



Automation Products

# Pilot devices, 22 mm The whole range


Power and productivity  
for a better world™



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## News in this catalog

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- 
- ! Customer specific marking online
  - ! Extended range of emergency stops
  - ! Extended range of machine stops both in Modular range and Compact range
  - ! Three position selector switches with operation of center position
  - ! New potentiometers
  - ! Lampblock with integrated LED
  - ! Micro contact block
- Signal Towers/Optical modules:
- ! Light element with blinking light for 24 V (AC)DC, 115V AC and 230 V AC, now with integrated LED





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## Ordering details

When placing an order please use either the "Type" or the "Order Code"

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

### **Minimum ordering quantities and multiples**

Orders on smaller quantities than minimum order quantity will be automatically changed to minimum order quantity (=packing qty) and order on non-multiple quantities will be automatically changed to multiple quantities.

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



# When you think Pilot Devices

## Part of comprehensive 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.

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 advantages are 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.

## Made for tough industrial environments

Can be used in many different applications by OEMs, panel builders, contractors, etc.

For industrial machines and equipment, control panels and control stations

For emergency circuits, alarm and signal equipment, traction equipments, hoists and lifts, door openers, etc

## The important link

Pushbuttons and pilot lights – the world's simplest devices.

They are used to make and break a circuit, pass on a message or control an operation: in short, to be a link between man and machine.

A pushbutton has to be sturdy and reliable, suitable for all environments and adaptable to widely differing requirements. Further, it should be easy to fit or set up. You will find all these features in ABB's Pilot Devices.





# - think ABB

## Complete range

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

## 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.

## Flexible-Functional-Aesthetic

The pilot devices have an aesthetic and functional design - Tight, withstanding even the toughest environment.

No additional protective boots are 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 100 countries. Our pilot devices meets all major international and national standards.



# Pilot devices - The whole range

## Modular Range Pilot Devices, 22 mm



## Additional products



## Emergency stops in Modular and Compact range



## Accessories

Modular range – see page 31  
Compact range – see page 48  
Legend plates – see page 65

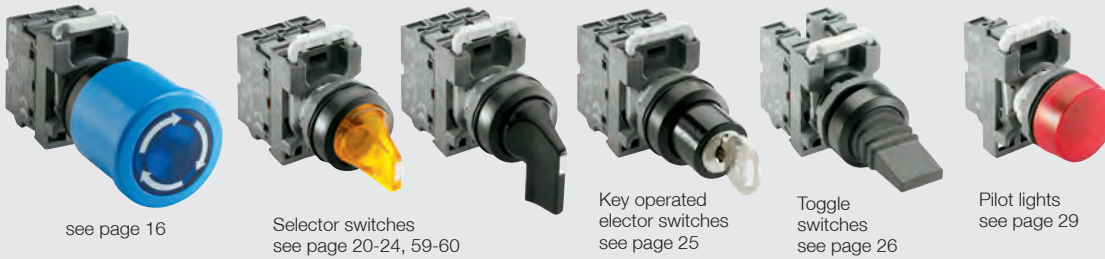


## Pilot devices, 30 mm

See page 35 (Adaptors)



# Pilot devices - The whole range



## Compact Range Pilot Devices, 22 mm



## Machine stops in Modular and Compact range



## Enclosures & Stations

See page 55 – 63



## Signal Towers & Signal Beacons

See page 75



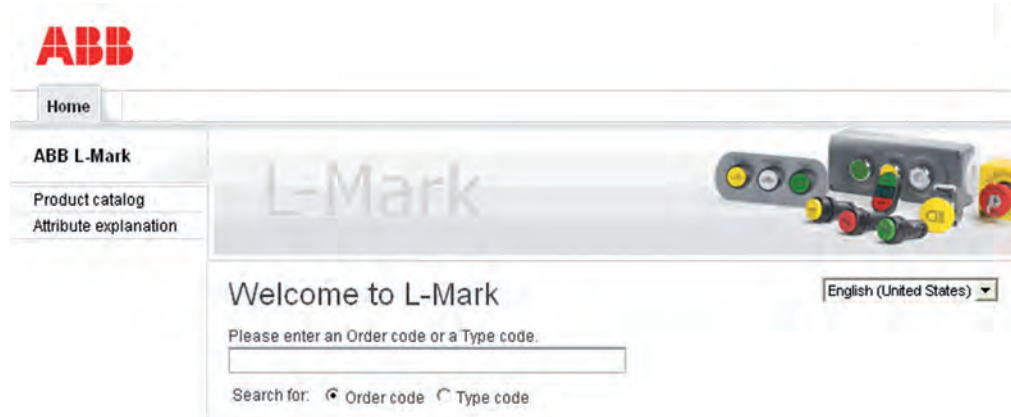


# Pilot devices

Customer specific marking online



Possibility to order customer specific marked operators on line  
– See <http://bolservices.it.abb.com/pilot-devices>



It's now possible to create a customer specific marking online using a five step marking tool:

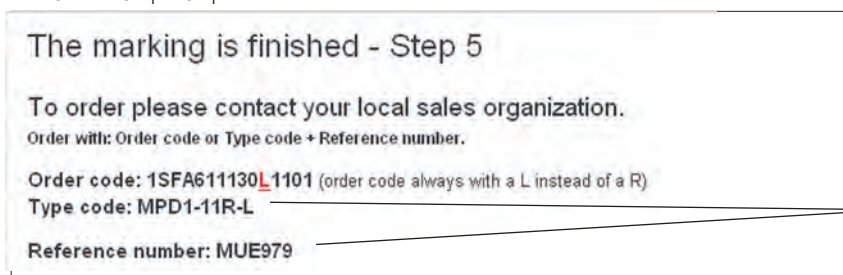
### How to do

Visit <http://bolservices.it.abb.com/pilot-devices>

- Step 1 Find your product by typing the type or order code.
- Step 2 Choose between text or symbol marking.
- Step 3 Choose your preferred marking layout.
- Step 4 Type marking or choose any of our 3000 symbols including the ISO 7000 library.
- Step 5 Order the product by the **reference number** + order code provided on the site.

**Note! Not available in all countries.**

Simulated example step 5:



**Note! Both Order code or type + reference number must be included in order.**



## Pilot devices, 22 mm

Modular range



### General construction

- Snap-on feature reduces installation time
- Bezels: Black plastic, chrome plastic or chrome 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

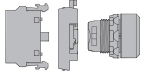
### Contact blocks

- 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



At operation the moving contact rolls over and moves sideways when touching the fixed contact. This feature ensures a good clean contact function in critical applications.

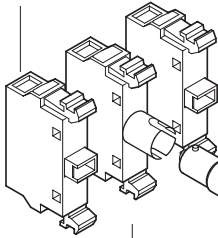
- Low energy gold plated contact blocks
- Base mounted contact blocks which snap onto a 35 mm DIN rail or into a plastic enclosure
- Contact block holder for three or five blocks in a single row



**Exploded view**

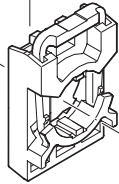
**Contact block**

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.

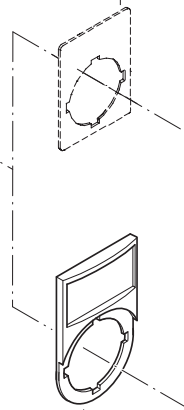


**Nut**



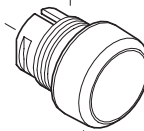
**Legend plates**

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.



**Operator**

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



**Lamp block**

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

Same actuator can be used in notched holes as well as in round holes.

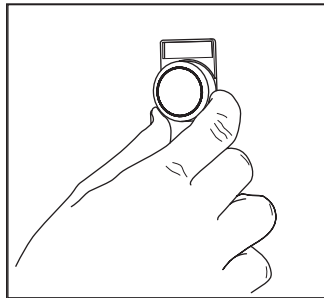
**Legend plate holder**

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

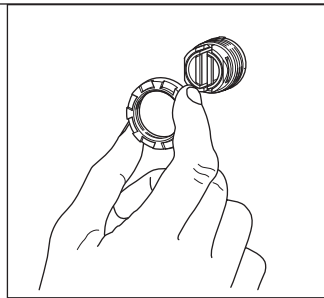
**Bezels**

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

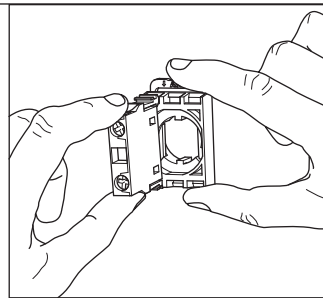
**Easy to install**



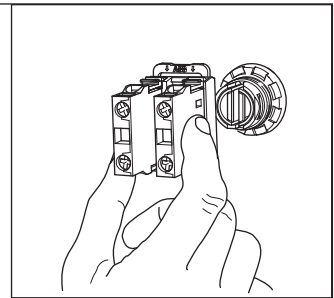
The operator is to be inserted from the front.....



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

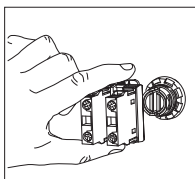
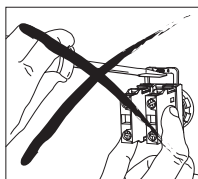


The contact blocks/lamp block are then snapped on to the holder...



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

**...and to remove**

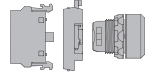


Press down the spring on the holder and pull the holder from the actuator.

# Pilot devices-Modular range

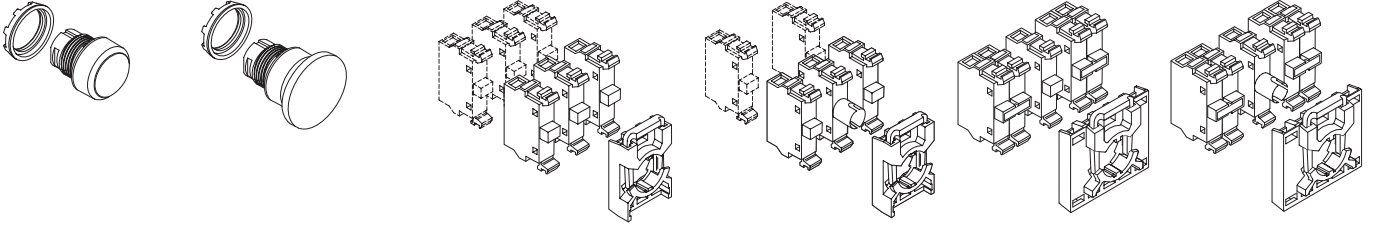
Contact block combinations

## Modular range

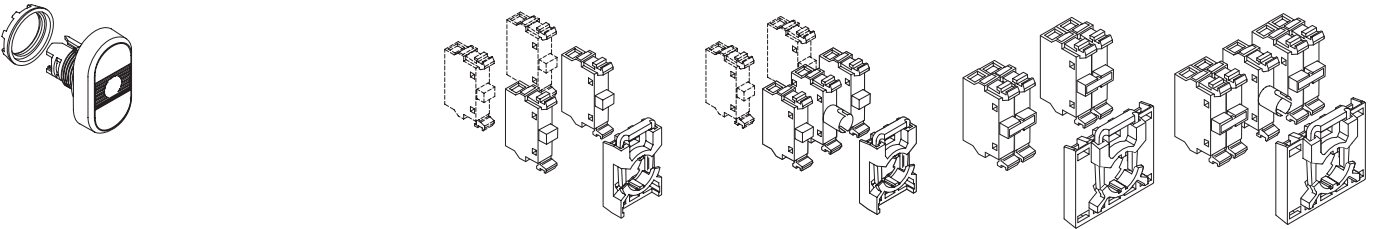


### Pushbuttons

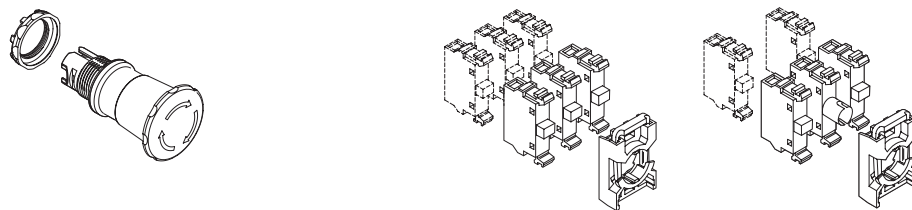
#### Mushroom pushbuttons



### Double pushbuttons

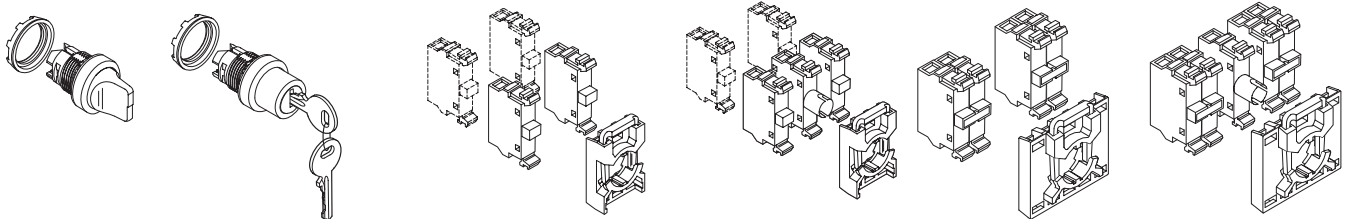


### Emergency stop pushbuttons

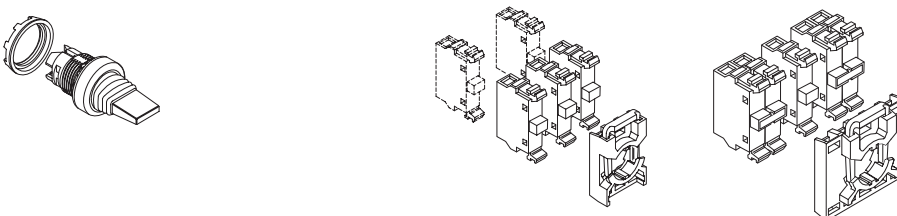


### Selector switches

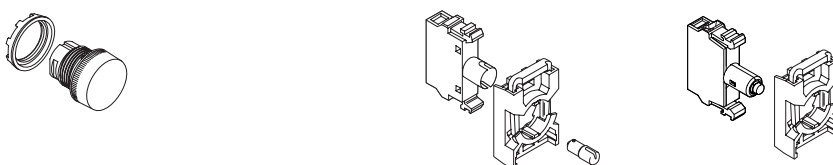
#### Key operated selector switches



### Toggle switches



### Pilot lights

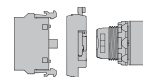




# Flush and extended pushbuttons

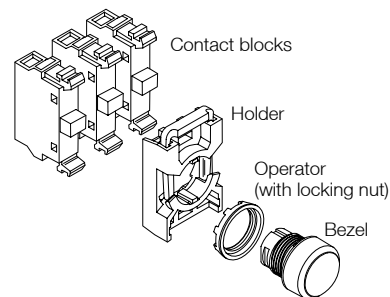
Non-illuminated  
Momentary and maintained

## Modular range



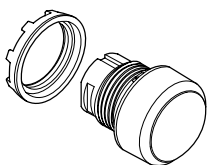
### How to order:

Order: Operator + holder + contact block(s)  
or operator + holder with contact block(s)

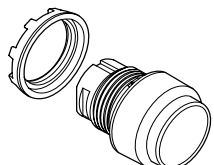


### Bezel options

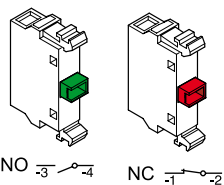
Description	How to order	Type	Order Code
Black plastic	Standard	MPX-10X	1SFA611XXX R1XXX
Chrome <b>plastic</b>	Replace '1' with '2' in Type and Order Code	MPX-20X,	1SFA611XXX R2XXX
Chrome <b>metal</b>	Replace '1' with '3' in Type and Order Code	MPX-30X	1SFA611XXX R3XXX



1SFC151073P0001



1SFC151074P0001



### Operator

Description/ Color	Packing qty: 1 pc		Weight, kg
	Type	Order Code	

#### 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

● 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

#### 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

● 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

See the fold-out page at the end of the catalog.

### Marking

See page 6 for more information.

There is also possibility to order customer specific marked operators online.



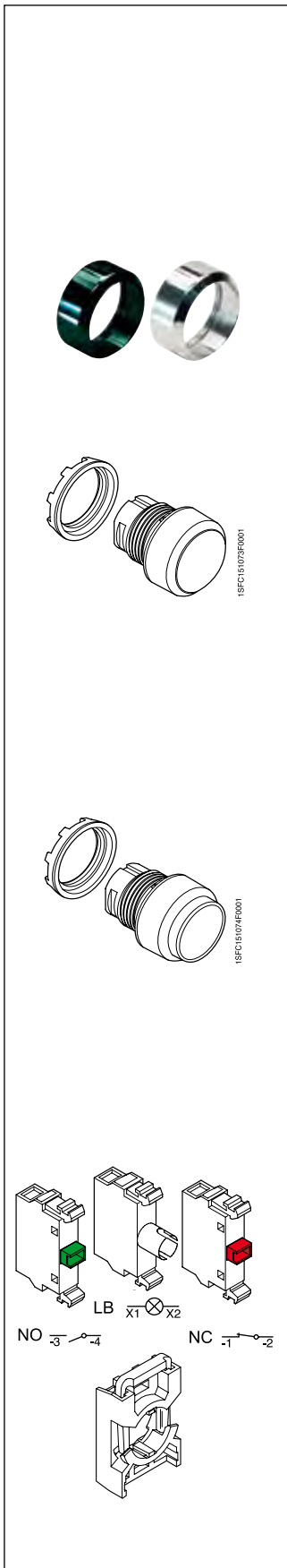
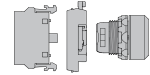


# Flush and extended pushbuttons

Illuminated

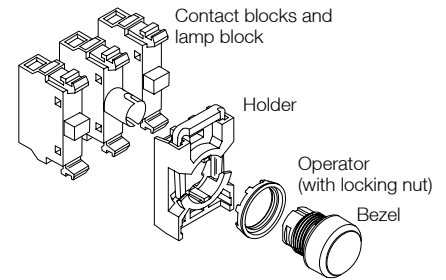
Momentary and maintained

## Modular range



### How to order:

Order: Operator + holder + contact block(s) + lamp block  
or operator + holder with contact block(s) and lamp block



### Bezel options

Description	How to order	Type	Order Code
Black plastic	Standard	MPX-10X	1SFA611XXX R1XXX
Chrome <b>plastic</b>	Replace '1' with '2' in Type and Order Code	MPX-20X,	1SFA611XXX R2XXX
Chrome <b>metal</b>	Replace '1' with '3' in Type and Order Code	MPX-30X	1SFA611XXX R3XXX

### Operator

Description/ Color	Packing qty: 1 pc		Weight, kg
	Type	Order Code	

#### Flush button Bulb max 2 W, not included

##### Momentary

● Red	<b>MP1-11R</b>	1SFA 611 100 R1101	0.016
● Green	<b>MP1-11G</b>	1SFA 611 100 R1102	0.016
● Yellow	<b>MP1-11Y</b>	1SFA 611 100 R1103	0.016
● Blue	<b>MP1-11L</b>	1SFA 611 100 R1104	0.016
○ White	<b>MP1-11W</b>	1SFA 611 100 R1105	0.016
○ Clear	<b>MP1-11C</b>	1SFA 611 100 R1108	0.016

##### Maintained

● Red	<b>MP2-11R</b>	1SFA 611 101 R1101	0.016
● Green	<b>MP2-11G</b>	1SFA 611 101 R1102	0.016
● Yellow	<b>MP2-11Y</b>	1SFA 611 101 R1103	0.016
● Blue	<b>MP2-11L</b>	1SFA 611 101 R1104	0.016
○ White	<b>MP2-11W</b>	1SFA 611 101 R1105	0.016
○ Clear	<b>MP2-11C</b>	1SFA 611 101 R1108	0.016

#### Extended button Bulb max 2 W, not included

##### Momentary

● Red	<b>MP3-11R</b>	1SFA 611 102 R1101	0.016
● Green	<b>MP3-11G</b>	1SFA 611 102 R1102	0.016
● Yellow	<b>MP3-11Y</b>	1SFA 611 102 R1103	0.016
● Blue	<b>MP3-11L</b>	1SFA 611 102 R1104	0.016
○ White	<b>MP3-11W</b>	1SFA 611 102 R1105	0.016
○ Clear	<b>MP3-11C</b>	1SFA 611 102 R1108	0.016

##### Maintained

● Red	<b>MP4-11R</b>	1SFA 611 103 R1101	0.016
● Green	<b>MP4-11G</b>	1SFA 611 103 R1102	0.016
● Yellow	<b>MP4-11Y</b>	1SFA 611 103 R1103	0.016
● Blue	<b>MP4-11L</b>	1SFA 611 103 R1104	0.016
○ White	<b>MP4-11W</b>	1SFA 611 103 R1105	0.016
○ Clear	<b>MP4-11C</b>	1SFA 611 103 R1108	0.016

### Contact blocks, lamp block and holder

See the fold-out page at the end of the catalog.

### Marking

See page 6 for more information.

There is also possibility to order customer specific marked operators online.

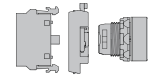




# Double pushbuttons

## Non-illuminated

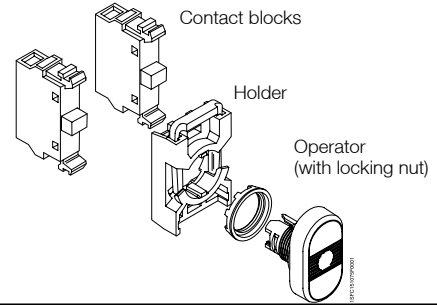
### Modular range



#### How to order:

Order: Operator + holder + contact blocks  
or operator + holder with contact blocks

Note: No contact block in center position.



#### Operator

Upper button	Lower button	Packing qty: 1 pc		Weight, kg
Color	Color	Type	Order Code	

#### Flush buttons

● Green	● Red	<b>MPD1-11B</b>	1SFA 611 130 R1106	0.025
No text	No text	<b>MPD2-11B</b>	1SFA 611 131 R1106	0.025
I	O	<b>MPD3-11B</b>	1SFA 611 132 R1106	0.025
ON	OFF	<b>MPD4-11B</b>	1SFA 611 133 R1106	0.025
START	STOP			
○ White	● Black	<b>MPD5-11B</b>	1SFA 611 134 R1106	0.025
No text	No text	<b>MPD5-11B-L</b>	1SFA 611 134 L1106	0.025
With customer selected text				

#### Extended lower button

● Green	● Red	<b>MPD12-11B</b>	1SFA 611 141 R1106	0.025
No text	No text	<b>MPD13-11B</b>	1SFA 611 142 R1106	0.025
I	O	<b>MPD14-11B</b>	1SFA 611 143 R1106	0.025
ON	OFF	<b>MPD15-11B</b>	1SFA 611 144 R1106	0.025
START	STOP			
○ White	● Black	<b>MPD16-11B</b>	1SFA 611 145 R1106	0.025
No text	No text	<b>MPD16-11B-L</b>	1SFA 611 145 L1106	0.025
With customer selected text				

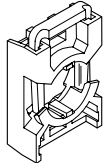
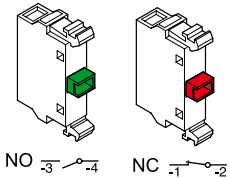
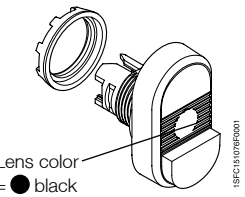
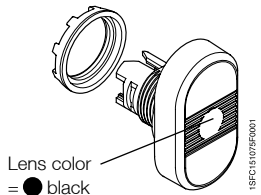
#### Contact blocks, lamp block and holder

See the fold-out page at the end of the catalog.

#### Marking

See page 6 for more information.

There is also possibility to order customer specific marked operators online.

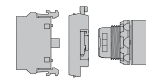




# Double pushbuttons

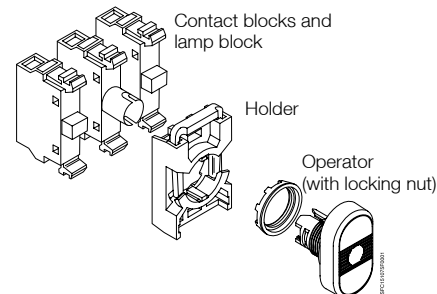
## Illuminated

# Modular range



### How to order:

Order: Operator + holder + contact blocks + lamp block  
or operator + holder with contact blocks and lamp block



### Operator

Upper button	Lower button	Packing qty: 1 pc		Weight, kg
Color	Color	Type	Order Code	
Text	Text			

### Flush buttons

Bulb max 2 W, not included

#### Red lens

● Green	● Red
No text	No text
I	O
ON	OFF
START	STOP
○ White	● Black
No text	No text
With customer selected text	

<b>MPD1-11R</b>	1SFA 611 130 R1101	0.025
<b>MPD2-11R</b>	1SFA 611 131 R1101	0.025
<b>MPD3-11R</b>	1SFA 611 132 R1101	0.025
<b>MPD4-11R</b>	1SFA 611 133 R1101	0.025

<b>MPD5-11R</b>	1SFA 611 134 R1101	0.025
<b>MPD5-11R-L</b>	1SFA 611 134 L1101	0.025

#### Green lens

● Red	
No text	No text
I	O
ON	OFF
START	STOP
○ White	● Black
No text	No text
Customer selected text	

<b>MPD1-11G</b>	1SFA 611 130 R1102	0.025
<b>MPD2-11G</b>	1SFA 611 131 R1102	0.025
<b>MPD3-11G</b>	1SFA 611 132 R1102	0.025
<b>MPD4-11G</b>	1SFA 611 133 R1102	0.025

<b>MPD5-11G</b>	1SFA 611 134 R1102	0.025
<b>MPD5-11G-L</b>	1SFA 611 134 L1102	0.025

#### Yellow lens

● Green	● Red
No text	No text
I	O
ON	OFF
START	STOP
○ White	● Black
No text	No text
With customer selected text	

<b>MPD1-11Y</b>	1SFA 611 130 R1103	0.025
<b>MPD2-11Y</b>	1SFA 611 131 R1103	0.025
<b>MPD3-11Y</b>	1SFA 611 132 R1103	0.025
<b>MPD4-11Y</b>	1SFA 611 133 R1103	0.025

<b>MPD5-11Y</b>	1SFA 611 134 R1103	0.025
<b>MPD5-11Y-L</b>	1SFA 611 134 L1103	0.025

#### Clear lens

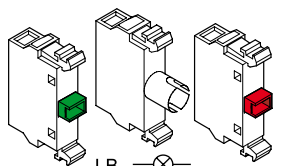
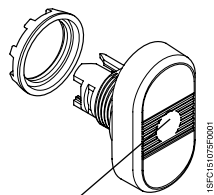
● Green	● Red
No text	No text
I	O
ON	OFF
START	STOP
○ White	● Black
No text	No text
With customer selected text	

<b>MPD1-11C</b>	1SFA 611 130 R1108	0.025
<b>MPD2-11C</b>	1SFA 611 131 R1108	0.025
<b>MPD3-11C</b>	1SFA 611 132 R1108	0.025
<b>MPD4-11C</b>	1SFA 611 133 R1108	0.025

<b>MPD5-11C</b>	1SFA 611 134 R1108	0.025
<b>MPD5-11C-L</b>	1SFA 611 134 L1108	0.025

Lens colors:

- Red
- Green
- Yellow
- Clear



### Contact blocks, lamp block and holder

See the fold-out page at the end of the catalog.

### Marking

See page 6 for more information.

There is also possibility to order customer specific marked operators online.



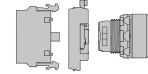




# Double pushbuttons

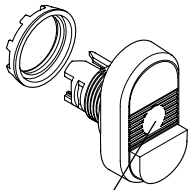
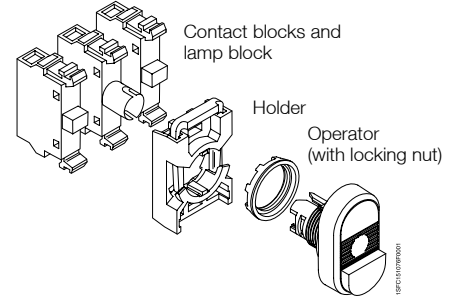
## Illuminated

### Modular range



### How to order:

Order: Operator + holder + contact blocks + lamp block  
or operator + holder with contact blocks and lamp block



- Lens colors:
- Red
  - Green
  - Yellow
  - Clear

### Operator

Upper button	Lower button	Packing qty: 1 pc		Weight, kg
Color	Color	Type	Order Code	
Text	Text			

### Extended lower button Bulb max 2 W, not included

#### Red lens

● Green	● Red	<b>MPD12-11R</b>	1SFA 611 141 R1101	0.025
No text	No text	<b>MPD13-11R</b>	1SFA 611 142 R1101	0.025
I	O	<b>MPD14-11R</b>	1SFA 611 143 R1101	0.025
ON	OFF	<b>MPD15-11R</b>	1SFA 611 144 R1101	0.025
START	STOP			
○ White	● Black			
No text	No text	<b>MPD16-11R</b>	1SFA 611 145 R1101	0.025
With customer selected text		<b>MPD16-11R-L</b>	1SFA 611 145 L1101	0.025

#### Green lens

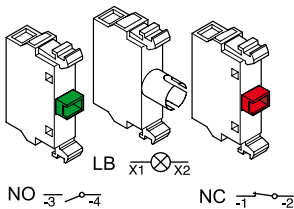
● Green	● Red	<b>MPD12-11G</b>	1SFA 611 141 R1102	0.025
No text	No text	<b>MPD13-11G</b>	1SFA 611 142 R1102	0.025
I	O	<b>MPD14-11G</b>	1SFA 611 143 R1102	0.025
ON	OFF	<b>MPD15-11G</b>	1SFA 611 144 R1102	0.025
START	STOP			
○ White	● Black			
No text	No text	<b>MPD16-11G</b>	1SFA 611 145 R1102	0.025
With customer selected text		<b>MPD16-11G-L</b>	1SFA 611 145 L1102	0.025

#### Yellow lens

● Green	● Red	<b>MPD12-11Y</b>	1SFA 611 141 R1103	0.025
No text	No text	<b>MPD13-11Y</b>	1SFA 611 142 R1103	0.025
I	O	<b>MPD14-11Y</b>	1SFA 611 143 R1103	0.025
ON	OFF	<b>MPD15-11Y</b>	1SFA 611 144 R1103	0.025
START	STOP			
○ White	● Black			
No text	No text	<b>MPD16-11Y</b>	1SFA 611 145 R1103	0.025
With customer selected text		<b>MPD16-11Y-L</b>	1SFA 611 145 L1103	0.025

#### Clear lens

● Green	● Red	<b>MPD12-11C</b>	1SFA 611 141 R1108	0.025
No text	No text	<b>MPD13-11C</b>	1SFA 611 142 R1108	0.025
I	O	<b>MPD14-11C</b>	1SFA 611 143 R1108	0.025
ON	OFF	<b>MPD15-11C</b>	1SFA 611 144 R1108	0.025
START	STOP			
○ White	● Black			
No text	No text	<b>MPD16-11C</b>	1SFA 611 145 R1108	0.025
With customer selected text		<b>MPD16-11C-L</b>	1SFA 611 145 L1108	0.025



### Contact blocks, lamp block and holder

See the fold-out page at the end of the catalog.

### Marking

See page 6 for more information.

There is also possibility to order customer specific marked operators online.

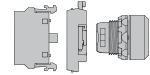




# Mushroom pushbuttons

## Non-illuminated and illuminated

**Modular range**



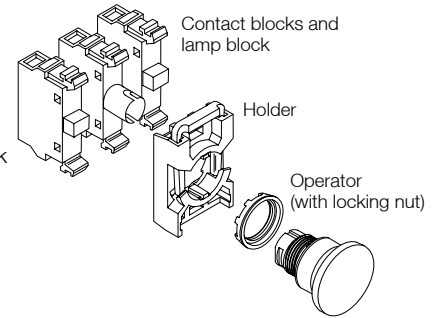
### How to order:

For non-illuminated:

Order: Operator + holder + contact block(s)  
or operator + holder with contact block(s)

For illuminated:

Order: Operator + holder + contact block(s) + lamp block  
or operator + holder with contact blocks and lamp block



### Operator

Description	Button color	Packing qty: 1 pc		Weight, kg
		Type	Order Code	
<b>Non-illuminated</b>				
<b>Ø 40 mm</b>				
	● Red	<b>MPM1-10R</b>	1SFA 611 124 R1001	0.018
	● Green	<b>MPM1-10G</b>	1SFA 611 124 R1002	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>				
	● 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

### Illuminated

Bulb max 2 W, not included.

<b>Ø 40 mm</b>				
	● Red	<b>MPM1-11R</b>	1SFA 611 124 R1101	0.018
	● Green	<b>MPM1-11G</b>	1SFA 611 124 R1102	0.018
	● Yellow	<b>MPM1-11Y</b>	1SFA 611 124 R1103	0.018
<b>Ø 60 mm</b>				
	● Red	<b>MPM2-11R</b>	1SFA 611 125 R1101	0.020
	● Yellow	<b>MPM2-11Y</b>	1SFA 611 125 R1103	0.020

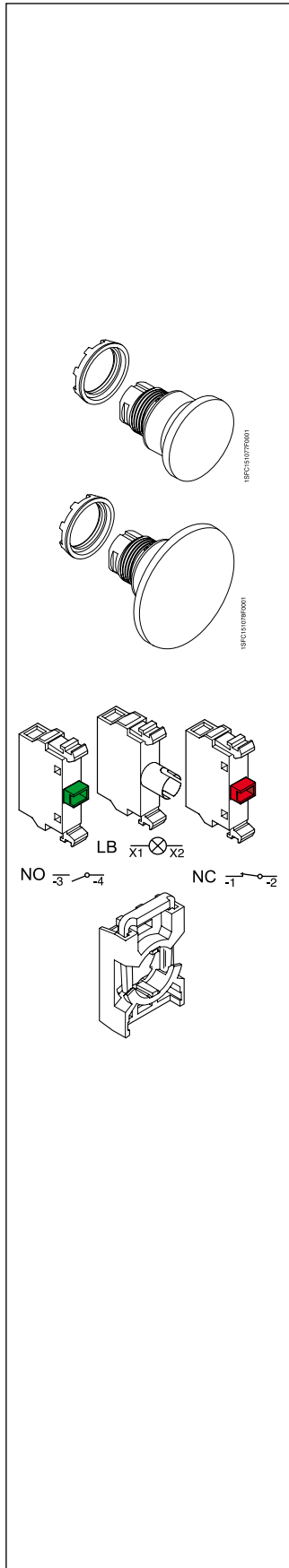
### Contact blocks, lamp block and holder

See the fold-out page at the end of the catalog.

### Marking

See page 6 for more information.

There is also possibility to order customer specific marked operators online.

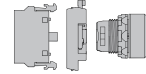




# Mushroom pushbuttons

Maintained  
Non-illuminated and illuminated

## Modular range



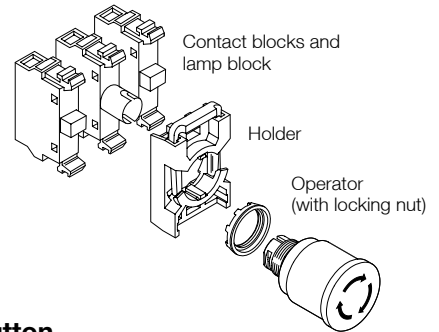
### How to order :

For non-illuminated:

Order: Operator + holder + contact block(s)  
or operator + holder with contact block(s)

For illuminated:

Order: Operator + holder + contact block(s) + lamp block  
or operator + holder with contact blocks and lamp block



### Operator for maintained machine stop pushbutton

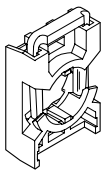
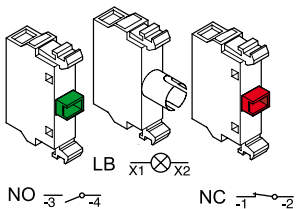
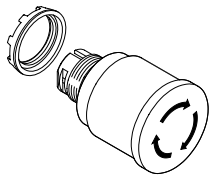
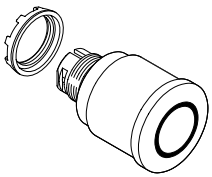
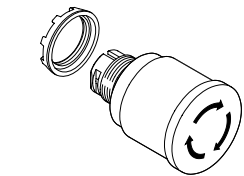
Description	Button color	Packing qty: 1 pc		Weight, kg
		Type	Order Code	
<b>Non-illuminated</b>				
<b>Ø 40 mm</b>				
Twist release	● Black	<b>MPMT3-10B</b>	1SFA 611 510 R1006	0.041
Pull release	● Black	<b>MPMP3-10B</b>	1SFA 611 511 R1006	0.041

### Operator for maintained mushroom pushbutton

Description	Button color	Packing qty: 1 pc		Weight, kg
		Type	Order Code	
<b>Non-illuminated</b>				
<b>Ø 40 mm</b>				
Twist release	● Yellow	<b>MPMT3-10Y</b>	1SFA 611 510 R1003	0.041
<b>Illuminated</b> Bulb max 2 W, not included				
<b>Ø 40 mm</b>				
Twist release	● Blue	<b>MPMT3-11L</b>	1SFA 611 510 R1104	0.041

### Contact blocks, lamp block and holder

See the fold-out page at the end of the catalog.

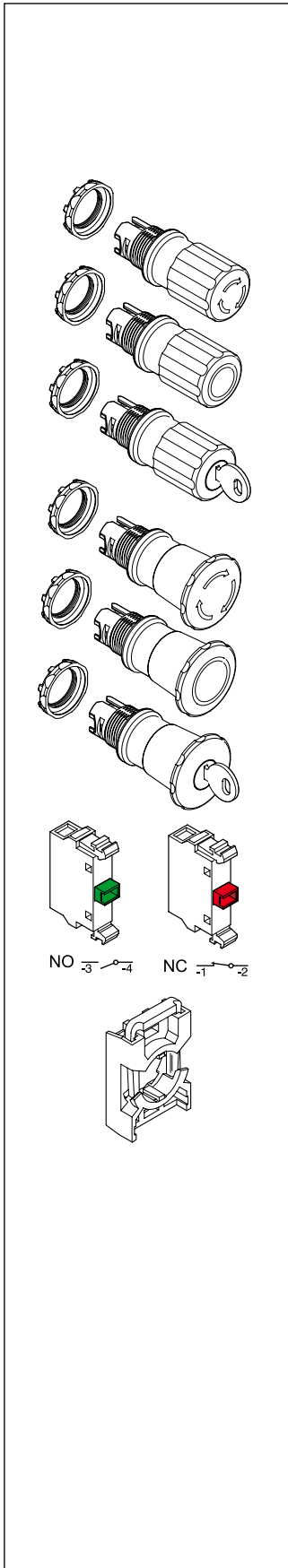
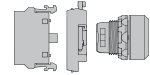




# Machine stop pushbuttons

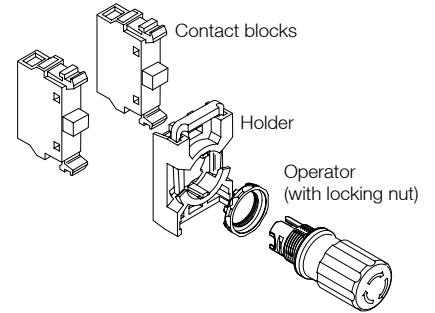
## Non-illuminated

**Modular range**



### How to order:

Order: Operator + holder + contact block(s)  
or operator + holder with contact block(s)



### Operator for machine stop pushbutton

Operator material	Button color	Packing qty: 1 pc		Weight, kg
		Type	Order Code	
<b>Non-illuminated</b>				
<b>Ø 30 mm</b>				
Twist release	● Black	<b>MPET3-10B</b>	1SFA 611 520 R1006	0.036
Pull release	● Black	<b>MPEP3-10B</b>	1SFA 611 521 R1006	0.036
Key release				
<u>Key code:</u>				
71 = Ronis 455	● Black	<b>MPEK3-10B</b>	1SFA 611 522 R1106	0.065
<b>Ø 40 mm</b>				
Twist release	● Black	<b>MPET4-10B</b>	1SFA 611 523 R1006	0.036
Pull release	● Black	<b>MPEP4-10B</b>	1SFA 611 524 R1006	0.03
Key release				
<u>Key code:</u>				
71 = Ronis 455	● Black	<b>MPEK4-10B</b>	1SFA 611 525 R1061	0.065

### Contact blocks, lamp block and holder

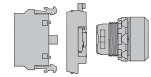
See the fold-out page at the end of the catalog.



# Emergency stop pushbuttons

Non-illuminated and illuminated

**Modular range**



Fulfills IEC 60947-5-5

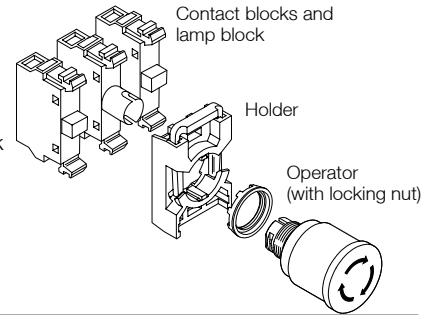
## How to order:

For non-illuminated:

Order: Operator + holder + contact block(s)  
or operator + holder with contact block(s)

For illuminated:

Order: Operator + holder + contact block(s) + lamp block  
or operator + holder with contact blocks and lamp block



## Operator for emergency stop pushbutton

Operator material	Button color	Packing qty: 1 pc		Weight, kg
		Type	Order Code	

### Non-illuminated

Ø 40 mm

Twist release	● Red	<b>MPMT3-10R</b>	1SFA 611 510 R1001	0.041
Pull release	● Red	<b>MPMP3-10R</b>	1SFA 611 511 R1001	0.041

Ø 60 mm

Twist release	● Red	<b>MPMT4-10R</b>	1SFA 611 513 R1001	0.048
Pull release	● Red	<b>MPMP4-10R</b>	1SFA 611 514 R1001	0.048

**Illuminated** Bulb max 2 W, not included.

Ø 40 mm

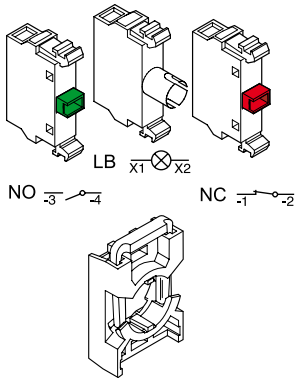
Twist release	● Red	<b>MPMT3-11R</b>	1SFA 611 510 R1101	0.041
Pull release	● Red	<b>MPMP3-11R</b>	1SFA 611 511 R1101	0.041

Ø 60 mm

Twist release	● Red	<b>MPMT4-11R</b>	1SFA 611 513 R1101	0.048
Pull release	● Red	<b>MPMP4-11R</b>	1SFA 611 514 R1101	0.048

## Contact blocks, lamp block and holder

See the fold-out page at the end of the catalog.



## The emergency stop pushbuttons fulfills IEC 60947-5-5

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 operations.	<b>Vibration</b>	2 h at 50 m/s <sup>2</sup>
<b>Robustness</b>	The force 113 N applied in three axes	<b>Opening test</b>	Impulse voltage test at 2 500 V
<b>Conditioning</b>	Heat and cold, moist, dry and salty atmosphere, and in 5 % NaCl	<b>Latching test</b>	with 1.6 kg hammer
<b>Shock</b>	15 g shock	<b>Resetting test</b>	Pulling force < 50 N Turning torque < 1 Nm
		<b>Electrical test</b>	acc. to utilization category AC15 and DC13
		<b>Contacts with direct opening action</b>	acc. to IEC 60947-5-1 Annex K

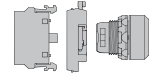
The emergency stop pushbuttons also comply with applicable parts of standards ISO 13850, EN 418 and Directive 2006/42/EC, Machinery Safety.



# Emergency stop pushbuttons

Non-illuminated

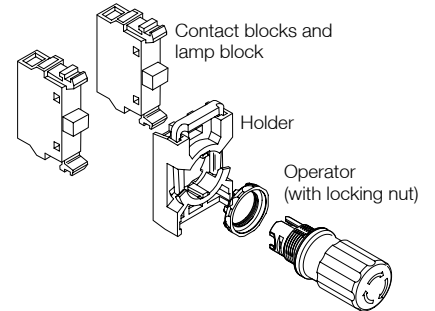
**Modular range**



Fulfills IEC 60947-5-5

## How to order:

Order: Operator + holder + contact block(s)  
or operator + holder with contact block(s)



## Operator for emergency stop pushbutton

Operator material	Button color	Packing qty: 1 pc		Weight, kg
		Type	Order Code	

### Non-illuminated

#### Ø 30 mm

Twist release ● Red

**MPET3-10R** 1SFA 611 520 R1001

0.036

Pull release ● Red

**MPEP3-10R** 1SFA 611 521 R1001

0.036

Key release

**Key code Ronis key code**

71 455 ● Red

**MPEK3-11R** 1SFA 611 522 R1101

0.065

72 421 ● Red

**MPEK3-12R** 1SFA 611 522 R1201

0.065

73 3433-E ● Red

**MPEK3-13R** 1SFA 611 522 R1301

0.065

#### Ø 40 mm

Twist release ● Red

**MPET4-10R** 1SFA 611 523 R1001

0.036

Pull release ● Red

**MPEP4-10R** 1SFA 611 524 R1001

0.036

Key release

**Key code Ronis key code**

71 455 ● Red

**MPEK4-11R** 1SFA 611 525 R1101

0.065

72 421 ● Red

**MPEK4-12R** 1SFA 611 525 R1201

0.065

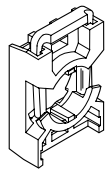
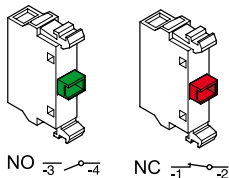
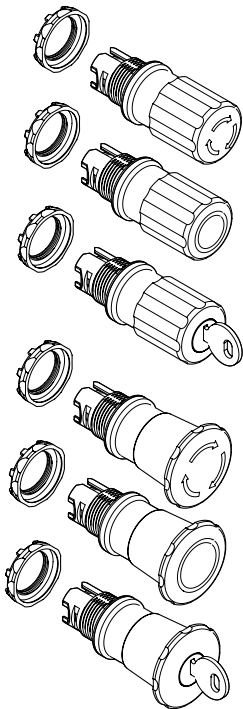
73 3433-E ● Red

**MPEK4-13R** 1SFA 611 525 R1301

0.065

## Contact blocks, lamp block and holder

See the fold-out page at the end of the catalog.





# Two-position selector switches

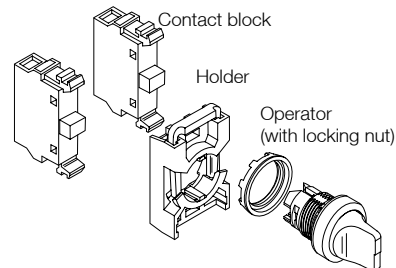
Non-illuminated

Modular range



## How to order:

Order: Operator + holder + contact block(s)  
or operator + holder with contact block(s)



## Bezel options



Description	How to order	Type	Order Code
Black plastic	Standard	M2SSX-10X	1SFA61120X R100X
Chrome <b>plastic</b>	Replace '1' with '2' in Type and Order Code	M2SSX-20X	1SFA61120X R200X
Chrome <b>metal</b>	Replace '1' with '3' in Type and Order Code	M2SSX-30X	1SFA61120X R300X

## Operator for non-illuminated two-position selector switch

Description	Color	Packing qty: 1 pc		Weight, kg
		Type	Order Code	

### Short handle

#### Maintained



- Red
- Black
- Grey

<b>M2SS1-10R</b>	1SFA 611 200 R1001	0.015
<b>M2SS1-10B</b>	1SFA 611 200 R1006	0.015
<b>M2SS1-10U</b>	1SFA 611 200 R1007	0.015

#### Maintained



- Red
- Black
- Grey

<b>M2SS2-10R</b>	1SFA 611 201 R1001	0.015
<b>M2SS2-10B</b>	1SFA 611 201 R1006	0.015
<b>M2SS2-10U</b>	1SFA 611 201 R1007	0.015

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



- Red
- Black
- Grey

<b>M2SS3-10R</b>	1SFA 611 202 R1001	0.015
<b>M2SS3-10B</b>	1SFA 611 202 R1006	0.015
<b>M2SS3-10U</b>	1SFA 611 202 R1007	0.015

### Long handle

#### Maintained



- Red
- Black
- Grey

<b>M2SS4-10R</b>	1SFA 611 203 R1001	0.018
<b>M2SS4-10B</b>	1SFA 611 203 R1006	0.018
<b>M2SS4-10U</b>	1SFA 611 203 R1007	0.018

#### Maintained



- Red
- Black
- Grey

<b>M2SS5-10R</b>	1SFA 611 204 R1001	0.018
<b>M2SS5-10B</b>	1SFA 611 204 R1006	0.018
<b>M2SS5-10U</b>	1SFA 611 204 R1007	0.018

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

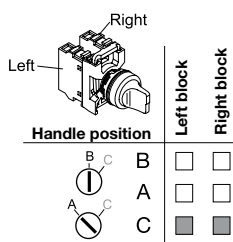


- Red
- Black
- Grey

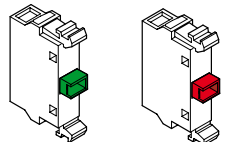
<b>M2SS6-10R</b>	1SFA 611 205 R1001	0.018
<b>M2SS6-10B</b>	1SFA 611 205 R1006	0.018
<b>M2SS6-10U</b>	1SFA 611 205 R1007	0.018

## Contacts actuated

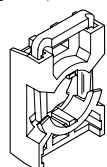
Two position selector switch



- Not actuated
- Actuated



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



## Contact blocks and holder

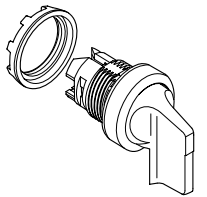
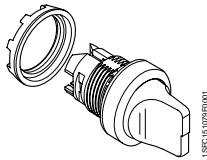
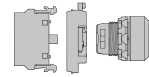
See the fold-out page at the end of the catalog.



# Three-position selector switches

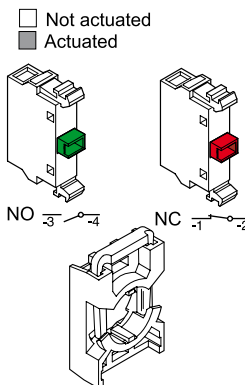
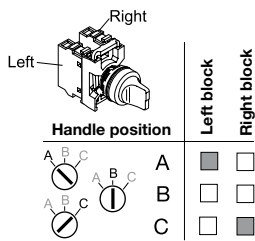
Non-illuminated

**Modular range**



## Contacts actuated

Three position selector switch



## Bezel options

Description	How to order	Type	Order Code
Black plastic	Standard	M3SSX-10X	1SFA61121X R100X
Chrome plastic	Replace '1' with '2' in Type and Order Code	M3SSX-20X	1SFA61121X R200X
Chrome metal	Replace '1' with '3' in Type and Order Code	M3SSX-30X	1SFA61121X R300X

## Operator for non-illuminated three-position selector switch

Description	Color	Packing qty: 1 pc		Weight, kg
		Type	Order Code	

### Operator with black bezel and short handle

#### Maintained



- Red
- Black
- Grey

<b>M3SS1-10R</b>	1SFA 611 210 R1001	0.015
<b>M3SS1-10B</b>	1SFA 611 210 R1006	0.015
<b>M3SS1-10U</b>	1SFA 611 210 R1007	0.015

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



- Red
- Black
- Grey

<b>M3SS2-10R</b>	1SFA 611 211 R1001	0.015
<b>M3SS2-10B</b>	1SFA 611 211 R1006	0.015
<b>M3SS2-10U</b>	1SFA 611 211 R1007	0.015

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



- Red
- Black
- Grey

<b>M3SS3-10R</b>	1SFA 611 212 R1001	0.015
<b>M3SS3-10B</b>	1SFA 611 212 R1006	0.015
<b>M3SS3-10U</b>	1SFA 611 212 R1007	0.015

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



- Red
- Black
- Grey

<b>M3SS7-10R</b>	1SFA 611 216 R1001	0.015
<b>M3SS7-10B</b>	1SFA 611 216 R1006	0.015
<b>M3SS7-10U</b>	1SFA 611 216 R1007	0.015

### Long handle

#### Maintained



- Red
- Black
- Grey

<b>M3SS4-10R</b>	1SFA 611 213 R1001	0.018
<b>M3SS4-10B</b>	1SFA 611 213 R1006	0.018
<b>M3SS4-10U</b>	1SFA 611 213 R1007	0.018

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



- Red
- Black
- Grey

<b>M3SS5-10R</b>	1SFA 611 214 R1001	0.018
<b>M3SS5-10B</b>	1SFA 611 214 R1006	0.018
<b>M3SS5-10U</b>	1SFA 611 214 R1007	0.018

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



- Red
- Black
- Grey

<b>M3SS6-10R</b>	1SFA 611 215 R1001	0.018
<b>M3SS6-10B</b>	1SFA 611 215 R1006	0.018
<b>M3SS6-10U</b>	1SFA 611 215 R1007	0.018

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



- Red
- Black
- Grey

<b>M3SS8-10R</b>	1SFA 611 217 R1001	0.018
<b>M3SS8-10B</b>	1SFA 611 217 R1006	0.018
<b>M3SS8-10U</b>	1SFA 611 217 R1007	0.018

## Contact blocks and holder

See the fold-out page at the end of the catalog.

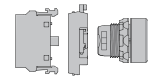




# Three-position selector switches

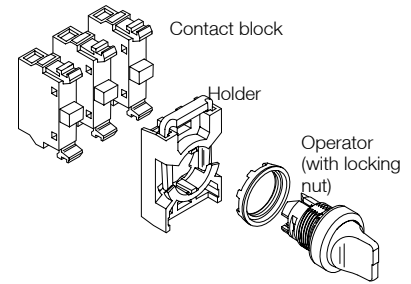
With operation of center position  
Non-illuminated

## Modular range



### How to order:

Order: Operator + holder + contact block(s)  
or operator + holder with contact block(s)



### Bezel options

Description	How to order	Type	Order Code
Black plastic	Standard	M3SSCX-10X	1SFA61125X R100X
Chrome metal	Replace '1' with '3' in Type and Order Code	M3SSCX-30X	1SFA61125X R300X



### Operator for three-position selector switch with operation of center position

Description	Color	Bezel	Packing qty: 1 pc		Weight, kg
			Type	Order Code	

#### Short handle

	● Black	Black plastic	<b>M3SSC1-10B</b>	1SFA 611 250 R1006	0.015
	● Black	Chrome metal	<b>M3SSC1-30B</b>	1SFA 611 250 R3006	0.024
	● Black	Black plastic	<b>M3SSC2-10B</b>	1SFA 611 251 R1006	0.015
	● Black	Chrome metal	<b>M3SSC2-30B</b>	1SFA 611 251 R3006	0.024
	● Black	Black plastic	<b>M3SSC3-10B</b>	1SFA 611 252 R1006	0.015
	● Black	Chrome metal	<b>M3SSC3-30B</b>	1SFA 611 252 R3006	0.024
	● Black	Black plastic	<b>M3SSC7-10B</b>	1SFA 611 256 R1006	0.015
	● Black	Chrome metal	<b>M3SSC7-30B</b>	1SFA 611 256 R3006	0.024

#### Long handle

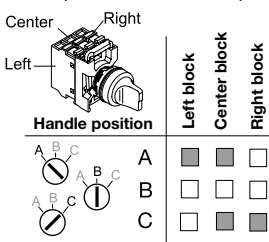
	● Black	Black plastic	<b>M3SSC4-10B</b>	1SFA 611 253 R1006	0.018
	● Black	Chrome metal	<b>M3SSC4-30B</b>	1SFA 611 253 R3006	0.027
	● Black	Black plastic	<b>M3SSC5-10B</b>	1SFA 611 254 R1006	0.018
	● Black	Chrome metal	<b>M3SSC5-30B</b>	1SFA 611 254 R3006	0.027
	● Black	Black plastic	<b>M3SSC6-10B</b>	1SFA 611 255 R1006	0.018
	● Black	Chrome metal	<b>M3SSC6-30B</b>	1SFA 611 255 R3006	0.027
	● Black	Black plastic	<b>M3SSC8-10B</b>	1SFA 611 257 R1006	0.018
	● Black	Chrome metal	<b>M3SSC8-30B</b>	1SFA 611 257 R3006	0.027

### Contact blocks and holder

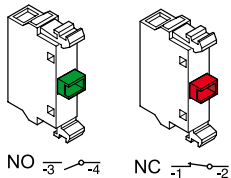
See the fold-out page at the end of the catalog.

### Contacts actuated

Three position selector switch with operation of center position



□ Not actuated  
■ Actuated

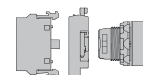




# Two-position selector switches

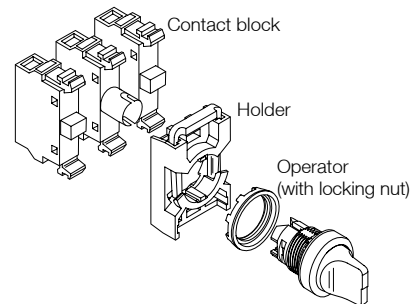
Illuminated

**Modular range**



## How to order:

Order: Operator + holder + contact blocks + lamp block  
or operator + holder with contact blocks and lamp block



## Bezel options



Description	How to order	Type	Order Code
Black plastic	Standard	M2SSX-11X	1SFA61120X R110X
Chrome <b>plastic</b>	Replace '1' with '2' in Type and Order Code	M2SSX-21X	1SFA61120X R210X
Chrome <b>metal</b>	Replace '1' with '3' in Type and Order Code	M2SSX-310X	1SFA61120X R310X

## Operator for illuminated two-position selector switch

Description	Color	Packing qty: 1 pc		Weight, kg
		Type	Order Code	

### Short handle Bulb max 2 W, not included.

#### Maintained



- Red
- Green
- Yellow
- Blue
- Clear

<b>M2SS1-11R</b>	1SFA 611 200 R1101	0.015
<b>M2SS1-11G</b>	1SFA 611 200 R1102	0.015
<b>M2SS1-11Y</b>	1SFA 611 200 R1103	0.015
<b>M2SS1-11L</b>	1SFA 611 200 R1104	0.015
<b>M2SS1-11C</b>	1SFA 611 200 R1108	0.015

#### Maintained



- Red
- Green
- Yellow
- Blue
- Clear

<b>M2SS2-11R</b>	1SFA 611 201 R1101	0.015
<b>M2SS2-11G</b>	1SFA 611 201 R1102	0.015
<b>M2SS2-11Y</b>	1SFA 611 201 R1103	0.015
<b>M2SS2-11L</b>	1SFA 611 201 R1104	0.015
<b>M2SS2-11C</b>	1SFA 611 201 R1108	0.015

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



- Red
- Green
- Yellow
- Blue
- Clear

<b>M2SS3-11R</b>	1SFA 611 202 R1101	0.015
<b>M2SS3-11G</b>	1SFA 611 202 R1102	0.015
<b>M2SS3-11Y</b>	1SFA 611 202 R1103	0.015
<b>M2SS3-11L</b>	1SFA 611 202 R1104	0.015
<b>M2SS3-11C</b>	1SFA 611 202 R1108	0.015

### Long handle Bulb max 2 W, not included.

#### Maintained



- Red
- Green
- Yellow
- Blue
- Clear

<b>M2SS4-11R</b>	1SFA 611 203 R1101	0.018
<b>M2SS4-11G</b>	1SFA 611 203 R1102	0.018
<b>M2SS4-11Y</b>	1SFA 611 203 R1103	0.018
<b>M2SS4-11L</b>	1SFA 611 203 R1104	0.018
<b>M2SS4-11C</b>	1SFA 611 203 R1108	0.018

#### Maintained



- Red
- Green
- Yellow
- Blue
- Clear

<b>M2SS5-11R</b>	1SFA 611 204 R1101	0.018
<b>M2SS5-11G</b>	1SFA 611 204 R1102	0.018
<b>M2SS5-11Y</b>	1SFA 611 204 R1103	0.018
<b>M2SS5-11L</b>	1SFA 611 204 R1104	0.018
<b>M2SS5-11C</b>	1SFA 611 204 R1108	0.018

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



- Red
- Green
- Yellow
- Blue
- Clear

<b>M2SS6-11R</b>	1SFA 611 205 R1101	0.018
<b>M2SS6-11G</b>	1SFA 611 205 R1102	0.018
<b>M2SS6-11Y</b>	1SFA 611 205 R1103	0.018
<b>M2SS6-11L</b>	1SFA 611 205 R1104	0.018
<b>M2SS6-11C</b>	1SFA 611 205 R1108	0.018

## Contact blocks, holder and lamp block

See the fold-out page at the end of the catalog.

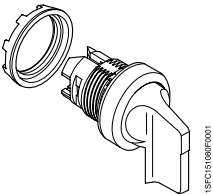
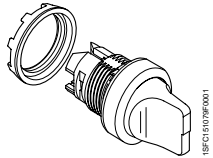
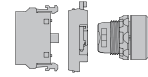
Contact functions See Page 20



# Three-position selector switches

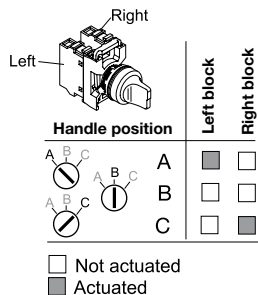
## Illuminated

Modular range



### Contacts actuated

Three position selector switch



### Contact blocks, holder and lamp block

See the fold-out page at the end of the catalog.

Ordering example See Page 23

### Bezel options

Description	How to order	Type	Order Code
Black plastic	Standard	M3SSX-11X	1SFA61121X R110X
Chrome <b>plastic</b>	Replace '1' with '2' in Type and Order Code	M3SSX-21X	1SFA61121X R210X
Chrome <b>metal</b>	Replace '1' with '3' in Type and Order Code	M3SSX-310X	1SFA61121X R310X

### Operator for illuminated three-position selector switch

Description	Color	Packing qty: 1 pc		Weight, kg
		Type	Order Code	

**Short handle** Bulb max 2 W, not included.

#### Maintained

Diagram	Color	Type	Order Code	Weight, kg
	Red	M3SS1-11R	1SFA 611 210 R1101	0.015
	Green	M3SS1-11G	1SFA 611 210 R1102	0.015
	Yellow	M3SS1-11Y	1SFA 611 210 R1103	0.015
	Blue	M3SS1-11L	1SFA 611 210 R1104	0.015
	Clear	M3SS1-11C	1SFA 611 210 R1108	0.015

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

Diagram	Color	Type	Order Code	Weight, kg
	Red	M3SS2-11R	1SFA 611 211 R1101	0.015
	Green	M3SS2-11G	1SFA 611 211 R1102	0.015
	Yellow	M3SS2-11Y	1SFA 611 211 R1103	0.015
	Blue	M3SS2-11L	1SFA 611 211 R1104	0.015
	Clear	M3SS2-11C	1SFA 611 211 R1108	0.015

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

Diagram	Color	Type	Order Code	Weight, kg
	Red	M3SS3-11R	1SFA 611 212 R1101	0.015
	Green	M3SS3-11G	1SFA 611 212 R1102	0.015
	Yellow	M3SS3-11Y	1SFA 611 212 R1103	0.015
	Blue	M3SS3-11L	1SFA 611 212 R1104	0.015
	Clear	M3SS3-11C	1SFA 611 212 R1108	0.015

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

Diagram	Color	Type	Order Code	Weight, kg
	Red	M3SS7-11R	1SFA 611 216 R1101	0.015
	Green	M3SS7-11G	1SFA 611 216 R1102	0.015
	Yellow	M3SS7-11Y	1SFA 611 216 R1103	0.015
	Blue	M3SS7-11L	1SFA 611 216 R1104	0.015
	Clear	M3SS7-11C	1SFA 611 216 R1108	0.015

**Long handle** Bulb max 2 W, not included.

#### Maintained

Diagram	Color	Type	Order Code	Weight, kg
	Red	M3SS4-11R	1SFA 611 213 R1101	0.018
	Green	M3SS4-11G	1SFA 611 213 R1102	0.018
	Yellow	M3SS4-11Y	1SFA 611 213 R1103	0.018
	Blue	M3SS4-11L	1SFA 611 213 R1104	0.018
	Clear	M3SS4-11C	1SFA 611 213 R1108	0.018

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

Diagram	Color	Type	Order Code	Weight, kg
	Red	M3SS5-11R	1SFA 611 214 R1101	0.018
	Green	M3SS5-11G	1SFA 611 214 R1102	0.018
	Yellow	M3SS5-11Y	1SFA 611 214 R1103	0.018
	Blue	M3SS5-11L	1SFA 611 214 R1104	0.018
	Clear	M3SS5-11C	1SFA 611 214 R1108	0.018

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

Diagram	Color	Type	Order Code	Weight, kg
	Red	M3SS6-11R	1SFA 611 215 R1101	0.018
	Green	M3SS6-11G	1SFA 611 215 R1102	0.018
	Yellow	M3SS6-11Y	1SFA 611 215 R1103	0.018
	Blue	M3SS6-11L	1SFA 611 215 R1104	0.018
	Clear	M3SS6-11C	1SFA 611 215 R1108	0.018

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

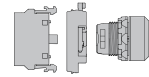
Diagram	Color	Type	Order Code	Weight, kg
	Red	M3SS8-11R	1SFA 611 217 R1101	0.018
	Green	M3SS8-11G	1SFA 611 217 R1102	0.018
	Yellow	M3SS8-11Y	1SFA 611 217 R1103	0.018
	Blue	M3SS8-11L	1SFA 611 217 R1104	0.018
	Clear	M3SS8-11C	1SFA 611 217 R1108	0.018



# Key-operated selector switches

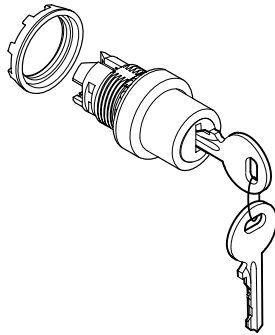
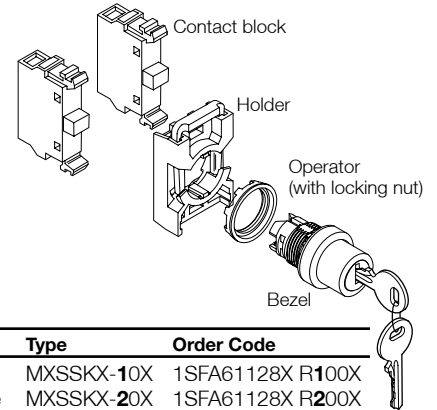
Two and three positions

## Modular range



### How to order:

Order: Operator + holder + contact blocks  
or operator + holder with contact blocks



### Bezel options

Description	How to order	Type	Order Code
Black plastic	Standard	MXSSKX-10X	1SFA61128X R100X
Chrome plastic	Replace '1' with '2' in Type and Order Code	MXSSKX-20X	1SFA61128X R200X
Chrome metal	Replace '1' with '3' in Type and Order Code	MXSSKX-30X	1SFA61128X R300X

### Operator for key-operated selector switch

Symbol	The key can be removed in	Key code		Packing qty: 1 pc		Weight, kg
		(71 = standard)	Ronis	Type	Order Code	

#### Two positions

##### Maintained

	in both positions	71	455	<b>M2SSK1-101</b>	1SFA 611 280 R1001	0.045
		72	421	<b>M2SSK1-102</b>	1SFA 611 280 R1002	0.045
		73	3433-E	<b>M2SSK1-103</b>	1SFA 611 280 R1003	0.045
		Other (on request)		<b>M2SSK1-104</b>	1SFA 611 280 R1004	0.045

##### Maintained

	in position B only	71	455	<b>M2SSK2-101</b>	1SFA 611 281 R1001	0.045
		72	421	<b>M2SSK2-102</b>	1SFA 611 281 R1002	0.045
		73	3433-E	<b>M2SSK2-103</b>	1SFA 611 281 R1003	0.045
		Other (on request)		<b>M2SSK2-104</b>	1SFA 611 281 R1004	0.045

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

	in position B only	71	455	<b>M2SSK3-101</b>	1SFA 611 282 R1001	0.045
		72	421	<b>M2SSK3-102</b>	1SFA 611 282 R1002	0.045
		73	3433-E	<b>M2SSK3-103</b>	1SFA 611 282 R1003	0.045
		Other (on request)		<b>M2SSK3-104</b>	1SFA 611 282 R1004	0.045

#### Three positions

##### Maintained

	in all positions	71	455	<b>M3SSK1-101</b>	1SFA 611 283 R1001	0.045
		72	421	<b>M3SSK1-102</b>	1SFA 611 283 R1002	0.045
		73	3433-E	<b>M3SSK1-103</b>	1SFA 611 283 R1003	0.045
		Other (on request)		<b>M3SSK1-104</b>	1SFA 611 283 R1004	0.045

##### Maintained

	in position B only	71	455	<b>M3SSK2-101</b>	1SFA 611 284 R1001	0.045
		72	421	<b>M3SSK2-102</b>	1SFA 611 284 R1002	0.045
		73	3433-E	<b>M3SSK2-103</b>	1SFA 611 284 R1003	0.045
		Other (on request)		<b>M3SSK2-104</b>	1SFA 611 284 R1004	0.045

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

	in position B only	71	455	<b>M3SSK3-101</b>	1SFA 611 285 R1001	0.045
		72	421	<b>M3SSK3-102</b>	1SFA 611 285 R1002	0.045
		73	3433-E	<b>M3SSK3-103</b>	1SFA 611 285 R1003	0.045
		Other (on request)		<b>M3SSK3-104</b>	1SFA 611 285 R1004	0.045

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

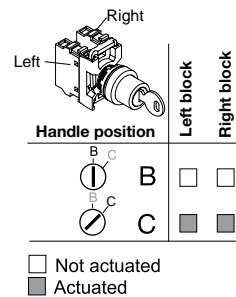
	in position A only	71	455	<b>M3SSK4-101</b>	1SFA 611 286 R1001	0.045
		72	421	<b>M3SSK4-102</b>	1SFA 611 286 R1002	0.045

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

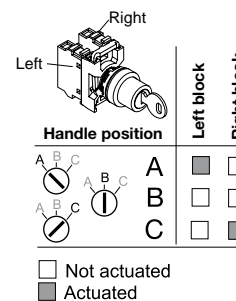
	in all positions	71	455	<b>M3SSK5-101</b>	1SFA 611 287 R1001	0.045
		72	421	<b>M3SSK5-102</b>	1SFA 611 287 R1002	0.045
		73	3433-E	<b>M3SSK5-103</b>	1SFA 611 287 R1003	0.045
		Other (on request)		<b>M3SSK5-104</b>	1SFA 611 287 R1004	0.045

### Contacts actuated

Two position key-operated selector switch



Three position key-operated selector switch



### Contact blocks, holder and lamp block

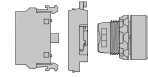
See the fold-out page at the end of the catalog.



# Toggle switches

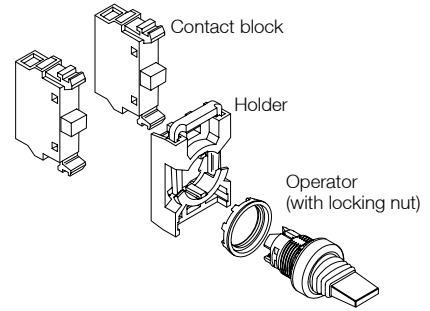
## Two and three positions

### Modular range



#### How to order:

Order: Operator + holder + contact blocks  
or operator + holder with contact blocks



#### Operator for toggle switch

Symbol	Bezel	Packing qty: 1 pc		Weight, kg
		Type	Order Code	

#### Two positions

##### Maintained

K <sup>A</sup> C	Black plastic	<b>MTS1-10B</b>	1SFA 611 300 R 1006	0.021
	Chrome plastic	<b>MTS1-20B</b>	1SFA 611 300 R 2006	0.021
	Chrome metal	<b>MTS1-30B</b>	1SFA 611 300 R 3006	0.021

#### Three positions

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

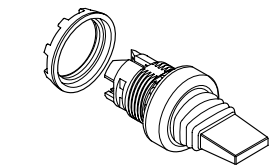
K <sup>A</sup> B C	Black plastic	<b>MTS2-10B</b>	1SFA 611 301 R1006	0.021
	Chrome plastic	<b>MTS2-20B</b>	1SFA 611 301 R 2006	0.021
	Chrome metal	<b>MTS2-30B</b>	1SFA 611 301 R 3006	0.021

##### Maintained

K <sup>A</sup> B C	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
	Chrome metal	<b>MTS3-30B</b>	1SFA 611 302 R 3006	0.021

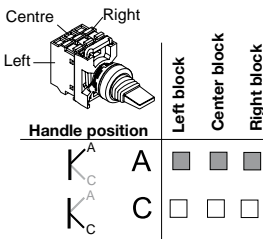
#### Contact blocks and holder

See the fold-out page at the end of the catalog.



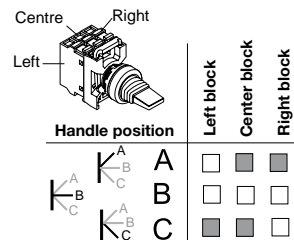
#### Contact block functions

##### Two position toggle switch

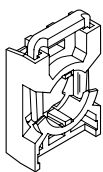
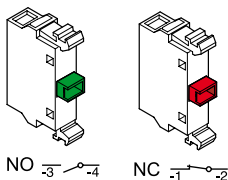


Not actuated  
 Actuated

##### Three position toggle switch

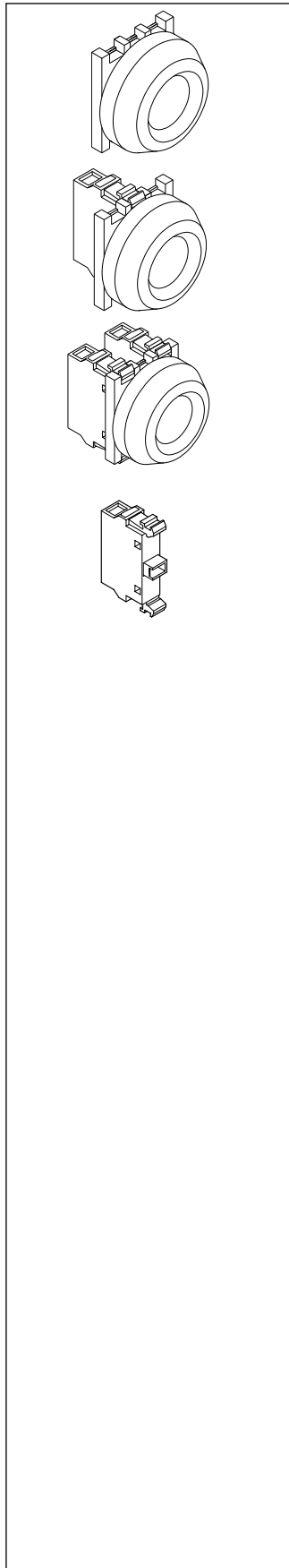


Not actuated  
 Actuated





# Definite purpose pushbutton, 30 mm



## Definite purpose pushbutton

The definite purpose pushbutton, for 30 mm hole, 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	Packing qty: 1 pc		Weight, kg
		Type	Order Code	
-	● 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>KP6-40B-11</b>	1SFA 616 105 R4076	0.048
1 NO	● Black	<b>KP6-40B-10</b>	1SFA 616 105 R4016	0.035
1 NC	● Black	<b>KP6-40B-01</b>	1SFA 616 105 R4046	0.035
2 NO	● Black	<b>KP6-40B-20</b>	1SFA 616 105 R4026	0.048
2 NC	● Black	<b>KP6-40B-02</b>	1SFA 616 105 R4056	0.048

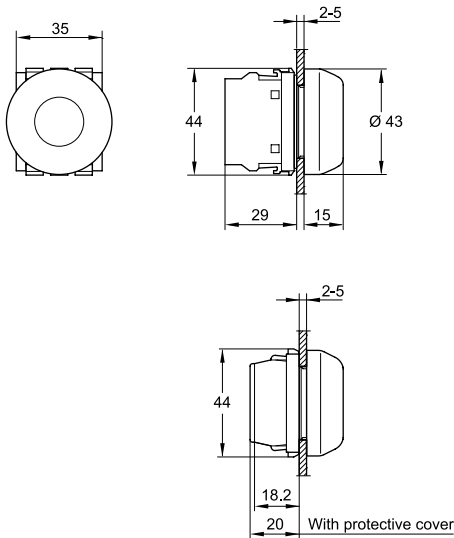
## Contact block

Blocks	Packing qty: 10 pcs		Weight, kg
	Type	Order Code	
1 NO	<b>MCB-10</b>	1SFA 611 610 R1001	0.013
1 NC	<b>MCB-01</b>	1SFA 611 610 R1010	0.013

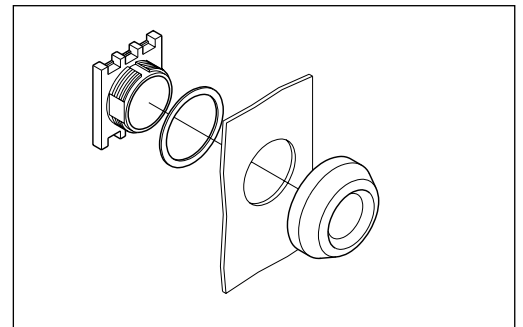
## Technical data

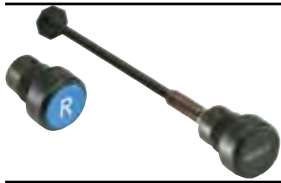
Degree of protection	IP66
	UL Type 1, 3R, 4, 4X
Ambient temperature	-30° ...+70°

## Dimensions

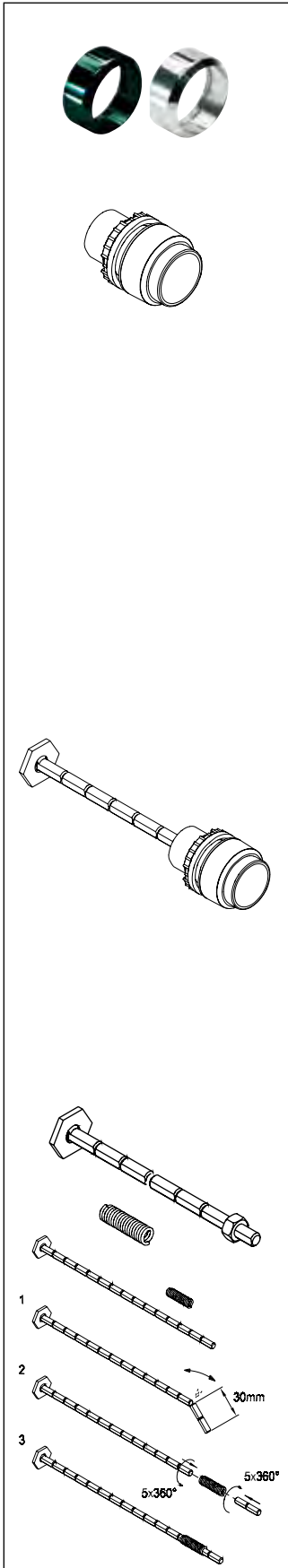


## Mounting





# Reset pushbuttons



## Bezel options

Description	How to order	Type	Order Code
Black plastic	Standard	KPRX-10XX	1SFA616 16X R100X
Chrome metal	Replace '1' with '3' in Type and Order Code	KPRX-30XX	1SFA616 16X R300X

## Reset pushbutton without shaft

Lens Colour	Text	Packing qty: 10 pcs		Weight, kg
		Type	Order Code	
<b>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>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	Packing qty: 1 pc		Weight, kg
		Type	Order Code	
<b>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>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

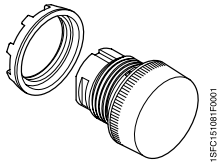
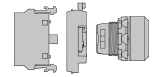
In application with a long shaft, a flexible joint can be used to avoid damages caused by incautious handling of the shaft.

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

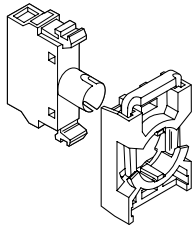


# Pilot lights

## Modular range



1SFC151081F0001



**Pilot light head** Bulb not included. Bulbs and lampblocks or lampblocks with LED – See Accessories

Lens color	Packing qty: 1 pc		Weight, kg
	Type	Order Code	
● 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

Supply voltage	Packing qty: 1pc		Weight, kg
	Type	Order Code	

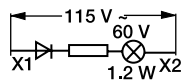
**Lamp blocks with holder** Bulb not included See Accessories

**For max. 2 W, 230 V AC and DC filament bulb or LED**

230 V, 2 W  
 $X1 \otimes X2$

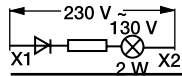
115 V AC supply voltage.

**For 60 V filament bulb max. 1.2 W**



230 V AC supply voltage.

**For 130 V filament bulb max. 2 W**



<b>MCBH-001</b>	1SFA 611 605 R1200	0.021
<b>MCBH-002</b>	1SFA 611 605 R1300	0.023
<b>MCBH-003</b>	1SFA 611 605 R1400	0.026

For integrated LED lamp blocks see page 32-33.

Description	Packing qty: 10 pcs		Weight, kg
	Type	Order Code	
<b>Light diffusing lens</b> To improve illumination. Can not be used together with text cap.	<b>KA1-8005</b>	1SFA 616 920 R8005	0.001

### Marking

See page 6 for more information.

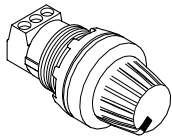
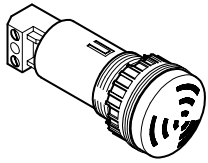
There is also possibility to order customer specific marked operators online.





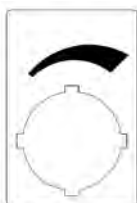


# Buzzers and Potentiometers

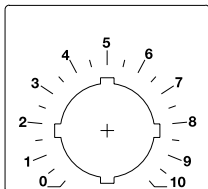


## Resistor data

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



29.6 x 44.5 mm



48.5 x 44.5 mm

Supply voltage	Tone type	Packing qty: 10 pcs		Weight, kg
		Type	Order Code	

## Buzzers

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

12 V AC/DC	Continuous	<b>KB1-4000</b>	1SFA 616 401 R4000	0.020
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
12 V AC/DC	Pulsating	<b>KB1-4100</b>	1SFA 616 401 R4100	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

Description	Packing qty: 1 pc		Weight, kg
	Type	Order Code	

## Complete potentiometers

Black knob with integrated position indication and marking in white

### With resistor 5 kohm

Black plastic	Bezel	<b>MT-105B</b>	1SFA 611 410 R1056	0.040
Chrome plastic	Bezel	<b>MT-205B</b>	1SFA 611 410 R2056	0.040
Chrome metal	Bezel	<b>MT-305B</b>	1SFA 611 410 R3056	0.048

### With resistor 10 kohm

Black plastic	Bezel	<b>MT-110B</b>	1SFA 611 410 R1106	0.040
Chrome plastic	Bezel	<b>MT-210B</b>	1SFA 611 410 R2106	0.040
Chrome metal	Bezel	<b>MT-310B</b>	1SFA 611 410 R3106	0.048

Description	Packing qty: 10 pcs		Weight, kg
	Type	Order Code	

## 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.

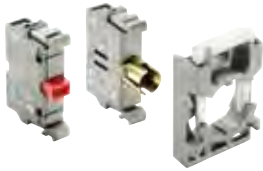
Black plastic		<b>KT-1B</b>	1SFA 616 410 R1006	0.034
Chrome plastic		<b>KT-2B</b>	1SFA 616 410 R2006	0.034
Chrome metal		<b>KT-3B</b>	1SFA 616 410 R3006	0.042

Description	Packing qty: 10 pcs		Weight, kg
	Type	Order Code	

## Legend plates

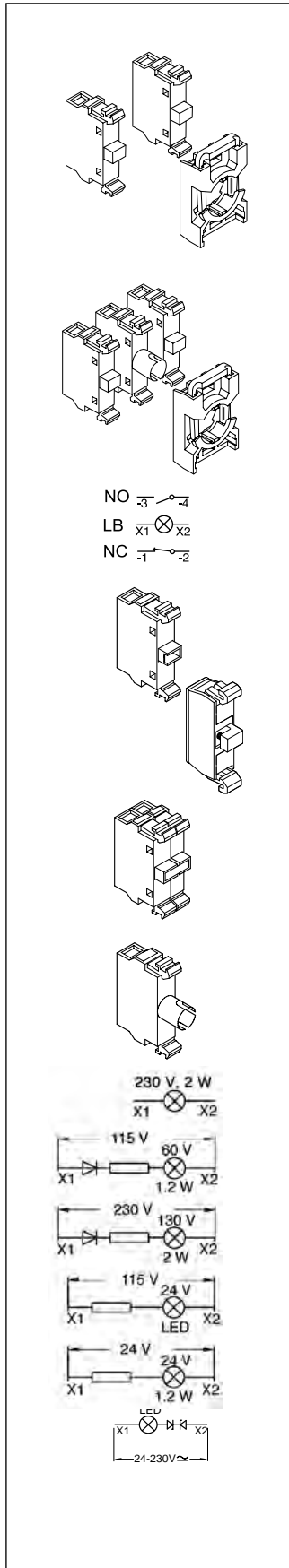
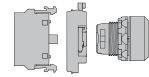
Aluminium.

Symbol - see figure	-	<b>SK 615 562-87</b>	0.002
Scale: 0 - 10 (Not to be used for plastic enclosures)	-	<b>SK 615 562-88</b>	0.002



# Accessories (For front mounting)

## Modular range



Included blocks	Packing qty: 1 pc		Weight, kg
	Type	Order Code	

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

Max 3 blocks in the holder

#### For non-illuminated operators

1 NC	<b>MCBH-01</b>	1SFA 611 605 R1110	0.019
1 NO	<b>MCBH-10</b>	1SFA 611 605 R1101	0.019
2 NC	<b>MCBH-02</b>	1SFA 611 605 R1120	0.032
2 NO	<b>MCBH-20</b>	1SFA 611 605 R1102	0.032
3 NC	<b>MCBH-03</b>	1SFA 611 605 R1130	0.045
3 NO	<b>MCBH-30</b>	1SFA 611 605 R1103	0.045
1 NO + 1 NC	<b>MCBH-11</b>	1SFA 611 605 R1111	0.032
1 NO + 2 NC	<b>MCBH-12</b>	1SFA 611 605 R1121	0.045
2 NO + 1 NC	<b>MCBH-21</b>	1SFA 611 605 R1112	0.045

#### For illuminated operators

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

Included blocks	Packing qty: 10 pcs		Weight, kg
	Type	Order Code	

### Single contact blocks for front mounting

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

### Micro switch blocks

1 NO	<b>MCBL-10</b>	1SFA 611 612R1010	0.010
1 NC	<b>MCBL-01</b>	1SFA 611 612R1001	0.010

### 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

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

Included blocks	Packing qty: 10 pcs		Weight, kg
	Type	Order Code	

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

For max. 2 W, 230 V AC and DC filament bulb or LED

115 V AC supply voltage.  
For 60 V filament bulb 1.2 W

<b>MLB-1</b>	1SFA 611 620 R1001	0.015
--------------	--------------------	-------

230 V AC supply voltage.  
For 130 V filament bulb 2 W

<b>MLB-2</b>	1SFA 611 620 R1002	0.017
--------------	--------------------	-------

115 V AC and DC supply voltage  
For 24 V LED only

<b>MLB-3</b>	1SFA 611 620 R1003	0.020
--------------	--------------------	-------

24 V AC and DC supply voltage.  
Intended for 24 V filament bulbs with extra feature to prevent current peaks

<b>MLB-4</b>	1SFA 611 620 R1004	0.017
--------------	--------------------	-------

LED lamp block designed to prevent glowing from leakage current.

<b>MLB-5</b>	1SFA 611 620 R1005	0.017
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<b>MLB-8</b>	1SFA 611 620 R1008	0.015
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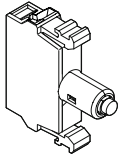
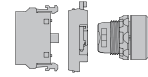
**Contact blocks and lamp blocks for rear mounting** See Page 58.



# Accessories (For front mounting)

## Lamp block with LED

Modular range



Description/Color				Packing qty: 10 pcs		Weight, kg
				Type	Order Code	
<b>Lamp block with LED</b> For front mounting Designed to prevent glowing from leakage current.						
Color	Rated current mA	Wave-length nm	Lumi-nance mcd			
<b>Rated voltage 12 V, DC</b>						
● Red	12.0	620	320	<b>MLBL-00R</b>	1SFA 611 621 R1001	0.012
● Green	9.3	520	1500	<b>MLBL-00G</b>	1SFA 611 621 R1002	0.012
● Yellow	12.0	588	380	<b>MLBL-00Y</b>	1SFA 611 621 R1003	0.012
● Blue	9.5	468	450	<b>MLBL-00L</b>	1SFA 611 621 R1004	0.012
○ White	9.3	<sup>1)</sup> 600	600	<b>MLBL-00W</b>	1SFA 611 621 R1005	0.012
<b>Rated voltage 24 V, AC/DC</b>						
● Red	9.9	620	250	<b>MLBL-01R</b>	1SFA 611 621 R1011	0.012
● Green	9.2	520	1500	<b>MLBL-01G</b>	1SFA 611 621 R1012	0.012
● Yellow	9.9	588	250	<b>MLBL-01Y</b>	1SFA 611 621 R1013	0.012
● Blue	9.3	468	450	<b>MLBL-01L</b>	1SFA 611 621 R1014	0.012
○ White	9.2	<sup>1)</sup> 600	600	<b>MLBL-01W</b>	1SFA 611 621 R1015	0.012
<b>Rated voltage 48 V, AC/DC</b>						
● Red	10.0	620	260	<b>MLBL-02R</b>	1SFA 611 621 R1021	0.012
● Green	9.7	520	1500	<b>MLBL-02G</b>	1SFA 611 621 R1022	0.012
● Yellow	10.0	588	300	<b>MLBL-02Y</b>	1SFA 611 621 R1023	0.012
● Blue	9.7	468	450	<b>MLBL-02L</b>	1SFA 611 621 R1024	0.012
○ White	9.7	<sup>1)</sup> 600	600	<b>MLBL-02W</b>	1SFA 611 621 R1025	0.012
<b>Rated voltage 60 V, AC/DC</b>						
● Red	13.0	620	350	<b>MLBL-03R</b>	1SFA 611 621 R1031	0.012
● Green	12.7	520	2000	<b>MLBL-03G</b>	1SFA 611 621 R1032	0.012
● Yellow	13.0	588	400	<b>MLBL-03Y</b>	1SFA 611 621 R1033	0.012
● Blue	12.7	468	550	<b>MLBL-03L</b>	1SFA 611 621 R1034	0.012
○ White	12.7	<sup>1)</sup> 750	750	<b>MLBL-03W</b>	1SFA 611 621 R1035	0.012
<b>Rated voltage 110-130 V, AC</b>						
● Red	8.6	620	200	<b>MLBL-04R</b>	1SFA 611 621 R1041	0.012
● Green	8.5	520	1200	<b>MLBL-04G</b>	1SFA 611 621 R1042	0.012
● Yellow	8.6	588	250	<b>MLBL-04Y</b>	1SFA 611 621 R1043	0.012
● Blue	7.0	468	400	<b>MLBL-04L</b>	1SFA 611 621 R1044	0.012
○ White	7.0	<sup>1)</sup> 500	500	<b>MLBL-04W</b>	1SFA 611 621 R1045	0.012
<b>Rated voltage 110-130 V, DC</b>						
● Red	9.9	620	250	<b>MLBL-05R</b>	1SFA 611 621 R1051	0.012
● Green	9.8	520	1500	<b>MLBL-05G</b>	1SFA 611 621 R1052	0.012
● Yellow	9.9	588	300	<b>MLBL-05Y</b>	1SFA 611 621 R1053	0.012
● Blue	9.8	468	450	<b>MLBL-05L</b>	1SFA 611 621 R1054	0.012
○ White	9.8	<sup>1)</sup> 600	600	<b>MLBL-05W</b>	1SFA 611 621 R1055	0.012
<b>Rated voltage 220 V, DC</b>						
● Red	8.0	620	180	<b>MLBL-06R</b>	1SFA 611 621 R1061	0.012
● Green	8.0	520	1100	<b>MLBL-06G</b>	1SFA 611 621 R1062	0.012
● Yellow	8.0	588	200	<b>MLBL-06Y</b>	1SFA 611 621 R1063	0.012
● Blue	8.0	468	450	<b>MLBL-06L</b>	1SFA 611 621 R1064	0.012
○ White	8.0	<sup>1)</sup> 600	600	<b>MLBL-06W</b>	1SFA 611 621 R1065	0.012
<b>Rated voltage 230 V, AC</b>						
● Red	9.5	620	250	<b>MLBL-07R</b>	1SFA 611 621 R1071	0.012
● Green	9.4	520	1500	<b>MLBL-07G</b>	1SFA 611 621 R1072	0.012
● Yellow	9.5	588	300	<b>MLBL-07Y</b>	1SFA 611 621 R1073	0.012
● Blue	8.2	468	450	<b>MLBL-07L</b>	1SFA 611 621 R1074	0.012
○ White	8,2	<sup>1)</sup> 600	600	<b>MLBL-07W</b>	1SFA 611 621 R1075	0.012
<b>Rated voltage 380 V, AC</b>						
● Red	10.2	620	250	<b>MLBL-08R</b>	1SFA 611 621 R1081	0.012
● Green	10.2	520	1500	<b>MLBL-08G</b>	1SFA 611 621 R1082	0.012
● Yellow	10.2	582	300	<b>MLBL-08Y</b>	1SFA 611 621 R1083	0.012
● Blue	9.1	468	450	<b>MLBL-08L</b>	1SFA 611 621 R1084	0.012
○ White	9.1	<sup>1)</sup> 600	600	<b>MLBL-08W</b>	1SFA 611 621 R1085	0.012
<b>Rated voltage 415 V, AC</b>						
● Red	11.2	620	280	<b>MLBL-09R</b>	1SFA 611 621 R1091	0.012
● Green	11.2	520	1800	<b>MLBL-09G</b>	1SFA 611 621 R1092	0.012
● Yellow	11.2	588	350	<b>MLBL-09Y</b>	1SFA 611 621 R1093	0.012
● Blue	9.9	468	500	<b>MLBL-09L</b>	1SFA 611 621 R1094	0.012
○ White	9.9	<sup>1)</sup> 650	650	<b>MLBL-09W</b>	1SFA 611 621 R1095	0.012

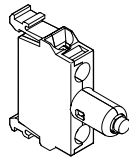
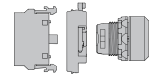
<sup>1)</sup> X=0.28, Y=0.29



# Accessories (For rear mounting)

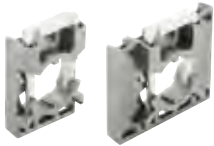
## Lamp block with LED

### Modular range



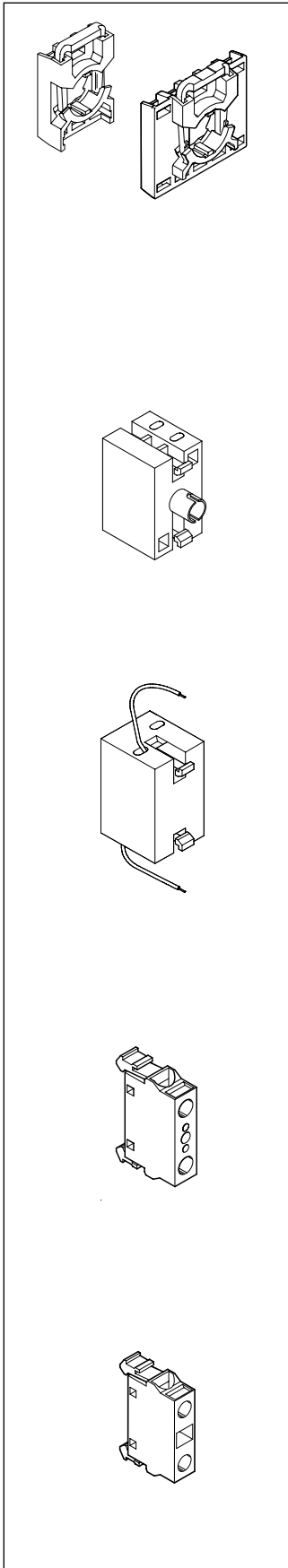
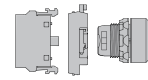
Description/Color		Packing qty: 10 pcs		Weight, kg	
		Type	Order Code		
<b>Lamp block with LED</b> For rear mounting Designed to prevent glowing from leakage current.					
Color	Rated current mA	Wave-length nm	Lumi-nance mcd		
<b>Rated voltage 12 V, DC,</b>					
● Red	12.0	620	320	<b>MLBL-00BR</b>	1SFA 611 621 R2001 0.012
● Green	9.3	520	1500	<b>MLBL-00BG</b>	1SFA 611 621 R2002 0.012
● Yellow	12.0	588	380	<b>MLBL-00BY</b>	1SFA 611 621 R2003 0.012
● Blue	9.5	468	450	<b>MLBL-00BL</b>	1SFA 611 621 R2004 0.012
○ White	9.3	1) <sup>1)</sup>	600	<b>MLBL-00BW</b>	1SFA 611 621 R2005 0.012
<b>Rated voltage 24 V, AC/DC</b>					
● Red	9.9	620	250	<b>MLBL-01BR</b>	1SFA 611 621 R2011 0.012
● Green	9.2	520	1500	<b>MLBL-01BG</b>	1SFA 611 621 R2012 0.012
● Yellow	9.9	588	250	<b>MLBL-01BY</b>	1SFA 611 621 R2013 0.012
● Blue	9.3	468	450	<b>MLBL-01BL</b>	1SFA 611 621 R2014 0.012
○ White	9.2	1) <sup>1)</sup>	600	<b>MLBL-01BW</b>	1SFA 611 621 R2015 0.012
<b>Rated voltage 48 V, AC/DC</b>					
● Red	10.0	620	260	<b>MLBL-02BR</b>	1SFA 611 621 R2021 0.012
● Green	9.7	520	1500	<b>MLBL-02BG</b>	1SFA 611 621 R2022 0.012
● Yellow	10.0	588	300	<b>MLBL-02BY</b>	1SFA 611 621 R2023 0.012
● Blue	9.7	468	450	<b>MLBL-02BL</b>	1SFA 611 621 R2024 0.012
○ White	9.7	1) <sup>1)</sup>	600	<b>MLBL-02BW</b>	1SFA 611 621 R2025 0.012
<b>Rated voltage 60 V, AC/DC</b>					
● Red	13.0	620	350	<b>MLBL-03BR</b>	1SFA 611 621 R2031 0.012
● Green	12.7	520	2000	<b>MLBL-03BG</b>	1SFA 611 621 R2032 0.012
● Yellow	13.0	588	400	<b>MLBL-03BY</b>	1SFA 611 621 R2033 0.012
● Blue	12.7	468	550	<b>MLBL-03BL</b>	1SFA 611 621 R2034 0.012
○ White	12.7	1) <sup>1)</sup>	750	<b>MLBL-03BW</b>	1SFA 611 621 R2035 0.012
<b>Rated voltage 110-130 V, AC</b>					
● Red	8.6	620	200	<b>MLBL-04BR</b>	1SFA 611 621 R2041 0.012
● Green	8.5	520	1200	<b>MLBL-04BG</b>	1SFA 611 621 R2042 0.012
● Yellow	8.6	588	250	<b>MLBL-04BY</b>	1SFA 611 621 R2043 0.012
● Blue	7.0	468	400	<b>MLBL-04BL</b>	1SFA 611 621 R2044 0.012
○ White	7.0	1) <sup>1)</sup>	500	<b>MLBL-04BW</b>	1SFA 611 621 R2045 0.012
<b>Rated voltage 110-130 V, DC</b>					
● Red	9.9	620	250	<b>MLBL-05BR</b>	1SFA 611 621 R2051 0.012
● Green	9.8	520	1500	<b>MLBL-05BG</b>	1SFA 611 621 R2052 0.012
● Yellow	9.9	588	300	<b>MLBL-05BY</b>	1SFA 611 621 R2053 0.012
● Blue	9.8	468	450	<b>MLBL-05BL</b>	1SFA 611 621 R2054 0.012
○ White	9.8	1) <sup>1)</sup>	600	<b>MLBL-05BW</b>	1SFA 611 621 R2055 0.012
<b>Rated voltage 220 V, DC</b>					
● Red	8.0	620	180	<b>MLBL-06BR</b>	1SFA 611 621 R2061 0.012
● Green	8.0	520	1100	<b>MLBL-06BG</b>	1SFA 611 621 R2062 0.012
● Yellow	8.0	588	200	<b>MLBL-06BY</b>	1SFA 611 621 R2063 0.012
● Blue	8.0	468	450	<b>MLBL-06BL</b>	1SFA 611 621 R2064 0.012
○ White	8.0	1) <sup>1)</sup>	600	<b>MLBL-06BW</b>	1SFA 611 621 R2065 0.012
<b>Rated voltage 230 V, AC</b>					
● Red	9.5	620	250	<b>MLBL-07BR</b>	1SFA 611 621 R2071 0.012
● Green	9.4	520	1500	<b>MLBL-07BG</b>	1SFA 611 621 R2072 0.012
● Yellow	9.5	588	300	<b>MLBL-07BY</b>	1SFA 611 621 R2073 0.012
● Blue	8.2	468	450	<b>MLBL-07BL</b>	1SFA 611 621 R2074 0.012
○ White	8.2	1) <sup>1)</sup>	600	<b>MLBL-07BW</b>	1SFA 611 621 R2075 0.012
<b>Rated voltage 380 V, AC</b>					
● Red	10.2	620	250	<b>MLBL-08BR</b>	1SFA 611 621 R2081 0.012
● Green	10.2	520	1500	<b>MLBL-08BG</b>	1SFA 611 621 R2082 0.012
● Yellow	10.2	582	300	<b>MLBL-08BY</b>	1SFA 611 621 R2083 0.012
● Blue	9.1	468	450	<b>MLBL-08BL</b>	1SFA 611 621 R2084 0.012
○ White	9.1	1) <sup>1)</sup>	600	<b>MLBL-08BW</b>	1SFA 611 621 R2085 0.012
<b>Rated voltage 415 V, AC</b>					
● Red	11.2	620	280	<b>MLBL-09BR</b>	1SFA 611 621 R2091 0.012
● Green	11.2	520	1800	<b>MLBL-09BG</b>	1SFA 611 621 R2092 0.012
● Yellow	11.2	588	350	<b>MLBL-09BY</b>	1SFA 611 621 R2093 0.012
● Blue	9.9	468	500	<b>MLBL-09BL</b>	1SFA 611 621 R2094 0.012
○ White	9.9	1) <sup>1)</sup>	650	<b>MLBL-09BW</b>	1SFA 611 621 R2095 0.012

<sup>1)</sup> X=0.28, Y=0.29



# Accessories

# Modular range



Description	Packing qty: 10 pcs		Weight, kg
	Type	Order Code	
<b>Holders</b>			
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

Note: Double contact blocks required in outer positions

Primary voltage	Secondary voltage	Packing qty: 1 pc		Weight kg
		Type	Order Code	

### Transformer block

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

#### 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** To be used with lamp block MLB-1 (1SFA611 620 R1001) and 1.2 W filament bulb 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

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

Description	Packing qty: 10 pcs		Weight kg
	Type	Order Code	

### Diode block

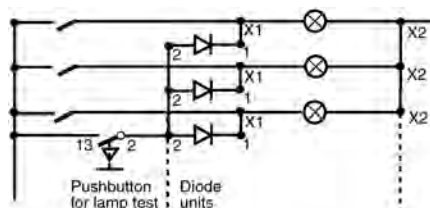
To be used if several lamps are to be connected to a common lamp-test pushbutton.

A diode must be connected in series with each lamp. The diode block snaps onto the lamp block or is placed at the side.

**MDB-1001** 1SFA 611 630 R1001

0.01

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



### Dummy block

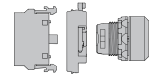
**MDB-2** 1SFA 611 630 R1002

0.01



# Accessories

# Modular range

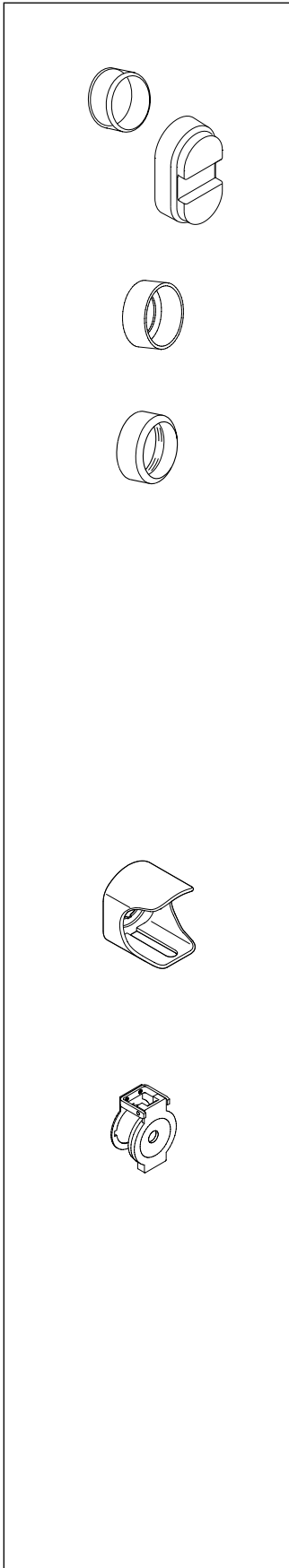
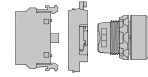


Description	Packing qty:		Weight, kg
	Type	Order Code	
<b>DIN-rail adaptor</b>			
DIN-rail adaptor	<b>MA1-8131</b>	1SFA 611 920 R8131	0.020
DIN-rail adaptor kit when only one contact block or lamp block is required	<b>MA1-8001</b>	1SFA 611 920 R8001	0.028
<b>30 mm adaptors</b>			
For use when fitting the 22 mm pilot devices in 30 mm mounting holes. (1.5 – 4 mm panels)			
For emergency stop pushbuttons:			
Black plastic	<b>KA1-8027</b>	1SFA 616 920 R8027	0.007
Metal	<b>KA1-8028</b>	1SFA 616 920 R8028	0.021
For pushbuttons, selector switches, pilot lights, potentiometers and buzzers:			
Black plastic	<b>KA1-8029</b>	1SFA 616 920 R8029	0.010
Metal	<b>KA1-8030</b>	1SFA 616 920 R8030	0.035
<b>Adaptors for flush mounted pilot devices</b>			
For pushbuttons	<b>KA1-8073</b>	1SFA 616 920 R8073	0.050
For selector switches	<b>MA1-8074</b>	1SFA 611 920 R8074	
<b>Lamp changing tool</b>			
For LEDs and for bulbs	<b>KA1-8072</b>	1SFA 616 920 R8072	0.002
<b>Mounting tool</b>			
Grey. Used for tightening the locking nut	<b>MA1-8015</b>	1SFA 611 920 R8015	0.021
<b>Extra key</b>			
Ronis 455 (key code 71)		<b>SK 616 021-71</b>	0.007
Ronis 421 (key code 72)		<b>SK 616 021-72</b>	0.007
Ronis 3433-E (key code 73)		<b>SK 616 021-73</b>	0.007
<b>Description</b>	<b>Packing qty: 10 pcs</b>		<b>Weight, kg</b>
	Type	Order Code	
<b>Locking nut</b>	<b>MA1-8019</b>	1SFA 611 920 R8019	0.001
<b>Blanking plug</b>			
Grey	<b>MA1-8129</b>	1SFA 611 920 R8129	0.005
Black	<b>MA1-8130</b>	1SFA 611 920 R8130	0.005
<b>Square bezel</b>			
Black, plastic	-	<b>SK 616 016-2</b>	0.002
Grey, plastic	<b>MA1-8124</b>	1SFA 611 920 R8124	0.002



# Accessories

# Modular range



Description	Packing qty: 10 pcs		Weight, kg
	Type	Order Code	
<b>Membrane of silicon rubber</b>			
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 flush button	<b>KA1-8052</b>	1SFA 616 920 R8052	0.002
For extended button	<b>KA1-8002</b>	1SFA 616 920 R8002	0.002
For double pushbutton	<b>MA1-8126</b>	1SFA 611 920 R8126	0.002
<b>Protective ring</b>			
For flush and extended buttons To prevent accidental operation. Not together with legend plate holder.			
		<b>SK 615 512-1</b>	0.002
<b>Bezel</b>			
<b>For pushbutton</b>			
Grey, plastic	<b>KA1-8079</b>	1SFA 616 920 R8079	0.002
Black, plastic	<b>KA1-8022</b>	1SFA 616 920 R8022	0.002
Chrome metal	<b>KA1-8021</b>	1SFA 616 920 R8021	0.015
<b>For selector switch</b>			
Grey, plastic	<b>KA1-8077</b>	1SFA 616 920 R8077	0.001
Black, plastic	<b>KA1-8080</b>	1SFA 616 920 R8080	0.001
Chrome metal	<b>KA1-8024</b>	1SFA 616 920 R8024	0.010
<b>For reset pushbutton</b>			
Black plastic	<b>KA1-8122</b>	1SFA 616 920 R8122	0.001
Chrome metal	<b>KA1-8123</b>	1SFA 616 920 R8123	0.010

Description	Packing qty: 1 pc		Weight, kg
	Type	Order Code	
<b>Emergency stop shroud</b>			
For 40 mm Emergency Stop Pushbuttons and Machine Stop Pushbuttons. To prevent accidental operation. With anti rotation tabs and a slot for pad-lock and with water drainage.			
● Yellow	<b>MA1-8053</b>	1SFA 611 920 R8053	0.020
● Grey	<b>MA1-8128</b>	1SFA 611 920 R8128	0.020
<b>Protective cover</b>			
For flush button. To prevent accidental operation. Not together with legend plate holder.			
	<b>KA1-8010</b>	1SFA 616 920 R8010	0.008



# Accessories

## LEDs



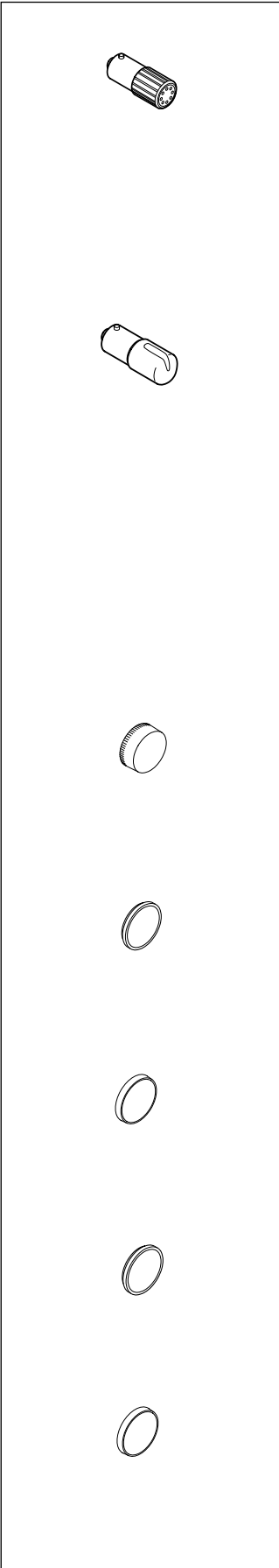
Description	Packing qty: 20 pcs		Weight, kg
	Type	Order Code	
<b>LEDs</b>			
With one diode chip mounted on a BA 9s base. Choose the same color for the LED and the lamp cap or else use a clear lamp cap. For white light use white LED with clear lamp cap. At DC the lamp base have to be connected to cathode (-/x2) and the bottom contact to anode (+/x1).			
<b>Color</b>	<b>Wavelength nm</b>	<b>Luminance mcd</b>	
<b>Rated voltage 12 V, DC, Rated current 15 mA, Service life &gt;50 000 h</b>			
● Red	630	250	KA2-2011 1SFA 616 921 R2011 0.005
● Green	525	1000	KA2-2012 1SFA 616 921 R2012 0.005
● Yellow	592	250	KA2-2013 1SFA 616 921 R2013 0.005
● Blue	470	450	KA2-2014 1SFA 616 921 R2014 0.005
○ White <sup>1)</sup>	600		KA2-2015 1SFA 616 921 R2015 0.005
<b>Rated voltage 24 V, (AC)/DC, Rated current 15 mA, Service life &gt;50 000 h</b>			
● Red	630	250	KA2-2021 1SFA 616 921 R2021 0.005
● Green	525	800	KA2-2022 1SFA 616 921 R2022 0.005
● Yellow	592	250	KA2-2023 1SFA 616 921 R2023 0.005
● Blue	470	400	KA2-2024 1SFA 616 921 R2024 0.005
○ White <sup>1)</sup>	500		KA2-2025 1SFA 616 921 R2025 0.005
<b>Rated voltage 36 V, (AC)/DC, Rated current 12 mA, Service life &gt;50 000 h</b>			
● Red	630	200	KA2-2031 1SFA 616 921 R2031 0.005
● Green	525	2000	KA2-2032 1SFA 616 921 R2032 0.005
● Yellow	592	200	KA2-2033 1SFA 616 921 R2033 0.005
● Blue	470	750	KA2-2034 1SFA 616 921 R2034 0.005
○ White <sup>1)</sup>	1400		KA2-2035 1SFA 616 921 R2035 0.005
<b>Rated voltage 48 V, (AC)/DC, Rated current 12 mA, Service life &gt;50 000 h</b>			
● Red	630	200	KA2-2041 1SFA 616 921 R2041 0.005
● Green	525	1700	KA2-2042 1SFA 616 921 R2042 0.005
● Yellow	592	240	KA2-2043 1SFA 616 921 R2043 0.005
● Blue	470	720	KA2-2044 1SFA 616 921 R2044 0.005
○ White <sup>1)</sup>	1200		KA2-2045 1SFA 616 921 R2045 0.005
<b>Rated voltage 60 V, (AC)/DC, Rated current 10 mA, Service life &gt;50 000 h</b>			
● Red	630	160	KA2-2051 1SFA 616 921 R2051 0.005
● Green	525	1400	KA2-2052 1SFA 616 921 R2052 0.005
● Yellow	592	200	KA2-2053 1SFA 616 921 R2053 0.005
● Blue	470	600	KA2-2054 1SFA 616 921 R2054 0.005
○ White <sup>1)</sup>	1000		KA2-2055 1SFA 616 921 R2055 0.005
<b>Rated voltage 110-130 V, AC, Rated current 4-6 mA, Service life 25 000 h</b>			
● Red	630	60-100	KA2-2131 1SFA 616 921 R2131 0.005
● Green	525	500-850	KA2-2132 1SFA 616 921 R2132 0.005
● Yellow	592	70-120	KA2-2133 1SFA 616 921 R2133 0.005
● Blue	470	220-350	KA2-2134 1SFA 616 921 R2134 0.005
○ White <sup>1)</sup>	350-600		KA2-2135 1SFA 616 921 R2135 0.005
<b>Rated voltage 110-130 V, AC/DC, Rated current 4-6 mA, Service life 25 000 h</b>			
● Red	630	60-100	KA2-2141 1SFA 616 921 R2141 0.005
● Green	525	500-850	KA2-2142 1SFA 616 921 R2142 0.005
● Yellow	592	70-120	KA2-2143 1SFA 616 921 R2143 0.005
● Blue	470	220-350	KA2-2144 1SFA 616 921 R2144 0.005
○ White <sup>1)</sup>	350-600		KA2-2145 1SFA 616 921 R2145 0.005
<b>Rated voltage 230 V, AC, Rated current 4 mA, Service life 25 000 h</b>			
● Red	630	60	KA2-2221 1SFA 616 921 R2221 0.005
● Green	525	500	KA2-2222 1SFA 616 921 R2222 0.005
● Yellow	592	70	KA2-2223 1SFA 616 921 R2223 0.005
● Blue	470	220	KA2-2224 1SFA 616 921 R2224 0.005
○ White <sup>1)</sup>	350		KA2-2225 1SFA 616 921 R2225 0.005
<b>Rated voltage 230 V, AC/DC, Rated current 4 mA, Service life 25 000 h</b>			
● Red	630	60	KA2-2231 1SFA 616 921 R2231 0.005
● Green	525	500	KA2-2232 1SFA 616 921 R2232 0.005
● Yellow	592	70	KA2-2233 1SFA 616 921 R2233 0.005
● Blue	470	220	KA2-2234 1SFA 616 921 R2234 0.005
○ White <sup>1)</sup>	350		KA2-2235 1SFA 616 921 R2235 0.005

<sup>1)</sup> X=0.31, Y=0.32





# Accessories



Description	Packing qty: 20 pcs		Weight, kg
	Type	Order Code	

## Flashing LEDs

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 (+).

**Rated voltage 24 V, rated current 25 mA, DC**

Color	Wave length nm	Service life hours	Type	Order Code	Weight, kg
● Red	630	50 000	-	<b>4950 512-1</b>	0.005
● Green	565	50 000	-	<b>4950 512-2</b>	0.005
● Yellow	585	50 000	-	<b>4950 512-3</b>	0.005

## Filament bulbs BA 9s base

Type of current: AC/DC. A lamp changing tool is required for changing bulb.

Rated voltage V	Rated current mA	Rated output W	Service life h	Lumiance mcd	Type	Order Code	Weight, kg
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

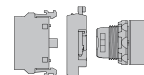
Description	Packing qty: 10 pcs		Weight, kg
	Type	Order Code	

## Lenses for pilot lights

● Red	<b>KA1-8031</b>	1SFA 616 920 R8031	0.02
● Green	<b>KA1-8032</b>	1SFA 616 920 R8032	0.02
● Yellow	<b>KA1-8033</b>	1SFA 616 920 R8033	0.02
● Blue	<b>KA1-8034</b>	1SFA 616 920 R8034	0.02
○ White	<b>KA1-8035</b>	1SFA 616 920 R8035	0.02
○ Clear	<b>KA1-8038</b>	1SFA 616 920 R8038	0.02

## Buttons for pushbuttons

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



## Approvals

The pushbuttons, selector switches and pilot lights are approved by:

- National approval agencies: UL, China Compulsory Product Certification, GOST and GOST Ukraine.
- Marine classifications: Det Norske Veritas, Germanischer Lloyd, Russian Maritime Register of Shipping and Russian River Register.

For detailed information please contact ABB

## Standards

IEC 60947-1 EN 60947-1	Low-voltage switchgear and controlgear - Part 1: General rules
IEC 60947-5-1 EN 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 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
IEC 60073 EN 60073	Basic and safety principles for man-machine interface, marking and identification - Coding principles for indicators and actuators
IEC 60529 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	IEC/EN	UL/CSA
Pushbutton with flush or extended button, <b>MP</b> <sup>1)</sup>	IP 66	Type 1, 3R, 4, 4X, 12, 13
Double pushbutton, <b>MPD</b> <sup>1)</sup>	IP 66	Type 1, 3R, 4, 4X, 12, 13
Mushroom pushbutton, momentary, <b>MPM</b> <sup>1)</sup>	IP 66	Type 1, 3R, 4, 4X, 12, 13
Emergency stop pushbutton, <b>MPMT/P</b> <sup>1)</sup>	IP 66	Type 1, 3R, 4, 4X, 12, 13
Selector switch, <b>M2SS/M3SS</b> <sup>1)</sup>	IP 66	Type 1, 3R, 4, 4X, 12, 13
Key operated selector switch, <b>M2SSK/M3SSK</b> <sup>1)</sup>	IP 66	Type 1, 3R, 4, 4X, 12
Toggle switch, <b>MTS2/MTS3</b> <sup>1)</sup>	IP 66	Type 1, 3R, 4, 4X, 12, 13
Definite purpose pushbutton, 30 mm, <b>KP6</b>	IP 66	-
Reset button, <b>KPR</b> <sup>1)</sup>	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> <sup>1)</sup>	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	Type 1, 3R, 4, 4X, 12, 13
Metallic enclosures	IP 66, IP67 and IP69K	
<sup>1)</sup> With chrome plastic bezel	IP 66	Type 1, 12, 13

## Material

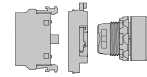
### No ozone depleting substances in the products.

All front parts are made of polycarbonate

Material	Characteristics
PC Polycarbonate	High impact strength, good outdoor resistance.
<b>Chemical resistance</b> - See table below	
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.

### Chemical resistance for polycarbonate

Chemical class	Effects
Acids	No significant effect under most typical conditions of concentration and temperature
Alcohols & Alkalis	Generally compatible at low concentration and room temperature. Higher concentrations and elevated temperatures can result in etching and attack evidenced by decomposition.
Aliphatic Hydrocarbons	Generally compatible
Amines	Surface crystallization and chemical attack. Avoid.
Aromatic Hydrocarbons	Partial solvents and severe stress cracking agents (i.e., xylene, toluene). Avoid.
Detergents and Cleaners	Mild soap solutions are generally compatible. Strong alkaline materials should be avoided.
Esters	Cause severe crystallization. Partial solvents. Avoid.
Greases and Oils	Pure petroleum types generally compatible. Many additives used with them are not.
Halogenerated Hydrocarbons	Solvents. Acid.
Ketones	Cause severe crystallization and stress cracking. Partial solvents. Avoid.
Silicone Oil and Greases	Generally compatible up to 85 °C.



## Mechanical life

### Operators

Pushbuttons with flush or extended button, momentary mushroom pushbutton		2 million operations
Selector switch		
Present standard (no operation of center contact)		500 000 operations
With operation of center contact		250 000 operations
		150 000 operations
Maintained mushroom pushbutton, key operated selector switch and double pushbutton		500 000 operations
Emergency stop pushbutton		100 000 operations
Toggle switch		1 million operations

## Temperature

Ambient temperature during operation	-25 to +70 °C
Storage temperature	-40 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 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 Max. 2.3 Nm
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## 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 or micro switch block. As an alternative, gold plated contacts can be used.	

Ratings as per UL, CSA, NEMA	A600		Q600		
	AC		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	
		3 A		250 V	0.27 A
		1.5 A		480 V	0.10 A
		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

## Contact blocks (cont.)

### Micro switch block

Ratings as per IEC 60 947-5-1		
Rated insulation voltage, $U_i$	125 V	
Rated thermal current, $I_{th}$	3 A	
Rated operational current, $I_e$ utilization category AC 14,	at 125 V	0.5 A
Rated operational current, $I_e$ utilization category DC 13,	at 24 V	0.3 A
Rated operational current, $I_e$ utilization category DC 12,	at 24 V	0.1 A
Minimum switching capacity	3 V DC	1 mA

### Ratings as per UL 508

3 A, 125 V AC
0.1 A, 48 V DC
0.2 A, 60 V DC

Contact resistance	< 25 mΩ
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Compulsory function test	at 5V, 16 mA
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### Max. number of contact blocks per operator

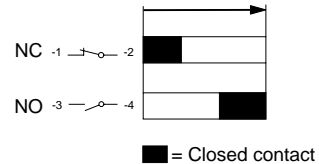
The contact blocks can be stacked in max two levels on the 3- block holder. Only one level is accepted on the 5-block holder.

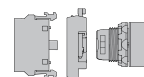
Pushbutton, toggle switch and mushroom pushbutton	6
Maintained pushbutton	6
Double pushbutton, selector switch, key operated selector switch and emergency stop pushbutton	6

### Short circuit protection

Max. fuse at 1 kA	10 A delayed
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### Diagram for make-and-break contact





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

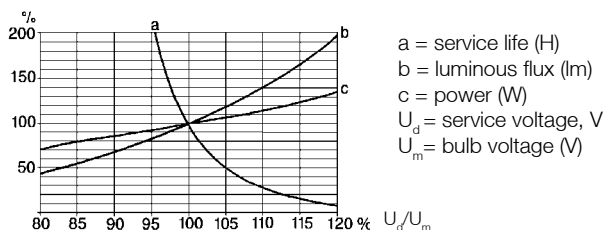
Rated insulation voltage	230 V
Base	BA 9s
Permissible power, up to	2 W

### 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



a = service life (H)  
 b = luminous flux (lm)  
 c = power (W)  
 $U_d$  = service voltage, V  
 $U_m$  = bulb voltage (V)

### 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 +	

### LED's

Service life for LED's means number of service hours until the brightness has been reduced down 50 %

White LED's	x=0,31 Y=3.2 means the position of color in the ICI Chromaticity Diagram
Over voltage on LED's	10 % overvoltage is acceptable without affecting the service life
Voltage peaks on LED's	Voltage peaks up to 1000 V Current peaks up to 500 mA during a few msec
Glomring light	All integrated LEDs have a function built in to cut leakage currents.

### Transformer block

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

Rated power	1.5 W
Rated voltage	Ratio, see Accessories page 34
Rated insulation voltage acc. to IEC 70 °C (DT)	Class E





## Pilot devices, 22 mm

Compact range



**The compact range is a most competitive choice for customers with high requirements of cost efficiency, 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, 67, 69K
- 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
- Machine stop pushbuttons, non-illuminated, twist, pull or key release
- Selector switches, non-illuminated, 2 or 3 position

### Pilot lights

- Ba 9s base for filament bulbs or LED
- Pilot light with integrated LED



# Pushbuttons

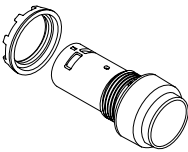
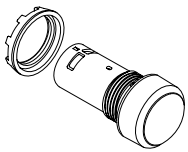
Flush and extended, non-illuminated

Compact range



## Codes for button colors

Type	Order Code
Red	<b>R</b> 1
Green	<b>G</b> 2
Yellow	<b>Y</b> 3
Blue	<b>L</b> 4
White	<b>W</b> 5
Black	<b>B</b> 6
Grey	<b>U</b> 7



## Bezel options

Description	How to order	Type	Order Code
Black plastic	Standard	CPX(X)-10■X-XX	1SFA619 X0X R10X□
Chrome metal	Replace '1' with '3' in Type and Order Code	CPX(X)-30■X-XX	1SFA619 X0X R30X□



Minimum order quantity: 10 pieces

## Pushbutton

Description/ Contacts included	Packing qty: 10 pcs		Weight, kg
	Type	Order Code	

### Flush button

#### Momentary

1 NO	<b>CP1-10■-10</b>	1SFA 619 100 R101□	0.018
2 NO	<b>CP1-10■-20</b>	1SFA 619 100 R102□	0.022
1 NC	<b>CP1-10■-01</b>	1SFA 619 100 R104□	0.018
2 NC	<b>CP1-10■-02</b>	1SFA 619 100 R105□	0.022
1 NO +1 NC	<b>CP1-10■-11</b>	1SFA 619 100 R107□	0.022

#### Maintained

1 NO	<b>CP2-10■-10</b>	1SFA 619 101 R101□	0.018
2 NO	<b>CP2-10■-20</b>	1SFA 619 101 R102□	0.022
1 NC	<b>CP2-10■-01</b>	1SFA 619 101 R104□	0.018
2 NC	<b>CP2-10■-02</b>	1SFA 619 101 R105□	0.022
1 NO +1 NC	<b>CP2-10■-11</b>	1SFA 619 101 R107□	0.022

### Extended button

#### Momentary

1 NO	<b>CP3-10■-10</b>	1SFA 619 102 R101□	0.019
2 NO	<b>CP3-10■-20</b>	1SFA 619 102 R102□	0.022
1 NC	<b>CP3-10■-01</b>	1SFA 619 102 R104□	0.019
2 NC	<b>CP3-10■-02</b>	1SFA 619 102 R105□	0.022
1 NO +1 NC	<b>CP3-10■-11</b>	1SFA 619 102 R107□	0.022

#### Maintained

1 NO	<b>CP4-10■-10</b>	1SFA 619 103 R101□	0.019
2 NO	<b>CP4-10■-20</b>	1SFA 619 103 R102□	0.022
1 NC	<b>CP4-10■-01</b>	1SFA 619 103 R104□	0.019
2 NC	<b>CP4-10■-02</b>	1SFA 619 103 R105□	0.022
1 NO +1 NC	<b>CP4-10■-11</b>	1SFA 619 103 R107□	0.022

### Flush button

#### Momentary

White button with black I

1 NO	<b>CP11-10W-10</b>	1SFA 619 110 R1015	0.018
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#### Momentary

White button with black II

1 NO	<b>CP12-10W-10</b>	1SFA 619 120 R1015	0.018
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### Extended button

#### Momentary

Black button with white O

1NC	<b>CP33-10B-01</b>	1SFA 619 132 R1046	0.018
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## Marking

See page 6 for more information.

There is also possibility to order customer specific marked operators online.



# Emergency stop pushbuttons and machine stop pushbuttons

Compact range



Non-illuminated

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

**Packing: 1 piece/plastic bag.**

**The emergency stop pushbuttons fulfills IEC 60947-5-5**

## Emergency stop pushbutton (Red)

Description/ Contacts included	Packing qty: 1 pc		Weight, kg
	Type	Order Code	
<b>30 mm</b>			
<b>Twist release</b>			
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
<b>Pull release</b>			
2 NC	CE3P-10R-02	1SFA 619 501 R1051	0.032
1 NO +1 NC	CE3P-10R-11	1SFA 619 501 R1071	0.032
<b>Key release</b>			
Ronis 455, Key code 71			
2 NC	CE3K1-10R-02	1SFA 619 502 R1051	0.060
1 NO +1 NC	CE3K1-10R-11	1SFA 619 502 R1071	0.060

## 40 mm

<b>Twist release</b>			
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
<b>Pull release</b>			
2 NC	CE4P-10R-02	1SFA 619 551 R1051	0.036
1 NO +1 NC	CE4P-10R-11	1SFA 619 551 R1071	0.036
<b>Key release</b>			
Key code 71 = Ronis 455			
2 NC	CE4K1-10R-02	1SFA 619 552 R1051	0.064
1 NO +1 NC	CE4K1-10R-11	1SFA 619 552 R1071	0.064

## Machine stop pushbutton (Black)

Description/ Contacts included	Packing qty: 1 pc		Weight, kg
	Type	Order Code	
<b>30 mm</b>			
<b>Twist release</b>			
1 NO +1 NC	CE3T-10B-11	1SFA 619 500 R1076	0.032
<b>Pull release</b>			
1 NO +1 NC	CE3P-10B-11	1SFA 619 501 R1076	0.032
<b>Key release</b>			
Key code 71 = Ronis 455			
1 NO +1 NC	CE3K1-10B-11	1SFA 619 502 R1076	0.060
<b>40 mm</b>			
<b>Twist release</b>			
1 NO +1 NC	CE4T-10B-11	1SFA 619 550 R1076	0.032
<b>Pull release</b>			
1 NO +1 NC	CE4P-10B-11	1SFA 619 551 R1076	0.032
<b>Key release</b>			
Key code 71 = Ronis 455			
1 NO +1 NC	CE4K1-10B-11	1SFA 619 552 R1076	0.064

## Marking

See page 6 for more information.

There is also possibility to order customer specific marked operators online.







# Two and three position selector switches

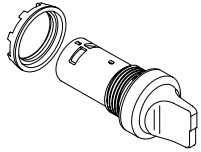
Non-illuminated

Compact range



## Codes for handle colors

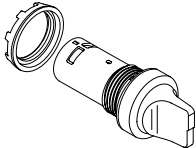
Type	Order Code
■ □	
● Red	<b>R 1</b>
● Black	<b>B 6</b>
● Grey	<b>U 7</b>



## Contacts actuated

**Two position selector switch**  
Contacts included,

	actuated in position C			
	NC	NO	NC	NO
1NO	-	1	-	-
2NO	-	1	-	1
1NC	1	-	-	-
2NC	1	-	1	-
1NO + 1NC	-	1	1	-



## Contacts actuated

**Three position selector switch**  
Contacts included,

	actuated in position:			
	A		C	
	NC	NO	NC	NO
2NO	-	1	-	1
2NC	1	-	1	-
1NO + 1NC	1	-	-	1

## Bezel options

Description	How to order	Type	Order Code
Black plastic	Standard	CXSSX-10■-XX	1SFA619 2XX R10X□
Chrome metal	Replace '1' with '3' in Type and Order Code	CXSSX-30■-XX	1SFA619 2XX R30X□



Minimum order quantity: 10 pieces

## Two-position selector switch

Description/ Contacts included	Packing qty: 10 pcs		Weight, kg
	Type	Order Code	

### Short handle

#### Maintained

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

#### Maintained:

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

#### Momentary

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

## Three-position selector switch

Description/ Contacts included	Packing qty: 10 pcs		Weight, kg
	Type	Order Code	

### Short handle

#### Maintained

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

#### Momentary

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

#### Momentary

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

#### Momentary

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



# Pilot lights/Pilot lights with integrated LED

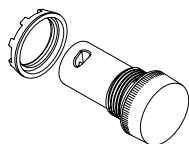
Compact range



Minimum order quantity: 10 pieces

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

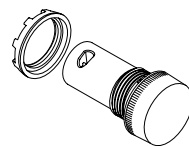
Description	Packing qty: 10 pcs		Weight, kg
	Type	Order Code	
● Red	CL-100R	1SFA 619 402 R1001	0.018
● Green	CL-100G	1SFA 619 402 R1002	0.018
● Yellow	CL-100Y	1SFA 619 402 R1003	0.018
● Blue	CL-100L	1SFA 619 402 R1004	0.018
○ White	CL-100W	1SFA 619 402 R1005	0.018
○ Clear	CL-100C	1SFA 619 402 R1008	0.018



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

Designed to prevent glowing from leakage current

Color	Rated current mA	Wave-length nm	Lumi-nance mcd	Packing qty: 10 pcs		Weight, kg
				Type	Order Code	
<b>Rated voltage 12 V, DC <sup>1)</sup></b>						
● Red	30	625	60	CL-501R	1SFA 619 402 R5011	0.023
● Green	15	520	126	CL-501G	1SFA 619 402 R5012	0.023
● Yellow	30	590	60	CL-501Y	1SFA 619 402 R5013	0.023
● Blue	30	470	22	CL-501L	1SFA 619 402 R5014	0.023
○ White	30	2)	88	CL-501W	1SFA 619 402 R5015	0.023
<b>Rated voltage 24 V, AC/DC</b>						
● Red	15	625	60	CL-502R	1SFA 619 402 R5021	0.023
● Green	15	520	126	CL-502G	1SFA 619 402 R5022	0.023
● Yellow	15	590	60	CL-502Y	1SFA 619 402 R5023	0.023
● Blue	15	470	22	CL-502L	1SFA 619 402 R5024	0.023
○ White	15	2)	88	CL-502W	1SFA 619 402 R5025	0.023
<b>Rated voltage 48 V, AC/DC</b>						
● Red	15	625	60	CL-504R	1SFA 619 402 R5041	0.023
● Green	15	520	126	CL-504G	1SFA 619 402 R5042	0.023
● Yellow	15	590	60	CL-504Y	1SFA 619 402 R5043	0.023
● Blue	15	470	22	CL-504L	1SFA 619 402 R5044	0.023
○ White	15	2)	88	CL-504W	1SFA 619 402 R5045	0.023
<b>Rated voltage 60 V, AC/DC</b>						
● Red	15	625	60	CL-505R	1SFA 619 402 R5051	0.023
● Green	15	520	126	CL-505G	1SFA 619 402 R5052	0.023
● Yellow	15	590	60	CL-505Y	1SFA 619 402 R5053	0.023
● Blue	15	470	22	CL-505L	1SFA 619 402 R5054	0.023
○ White	15	2)	88	CL-505W	1SFA 619 402 R5055	0.023
<b>Rated voltage 110-130 V, AC</b>						
● Red	15	625	60	CL-513R	1SFA 619 402 R5131	0.023
● Green	15	520	126	CL-513G	1SFA 619 402 R5132	0.023
● Yellow	15	590	60	CL-513Y	1SFA 619 402 R5133	0.023
● Blue	15	470	22	CL-513L	1SFA 619 402 R5134	0.023
○ White	15	2)	88	CL-513W	1SFA 619 402 R5135	0.023
<b>Rated voltage 110-130 V, DC <sup>1)</sup></b>						
● Red	15	625	60	CL-515R	1SFA 619 402 R5151	0.023
● Green	15	520	126	CL-515G	1SFA 619 402 R5152	0.023
● Yellow	15	590	60	CL-515Y	1SFA 619 402 R5153	0.023
● Blue	15	470	22	CL-515L	1SFA 619 402 R5154	0.023
○ White	15	2)	88	CL-515W	1SFA 619 402 R5155	0.023
<b>Rated voltage 220 V, DC <sup>1)</sup></b>						
● Red	15	625	60	CL-520R	1SFA 619 402 R5201	0.023
● Green	15	520	126	CL-520G	1SFA 619 402 R5202	0.023
● Yellow	15	590	60	CL-520Y	1SFA 619 402 R5203	0.023
● Blue	15	470	22	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	625	60	CL-523R	1SFA 619 402 R5231	0.023
● Green	15	520	126	CL-523G	1SFA 619 402 R5232	0.023
● Yellow	15	590	60	CL-523Y	1SFA 619 402 R5233	0.023
● Blue	15	470	22	CL-523L	1SFA 619 402 R5234	0.023
○ White	15	2)	88	CL-523W	1SFA 619 402 R5235	0.023
<b>Rated voltage 380 V, AC</b>						
● Red	15	625	60	CL-530R	1SFA 619 402 R5301	0.023
● Green	15	520	126	CL-530G	1SFA 619 402 R5302	0.023
● Yellow	15	590	60	CL-530Y	1SFA 619 402 R5303	0.023
● Blue	15	470	22	CL-530L	1SFA 619 402 R5304	0.023
○ White	15	2)	88	CL-530W	1SFA 619 402 R5305	0.023
<b>Rated voltage 415 V, AC</b>						
● Red	15	625	60	CL-541R	1SFA 619 402 R5411	0.023
● Green	15	520	126	CL-541G	1SFA 619 402 R5412	0.023
● Yellow	15	590	60	CL-541Y	1SFA 619 402 R5413	0.023
● Blue	15	470	22	CL-541L	1SFA 619 402 R5414	0.023
○ White	15	2)	88	CL-541W	1SFA 619 402 R5415	0.023



### Marking

See the section Legend plates.

There is also possibility to order customer specific marked operators online.



<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



## Accessories

For pilot lights

## Compact range



### Filament bulbs BA 9s base

Type of current: AC/DC. A lamp changing tool is required for changing bulb.

Description					Packing qty: 20 pcs		Weight, kg
					Type	Order Code	
Rated voltage V	Rated current mA	Rated output W	Service life h	Lumiance 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 (-/x2) and the bottom contact to anode (+/x1).

Color	Rated current mA	Wave-length nM	Lumiance mcd	Packing qty: 20 pcs		Weight, kg
				Type	Order Code	
<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	<sup>1)</sup>	600	<b>KA2-2015</b>	<b>1SFA 616 921 R2015</b>	0.005
<b>Rated voltage 24 V, (AC)/DC</b> 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	<sup>1)</sup>	500	<b>KA2-2025</b>	<b>1SFA 616 921 R2025</b>	0.005
<b>Rated voltage 36V, (AC)/DC</b> Service life >50 000 h						
● Red	12	630	200	<b>KA2-2031</b>	<b>1SFA 616 921 R2031</b>	0.005
● Green	12	525	2000	<b>KA2-2032</b>	<b>1SFA 616 921 R2032</b>	0.005
● Yellow	12	592	200	<b>KA2-2033</b>	<b>1SFA 616 921 R2033</b>	0.005
● Blue	12	470	750	<b>KA2-2034</b>	<b>1SFA 616 921 R2034</b>	0.005
○ White	12	<sup>1)</sup>	1400	<b>KA2-2035</b>	<b>1SFA 616 921 R2035</b>	0.005
<b>Rated voltage 48 V, (AC)/DC</b> 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	<sup>1)</sup>	1200	<b>KA2-2045</b>	<b>1SFA 616 921 R2045</b>	0.005
<b>Rated voltage 60 V, (AC)/DC</b> 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	<sup>1)</sup>	1000	<b>KA2-2055</b>	<b>1SFA 616 921 R2055</b>	0.005

Cont. next page

<sup>1)</sup> x=0.31, y=0.32



# Accessories

For pilot lights

## Compact range



### LEDs Cont.

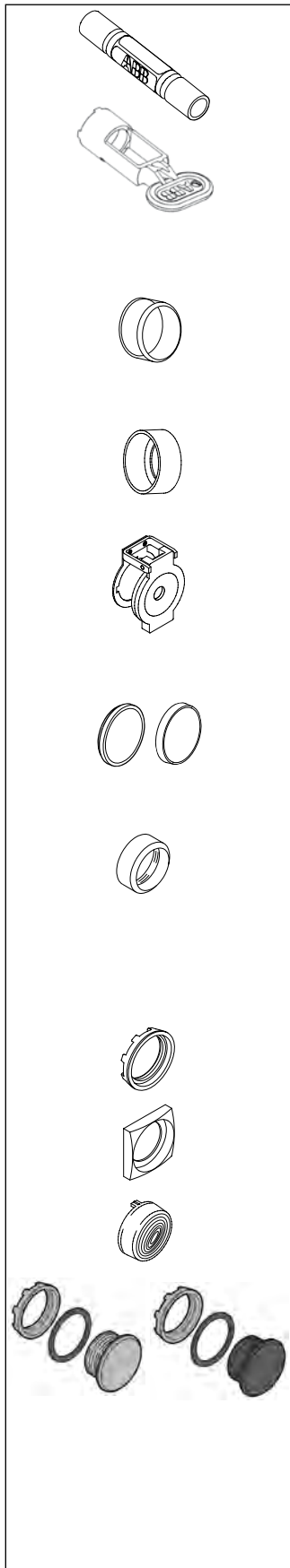
Color	Rated current mA	Wave-length nm	Lumi-nance mcd	Packing qty: 20 pcs		Weight, kg
				Type	Order Code	
<b>Rated voltage 110-130 V, AC</b> Service life 25 000 h						
● Red	4-6	630	60-100	<b>KA2-2131</b>	<b>1SFA 616 921 R2131</b>	0.005
● Green	4-6	525	500-850	<b>KA2-2132</b>	<b>1SFA 616 921 R2132</b>	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	<sup>1)</sup>	350-600	<b>KA2-2135</b>	<b>1SFA 616 921 R2135</b>	0.005
<b>Rated voltage 110-130 V, AC/DC</b> 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	<sup>1)</sup>	350-600	<b>KA2-2145</b>	<b>1SFA 616 921 R2145</b>	0.005
<b>Rated voltage 230 V, AC</b> 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	<sup>1)</sup>	350	<b>KA2-2225</b>	<b>1SFA 616 921 R2225</b>	0.005
<b>Rated voltage 230 V, AC/DC</b> Service life 25 000 h						
● Red	4	630	60	<b>KA2-2231</b>	<b>1SFA 616 921 R2231</b>	0.005
● Green	4	525	500	<b>KA2-2232</b>	<b>1SFA 616 921 R2232</b>	0.005
● Yellow	4	592	70	<b>KA2-2233</b>	<b>1SFA 616 921 R2233</b>	0.005
● Blue	4	470	220	<b>KA2-2234</b>	<b>1SFA 616 921 R2234</b>	0.005
○ White	4	<sup>1)</sup>	350	<b>KA2-2235</b>	<b>1SFA 616 921 R2235</b>	0.005

<sup>1)</sup>x=0.31, y=0.32



# Accessories

# Compact range

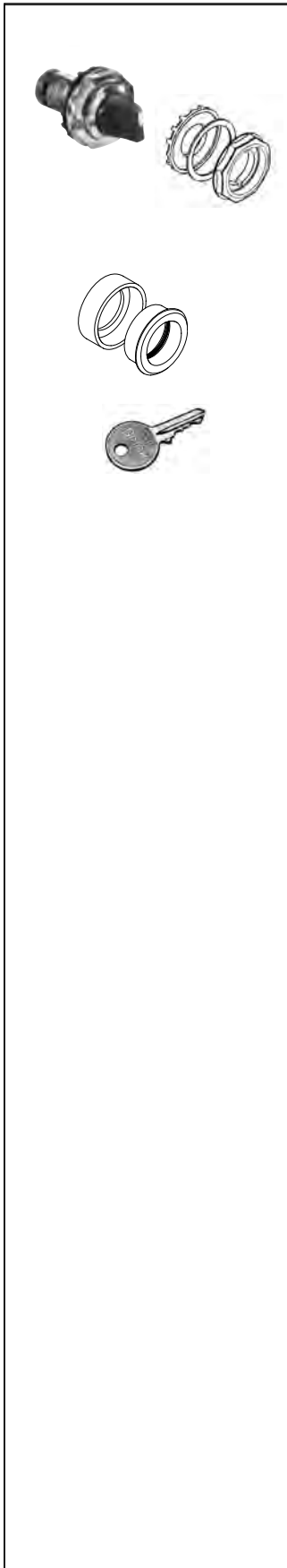


Description	Packing qty: 1 pc		Weight, kg
	Type	Order Code	
<b>Lamp changing tool</b> For LEDs and for bulbs	KA1-8072	1SFA 616 920 R8072	0.002
<b>Mounting tool</b> Grey. Used for tightening the locking nut	MA1-8015	1SFA 611 920 R8015	0.021
Description		Packing qty: 10 pcs	
		Type	Order Code
<b>Membrane of silicone</b> Of transparent, heat and cold resistant silicon rubber. Does not harden at low temperature. Remove the gasket when using membrane.			
Flush button	KA1-8052	1SFA 616 920 R8052	0.002
Extended button	KA1-8002	1SFA 616 920 R8002	0.002
<b>Protective ring</b> For flush and extended pushbutton To prevent inadvertent operation. Not together with legend plate holder.		SK 615 512-1	0.002
<b>Protective cover</b> For flush button. To prevent accidental operation. Not together with legend plate holder.	KA1-8010	1SFA 616 920 R8010	0.008
<b>Button</b> Grey, flush	KA1-8087	1SFA 616 920 R8087	0.001
Grey, extended	KA1-8097	1SFA 616 920 R8097	0.001
<b>Bezel</b> <b>For pushbutton</b> Grey	KA1-8079	1SFA 616 920 R8079	0.002
Black	KA1-8022	1SFA 616 920 R8022	0.002
Metal	KA1-8021	1SFA 616 920 R8021	0.015
<b>For selector switch</b> Grey	CA1-8076	1SFA 619 920 R8076	0.001
Black	CA1-8077	1SFA 619 920 R8077	0.001
Metal	CA1-8078	1SFA 619 920 R8078	0.010
<b>Locking nut</b>	MA1-8019	1SFA 611 920 R8019	0.001
<b>Square bezel</b> Black, plastic	-	SK 616 016-2	0.001
Grey, plastic	MA1-8124	1SFA 611 920 R8124	0.001
<b>Light diffusing lens</b> To improve illumination. Note: Cannot be used with text cap. The lens is used instead of text cap	KA1-8005	1SFA 616 920 R8005	0.001
<b>Blanking plug</b> Grey	MA1-8129	1SFA 611 920 R8129	0.005
Black	MA1-8130	1SFA 611 920 R8130	0.005



## Accessories

## Compact range



Description	Packing qty: 1 pc		Weight, kg
	Type	Order Code	
<p><b>30 mm adaptors</b> For use when fitting the 22 mm pilot devices in 30 mm mounting holes. (1.5 – 4 mm panels)</p> <p><b>For use with pushbuttons, selector switches, emergency stop push-button and pilot lights</b> Black plastic. Metal.</p>	<p><b>KA1-8029</b> <b>KA1-8030</b></p>	<p>1SFA 616 920 R8029 1SFA 616 920 R8030</p>	<p>0.010 0.035</p>
<p><b>Adaptors</b> For flush mounted pushbutton For flush mounted selector switches</p>	<p><b>KA1-8073</b> <b>CA1-8075</b></p>	<p>1SFA 616 920 R8073 1SFA 619 920 R8075</p>	<p>0.050 0.046</p>
<p><b>Extra key</b> Key code 71 = Ronis 455</p>	<p><b>SK 616 021-71</b></p>		<p>0.007</p>



## Approvals

The pushbuttons, selector switches and pilot lights are approved by:

- National approval agencies: UL, China Compulsory Product Certification, GOST and GOST Ukraine.
- Marine classifications: Det Norske Veritas, Germanischer Lloyd, Russian Maritime Register of Shipping and Russian River Register.

For detailed information please contact ABB

## Standards

IEC 60947-1 EN 60947-1	Low-voltage switchgear and controlgear - Part 1: General rules
IEC 60947-5-1 EN 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 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
IEC 60073 EN 60073	Basic and safety principles for man-machine interface, marking and identification - Coding principles for indicators and actuators
IEC 60529 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
DIN 40050-9	Road vehicles; degrees of protection (IP-code); protection against foreign objects; water and contact; electrical equipment
UL 508	Industrial Control Equipment
CSA C22.2 No 14	Industrial Control Equipment

## Degrees of protection

Pilot device:	IEC/EN DIN	UL/CSA
Compact pushbutton, <b>CP1, CP2, CP3, CP4</b>	IP66, IP67 and IP69K	Type 1, 3R, 4, 4X, 12, 13
Compact selector switch, <b>C2SS, C3SS</b>	IP66, IP67 and IP69K	Type 1, 3R, 4, 4X, 12, 13
Compact pilot light, <b>CL</b>	IP66, IP67 and IP69K	Type 1, 3R, 4, 4X, 12, 13
Compact emergency stop pushbutton, <b>CE3T, CE3P, CE4T, CE4P, CE3K1, CE4K1</b>	IP66 IP69K IP67	Type 1, 3R, 4, 4X, 12, 13
<b>Terminals</b>	IP20	

## 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. <b>Chemical resistance</b> - See table below
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.

### Chemical resistance for polycarbonate

Chemical class	Effects
Acids	No significant effect under most typical conditions of concentration and temperature
Alcohols & Alkalis	Generally compatible at low concentration and room temperature. Higher concentrations and elevated temperatures can result in etching and attack evidenced by decomposition.
Aliphatic Hydrocarbons	Generally compatible
Amines	Surface crystallization and chemical attack. Avoid.
Aromatic Hydrocarbons	Partial solvents and severe stress cracking agents (i.e., xylene, toluene). Avoid.
Detergents and Cleaners	Mild soap solutions are generally compatible. Strong alkaline materials should be avoided.
Esters	Cause severe crystallization. Partial solvents. Avoid.
Greases and Oils	Pure petroleum types generally compatible. Many additives used with them are not.
Halogenated Hydrocarbons	Solvents. Acid.
Ketones	Cause severe crystallization and stress cracking. Partial solvents. Avoid.
Silicone Oil and Greases	Generally compatible up to 85 °C.



### Mechanical life

#### Operators

Pushbuttons with flush or extended button, selector switch	500 000 operations
Emergency stop pushbutton	50 000 operations

### Temperature

Ambient temperature during operation	-25 to +70 °C
Storage temperature	-40 to +85 °C

### Tightening torque

Locking nut, M22	Min. 2 Nm Max. 2.3 Nm
------------------	--------------------------

### Contacts

#### Ratings as per UL, CSA, NEMA

	<b>C300</b>	<b>R300</b>
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, $I_e$ , utilization 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 10 A delayed
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### Tightening torque

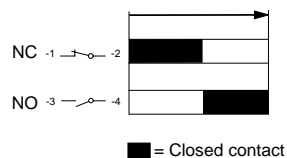
Compact pushbutton & selector switch	0.8 Nm (M3)
Compact pilot light	0.9 Nm (M3.5)
Compact emergency stop pushbutton	0.8 Nm (M3)

### 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 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 max. 2 x 2.5 mm <sup>2</sup> /2 x AWG14

### Make-and-break contacts

Compact pushbutton                      Compact emergency stop pushbutton





# Notes

## Compact range



A series of horizontal lines for taking notes, starting from the top of the page and extending down to just above the footer area.



## Pilot devices, 22 mm

Assembled stations and enclosures



### 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 compact

Of polycarbonate.

Degree of protection: IP 66, 67, 69K

UL type1, 3R, 4, 4X, 12, 13

### Metallic enclosures

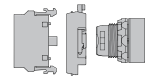
Of light-alloy.

Degree of protection: IP 66 and IP 67

# Assembled stations

Plastic enclosures

## Modular range



Note! Included pilot devices are of modular type

**Illuminated pushbutton:**

LB = Lamp block type MLB-1  
Bulb not included

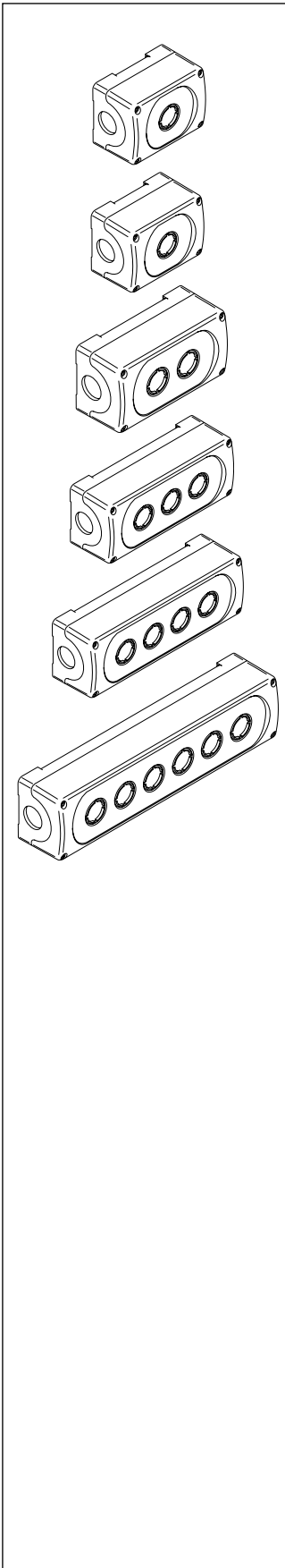


Description 1)	Packing qty: 1 pc		Weight, kg
	Type	Order Code	
<b>1-seat Plastic enclosures. Yellow top/light grey bottom</b>			
<b>Emergency stop pushbutton, 40 mm.</b>			
Twist release. No legend plate			
Red 2 NC	<b>MEPY1-1005</b>	1SFA 611 821 R1005	0.234
Red 1 NO + 2 NC	<b>MEPY1-1024</b>	1SFA 611 821 R1024	0.250
<b>1-seat Plastic enclosures. Yellow top/light grey bottom</b>			
<b>Emergency stop pushbutton, 40 mm.</b>			
Twist release. With legend plate 'Emergency stop'			
Red 2 NC	<b>MEPY1-1026</b>	1SFA 611 821 R1026	0.???
<b>2-seat Plastic enclosure. Dark grey top/light grey bottom</b>			
<b>Two flush pushbuttons. Momentary.</b>			
<b>Left Right</b>			
Red	Green		
1 NC	1 NO		
O	I	<b>MEP2-1001</b>	1SFA 611 812 R1001
			0.220

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

# Plastic enclosures

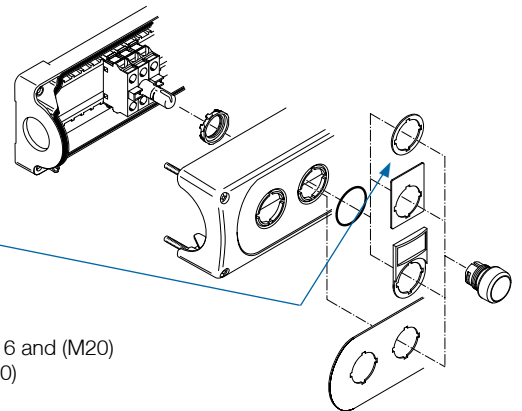
Degree of protection IP 66



Description Size	Color: Upper part/Lower part	Packing qty: 1 pc		Weight, kg
		Type	Order Code	
<b>Empty plastic enclosures</b> Now with stainless steel screws				
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

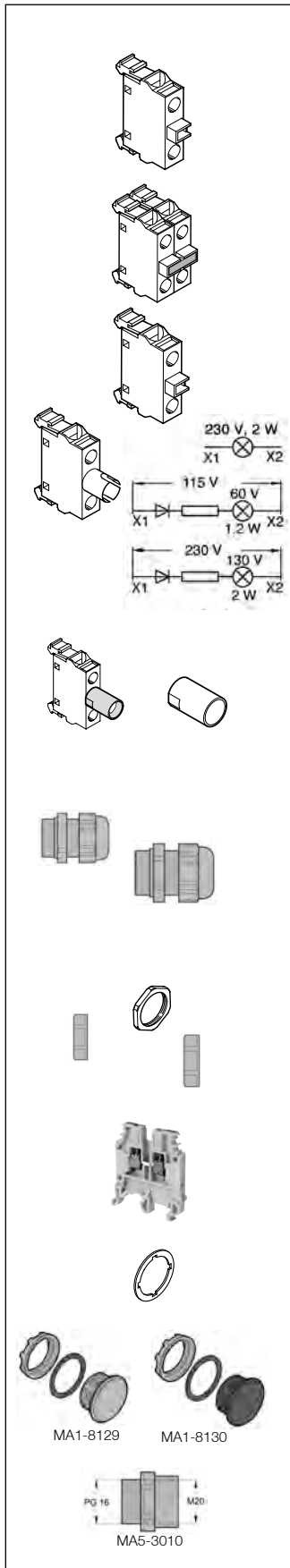
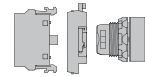
- Select operators from page 10-26, 29 and 44-47.  
*N.B. Selector switches with short handle for vertically mounted selector switches must be ordered from page 59-60.*
- **Note: Select contact blocks and lamp blocks for rear mounting, see page 33 and 58.**
- Accessories, see page 33, 35-38 and 58.  
*N.B. One spacer per operator has to be ordered if legend plate is not used. (for rear mounted pilot devices)*
- Holes for cable glands  
1-seat to 3-seat enclosures: M20 and Pg 13.5/Pg16 and (M20)  
4-seat and 6-seat enclosures: M25/Pg 16 and (M20)



### UL-listed applications:

For end of line use only.

# Accessories for plastic enclosures **Modular range**

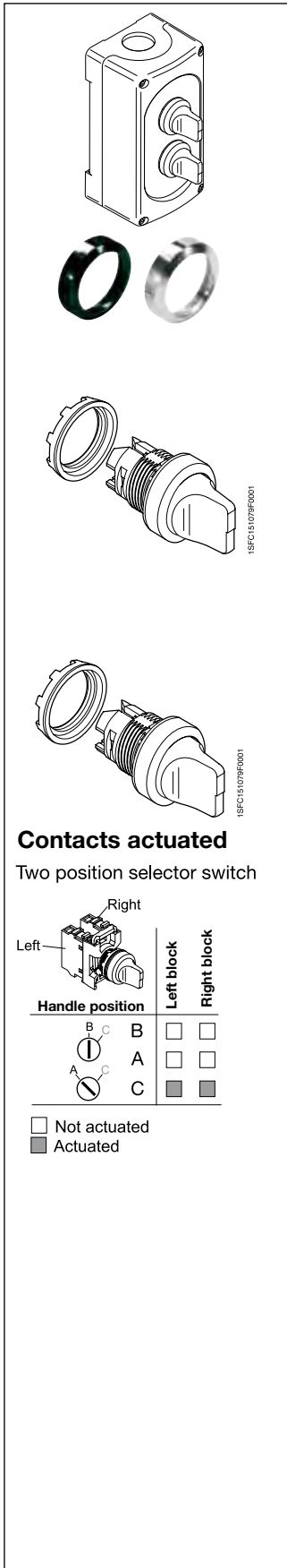
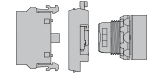


Description	Packing qty: 10 pcs		Weight, kg
	Type	Order Code	
<b>Contact blocks for rear mounting</b>			
<b>Contact block</b>			
1NO	<b>MCB-10B</b>	1SFA 611 610 R2001	0.013
1NC	<b>MCB-01B</b>	1SFA 611 610 R2010	0.013
<b>Double contact block</b>			
2NO	<b>MCB-20B</b>	1SFA 611 610 R2002	0.026
2NC	<b>MCB-02B</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 for rear mounting</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 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 2 W</b>			
<b>Protective sleeve</b>			
To make a rear mounted lamp block screen protected. IP20 (Not together with illuminated selector switch)			0.002
<b>5396 0543-1</b>			
<b>Cable gland</b>			
Grey plastic. threaded outer sleeve Sealing ring included.			
M25	<b>MA5-3001</b>	1SFA 611 925 R3001	0.015
M20	<b>MA5-3002</b>	1SFA 611 925 R3002	0.015
PG 13.5	<b>MA5-3006</b>	1SFA 611 925 R3006	0.010
PG 16	<b>MA5-3007</b>	1SFA 611 925 R3007	0.015
<b>Nut</b>			
Grey plastic. For cable gland above.			
M25	<b>MA5-3003</b>	1SFA 611 925 R3003	0.005
M20	<b>MA5-3004</b>	1SFA 611 925 R3004	0.005
PG 13.5	<b>MA5-3008</b>	1SFA 611 925 R3008	0.001
PG 16	<b>MA5-3009</b>	1SFA 611 925 R3009	0.001
<b>Earthing terminal</b>			
For plastic enclosure.			0.005
<b>MA5-3005</b>			
<b>Spacer</b>			
1 mm thick. Needed when legend plates are not used in plastic enclosures.			
Spacer			0.002
<b>SK 615 516-1</b>			
Spacer for Modular emergency stop pushbutton, page 16			
<b>KA1-8045</b>			0.004
<b>Blanking plug</b>			
Grey	<b>MA1-8129</b>	1SFA 611 920 R8129	0.005
Black	<b>MA1-8130</b>	1SFA 611 920 R8130	0.005
<b>Adaptor</b>			
PG 16/M20	<b>MA5-3010</b>	1SFA 611 925 R3010	0.010



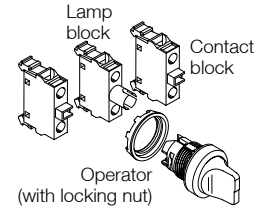
# Two position selector switches for mounting in vertically mounted enclosures

## Modular range



### How to order:

Order: Operator + contact blocks for rear mounting  
or operator + contact blocks and lamp block for rear mounting.



### Bezel options

Description	How to order	Type	Order Code
Black plastic	Standard	M2SSVX-1X X	1SFA61122X R1X0X
Chrome <b>plastic</b>	Replace '1' with '2' in Type and Order Code	M2SSVX-2XX	1SFA61122X R2X0X
Chrome <b>metal</b>	Replace '1' with '3' in Type and Order Code	M2SSVX-3XX	1SFA61122X R3X0X

### Operator for two-position selector switch

Symbol	Handle color	Packing qty: 1 pc		Weight, kg
		Type	Order Code	

#### Short handle, non-illuminated

	● Red	<b>M2SSV1-10R</b>	1SFA 611 220 R1001	0.015
	● Black	<b>M2SSV1-10B</b>	1SFA 611 220 R1006	0.015
	● Red	<b>M2SSV2-10R</b>	1SFA 611 221 R1001	0.015
	● Black	<b>M2SSV2-10B</b>	1SFA 611 221 R1006	0.015
	● Red	<b>M2SSV3-10R</b>	1SFA 611 222 R1001	0.015
	● Black	<b>M2SSV3-10B</b>	1SFA 611 222 R1006	0.015

#### Short handle, illuminated

Lamp block for max 230 V AC/DC. Bulb not included. Other lamp block see Accessories page 33 and 56.

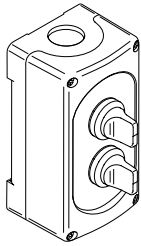
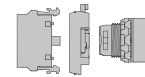
	● Red	<b>M2SSV1-11R</b>	1SFA 611 220 R1101	0.015
	● Green	<b>M2SSV1-11G</b>	1SFA 611 220 R1102	0.015
	● Yellow	<b>M2SSV1-11Y</b>	1SFA 611 220 R1103	0.015
	● Red	<b>M2SSV2-11R</b>	1SFA 611 221 R1101	0.015
	● Green	<b>M2SSV2-11G</b>	1SFA 611 221 R1102	0.015
	● Yellow	<b>M2SSV2-11Y</b>	1SFA 611 221 R1103	0.015
	● 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 611 222 R1103	0.015

**Contact blocks and lamp block for rear mounting** See page 58.

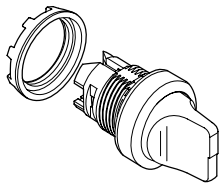


# Three position selector switches for mounting in vertically mounted enclosures

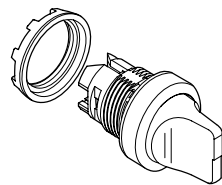
Modular range



Note: No contact block in center position



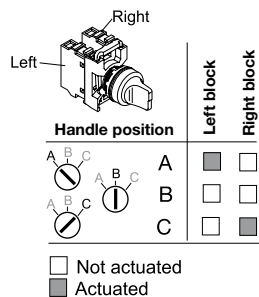
1SFC151079F0001



1SFC151079F0001

## Contacts actuated

Three position selector switch



## Bezel options

Description	How to order	Type	Order Code
Black plastic	Standard	M3SSVX-1X X	1SFA61123X R1X0X
Chrome plastic	Replace '1' with '2' in Type and Order Code	M3SSVX-2XX	1SFA61123X R2X0X
Chrome metal	Replace '1' with '3' in Type and Order Code	M3SSVX-3XX	1SFA61123X R3X0X

Symbol	Handle color	Packing qty: 1 pc		Weight, kg
		Type	Order Code	

## Non-illuminated operator with black bezel and short handle, three position Maintained

	● Red	<b>M3SSV1-10R</b>	1SFA 611 230 R1001	0.015
	● Black	<b>M3SSV1-10B</b>	1SFA 611 230 R1006	0.015

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

	● Red	<b>M3SSV2-10R</b>	1SFA 611 231 R1001	0.015
	● Black	<b>M3SSV2-10B</b>	1SFA 611 231 R1006	0.015

## Momentary, spring return from C to B

	● Red	<b>M3SSV3-10R</b>	1SFA 611 232 R1001	0.015
	● Black	<b>M3SSV3-10B</b>	1SFA 611 232 R1006	0.015

## Illuminated operator with black bezel and short handle, three position

No contact in centre position  
Lamp block for max 230 V AC/DC. Bulb not included. Other lamp block see Accessories

### Maintained

	● Red	<b>M3SSV1-11R</b>	1SFA 611 230 R1101	0.015
	● Green	<b>M3SSV1-11G</b>	1SFA 611 230 R1102	0.015
	● Yellow	<b>M3SSV1-11Y</b>	1SFA 611 230 R1103	0.015

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

	● Red	<b>M3SSV2-11R</b>	1SFA 611 231 R1101	0.015
	● Green	<b>M3SSV2-11G</b>	1SFA 611 231 R1102	0.015
	● Yellow	<b>M3SSV2-11Y</b>	1SFA 611 231 R1103	0.015

### Momentary, spring return from C to B

	● Red	<b>M3SSV3-11R</b>	1SFA 611 232 R1101	0.015
	● Green	<b>M3SSV3-11G</b>	1SFA 611 232 R1102	0.015
	● Yellow	<b>M3SSV3-11Y</b>	1SFA 611 232 R1103	0.015

## Contact blocks and lamp block for rear mounting See page 58

## Marking

See the section Legend plates.



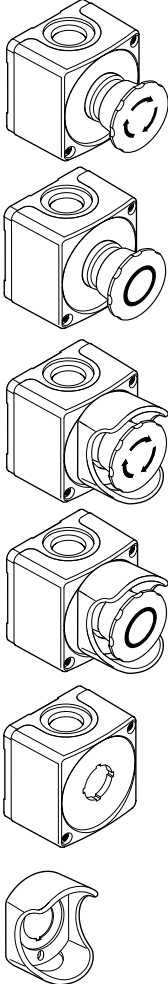
# Enclosures and assembled stations for Compact range

Plastic enclosures and shrouds

Compact range



Note! Included pilot devices are of compact type



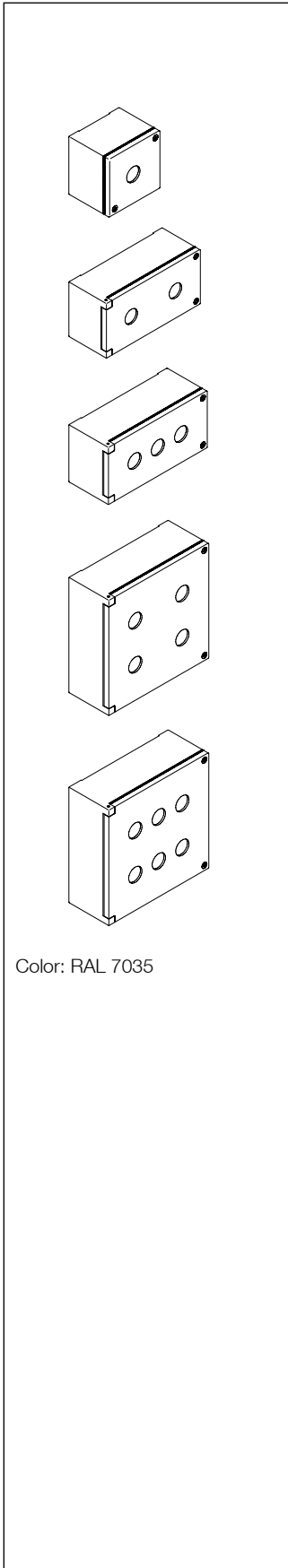
Description Color: Upper part/Lower part	Packing qty: 1 pc		Weight, kg
	Type	Order Code	
<b>1-seat Plastic enclosure for Emergency stop pushbutton (Yellow)</b>			
<b>Emergency stop enclosure</b>			
<input type="checkbox"/> Yellow/Light grey Twist release. Red button 2 NC	<b>CEPY1-1001</b>	1SFA 619 821 R1001	0.108
<b>Emergency stop enclosure</b>			
<input type="checkbox"/> Yellow/Light grey Pull release. Red button 2 NC	<b>CEPY1-1002</b>	1SFA 619 821 R1002	0.108
<b>Emergency stop enclosure with shroud</b>			
<input type="checkbox"/> Yellow/Light grey Twist release. Red button 2 NC	<b>CEPY1-2001</b>	1SFA 619 821 R2001	0.124
<b>Emergency stop enclosure with shroud</b>			
<input type="checkbox"/> Yellow/Light grey Pull release. Red button 2 NC	<b>CEPY1-2002</b>	1SFA 619 821 R2002	0.124
<b>Empty enclosure</b>			
<input type="checkbox"/> Yellow/Light grey	<b>CEPY1-0</b>	1SFA 619 821 R1000	0.072
<b>Shroud</b>			
For emergency stop pushbutton. <input type="checkbox"/> Yellow	<b>CA1-8053</b>	1SFA 619 920 R8053	0.016
<b>1-seat Plastic enclosure with black mushroom pushbutton (Dark grey)</b>			
<b>Machine stop enclosure</b>			
<input type="checkbox"/> Dark grey/Light grey Twist release. Black button 1 NO + 1 NC	<b>CEP1-1001</b>	1SFA 619 811 R1001	0.108
<b>Machine stop enclosure</b>			
<input type="checkbox"/> Dark grey/Light grey Pull release. Black button 1 NO + 1 NC	<b>CEP1-1002</b>	1SFA 619 811 R1002	0.108
<b>Machine stop enclosure with shroud</b>			
<input type="checkbox"/> Dark grey/Light grey Twist release. Black button 1 NO + 1 NC	<b>CEP1-2001</b>	1SFA 619 811 R2001	0.124
<b>Machine stop enclosure with shroud</b>			
<input type="checkbox"/> Dark grey/Light grey Pull release. Black button 1 NO + 1 NC	<b>CEP1-2002</b>	1SFA 619 811 R2002	0.124
<b>Empty enclosure</b>			
<input type="checkbox"/> Dark grey/Light grey	<b>CEP1-0</b>	1SFA 619 811 R1000	0.072
<b>Shroud</b>			
For machine stop pushbutton. <input type="checkbox"/> Grey	<b>CA1-8054</b>	1SFA 619 920 R8054	0.016





# Metallic enclosures

Degree of protection IP66, IP67 and IP69K



Color: RAL 7035

Symbol	Color top/bottom	Packing qty: 1 pc		Weight, kg
		Type	Order Code	
<b>Empty metallic enclosures</b> For front mounted pilot devices				
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> Blanking plates not included. See accessories page 63.

# Accessories for metallic enclosures



Description			Packing qty: 1 pc		Weight, kg
Pr	Pg	Type	Order Code		
<b>Cable gland</b> Metal. Threaded outer sleeve.					
		<b>Sealing diameter, mm</b>			
22.5	16	8.5 - 11.5	<b>SK 170 7685</b>	0.040	
22.5	16	10.5 - 13.5	<b>SK 170 7686</b>	0.045	
22.5	16	12.5 - 15.0	<b>SK 170 7687</b>	0.050	
<b>Hexagon nut</b> Metal, Pr 22.5, Pg 16			<b>SK 175 0152</b>	0.010	
<b>Sealing ring</b> Rubber, Pr 22.5, Pg 16			<b>SK 170 0182</b>	0.010	
<b>Blanking plates</b> <b>Without holes.</b> Metal. Black For 4- and 6-seat enclosures. Note: Gasket not included					
		<b>For flange opening</b>	<b>Suitable flange gasket Order Code</b>		
FL 13		SK 170 4536	<b>SK 172 105-AA</b>	0.110	
<b>With holes.</b> Metal. Black For 4- and 6-seat enclosures. Note: Gasket not included					
		<b>For flange opening</b>	<b>Suitable flange gasket</b>		
<b>Two holes</b> Pr 22.5 (Pg 16). Hole centre distance 50 mm					
FL 13		SK 170 4536	<b>SK 172 105-AD</b>	0.110	
<b>Three holes</b> Pr 22.5 (Pg 16). Hole centre distance 38 mm					
FL 13		SK 170 4536	<b>SK 172 105-AE</b>	0.110	
<b>Four holes</b> Pr 22.5 (Pg 16). Hole centre distance 30 mm					
FL 13		SK 170 4536	<b>SK 172 105-AF</b>	0.110	
<b>Flange gasket</b> FL 13			<b>SK 170 4536</b>	0.005	
Description			Packing qty: 10 pcs		Weight, kg
Pr	Pg	Type	Order Code		
<b>Blanking plug</b> Applicable to cover a 22 mm-hole in an enclosure instead of an operator. Gasket and nut included.					
		Grey	<b>MA1-8129</b>	1SFA 611 920 R8129	0.005
		Black	<b>MA1-8130</b>	1SFA 611 920 R8130	0.005
<b>Sealing plug</b> Plastic. Black Pr 22.5 Pg 16			<b>SK 175 919-3</b>	0.010	

# Notes



Lined area for taking notes.



## Pilot devices, 22 mm

### 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 (black) with inserts of brushed aluminium look 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 (grey) with inserts of brushed aluminium look on black plastic. With or without text or symbol for pushbuttons
- Legend plates of silvergrey aluminium For 1- 2-, 3- 4- or 6-seat plastic enclosures With or without text or symbol for:
  - pushbuttons
- For emergency stop pushbuttons

#### Text caps

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

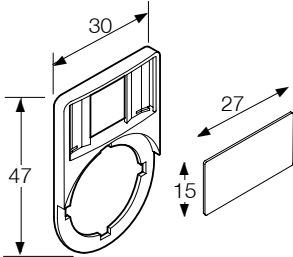
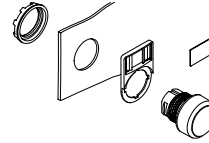


# Legend plates

## Legend plate holders with inserts

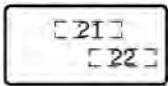
### Legend plate holders with inserts

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

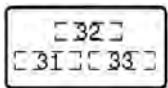


Description	Packing qty: 10 pcs		Weight, kg
	Type	Order Code	
<b>Legend plate holder (black)</b>			
Black	<b>KA1-8120</b>	1SFA 616 920 R8120	0.002
<b>Inserts</b>			
Without text or symbol	<b>KA1-8121</b>	1SFA 616 920 R8121	0.001

Description	Packing qty: 1 pc		Weight, kg
	Type	Order Code	
<b>Inserts with text/symbol</b>			
<b>With text or symbol:</b>			
O	<b>MA6-1032</b>	1SFA 611 930 R1032	0.001
I	<b>MA6-1033</b>	1SFA 611 930 R1033	0.001
→	<b>MA6-1034</b>	1SFA 611 930 R1034	0.001
→→	<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



For two-position selector switch



For three-position selector switch

### Inserts for two-position selector switches

With text or symbol:

**Pos. 21 Pos. 22**

O	I	<b>MA6-1070</b>	1SFA 611 930 R1070	0.001
I	II	<b>MA6-1071</b>	1SFA 611 930 R1071	0.001
→	→→	<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

### Inserts for three-position selector switches

With text or symbol

**Pos. 31 Pos. 32 Pos. 33**

←	O	→	<b>MA6-1080</b>	1SFA 611 930 R1080	0.001
→	O	→→	<b>MA6-1081</b>	1SFA 611 930 R1081	0.001
I	O	II	<b>MA6-1082</b>	1SFA 611 930 R1082	0.001
Hand	O	Auto	<b>MA6-1083</b>	1SFA 611 930 R1083	0.001
Slow	Off	Fast	<b>MA6-1084</b>	1SFA 611 930 R1084	0.001

### Marking

See page 6 for more information.

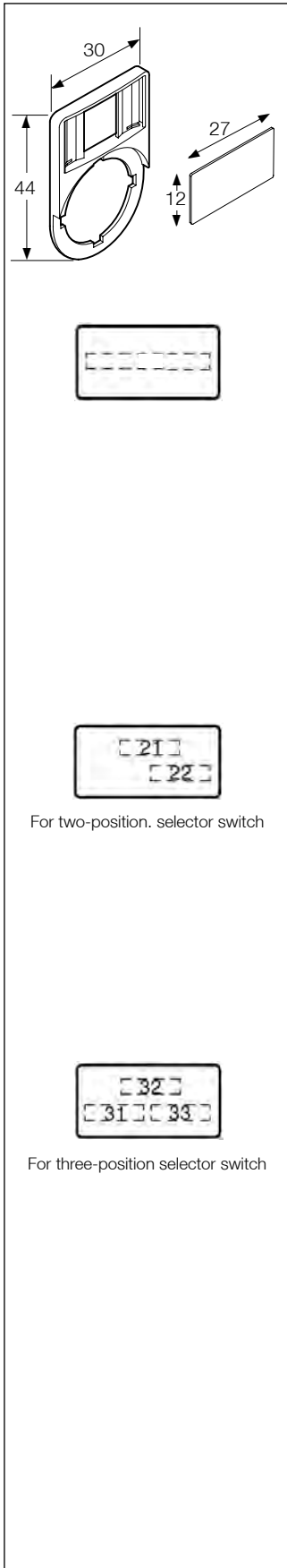
There is also possibility to order customer specific marked operators online.





# Legend plates

Legend plate holders with inserts for plastic enclosures



Description	Packing qty: 10 pcs		Weight, kg
	Type	Order Code	

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

Grey	<b>MA6-1060</b>	1SFA 611 930 R1060	0.002
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Inserts			
Description	Type	Order Code	Weight, kg
Without text or symbol	<b>MA6-1061</b>	1SFA 611 930 R1061	0.001

Description	Packing qty: 1 pc		Weight, kg
	Type	Order Code	

### Inserts with text/symbol

**With text or symbol:**

O	<b>MA6-1062</b>	1SFA 611 930 R1062	0.001
I	<b>MA6-1063</b>	1SFA 611 930 R1063	0.001
II	<b>MA6-1064</b>	1SFA 611 930 R1064	0.001
→	<b>MA6-1130</b>	1SFA 611 930 R1130	0.001
→→	<b>MA6-1131</b>	1SFA 611 930 R1131	0.001
Close	<b>MA6-1132</b>	1SFA 611 930 R1132	0.001
Open	<b>MA6-1133</b>	1SFA 611 930 R1133	0.001
On	<b>MA6-1134</b>	1SFA 611 930 R1134	0.001
Off	<b>MA6-1135</b>	1SFA 611 930 R1135	0.001
Fast	<b>MA6-1136</b>	1SFA 611 930 R1136	0.001
Slow	<b>MA6-1137</b>	1SFA 611 930 R1137	0.001
Down	<b>MA6-1138</b>	1SFA 611 930 R1138	0.001
Up	<b>MA6-1139</b>	1SFA 611 930 R1139	0.001
Start	<b>MA6-1140</b>	1SFA 611 930 R1140	0.001
Stop	<b>MA6-1141</b>	1SFA 611 930 R1141	0.001

### Inserts for two-position selector switches

**With text or symbol**

**Pos. 21 Pos. 22**

O	I	<b>MA6-1170</b>	1SFA 611 930 R1170	0.001
I	II	<b>MA6-1171</b>	1SFA 611 930 R1171	0.001
→	→→	<b>MA6-1172</b>	1SFA 611 930 R1172	0.001
Off	On	<b>MA6-1173</b>	1SFA 611 930 R1173	0.001
Stop	Start	<b>MA6-1174</b>	1SFA 611 930 R1174	0.001
Low	High	<b>MA6-1175</b>	1SFA 611 930 R1175	0.001
Slow	Fast	<b>MA6-1176</b>	1SFA 611 930 R1176	0.001
Close	Open	<b>MA6-1177</b>	1SFA 611 930 R1177	0.001
Jog	Run	<b>MA6-1178</b>	1SFA 611 930 R1178	0.001
Hand	Auto	<b>MA6-1179</b>	1SFA 611 930 R1179	0.001

### Inserts for three-position selector switches

Text on both sides.

**With text or symbol**

**Pos. 31 Pos. 32 Pos. 33**

←	O	→	<b>MA6-1190</b>	1SFA 611 930 R 1190	0.001
→	O	→→	<b>MA6-1191</b>	1SFA 611 930 R 1191	0.001
I	O	II	<b>MA6-1192</b>	1SFA 611 930 R 1192	0.001
Hand	O	Auto	<b>MA6-1193</b>	1SFA 611 930 R 1193	0.001
Slow	Off	Fast	<b>MA6-1194</b>	1SFA 611 930 R 1194	0.001

More legend plates for plastic enclosures – see page 73.

### Marking

See page 6 for more information.

There is also possibility to order customer specific marked operators online.



# Legend plates

## Emergency stop legend plates



Description Text	Packing qty: 10 pcs		Weight, kg
	Type	Order Code	
<b>Emergency stop legend plates</b>			
<b>Black text on a yellow plastic plate.</b>			
Can be used as yellow background.			
Emergency Stop		<b>1SFA 616 915 R1005</b>	0.003
Not Aus		<b>1SFA 616 915 R6005</b>	0.003
Without text		<b>1SFA 616 915 R1038</b>	0.003
With customer-selected marking		<b>1SFA 616 915 L1038</b>	0.003

Description Text	Packing qty: 1 pcs		Weight, kg
	Type	Order Code	
<b>Emergency stop legend plates</b>			
<b>Black text on a yellow aluminium plate.</b>			
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
HÄTÅSEIS		<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

More emergency stop legend plates on page 73-74.

### Marking

See page 6 for more information.

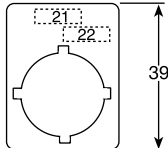
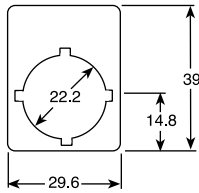
There is also possibility to order customer specific marked operators online.



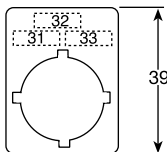


# Legend plates

## Legend plates for pushbuttons



For two-position selector switch



For three-position selector switch

Description Symbol or text	Packing qty: 1 pc		Weight, kg
	Type	Order Code	

### Engraved fixed legend plates for pushbuttons

Text height 3 mm  
Of silvergrey aluminium

#### For pushbuttons – with symbols

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

#### For pushbuttons – with text in English

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

#### For two-position selector switches – with symbols

Description/Symbol/Text			
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

#### For two-position selector switches – with text in English

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

#### For three-position selector switches – with symbols

Description/Symbol/Text			
Pos 31	Pos 32	Pos 33	
I	O	II	SK 615 550-81
←	O	→	SK 615 562-82
→	O	→→	SK 615 562-83

#### For two-position selector switches – with text in English

Hand	O	Auto	SK 615 550-80	0.002
Slow	Off	Fast	SK 615 552-60	0.002

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

Of silvergrey aluminium

For 1 - 2 text lines. H = 39 mm	MA16-1000	1SFA 611 940 R1000	0.002
For 2 - 3 text lines. H = 44 mm	MA16-1001	1SFA 611 940 R1001	0.002

#### Legend plate – with customer-selected marking

H = 39 mm	MA16-1000-L	1SFA 611 940 L1000	0.002
H = 44 mm	MA16-1001-L	1SFA 611 940 L1001	0.002

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

### Marking

See page 6 for more information.

There is also possibility to order customer specific marked operators online.

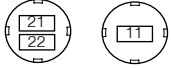
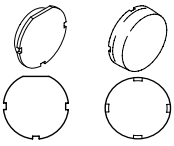




# Legend plates

## Text caps for illuminated pushbuttons and pilot lights

### Flush or extended button

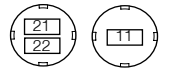


Can be turned 90° or 180°

### 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/ symbol	Cap color <sup>1)</sup>	Flush button Type Order Code	Extended button Type Order Code	Pilot light Type Order Code
<b>Text caps for illuminated pushbuttons and pilot lights</b> Weight 0.001 kg				
START	White	<b>KTC6-1042</b> 1SFA 616 906 R1042	– –	– –
R	White	<b>KTC1- 9009</b> 1SFA 616 901 R9009	<b>KTC2- 9009</b> 1SFA 616 902 R9009	<b>KTC3- 9009</b> 1SFA 616 903 R9009
	Black	<b>KTC8- 9009</b> 1SFA 616 908 R9009	<b>KTC9- 9009</b> 1SFA 616 909 R9009	– –
On	White	<b>KTC1- 1020</b> 1SFA 616 901 R1020	<b>KTC2- 1020</b> 1SFA 616 902 R1020	<b>KTC3- 1020</b> 1SFA 616 903 R1020
ON	White	<b>KTC1- 1039</b> 1SFA 616 901 R1039	– –	<b>KTC3- 1039</b> 1SFA 616 903 R1039
	Green	<b>KTC6- 1039</b> 1SFA 616 906 R1039	– –	– –
	Black	<b>KTC8- 1039</b> 1SFA 616 908 R1039	– –	– –
Off	White	<b>KTC1- 1019</b> 1SFA 616 901 R1019	<b>KTC2- 1019</b> 1SFA 616 902 R1019	<b>KTC3- 1019</b> 1SFA 616 903 R1019
OFF	White	– –	<b>KTC2- 1040</b> 1SFA 616 902 R1040	– –
	Red	– –	<b>KTC5- 1040</b> 1SFA 616 905 R1040	– –
	Black	– –	<b>KTC9- 1040</b> 1SFA 616 909 R1040	– –
Stop	White	<b>KTC1- 1031</b> 1SFA 616 901 R1031	<b>KTC2- 1031</b> 1SFA 616 902 R1031	<b>KTC3- 1031</b> 1SFA 616 903 R1031
STOP	Red	<b>KTC4- 1047</b> 1SFA 616 904 R1047	<b>KTC5- 1047</b> 1SFA 616 905 R1047	– –
Reset	White	<b>KTC1- 1025</b> 1SFA 616 901 R1025	<b>KTC2- 1025</b> 1SFA 616 902 R1025	<b>KTC3- 1025</b> 1SFA 616 903 R1025
(Without text)	White	<b>KTC1- 9000</b> 1SFA 616 901 R9000	<b>KTC2- 9000</b> 1SFA 616 902 R9000	<b>KTC3- 9000</b> 1SFA 616 903 R9000
(With customer- selected marking)	White	<b>KTC1- 9000-L</b> 1SFA 616 901 L9000	<b>KTC2- 9000-L</b> 1SFA 616 902 L9000	<b>KTC3- 9000-L</b> 1SFA 616 903 L9000

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

### Marking

See page 6 for more information.

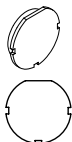
There is also possibility to order customer specific marked operators online.



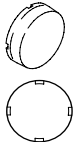
# Legend plates

Text caps for illuminated pushbuttons and pilot lights

Flush button

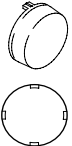


Extended button



Can be turned 90° or 180°

Pilot light



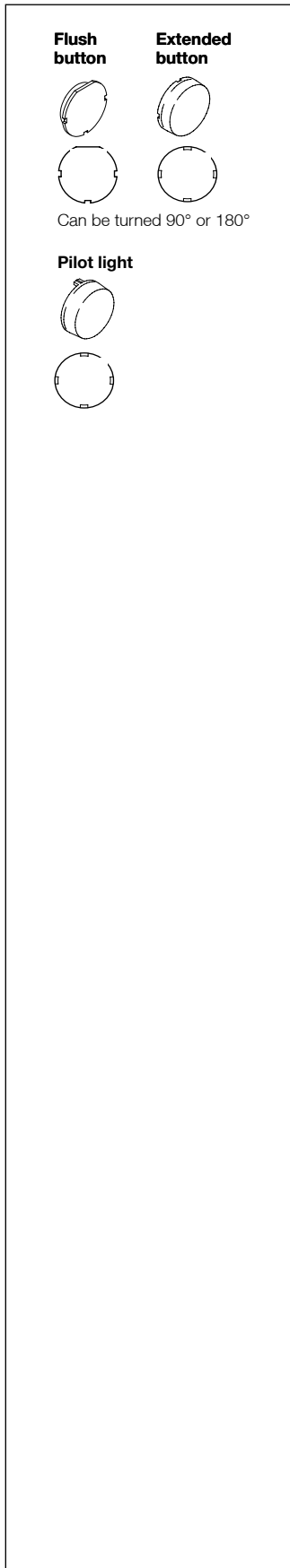
Text/ symbol	Cap color <sup>1)</sup>	Flush button Type Order Code	Extended button Type Order Code	Pilot light Type Order Code
<b>Text caps for illuminated pushbuttons and pilot lights</b> Weight 0.001 kg				
<b>O</b>	White	<b>KTC1- 9004</b> 1SFA 616 901 R9004	<b>KTC2- 9004</b> 1SFA 616 902 R9004	<b>KTC3- 9004</b> 1SFA 616 903 R9004
	Red	<b>KTC4- 9004</b> 1SFA 616 904 R9004	<b>KTC5- 9004</b> 1SFA 616 905 R9004	–
	Black	<b>KTC8- 9004</b> 1SFA 616 908 R9004	–	–
<b>I</b>	White	<b>KTC1- 9002</b> 1SFA 616 901 R9002	<b>KTC2- 9002</b> 1SFA 616 902 R9002	<b>KTC3- 9002</b> 1SFA 616 903 R9002
	Green	<b>KTC6- 9002</b> 1SFA 616 906 R9002	–	–
	Black	<b>KTC8- 9002</b> 1SFA 616 908 R9002	–	–
<b>II</b>	White	<b>KTC1- 9003</b> 1SFA 616 901 R9003	<b>KTC2- 9003</b> 1SFA 616 902 R9003	<b>KTC3- 9003</b> 1SFA 616 903 R9003
	Green	<b>KTC6- 9003</b> 1SFA 616 906 R9003	–	–
	Black	<b>KTC8- 9003</b> 1SFA 616 908 R9003	–	–
<b>III</b>	White	<b>KTC1- 9028</b> 1SFA 616 901 R9028	<b>KTC2- 9028</b> 1SFA 616 902 R9028	–
	Black	<b>KTC8- 9028</b> 1SFA 616 908 R9028	–	–
<b>+</b>	White	<b>KTC1- 9011</b> 1SFA 616 901 R9011	<b>KTC2- 9011</b> 1SFA 616 902 R9011	–
	Green	<b>KTC6- 9011</b> 1SFA 616 906 R9011	–	–
	Black	<b>KTC8- 9011</b> 1SFA 616 908 R9011	–	–
<b>-</b>	White	<b>KTC1- 9012</b> 1SFA 616 901 R9012	–	–
	Red	<b>KTC4- 9012</b> 1SFA 616 904 R9012	–	–
	Black	<b>KTC8- 9012</b> 1SFA 616 908 R9012	–	–
<b>↑</b>	White	<b>KTC1- 9005</b> 1SFA 616 901 R9005	<b>KTC2- 9005</b> 1SFA 616 902 R9005	<b>KTC3- 9005</b> 1SFA 616 903 R9005
	Black	<b>KTC8- 9005</b> 1SFA 616 908 R9005	–	–
<b>↗</b>	White	<b>KTC1- 9014</b> 1SFA 616 901 R9014	<b>KTC2- 9014</b> 1SFA 616 902 R9014	–
	Black	<b>KTC8- 9014</b> 1SFA 616 908 R9014	–	–
<b>↔</b>	White	<b>KTC1- 9015</b> 1SFA 616 901 R9015	<b>KTC2- 9015</b> 1SFA 616 902 R9015	–
	Black	<b>KTC8- 9015</b> 1SFA 616 908 R9015	–	–
<b>↔</b>	White	<b>KTC1- 9016</b> 1SFA 616 901 R9016	<b>KTC2- 9016</b> 1SFA 616 902 R9016	–
	Black	<b>KTC8- 9016</b> 1SFA 616 908 R9016	–	–
<b>→</b>	White	<b>KTC1- 9017</b> 1SFA 616 901 R9017	<b>KTC2- 9017</b> 1SFA 616 902 R9017	–
	Black	<b>KTC8- 9017</b> 1SFA 616 908 R9017	–	–

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

Cont. next page

# Legend plates

Text caps for illuminated pushbuttons and pilot lights

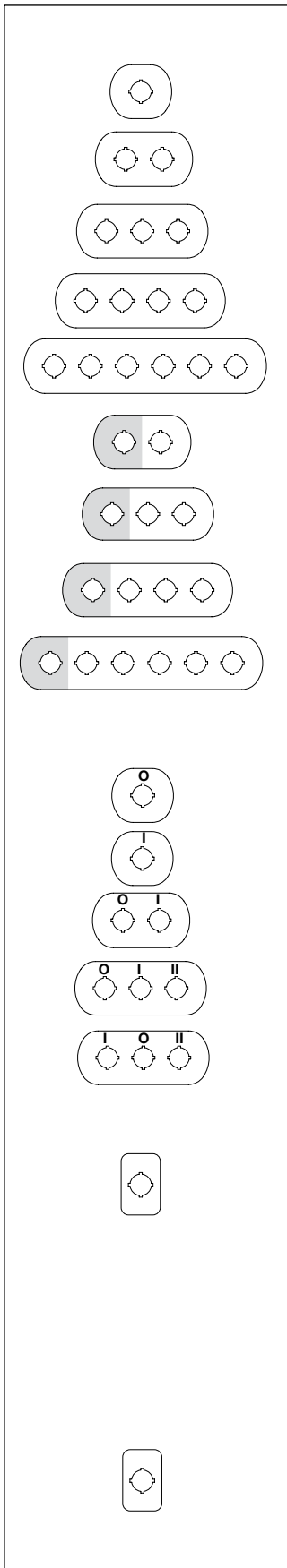


Text/ symbol	Cap color <sup>1)</sup>	Flush button Type Order Code	Extended button Type Order Code	Pilot light Type Order Code.
<b>Text caps for illuminated pushbuttons and pilot lights</b> Weight 0.001 kg				
→↔	White	<b>KTC1- 9006</b> 1SFA 616 901 R9006	<b>KTC2- 9006</b> 1SFA 616 902 R9006	<b>KTC3- 9006</b> 1SFA 616 903 R9006
⊕	White	<b>KTC1- 9018</b> 1SFA 616 901 R9018	<b>KTC2- 9018</b> 1SFA 616 902 R9018	–
	Black	<b>KTC8- 9018</b> 1SFA 616 908 R9018	–	–
●	White	<b>KTC1- 9019</b> 1SFA 616 901 R9019	<b>KTC2- 9019</b> 1SFA 616 902 R9019	–
	Black	<b>KTC8- 9019</b> 1SFA 616 908 R9019	–	–
⊗	White	<b>KTC1- 9020</b> 1SFA 616 901 R9020	<b>KTC2- 9020</b> 1SFA 616 902 R9020	–
	Black	<b>KTC8- 9020</b> 1SFA 616 908 R9020	–	–
☞	White	<b>KTC1- 9021</b> 1SFA 616 901 R9021	<b>KTC2- 9021</b> 1SFA 616 902 R9021	–
	Black	<b>KTC8- 9021</b> 1SFA 616 908 R9021	–	–
⋈	White	<b>KTC1- 9022</b> 1SFA 616 901 R9022	<b>KTC2- 9022</b> 1SFA 616 902 R9022	–
	Black	<b>KTC8- 9022</b> 1SFA 616 908 R9022	–	–
⚡	White	<b>KTC1- 9023</b> 1SFA 616 901 R9023	<b>KTC2- 9023</b> 1SFA 616 902 R9023	–
	Black	<b>KTC8- 9023</b> 1SFA 616 908 R9023	–	–
⚓	White	<b>KTC1- 9024</b> 1SFA 616 901 R9024	<b>KTC2- 9024</b> 1SFA 616 902 R9024	–
	Black	<b>KTC8- 9024</b> 1SFA 616 908 R9024	–	–
↑	White	<b>KTC1- 9025</b> 1SFA 616 901 R9025	<b>KTC2- 9025</b> 1SFA 616 902 R9025	–
	Black	<b>8- 9025</b> 1SFA 616 908 R9025	–	–
↓	White	<b>KTC1- 9026</b> 1SFA 616 901 R9026	<b>KTC2- 9026</b> 1SFA 616 902 R9026	–
	Black	<b>KTC8- 9026</b> 9 1SFA 616 08 R9026	–	–
⚡	White	<b>KTC1- 9027</b> 1SFA 616 901 R9027	<b>KTC2- 9027</b> 1SFA 616 902 R9027	–
	Black	<b>KTC8- 9027</b> 1SFA 616 908 R9027	–	–

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

# Legend plates

## Special legend plates for plastic enclosures



Description	Packing qty: 1 pc		Weight, kg
	Type	Order Code	
<b>Legend plates for plastic enclosures</b>			
Of silvergrey aluminium on plastic			
<b>1-seat</b> without text	<b>MA6-1000</b>	1SFA 611 930 R1000	0.004
<b>2-seat</b> without text	<b>MA6-1002</b>	1SFA 611 930 R1002	0.006
<b>3-seat</b> without text	<b>MA6-1003</b>	1SFA 611 930 R1003	0.008
<b>4-seat</b> without text	<b>MA6-1004</b>	1SFA 611 930 R1004	0.010 0.010
<b>6-seat</b> without text	<b>MA6-1005</b>	1SFA 611 930 R1005	0.012
<b>Legend plates for plastic enclosures</b>			
Of silvergrey aluminium on plastic.(Pos. 1 Yellow)			
<b>2-seat</b> without text	<b>MA6-1006</b>	1SFA 611 930 R1006	0.006
<b>3-seat</b> without text	<b>MA6-1007</b>	1SFA 611 930 R1007	0.008
<b>4-seat</b> without text	<b>MA6-1008</b>	1SFA 611 930 R1008	0.010
<b>6-seat</b> without text	<b>MA6-1009</b>	1SFA 611 930 R1009	0.012
<b>Legend plates for plastic enclosures</b>			
Of silvergrey aluminium on plastic.			
<b>Symbol/Text</b>			
<b>Pos</b>			
<b>1 2 3</b>			
<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
<b>Emergency stop legend plate</b>			
Black text on an <b>yellow aluminium plate.</b>			
Without text	<b>MA6-1010</b>	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 <b>yellow plastic plate.</b>			
Without text	<b>MA6-1011</b>	1SFA 611 930 R1011	0.002
With text:			
Emergency Stop	<b>MA6-1023</b>	1SFA 611 930 R1023	0.002

### Marking

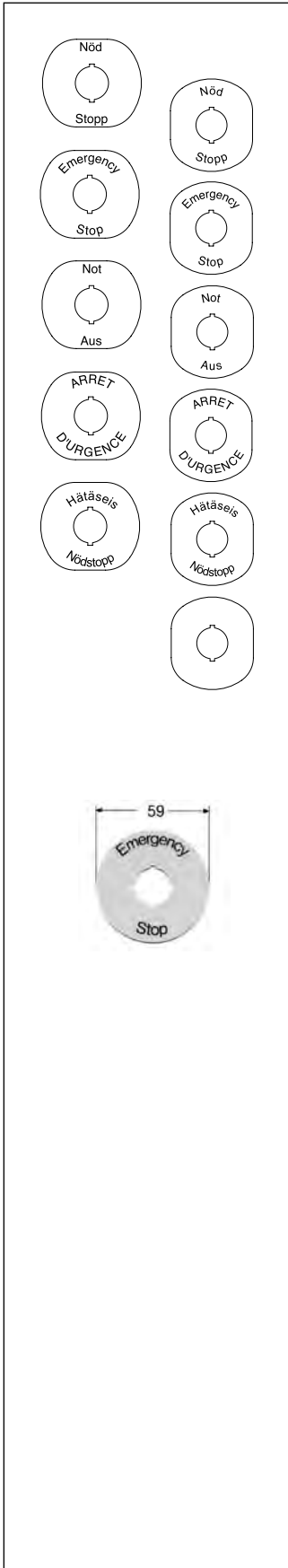
See page 6 for more information.

There is also possibility to order customer specific marked operators online.



# Legend plates

Special legend plates for plastic enclosures



Description	Packing qty: 1 pc		Weight, kg
	Type	Order Code	
<b>Emergency stop legend plates for plastic enclosures</b>			
<b>For horizontally mounted enclosures</b>			
Of yellow plastic/black text:			
Nöd Stopp	<b>MA6-1025</b>	1SFA 611 930 R1025	0.004
Emergency Stop	<b>MA6-1026</b>	1SFA 611 930 R1026	0.004
Not Aus	<b>MA6-1027</b>	1SFA 611 930 R1027	0.004
ARRET DURGENCE	<b>MA6-1028</b>	1SFA 611 930 R1028	0.004
Hätäseis	<b>MA6-1029</b>	1SFA 611 930 R1029	0.004
<b>For vertically mounted enclosures</b>			
Of yellow plastic/black text:			
Nöd Stopp	<b>MA6-1100</b>	1SFA 611 930 R1100	0.004
Emergency Stop	<b>MA6-1101</b>	1SFA 611 930 R1101	0.004
Not Aus	<b>MA6-1102</b>	1SFA 611 930 R1102	0.004
ARRET DURGENCE	<b>MA6-1103</b>	1SFA 611 930 R1103	0.004
Hätäseis	<b>MA6-1104</b>	1SFA 611 930 R1104	0.004
Of yellow plastic/			
Without text	<b>MA6-1024</b>	1SFA 611 930 R1024	0.004
With customer-selected marking	<b>MA6-1024-L</b>	1SFA 611 930 L1024	0.004

Description	Packing qty: 10 pc		Weight, kg
	Type	Order Code	
<b>Emergency stop legend plates for 'Compact enclosure'</b>			
Black text on yellow aluminium plate:			
Emergency stop	<b>CA6-1026</b>	1SFA 619 930 R1026	0.004
Not Aus	<b>CA6-1027</b>	1SFA 619 930 R1027	0.004

## Marking

See page 6 for more information.

There is also possibility to order customer specific marked operators online.





## Pilot devices, 22 mm

Signal Towers K70 and Signal Beacons KSB



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

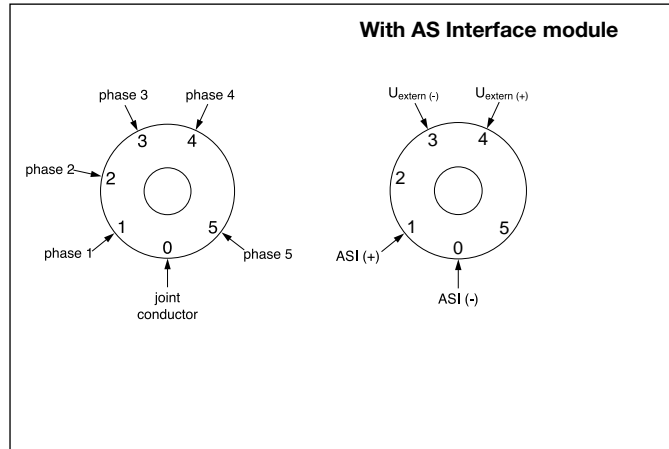
## Description

### Simple fitting with quick fix system

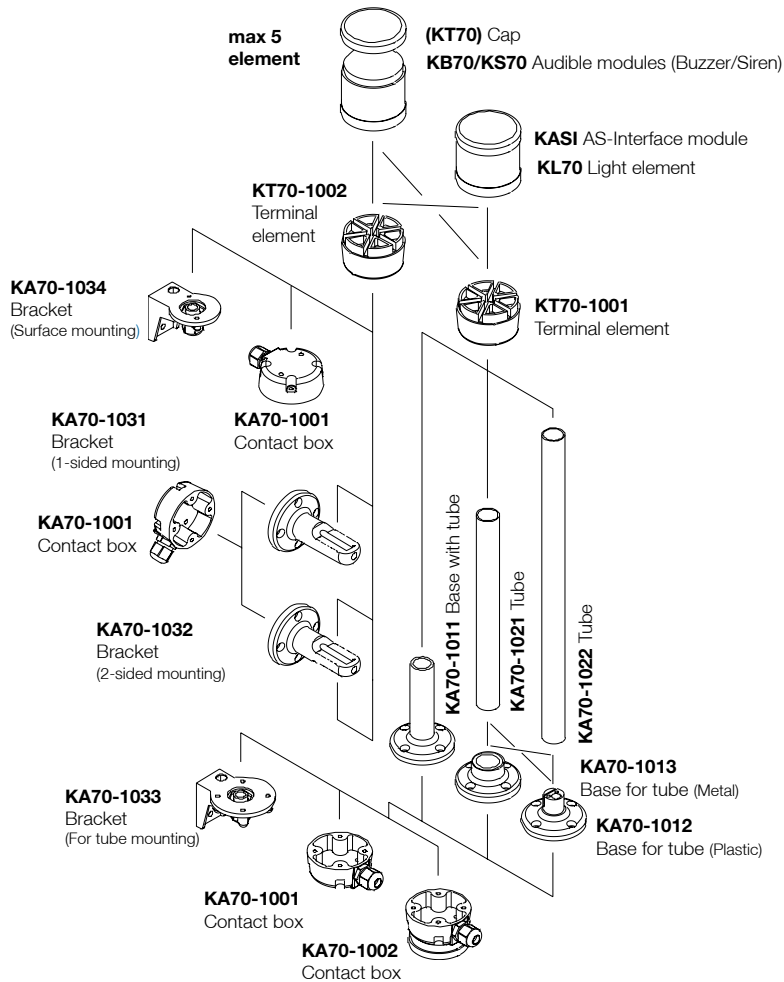
Each K 70 module is equipped with a bayonet fixing with integral contact system. The modules are fastened together by aligning the corresponding white marks then with a gentle twist they are locked into place (see the figures).



### Connection plans



### Combination possibilities



# Signal Towers K70

## Optical modules



Description	Packing qty: 1 pc		Weight, kg
	Type	Order Code	
<b>Light element</b>			
<b>Permanent light</b> , 12-240 V AC/DC. For bulb BA15d. Bulb not included.			
Red	<b>KL70-401R</b>	1SFA 616 070 R4011	0.09
Green	<b>KL70-401G</b>	1SFA 616 070 R4012	0.09
Yellow	<b>KL70-401Y</b>	1SFA 616 070 R4013	0.09
Blue	<b>KL70-401L</b>	1SFA 616 070 R4014	0.09
Clear	<b>KL70-401C</b>	1SFA 616 070 R4018	0.09
<b>Blinking light</b> , 24 V AC/DC. With integrated LED			
Red	<b>KL70-306R</b>	1SFA 616 070 R3061	0.10
Green	<b>KL70-306G</b>	1SFA 616 070 R3062	0.10
Yellow	<b>KL70-306Y</b>	1SFA 616 070 R3063	0.10
Blue	<b>KL70-306L</b>	1SFA 616 070 R3064	0.10
Clear	<b>KL70-306C</b>	1SFA 616 070 R3068	0.10
<b>Flashing light</b> , 24 V DC. Xenon tube included. Not changeable.			
Red	<b>KL70-203R</b>	1SFA 616 070 R2031	0.12
Green	<b>KL70-203G</b>	1SFA 616 070 R2032	0.12
Yellow	<b>KL70-203Y</b>	1SFA 616 070 R2033	0.12
Blue	<b>KL70-203L</b>	1SFA 616 070 R2034	0.12
Clear	<b>KL70-203C</b>	1SFA 616 070 R2038	0.12
<b>Blinking light</b> , 115 V AC. With integrated LED			
Red	<b>KL70-342R</b>	1SFA 616 070 R3421	0.10
Green	<b>KL70-342G</b>	1SFA 616 070 R3422	0.10
Yellow	<b>KL70-342Y</b>	1SFA 616 070 R3423	0.10
Blue	<b>KL70-342L</b>	1SFA 616 070 R3424	0.10
Clear	<b>KL70-342C</b>	1SFA 616 070 R3428	0.10
<b>Flashing light</b> , 115 V AC. Xenon tube included. Not changeable.			
Red	<b>KL70-113R</b>	1SFA 616 070 R1131	0.11
Green	<b>KL70-113G</b>	1SFA 616 070 R1132	0.11
Yellow	<b>KL70-113Y</b>	1SFA 616 070 R1133	0.11
Blue	<b>KL70-113L</b>	1SFA 616 070 R1134	0.11
Clear	<b>KL70-113C</b>	1SFA 616 070 R1138	0.11
<b>Blinking light</b> , 230 V AC. With integrated LED			
Red	<b>KL70-352R</b>	1SFA 616 070 R3521	0.10
Green	<b>KL70-352G</b>	1SFA 616 070 R3522	0.10
Yellow	<b>KL70-352Y</b>	1SFA 616 070 R3523	0.10
Blue	<b>KL70-352L</b>	1SFA 616 070 R3524	0.10
Clear	<b>KL70-352C</b>	1SFA 616 070 R3528	0.10
<b>Flashing light</b> , 230 V AC. Xenon tube included. Not changeable.			
Red	<b>KL70-123R</b>	1SFA 616 070 R1231	0.11
Green	<b>KL70-123G</b>	1SFA 616 070 R1232	0.11
Yellow	<b>KL70-123Y</b>	1SFA 616 070 R1233	0.11
Blue	<b>KL70-123L</b>	1SFA 616 070 R1234	0.11
Clear	<b>KL70-123C</b>	1SFA 616 070 R1238	0.11
<b>LED Permanent light</b> , 24 V AC/DC. LED included. Not changeable.			
Red	<b>KL70-305R</b>	1SFA 616 070 R3051	0.10
Green	<b>KL70-305G</b>	1SFA 616 070 R3052	0.10
Yellow	<b>KL70-305Y</b>	1SFA 616 070 R3053	0.10
Blue	<b>KL70-305L</b>	1SFA 616 070 R3054	0.10
White	<b>KL70-305C</b>	1SFA 616 070 R3058	0.10
<b>LED Rotating light</b> , 24 V AC/DC. LED included. Not changeable.			
Red	<b>KL70-307R</b>	1SFA 616 070 R3071	0.10
Green	<b>KL70-307G</b>	1SFA 616 070 R3072	0.10
Yellow	<b>KL70-307Y</b>	1SFA 616 070 R3073	0.10
Blue	<b>KL70-307L</b>	1SFA 616 070 R3074	0.10
White	<b>KL70-307C</b>	1SFA 616 070 R3078	0.10



# Signal Towers K70

## Accessories



Description	Packing qty: 10 pcs		Weight, kg
	Type	Order Code	
<b>Bulbs for Signal Tower K70</b> Bulb Ba 15d, 42 mm, Max 7 W For permanent or blinking light.			
24 V, 5 W, AC/DC	<b>KA4-1028</b>	1SFA 616 923 R1028	0.009
115 V, 5 W, AC/DC	<b>KA4-1118</b>	1SFA 616 923 R1118	0.009
230 V, 5 W, AC/DC	<b>KA4-1148</b>	1SFA 616 923 R1148	0.009

Description	Packing qty: 1 pc		Weight, kg
	Type	Order Code	
<b>LED bulbs for Signal Tower K70</b> 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
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Multi function, 8 diff. tones adjustable, volume adjustable 100 dB, 230 V AC

<b>KS70-1204</b>	1SFA 616 073 R1204	0.12
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Multi function, 7 diff. tones adjustable, volume adjustable, remote control 100 dB, 24 V DC

<b>KS70-2004</b>	1SFA 616 073 R2004	0.12
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Multi function, 8 diff. tones adjustable, volume adjustable, 100 dB, 24 V AC/DC

<b>KS70-3004</b>	1SFA 616 073 R3004	0.12
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Continuous tone alternating 108 dB, 24 V DC

<b>KS70-2002</b>	1SFA 616 073 R2002	0.15
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### Terminal elements

For tube mounting, including cap

<b>KT70-1001</b>	1SFA 616 075 R1001	0.15
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For bracket or base, including cap

<b>KT70-1002</b>	1SFA 616 075 R1002	0.15
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### Special parts

#### Contact box

Cable exit at side

<b>KA70-1001</b>	1SFA 616 077 R1001	0.07
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Magnetic base

<b>KA70-1002</b>	1SFA 616 077 R1002	0.31
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#### Base with tube

D=25 mm L=110 mm

<b>KA70-1011</b>	1SFA 616 077 R1011	0.06
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#### Base for tube

D=25 mm, Plastic

<b>KA70-1012</b>	1SFA 616 077 R1012	0.03
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D=25 mm, Metal

<b>KA70-1013</b>	1SFA 616 077 R1013	0.32
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#### Tube, anodized aluminium

D=25 mm L=250 mm

<b>KA70-1021</b>	1SFA 616 077 R1021	0.08
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D=25 mm L=400 mm

<b>KA70-1022</b>	1SFA 616 077 R1022	0.12
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D=25 mm L=800 mm

<b>KA70-1023</b>	1SFA 616 077 R1023	0.24
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#### Bracket

1-sided mounting

<b>KA70-1031</b>	1SFA 616 077 R1031	0.07
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2-sided mounting

<b>KA70-1032</b>	1SFA 616 077 R1032	0.07
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For tube mounting

<b>KA70-1033</b>	1SFA 616 077 R1033	0.07
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For surface mounting

<b>KA70-1034</b>	1SFA 616 077 R1034	0.07
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Combinations of accessories see page 76

# Signal Beacons KSB



Description	Packing qty: 1 pc		Weight, kg
	Type	Order Code	

## Signal Beacons KSB

**Permanent light**, 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

**Flashing light**, 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

**Flashing light**, 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

**Flashing light**, 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

**LED Permanent light**, 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

**LED Blinking light**, 24 V AC/DC. LED included. Not changeable.

Red	<b>KSB-306R</b>	1SFA 616 080 R3061	0.14
Green	<b>KSB-306G</b>	1SFA 616 080 R3062	0.14
Yellow	<b>KSB-306Y</b>	1SFA 616 080 R3063	0.14

**LED Rotating light**, 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

## Special parts

Anti-twist device	<b>KASB-100</b>	1SFA 616 087 R1000	0.005
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Description	Packing qty: 10 pcs		Weight, kg
	Type	Order Code	

**Bulbs for Signal Beacons** Max 10 W. For permanent light.

Bulb Ba15d, 52 mm:

12 V, 7 W, AC/DC	<b>KA3-1018</b>	1SFA 616 922 R1018	10	0.011
24 V, 7 W, AC/DC	<b>KA3-1028</b>	1SFA 616 922 R1028	10	0.011
115 V, 7 W, AC/DC	<b>KA3-1118</b>	1SFA 616 922 R1118	10	0.011
220-260 V, 7-10 W, AC/DC	<b>KA3-1148</b>	1SFA 616 922 R1148	10	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 Tube mounting, for tube ø 25 mm 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>Flashing light element</b>	24 V      115 V      230 V 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 AC/DC    AC      AC
Life duration	100 000 hours
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 AC/DC    AC      AC
Life duration	100 000 hours
Current consumption	25 mA    25 mA    25 mA
Starting current	< 0.5 A at 24 V
<b>Blink frequency</b>	c. 1 Hz    c. 1 Hz    c. 1 Hz
<b>LED Rotating light element</b>	24 V, AC/DC
Life duration	100 000 hours
Current consumption	70 mA
Starting current	< 0.5 A at 24 V
<b>Rotation frequency</b>	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>

#### Degrees of protection

IP 65      UL Type 5

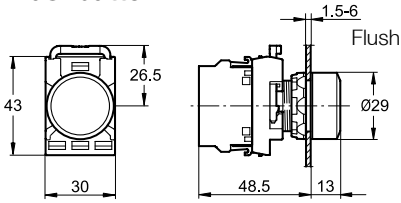
#### Electrical data

<b>Permanent light element</b>	
Operating voltage	max. 250 V
Life duration	100 000 hours
Bulb socket B 15 d, max 10 W	Bulb not included
<b>LED version:</b>	
<b>Permanent light</b>	24 V, AC/DC
Life duration	100 000 hours
Current consumption	45 mA
<b>Blinking light element</b>	24 V, AC/DC
Life duration	100 000 hours
Current consumption	25 mA
<b>Rotating light element</b>	24 V, AC/DC
Life duration	100 000 hours
Current consumption	70 mA
Starting current	< 0.5 A
<b>Flashing light element</b>	
Operating voltage	24 V      115 V      230 V 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

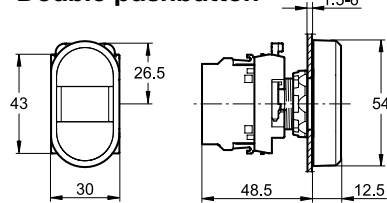
# Pilot devices - Modular range

## Dimensions

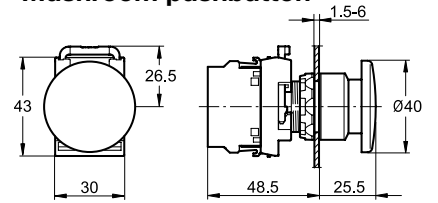
### Pushbutton



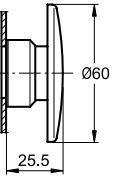
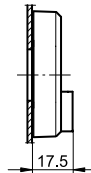
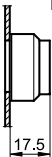
### Double pushbutton



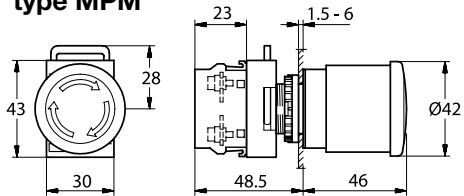
### Mushroom pushbutton



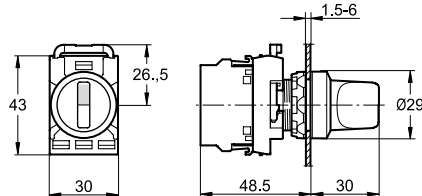
Flush



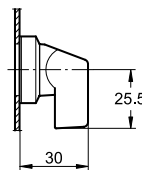
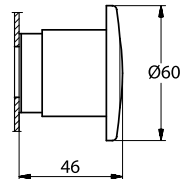
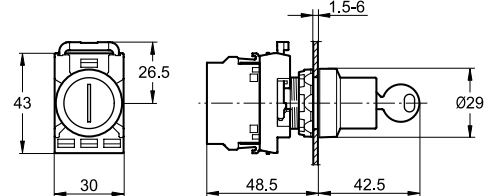
### Emergency stop pushbutton, type MPM



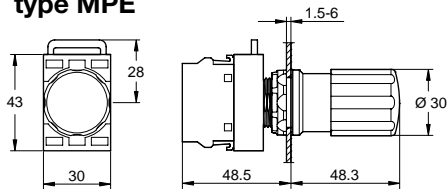
### Selector switch



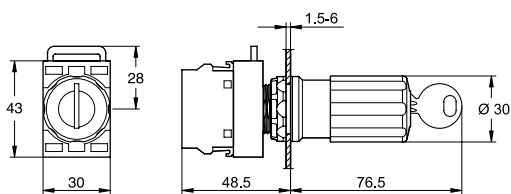
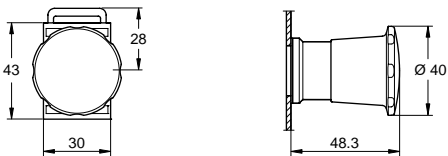
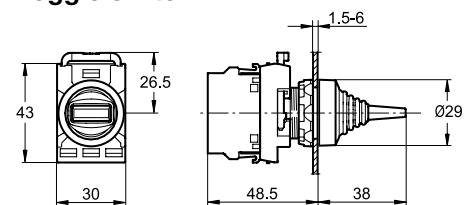
### Key-operated selector switch



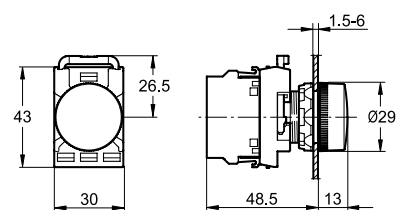
### Emergency stop pushbutton, type MPE



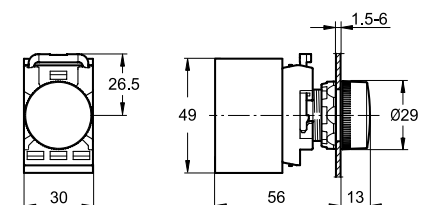
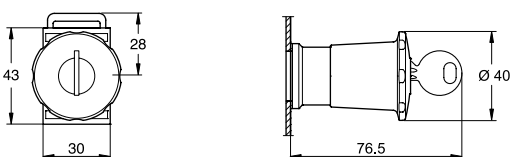
### Toggle switch



### Pilot light



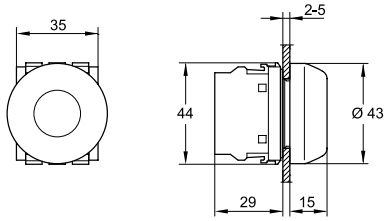
### Pilot light with transformer



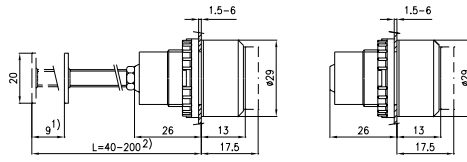
# Pilot devices - Miscellaneous

## Dimensions and drilling plans

### Definite purpose pushbutton

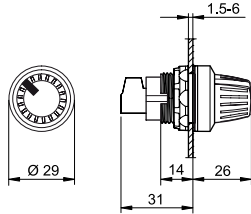
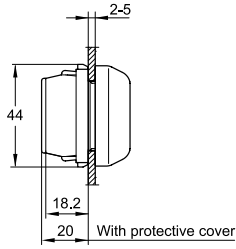


### Reset pushbutton

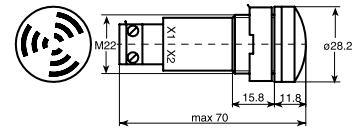


- 1) Length of stroke.
- 2) Can be cut to desired length.

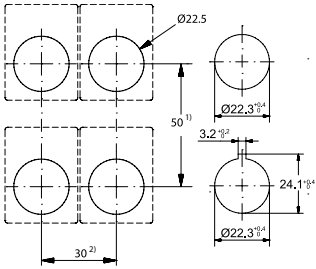
### Potentiometer



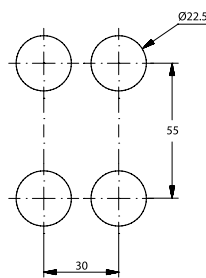
### Buzzer



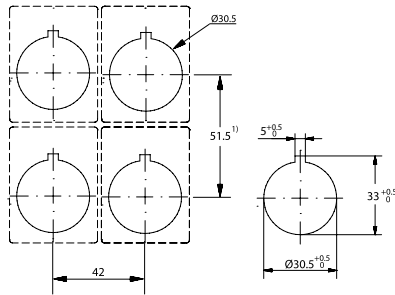
### Drilling plans for pushbuttons, switches and pilot lights



### Drilling plan for double pushbutton



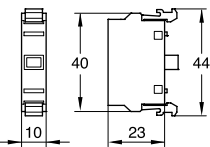
### Drilling plan for 30 mm adaptor



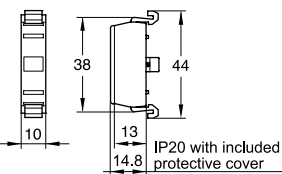
- 1) 55 mm when legend plate H= 44.5 mm is used.  
61 mm for mushroom pushbutton with D=60 mm

- 2) 37 mm when legend plate with insert is used,

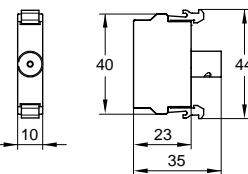
### Contact block (for front mounting)



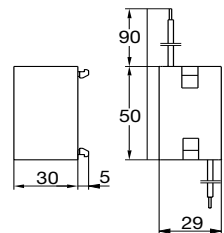
### Micro contact block (for front mounting)



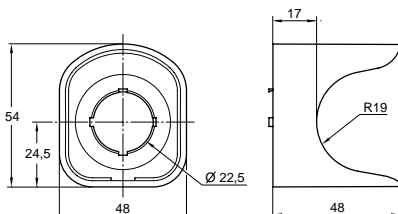
### Lamp block (for front mounting)



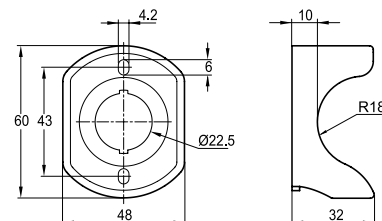
### Transformer block



### Emergency stop shroud Modular range



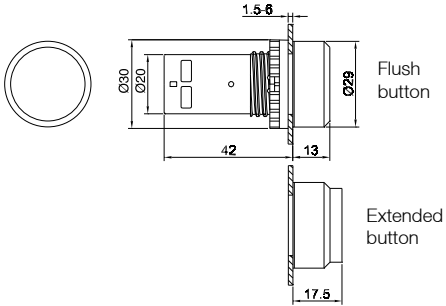
### Emergency stop shroud Compact range



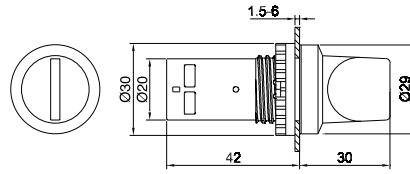
# Pilot devices - Compact range

## Dimensions

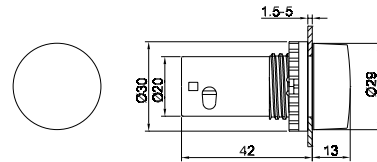
### Pushbutton



### Selector switch

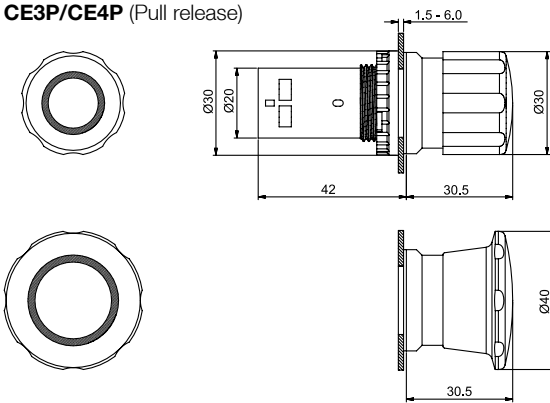


### Pilot light

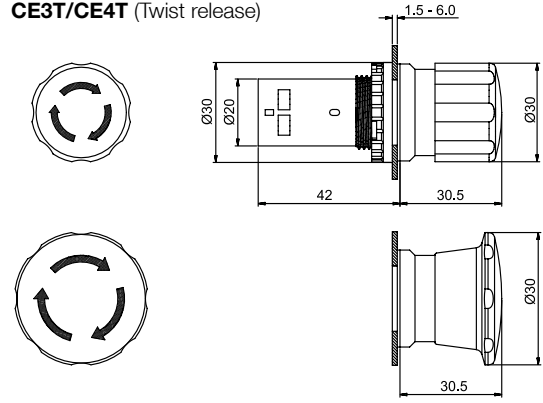


### Emergency stop pushbuttons

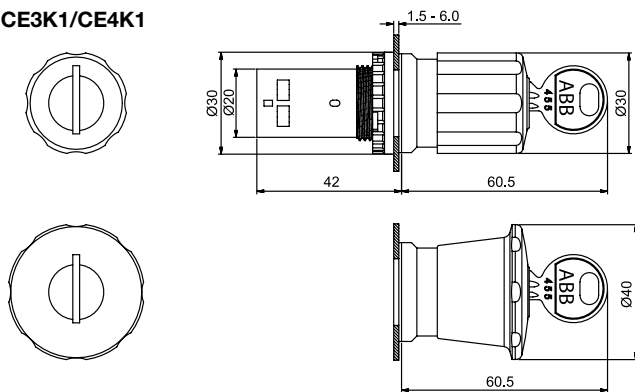
#### CE3P/CE4P (Pull release)



#### CE3T/CE4T (Twist release)



#### CE3K1/CE4K1

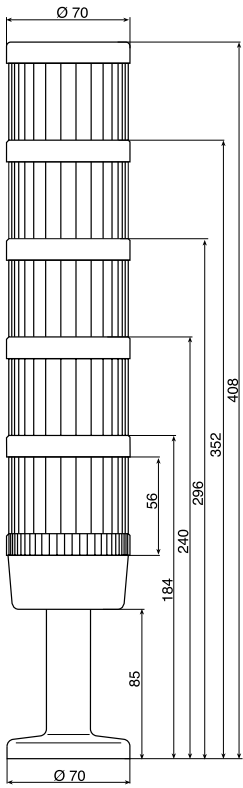


Drilling plans for compact pushbuttons, selector switches, pilot lights and emergency stop pushbuttons. See page 82

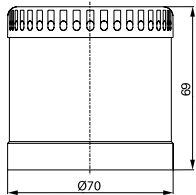
# Pilot devices - Signal Towers

## Dimensions and drilling plan

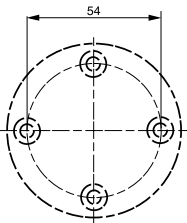
### Signal Towers K 70



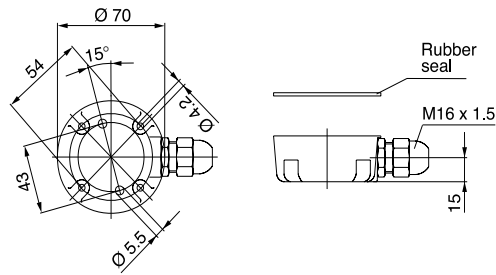
### Audible module



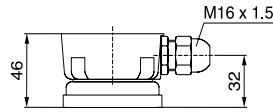
### Drilling plan for Signal Towers K 70



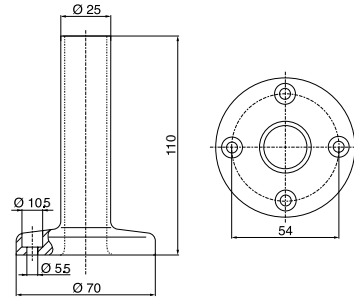
### Contact box for cable exit at side



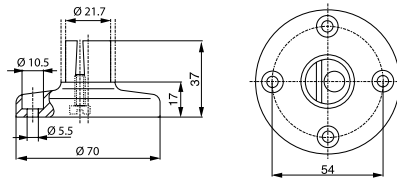
### Contact box with magnetic base



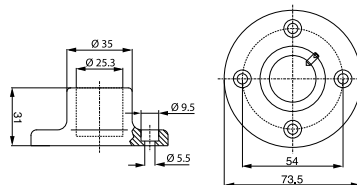
### Base with integrated tube



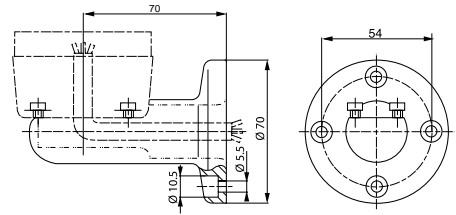
### Base for tube, plastic



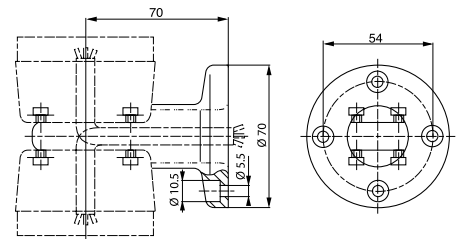
### Base for tube, metal



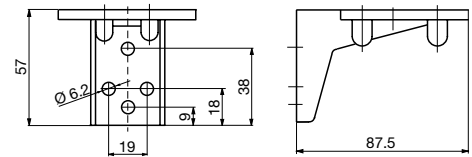
### Bracket 1-sided mounting



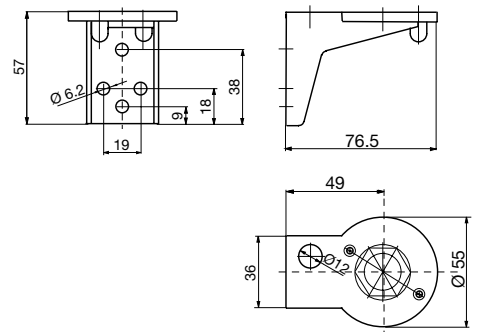
### Bracket 2-sided mounting



### Bracket for tube mounting



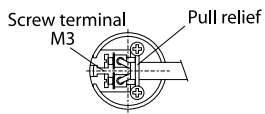
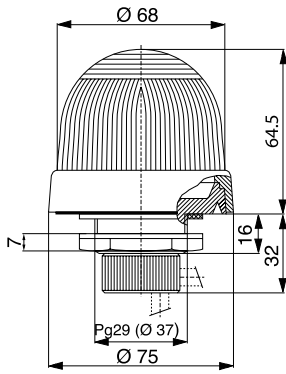
### Bracket for surface mounting



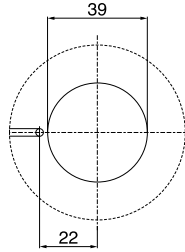
# Pilot devices - Signal Beacons

## Dimensions and drilling plan

Signal Beacons K SB



Drilling plan for Signal Beacons KSB



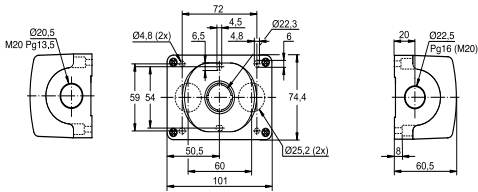


# Pilot devices - Enclosures

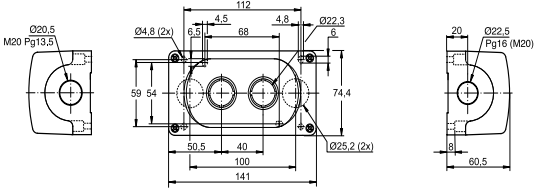
## Dimensions

### Plastic enclosures

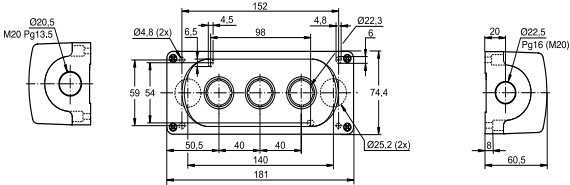
#### 1 seat



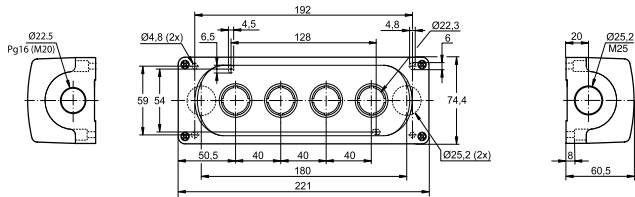
#### 2 seats



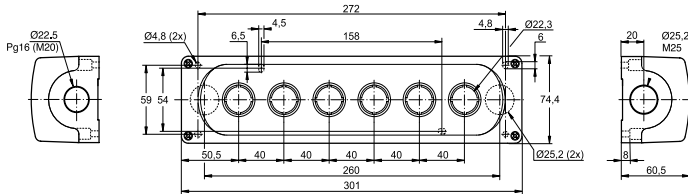
#### 3 seats



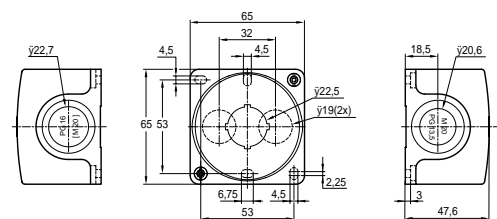
#### 4 seats



#### 6 seats

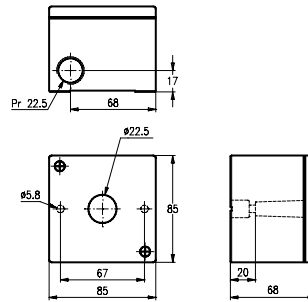


### Plastic enclosure for Compact range

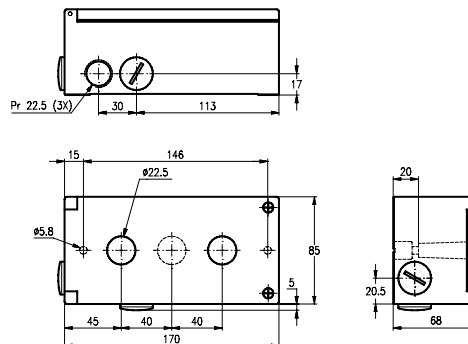


### Metallic enclosures

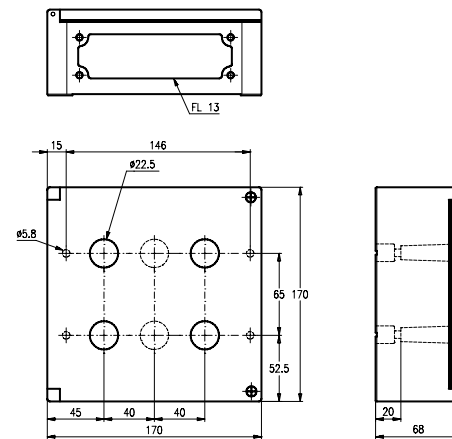
#### 1 seat



#### 2 or 3 seats



#### 4 or 6 seats








# Pilot devices -22 mm

## Color selection

### Color selection according to IEC 60 073

IEC 60 073 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.

# Degrees of Protection

## General

In an installation, the degree of protection required for electrical equipment depends on the environmental characteristics. The degree of protection, ensured by the enclosure of equipment or by the cubicle containing the equipment is expressed by the IP code which gives the level of protection against access to hazardous parts, the ingress of foreign bodies and/or the ingress of water, in compliance with IEC 60529, IEC 60947-1.

Besides the IP symbol, the complete code has two figures followed (optionally) by two additional letters. A short description of the elements used in IP coding is given below.

IP... code	Figures or letters	Specifications for installation protection	Protection of persons
<b>First figure</b>		<b>Against ingress of foreign bodies</b>	<b>Against access to hazardous parts with:</b>
	<b>0</b>	No protection	No protection
	<b>1</b>	Diameter > 50 mm	Back of hand
	<b>2</b>	Diameter > 12.5 mm	Finger
	<b>3</b>	Diameter > 2.5 mm	Tool
	<b>4</b>	Diameter > 1 mm	Wire
	<b>5</b>	Limited protection against dust	Wire
	<b>6</b>	Total protection against dust	Wire
<b>Second figure</b>		<b>Against entrance of water having a harmful effect</b>	
	<b>0</b>	No protection	
	<b>1</b>	Vertical dripping	
	<b>2</b>	Dripping at a vertical angle of < 15°	
	<b>3</b>	Rain at a vertical angle of < 60°	
	<b>4</b>	Splashing	
	<b>5</b>	Low pressure water jet	
	<b>6</b>	Powerful water jets	
	<b>7</b>	Temporary immersion	
	<b>8</b>	Permanent immersion	
<b>Additional letter (optional) for use with:</b>		<b>Against ingress of foreign bodies</b>	<b>Against access to hazardous parts with:</b>
First figure 0	<b>A</b>	Stopped by a barrier with a 50 mm Ø sphere	Back of hand
First figure 0 or 1	<b>B</b>	Entrance of test finger limited to 80 mm	Finger
First figure 1 or 2	<b>C</b>	Wire with 2.5 mm Ø and length of 100 mm	Tool
First figure 2 or 3	<b>D</b>	Wire with 1 mm Ø and length of 100 mm	Wire
<b>Additional letter (optional)</b>		<b>Specific additional information</b>	
	<b>H</b>	High voltage apparatus	–
	<b>M</b>	Moving parts which are moving during water test	
	<b>S</b>	Moving parts which are stationary during water test	
	<b>W</b>	Specified atmospheric conditions	

**Note:** The type of enclosure or cubicle in which the equipment must be installed prevails with respect to the degree of protection.

**Notes**



Lined writing area consisting of 20 horizontal lines for taking notes.











# Pilot devices - 22 mm

## Explanation of type codes

### Explanation of type code

#### Modular Pilot Devices

##### Pilot light

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

**L** Pilot **L**ight Head

##### Lens color:

**R** = **R**ed    **W** = **W**hite  
**G** = **G**reen   **C** = **C**lear  
**Y** = **Y**ellow  
**L** = **B**lue

##### Operators

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

**P** Pushbutton  
**PD** Pushbutton, **D**ouble  
**PET** Pushbutton, **E**mergency stop, **T**wist release  
**PEP** Pushbutton, **E**mergency stop, **P**ull releas  
**PEK** Pushbutton, **E**mergency stop, **K**ey releas  
**PK** Pushbutton, **K**ey-lockable  
**PM** Pushbutton, **M**ushroom  
**PMT** Pushbutton, **M**ushroom, **T**wist release  
**PMP** Pushbutton, **M**ushroom, **P**ull release  
**2SS** 2-pos. **S**elector **S**witch  
**3SS** 3-pos. **S**elector **S**witch  
**2SSC** 2-pos. **S**elector **S**witch, operation of **C**enter position  
**3SSC** 3-pos. **S**elector **S**witch, operation of **C**enter position

##### Button color/

##### Lens color for double pushbuttons:

**R** = **R**ed    **W** = **W**hite  
**G** = **G**reen   **B** = **B**lack (non-illuminated only)  
**Y** = **Y**ellow   **C** = **C**lear  
**L** = Blue    **U** = Grey (non-illuminated only)

Example 3: Type **M2SSK1-101**

**2SSK** 2-pos. **S**elector **S**witch, **K**ey-lockable  
**3SSK** 3-pos. **S**elector **S**witch, **K**ey-lockable  
**PK** Pushbutton, **K**ey-lockable

##### Key code :

**1** = **71**  
**2** = **72**  
**3** = **73**

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

Example 4: Type **MCBH-10**

**B** **B**uzzer  
**CB** **C**ontact **B**lock  
**CBH** **C**ontact **B**lock with **H**older  
**LB** **L**amp **B**lock

##### 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** **E**mergency stop  
**L** Pilot **L**ight  
**P** Pushbutton  
**2SS** 2-pos. **S**elector **S**witch  
**3SS** 3-pos. **S**elector **S**witch

##### Button color/ Lens colour for compact pilot light and pushbuttons

**R** = **R**ed    **W** = **W**hite  
**G** = **G**reen   **B** = **B**lack  
**Y** = **Y**ellow   **C** = **C**lear (pilot light only)  
**L** = **B**lue    **U** = **G**rey

##### Button color for compact selector switch

**R** = **R**ed  
**B** = **B**lack  
**U** = **G**rey

C= Compact Range

# Pilot devices - 22 mm

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# Pilot devices - 22 mm

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# Contact blocks/lamp block and holder **Modular range** (Front mounting)



## For non-illuminated pilot devices

### Contact blocks with holder for 3 blocks

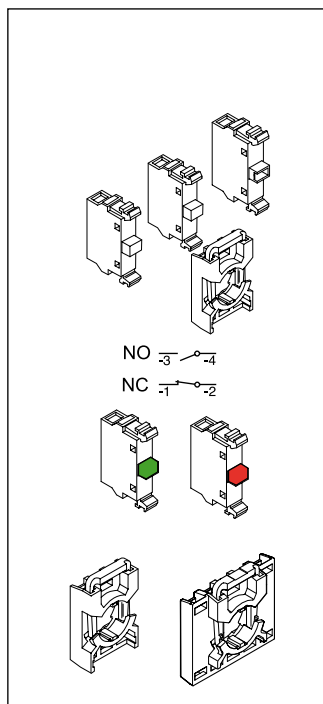
Included blocks	Packing qty: 1 pc		Weight, kg
	Type	Order Code	
1 NO	<b>MCBH-10</b>	1SFA 611 605 R1101	0.019
1 NC	<b>MCBH-01</b>	1SFA 611 605 R1110	0.019
2 NC	<b>MCBH-02</b>	1SFA 611 605 R1120	0.032
2 NO	<b>MCBH-20</b>	1SFA 611 605 R1102	0.032
3 NC	<b>MCBH-03</b>	1SFA 611 605 R1130	0.045
3 NO	<b>MCBH-30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

### Contact blocks

Contact block	Packing qty: 10 pcs		Weight, kg
	Type	Order Code	
1 NO	<b>MCB-10</b>	1SFA 611 610 R1001	0.013
1 NC	<b>MCB-01</b>	1SFA 611 610 R1010	0.013

### Holder

	Packing qty: 10 pcs		Weight, kg
	Type	Order Code	
Holder for 3 blocks	<b>MCBH-00</b>	1SFA 611 605 R1100	0.006
Holder for 5 blocks	<b>MCBH5-00</b>	1SFA 611 601 R1100	0.008



## For illuminated pilot devices

### Contact blocks and lamp block with holder for 3 blocks

Included blocks	Packing qty: 1 pc		Weight, kg
	Type	Order Code	
1 NO + 1 MLB-1	<b>MCBH-101</b>	1SFA 611 605 R1201	0.034
1 NC + 1 MLB-1	<b>MCBH-011</b>	1SFA 611 605 R1210	0.034
2 NO + 1 MLB-1	<b>MCBH-201</b>	1SFA 611 605 R1202	0.047
2 NC + 1 MLB-1	<b>MCBH-021</b>	1SFA 611 605 R1220	0.047
1 NO + 1 NC + 1 MLB-1	<b>MCBH-111</b>	1SFA 611 605 R1211	0.047

Bulb not included.

### Lamp block

Description	Packing qty: 10 pcs		Weight, kg
	Type	Order Code	
Lamp block for 2 W, max 230 V AC/DC bulb or LED	<b>MLB-1</b>	1SFA 611 620 R1001	0.015

Bulb or LED not included. For other lamp blocks see Accessories, page 31. Bulb max 2 W.

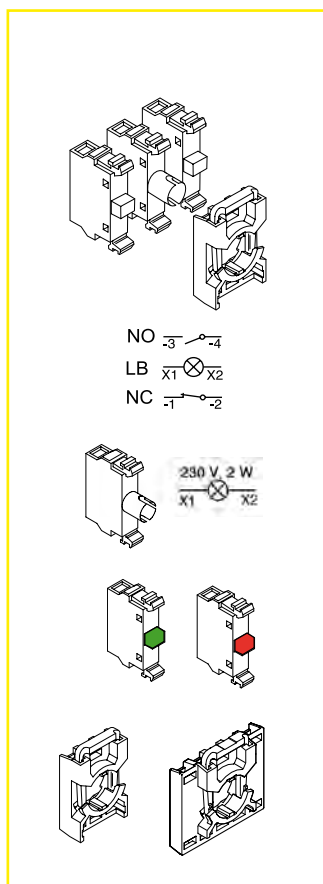
### Contact blocks

Contact block	Packing qty: 10 pcs		Weight, kg
	Type	Order Code	
1 NO	<b>MCB-10</b>	1SFA 611 610 R1001	0.013
1 NC	<b>MCB-01</b>	1SFA 611 610 R1010	0.013

### Holder

	Packing qty: 10 pcs		Weight, kg
	Type	Order Code	
Holder for 3 blocks	<b>MCBH-00</b>	1SFA 611 605 R1100	0.006
Holder for 5 blocks	<b>MCBH5-00</b>	1SFA 611 601 R1100	0.008

Note: Double contact blocks required in other positions



Double contact block, contact block with gold plated contacts, micro block and other types of lamp block – See page 31 – 33



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