green                                                                     | 15               | 525              | 800           | <b>KA2-2022</b> | <b>1SFA 616 921 R2022</b> | 0.005      |
| Yellow                                                                    | 15               | 592              | 250           | <b>KA2-2023</b> | <b>1SFA 616 921 R2023</b> | 0.005      |
| Blue                                                                      | 15               | 470              | 400           | <b>KA2-2024</b> | <b>1SFA 616 921 R2024</b> | 0.005      |
| White                                                                     | 15               | x=0.31<br>y=0.32 | 500           | <b>KA2-2025</b> | <b>1SFA 616 921 R2025</b> | 0.005      |
| <b>Rated voltage 48 V, (AC)/DC</b> <sup>1)</sup> Service life >50 000 h   |                  |                  |               |                 |                           |            |
| Red                                                                       | 12               | 630              | 200           | <b>KA2-2041</b> | <b>1SFA 616 921 R2041</b> | 0.005      |
| Green                                                                     | 12               | 525              | 1700          | <b>KA2-2042</b> | <b>1SFA 616 921 R2042</b> | 0.005      |
| Yellow                                                                    | 12               | 592              | 240           | <b>KA2-2043</b> | <b>1SFA 616 921 R2043</b> | 0.005      |
| Blue                                                                      | 12               | 470              | 720           | <b>KA2-2044</b> | <b>1SFA 616 921 R2044</b> | 0.005      |
| White                                                                     | 12               | x=0.31<br>y=0.32 | 1200          | <b>KA2-2045</b> | <b>1SFA 616 921 R2045</b> | 0.005      |
| <b>Rated voltage 60 V, (AC)/DC</b> <sup>1)</sup> Service life >50 000 h   |                  |                  |               |                 |                           |            |
| Red                                                                       | 10               | 630              | 160           | <b>KA2-2051</b> | <b>1SFA 616 921 R2051</b> | 0.005      |
| Green                                                                     | 10               | 525              | 1400          | <b>KA2-2052</b> | <b>1SFA 616 921 R2052</b> | 0.005      |
| Yellow                                                                    | 10               | 592              | 200           | <b>KA2-2053</b> | <b>1SFA 616 921 R2053</b> | 0.005      |
| Blue                                                                      | 10               | 470              | 600           | <b>KA2-2054</b> | <b>1SFA 616 921 R2054</b> | 0.005      |
| White                                                                     | 10               | x=0.31<br>y=0.32 | 1000          | <b>KA2-2055</b> | <b>1SFA 616 921 R2055</b> | 0.005      |
| <b>Rated voltage 110-130 V, AC</b> <sup>1)</sup> Service life 25 000 h    |                  |                  |               |                 |                           |            |
| Red                                                                       | 4-6              | 630              | 60-100        | <b>KA2-2131</b> | <b>1SFA 616 921 R2131</b> | 0.005      |
| Green                                                                     | 4-6              | 525              | 500-850       | <b>KA2-2132</b> | <b>1SFA 616 921 R2132</b> | 0.005      |
| Yellow                                                                    | 4-6              | 592              | 70-120        | <b>KA2-2133</b> | <b>1SFA 616 921 R2133</b> | 0.005      |
| Blue                                                                      | 4-6              | 470              | 220-350       | <b>KA2-2134</b> | <b>1SFA 616 921 R2134</b> | 0.005      |
| White                                                                     | 4-6              | x=0.31<br>y=0.32 | 350-600       | <b>KA2-2135</b> | <b>1SFA 616 921 R2135</b> | 0.005      |
| <b>Rated voltage 110-130 V, AC/DC</b> <sup>1)</sup> Service life 25 000 h |                  |                  |               |                 |                           |            |
| Red                                                                       | 4-6              | 630              | 60-100        | <b>KA2-2141</b> | <b>1SFA 616 921 R2141</b> | 0.005      |
| Green                                                                     | 4-6              | 525              | 500-850       | <b>KA2-2142</b> | <b>1SFA 616 921 R2142</b> | 0.005      |
| Yellow                                                                    | 4-6              | 592              | 70-120        | <b>KA2-2143</b> | <b>1SFA 616 921 R2143</b> | 0.005      |
| Blue                                                                      | 4-6              | 470              | 220-350       | <b>KA2-2144</b> | <b>1SFA 616 921 R2144</b> | 0.005      |
| White                                                                     | 4-6              | x=0.31<br>y=0.32 | 350-600       | <b>KA2-2145</b> | <b>1SFA 616 921 R2145</b> | 0.005      |
| <b>Rated voltage 230 V, AC</b> <sup>1)</sup> Service life 25 000 h        |                  |                  |               |                 |                           |            |
| Red                                                                       | 4                | 630              | 60            | <b>KA2-2221</b> | <b>1SFA 616 921 R2221</b> | 0.005      |
| Green                                                                     | 4                | 525              | 500           | <b>KA2-2222</b> | <b>1SFA 616 921 R2222</b> | 0.005      |
| Yellow                                                                    | 4                | 592              | 70            | <b>KA2-2223</b> | <b>1SFA 616 921 R2223</b> | 0.005      |
| Blue                                                                      | 4                | 470              | 220           | <b>KA2-2224</b> | <b>1SFA 616 921 R2224</b> | 0.005      |
| White                                                                     | 4                | x=0.31<br>y=0.32 | 350           | <b>KA2-2225</b> | <b>1SFA 616 921 R2225</b> | 0.005      |

<sup>1)</sup> At AC the luminance is decreased with 30 % and there is also a slight flickering.

## Pilot devices - Modular range

### Accessories



#### Flashing LED

A lamp changing tool is required for changing bulb.

Choose the same color for the LED and the lamp cap or use a clear lamp cap.

The lamp base has to be connected to cathode (-) and the bottom contact to anode (+).

| Description                                        | Type           | Order Code         | Weight, kg |
|----------------------------------------------------|----------------|--------------------|------------|
| <b>Rated voltage 24 V, rated current 25 mA, DC</b> |                |                    |            |
|                                                    | Wave length nm | Service life hours |            |
| Red                                                | 630            | 50 000             |            |
| Green                                              | 565            | 50 000             |            |
| Yellow                                             | 585            | 50 000             |            |
|                                                    |                | <b>4950 512-1</b>  | 0.005      |
|                                                    |                | <b>4950 512-2</b>  | 0.005      |
|                                                    |                | <b>4950 512-3</b>  | 0.005      |

#### Lamp changing tool

| Description            | Type            | Order Code         | Weight, kg |
|------------------------|-----------------|--------------------|------------|
| For LEDs and for bulbs | <b>KA1-8072</b> | 1SFA 616 920 R8072 | 0.002      |

#### Mounting tool

| Description                    | Type            | Order Code         | Weight, kg |
|--------------------------------|-----------------|--------------------|------------|
| Used for tightening the sleeve | <b>MA1-8015</b> | 1SFA 611 920 R8015 | 0.021      |

#### Membrane of rubber

Of transparent, heat and cold resistant rubber. Does not harden at low temperature.

Gives IP 67 degree of protection. When membrane is used, remove the gasket.

| For operator with | Type            | Order Code         | Weight, kg |
|-------------------|-----------------|--------------------|------------|
| Flush button      | <b>KA1-8052</b> | 1SFA 616 920 R8052 | 0.002      |
| Extended button   | <b>KA1-8002</b> | 1SFA 616 920 R8002 | 0.002      |

#### Emergency stop shroud

For 40 mm Emergency Stop Pushbuttons. Not for use with plastic enclosure.

| Color                             | Type            | Order Code         | Weight, kg |
|-----------------------------------|-----------------|--------------------|------------|
| To prevent inadvertant operation. |                 |                    |            |
| Yellow                            | <b>KA1-8053</b> | 1SFA 616 920 R8053 | 0.020      |

#### Protective ring

For flush and extended buttons

| Description                            | Type | Order Code          | Weight, kg |
|----------------------------------------|------|---------------------|------------|
| To prevent inadvertant operation.      |      |                     |            |
| Not together with legend plate holder. |      | <b>SK 615 512-1</b> | 0.002      |

#### Protective cover

| Description                            | Type            | Order Code         | Weight, kg |
|----------------------------------------|-----------------|--------------------|------------|
| For flush button.                      |                 |                    |            |
| To prevent inadvertant operation.      |                 |                    |            |
| Not together with legend plate holder. | <b>KA1-8010</b> | 1SFA 616 920 R8010 | 0.008      |

#### Bezel (Packing unit 10 pieces)

| Description                | Type            | Order Code         | Weight, kg |
|----------------------------|-----------------|--------------------|------------|
| <b>For pushbutton</b>      |                 |                    |            |
| Grey, plastic              | <b>KA1-8079</b> | 1SFA 616 920 R8079 | 0.025      |
| Black, plastic             | <b>KA1-8022</b> | 1SFA 616 920 R8022 | 0.025      |
| Chrome, plastic            | <b>KA1-8020</b> | 1SFA 616 920 R8020 | 0.025      |
| Metal                      | <b>KA1-8021</b> | 1SFA 616 920 R8021 | 0.025      |
| <b>For selector switch</b> |                 |                    |            |
| Grey, plastic              | <b>KA1-8077</b> | 1SFA 616 920 R8077 | 0.020      |
| Black, plastic             | <b>KA1-8080</b> | 1SFA 616 920 R8080 | 0.025      |
| Chrome, plastic            | <b>KA1-8023</b> | 1SFA 616 920 R8023 | 0.025      |
| Metal                      | <b>KA1-8024</b> | 1SFA 616 920 R8024 | 0.025      |

#### Square bezel

|                                         |                 |                    |       |
|-----------------------------------------|-----------------|--------------------|-------|
| Black, plastic (Packing unit 10 pieces) | -               | SK 616 016-2       | 0.002 |
| Grey, plastic (Packing unit 10 pieces)  | <b>MA1-8124</b> | 1SFA 611 920 R8124 | 0.002 |

# Pilot devices - Modul range

## Accessories

### 30 mm adaptors

For use when fitting the 22 mm pilot devices in 30 mm mounting holes. (1.5 – 4 mm panels)

| Description                                                                                  | Type     | Order Code         | Weight. kg |
|----------------------------------------------------------------------------------------------|----------|--------------------|------------|
| <b>For use with emergency stop push-buttons</b>                                              |          |                    |            |
| Black plastic.                                                                               | KA1-8027 | 1SFA 616 920 R8027 | 0.007      |
| Metal.                                                                                       | KA1-8028 | 1SFA 616 920 R8028 | 0.021      |
| <b>For use with pushbuttons, selector switches, pilot lights, potentiometers and buzzers</b> |          |                    |            |
| Black plastic.                                                                               | KA1-8029 | 1SFA 616 920 R8029 | 0.010      |
| Metal.                                                                                       | KA1-8030 | 1SFA 616 920 R8030 | 0.035      |

### Adaptors

| Description                                | Type     | Order Code         | Weight. kg |
|--------------------------------------------|----------|--------------------|------------|
| <b>For flush mounted pushbuttons</b>       | KA1-8073 | 1SFA 616 920 R8073 | 0.050      |
| <b>For flush mounted selector switches</b> | KA1-8074 | 1SFA 616 920 R8074 | 0.046      |

### Extra key

| Description                | Type | Order Code    | Weight. kg |
|----------------------------|------|---------------|------------|
| Ronis 455 (key code 71)    |      | SK 616 021-71 | 0.007      |
| Ronis 421 (key code 72)    |      | SK 616 021-72 | 0.007      |
| Ronis 3433-E (key code 73) |      | SK 616 021-73 | 0.007      |

### Label sheet

| Description                                 | Type | Order Code  | Weight. kg |
|---------------------------------------------|------|-------------|------------|
| For marking of contact blocks at two levels |      | 2949 1725-1 | 0.001      |

### Lenses for pilot lights (Packing unit 10 pieces)

| Description/Color | Type     | Order Code         | Weight. kg |
|-------------------|----------|--------------------|------------|
| Red               | KA1-8031 | 1SFA 616 920 R8031 | 0.02       |
| Green             | KA1-8032 | 1SFA 616 920 R8032 | 0.02       |
| Yellow            | KA1-8033 | 1SFA 616 920 R8033 | 0.02       |
| Blue              | KA1-8034 | 1SFA 616 920 R8034 | 0.02       |
| White             | KA1-8035 | 1SFA 616 920 R8035 | 0.02       |

### Buttons for pushbuttons (Packing unit 10 pieces)

| Description                  | Color  | Type     | Order Code         | Weight. kg |
|------------------------------|--------|----------|--------------------|------------|
| <b>Flush, opaque</b>         | Red    | KA1-8081 | 1SFA 616 920 R8081 | 0.015      |
|                              | Green  | KA1-8082 | 1SFA 616 920 R8082 | 0.015      |
|                              | Yellow | KA1-8083 | 1SFA 616 920 R8083 | 0.015      |
|                              | Blue   | KA1-8084 | 1SFA 616 920 R8084 | 0.015      |
|                              | White  | KA1-8085 | 1SFA 616 920 R8085 | 0.015      |
|                              | Black  | KA1-8086 | 1SFA 616 920 R8086 | 0.015      |
|                              | Grey   | KA1-8087 | 1SFA 616 920 R8087 | 0.015      |
|                              | Clear  | KA1-8088 | 1SFA 616 920 R8088 | 0.015      |
| <b>Extended, opaque</b>      | Red    | KA1-8091 | 1SFA 616 920 R8091 |            |
|                              | Green  | KA1-8092 | 1SFA 616 920 R8092 | 0.025      |
|                              | Yellow | KA1-8093 | 1SFA 616 920 R8093 | 0.025      |
|                              | Blue   | KA1-8094 | 1SFA 616 920 R8094 | 0.025      |
|                              | White  | KA1-8095 | 1SFA 616 920 R8095 | 0.025      |
|                              | Black  | KA1-8096 | 1SFA 616 920 R8096 | 0.025      |
|                              | Grey   | KA1-8097 | 1SFA 616 920 R8097 | 0.025      |
|                              | Clear  | KA1-8098 | 1SFA 616 920 R8098 | 0.025      |
| <b>Flush, transparent</b>    | Red    | KA1-8101 | 1SFA 616 920 R8101 | 0.015      |
|                              | Green  | KA1-8102 | 1SFA 616 920 R8102 | 0.015      |
|                              | Yellow | KA1-8103 | 1SFA 616 920 R8103 | 0.015      |
|                              | Blue   | KA1-8104 | 1SFA 616 920 R8104 | 0.015      |
|                              | White  | KA1-8105 | 1SFA 616 920 R8105 | 0.015      |
|                              | Clear  | KA1-8108 | 1SFA 616 920 R8108 | 0.015      |
| <b>Extended, transparent</b> | Red    | KA1-8111 | 1SFA 616 920 R8111 | 0.025      |
|                              | Green  | KA1-8112 | 1SFA 616 920 R8112 | 0.025      |
|                              | Yellow | KA1-8113 | 1SFA 616 920 R8113 | 0.025      |
|                              | Blue   | KA1-8114 | 1SFA 616 920 R8114 | 0.025      |
|                              | White  | KA1-8115 | 1SFA 616 920 R8115 | 0.025      |
|                              | Clear  | KA1-8118 | 1SFA 616 920 R8118 | 0.025      |

# Pilot devices - Modular range

## Technical data



### Approvals

The pushbuttons, selector switches and pilot lights are approved by:  
- National approval agencies: UL and China Compulsory Product Certification

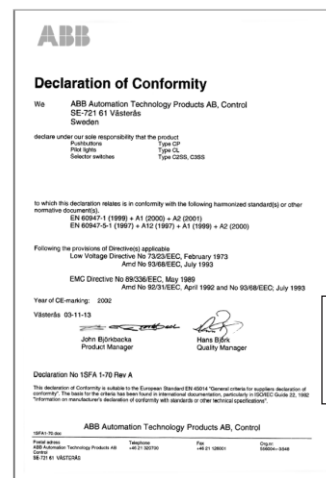
For detail information please contact ABB

### Standards

|                 |                                                                                                                                                                        |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IEC 60947-1     | Low-voltage switchgear and controlgear - Part 1: General rules                                                                                                         |
| IEC 60947-5-1   | Low-voltage switchgear and controlgear - Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices                          |
| IEC 60947-5-5   | Low-voltage switchgear and controlgear - Part 5-5: Control circuit devices and switching elements - Electrical emergency stop device with mechanical latching function |
| IEC 60073       | Basic and safety principles for man-machine interface, marking and identification - Coding principles for indicators and actuators                                     |
| IEC 60529       | Degrees of protection provided by enclosures (IP Code)                                                                                                                 |
| EN 60947-1      | Low-voltage switchgear and controlgear - Part 1: General rules                                                                                                         |
| EN 60947-5-1    | Low-voltage switchgear and controlgear - Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices                          |
| EN 60947-5-5    | Low-voltage switchgear and controlgear - Part 5-5: Control circuit devices and switching elements - Electrical emergency stop device with mechanical latching function |
| EN 60073        | Basic and safety principles for man-machine interface, marking and identification - Coding principles for indication devices and actuators                             |
| EN 60529        | Degrees of protection provided by enclosures (IP Code)                                                                                                                 |
| EN 50013        | Low-voltage switchgear and controlgear for industrial use - Terminal marking and distinctive number for particular control switches                                    |
| UL 508          | Industrial Control Equipment                                                                                                                                           |
| CSA C22.2 No 14 | Industrial Control Equipment                                                                                                                                           |

### Degrees of protection

| Operators                                           | IP    | UL/CSA                    |
|-----------------------------------------------------|-------|---------------------------|
| Pushbutton with flush or extended button, <b>MP</b> | IP 66 | Type 1, 3R, 4, 4X, 12, 13 |
| Double pushbutton, <b>MPD</b>                       | IP 66 | Type 1, 3R, 4, 4X, 12, 13 |
| Mushroom pushbutton, momentary, <b>MPM</b>          | IP 66 | Type 1, 3R, 4, 4X, 12, 13 |
| Emergency stop pushbutton, <b>MPMT/P</b>            | IP 66 | Type 1, 3R, 4, 4X, 12, 13 |
| Selector switch, <b>M2SS/M3SS</b>                   | IP 66 | Type 1, 3R, 4, 4X, 12, 13 |
| Key operated selector switch, <b>M2SSK/M3SSK</b>    | IP 66 | Type 1, 3R, 4, 4X, 12     |
| Toggle switch, <b>MTS2/MTS3</b>                     | IP 66 | Type 1, 3R, 4, 4X, 12, 13 |
| Definite purpose pushbutton, 30 mm, <b>KP6</b>      | IP 66 | —                         |
| Reset button, <b>KPR</b>                            | IP 66 | Type 1, 3R, 4, 4X, 12, 13 |
| Pilot lights, <b>ML</b>                             | IP 66 | Type 1, 3R, 4, 4X, 12, 13 |
| Buzzer, <b>KB</b>                                   | IP 65 | Type 4X                   |
| Potentiometer, <b>KT</b>                            | IP 66 | Type 1, 3R, 4, 4X, 12, 13 |
| <b>Contact block and transformer block</b>          | IP 20 |                           |
| <b>Enclosures</b>                                   |       |                           |
| Plastic enclosures                                  | IP 66 |                           |
| Metallic enclosures                                 | IP 67 |                           |



### Material

**No ozone depleting substances in the products.**

All front parts are made of polycarbonate

| Material    |               |                                                                                                                                                              |
|-------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PC          | Polycarbonate | High impact strength, good outdoor resistance. Can withstand light acid solutions, aliphatic hydrocarbons, paraffin, alcohols, animal and vegetable greases. |
| PSU         | Polysulphone  | Can withstand high temperatures, acids, basic solutions, alkaline compounds, oils, alcohols.                                                                 |
| PA          | Polyamide     | Can withstand high temperatures, aliphatic, aromatic and chlorinated hydrocarbons, esters, ketone-aldehydes, alcohols and basic solutions.                   |
| PBT         |               | Can withstand high temperature, aliphatic and aromatic hydrocarbons, acids, basic solutions, alcohols, grease and oils                                       |
| Zinc        |               | Good corrosion resistance in inland-, sea and industrial atmosphere.                                                                                         |
| Light-alloy |               | Good corrosion resistance in inland-, sea and industrial atmosphere.                                                                                         |
| Rubber      |               | Chloroprene<br>Nitrile                                                                                                                                       |

# Pilot devices - Modular range

## Technical data

### Mechanical life

#### Operators

|                                                                                                     |                        |
|-----------------------------------------------------------------------------------------------------|------------------------|
| Pushbuttons with flush or extended button, momentary mushroom pushbutton                            | 2 million operations   |
| Selector switch, maintained mushroom pushbutton, key operated selector switch and double pushbutton | 0.5 million operations |
| Emergency stop pushbutton                                                                           | 0.1 million operations |
| Toggle switch                                                                                       | 1 million operations   |
| Lockable pushbuttons                                                                                | 0.3 million operations |

### Temperature

|                                                                             |               |
|-----------------------------------------------------------------------------|---------------|
| Ambient temperature during operation                                        | -25 to +70 °C |
| <i>Exception: All pilot devices with 2 W continuously lit filament bulb</i> |               |
|                                                                             | -25 to +40 °C |
| Storage temperature                                                         | -30 to +85 °C |

### Terminals

Plus-minus Pozidriv No.2 screw with DIN-washer.

|                    |                                                                                 |
|--------------------|---------------------------------------------------------------------------------|
| Connectable area   | min. 1 x 0.5 mm <sup>2</sup> /AWG 20<br>max. 2 x 2.5 mm <sup>2</sup> /2 x AWG14 |
| Recommended torque | 0.9 Nm                                                                          |

### Tightening torque

|                  |                          |
|------------------|--------------------------|
| Locking nut, M22 | Min. 2 Nm<br>Max. 2.3 Nm |
|------------------|--------------------------|

### Contact blocks

Mechanical endurance 10 million operations

Self cleaning contacts of silver, NC contact with positive opening.  
At voltages and currents below 24 V and 5.6 mA two contact blocks in parallel are recommended. As an alternative, gold plated contacts can be used.

| Ratings as per UL, CSA, NEMA |          | A600<br>AC | Q600<br>DC      |
|------------------------------|----------|------------|-----------------|
| Rated insulation voltage     |          | 600 V      | 600 V           |
| Rated thermal current        |          | 10 A       | 2.5 A           |
| Rated operational current    | at 120 V | 6 A        | at 125 V 0.55 A |
|                              | 240 V    | 3 A        | 250 V 0.27 A    |
|                              | 480 V    | 1.5 A      | 480 V 0.10 A    |
|                              | 600 V    | 1.2 A      | 600 V 0.10 A    |

#### Ratings as per IEC 60 947-5-1

|                                      |        |
|--------------------------------------|--------|
| Rated insulation voltage, $U_i$      | 690 V  |
| Rated thermal current, $I_{th}$      | 10 A   |
| Rated operational current, $I_e$     |        |
| utilisation category AC 15, at 120 V | 8 A    |
| 230 V                                | 6 A    |
| 400 V                                | 4 A    |
| 690 V                                | 2 A    |
| Rated operational current, $I_e$     |        |
| utilisation category DC 13, at 24 V  | 5 A    |
| 125 V                                | 1.1 A  |
| 250 V                                | 0.55 A |

|                           |         |
|---------------------------|---------|
| <b>Contact resistance</b> | < 25 mΩ |
|---------------------------|---------|

|                                 |              |
|---------------------------------|--------------|
| <b>Compulsory function test</b> | at 5V, 16 mA |
|---------------------------------|--------------|

#### Max. number of contact blocks per operator <sup>1)</sup>

|                                                                                                |   |
|------------------------------------------------------------------------------------------------|---|
| Pushbutton, toggle switch and mushroom pushbutton                                              | 6 |
| Maintained pushbutton                                                                          | 4 |
| Double pushbutton, selector switch, key operated selector switch and emergency stop pushbutton | 4 |

#### Short circuit protection

|                   |                               |
|-------------------|-------------------------------|
| Max. fuse at 1 kA | 16 A ordinary<br>10 A delayed |
|-------------------|-------------------------------|

<sup>1)</sup> The contact blocks can be stacked in max. two levels on the 3- block holder.  
Only one level is accepted on the 5-block holder.

### Lamp block

#### Ratings as per IEC 60 947-5-1

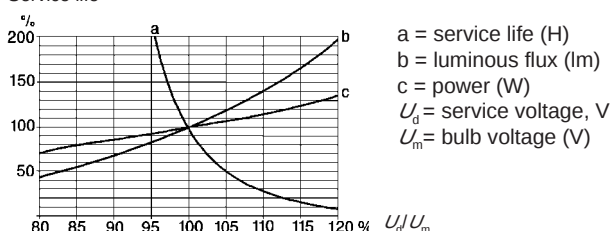
|                          |       |
|--------------------------|-------|
| Rated insulation voltage | 230 V |
| Base                     | Ba 9s |
| Permissible power, up to | 2 W   |

#### Service life of filament bulb

Relative service life, luminous flux and power consumption at different service voltages.

It is generally true to say that bulbs for lower voltages give more light and have better vibration-withstand capability than bulbs for higher voltages.

Service life



#### Lamp comparison

| Bulb type | Approx. service life (hours) | Shock and vibration immunity | High operating temperature | Low power consumption | Brightness |
|-----------|------------------------------|------------------------------|----------------------------|-----------------------|------------|
| Filament  | 5000 - 10 000                | +                            | +                          | +                     | +++        |
| LED       | 25 000 - 50 000              | +++                          | ++                         | ++                    | ++         |

Very good +++  
Good ++  
Less good +

### Transformer block

Suitable for filament bulb 6 or 24 V AC and 1.2 W and LED 24 V.

|                                                 |                                |
|-------------------------------------------------|--------------------------------|
| Rated power                                     | 1.5 W                          |
| Rated voltage                                   | Ratio, see Accessories page 29 |
| Rated insulation voltage acc. to IEC 70 °C (DT) | Class E                        |



**The compact range is a new competitive choice for customers with high requirements of cost efficient, easy to use and reliable products.**

#### General construction

- "All-in-one function"
- One order code = one complete function
- Easy mounting
- Less stock keeping
- Broad range of accessories
- Same front design as for the modular range.
- Robust actuators in clear colors with large text and push area

#### Technical advantages

- High degree of protection: IP 66
- One or two built-in electrically separated contacts (1NO, 1NC, 2NO, 2NC or 1NC & 1NO)
- Contacts with wiping action
- Low built-in depth

#### Operators

- Pushbuttons, non-illuminated
- Emergency stop pushbuttons, non-illuminated, twist, pull or key release
- Selector switches, non-illuminated, 2 or 3 position

#### Pilot lights

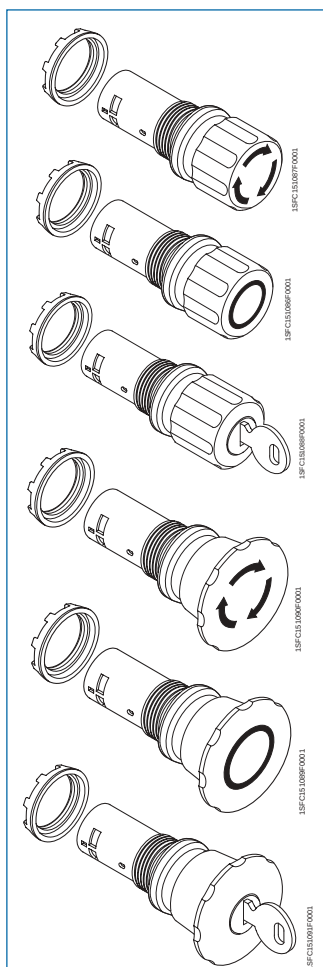
- Ba 9s base for bulbs (6-130 V) or LED (12-130 V DC, 24-230 V AC)
- Pilot light with integrated LED (12-220 V DC, 24-230 V AC)





## Emergency stop pushbutton, non-illuminated

**Fulfills IEC 60947-5-5**



The emergency stops with key release are delivered with two keys.

## Operator of plastic

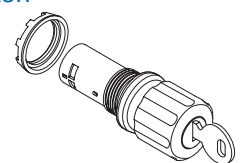
| Description               | Color | Type         | Order Code         | Weight, kg |
|---------------------------|-------|--------------|--------------------|------------|
| Ø 30 mm                   |       |              |                    |            |
| Twist release             | Red   |              |                    |            |
| <u>Contacts included:</u> |       |              |                    |            |
| 1 NC                      |       | CE3T-10R-01  | 1SFA 619 500 R1041 | 0.032      |
| 2 NO                      |       | CE3T-10R-20  | 1SFA 619 500 R1021 | 0.032      |
| 2 NC                      |       | CE3T-10R-02  | 1SFA 619 500 R1051 | 0.032      |
| 1 NO +1 NC                |       | CE3T-10R-11  | 1SFA 619 500 R1071 | 0.032      |
| Pull release              | Red   |              |                    |            |
| <u>Contacts included:</u> |       |              |                    |            |
| 2 NC                      |       | CE3P-10R-02  | 1SFA 619 501 R1051 | 0.032      |
| 1 NO +1 NC                |       | CE3P-10R-11  | 1SFA 619 501 R1071 | 0.032      |
| Key release               | Red   |              |                    |            |
| (Key code 71, Ronis 455)  |       |              |                    |            |
| <u>Contacts included:</u> |       |              |                    |            |
| 2 NC                      |       | CE3K1-10R-02 | 1SFA 619 502 R1051 | 0.060      |
| 1 NO +1 NC                |       | CE3K1-10R-11 | 1SFA 619 502 R1071 | 0.060      |
| Ø 40 mm                   |       |              |                    |            |
| Twist release             | Red   |              |                    |            |
| <u>Contacts included:</u> |       |              |                    |            |
| 1 NC                      |       | CE4T-10R-01  | 1SFA 619 550 R1041 | 0.036      |
| 2 NO                      |       | CE4T-10R-20  | 1SFA 619 550 R1021 | 0.036      |
| 2 NC                      |       | CE4T-10R-02  | 1SFA 619 550 R1051 | 0.036      |
| 1 NO +1 NC                |       | CE4T-10R-11  | 1SFA 619 550 R1071 | 0.036      |
| Pull release              | Red   |              |                    |            |
| <u>Contacts included:</u> |       |              |                    |            |
| 2 NC                      |       | CE4P-10R-02  | 1SFA 619 551 R1051 | 0.036      |
| 1 NO +1 NC                |       | CE4P-10R-11  | 1SFA 619 551 R1071 | 0.036      |
| Key release               | Red   |              |                    |            |
| (Key code 71, Ronis 455)  |       |              |                    |            |
| <u>Contacts included:</u> |       |              |                    |            |
| 2 NC                      |       | CE4K1-10R-02 | 1SFA 619 552 R1051 | 0.064      |
| 1 NO +1 NC                |       | CE4K1-10R-11 | 1SFA 619 552 R1071 | 0.064      |

### Ordering example – Compact Emergency stop pushbutton

Requested: A compact emergency stop pushbutton, 30 mm, with key release and two NC contacts.

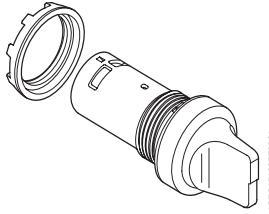
Order: 10 pieces of CE3K1-10R-02.

**Minimum order quantity: 10 pieces**  
**Packing: 1 piece/plastic bag.**



# Pilot devices - Compact range

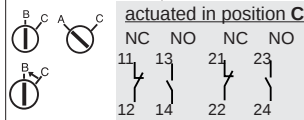
## Two and three position selector switches, non-illuminated



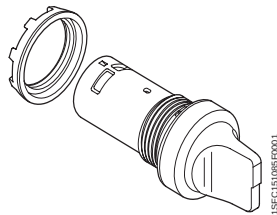
### Contacts actuated

#### Two position selector switch

Contacts included,



|           |   |   |   |   |
|-----------|---|---|---|---|
| 1NO       | — | 1 | — | — |
| 2NO       | — | 1 | — | 1 |
| 1NC       | 1 | — | — | — |
| 2NC       | 1 | — | 1 | — |
| 1NO + 1NC | — | 1 | 1 | — |



Bezel in black plastic as standard

Bezel in metal:

Replace '1' in the:

Type CPX-1 0X

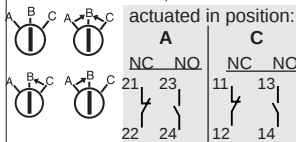
Order Code 1SFA619XXX R 1XXX

3 for metal bezel

### Contacts actuated

#### Three position selector switch

Contacts included,



|           |   |   |   |   |
|-----------|---|---|---|---|
| 2NO       | — | 1 | — | 1 |
| 2NC       | 1 | — | 1 | — |
| 1NO + 1NC | 1 | — | — | 1 |

### Codes for handle colors

|       | Type | Order Code |
|-------|------|------------|
|       | ■    | □          |
| Red   | R    | 1          |
| Black | B    | 6          |
| Grey  | U    | 7          |

### Selector switch with ...

| Description | Type | Order Code | Weight, kg |
|-------------|------|------------|------------|
|-------------|------|------------|------------|

#### Short handle. Two positions

##### Maintained

Contacts included:



|             |              |                    |       |
|-------------|--------------|--------------------|-------|
| 1 NO        | C2SS1-10■-10 | 1SFA 619 200 R101□ | 0.020 |
| 2 NO        | C2SS1-10■-20 | 1SFA 619 200 R102□ | 0.024 |
| 1 NC        | C2SS1-10■-01 | 1SFA 619 200 R104□ | 0.020 |
| 2 NC        | C2SS1-10■-02 | 1SFA 619 200 R105□ | 0.024 |
| 1 NO + 1 NC | C2SS1-10■-11 | 1SFA 619 200 R107□ | 0.024 |

##### Maintained

Contacts included:



|             |              |                    |       |
|-------------|--------------|--------------------|-------|
| 1 NO        | C2SS2-10■-10 | 1SFA 619 201 R101□ | 0.020 |
| 2 NO        | C2SS2-10■-20 | 1SFA 619 201 R102□ | 0.024 |
| 1 NC        | C2SS2-10■-01 | 1SFA 619 201 R104□ | 0.020 |
| 2 NC        | C2SS2-10■-02 | 1SFA 619 201 R105□ | 0.024 |
| 1 NO + 1 NC | C2SS2-10■-11 | 1SFA 619 201 R107□ | 0.024 |

##### Momentary

Contacts included:



|             |              |                    |       |
|-------------|--------------|--------------------|-------|
| 1 NO        | C2SS3-10■-10 | 1SFA 619 202 R101□ | 0.020 |
| 2 NO        | C2SS3-10■-20 | 1SFA 619 202 R102□ | 0.024 |
| 1 NC        | C2SS3-10■-01 | 1SFA 619 202 R104□ | 0.020 |
| 2 NC        | C2SS3-10■-02 | 1SFA 619 202 R105□ | 0.024 |
| 1 NO + 1 NC | C2SS3-10■-11 | 1SFA 619 202 R107□ | 0.024 |

#### Short handle. Three positions

##### Maintained

Contacts included:



|             |              |                    |       |
|-------------|--------------|--------------------|-------|
| 2 NO        | C3SS1-10■-20 | 1SFA 619 210 R102□ | 0.024 |
| 2 NC        | C3SS1-10■-02 | 1SFA 619 210 R105□ | 0.024 |
| 1 NO + 1 NC | C3SS1-10■-11 | 1SFA 619 210 R107□ | 0.024 |

##### Momentary

Contacts included:



|             |              |                    |       |
|-------------|--------------|--------------------|-------|
| 2 NO        | C3SS2-10■-20 | 1SFA 619 211 R102□ | 0.024 |
| 2 NC        | C3SS2-10■-02 | 1SFA 619 211 R105□ | 0.024 |
| 1 NO + 1 NC | C3SS2-10■-11 | 1SFA 619 211 R107□ | 0.024 |

##### Momentary

Contacts included:



|             |              |                    |       |
|-------------|--------------|--------------------|-------|
| 2 NO        | C3SS3-10■-20 | 1SFA 619 212 R102□ | 0.024 |
| 2 NC        | C3SS3-10■-02 | 1SFA 619 212 R105□ | 0.024 |
| 1 NO + 1 NC | C3SS3-10■-11 | 1SFA 619 212 R107□ | 0.024 |

##### Momentary

Contacts included:



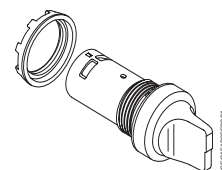
|             |              |                    |       |
|-------------|--------------|--------------------|-------|
| 2 NO        | C3SS7-10■-20 | 1SFA 619 216 R102□ | 0.024 |
| 2 NC        | C3SS7-10■-02 | 1SFA 619 216 R105□ | 0.024 |
| 1 NO + 1 NC | C3SS7-10■-11 | 1SFA 619 216 R107□ | 0.024 |

### Ordering example – Compact selector switch

Requested: A red compact selector switch with three positions, Momentary, spring return from A to B and maintained position in C. With 2 NC contacts.

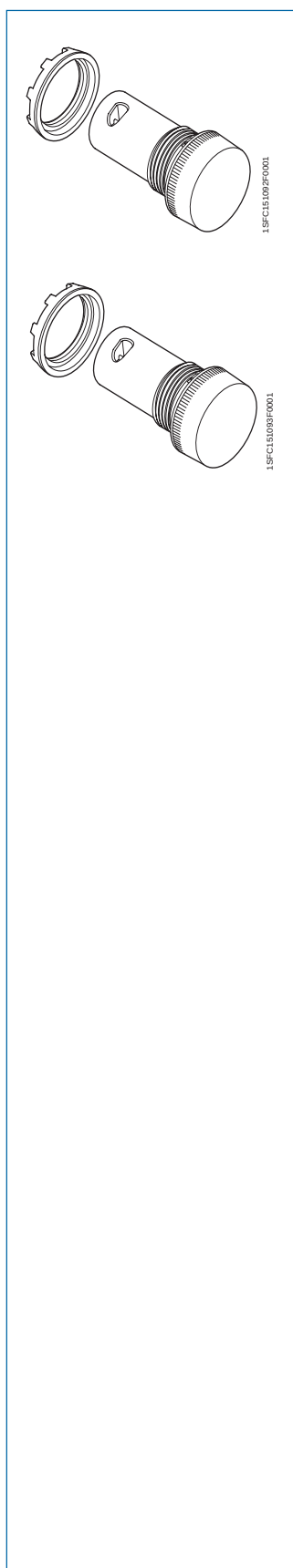
Order: 10 pieces of C3SS7-10R-02

Minimum order quantity: 10 pieces  
Packing: 10 pieces/plastic bag. 10 bags/box



# Pilot devices - Compact range

## Pilot lights/Pilot lights with integrated LED



### Pilot light Ba 9s base, bulb not included

| Description | Type    | Order Code         | Weight, kg |
|-------------|---------|--------------------|------------|
| Color:      |         |                    |            |
| Red         | CL-100R | 1SFA 619 402 R1001 | 0.018      |
| Green       | CL-100G | 1SFA 619 402 R1002 | 0.018      |
| Yellow      | CL-100Y | 1SFA 619 402 R1003 | 0.018      |
| Blue        | CL-100L | 1SFA 619 402 R1004 | 0.018      |
| White       | CL-100W | 1SFA 619 402 R1005 | 0.018      |
| Clear       | CL-100C | 1SFA 619 402 R1008 | 0.018      |

### Pilot light with integrated LED Service life >50 000 hours

| Color                                            | Rated current mA | Lumi-nance mcd | Wave-length nm | Type    | Order Code         | Weight, kg |
|--------------------------------------------------|------------------|----------------|----------------|---------|--------------------|------------|
| <b>Rated voltage 12 V, DC <sup>1)</sup></b>      |                  |                |                |         |                    |            |
| Red                                              | 30               | 60             | 625            | CL-501R | 1SFA 619 402 R5011 | 0.023      |
| Green                                            | 15               | 126            | 520            | CL-501G | 1SFA 619 402 R5012 | 0.023      |
| Yellow                                           | 30               | 60             | 590            | CL-501Y | 1SFA 619 402 R5013 | 0.023      |
| Blue                                             | 30               | 22             | 470            | CL-501L | 1SFA 619 402 R5014 | 0.023      |
| White                                            | 30               | 88             | 2)             | CL-501W | 1SFA 619 402 R5015 | 0.023      |
| <b>Rated voltage 24 V, AC/DC</b>                 |                  |                |                |         |                    |            |
| Red                                              | 15               | 60             | 625            | CL-502R | 1SFA 619 402 R5021 | 0.023      |
| Green                                            | 15               | 126            | 520            | CL-502G | 1SFA 619 402 R5022 | 0.023      |
| Yellow                                           | 15               | 60             | 590            | CL-502Y | 1SFA 619 402 R5023 | 0.023      |
| Blue                                             | 15               | 22             | 470            | CL-502L | 1SFA 619 402 R5024 | 0.023      |
| White                                            | 15               | 88             | 2)             | CL-502W | 1SFA 619 402 R5025 | 0.023      |
| <b>Rated voltage 48 V, AC/DC</b>                 |                  |                |                |         |                    |            |
| Red                                              | 15               | 60             | 625            | CL-504R | 1SFA 619 402 R5041 | 0.023      |
| Green                                            | 15               | 126            | 520            | CL-504G | 1SFA 619 402 R5042 | 0.023      |
| Yellow                                           | 15               | 60             | 590            | CL-504Y | 1SFA 619 402 R5043 | 0.023      |
| Blue                                             | 15               | 22             | 470            | CL-504L | 1SFA 619 402 R5044 | 0.023      |
| White                                            | 15               | 88             | 2)             | CL-504W | 1SFA 619 402 R5045 | 0.023      |
| <b>Rated voltage 60 V, AC/DC</b>                 |                  |                |                |         |                    |            |
| Red                                              | 15               | 60             | 625            | CL-505R | 1SFA 619 402 R5051 | 0.023      |
| Green                                            | 15               | 126            | 520            | CL-505G | 1SFA 619 402 R5052 | 0.023      |
| Yellow                                           | 15               | 60             | 590            | CL-505Y | 1SFA 619 402 R5053 | 0.023      |
| Blue                                             | 15               | 22             | 470            | CL-505L | 1SFA 619 402 R5054 | 0.023      |
| White                                            | 15               | 88             | 2)             | CL-505W | 1SFA 619 402 R5055 | 0.023      |
| <b>Rated voltage 110-130 V, AC</b>               |                  |                |                |         |                    |            |
| Red                                              | 15               | 60             | 625            | CL-513R | 1SFA 619 402 R5131 | 0.023      |
| Green                                            | 15               | 126            | 520            | CL-513G | 1SFA 619 402 R5132 | 0.023      |
| Yellow                                           | 15               | 60             | 590            | CL-513Y | 1SFA 619 402 R5133 | 0.023      |
| Blue                                             | 15               | 22             | 470            | CL-513L | 1SFA 619 402 R5134 | 0.023      |
| White                                            | 15               | 88             | 2)             | CL-513W | 1SFA 619 402 R5135 | 0.023      |
| <b>Rated voltage 110-130 V, DC <sup>1)</sup></b> |                  |                |                |         |                    |            |
| Red                                              | 15               | 60             | 625            | CL-515R | 1SFA 619 402 R5151 | 0.023      |
| Green                                            | 15               | 126            | 520            | CL-515G | 1SFA 619 402 R5152 | 0.023      |
| Yellow                                           | 15               | 60             | 590            | CL-515Y | 1SFA 619 402 R5153 | 0.023      |
| Blue                                             | 15               | 22             | 470            | CL-515L | 1SFA 619 402 R5154 | 0.023      |
| White                                            | 15               | 88             | 2)             | CL-515W | 1SFA 619 402 R5155 | 0.023      |
| <b>Rated voltage 220 V, DC <sup>1)</sup></b>     |                  |                |                |         |                    |            |
| Red                                              | 15               | 60             | 625            | CL-520R | 1SFA 619 402 R5201 | 0.023      |
| Green                                            | 15               | 126            | 520            | CL-520G | 1SFA 619 402 R5202 | 0.023      |
| Yellow                                           | 15               | 60             | 590            | CL-520Y | 1SFA 619 402 R5203 | 0.023      |
| Blue                                             | 15               | 22             | 470            | CL-520L | 1SFA 619 402 R5204 | 0.023      |
| White                                            | 15               | 88             | 2)             | CL-520W | 1SFA 619 402 R5205 | 0.023      |
| <b>Rated voltage 230 V, AC</b>                   |                  |                |                |         |                    |            |
| Red                                              | 15               | 60             | 625            | CL-523R | 1SFA 619 402 R5231 | 0.023      |
| Green                                            | 15               | 126            | 520            | CL-523G | 1SFA 619 402 R5232 | 0.023      |
| Yellow                                           | 15               | 60             | 590            | CL-523Y | 1SFA 619 402 R5233 | 0.023      |
| Blue                                             | 15               | 22             | 470            | CL-523L | 1SFA 619 402 R5234 | 0.023      |
| White                                            | 15               | 88             | 2)             | CL-523W | 1SFA 619 402 R5235 | 0.023      |
| <b>Rated voltage 380 V, AC</b>                   |                  |                |                |         |                    |            |
| Red                                              | 15               | 60             | 625            | CL-530R | 1SFA 619 402 R5301 | 0.023      |
| Green                                            | 15               | 126            | 520            | CL-530G | 1SFA 619 402 R5302 | 0.023      |
| Yellow                                           | 15               | 60             | 590            | CL-530Y | 1SFA 619 402 R5303 | 0.023      |
| Blue                                             | 15               | 22             | 470            | CL-530L | 1SFA 619 402 R5304 | 0.023      |
| White                                            | 15               | 88             | 2)             | CL-530W | 1SFA 619 402 R5305 | 0.023      |
| <b>Rated voltage 415 V, AC</b>                   |                  |                |                |         |                    |            |
| Red                                              | 15               | 60             | 625            | CL-541R | 1SFA 619 402 R5411 | 0.023      |
| Green                                            | 15               | 126            | 520            | CL-541G | 1SFA 619 402 R5412 | 0.023      |
| Yellow                                           | 15               | 60             | 590            | CL-541Y | 1SFA 619 402 R5413 | 0.023      |
| Blue                                             | 15               | 22             | 470            | CL-541L | 1SFA 619 402 R5414 | 0.023      |
| White                                            | 15               | 88             | 2)             | CL-541W | 1SFA 619 402 R5415 | 0.023      |

<sup>1)</sup> Care should be taken for DC supply where + and - must be correctly connected. (this is marked on the product, X1 (+) and X2 (-)).

<sup>2)</sup> X=0.31, Y=0.32

**Minimum order quantity: 10 pieces**  
**Packing: 10 pieces/plastic bag. 10 bags/box**

# Pilot devices - Compact range

## Accessories



**Filament bulbs** Ba 9s base Type of current: AC/DC. A lamp changing tool is required for changing bulb.

| Description     |                  |                |                |               | Type | Order Code  | Weight, kg |
|-----------------|------------------|----------------|----------------|---------------|------|-------------|------------|
| Rated voltage V | Rated current mA | Rated output W | Service life h | Luminance mcd |      |             |            |
| 6               | 200              | 1.2            | 10 000         | 350           |      | 5911 086-11 | 0.002      |
| 12              | 100              | 1.2            | 10 000         | 230           |      | 5911 086-12 | 0.002      |
| 24              | 50               | 1.2            | 10 000         | 280           |      | 5911 086-13 | 0.002      |
| 30              | 40               | 1.2            | 10 000         | 250           |      | 5911 086-4  | 0.002      |
| 48              | 42               | 2              | 6 000          | 500           |      | 5911 086-5  | 0.002      |
| 60              | 20               | 1.2            | 5 000          | 190           |      | 5911 086-14 | 0.002      |
| 110             | 18               | 2              | 7 500          | 250           |      | 5911 086-7  | 0.002      |
| 130             | 15               | 2              | 7 500          | 120           |      | 5911 086-15 | 0.002      |

### LEDs

With one diode chip mounted on a Ba 9s base. Choose the same color for the LED and the lamp cap or else use a clear lamp cap.

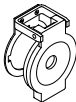
For white light use white LED with clear lamp cap. At DC the lamp base have to be connected to cathode (-) and the bottom contact to anode (+).

| Color                                                                     | Rated mA | Wave-current nM  | Lumi-length mcd | nance    | Order Code         | Weight, kg |
|---------------------------------------------------------------------------|----------|------------------|-----------------|----------|--------------------|------------|
| <b>Rated voltage 12 V, DC</b> Service life >50 000 h                      |          |                  |                 |          |                    |            |
| Red                                                                       | 15       | 630              | 250             | KA2-2011 | 1SFA 616 921 R2011 | 0.005      |
| Green                                                                     | 15       | 525              | 1000            | KA2-2012 | 1SFA 616 921 R2012 | 0.005      |
| Yellow                                                                    | 15       | 592              | 250             | KA2-2013 | 1SFA 616 921 R2013 | 0.005      |
| Blue                                                                      | 15       | 470              | 450             | KA2-2014 | 1SFA 616 921 R2014 | 0.005      |
| White                                                                     | 15       | x=0.31<br>y=0.32 | 600             | KA2-2015 | 1SFA 616 921 R2015 | 0.005      |
| <b>Rated voltage 24 V, (AC)/DC</b> <sup>1)</sup> Service life >50 000 h   |          |                  |                 |          |                    |            |
| Red                                                                       | 15       | 630              | 250             | KA2-2021 | 1SFA 616 921 R2021 | 0.005      |
| Green                                                                     | 15       | 525              | 800             | KA2-2022 | 1SFA 616 921 R2022 | 0.005      |
| Yellow                                                                    | 15       | 592              | 250             | KA2-2023 | 1SFA 616 921 R2023 | 0.005      |
| Blue                                                                      | 15       | 470              | 400             | KA2-2024 | 1SFA 616 921 R2024 | 0.005      |
| White                                                                     | 15       | x=0.31<br>y=0.32 | 500             | KA2-2025 | 1SFA 616 921 R2025 | 0.005      |
| <b>Rated voltage 48 V, (AC)/DC</b> <sup>1)</sup> Service life >50 000 h   |          |                  |                 |          |                    |            |
| Red                                                                       | 12       | 630              | 200             | KA2-2041 | 1SFA 616 921 R2041 | 0.005      |
| Green                                                                     | 12       | 525              | 1700            | KA2-2042 | 1SFA 616 921 R2042 | 0.005      |
| Yellow                                                                    | 12       | 592              | 240             | KA2-2043 | 1SFA 616 921 R2043 | 0.005      |
| Blue                                                                      | 12       | 470              | 720             | KA2-2044 | 1SFA 616 921 R2044 | 0.005      |
| White                                                                     | 12       | x=0.31<br>y=0.32 | 1200            | KA2-2045 | 1SFA 616 921 R2045 | 0.005      |
| <b>Rated voltage 60 V, (AC)/DC</b> <sup>1)</sup> Service life >50 000 h   |          |                  |                 |          |                    |            |
| Red                                                                       | 10       | 630              | 160             | KA2-2051 | 1SFA 616 921 R2051 | 0.005      |
| Green                                                                     | 10       | 525              | 1400            | KA2-2052 | 1SFA 616 921 R2052 | 0.005      |
| Yellow                                                                    | 10       | 592              | 200             | KA2-2053 | 1SFA 616 921 R2053 | 0.005      |
| Blue                                                                      | 10       | 470              | 600             | KA2-2054 | 1SFA 616 921 R2054 | 0.005      |
| White                                                                     | 10       | x=0.31<br>y=0.32 | 1000            | KA2-2055 | 1SFA 616 921 R2055 | 0.005      |
| <b>Rated voltage 110-130 V, AC</b> <sup>1)</sup> Service life 25 000 h    |          |                  |                 |          |                    |            |
| Red                                                                       | 4-6      | 630              | 60-100          | KA2-2131 | 1SFA 616 921 R2131 | 0.005      |
| Green                                                                     | 4-6      | 525              | 500-850         | KA2-2132 | 1SFA 616 921 R2132 | 0.005      |
| Yellow                                                                    | 4-6      | 592              | 70-120          | KA2-2133 | 1SFA 616 921 R2133 | 0.005      |
| Blue                                                                      | 4-6      | 470              | 220-350         | KA2-2134 | 1SFA 616 921 R2134 | 0.005      |
| White                                                                     | 4-6      | x=0.31<br>y=0.32 | 350-600         | KA2-2135 | 1SFA 616 921 R2135 | 0.005      |
| <b>Rated voltage 110-130 V, AC/DC</b> <sup>1)</sup> Service life 25 000 h |          |                  |                 |          |                    |            |
| Red                                                                       | 4-6      | 630              | 60-100          | KA2-2141 | 1SFA 616 921 R2141 | 0.005      |
| Green                                                                     | 4-6      | 525              | 500-850         | KA2-2142 | 1SFA 616 921 R2142 | 0.005      |
| Yellow                                                                    | 4-6      | 592              | 70-120          | KA2-2143 | 1SFA 616 921 R2143 | 0.005      |
| Blue                                                                      | 4-6      | 470              | 220-350         | KA2-2144 | 1SFA 616 921 R2144 | 0.005      |
| White                                                                     | 4-6      | x=0.31<br>y=0.32 | 350-600         | KA2-2145 | 1SFA 616 921 R2145 | 0.005      |
| <b>Rated voltage 230 V, AC</b> <sup>1)</sup> Service life 25 000 h        |          |                  |                 |          |                    |            |
| Red                                                                       | 4        | 630              | 60              | KA2-2221 | 1SFA 616 921 R2221 | 0.005      |
| Green                                                                     | 4        | 525              | 500             | KA2-2222 | 1SFA 616 921 R2222 | 0.005      |
| Yellow                                                                    | 4        | 592              | 70              | KA2-2223 | 1SFA 616 921 R2223 | 0.005      |
| Blue                                                                      | 4        | 470              | 220             | KA2-2224 | 1SFA 616 921 R2224 | 0.005      |
| White                                                                     | 4        | x=0.31<br>y=0.32 | 350             | KA2-2225 | 1SFA 616 921 R2225 | 0.005      |

<sup>1)</sup> At AC the luminance is decreased with 30 % and there is also a slight flickering.

## Pilot devices - Compact range

### Accessories



#### Lamp changing tool

| Description            | Type            | Order Code         | Weight, kg |
|------------------------|-----------------|--------------------|------------|
| For LEDs and for bulbs | <b>KA1-8072</b> | 1SFA 616 920 R8072 | 0.002      |

#### Mounting tool

| Description                         | Type            | Order Code         | Weight, kg |
|-------------------------------------|-----------------|--------------------|------------|
| Used for tightening the locking nut | <b>MA1-8015</b> | 1SFA 611 920 R8015 | 0.021      |

#### Membrane of silicone

Of transparent, heat and cold resistant silicon rubber. Does not harden at low temperature. Gives IP 67 degree of protection. When membrane is used, remove the gasket.

| For operator with | Type            | Order Code         | Weight, kg |
|-------------------|-----------------|--------------------|------------|
| Flush button      | <b>KA1-8052</b> | 1SFA 616 920 R8052 | 0.002      |
| Extended button   | <b>KA1-8002</b> | 1SFA 616 920 R8002 | 0.002      |

#### Protective ring

| Description                                                                                                      | Type | Order Code          | Weight, kg |
|------------------------------------------------------------------------------------------------------------------|------|---------------------|------------|
| For flush and extended pushbutton<br>To prevent inadvertent operation.<br>Not together with legend plate holder. |      | <b>SK 615 512-1</b> | 0.002      |

#### Protective cover

| Description                                                                                | Type            | Order Code         | Weight, kg |
|--------------------------------------------------------------------------------------------|-----------------|--------------------|------------|
| For flush button. To prevent inadvertent operation. Not together with legend plate holder. | <b>KA1-8010</b> | 1SFA 616 920 R8010 | 0.008      |

#### Button

| Description                             | Type            | Order Code         | Weight/1 pc, kg |
|-----------------------------------------|-----------------|--------------------|-----------------|
| Grey, flush (Packing unit 10 pieces)    | <b>KA1-8087</b> | 1SFA 616 920 R8087 | 0.001           |
| Grey, extended (Packing unit 10 pieces) | <b>KA1-8097</b> | 1SFA 616 920 R8097 | 0.001           |

#### Bezel

| Description                             | Type            | Order Code         | Weight/1 pc, kg |
|-----------------------------------------|-----------------|--------------------|-----------------|
| <b>For pushbutton</b>                   |                 |                    |                 |
| Grey (Packing unit 10 pieces)           | <b>KA1-8079</b> | 1SFA 616 920 R8079 | 0.001           |
| Black (Packing unit 10 pieces)          | <b>KA1-8022</b> | 1SFA 616 920 R8022 | 0.001           |
| Metal (Packing unit 10 pieces)          | <b>KA1-8021</b> | 1SFA 616 920 R8021 | 0.005           |
| <b>For selector switch</b>              |                 |                    |                 |
| Grey (Packing unit 10 pieces)           | <b>CA1-8076</b> | 1SFA 619 920 R8076 | 0.001           |
| Black (Packing unit 10 pieces)          | <b>CA1-8077</b> | 1SFA 619 920 R8077 | 0.001           |
| Metal (Packing unit 10 pieces)          | <b>CA1-8078</b> | 1SFA 619 920 R8078 | 0.005           |
| <b>Square bezel</b>                     |                 |                    |                 |
| Black, plastic (Packing unit 10 pieces) | -               | SK 616 016-2       | 0.002           |
| Grey, plastic (Packing unit 10 pieces)  | <b>MA1-8124</b> | 1SFA 611 920 R8124 | 0.002           |

## Pilot devices - Compact range

### Accessories



#### 30 mm adaptors

For use when fitting the 22 mm pilot devices in 30 mm mounting holes. (1.5 – 4 mm panels)

| Description                                                                                     | Type            | Order Code         | Weight, kg |
|-------------------------------------------------------------------------------------------------|-----------------|--------------------|------------|
| <b>For use with pushbuttons, selector switches, emergency stop push-button and pilot lights</b> |                 |                    |            |
| Black plastic.                                                                                  | <b>KA1-8029</b> | 1SFA 616 920 R8029 | 0.010      |
| Metal.                                                                                          | <b>KA1-8030</b> | 1SFA 616 920 R8030 | 0.035      |

#### Adaptors

**For flush mounted pushbutton**

**KA1-8073**

1SFA 616 920 R8073

0.050

**For flush mounted selector switches**

**CA1-8075**

1SFA 619 920 R8075

0.046

#### Extra key

| Description             | Type | Order Code           | Weight, kg |
|-------------------------|------|----------------------|------------|
| Ronis 455 (key code 71) |      | <b>SK 616 021-71</b> | 0.007      |

# Pilot devices - Compact range

## Technical data



### Approvals

The pushbuttons, selector switches and pilot lights are approved by:  
- National approval agencies: UL and China Compulsory Product Certification

For detail information please contact ABB

### Standards

|                 |                                                                                                                                                                        |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IEC 60947-1     | Low-voltage switchgear and controlgear - Part 1: General rules                                                                                                         |
| IEC 60947-5-1   | Low-voltage switchgear and controlgear - Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices                          |
| IEC 60947-5-5   | Low-voltage switchgear and controlgear - Part 5-5: Control circuit devices and switching elements - Electrical emergency stop device with mechanical latching function |
| IEC 60073       | Basic and safety principles for man-machine interface, marking and identification - Coding principles for indicators and actuators                                     |
| IEC 60529       | Degrees of protection provided by enclosures (IP Code)                                                                                                                 |
| EN 60947-1      | Low-voltage switchgear and controlgear - Part 1: General rules                                                                                                         |
| EN 60947-5-1    | Low-voltage switchgear and controlgear - Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices                          |
| EN 60947-5-5    | Low-voltage switchgear and controlgear - Part 5-5: Control circuit devices and switching elements - Electrical emergency stop device with mechanical latching function |
| EN 60073        | Basic and safety principles for man-machine interface, marking and identification - Coding principles for indication devices and actuators                             |
| EN 60529        | Degrees of protection provided by enclosures (IP Code)                                                                                                                 |
| EN 50013        | Low-voltage switchgear and controlgear for industrial use - Terminal marking and distinctive number for particular control switches                                    |
| UL 508          | Industrial Control Equipment                                                                                                                                           |
| CSA C22.2 No 14 | Industrial Control Equipment                                                                                                                                           |

### Degrees of protection

| Pilot device:                                                                  | IP   | UL/CSA                    |
|--------------------------------------------------------------------------------|------|---------------------------|
| Compact pushbutton, <b>CP1, CP2, CP3, CP4</b>                                  | IP66 | Type 1, 3R, 4, 4X, 12, 13 |
| Compact selector switch, <b>C2SS, C3SS</b>                                     | IP66 | Type 1, 3R, 4, 4X, 12, 13 |
| Compact pilot light, <b>CL</b>                                                 | IP66 | Type 1, 3R, 4, 4X, 12, 13 |
| Compact emergency stop pushbutton, <b>CE3T, CE3P, CE4T, CE4P, CE3K1, CE4K1</b> | IP66 | Type 1, 3R, 4, 4X, 12, 13 |
| <b>Terminals</b>                                                               | IP20 |                           |

### Temperature

|                                                                      |               |
|----------------------------------------------------------------------|---------------|
| Ambient temperature during operation                                 | -25 to +70 °C |
| Exception: All pilot devices with 2 W continuously lit filament bulb | -25 to +40 °C |
| Storage temperature                                                  | -30 to +85 °C |

### Tightening torque

|                  |                          |
|------------------|--------------------------|
| Locking nut, M22 | Min. 2 Nm<br>Max. 2.3 Nm |
|------------------|--------------------------|

### Contacts

| Ratings as per UL, CSA, NEMA | C300   | R300   |
|------------------------------|--------|--------|
| Rated insulation voltage     | 250 V  | 250 V  |
| Rated thermal current        | 2.5 A  | 1 A    |
| Rated operational current    |        |        |
| at 120 V                     | 1.5 A  |        |
| 125 V                        |        | 0.22 A |
| 240 V                        | 0.75 A |        |
| 250 V                        |        | 0.11 A |

#### Ratings as per IEC 60947-5-1

|                                  |       |
|----------------------------------|-------|
| Rated insulation voltage, $U_i$  | 300 V |
| Rated thermal current, $I_{th}$  | 5 A   |
| Rated operational current, $I_e$ |       |
| utilisation category AC-15       |       |
| at 120 V                         | 1.5 A |
| 240 V                            | 1 A   |
| Rated operational current, $I_e$ |       |
| utilisation category DC-13,      |       |
| at 24 V                          | 0.3 A |
| 125 V                            | 0.2 A |

#### Short circuit protection

|                   |                               |
|-------------------|-------------------------------|
| Max. fuse at 1 kA | 16 A ordinary<br>10 A delayed |
|-------------------|-------------------------------|

#### Tightening torque

|                                      |               |
|--------------------------------------|---------------|
| Compact pushbutton & selector switch | 0.8 Nm (M3)   |
| Compact pilot light                  | 0.9 Nm (M3.5) |
| Compact emergency stop pushbutton    | 0.8 Nm (M3)   |

#### Terminals

|                           |                                                                                    |
|---------------------------|------------------------------------------------------------------------------------|
| Plus-minus Pozidriv No. 2 |                                                                                    |
| Compact pushbutton        |                                                                                    |
| Compact selector switch   |                                                                                    |
| Compact emergency stop    |                                                                                    |
| Connectable area          | min. 1 x 0.5 mm <sup>2</sup> /1 x AWG22<br>max. 2 x 1.5 mm <sup>2</sup> /2 x AWG14 |
| Compact pilot light       |                                                                                    |
| Connectable area          | min. 1 x 0.5 mm <sup>2</sup> /1 x AWG20<br>max. 2 x 2.5 mm <sup>2</sup> /2 x AWG14 |

### Material

#### No ozone depleting substances in the products.

All front parts are made of polycarbonate

| Material         | Characteristics                                                                                                                                              |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PC Polycarbonate | High impact strength, good outdoor resistance. Can withstand light acid solutions, aliphatic hydrocarbons, paraffin, alcohols, animal and vegetable greases. |
| PA Polyamide     | Can withstand high temperatures, aliphatic, aromatic and chlorinated hydrocarbons, esters, ketone-aldehydes, alcohols and basic solutions.                   |
| PBT              | Can withstand high temperature, aliphatic and aromatic hydrocarbons, acids, basic solutions, alcohols, grease and oils                                       |
| Zinc             | Good corrosion resistance in inland-, sea and industrial atmosphere.                                                                                         |
| Light-alloy      | Good corrosion resistance in inland-, sea and industrial atmosphere.                                                                                         |
| Rubber           | Chloroprene<br>Nitrile                                                                                                                                       |

# Notes



Lined area for notes, consisting of multiple horizontal lines.



#### Assembled stations

There are assembled stations of two types:

In **plastic enclosures** and in **metallic enclosures**

Both types of enclosures are available in 1, 2-, 3-, 4- or 6-seat.

#### Plastic enclosures

Of polycarbonate.

Degree of protection: IP 66, UL Type 1, 3R, 4, 4X, 12, 13

#### Metallic enclosures

Of light-alloy.

Degree of protection:

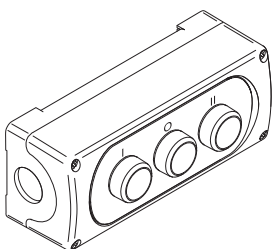
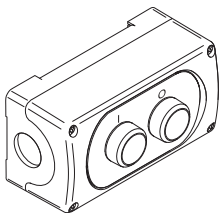
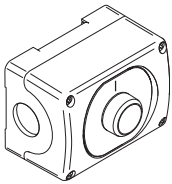
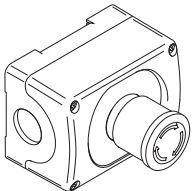
With sealing membrane IP 67

# Pilot devices – Assembled stations

## Plastic enclosures

Note! Included pilot devices are of modular type

**Illuminated pushbutton:**  
LB = Lamp block type MLB-1  
Bulb not included



### 1-seat Plastic enclosures. Yellow top/light grey bottom

| Description <sup>1)</sup>                                                              | Type              | Order Code         | Weight, kg |
|----------------------------------------------------------------------------------------|-------------------|--------------------|------------|
| <b>Emergency stop pushbutton, 40 mm.</b><br>Twist release. No legend plate             |                   |                    |            |
| Red<br>2 NC                                                                            | <b>MEPY1-1005</b> | 1SFA 611 821 R1005 | 0.234      |
| Red<br>1 NO + 2 NC                                                                     | <b>MEPY1-1024</b> | 1SFA 611 821 R1024 | 0.250      |
| <b>Emergency stop pushbutton, 40 mm, illuminated</b><br>Twist release. No legend plate |                   |                    |            |
| Red<br>1 NO + 1 NC + 1 LB                                                              | <b>MEPY1-1011</b> | 1SFA 611 821 R1011 | 0.250      |
| <b>Emergency stop pushbutton, 40 mm.</b><br>Pull release. No legend plate              |                   |                    |            |
| Red<br>2 NC                                                                            | <b>MEPY1-1015</b> | 1SFA 611 821 R1015 | 0.234      |
| Red<br>1 NC                                                                            | <b>MEPY1-1009</b> | 1SFA 611 821 R1009 | 0.210      |

### 1-seat Plastic enclosures. Dark grey top/light grey bottom

| Description <sup>1)</sup>                                    | Type             | Order Code         | Weight, kg |
|--------------------------------------------------------------|------------------|--------------------|------------|
| <b>One flush pushbutton. Momentary</b><br>White<br>1 NO<br>I | <b>MEP1-1002</b> | 1SFA 611 811 R1002 | 0.200      |
| Green<br>1 NO<br>I                                           | <b>MEP1-1001</b> | 1SFA 611 811 R1001 | 0.200      |
| Black<br>1 NC<br>O                                           | <b>MEP1-1004</b> | 1SFA 611 811 R1004 | 0.200      |
| Red<br>1 NC<br>O                                             | <b>MEP1-1003</b> | 1SFA 611 811 R1003 | 0.200      |

### 2-seat Plastic enclosure. Dark grey top/light grey bottom

| Description <sup>1)</sup>                  | Type             | Order Code         | Weight, kg |
|--------------------------------------------|------------------|--------------------|------------|
| <b>Two flush pushbuttons. Momentary.</b>   |                  |                    |            |
| <b>Left      Right</b>                     |                  |                    |            |
| Red      Green<br>1 NC    1 NO<br>I      O | <b>MEP2-1001</b> | 1SFA 611 812 R1001 | 0.220      |

### 3-seat Plastic enclosure. Dark grey top/light grey bottom

| Description <sup>1)</sup>                                           | Type             | Order Code         | Weight, kg |
|---------------------------------------------------------------------|------------------|--------------------|------------|
| <b>Three flush pushbuttons. Momentary</b>                           |                  |                    |            |
| <b>Left      Center      Right</b>                                  |                  |                    |            |
| Green    Red      Green<br>1 NO    1 NC    1 NO<br>I      O      II | <b>MEP3-1004</b> | 1SFA 611 813 R1004 | 0.300      |

<sup>1)</sup> Description = Button color/cap color, Included contact blocks (NO, NC) & Lamp block (LB), Legend plate text

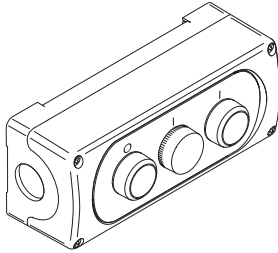
# Pilot devices – Assembled stations

## Plastic and metallic enclosures

Note! Included pilot devices are of modular type

### Illuminated pushbutton:

LB = Lamp block type MLB-1  
Bulb not included

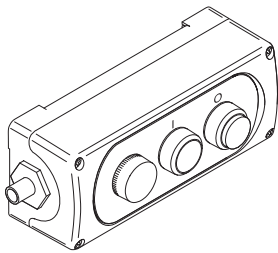


### 3-seat Plastic enclosures. Dark grey top/light grey bottom

| Description <sup>1)</sup>                                     | Type             | Order Code         | Weight, kg |
|---------------------------------------------------------------|------------------|--------------------|------------|
| <b>Two flush pushbuttons, pilot light in centre position.</b> |                  |                    |            |
| Momentary (Lamp block type MLB-1)                             |                  |                    |            |
| <b>Left</b>                                                   | <b>Center</b>    | <b>Right</b>       |            |
| Red                                                           | Clear            | Green              |            |
| 1 NC                                                          | 1 LB             | 1 NO               |            |
| O                                                             | I                | I                  |            |
|                                                               | <b>MEP3-1001</b> | 1SFA 611 813 R1001 | 0.300      |
| <b>Two flush pushbuttons, pilot light in centre position.</b> |                  |                    |            |
| Momentary (Lamp block MLB-3)                                  |                  |                    |            |
| <b>Left</b>                                                   | <b>Center</b>    | <b>Right</b>       |            |
| Red                                                           | Clear            | Green              |            |
| 1 NC                                                          | 1 LB             | 1 NO               |            |
| O                                                             | I                | I                  |            |
|                                                               | <b>MEP3-1003</b> | 1SFA 611 813 R1003 | 0.300      |

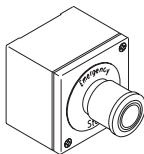
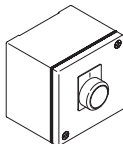
### Plastic enclosures with interface for ABB Field Bus Plug

| Description <sup>1)</sup>                                        | Type              | Order Code         | Weight, kg |
|------------------------------------------------------------------|-------------------|--------------------|------------|
| <b>1-seat Plastic enclosure. Yellow top/light grey bottom</b>    |                   |                    |            |
| <b>Emergency stop pushbutton, 40 mm</b>                          |                   |                    |            |
| Twist release.                                                   |                   |                    |            |
| Red                                                              |                   |                    |            |
| Emergency stop                                                   |                   |                    |            |
| 1 NO                                                             | <b>MEPN1-5001</b> | 1SFA 611 841 R5001 | 0.300      |
| <b>2-seat Plastic enclosure. Dark grey top/light grey bottom</b> |                   |                    |            |
| <b>One flush, illuminated and one extended pushbutton</b>        |                   |                    |            |
| (One LED for 24 V included)                                      |                   |                    |            |
| <b>Left</b>                                                      | <b>Right</b>      |                    |            |
| White                                                            | Black (extended). |                    |            |
| 1 NO                                                             | 1 NO              |                    |            |
| 1 LB                                                             |                   |                    |            |
| I                                                                | O                 |                    |            |
|                                                                  | <b>MEPN2-5001</b> | 1SFA 611 842 R5001 | 0.350      |
| <b>3-seat Plastic enclosure. Dark grey top/light grey bottom</b> |                   |                    |            |
| <b>Two pushbuttons</b> Momentary                                 |                   |                    |            |
| (One LED for 24 V included)                                      |                   |                    |            |
| <b>Left</b>                                                      | <b>Center</b>     | <b>Right</b>       |            |
| White                                                            | White             | Black (extended).  |            |
| 1 LB                                                             | 1 NO              | 1 NO               |            |
| I                                                                | I                 | O                  |            |
|                                                                  | <b>MEPN3-5001</b> | 1SFA 611 843 R5001 | 0.400      |



### 1-seat Metallic enclosure. Grey

| Description <sup>1)</sup>                                                                                                            | Type             | Order Code         | Weight, kg |
|--------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------|------------|
| <b>One flush pushbutton</b> Momentary.<br>Degree of protection IP 66<br><br>Green<br>1 NC<br>I                                       | <b>MEM1-1001</b> | 1SFA 611 831 R1001 | 0.380      |
| <b>40 mm emergency stop button</b><br>Maintained. Twist release.<br>Degree of protection IP 66.<br><br>Red<br>2 NC<br>Emergency stop |                  |                    |            |
| <b>40 mm emergency stop button</b><br>Maintained. Pull release.<br>Degree of protection IP 66.<br><br>Red<br>1 NC<br>Emergency stop  |                  |                    |            |
|                                                                                                                                      |                  |                    |            |



<sup>1)</sup> Description = Button color/cap color, Included contact blocks (NO, NC) & Lamp block (LB), Legend plate text

# Pilot devices - Plastic enclosures

Degree of protection IP 66

## Empty plastic enclosures Now with stainless steel screws

| Size   | Color top/bottom     | Type           | Order Code         | Weight, kg |
|--------|----------------------|----------------|--------------------|------------|
| 1-seat | Dark grey/Light grey | <b>MEP1-0</b>  | 1SFA 611 811 R1000 | 0.15       |
| 1-seat | Yellow/Light grey    | <b>MEPY1-0</b> | 1SFA 611 821 R1000 | 0.15       |
| 2-seat | Dark grey/Light grey | <b>MEP2-0</b>  | 1SFA 611 812 R1000 | 0.17       |
| 3-seat | Dark grey/Light grey | <b>MEP3-0</b>  | 1SFA 611 813 R1000 | 0.20       |
| 4-seat | Dark grey/Light grey | <b>MEP4-0</b>  | 1SFA 611 814 R1000 | 0.23       |
| 6-seat | Dark grey/Light grey | <b>MEP6-0</b>  | 1SFA 611 816 R1000 | 0.30       |

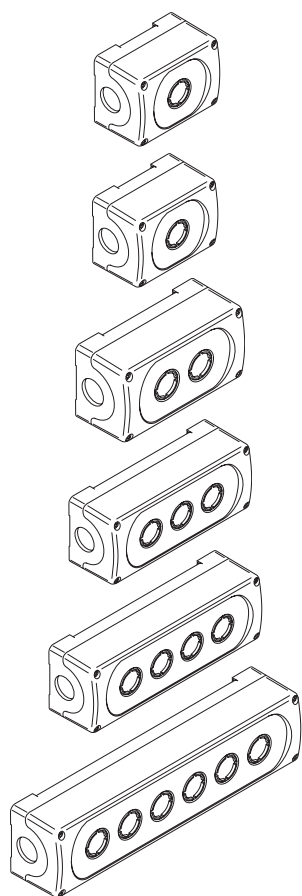
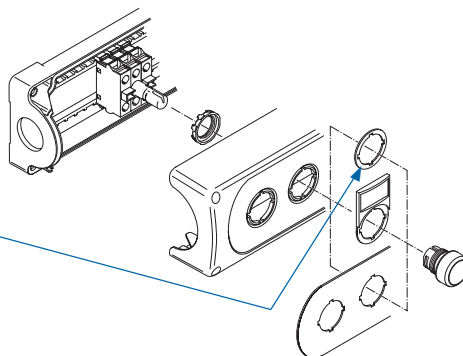
### When ordering

- Select operators from page 10-26 and 36-39.

N.B. Selector switches with short handle for vertically mounted selector switches must be ordered from page 50-51

- Select contact blocks and lamp blocks for **rear** mounting, see page 49.
- Accessories, see page 49

N.B. **One spacer per operator** has to be ordered if legend plate is not used.  
(for rear mounted pilot devices)



# Pilot devices - Plastic enclosures

## Accessories

### Contact blocks for rear mounting

| Description                                               | Type            | Order Code         | Weight, kg |
|-----------------------------------------------------------|-----------------|--------------------|------------|
| <b>Contact block</b>                                      |                 |                    |            |
| 1NO                                                       | <b>MCB-10B</b>  | 1SFA 611 610 R2001 | 0.013      |
| 1NC                                                       | <b>MCB-01B</b>  | 1SFA 611 610 R2010 | 0.013      |
| <b>Double contact block</b>                               |                 |                    |            |
| 2NO                                                       | <b>MCB-20B</b>  | 1SFA 611 610 R2002 | 0.026      |
| 2NC                                                       | <b>MCB-02B</b>  | 1SFA 611 610 R2020 | 0.026      |
| 1NO+1NC                                                   | <b>MCB-11B</b>  | 1SFA 611 610 R2011 | 0.026      |
| <b>Contact block with gold plated contacts</b>            |                 |                    |            |
| 1NO                                                       | <b>MCB-10BG</b> | 1SFA 611 610 R2101 | 0.013      |
| 1NC                                                       | <b>MCB-01BG</b> | 1SFA 611 610 R2110 | 0.013      |
| <b>Lamp blocks</b>                                        |                 |                    |            |
| <b>For max. 2 W, 230 V AC and DC filament bulb or LED</b> |                 |                    |            |
| 115 V AC supply voltage.                                  | <b>MLB-1B</b>   | 1SFA 611 620 R2001 | 0.015      |
| <b>For 60 V filament bulb max. 1.2 W</b>                  | <b>MLB-2B</b>   | 1SFA 611 620 R2002 | 0.017      |
| 230 V AC supply voltage.                                  | <b>MLB-3B</b>   | 1SFA 611 620 R2003 | 0.020      |
| <b>For 130 V filament bulb max. 2 W</b>                   |                 |                    |            |

### Protective sleeve

| Description                                              | Type | Order Code         | Weight, kg |
|----------------------------------------------------------|------|--------------------|------------|
| To make a rear mounted lamp block screen protected. IP20 | –    | <b>5396 0543-1</b> | 0.002      |

### Cable gland

| Description                                                       | Type            | Order Code         | Weight, kg |
|-------------------------------------------------------------------|-----------------|--------------------|------------|
| Grey plastic. threaded outer sleeve<br>Sealing ring included. M25 | <b>MA5-3001</b> | 1SFA 611 925 R3001 | 0.015      |

### Nut

| Description                                 | Type            | Order Code         | Weight, kg |
|---------------------------------------------|-----------------|--------------------|------------|
| Grey plastic. For cable gland above.<br>M25 | <b>MA5-3003</b> | 1SFA 611 925 R3003 | 0.005      |

### Earthing terminal

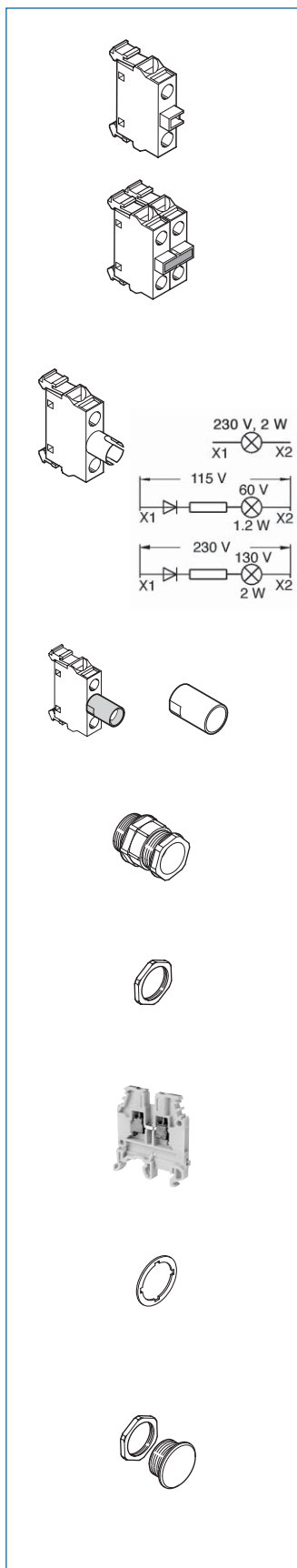
| Description            | Type            | Order Code         | Weight, kg |
|------------------------|-----------------|--------------------|------------|
| For plastic enclosure. | <b>MA5-2005</b> | 1SFA 611 925 R3005 | 0.005      |

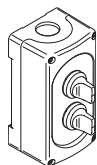
### Spacer

| Description                                                                                                  | Type            | Order Code                 | Weight, kg |
|--------------------------------------------------------------------------------------------------------------|-----------------|----------------------------|------------|
| 1 mm thick. Needed when legend plates are not used in plastic enclosures.<br>Spacer (Packing unit 10 pieces) | –               | <b>SK 615 516-1</b>        | 0.002      |
| Spacer for Modular emergency stop pushbutton, page 48<br>(Packing unit 10 pieces)                            | <b>KA1-8045</b> | <b>1SFA 616 920 R 8045</b> | 0.004      |

### Blanking plug

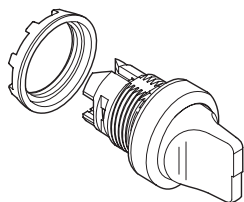
| Description   | Type | Order Code          | Weight, kg |
|---------------|------|---------------------|------------|
| Black plastic | –    | <b>SK 615 502-B</b> | 0.030      |



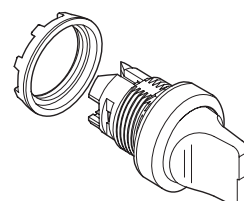


## Pilot devices - Modular range

Two position selector switches for mounting in vertically mounted enclosures



1SFC151079F0001



1SFC151079F0001

**Bezel in black plastic as standard**

**Bezel in metal:**

Replace '1' in the:

Type M2SSX-1 0X

Order Code 1SFA611XXX R 1XXX

**2** for chrome plastic bezel

**3** for metal bezel

### Contact functions

Block positions as seen from operator front.

| Handle position | Left block | Right block |
|-----------------|------------|-------------|
| A (B)           | O          | O           |
| O               | x          | x           |

O = not actuated (normal state)

x = actuated (state changed)

### Non-illuminated operator ... <sup>1)</sup>

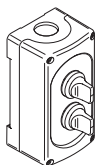
| Symbol                                      | Handle color | Type              | Order Code         | Weight, kg |
|---------------------------------------------|--------------|-------------------|--------------------|------------|
| <b>with short handle</b>                    |              |                   |                    |            |
| <b>Maintained</b>                           |              |                   |                    |            |
|                                             | Red          | <b>M2SSV1-10R</b> | 1SFA 611 220 R1001 | 0.015      |
|                                             | Black        | <b>M2SSV1-10B</b> | 1SFA 611 220 R1006 | 0.015      |
| <b>Maintained</b>                           |              |                   |                    |            |
|                                             | Red          | <b>M2SSV2-10R</b> | 1SFA 611 221 R1001 | 0.015      |
|                                             | Black        | <b>M2SSV2-10B</b> | 1SFA 611 221 R1006 | 0.015      |
| <b>Momentary, spring return from C to B</b> |              |                   |                    |            |
|                                             | Red          | <b>M2SSV3-10R</b> | 1SFA 611 222 R1001 | 0.015      |
|                                             | Black        | <b>M2SSV3-10B</b> | 1SFA 611 222 R1006 | 0.015      |

### Illuminated operator ... <sup>1) 2)</sup>

| Symbol                                      | Handle color | Type              | Order Code          | Weight, kg |
|---------------------------------------------|--------------|-------------------|---------------------|------------|
| <b>with short handle</b>                    |              |                   |                     |            |
| <b>Maintained</b>                           |              |                   |                     |            |
|                                             | Red          | <b>M2SSV1-11R</b> | 1SFA 611 220 R1101  | 0.015      |
|                                             | Green        | <b>M2SSV1-11G</b> | 1SFA 611 220 R1102  | 0.015      |
|                                             | Yellow       | <b>M2SSV1-11Y</b> | 1SFA 611 220 R1103  | 0.015      |
| <b>Maintained</b>                           |              |                   |                     |            |
|                                             | Red          | <b>M2SSV2-11R</b> | 1SFA 611 221 R1101  | 0.015      |
|                                             | Green        | <b>M2SSV2-11G</b> | 1SFA 611 221 R1102  | 0.015      |
|                                             | Yellow       | <b>M2SSV2-11Y</b> | 1SFA 611 221 R1103  | 0.015      |
| <b>Momentary, spring return from C to B</b> |              |                   |                     |            |
|                                             | Red          | <b>M2SSV3-11R</b> | 1SFA 611 222 R1101  | 0.015      |
|                                             | Green        | <b>M2SSV3-11G</b> | 1SFA 611 222 R1102  | 0.015      |
|                                             | Yellow       | <b>M2SSV3-11Y</b> | 1SFA 611 22 2 R1103 | 0.015      |

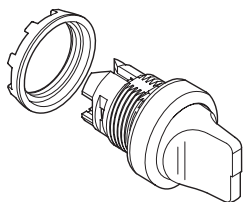
<sup>1)</sup> No contact in center position

<sup>2)</sup> Lamp block for max 230 V AC/DC. Bulb not included. Other lamp block see Accessories

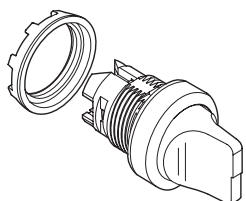


## Pilot devices - Modular range

### Three position selector switches for mounting in vertically mounted enclosures



1SFC151079F0001



1SFC151079F0001

**Bezel in black plastic as standard**  
**Bezel in metal:**

Replace '1' in the:  
Type M3SSX-1 0X  
Order Code 1SFA611XXX R 1XXX  
2 for chrome plastic bezel  
3 for metal bezel

#### Contact functions

Block positions as seen from operator front.

| Handle position | Left block | Right block |
|-----------------|------------|-------------|
| A               | x          | O           |
| B               | O          | O           |
| C               | O          | x           |

#### Non-illuminated operator ...<sup>1)</sup>

| Symbol | Handle color | Type | Order Code | Weight, kg |
|--------|--------------|------|------------|------------|
|--------|--------------|------|------------|------------|

##### with short handle

##### Maintained



Red  
Black

**M3SSV1-10R**  
**M3SSV1-10B**

1SFA 611 230 R1001  
1SFA 611 230 R1006

0.015  
0.015

##### Momentary, spring return from A to B and from C to B



Red  
Black

**M3SSV2-10R**  
**M3SSV2-10B**

1SFA 611 231 R1001  
1SFA 611 231 R1006

0.015  
0.015

##### Momentary, spring return from C to B



Red  
Black

**M3SSV3-10R**  
**M3SSV3-10B**

1SFA 611 232 R1001  
1SFA 611 232 R1006

0.015  
0.015

#### Illuminated operator ...<sup>1) 2)</sup>

| Symbol | Handle color | Type | Order Code | Weight, kg |
|--------|--------------|------|------------|------------|
|--------|--------------|------|------------|------------|

##### with short handle

##### Maintained



Red  
Green  
Yellow

**M3SSV1-11R**  
**M3SSV1-11G**  
**M3SSV1-11Y**

1SFA 611 230 R1101  
1SFA 611 230 R1102  
1SFA 611 230 R1103

0.015  
0.015  
0.015

##### Momentary, spring return from A to B and from C to B



Red  
Green  
Yellow

**M3SSV2-11R**  
**M3SSV2-11G**  
**M3SSV2-11Y**

1SFA 611 231 R1101  
1SFA 611 231 R1102  
1SFA 611 231 R1103

0.015  
0.015  
0.015

##### Momentary, spring return from C to B



Red  
Green  
Yellow

**M3SSV3-11R**  
**M3SSV3-11G**  
**M3SSV3-11Y**

1SFA 611 232 R1101  
1SFA 611 232 R1102  
1SFA 611 232 R1103

0.015  
0.015  
0.015

<sup>1)</sup> No contact in centre position

<sup>2)</sup> Lamp block for max 230 V AC/DC. Bulb not included. Other lamp block see Accessories

**Contact blocks, lamp block and holder** See Page 18-19, 20

**Ordering example** See Page 18

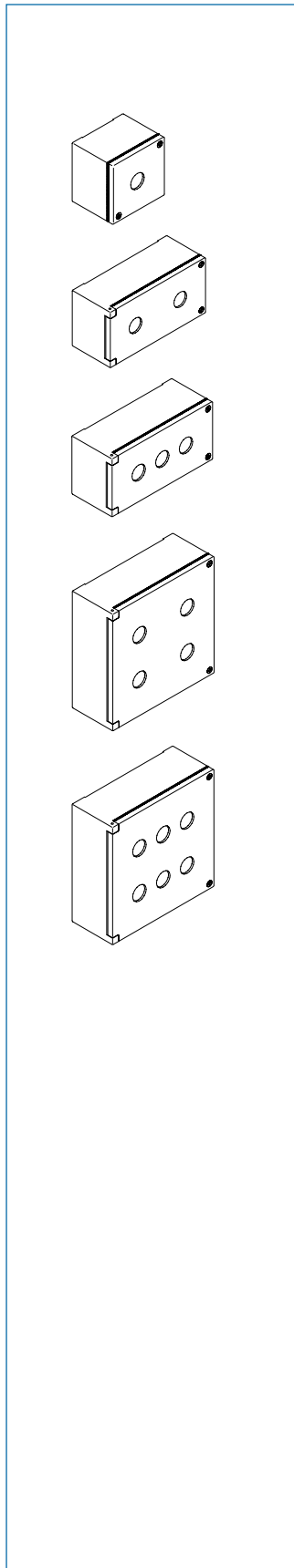
## Pilot devices - Metallic enclosures

Degree of protection IP 67

### Empty metallic enclosures

| Size   | Color top/bottom | Type          | Order Code                  | Weight, kg |
|--------|------------------|---------------|-----------------------------|------------|
| 1-seat | Grey             | <b>KEM1-0</b> | SK 616 701-AA               | 0.40       |
| 2-seat | Grey             | <b>KEM2-0</b> | SK 616 702-AA               | 0.70       |
| 3-seat | Grey             | <b>KEM3-0</b> | SK 616 703-AA               | 0.80       |
| 4-seat | Grey             | <b>KEM4-0</b> | SK 616 704-AA <sup>1)</sup> | 1.20       |
| 6-seat | Grey             | <b>KEM6-0</b> | SK 616 706-AA <sup>1)</sup> | 1.40       |

<sup>1)</sup> Flanges are not included



# Pilot devices - Metallic enclosures

## Accessories



### Cable gland

Metal. Threaded outer sleeve.

| Pr   | Pg | Sealing diameter, mm | Type | Order Code  | Weight, kg |
|------|----|----------------------|------|-------------|------------|
| 22.5 | 16 | 8.5 - 11.5           |      | SK 170 7685 | 0.040      |
| 22.5 | 16 | 10.5 - 13.5          |      | SK 170 7686 | 0.045      |
| 22.5 | 16 | 12.5 - 15.0          |      | SK 170 7687 | 0.050      |



### Hexagon nut.

| Description           | Type | Order Code  | Weight, kg |
|-----------------------|------|-------------|------------|
| Metal, Pr 22.5, Pg 16 |      | SK 175 0152 | 0.010      |



### Sealing ring

| Description            | Type | Order Code  | Weight, kg |
|------------------------|------|-------------|------------|
| Rubber, Pr 22.5, Pg 16 |      | SK 170 0182 | 0.010      |



### Blanking plates

**Without holes.** Metal. Black For 4- and 6-seat enclosures. *Note: Gasket not included*

| For flange opening | Suitable flange gasket Order Code | Type | Order Code    | Weight, kg |
|--------------------|-----------------------------------|------|---------------|------------|
| FL 13              | SK 170 4536                       |      | SK 172 105-AA | 0.110      |



**With holes.** Metal. Black For 4- and 6-seat enclosures. *Note: Gasket not included*

| For flange opening                                               | Suitable flange gasket Order Code | Type | Order Code    | Weight, kg |
|------------------------------------------------------------------|-----------------------------------|------|---------------|------------|
| Two threaded holes Pr 22.5 (Pg 16). Hole centre distance 50 mm   |                                   |      |               |            |
| FL 13                                                            | SK 170 4536                       |      | SK 172 105-AD | 0.110      |
| Three threaded holes Pr 22.5 (Pg 16). Hole centre distance 38 mm |                                   |      |               |            |
| FL 13                                                            | SK 170 4536                       |      | SK 172 105-AE | 0.110      |
| Four threaded holes Pr 22.5 (Pg 16). Hole centre distance 30 mm  |                                   |      |               |            |
| FL 13                                                            | SK 170 4536                       |      | SK 172 105-AF | 0.110      |

### Flange gasket

| Description | Type | Order Code  | Weight, kg |
|-------------|------|-------------|------------|
| FL 13       |      | SK 170 4536 | 0.005      |

### Blanking plug

Applicable to cover a 22 mm-hole in an enclosure instead of an operator. Gasket and nut included.

| Description        | Type | Order Code   | Weight, kg |
|--------------------|------|--------------|------------|
| Black non-metallic |      | SK 616 502-B | 0.030      |



### Sealing plug

Plastic. Black

| For holes     | Type | Order Code   | Weight, kg |
|---------------|------|--------------|------------|
| Pr 22.5 Pg 16 |      | SK 175 919-3 | 0.010      |



# Notes



Lined area for notes, consisting of multiple horizontal lines.

# ABB Pilot devices

## Legend plates



### Fixed legend plates

- Of silvergrey aluminium for:
  - pushbuttons
  - two-position selector switches
  - three-position selector switches
  - toggle switches
  - customer selected text
- Of black/white plastic. Text on one side or both sides:
  - with customer selected text

### Special legend plates

- For emergency stop pushbuttons
- Legend plate with or without customer selected text
- Legend plate holders with inserts of brushed aluminium on black plastic. With or without text or symbol for:
  - pushbuttons
  - two-position selector switch
  - three position selector switch
  - customer selected text

#### For plastic enclosures:

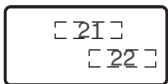
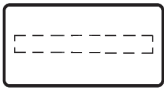
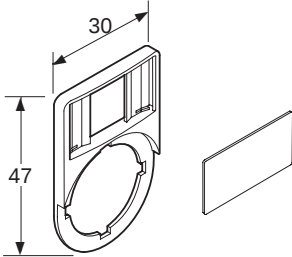
- Legend plate holders with inserts of brushed aluminium on black plastic. With or without text or symbol for push-buttons
- Legend plates of silvergrey aluminium  
For 1- 2-, 3- 4- or 6-seat plastic enclosures  
With or without text or symbol for:
  - pushbuttons

### Text caps

- For illuminated pushbuttons (flush or extended) and pilot lights with or without text or symbol or with customer selected text

## Pilot devices - Accessories

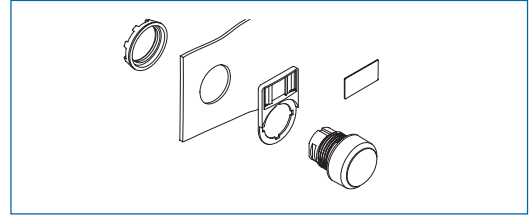
### Special legend plates



For two-position. selector switch

#### Legend plate holders with inserts

- Holder of black plastic.
  - Holder of grey plastic for plastic enclosures.
  - Insert of brushed aluminium on black plastic.
- The insert is securely retained in a pocket and can be removed.  
3 mm high text in typeface Helvetica.



#### Legend plate holder (black)

| Description | Type            | Order Code         | Weight, kg |
|-------------|-----------------|--------------------|------------|
| Black       | <b>KA1-8120</b> | 1SFA 616 920 R8120 | 0.002      |

#### Inserts

| Description                                                     | Type            | Order Code         | Weight, kg |
|-----------------------------------------------------------------|-----------------|--------------------|------------|
| Of brushed aluminium on black plastic<br>Without text or symbol | <b>KA1-8121</b> | 1SFA 616 920 R8121 | 0.001      |

#### Inserts with text/symbol

| Description                                                  | Type            | Order Code         | Weight, kg |
|--------------------------------------------------------------|-----------------|--------------------|------------|
| Of brushed aluminium on black plastic<br>With text or symbol |                 |                    |            |
| <b>O</b>                                                     | <b>MA6-1032</b> | 1SFA 611 930 R1032 | 0.001      |
| <b>I</b>                                                     | <b>MA6-1033</b> | 1SFA 611 930 R1033 | 0.001      |
| <b>→</b>                                                     | <b>MA6-1034</b> | 1SFA 611 930 R1034 | 0.001      |
| <b>→→</b>                                                    | <b>MA6-1035</b> | 1SFA 611 930 R1035 | 0.001      |
| Close                                                        | <b>MA6-1036</b> | 1SFA 611 930 R1036 | 0.001      |
| Open                                                         | <b>MA6-1037</b> | 1SFA 611 930 R1037 | 0.001      |
| On                                                           | <b>MA6-1038</b> | 1SFA 611 930 R1038 | 0.001      |
| Off                                                          | <b>MA6-1039</b> | 1SFA 611 930 R1039 | 0.001      |
| Fast                                                         | <b>MA6-1040</b> | 1SFA 611 930 R1040 | 0.001      |
| Slow                                                         | <b>MA6-1041</b> | 1SFA 611 930 R1041 | 0.001      |
| Down                                                         | <b>MA6-1042</b> | 1SFA 611 930 R1042 | 0.001      |
| Up                                                           | <b>MA6-1043</b> | 1SFA 611 930 R1043 | 0.001      |
| Start                                                        | <b>MA6-1044</b> | 1SFA 611 930 R1044 | 0.001      |
| Stop                                                         | <b>MA6-1045</b> | 1SFA 611 930 R1045 | 0.001      |

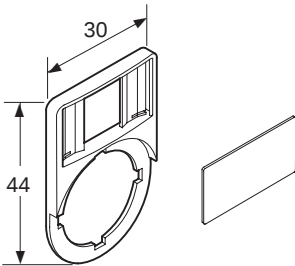
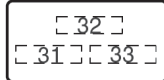
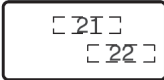
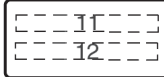
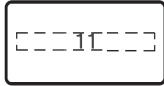
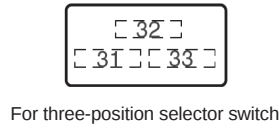
#### Inserts for two-position selector switches

Of brushed aluminium on black plastic. Text on both sides.

| Description         | Type            | Order Code         | Weight, kg |
|---------------------|-----------------|--------------------|------------|
| With text or symbol |                 |                    |            |
| Pos. 21 Pos. 22     |                 |                    |            |
| <b>O I</b>          | <b>MA6-1070</b> | 1SFA 611 930 R1070 | 0.001      |
| <b>I II</b>         | <b>MA6-1071</b> | 1SFA 611 930 R1071 | 0.001      |
| <b>→ →→</b>         | <b>MA6-1072</b> | 1SFA 611 930 R1072 | 0.001      |
| Off On              | <b>MA6-1073</b> | 1SFA 611 930 R1073 | 0.001      |
| Stop Start          | <b>MA6-1074</b> | 1SFA 611 930 R1074 | 0.001      |
| Low High            | <b>MA6-1075</b> | 1SFA 611 930 R1075 | 0.001      |
| Slow Fast           | <b>MA6-1076</b> | 1SFA 611 930 R1076 | 0.001      |
| Close Open          | <b>MA6-1077</b> | 1SFA 611 930 R1077 | 0.001      |
| Jog Run             | <b>MA6-1078</b> | 1SFA 611 930 R1078 | 0.001      |
| Hand Auto           | <b>MA6-1079</b> | 1SFA 611 930 R1079 | 0.001      |

## Pilot devices - Accessories

### Special legend plates



#### Inserts for three-position selector switches

Of brushed aluminium on black plastic. Text on both sides.

| Description                   | Type            | Order Code          | Weight, kg |
|-------------------------------|-----------------|---------------------|------------|
| <u>With text or symbol</u>    |                 |                     |            |
| Pos. 31    Pos. 32    Pos. 33 |                 |                     |            |
| ←    O    →                   | <b>MA6-1080</b> | 1SFA 611 930 R 1080 | 0.001      |
| →    O    →→                  | <b>MA6-1081</b> | 1SFA 611 930 R 1081 | 0.001      |
| I    O    II                  | <b>MA6-1082</b> | 1SFA 611 930 R 1082 | 0.001      |
| Hand    O    Auto             | <b>MA6-1083</b> | 1SFA 611 930 R 1083 | 0.001      |
| Slow    Off    Fast           | <b>MA6-1084</b> | 1SFA 611 930 R 1084 | 0.001      |

#### Inserts with customer-selected text/symbols <sup>1)</sup>

Of brushed aluminium on black plastic

| Description | Type            | Order Code          | Weight, kg |
|-------------|-----------------|---------------------|------------|
| With text   | <b>MA6-1090</b> | 1SFA 611 930 R 1090 | 0.001      |

#### When ordering state (in addition to Order Code)

Text line: Pos. 11 or 12 - max 11 characters per line

Pos. 31 - max 5 characters per line

Pos. 21 or 32 - max 5 characters

Pos. 22 or 33 - max 5 characters

<sup>1)</sup> Text height 3 mm. Only the initial character is upper case unless other is stated

#### Legend plate holder (grey) for plastic enclosures

| Description | Type            | Order Code         | Weight, kg |
|-------------|-----------------|--------------------|------------|
| Grey        | <b>MA6-1060</b> | 1SFA 611 930 R1060 | 0.002      |

#### Inserts

| Description                           | Type            | Order Code         | Weight, kg |
|---------------------------------------|-----------------|--------------------|------------|
| Of brushed aluminium on black plastic |                 |                    |            |
| Without text or symbol                | <b>MA6-1061</b> | 1SFA 611 930 R1061 | 0.001      |

#### Inserts with text/symbol

| Description                           | Type            | Order Code         | Weight, kg |
|---------------------------------------|-----------------|--------------------|------------|
| Of brushed aluminium on black plastic |                 |                    |            |
| <u>With text or symbol</u>            |                 |                    |            |
| <b>O</b>                              | <b>MA6-1062</b> | 1SFA 611 930 R1062 | 0.001      |
| <b>I</b>                              | <b>MA6-1063</b> | 1SFA 611 930 R1063 | 0.001      |
| <b>II</b>                             | <b>MA6-1064</b> | 1SFA 611 930 R1064 | 0.001      |

More legend plates for plastic enclosures – see page 66

## Pilot devices - Accessories

### Special legend plates

#### Emergency stop legend plates

| Description/Text                        | Order Code                | Weight, kg |
|-----------------------------------------|---------------------------|------------|
| Black text on a yellow aluminium plate. |                           |            |
| Nöd Stopp                               | <b>SK 615 546-1</b>       | 0.010      |
| Emergency Stop                          | <b>SK 615 546-2</b>       | 0.010      |
| Not Aus                                 | <b>SK 615 546-3</b>       | 0.010      |
| ARRET D'URGENCE                         | <b>SK 615 546-4</b>       | 0.010      |
| HÄTÄSEIS                                | <b>SK 615 546-5</b>       | 0.010      |
| PARADA DE EMERGENCIA                    | <b>SK 615 546-6</b>       | 0.010      |
| EMERGENCY STOP                          |                           |            |
| NOT AUS                                 |                           |            |
| ARRET D'URGENCE                         | <b>SK 615 546-13</b>      | 0.010      |
| Without text                            | <b>SK 615 546-8</b>       | 0.010      |
| Black text on a yellow plastic plate.   |                           |            |
| Quantity per package: 10                |                           |            |
| Can be used as yellow background.       |                           |            |
| Emergency Stop                          | <b>1SFA 616 915 R1005</b> | 0.003      |

More emergency stop legend plates on page 66.

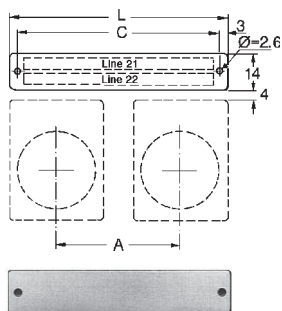
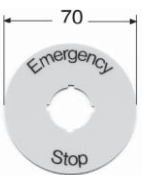
#### Legend plates without or with customer-selected text

Of aluminium

| Number of operators | Max. number of characters per line | Dimensions |      |      | Without text <sup>1)</sup> | With text <sup>2)</sup> | Weight, kg |
|---------------------|------------------------------------|------------|------|------|----------------------------|-------------------------|------------|
|                     |                                    | A          | L    | C    | Order Code                 | Order Code              |            |
| 1                   | 7                                  | -          | 29.6 | 23.6 | <b>SK 615 545-1</b>        | <b>SK 615 998-1</b>     | 0.001      |
| 2                   | 20                                 | 30.5       | 60   | 54   | <b>SK 615 545-2</b>        | <b>SK 615 998-2</b>     | 0.001      |
| 2                   | 24                                 | 40         | 70   | 64   | <b>SK 615 545-3</b>        | <b>SK 615 998-3</b>     | 0.001      |
| 3                   | 33                                 | 30.5       | 90   | 84   | <b>SK 615 545-4</b>        | <b>SK 615 998-4</b>     | 0.001      |
| 3                   | 42                                 | 40         | 110  | 104  | <b>SK 615 545-5</b>        | <b>SK 615 998-5</b>     | 0.001      |

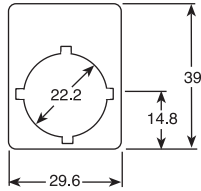
<sup>1)</sup> Quantity per package: 10.

<sup>2)</sup> When ordering, please state text and position (Line 21 and Line 22). Only the initial character is upper case unless other is stated. Quantity per package: 1.



# Pilot devices - Accessories

## Legend plates for pushbuttons



### Engraved fixed legend plates, with symbols <sup>1)</sup>

Of silvergrey aluminium

| Symbol | Order Code    | Weight, kg |
|--------|---------------|------------|
| O      | SK 615 550-61 | 0.002      |
| I      | SK 615 550-62 | 0.002      |
| II     | SK 615 550-63 | 0.002      |
| ←      | SK 615 562-12 | 0.002      |
| →      | SK 615 562-18 | 0.002      |
| ↔      | SK 615 562-27 | 0.002      |

### Engraved fixed legend plates, with text <sup>1)</sup>

Of silvergrey aluminium

| Text           | Order Code    | Weight, kg |
|----------------|---------------|------------|
| <b>English</b> |               |            |
| Close          | SK 615 552-13 | 0.002      |
| Down           | SK 615 552-14 | 0.002      |
| Emergency stop | SK 615 552-15 | 0.002      |
| Fast           | SK 615 552-16 | 0.002      |
| Forward        | SK 615 552-17 | 0.002      |
| In             | SK 615 550-29 | 0.002      |
| Inching        | SK 615 552-18 | 0.002      |
| Left           | SK 615 552-39 | 0.002      |
| Lower          | SK 615 552-20 | 0.002      |
| Off            | SK 615 552-21 | 0.002      |
| On             | SK 615 552-22 | 0.002      |
| Open           | SK 615 552-23 | 0.002      |
| Out            | SK 615 552-24 | 0.002      |
| Raise          | SK 615 552-25 | 0.002      |
| Reset          | SK 615 552-27 | 0.002      |
| Reverse        | SK 615 552-28 | 0.002      |
| Right          | SK 615 552-40 | 0.002      |
| Run            | SK 615 552-29 | 0.002      |
| Slow           | SK 615 552-30 | 0.002      |
| Start          | SK 615 550-44 | 0.002      |
| Stop           | SK 615 552-31 | 0.002      |
| Up             | SK 615 552-32 | 0.002      |

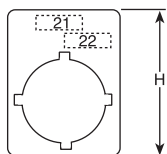
### Swedish

|                 |               |       |
|-----------------|---------------|-------|
| Back            | SK 615 550-12 | 0.002 |
| Drift           | SK 615 550-15 | 0.002 |
| Fel             | SK 615 550-16 | 0.002 |
| Fram            | SK 615 550-18 | 0.002 |
| Framryckning    | SK 615 550-19 | 0.002 |
| Från            | SK 615 550-20 | 0.002 |
| Hög             | SK 615 550-27 | 0.002 |
| Höger           | SK 615 550-28 | 0.002 |
| In              | SK 615 550-29 | 0.002 |
| Låg             | SK 615 550-32 | 0.002 |
| Manöverspänning | SK 615 550-33 | 0.002 |
| Minskar         | SK 615 550-34 | 0.002 |
| Ned             | SK 615 550-35 | 0.002 |
| Normal          | SK 615 550-37 | 0.002 |
| Nödstopp        | SK 615 550-38 | 0.002 |
| Prov            | SK 615 550-39 | 0.002 |
| Start           | SK 615 550-44 | 0.002 |
| Stopp           | SK 615 550-45 | 0.002 |
| Stänger         | SK 615 550-46 | 0.002 |
| Till            | SK 615 550-47 | 0.002 |
| Upp             | SK 615 550-48 | 0.002 |
| Ut              | SK 615 550-49 | 0.002 |
| Utlösning       | SK 615 550-50 | 0.002 |
| Vänster         | SK 615 550-51 | 0.002 |
| Återställning   | SK 615 550-52 | 0.002 |
| Ökar            | SK 615 550-53 | 0.002 |
| Öppnar          | SK 615 550-54 | 0.002 |

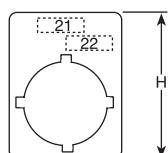
<sup>1)</sup> Text height 3 mm.

# Pilot devices - Accessories

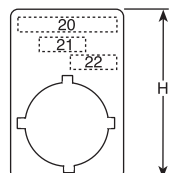
## Legend plates for two-position selector switches



H = 39 mm



H = 39 mm



H = 44.5 mm

### Engraved fixed legend plates, with symbols <sup>1)</sup>

Of silvergrey aluminium

| Symbol/Text    | Order Code    | Weight, kg |
|----------------|---------------|------------|
| Pos 21 Pos. 22 |               |            |
| O I            | SK 615 550-75 | 0.002      |
| I II           | SK 615 550-76 | 0.002      |
| → →→           | SK 615 562-72 | 0.002      |

### Engraved fixed legend plates, with text <sup>1)</sup>

Of silvergrey aluminium

| Symbol/Text    | Order Code    | Weight, kg |
|----------------|---------------|------------|
| Pos 21 Pos. 22 |               |            |
| <b>English</b> |               |            |
| Hand Auto      | SK 615 550-71 | 0.002      |
| Jog Run        | SK 615 552-52 | 0.002      |
| Off On         | SK 615 552-53 | 0.002      |
| Stop Start     | SK 615 552-55 | 0.002      |
| <b>Swedish</b> |               |            |
| Från Till      | SK 615 550-70 | 0.002      |
| Hand Auto      | SK 615 550-71 | 0.002      |
| Låg Hög        | SK 615 550-72 | 0.002      |
| Prov Drift     | SK 615 550-73 | 0.002      |
| Stopp Start    | SK 615 550-74 | 0.002      |

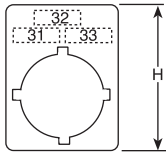
### Fixed legend plates, with customer-selected text <sup>1)</sup>

| Description                                            | Order Code    | Weight, kg |
|--------------------------------------------------------|---------------|------------|
| <b>Without heading</b> H= 39 mm                        |               |            |
| Of silvergrey aluminium                                | SK 615 999-1  | 0.002      |
| Of silvergrey laminated plastic                        | SK 615 999-21 | 0.002      |
| <b>When ordering state (in addition to Order Code)</b> |               |            |
| Text line: Pos. 21 - max 5 characters                  |               |            |
| Pos. 22 - max 5 characters                             |               |            |
| <b>With heading</b> H= 44.5 mm                         |               |            |
| Of silvergrey aluminium                                | SK 615 999-2  | 0.002      |
| Of silvergrey laminated plastic                        | SK 615 999-22 | 0.002      |
| <b>When ordering state (in addition to Order Code)</b> |               |            |
| Text line: Pos. 20 - max 11 characters                 |               |            |
| Pos. 21 - max 5 characters                             |               |            |
| Pos. 22 - max 5 characters                             |               |            |

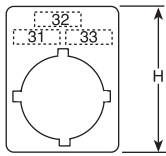
<sup>1)</sup> Text height 3 mm. Only the initial character is upper case unless other is stated.

## Pilot devices - Accessories

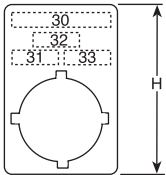
### Legend plates for three-position selector switches



H = 39 mm



H = 39 mm



H = 44.5 mm

#### Engraved fixed legend plates, with symbols <sup>1)</sup>

Of silvergrey aluminium

| Symbol/Text                | Order Code    | Weight, kg |
|----------------------------|---------------|------------|
| Pos 31   Pos. 32   Pos. 33 |               |            |
| I   O   II                 | SK 615 550-81 | 0.002      |
| ←   O   →                  | SK 615 562-82 | 0.002      |
| →   O   →→                 | SK 615 562-83 | 0.002      |

#### Engraved fixed legend plates, with text <sup>1)</sup>

Of silvergrey aluminium

| Symbol/Text                | Order Code    | Weight, kg |
|----------------------------|---------------|------------|
| Pos 31   Pos. 32   Pos. 33 |               |            |
| English                    |               |            |
| Hand   O   Auto            | SK 615 550-80 | 0.002      |
| Slow   Off   Fast          | SK 615 552-60 | 0.002      |
| Swedish                    |               |            |
| Hand   O   Auto            | SK 615 550-80 | 0.002      |

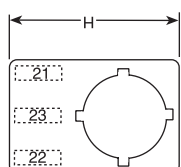
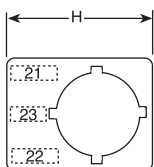
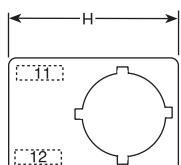
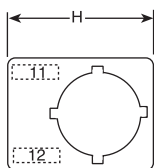
#### Fixed legend plates, with customer-selected text <sup>1)</sup>

| Description                                            | Order Code    | Weight, kg |
|--------------------------------------------------------|---------------|------------|
| <b>Without heading</b> H= 39 mm                        |               |            |
| Of silvergrey aluminium                                | SK 615 999-1  | 0.002      |
| Of silvergrey laminated plastic                        | SK 615 999-21 | 0.002      |
| <b>When ordering state (in addition to Order Code)</b> |               |            |
| Text line: Pos. 31 - max 5 characters                  |               |            |
| Pos. 32 - max 5 characters                             |               |            |
| Pos. 33 - max 5 characters                             |               |            |
| <b>With heading</b> H= 44.5 mm                         |               |            |
| Of silvergrey aluminium                                | SK 615 999-2  | 0.002      |
| Of silvergrey laminated plastic                        | SK 615 999-22 | 0.002      |
| <b>When ordering state (in addition to Order Code)</b> |               |            |
| Text line: Pos. 30 - max 11 characters                 |               |            |
| Pos. 31 - max 5 characters                             |               |            |
| Pos. 32 - max 5 characters                             |               |            |
| Pos. 33 - max 5 characters                             |               |            |

<sup>1)</sup> Text height 3 mm. Only the initial character is upper case unless other is stated.

## Pilot devices - Accessories

### Legend plates for toggle switches



#### Fixed legend plates with customer-selected text <sup>1)</sup>

Of silvergrey aluminium

| Description                                                                                                                   | Order Code          | Weight, kg |
|-------------------------------------------------------------------------------------------------------------------------------|---------------------|------------|
| <b>Toggle switch, two positions</b><br>Two text lines. H = 39 mm                                                              | <b>SK 615 999-3</b> | 0.002      |
| <b>When ordering state (in addition to Order Code)</b><br>Text line: Pos. 11 - max 4 characters<br>Pos. 12 - max 4 characters |                     |            |
| Two text lines. H = 44.5 mm                                                                                                   | <b>SK 615 999-4</b> | 0.002      |
| <b>When ordering state (in addition to Order Code)</b><br>Text line: Pos. 11 - max 6 characters<br>Pos. 12 - max 6 characters |                     |            |

#### Fixed legend plates with customer-selected text <sup>1)</sup>

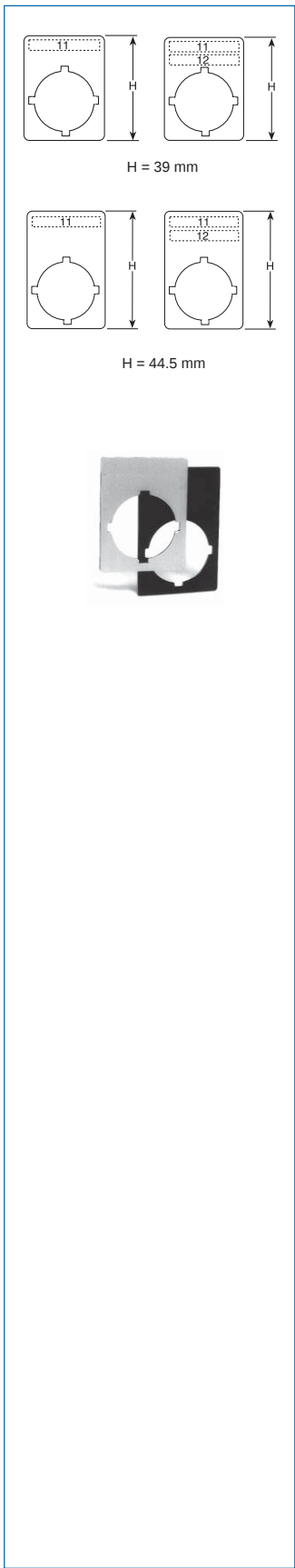
Of silvergrey aluminium

| Description                                                                                                                                                 | Order Code           | Weight, kg |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------------|
| <b>Toggle switch, three positions</b><br>Three text lines. H = 39 mm                                                                                        |                      |            |
| Of silvergrey aluminium                                                                                                                                     | <b>SK 615 999-3</b>  | 0.002      |
| Of silvergrey laminated plastic                                                                                                                             | <b>SK 615 999-23</b> | 0.002      |
| <b>When ordering state (in addition to Order Code)</b><br>Text line: Pos. 21 - max 4 characters<br>Pos. 23 - max 3 characters<br>Pos. 22 - max 4 characters |                      |            |
| Three text lines. H = 44.5 mm                                                                                                                               |                      |            |
| Of silvergrey aluminium                                                                                                                                     | <b>SK 615 999-4</b>  | 0.002      |
| Of silvergrey laminated plastic                                                                                                                             | <b>SK 615 999-24</b> | 0.002      |
| <b>When ordering state (in addition to Order Code)</b><br>Text line: Pos. 21 - max 6 characters<br>Pos. 23 - max 5 characters<br>Pos. 22 - max 6 characters |                      |            |

<sup>1)</sup> Text height 3 mm. Only the initial character is upper case unless other is stated.

# Pilot devices - Accessories

## Legend plates for toggle switches



### Fixed legend plates without text (for pushbuttons, mushroom pushbuttons and pilot lights)<sup>1)</sup>

Of silvergrey aluminium

| Description                       | Order Code          | Weight, kg |
|-----------------------------------|---------------------|------------|
| For 1 - 2 text lines. H = 39 mm   | <b>SK 615 540-1</b> | 0.002      |
| For 2 - 3 text lines. H = 44.5 mm | <b>SK 615 541-1</b> | 0.002      |

### Fixed legend plates with customer-selected text<sup>1)</sup>

Of silvergrey aluminium

| Description                   | Order Code          | Weight, kg |
|-------------------------------|---------------------|------------|
| For 1 text line. H = 39 mm    | <b>SK 615 999-1</b> | 0.002      |
| For 2 text lines. H = 44.5 mm | <b>SK 615 999-2</b> | 0.002      |

*Text line: Pos. 11 - max 11 characters*

*Pos. 12 - max 11 characters*

### Fixed legend plates

Of black/white plastic. One side black and the other white. Engraving will give either white or black text.

| Description                       | Order Code          | Weight, kg |
|-----------------------------------|---------------------|------------|
| For 1 - 2 text lines. H = 39 mm   | <b>SK 616 540-2</b> | 0.002      |
| For 2 - 3 text lines. H = 44.5 mm | <b>SK 616 541-2</b> | 0.002      |

*Text line: Pos. 11 - max 11 characters*

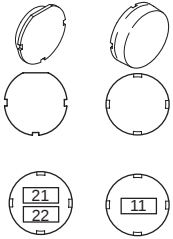
*Pos. 12 - max 11 characters*

<sup>1)</sup> Text height 3 mm. Only the initial character is upper case unless other is stated.

# Pilot devices - Accessories

## Text caps

### Flush or extended button

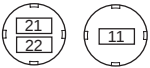


Can be turned 90° or 180°

#### Characters per line

1 text line (pos. 11): max. 6  
2 text lines (pos. 21): max. 5  
(pos. 22): max. 5

### Pilot light



#### Characters per line

1 text line (pos. 11): max. 8  
2 text lines (pos. 21): max. 8  
(pos. 22): max. 8

### Text caps for illuminated pushbuttons and pilot lights

| Text/Symbol                                    | Cap color <sup>1)</sup> | Flush button<br>Order Code | Extended button<br>Order Code | Pilot light<br>Order Code | Weight<br>kg |
|------------------------------------------------|-------------------------|----------------------------|-------------------------------|---------------------------|--------------|
| Till                                           | White                   | 1SFA 616 901 R2020         | 1SFA 616 902 R2020            | 1SFA 616 903 R2020        | 0.001        |
| Från                                           | White                   | 1SFA 616 901 R2019         | 1SFA 616 902 R2019            | 1SFA 616 903 R2019        | 0.001        |
| Start                                          | White                   | 1SFA 616 901 R2030         | 1SFA 616 902 R2030            | 1SFA 616 903 R2030        | 0.001        |
| START                                          | White                   | 1SFA 616 906 R1042         | –                             | –                         | 0.001        |
| Stopp                                          | White                   | 1SFA 616 901 R2031         | 1SFA 616 902 R2031            | 1SFA 616 903 R2031        | 0.001        |
| R                                              | White                   | 1SFA 616 901 R2019         | 1SFA 616 902 R2019            | 1SFA 616 903 R2019        | 0.001        |
|                                                | Black                   | 1SFA 616 908 R9009         | 1SFA 616 909 R9009            | –                         | 0.001        |
| On                                             | White                   | 1SFA 616 901 R1020         | 1SFA 616 902 R1020            | 1SFA 616 903 R1020        | 0.001        |
| ON                                             | White                   | 1SFA 616 901 R1039         | –                             | 1SFA 616 903 R1039        | 0.001        |
|                                                | Green                   | 1SFA 616 906 R1039         | –                             | –                         | 0.001        |
|                                                | Black                   | 1SFA 616 908 R1039         | –                             | –                         | 0.001        |
| Off                                            | White                   | 1SFA 616 901 R1019         | 1SFA 616 902 R1019            | 1SFA 616 903 R1019        | 0.001        |
| OFF                                            | White                   | –                          | 1SFA 616 902 R1040            | –                         | 0.001        |
|                                                | Red                     | –                          | 1SFA 616 905 R1040            | –                         | 0.001        |
|                                                | Black                   | –                          | 1SFA 616 909 R1040            | –                         | 0.001        |
| Stop                                           | White                   | 1SFA 616 901 R1031         | 1SFA 616 902 R1031            | 1SFA 616 903 R1031        | 0.001        |
| STOP                                           | Red                     | 1SFA 616 904 R1047         | 1SFA 616 905 R1047            | –                         | 0.001        |
| Reset                                          | White                   | 1SFA 616 901 R1025         | 1SFA 616 902 R1025            | 1SFA 616 903 R1025        | 0.001        |
| Ein                                            | White                   | 1SFA 616 901 R6020         | 1SFA 616 902 R6020            | 1SFA 616 903 R6020        | 0.001        |
| Aus                                            | White                   | 1SFA 616 901 R6019         | 1SFA 616 902 R6019            | 1SFA 616 903 R6019        | 0.001        |
| (Without text)                                 | White                   | 1SFA 616 901 R9000         | 1SFA 616 902 R9000            | 1SFA 616 903 R9000        | 0.001        |
| (With customer<br>selected text) <sup>2)</sup> | White                   | 1SFA 616 901 R9001         | 1SFA 616 902 R9001            | 1SFA 616 903 R9001        | 0.001        |

<sup>1)</sup> Use only white caps for illuminated pushbutton and pilot lights.

<sup>2)</sup> When ordering, please state text and position:

1 text line (pos. 11) max. 6 characters for pushbuttons. Max. 8 characters for pilot lights.

2 text lines (pos. 21 and pos. 22) max. 5 characters for pushbuttons. Max. 8 characters for pilot lights.

Only initial character is upper case unless other is stated.

### Recommended color combinations of text caps and actuators

| Text cap color              | Actuator                   | Lens color |
|-----------------------------|----------------------------|------------|
| White                       | Pilot light                | All colors |
| White                       | Illuminated pushbutton     | All colors |
| Green, Red,<br>Black, White | Non-illuminated pushbutton | Clear      |

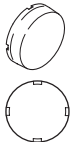
# Pilot devices - Accessories

## Text caps

**Flush button**

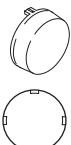


**Extended button**



Can be turned 90° or 180°

**Pilot light**



### Text caps for illuminated pushbuttons and pilot lights

| Text/Symbol | Cap color <sup>1)</sup> | Flush button<br>Order Code | Extended button<br>Order Code | Pilot light<br>Order Code | Weight<br>kg |
|-------------|-------------------------|----------------------------|-------------------------------|---------------------------|--------------|
| <b>O</b>    | White                   | 1SFA 616 901 R9004         | 1SFA 616 902 R9004            | 1SFA 616 903 R9004        | 0.001        |
|             | Red                     | 1SFA 616 904 R9004         | 1SFA 616 905 R9004            | -                         | 0.001        |
|             | Black                   | 1SFA 616 908 R9004         | -                             | -                         | 0.001        |
| <b>I</b>    | White                   | 1SFA 616 901 R9002         | 1SFA 616 902 R9002            | 1SFA 616 903 R9002        | 0.001        |
|             | Green                   | 1SFA 616 906 R9002         | -                             | -                         | 0.001        |
|             | Black                   | 1SFA 616 908 R9002         | -                             | -                         | 0.001        |
| <b>II</b>   | White                   | 1SFA 616 901 R9003         | 1SFA 616 902 R9003            | 1SFA 616 903 R9003        | 0.001        |
|             | Green                   | 1SFA 616 906 R9003         | -                             | -                         | 0.001        |
|             | Black                   | 1SFA 616 908 R9003         | -                             | -                         | 0.001        |
| <b>III</b>  | White                   | 1SFA 616 901 R9028         | 1SFA 616 902 R9028            | -                         | 0.001        |
|             | Black                   | 1SFA 616 908 R9028         | -                             | -                         | 0.001        |
| <b>+</b>    | White                   | 1SFA 616 901 R9011         | 1SFA 616 902 R9011            | -                         | 0.001        |
|             | Green                   | 1SFA 616 906 R9011         | -                             | -                         | 0.001        |
|             | Black                   | 1SFA 616 908 R9011         | -                             | -                         | 0.001        |
| <b>-</b>    | White                   | 1SFA 616 901 R9012         | -                             | -                         | 0.001        |
|             | Red                     | 1SFA 616 904 R9012         | -                             | -                         | 0.001        |
|             | Black                   | 1SFA 616 908 R9012         | -                             | -                         | 0.001        |
|             | White                   | 1SFA 616 901 R9005         | 1SFA 616 902 R9005            | 1SFA 616 903 R9005        | 0.001        |
|             | Black                   | 1SFA 616 908 R9005         | -                             | -                         | 0.001        |
|             | White                   | 1SFA 616 901 R9014         | 1SFA 616 902 R9014            | -                         | 0.001        |
|             | Black                   | 1SFA 616 908 R9014         | -                             | -                         | 0.001        |
|             | White                   | 1SFA 616 901 R9015         | 1SFA 616 902 R9015            | -                         | 0.001        |
|             | Black                   | 1SFA 616 908 R9015         | -                             | -                         | 0.001        |
|             | White                   | 1SFA 616 901 R9016         | 1SFA 616 902 R9016            | -                         | 0.001        |
|             | Black                   | 1SFA 616 908 R9016         | -                             | -                         | 0.001        |
|             | White                   | 1SFA 616 901 R9017         | 1SFA 616 902 R9017            | -                         | 0.001        |
|             | Black                   | 1SFA 616 908 R9017         | -                             | -                         | 0.001        |
|             | White                   | 1SFA 616 901 R9006         | 1SFA 616 902 R9006            | 1SFA 616 903 R9006        | 0.001        |
|             | Black                   | 1SFA 616 908 R9006         | -                             | -                         | 0.001        |
|             | White                   | 1SFA 616 901 R9018         | 1SFA 616 902 R9018            | -                         | 0.001        |
|             | Black                   | 1SFA 616 908 R9018         | -                             | -                         | 0.001        |
|             | White                   | 1SFA 616 901 R9019         | 1SFA 616 902 R9019            | -                         | 0.001        |
|             | Black                   | 1SFA 616 908 R9019         | -                             | -                         | 0.001        |
|             | White                   | 1SFA 616 901 R9020         | 1SFA 616 902 R9020            | -                         | 0.001        |
|             | Black                   | 1SFA 616 908 R9020         | -                             | -                         | 0.001        |
|             | White                   | 1SFA 616 901 R9021         | 1SFA 616 902 R9021            | -                         | 0.001        |
|             | Black                   | 1SFA 616 908 R9021         | -                             | -                         | 0.001        |
|             | White                   | 1SFA 616 901 R9022         | 1SFA 616 902 R9022            | -                         | 0.001        |
|             | Black                   | 1SFA 616 908 R9022         | -                             | -                         | 0.001        |
|             | White                   | 1SFA 616 901 R9023         | 1SFA 616 902 R9023            | -                         | 0.001        |
|             | Black                   | 1SFA 616 908 R9023         | -                             | -                         | 0.001        |
|             | White                   | 1SFA 616 901 R9024         | 1SFA 616 902 R9024            | -                         | 0.001        |
|             | Black                   | 1SFA 616 908 R9024         | -                             | -                         | 0.001        |
|             | White                   | 1SFA 616 901 R9025         | 1SFA 616 902 R9025            | -                         | 0.001        |
|             | Black                   | 1SFA 616 908 R9025         | -                             | -                         | 0.001        |
|             | White                   | 1SFA 616 901 R9026         | 1SFA 616 902 R9026            | -                         | 0.001        |
|             | Black                   | 1SFA 616 908 R9026         | -                             | -                         | 0.001        |
|             | White                   | 1SFA 616 901 R9027         | 1SFA 616 902 R9027            | -                         | 0.001        |
|             | Black                   | 1SFA 616 908 R9027         | -                             | -                         | 0.001        |

<sup>1)</sup> Use only white caps for illuminated pushbutton and pilot lights.

## Pilot devices - Accessories

### Special legend plates for plastic enclosures

#### Legend plates for plastic enclosures

For 1-, 2-, 3-, 4 or 6-seat

| Description              | Type            | Order Code         | Weight, kg |
|--------------------------|-----------------|--------------------|------------|
| Of silvergrey aluminium. |                 |                    |            |
| <b>1-seat</b>            | <b>MA6-1000</b> | 1SFA 611 930 R1000 | 0.004      |
| <b>2-seat</b>            | <b>MA6-1002</b> | 1SFA 611 930 R1002 | 0.006      |
| <b>3-seat</b>            | <b>MA6-1003</b> | 1SFA 611 930 R1003 | 0.008      |
| <b>4-seat</b>            | <b>MA6-1004</b> | 1SFA 611 930 R1004 | 0.010      |
| <b>6-seat</b>            | <b>MA6-1005</b> | 1SFA 611 930 R1005 | 0.012      |

Of silvergrey aluminium. (Pos. 1 Yellow)

|               |                 |                    |       |
|---------------|-----------------|--------------------|-------|
| <b>2-seat</b> | <b>MA6-1006</b> | 1SFA 611 930 R1006 | 0.006 |
| <b>3-seat</b> | <b>MA6-1007</b> | 1SFA 611 930 R1007 | 0.008 |
| <b>4-seat</b> | <b>MA6-1008</b> | 1SFA 611 930 R1008 | 0.010 |
| <b>6-seat</b> | <b>MA6-1009</b> | 1SFA 611 930 R1009 | 0.012 |

Symbol/Text  
Pos

| 1                        | 2 | 3 | Type            | Order Code         | Weight, kg |
|--------------------------|---|---|-----------------|--------------------|------------|
| Of silvergrey aluminium. |   |   |                 |                    |            |
| <b>1-seat</b>            |   |   |                 |                    |            |
| O                        |   |   | <b>MA6-1012</b> | 1SFA 611 930 R1012 | 0.004      |
| <b>1-seat</b>            |   |   |                 |                    |            |
| I                        |   |   | <b>MA6-1013</b> | 1SFA 611 930 R1013 | 0.004      |
| <b>2-seat</b>            |   |   |                 |                    |            |
| O I                      |   |   | <b>MA6-1014</b> | 1SFA 611 930 R1014 | 0.006      |
| <b>3-seat</b>            |   |   |                 |                    |            |
| O I I                    |   |   | <b>MA6-1015</b> | 1SFA 611 930 R1015 | 0.008      |
| <b>3-seat</b>            |   |   |                 |                    |            |
| I O II                   |   |   | <b>MA6-1016</b> | 1SFA 611 930 R1016 | 0.008      |

#### Emergency stop legend plate

| Description/Text                             | Type            | Order Code         | Weight, kg |
|----------------------------------------------|-----------------|--------------------|------------|
| Black text on an yellow aluminium plate.     |                 |                    |            |
| Legend plate without text                    | <b>MA6-1010</b> | 1SFA 611 930 R1010 |            |
| Legend plate (1SFA 611 930 R1010) with text: |                 |                    |            |
| Nöd stopp                                    | <b>MA6-1017</b> | 1SFA 611 930 R1017 | 0.005      |
| Not Aus                                      | <b>MA6-1018</b> | 1SFA 611 930 R1018 | 0.005      |
| Emergency Stop                               | <b>MA6-1019</b> | 1SFA 611 930 R1019 | 0.005      |
| ARRET D'URGENCE                              | <b>MA6-1020</b> | 1SFA 611 930 R1020 | 0.005      |
| Hätäseis                                     | <b>MA6-1021</b> | 1SFA 611 930 R1021 | 0.005      |
| PARADA DE EMERGENCIA                         | <b>MA6-1022</b> | 1SFA 611 930 R1022 | 0.005      |
| Black text on an yellow plastic plate.       |                 |                    |            |
| Legend plate without text                    | <b>MA6-1011</b> | 1SFA 611 930 R1011 | 0.002      |
| Legend plate (1SFA 611 930 R1011) with text: |                 |                    |            |
| Emergency Stop                               | <b>MA6-1023</b> | 1SFA 611 930 R1023 | 0.002      |



Signal Towers K70 and Signal Beacons KSB offers the customer a wide range of signal elements in all voltages and a solution for every signalling field.

- Permanent light
- Blinking light
- Flashing light
- Audible
- LED Permanent light
- LED Blinking light
- LED Rotating light

#### Signal Towers K70

- Fast mounting of signal elements using bayonet fixing.
- Easy changing of bulbs for each module without tools.
- Flexibility of signal element combination.
- Up to 5 elements possible/up to 10 elements with bracket for 2-sided mounting.
- Flashing light elements can be mounted in each module.
- Up to 5 flashing light elements possible.
- High protection rating optical and audible signal elements with IP 54.
- LED elements for long life

#### Signal Beacons KSB

- Vandal-proof design withstands every mechanical and natural challenge both indoors and outdoors.
- High protection rating IP 65.
- Cap consists of high impact polycarbonate (up to 20 J).
- Bulb change via inside of control box.

# Signal Towers K70

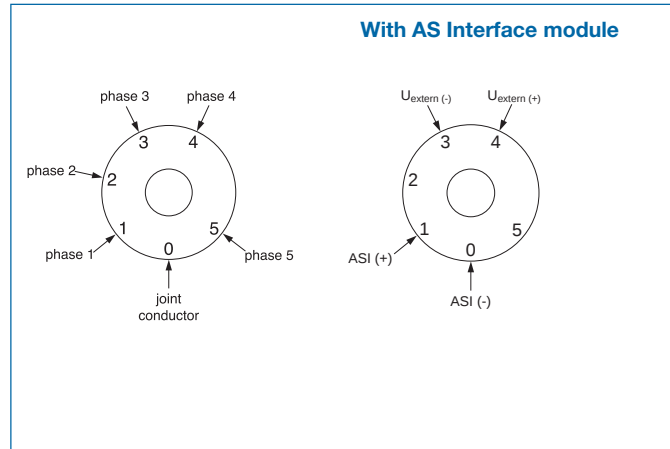
## Description

### Simple fitting with quick fix system

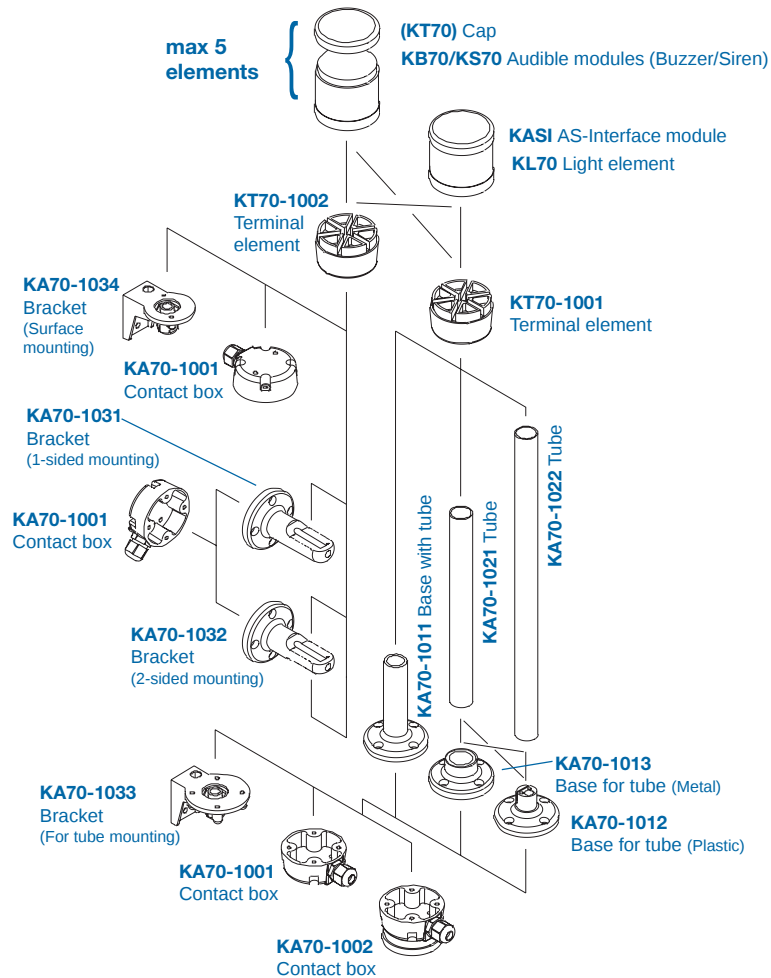
Each K 70 module is equipped with a bayonet fixing with integral contact system. The modules are fastened together by aligning the corresponding white marks then with a gentle twist they are locked into place (see the figures).



### Connection plans



### Combination possibilities



# Signal Towers K70



## Optical modules

| Description                                                                 | Type      | Order Code         | Weight, kg |
|-----------------------------------------------------------------------------|-----------|--------------------|------------|
| <b>Light element</b>                                                        |           |                    |            |
| <b>Permanent light</b> , 12-240 V AC/DC. For bulb BA15d. Bulb not included. |           |                    |            |
| Red                                                                         | KL70-401R | 1SFA 616 070 R4011 | 0.09       |
| Green                                                                       | KL70-401G | 1SFA 616 070 R4012 | 0.09       |
| Yellow                                                                      | KL70-401Y | 1SFA 616 070 R4013 | 0.09       |
| Blue                                                                        | KL70-401L | 1SFA 616 070 R4014 | 0.09       |
| Clear                                                                       | KL70-401C | 1SFA 616 070 R4018 | 0.09       |
| <b>Blinking light</b> , 24 V AC/DC. For bulb BA15d. Bulb not included.      |           |                    |            |
| Red                                                                         | KL70-302R | 1SFA 616 070 R3021 | 0.10       |
| Green                                                                       | KL70-302G | 1SFA 616 070 R3022 | 0.10       |
| Yellow                                                                      | KL70-302Y | 1SFA 616 070 R3023 | 0.10       |
| Blue                                                                        | KL70-302L | 1SFA 616 070 R3024 | 0.10       |
| Clear                                                                       | KL70-302C | 1SFA 616 070 R3028 | 0.10       |
| <b>Flashing light</b> , 24 V DC. Xenon tube included. Not changeable.       |           |                    |            |
| Red                                                                         | KL70-203R | 1SFA 616 070 R2031 | 0.12       |
| Green                                                                       | KL70-203G | 1SFA 616 070 R2032 | 0.12       |
| Yellow                                                                      | KL70-203Y | 1SFA 616 070 R2033 | 0.12       |
| Blue                                                                        | KL70-203L | 1SFA 616 070 R2034 | 0.12       |
| Clear                                                                       | KL70-203C | 1SFA 616 070 R2038 | 0.12       |
| <b>Blinking light</b> , 115 V AC/DC. For bulb BA15d. Bulb not included.     |           |                    |            |
| Red                                                                         | KL70-312R | 1SFA 616 070 R3121 | 0.10       |
| Green                                                                       | KL70-312G | 1SFA 616 070 R3122 | 0.10       |
| Yellow                                                                      | KL70-312Y | 1SFA 616 070 R3123 | 0.10       |
| Blue                                                                        | KL70-312L | 1SFA 616 070 R3124 | 0.10       |
| Clear                                                                       | KL70-312C | 1SFA 616 070 R3128 | 0.10       |
| <b>Flashing light</b> , 115 V AC. Xenon tube included. Not changeable.      |           |                    |            |
| Red                                                                         | KL70-113R | 1SFA 616 070 R1131 | 0.11       |
| Green                                                                       | KL70-113G | 1SFA 616 070 R1132 | 0.11       |
| Yellow                                                                      | KL70-113Y | 1SFA 616 070 R1133 | 0.11       |
| Blue                                                                        | KL70-113L | 1SFA 616 070 R1134 | 0.11       |
| Clear                                                                       | KL70-113C | 1SFA 616 070 R1138 | 0.11       |
| <b>Blinking light</b> , 230 V AC/DC. For bulb BA15d. Bulb not included.     |           |                    |            |
| Red                                                                         | KL70-322R | 1SFA 616 070 R3221 | 0.10       |
| Green                                                                       | KL70-322G | 1SFA 616 070 R3222 | 0.10       |
| Yellow                                                                      | KL70-322Y | 1SFA 616 070 R3223 | 0.10       |
| Blue                                                                        | KL70-322L | 1SFA 616 070 R3224 | 0.10       |
| Clear                                                                       | KL70-322C | 1SFA 616 070 R3228 | 0.10       |
| <b>Flashing light</b> , 230 V AC. Xenon tube included. Not changeable.      |           |                    |            |
| Red                                                                         | KL70-123R | 1SFA 616 070 R1231 | 0.11       |
| Green                                                                       | KL70-123G | 1SFA 616 070 R1232 | 0.11       |
| Yellow                                                                      | KL70-123Y | 1SFA 616 070 R1233 | 0.11       |
| Blue                                                                        | KL70-123L | 1SFA 616 070 R1234 | 0.11       |
| Clear                                                                       | KL70-123C | 1SFA 616 070 R1238 | 0.11       |
| <b>LED Permanent light</b> , 24 V AC/DC. LED included. Not changeable.      |           |                    |            |
| Red                                                                         | KL70-305R | 1SFA 616 070 R3051 | 0.10       |
| Green                                                                       | KL70-305G | 1SFA 616 070 R3052 | 0.10       |
| Yellow                                                                      | KL70-305Y | 1SFA 616 070 R3053 | 0.10       |
| Blue                                                                        | KL70-305L | 1SFA 616 070 R3054 | 0.10       |
| White                                                                       | KL70-305C | 1SFA 616 070 R3058 | 0.10       |
| <b>LED Blinking light</b> , 24 V AC/DC. LED included. Not changeable.       |           |                    |            |
| Red                                                                         | KL70-306R | 1SFA 616 070 R3061 | 0.10       |
| Green                                                                       | KL70-306G | 1SFA 616 070 R3062 | 0.10       |
| Yellow                                                                      | KL70-306Y | 1SFA 616 070 R3063 | 0.10       |
| Blue                                                                        | KL70-306L | 1SFA 616 070 R3064 | 0.10       |
| White                                                                       | KL70-306C | 1SFA 616 070 R3068 | 0.10       |
| <b>LED Rotating light</b> , 24 V AC/DC. LED included. Not changeable.       |           |                    |            |
| Red                                                                         | KL70-307R | 1SFA 616 070 R3071 | 0.10       |
| Green                                                                       | KL70-307G | 1SFA 616 070 R3072 | 0.10       |
| Yellow                                                                      | KL70-307Y | 1SFA 616 070 R3073 | 0.10       |
| Blue                                                                        | KL70-307L | 1SFA 616 070 R3074 | 0.10       |
| White                                                                       | KL70-307C | 1SFA 616 070 R3078 | 0.10       |

# Signal Towers K70



KA70-1001



KA70-1002



KA70-1012



KA70-1013

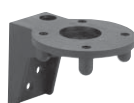
KA70-1021



KA70-1011



KA70-1032



KA70-1033

| Description | Type | Order Code | Weight, kg |
|-------------|------|------------|------------|
|-------------|------|------------|------------|

## Bulbs for Signal Tower K70

|                                                              |  |                           |       |
|--------------------------------------------------------------|--|---------------------------|-------|
| Bulb Ba 15d, 42 mm, Max 7 W For permanent or blinking light. |  |                           |       |
| 24 V, 5 W, AC/DC                                             |  | <b>1SFA 616 923 R1028</b> | 0.009 |
| 115 V, 5 W, AC/DC                                            |  | <b>1SFA 616 923 R1118</b> | 0.009 |
| 230 V, 5 W, AC/DC                                            |  | <b>1SFA 616 923 R1148</b> | 0.009 |

## LED bulbs for Signal Tower K70

|                               |                 |                    |       |
|-------------------------------|-----------------|--------------------|-------|
| Ba 15d. For 24 V AC/DC, 40 mA |                 |                    |       |
| Color:                        |                 |                    |       |
| Red                           | <b>KA4-1021</b> | 1SFA 616 924 R1021 | 0.009 |
| Green                         | <b>KA4-1022</b> | 1SFA 616 924 R1022 | 0.009 |
| Yellow                        | <b>KA4-1023</b> | 1SFA 616 924 R1023 | 0.009 |
| Blue                          | <b>KA4-1024</b> | 1SFA 616 924 R1024 | 0.009 |
| White                         | <b>KA4-1025</b> | 1SFA 616 924 R1025 | 0.009 |

## Audible modules

### Buzzer element

85 dB, continuous or pulsating tone, adjustable

|             |                  |                    |      |
|-------------|------------------|--------------------|------|
| 24 V AC/DC  | <b>KB70-3001</b> | 1SFA 616 071 R3001 | 0.11 |
| 115 V AC/DC | <b>KB70-3101</b> | 1SFA 616 071 R3101 | 0.11 |
| 230 V AC    | <b>KB70-1201</b> | 1SFA 616 071 R1201 | 0.12 |

### Siren element

Multi function, 8 diff. tones adjustable, volume adjustable 100 dB, 115 V AC

|                  |                    |      |
|------------------|--------------------|------|
| <b>KS70-1104</b> | 1SFA 616 073 R1104 | 0.13 |
|------------------|--------------------|------|

Multi function, 8 diff. tones adjustable, volume adjustable 100 dB, 230 V AC

|                  |                    |      |
|------------------|--------------------|------|
| <b>KS70-1204</b> | 1SFA 616 073 R1204 | 0.12 |
|------------------|--------------------|------|

Multi function, 7 diff. tones adjustable, volume adjustable, remote control

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| <b>KS70-2004</b> | 1SFA 616 073 R2004 | 0.12 |
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100 dB, 24 V DC

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| <b>KS70-3004</b> | 1SFA 616 073 R3004 | 0.12 |
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Multi function, 8 diff. tones adjustable, volume adjustable, 100 dB, 24 V AC/DC

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| <b>KS70-2002</b> | 1SFA 616 073 R2002 | 0.15 |
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Continuous tone alternating 108 dB, 24 V DC

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| <b>KA70-1001</b> | 1SFA 616 079 R4101 | 0.11 |
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| <b>KA70-1002</b> | 1SFA 616 079 R4102 | 0.14 |
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## AS-Interface Module

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| 18,5-31,6 V AC/DC | <b>KA70-1001</b> | 1SFA 616 079 R4101 | 0.11 |
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| for external voltage | <b>KA70-1002</b> | 1SFA 616 079 R4102 | 0.14 |
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| 18,5-31,6 V AC/DC | <b>KA70-1002</b> | 1SFA 616 079 R4102 | 0.14 |
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| <b>KA70-1001</b> | 1SFA 616 077 R1001 | 0.07 |
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| <b>KA70-1002</b> | 1SFA 616 077 R1002 | 0.31 |
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| <b>KA70-1011</b> | 1SFA 616 077 R1011 | 0.06 |
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| <b>KA70-1012</b> | 1SFA 616 077 R1012 | 0.03 |
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| <b>KA70-1013</b> | 1SFA 616 077 R1013 | 0.32 |
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| <b>KA70-1021</b> | 1SFA 616 077 R1021 | 0.08 |
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| <b>KA70-1022</b> | 1SFA 616 077 R1022 | 0.12 |
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| <b>KA70-1031</b> | 1SFA 616 077 R1031 | 0.07 |
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| <b>KA70-1032</b> | 1SFA 616 077 R1032 | 0.07 |
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| <b>KA70-1033</b> | 1SFA 616 077 R1033 | 0.07 |
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| <b>KA70-1034</b> | 1SFA 616 077 R1034 | 0.07 |
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| <b>KA70-1031</b> | 1SFA 616 077 R1031 | 0.07 |
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| <b>KA70-1032</b> | 1SFA 616 077 R1032 | 0.07 |
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| <b>KA70-1033</b> | 1SFA 616 077 R1033 | 0.07 |
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| <b>KA70-1034</b> | 1SFA 616 077 R1034 | 0.07 |
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| <b>KA70-1031</b> | 1SFA 616 077 R1031 | 0.07 |
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| <b>KA70-1032</b> | 1SFA 616 077 R1032 | 0.07 |
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| <b>KA70-1033</b> | 1SFA 616 077 R1033 | 0.07 |
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| <b>KA70-1034</b> | 1SFA 616 077 R1034 | 0.07 |
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| <b>KA70-1031</b> | 1SFA 616 077 R1031 | 0.07 |
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| <b>KA70-1032</b> | 1SFA 616 077 R1032 | 0.07 |
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| <b>KA70-1033</b> | 1SFA 616 077 R1033 | 0.07 |
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| <b>KA70-1034</b> | 1SFA 616 077 R1034 | 0.07 |
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| <b>KA70-1031</b> | 1SFA 616 077 R1031 | 0.07 |
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| <b>KA70-1032</b> | 1SFA 616 077 R1032 | 0.07 |
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| <b>KA70-1033</b> | 1SFA 616 077 R1033 | 0.07 |
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| <b>KA70-1034</b> | 1SFA 616 077 R1034 | 0.07 |
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| <b>KA70-1031</b> | 1SFA 616 077 R1031 | 0.07 |
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| <b>KA70-1034</b> | 1SFA 616 077 R1034 | 0.07 |
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| <b>KA70-1031</b> | 1SFA 616 077 R1031 | 0.07 |
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| <b>KA70-1032</b> | 1SFA 616 077 R1032 | 0.07 |
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| <b>KA70-1033</b> | 1SFA 616 077 R1033 | 0.07 |
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| <b>KA70-1031</b> | 1SFA 616 077 R1031 | 0.07 |
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| <b>KA70-1032</b> | 1SFA 616 077 R1032 | 0.07 |
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| <b>KA70-1034</b> | 1SFA 616 077 R1034 | 0.07 |
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| <b>KA70-1031</b> | 1SFA 616 077 R1031 | 0.07 |
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| <b>KA70-1032</b> | 1SFA 616 077 R1032 | 0.07 |
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| <b>KA70-1033</b> | 1SFA 616 077 R1033 | 0.07 |
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| <b>KA70-1034</b> | 1SFA 616 077 R1034 | 0.07 |
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| <b>KA70-1031</b> | 1SFA 616 077 R1031 | 0.07 |
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| <b>KA70-1032</b> | 1SFA 616 077 R1032 | 0.07 |
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| <b>KA70-1033</b> | 1SFA 616 077 R1033 | 0.07 |
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| <b>KA70-1034</b> | 1SFA 616 077 R1034 | 0.07 |
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| <b>KA70-1031</b> | 1SFA 616 077 R1031 | 0.07 |
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| <b>KA70-1033</b> | 1SFA 616 077 R1033 | 0.07 |
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| <b>KA70-1034</b> | 1SFA 616 077 R1034 | 0.07 |
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| <b>KA70-1031</b> | 1SFA 616 077 R1031 | 0.07 |
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| <b>KA70-1032</b> | 1SFA 616 077 R1032 | 0.07 |
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| <b>KA70-1033</b> | 1SFA 616 077 R1033 | 0.07 |
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| <b>KA70-1034</b> | 1SFA 616 077 R1034 | 0.07 |
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| <b>KA70-1031</b> | 1SFA 616 077 R1031 | 0.07 |
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| <b>KA70-1034</b> | 1SFA 616 077 R1034 | 0.07 |
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| <b>KA70-1034</b> | 1SFA 616 077 R1034 | 0.07 |
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| <b>KA70-1031</b> | 1SFA 616 077 R1031 | 0.07 |
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| <b>KA70-1032</b> | 1SFA 616 077 R1032 | 0.07 |
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| <b>KA70-1033</b> | 1SFA 616 077 R1033 | 0.07 |
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| <b>KA70-1034</b> | 1SFA 616 077 R1034 | 0.07 |
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| <b>KA70-1031</b> | 1SFA 616 077 R1031 | 0.07 |
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| <b>KA70-1032</b> | 1SFA 616 077 R1032 | 0.07 |
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| <b>KA70-1033</b> | 1SFA 616 077 R1033 | 0.07 |
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| <b>KA70-1034</b> | 1SFA 616 077 R1034 | 0.07 |
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| <b>KA70-1031</b> | 1SFA 616 077 R1031 | 0.07 |
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| <b>KA70-1032</b> | 1SFA 616 077 R1032 | 0.07 |
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| <b>KA70-1033</b> | 1SFA 616 077 R1033 | 0.07 |
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| <b>KA70-1034</b> | 1SFA 616 077 R1034 | 0.07 |
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| <b>KA70-1031</b> | 1SFA 616 077 R1031 | 0.07 |
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| <b>KA70-1032</b> | 1SFA 616 077 R1032 | 0.07 |
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| <b>KA70-1033</b> | 1SFA 616 077 R1033 | 0.07 |
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| <b>KA70-1034</b> | 1SFA 616 077 R1034 | 0.07 |
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| <b>KA70-1031</b> | 1SFA 616 077 R1031 | 0.07 |
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| <b>KA70-1032</b> | 1SFA 616 077 R1032 | 0.07 |
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| <b>KA70-1033</b> | 1SFA 616 077 R1033 | 0.07 |
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| <b>KA70-1034</b> | 1SFA 616 077 R1034 | 0.07 |
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| <b>KA70-1031</b> | 1SFA 616 077 R1031 | 0.07 |
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| <b>KA70-1032</b> | 1SFA 616 077 R |
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# Signal Beacons KSB



## Signal Beacons KSB

| Description                                                                 | Type             | Order Code                | Weight, kg |
|-----------------------------------------------------------------------------|------------------|---------------------------|------------|
| <b>Permanent light</b> , 12-240 V AC/DC. For bulb BA15d. Bulb not included. |                  |                           |            |
| Red                                                                         | <b>KSB-401R</b>  | 1SFA 616 080 R4011        | 0.13       |
| Green                                                                       | <b>KSB-401G</b>  | 1SFA 616 080 R4012        | 0.13       |
| Yellow                                                                      | <b>KSB-401Y</b>  | 1SFA 616 080 R4013        | 0.13       |
| Blue                                                                        | <b>KSB-401L</b>  | 1SFA 616 080 R4014        | 0.13       |
| Clear                                                                       | <b>KSB-401C</b>  | 1SFA 616 080 R4018        | 0.13       |
| <b>Flashing light</b> , 24 V DC. Xenon tube included. Not changeable.       |                  |                           |            |
| Red                                                                         | <b>KSB-203R</b>  | 1SFA 616 080 R2031        | 0.14       |
| Green                                                                       | <b>KSB-203G</b>  | 1SFA 616 080 R2032        | 0.14       |
| Yellow                                                                      | <b>KSB-203Y</b>  | 1SFA 616 080 R2033        | 0.14       |
| Blue                                                                        | <b>KSB-203L</b>  | 1SFA 616 080 R2034        | 0.14       |
| Clear                                                                       | <b>KSB-203C</b>  | 1SFA 616 080 R2038        | 0.14       |
| <b>Flashing light</b> , 115 V AC. Xenon tube included. Not changeable.      |                  |                           |            |
| Red                                                                         | <b>KSB-113R</b>  | 1SFA 616 080 R1131        | 0.14       |
| Green                                                                       | <b>KSB-113G</b>  | 1SFA 616 080 R1132        | 0.14       |
| Yellow                                                                      | <b>KSB-113Y</b>  | 1SFA 616 080 R1133        | 0.14       |
| Blue                                                                        | <b>KSB-113L</b>  | 1SFA 616 080 R1134        | 0.14       |
| Clear                                                                       | <b>KSB-113C</b>  | 1SFA 616 080 R1138        | 0.14       |
| <b>Flashing light</b> , 230 V AC. Xenon tube included. Not changeable.      |                  |                           |            |
| Red                                                                         | <b>KSB-123R</b>  | 1SFA 616 080 R1231        | 0.14       |
| Green                                                                       | <b>KSB-123G</b>  | 1SFA 616 080 R1232        | 0.14       |
| Yellow                                                                      | <b>KSB-123Y</b>  | 1SFA 616 080 R1233        | 0.14       |
| Blue                                                                        | <b>KSB-123L</b>  | 1SFA 616 080 R1234        | 0.14       |
| Clear                                                                       | <b>KSB-123C</b>  | 1SFA 616 080 R1238        | 0.14       |
| <b>LED Permanent light</b> , 24 V AC/DC. LED included. Not changeable.      |                  |                           |            |
| Red                                                                         | <b>KSB-305R</b>  | 1SFA 616 080 R3051        | 0.14       |
| Green                                                                       | <b>KSB-305G</b>  | 1SFA 616 080 R3052        | 0.14       |
| Yellow                                                                      | <b>KSB-305Y</b>  | 1SFA 616 080 R3053        | 0.14       |
| <b>LED Blinking light</b> , 24 V AC/DC. LED included. Not changeable.       |                  |                           |            |
| Red                                                                         | <b>K SB-306R</b> | 1SFA 616 080 R3061        | 0.14       |
| Green                                                                       | <b>K SB-306G</b> | 1SFA 616 080 R3062        | 0.14       |
| Yellow                                                                      | <b>K SB-306Y</b> | 1SFA 616 080 R3063        | 0.14       |
| <b>LED Rotating light</b> , 24 V AC/DC. LED included. Not changeable.       |                  |                           |            |
| Red                                                                         | <b>KSB-307R</b>  | 1SFA 616 080 R3071        | 0.14       |
| Green                                                                       | <b>KSB-307G</b>  | 1SFA 616 080 R3072        | 0.14       |
| Yellow                                                                      | <b>KSB-307Y</b>  | 1SFA 616 080 R3073        | 0.14       |
| <b>Special parts</b>                                                        |                  |                           |            |
| Anti-twist device                                                           | <b>KASB-100</b>  | 1SFA 616 087 R1000        | 0.005      |
| <b>Bulbs for Signal Beacons</b> Max 10 W. For permanent light.              |                  |                           |            |
| Bulb Ba15d, 52 mm:                                                          |                  |                           |            |
| 12 V, 7 W, AC/DC                                                            |                  | <b>1SFA 616 922 R1018</b> | 0.011      |
| 24 V, 7 W, AC/DC                                                            |                  | <b>1SFA 616 922 R1028</b> | 0.011      |
| 115 V, 7 W, AC/DC                                                           |                  | <b>1SFA 616 922 R1118</b> | 0.011      |
| 220-260 V, 7-10 W, AC/DC                                                    |                  | <b>1SFA 616 922 R1148</b> | 0.011      |

# Signal Towers K70, Signal Beacons KSB

## Technical data

### Signal Towers K70

#### Approvals



#### Technical specifications

|                                   |                                                                      |
|-----------------------------------|----------------------------------------------------------------------|
| <b>Housing and accessories</b>    | Polyamide, high impact, black                                        |
| <b>Dome</b>                       | Polycarbonate, transparent                                           |
| <b>Fixing</b>                     | Base mounting<br>Tube mounting, for tube ø 25 mm<br>Bracket mounting |
| <b>Socket</b>                     | B 15 d, for bulb max. 7W                                             |
| <b>Connection</b>                 | Screwable connection up to 2.5 mm <sup>2</sup>                       |
| <b>Number of modules possible</b> | max. 5                                                               |
| -2-sided bracket                  | max.10 elements                                                      |

#### Degrees of protection

|                         |       |           |
|-------------------------|-------|-----------|
| <b>Light elements</b>   | IP 54 | UL Type 5 |
| <b>Audible elements</b> | IP 54 | UL Type 5 |

#### Electrical data

|                                       |                                                                              |
|---------------------------------------|------------------------------------------------------------------------------|
| <b>Permanent light element</b>        | 12 - 240 V AC/DC                                                             |
| Bulb socket B 15 d, max 7 W           | Bulb not included                                                            |
| <b>Blinking light element</b>         | 24 V      115 V      230 V<br>AC/DC    AC/DC      AC/DC<br>Bulb not included |
| Starting current                      | < 0.5 A                                                                      |
| <b>Flashing light element</b>         | 24 V    115 V    230 V<br>DC      AC        AC                               |
| Flash frequency                       | 1 Hz    1 Hz    1 Hz                                                         |
| Flash energy                          | 2 Ws    2 Ws    2 Ws                                                         |
| Life duration                         | 4 x 10 <sup>6</sup> flashes                                                  |
| Current consumption                   | 125 mA   20 mA   35 mA                                                       |
| reduced for AS-Interface              | 80 mA                                                                        |
| Starting current                      | < 0.5 A at 24 V                                                              |
| <b>LED Permanent light element</b>    | 24 V      115 V      230 V<br>AC/DC    AC        AC                          |
| Current consumption                   | 45 mA    25 mA    25 mA                                                      |
| Starting current                      | < 0.5 A at 24 V                                                              |
| <b>LED Blinking light element</b>     | 24 V      115 V      230 V<br>AC/DC    AC        AC                          |
| Current consumption                   | 25 mA    25 mA    25 mA                                                      |
| Starting current                      | < 0.5 A at 24 V                                                              |
| Blink frequency                       | c. 1 Hz    c. 1Hz    c. 1 Hz                                                 |
| <b>LED Rotating light element</b>     | 24 V, AC/DC                                                                  |
| Current consumption                   | 70 mA                                                                        |
| Starting current                      | < 0.5 A at 24 V                                                              |
| Rotation frequency                    | c. 120 r.p.m.                                                                |
| <b>Temperature</b>                    |                                                                              |
| Ambient temperature during operations | -20 to +50 °C                                                                |

### Signal Beacons KSB

#### Approvals



#### Technical specifications

|                                |                                                            |
|--------------------------------|------------------------------------------------------------|
| <b>Housing and accessories</b> | PC/ABS-Blend, high impact, black                           |
| <b>Dome</b>                    | Polycarbonate, transparent                                 |
| <b>Fixing</b>                  | Installation mounting for ø 37 mm (PG 29)                  |
| <b>Bulb socket</b>             | B 15 d, max. 10 W                                          |
| <b>Bulb change</b>             | via rear access with bayonet mechanism (Bulb not included) |
| <b>Connection</b>              | Screwable connection max. 2.5 mm <sup>2</sup>              |

|                              |       |           |
|------------------------------|-------|-----------|
| <b>Degrees of protection</b> | IP 65 | UL Type 5 |
|------------------------------|-------|-----------|

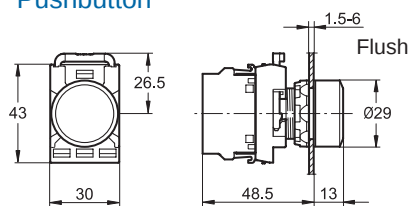
#### Electrical data

|                                       |                                                     |
|---------------------------------------|-----------------------------------------------------|
| <b>Permanent light element</b>        |                                                     |
| Operating voltage                     | max. 250 V                                          |
| Bulb socket B 15 d, max 10 W          | Bulb not included                                   |
| <b>LED version:</b>                   |                                                     |
| <b>Permanent light</b>                | 24 V, AC/DC                                         |
| Current consumption                   | 45 mA                                               |
| <b>Blinking light element</b>         | 24 V, AC/DC                                         |
| Current consumption                   | 25 mA                                               |
| <b>Rotating light element</b>         | 24 V, AC/DC                                         |
| Current consumption                   | 70 mA                                               |
| Starting current                      | < 0.5 A                                             |
| <b>Flashing light element</b>         |                                                     |
| Operating voltage                     | 24 V      115 V      230 V<br>AC/DC    AC        AC |
| Flash frequency                       | 1 Hz    1 Hz    1 Hz                                |
| Flash energy                          | 2 Ws    2 Ws    2 Ws                                |
| Life duration                         | 4 x 10 <sup>6</sup> flashes                         |
| Current consumption                   | 125 mA    20 mA    35 mA                            |
| Starting current                      | < 0.5 A    < 0.5 A    < 0.25 A                      |
| <b>Temperature</b>                    |                                                     |
| Ambient temperature during operations | -20 to +50 °C                                       |

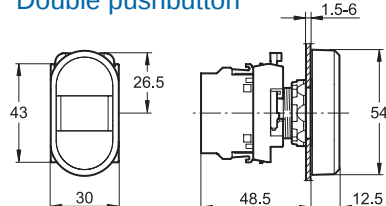
# Pilot devices - Modular range

## Dimensions

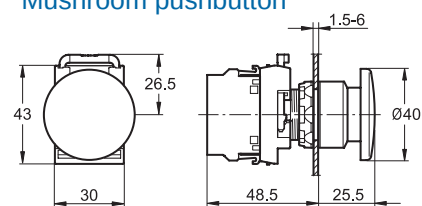
Pushbutton



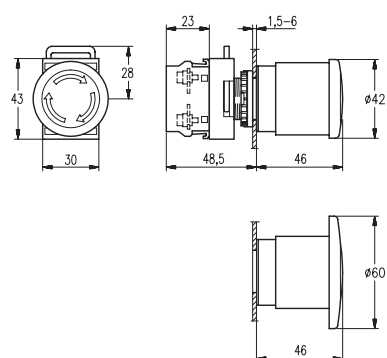
Double pushbutton



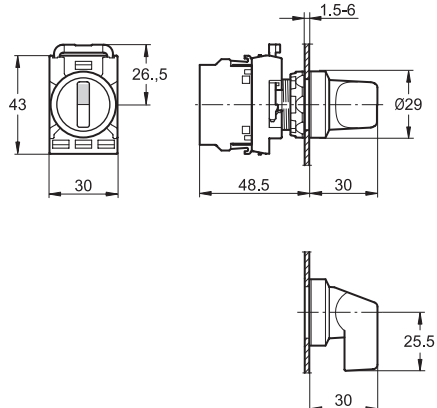
Mushroom pushbutton



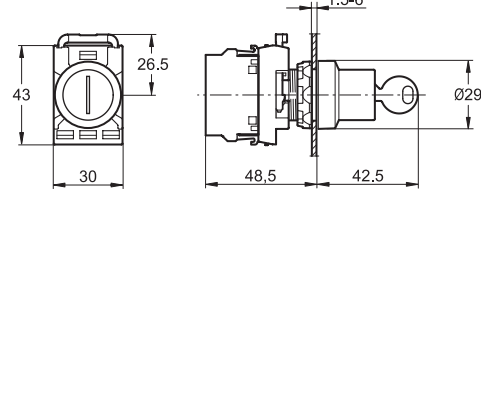
Emergency stop pushbutton



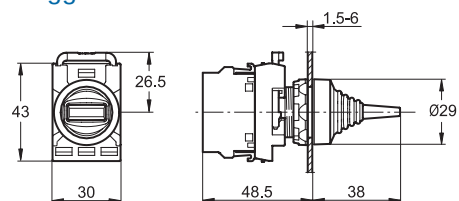
Selector switch



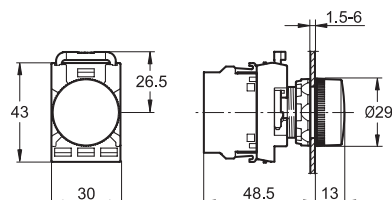
Key-operated selector switch



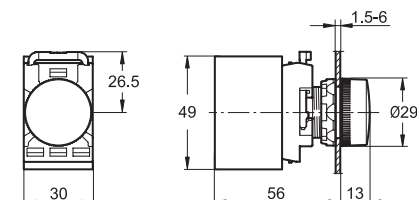
Toggle switch



Pilot light

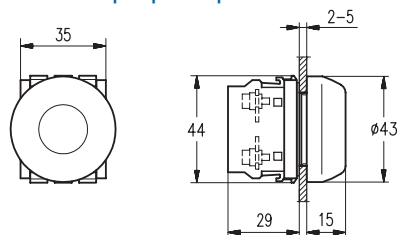


Pilot light with transformer

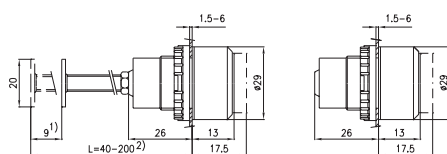


## Dimensions and drilling plans

## Definite purpose pushbutton

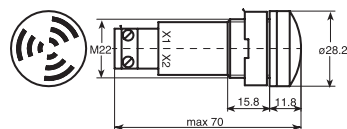


## Reset pushbutton

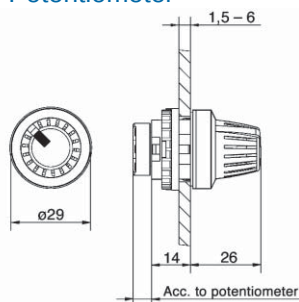


- 1) Length of stroke.
- 2) Can be cut to desired length.

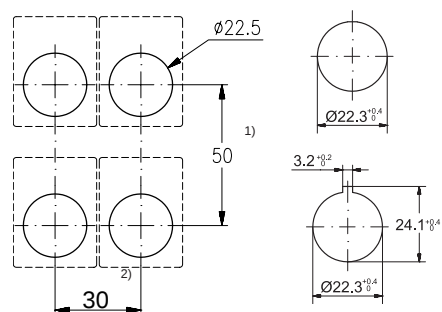
## Buzzer



## Potentiometer

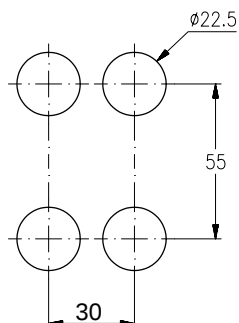


## Drilling plans for pushbuttons, switches and pilot lights

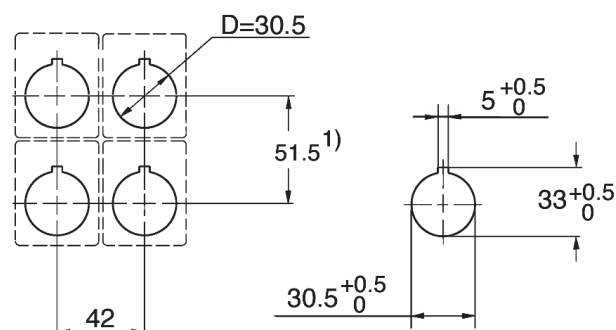


- 1) 55 mm when legend plate H= 44.5 mm is used.  
61 mm for mushroom pushbutton with D=60 mm
- 2) 37 mm when legend plate with insert is used,

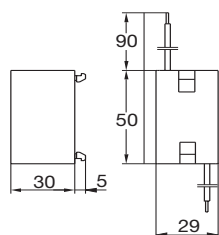
## Drilling plan for double pushbutton



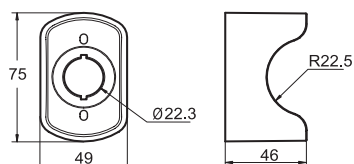
### Drilling plan for 30 mm adaptor



## Transformer block



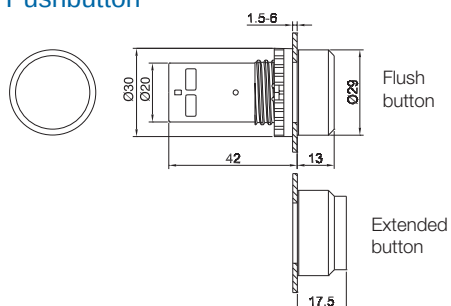
## Emergency stop shroud



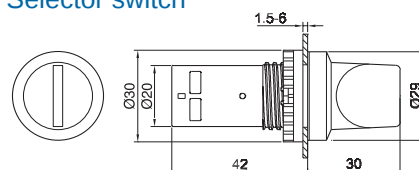
# Pilot devices - Compact range

## Dimensions

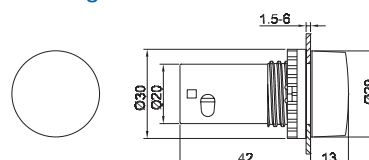
### Pushbutton



### Selector switch

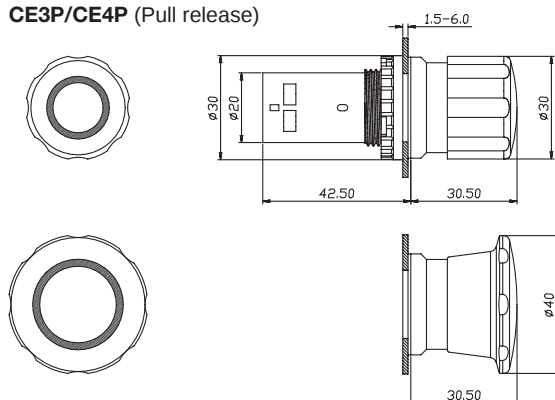


### Pilot light

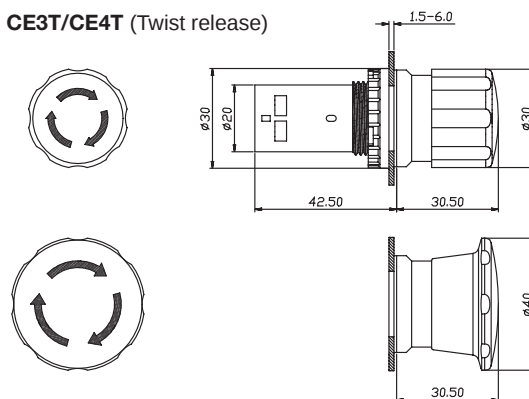


### Emergency stop pushbuttons

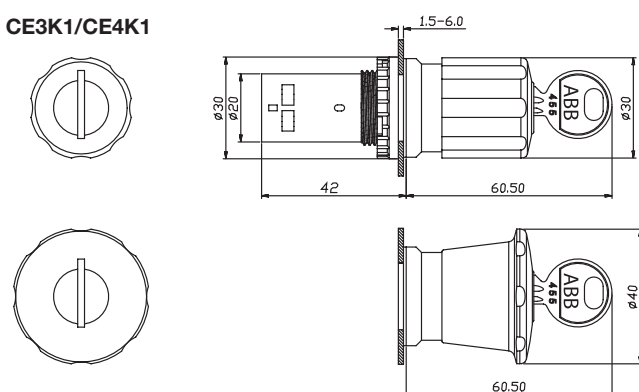
#### CE3P/CE4P (Pull release)



#### CE3T/CE4T (Twist release)



#### CE3K1/CE4K1

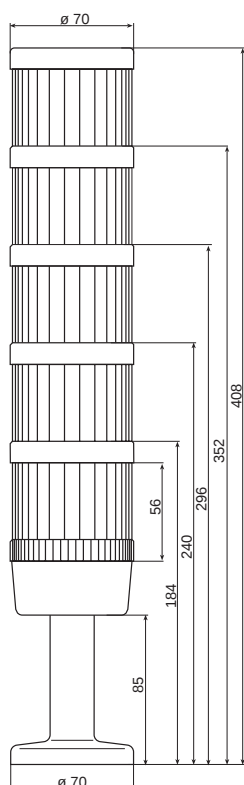


Drilling plans for compact pushbuttons, selector switches, pilot lights and emergency stop pushbuttons  
See page 74

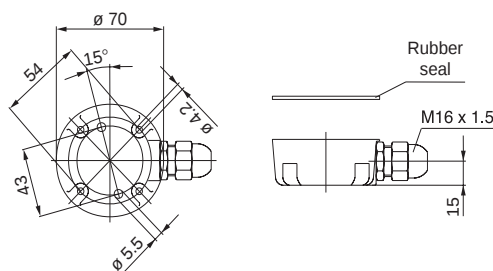
# Pilot devices - Signal Towers/Signal Beacons

## Dimensions and drilling plans

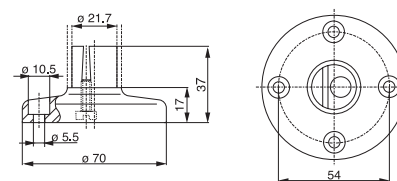
Signal Towers K 70



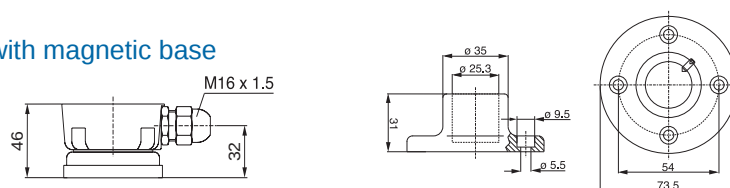
Contact box for cable exit at side



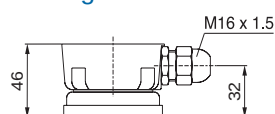
Base for tube, plastic



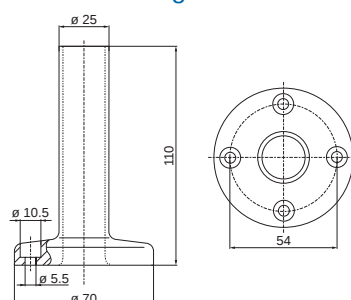
Base for tube, metal



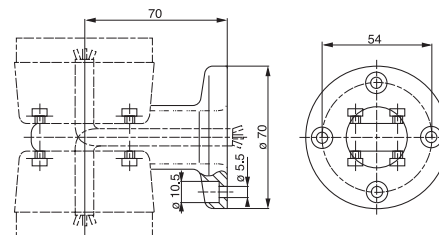
Contact box with magnetic base



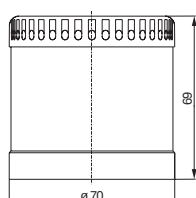
Base with integrated tube



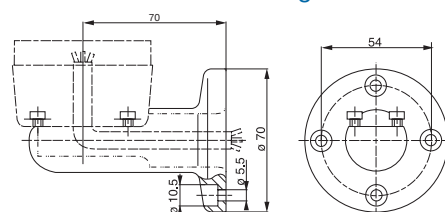
Bracket 2-sided mounting



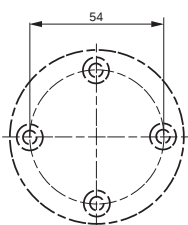
Audible module



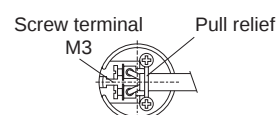
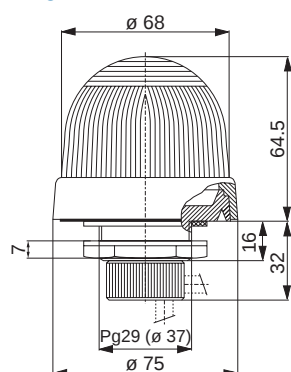
Bracket 1-sided mounting



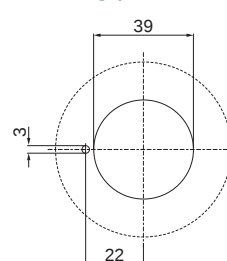
Drilling plan for Signal Towers K 70



Signal Beacons K SB



Drilling plan for Signal Beacons KSB

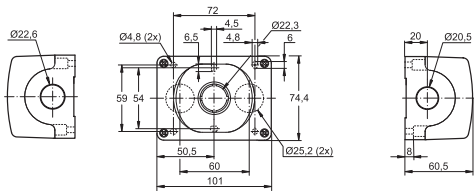


# Pilot devices - Enclosures

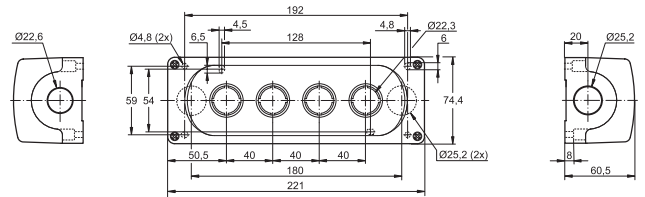
## Dimensions

### Plastic enclosures

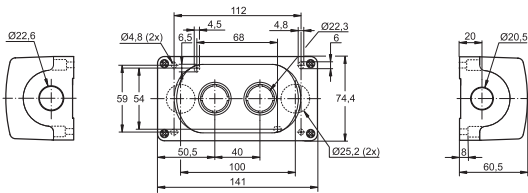
#### 1 seat



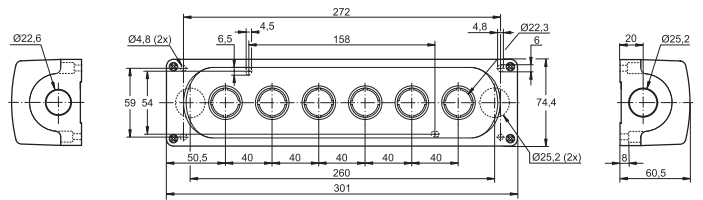
#### 4 seats



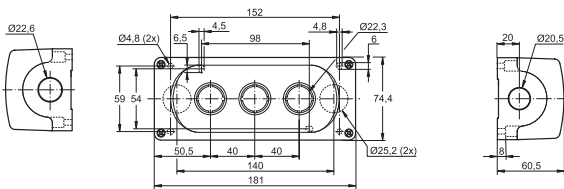
#### 2 seats



#### 6 seats

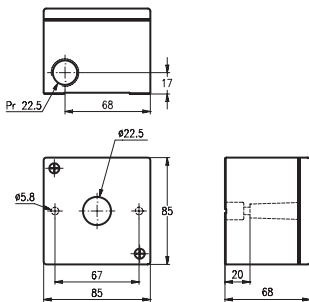


#### 3 seats

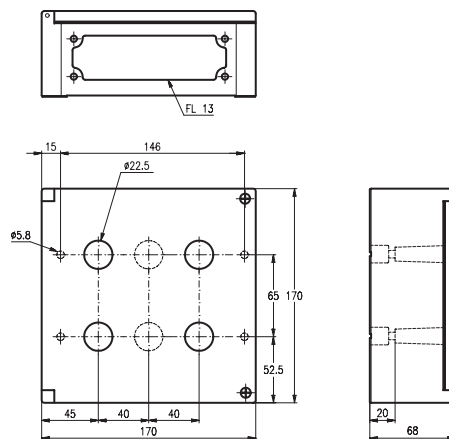


### Metallic enclosures

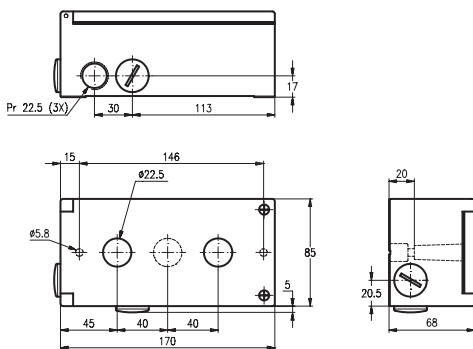
#### 1 seat



#### 4 or 6 seats



#### 2 or 3 seats



# Notes



Lined area for notes, consisting of multiple horizontal lines.

# Notes



## Notes



## Pilot devices - 22 mm

### Color selection

#### Color selection according to IEC 60204-1

IEC 60204-1 specifies coding principles for indicators and actuators and gives recommendation regarding the use of colors. An excerpt from the standard is given below. For detailed information, see the standard.

#### Meaning of colors – General principles

| Color              |                                                                                                                                                                                                                                                       | Meaning                          |                      |                    |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----------------------|--------------------|
|                    |                                                                                                                                                                                                                                                       | Safety of persons or environment | Condition of process | State of equipment |
| RED                |                                                                                                                                                                      | Danger                           | Emergency            | Faulty             |
| YELLOW             |                                                                                                                                                                      | Warning/caution                  | Abnormal             | Abnormal           |
| GREEN              |                                                                                                                                                                      | Safe                             | Normal               | Normal             |
| BLUE               |                                                                                                                                                                      | Mandatory significance           |                      |                    |
| WHITE, GREY, BLACK |    | No specific meaning assigned     |                      |                    |

#### Non-illuminated actuators

##### Emergency actuators

EMERGENCY-STOP / OFF actuators shall be identified by the color **RED**

##### STOP / OFF actuators

**WHITE**, **GREY** and **BLACK** are the preferred colors for STOP / OFF actuators, with the main preference being for **BLACK**. **RED** is also permitted. **GREEN** shall not be used.

##### START / ON actuators

**WHITE**, **GREY** and **BLACK** are the preferred colors for START / ON actuators, which cause the closing of switching devices and the equipment to start, with the main preference being for **WHITE**. **GREEN** is also permitted. **RED** shall not be used.

##### Use of **WHITE** and **BLACK** for specific meanings

Where the colors **WHITE** and **BLACK** are used to distinguish between START / ON and STOP / OFF actuators, then the color **WHITE** shall be used for START / ON actuators and the color **BLACK** shall be used for STOP / OFF actuators.

##### The same actuators serving for START and STOP or ON and OFF

**WHITE**, **GREY** and **BLACK** are the preferred colors for actuators which, when actuated several times, act alternately as a START / ON and STOP / OFF actuator.

The colors **YELLOW** and **GREEN** shall not be used. The color **RED** shall be used only in cases where the same actuator, other than a push-button, is used for both EMERGENCYSTOP / OFF and normal operation.

**WHITE**, **GREY** and **BLACK** are preferred colors for actuators which cause a movement while they are actuated and stop the movement when they are released (such as inching or jogging actuators). **GREEN** is also permitted. **RED** shall not be used.

##### RESET actuators

RESET actuators (used, for example, with protective relays) shall be **BLUE**, **WHITE**, **GREY** or **BLACK**, except RESET actuators which also act as STOP / OFF actuators. The color of such STOP / OFF actuators shall be in accordance with

**STOP / OFF actuators** above.

# Pilot devices - 22 mm

## Explanation of type codes

### Explanation of type code

#### Modular Pilot Devices

##### Pilot light

Example 1: Type **ML1-100R**

**L1** Pilot Light Head

**Lens color:**  
**R** = Red **W** = White  
**G** = Green **C** = Clear  
**Y** = Yellow  
**L** = Blue

##### Operators

Example 2: Type **MP1-10Y**

**P** Pushbutton  
**PD** Pushbutton, Double  
**PK** Pushbutton, Key-lockable  
**PM** Pushbutton, Mushroom  
**PMT** Pushbutton, Mushroom, Twist release  
**PMP** Pushbutton, Mushroom, Pull release  
**2SS** 2-pos. Selector Switch  
**3SS** 3-pos. Selector Switch  
**KB** Buzzer  
**KT** Potentiometer  
**TS** Toggle Switch

**Button color:**  
**R** = Red **W** = White  
**G** = Green **B** = Black (non-illuminated only)  
**Y** = Yellow **C** = Clear  
**L** = Blue **U** = Grey (non-illuminated only)

**Lens color for double pushbuttons:**  
**R** = Red  
**G** = Green  
**Y** = Yellow  
**C** = Clear  
**B** = Black (non-illuminated only)

Example 3: Type **M2SSK1-101**

**2SSK** 2-pos. Selector Switch, Key-lockable  
**3SSK** 3-pos. Selector Switch, Key-lockable  
**PK** Pushbutton, Key-lockable

**Key code :**  
**1** = 71  
**2** = 72  
**3** = 73

##### Buzzer, contact blocks, lamp block

Example 4: Type **MCBH-10**

**B** Buzzer  
**CB** Contact Block  
**CBH** Contact Block with Holder  
**LB** Lamp Block

**Contact blocks:**  
**10** 1 NO  
**01** 1 NC  
**11** 1 NO +1 NC  
**02** 2 NC  
**20** 2 NO

M= "Generation" M, Modular range

#### Compact Pilot Devices

Example 5: Type **CL-100R**

Example 6: Type **C2SS1-10R-10**

**E** Emergency stop  
**L** Pilot Light  
**P** Pushbutton  
**2SS** 2-pos. Selector Switch  
**3SS** 3-pos. Selector Switch

**Button color/  
Lens colour for compact pilot light and pushbuttons**  
**R** = Red **W** = White  
**G** = Green **B** = Black  
**Y** = Yellow **C** = Clear (pilot light only)  
**L** = Blue **U** = Grey

**Button color for compact selector switch**  
**R** = Red  
**B** = Black  
**U** = Grey

C= Compact Range

# Pilot devices - 22 mm

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