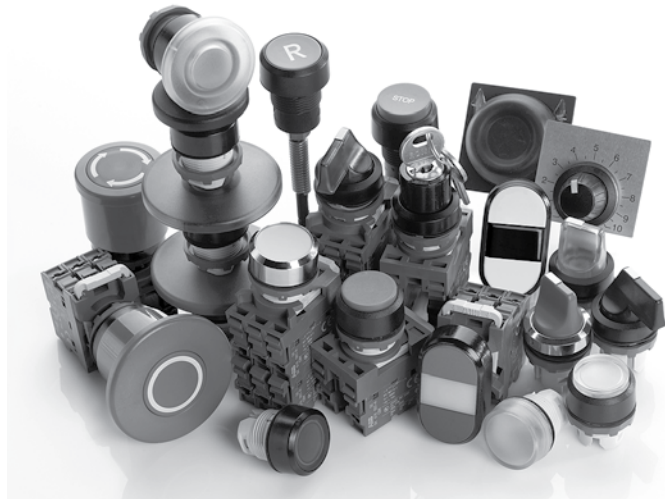


Modular range Pilot devices

ABB

Modular range
22mm



8

General construction

- Snap-on feature reduces installation time
- Bezels: Black plastic, chrome metal. Grey plastic available as an option
- 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
- UL File# E57057
- CSA File# LR19700

Operators

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

Pilot lights

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

Contact blocks

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

Additional products

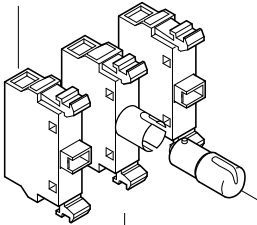
- Buzzer, continuous and pulsating
- 5 kΩ and 10 kΩ potentiometers
- Definite purpose pushbuttons
- Reset pushbuttons
- Broad range of accessories

General information Mounting

Exploded view

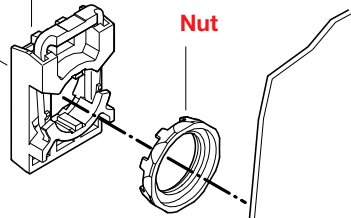
Contact block

Single pole with making or breaking contact



Holder

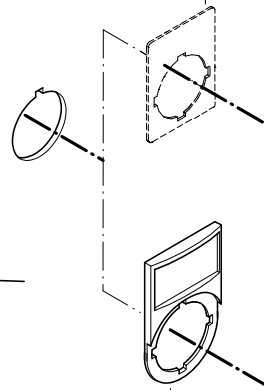
Available either for three or five blocks in one single row. Additional blocks can be stacked on holders for three blocks.



Nut

Legend plates

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

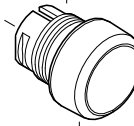


Lamp block

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

Operator

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



Legend plate holder

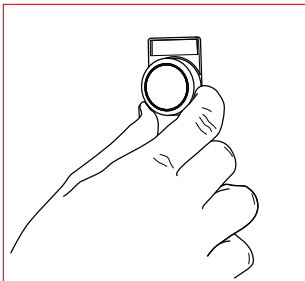
Of black plastic. Insert of brushed aluminum. Please, see the chapter 'legend plates' for more information.

Bezels

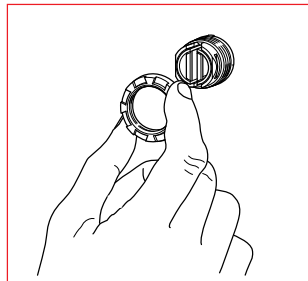
Pushbuttons, selector switches and toggle switches with bezel in black plastic, chrome metal are available.

8

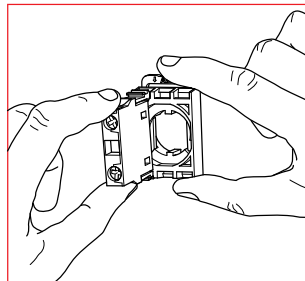
Easy to mount



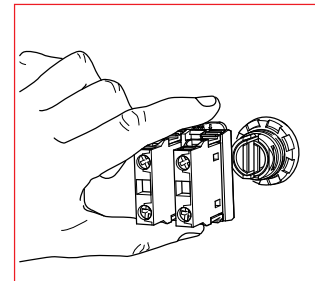
The operator is to be inserted from the front.....



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

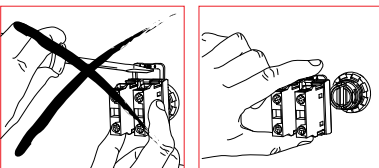


The contact blocks/lamp block are then snapped on to the holder...



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

...and to remove



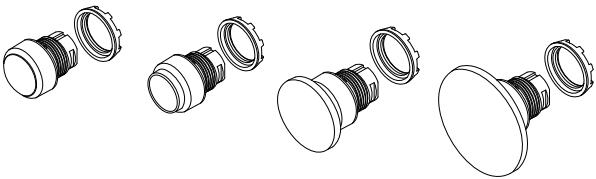
Press down the spring on the holder and pull the holder from the actuator.

Selection Guide

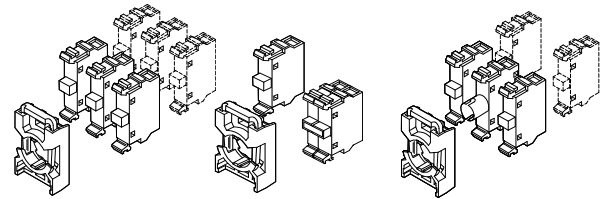
Pilot Devices
Modular Range
22mm

8

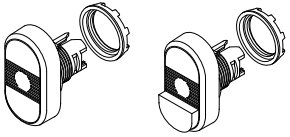
Pushbuttons and Mushroom pushbuttons



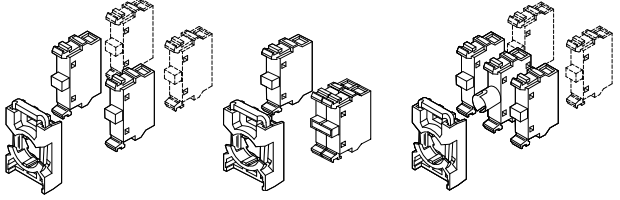
Contact block/lamp block combinations



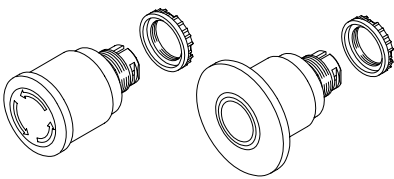
Double pushbuttons



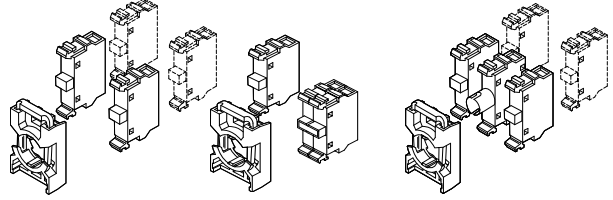
Contact block/lamp block combinations



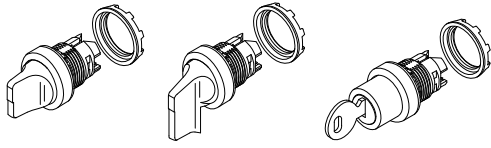
Emergency stop pushbuttons



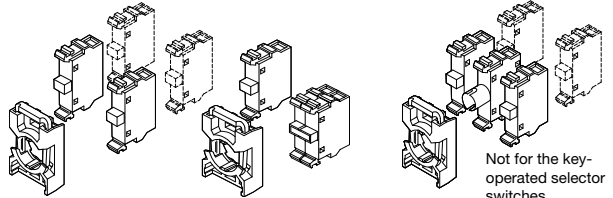
Contact block/lamp block combinations



Selector switches

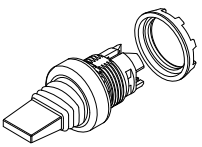


Contact block/lamp block combinations

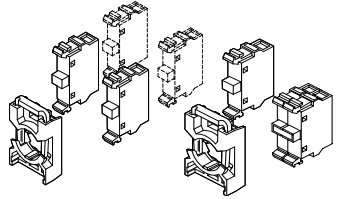


Not for the key-operated selector switches

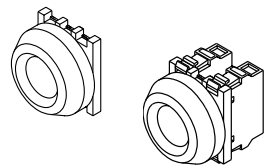
Toggle switches



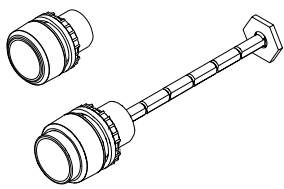
Contact block combinations



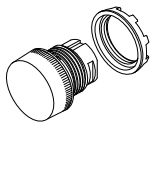
Definite purpose push-buttons



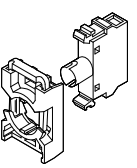
Reset pushbuttons




Pilot lights




Lamp block combination



Buzzers



Potentiometers

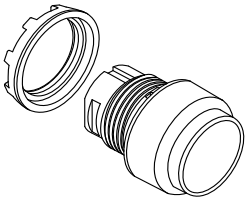
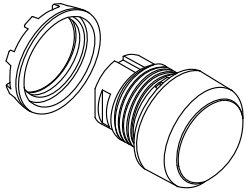


Flush and extended pushbuttons

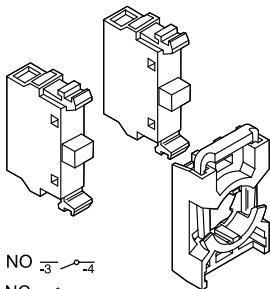
Non-illuminated

Momentary and maintained

8



Bezel in black plastic as standard
Bezel in metal:
Replace '1' in the:
Cat No. MPX-1 0X
3 for metal bezel



Operator ...

Description	Catalog No.	Ref. Code	List Price
with flush button			
Momentary			
Red	MP1-10R	1SFA 611 100 R1001	\$ 6.10
Green	MP1-10G	1SFA 611 100 R1002	
Yellow	MP1-10Y	1SFA 611 100 R1003	
Blue	MP1-10L	1SFA 611 100 R1004	
White	MP1-10W	1SFA 611 100 R1005	
Black	MP1-10B	1SFA 611 100 R1006	
Clear	MP1-10C	1SFA 611 100 R1008	
Maintained			
Red	MP2-10R	1SFA 611 101 R1001	17.30
Green	MP2-10G	1SFA 611 101 R1002	
Yellow	MP2-10Y	1SFA 611 101 R1003	
Blue	MP2-10L	1SFA 611 101 R1004	
White	MP2-10W	1SFA 611 101 R1005	
Black	MP2-10B	1SFA 611 101 R1006	
Clear	MP2-10C	1SFA 611 101 R1008	

with extended button

Momentary			
Red	MP3-10R	1SFA 611 102 R1001	6.10
Green	MP3-10G	1SFA 611 102 R1002	
Yellow	MP3-10Y	1SFA 611 102 R1003	
Blue	MP3-10L	1SFA 611 102 R1004	
White	MP3-10W	1SFA 611 102 R1005	
Black	MP3-10B	1SFA 611 102 R1006	
Clear	MP3-10C	1SFA 611 102 R1008	
Maintained			
Red	MP4-10R	1SFA 611 103 R1001	17.30
Green	MP4-10G	1SFA 611 103 R1002	
Yellow	MP4-10Y	1SFA 611 103 R1003	
Blue	MP4-10L	1SFA 611 103 R1004	
White	MP4-10W	1SFA 611 103 R1005	
Black	MP4-10B	1SFA 611 103 R1006	
Clear	MP4-10C	1SFA 611 103 R1008	

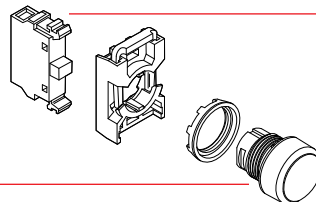
Contact blocks, and holder

Blocks	Catalog No.	Ref. Code	List Price
1 NO with holder	MCBH-10	1SFA 611 605 R1101	\$ 10.00
1 NC with holder	MCBH-01	1SFA 611 605 R1110	10.00
2 NO with holder	MCBH-20	1SFA 611 605 R1102	18.00
2 NC with holder	MCBH-02	1SFA 611 605 R1120	18.00
1 NO + 1 NC with holder	MCBH-11	1SFA 611 605 R1111	18.00
1 NO without holder	MCB-10	1SFA 611 610 R1001	8.00
1 NC without holder	MCB-01	1SFA 611 610 R1010	8.00
Holder for 3 blocks	MCBH-00	1SFA 611 605 R1100	2.00

Ordering example

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

Ref.: 1 piece of MP1-10R + 1 piece of MCBH-10

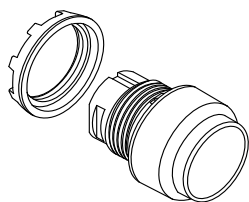
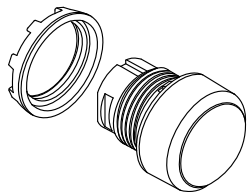


Flush and extended pushbuttons

Illuminated

Momentary and maintained

Bulb max 1.2 W



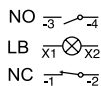
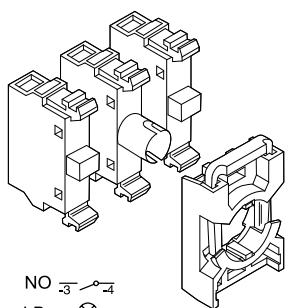
Bezel in black plastic as standard

Bezel in metal:

Replace '1' in the

Catalog No. MPX-1 0X

3 for metal bezel



Operator ...

Description	Catalog No.	Ref. Code	List Price
with flush button			
Momentary ①			
Red	MP1-11R	1SFA 611 100 R1101	\$ 6.10
Green	MP1-11G	1SFA 611 100 R1102	
Yellow	MP1-11Y	1SFA 611 100 R1103	
Blue	MP1-11L	1SFA 611 100 R1104	
White	MP1-11W	1SFA 611 100 R1105	
Clear	MP1-11C	1SFA 611 100 R1108	
Maintained ①③			
Red	MP2-11R	1SFA 611 101 R1101	17.30
Green	MP2-11G	1SFA 611 101 R1102	
Yellow	MP2-11Y	1SFA 611 101 R1103	
Blue	MP2-11L	1SFA 611 101 R1104	
White	MP2-11W	1SFA 611 101 R1105	
Clear	MP2-11C	1SFA 611 101 R1108	

with extended button

Momentary ①			
Red	MP3-11R	1SFA 611 102 R1101	6.10
Green	MP3-11G	1SFA 611 102 R1102	
Yellow	MP3-11Y	1SFA 611 102 R1103	
Blue	MP3-11L	1SFA 611 102 R1104	
White	MP3-11W	1SFA 611 102 R1105	
Clear	MP3-11C	1SFA 611 102 R1108	
Maintained ①③			
Red	MP4-11R	1SFA 611 103 R1101	17.30
Green	MP4-11G	1SFA 611 103 R1102	
Yellow	MP4-11Y	1SFA 611 103 R1103	
Blue	MP4-11L	1SFA 611 103 R1104	
White	MP4-11W	1SFA 611 103 R1105	
Clear	MP4-11C	1SFA 611 103 R1108	

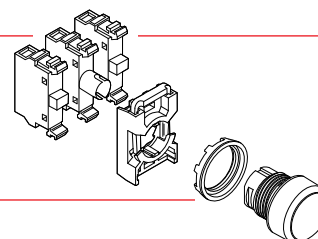
Contact blocks, lamp block and holder ②

Blocks	Catalog No.	Ref. Code	List Price
1 NO + 1 LB with holder	MCBH-101	1SFA 611 605 R1201	\$ 27.50
1 NC + 1 LB with holder	MCBH-011	1SFA 611 605 R1210	27.50
2 NO + 1 LB with holder	MCBH-201	1SFA 611 605 R1202	35.50
2 NC + 1 LB with holder	MCBH-021	1SFA 611 605 R1220	35.50
1 NO + 1 NC + 1 LB with holder	MCBH-111	1SFA 611 605 R1211	35.50
1 NO without holder	MCB-10	1SFA 611 610 R1001	8.00
1 NC without holder	MCB-01	1SFA 611 610 R1010	8.00
Lamp block for 2 W, max 230 V AC/DC bulb or LED	MLB-1	1SFA 611 620 R1001	17.50
Holder for 3 blocks	MCBH-00	1SFA 611 605 R1100	2.00

Ordering example

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

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



- ① No contact block in the center position, reserved for lamp block
- ② Lamp block MLB-1. Bulb not included. For other lamp blocks see Accessories.
- ③ Bulb max 1.2 W, not included.

Double pushbuttons Non-illuminated

Operator ...

Upper button		Lower button		Catalog No.	Ref. Code	List Price
Color	Text	Color	Text			
with flush buttons ①						
Green	No text	Red	No text	MPD1-11B	1SFA 611 130 R1106	\$ 18.00
	I	O		MPD2-11B	1SFA 611 131 R1106	21.00
	ON	OFF		MPD3-11B	1SFA 611 132 R1106	21.00
	START	STOP		MPD4-11B	1SFA 611 133 R1106	21.00
White	No text	Black	No text	MPD5-11B	1SFA 611 134 R1106	18.00
	I	O		MPD6-11B	1SFA 611 135 R1106	21.00
	ON	OFF		MPD7-11B	1SFA 611 136 R1106	21.00
	START	STOP		MPD8-11B	1SFA 611 137 R1106	21.00

with extended lower button ①

Green	No text	Red	No text	MPD12-11B	1SFA 611 141 R1106	18.00
	I	O		MPD13-11B	1SFA 611 142 R1106	21.00
	ON	OFF		MPD14-11B	1SFA 611 143 R1106	21.00
	START	STOP		MPD15-11B	1SFA 611 144 R1106	21.00
White	No text	Black	No text	MPD16-11B	1SFA 611 145 R1106	18.00
	I	O		MPD17-11B	1SFA 611 146 R1106	21.00
	ON	OFF		MPD18-11B	1SFA 611 147 R1106	21.00
	START	STOP		MPD19-11B	1SFA 611 148 R1106	21.00

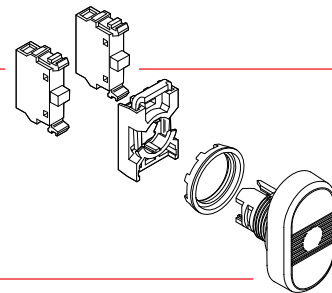
Contact blocks, and holder

Blocks	Catalog No.	Ref. Code	List Price
2 NO with holder	MCBH-20	1SFA 611 605 R1102	\$ 18.00
2 NC with holder	MCBH-02	1SFA 611 605 R1120	
1 NO + 1 NC with holder	MCBH-11	1SFA 611 605 R1111	
1 NO without holder	MCB-10	1SFA 611 610 R1001	8.00
1 NC without holder	MCB-01	1SFA 611 610 R1010	8.00
Holder for 3 blocks	MCBH-00	1SFA 611 605 R1100	2.00

Ordering example – Double pushbutton

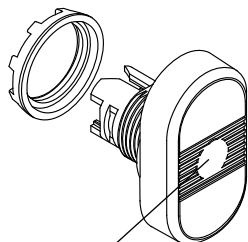
Requested: A non-illuminated double pushbutton, Green/Red,
No text, with 2 NO blocks

Ref.: 1 piece of MPD1-11B + 1 piece of MCBH-20

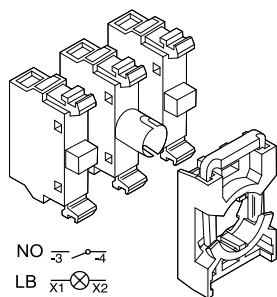


① No contact block in the center position.

Double pushbuttons Illuminated



Lens colors:
Red
Green
Yellow
Clear



NO $\begin{matrix} \text{---} \\ \text{---} \end{matrix}$ $\begin{matrix} \text{---} \\ \text{---} \end{matrix}$
LB $\begin{matrix} \text{---} \\ \text{---} \end{matrix}$ $\begin{matrix} \text{---} \\ \text{---} \end{matrix}$
NC $\begin{matrix} \text{---} \\ \text{---} \end{matrix}$ $\begin{matrix} \text{---} \\ \text{---} \end{matrix}$

Operator ...

Upper button		Lower button		Catalog No.	Ref. Code	List Price
Color	Text	Color	Text			
with flush buttons ①						
Red lens						
Green	No text	Red	No text	MPD1-11R	1SFA 611 130 R1101	\$ 26.00
	I		O	MPD2-11R	1SFA 611 131 R1101	29.00
	ON		OFF	MPD3-11R	1SFA 611 132 R1101	29.00
	START		STOP	MPD4-11R	1SFA 611 133 R1101	29.00
White	No text	Black	No text	MPD5-11R	1SFA 611 134 R1101	26.00
	I		O	MPD6-11R	1SFA 611 135 R1101	29.00
	ON		OFF	MPD7-11R	1SFA 611 136 R1101	29.00
	START		STOP	MPD8-11R	1SFA 611 137 R1101	29.00
Green lens						
Green	No text	Red	No text	MPD1-11G	1SFA 611 130 R1102	26.00
	I		O	MPD2-11G	1SFA 611 131 R1102	29.00
	ON		OFF	MPD3-11G	1SFA 611 132 R1102	29.00
	START		STOP	MPD4-11G	1SFA 611 133 R1102	29.00
White	No text	Black	No text	MPD5-11G	1SFA 611 134 R1102	26.00
	I		O	MPD6-11G	1SFA 611 135 R1102	29.00
	ON		OFF	MPD7-11G	1SFA 611 136 R1102	29.00
	START		STOP	MPD8-11G	1SFA 611 137 R1102	29.00
Yellow lens						
Green	No text	Red	No text	MPD1-11Y	1SFA 611 130 R1103	26.00
	I		O	MPD2-11Y	1SFA 611 131 R1103	29.00
	ON		OFF	MPD3-11Y	1SFA 611 132 R1103	29.00
	START		STOP	MPD4-11Y	1SFA 611 133 R1103	29.00
White	No text	Black	No text	MPD5-11Y	1SFA 611 134 R1103	26.00
	I		O	MPD6-11Y	1SFA 611 135 R1103	29.00
	ON		OFF	MPD7-11Y	1SFA 611 136 R1103	29.00
	START		STOP	MPD8-11Y	1SFA 611 137 R1103	29.00
Clear lens						
Green	No text	Red	No text	MPD1-11C	1SFA 611 130 R1108	26.00
	I		O	MPD2-11C	1SFA 611 131 R1108	29.00
	ON		OFF	MPD3-11C	1SFA 611 132 R1108	29.00
	START		STOP	MPD4-11C	1SFA 611 133 R1108	29.00
White	No text	Black	No text	MPD5-11C	1SFA 611 134 R1108	26.00
	I		O	MPD6-11C	1SFA 611 135 R1108	29.00
	ON		OFF	MPD7-11C	1SFA 611 136 R1108	29.00
	START		STOP	MPD8-11C	1SFA 611 137 R1108	29.00

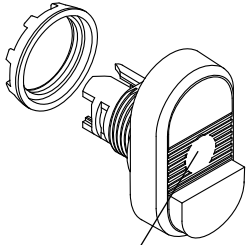
Contact blocks, lamp block and holder ②

Blocks	Catalog No.	Ref. Code	List Price
2 NO + 1 LB with holder	MCBH-201	1SFA 611 605 R1202	\$ 35.50
2 NC + 1 LB with holder	MCBH-021	1SFA 611 605 R1220	
1 NO + 1 NC + 1 LB with holder	MCBH-111	1SFA 611 605 R1211	
1 NO without holder	MCB-10	1SFA 611 610 R1001	8.00
1 NC without holder	MCB-01	1SFA 611 610 R1010	8.00
Lamp block for 2 W, max 230 V AC/DC bulb or LED	MLB-1	1SFA 611 620 R1001	17.50
Holder for 3 blocks	MCBH-00	1SFA 611 605 R1100	2.00

① No contact block in the center position, reserved for lamp block.

② Lamp block MLB-1. Bulb not included. For other lamp blocks see Accessories, bulb max 1.2 W.

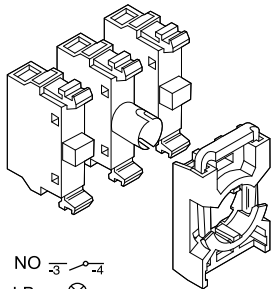
Double pushbuttons Illuminated



Lens colors:
Red
Green
Yellow
Clear

Operator ...

Upper button		Lower button		Catalog No.	Ref. Code	List Price
Color	Text	Color	Text			
with extended lower button ①						
Red lens						
Green	No text	Red	No text	MPD12-11R	1SFA 611 141 R1101	\$ 26.00
			O	MPD13-11R	1SFA 611 142 R1101	29.00
	ON		OFF	MPD14-11R	1SFA 611 143 R1101	29.00
	START		STOP	MPD15-11R	1SFA 611 144 R1101	29.00
White	No text	Black	No text	MPD16-11R	1SFA 611 145 R1101	26.00
			O	MPD17-11R	1SFA 611 146 R1101	29.00
	ON		OFF	MPD18-11R	1SFA 611 147 R1101	29.00
	START		STOP	MPD19-11R	1SFA 611 148 R1101	29.00
Green lens						
Green	No text	Red	No text	MPD12-11G	1SFA 611 141 R1102	26.00
			O	MPD13-11G	1SFA 611 142 R1102	29.00
	ON		OFF	MPD14-11G	1SFA 611 143 R1102	29.00
	START		STOP	MPD15-11G	1SFA 611 144 R1102	29.00
White	No text	Black	No text	MPD16-11G	1SFA 611 145 R1102	26.00
			O	MPD17-11G	1SFA 611 146 R1102	29.00
	ON		OFF	MPD18-11G	1SFA 611 147 R1102	29.00
	START		STOP	MPD19-11G	1SFA 611 148 R1102	29.00
Yellow lens						
Green	No text	Red	No text	MPD12-11Y	1SFA 611 141 R1103	26.00
			O	MPD13-11Y	1SFA 611 142 R1103	29.00
	ON		OFF	MPD14-11Y	1SFA 611 143 R1103	29.00
	START		STOP	MPD15-11Y	1SFA 611 144 R1103	29.00
White	No text	Black	No text	MPD16-11Y	1SFA 611 145 R1103	26.00
			O	MPD17-11Y	1SFA 611 146 R1103	29.00
	ON		OFF	MPD18-11Y	1SFA 611 147 R1103	29.00
	START		STOP	MPD19-11Y	1SFA 611 148 R1103	29.00
Clear lens						
Green	No text	Red	No text	MPD12-11C	1SFA 611 141 R1108	26.00
			O	MPD13-11C	1SFA 611 142 R1108	29.00
	ON		OFF	MPD14-11C	1SFA 611 143 R1108	29.00
	START		STOP	MPD15-11C	1SFA 611 144 R1108	29.00
White	No text	Black	No text	MPD16-11C	1SFA 611 145 R1108	26.00
			O	MPD17-11C	1SFA 611 146 R1108	29.00
	ON		OFF	MPD18-11C	1SFA 611 147 R1108	29.00
	START		STOP	MPD19-11C	1SFA 611 148 R1108	29.00



NO $\overline{3}$ \rightarrow $\overline{4}$
LB $\overline{x1}$ \otimes $\overline{x2}$
NC $\overline{1}$ \rightarrow $\overline{2}$

Contact blocks, lamp block and holder ②

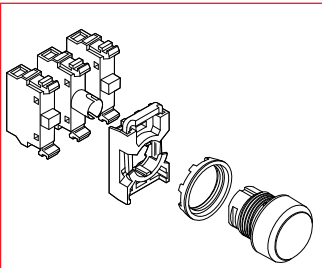
Blocks	Catalog No.	Ref. Code	List Price
2 NO + 1 LB with holder	MCBH-201	1SFA 611 605 R1202	\$ 35.50
2 NC + 1 LB with holder	MCBH-021	1SFA 611 605 R1220	35.50
1 NO + 1 NC + 1 LB with holder	MCBH-111	1SFA 611 605 R1211	35.50
1 NO without holder	MCB-10	1SFA 611 610 R1001	8.00
1 NC without holder	MCB-01	1SFA 611 610 R1010	8.00
Lamp block for 2 W, max 230 V AC/DC bulb or LED	MLB-1	1SFA 611 620 R1001	17.50
Holder for 3 blocks	MCBH-00	1SFA 611 605 R1100	2.00

① No contact block in the center position, reserved for lamp block.

② Lamp block MLB-1. Bulb not included. Other lamp block see Accessories, bulb max 1.2 W.

Press-to-test pilot light pushbuttons

Pilot Devices
Modular Range
22mm



MP1-MLFPT1C

Flush button standard.
For extended button, replace
'1' in MP1-... with "3"

Press-to-test

Type	Black plastic ring	Chrome metal ring	
	Catalog number	Catalog number	List price
Operator only ①	MP1-KLPTΔ	MP1-MLPTΔ	\$ 22.50
Full voltage type			
6V	MP1-KLFPT6Δ	MP1-MLFPT6Δ	46.00
12V	MP1-KLFPT7Δ	MP1-MLFPT7Δ	
24V	MP1-KLFPT8Δ	MP1-MLFPT8Δ	
48V	MP1-KLFPT9Δ	MP1-MLFPT9Δ	
120V	MP1-KLFPT1Δ	MP1-MLFPT1Δ	
Resistor type			
120V	MP1-KLRPT1Δ	MP1-MLRPT1Δ	54.00
240V	MP1-KLRPT2Δ	MP1-MLRPT2Δ	
Transformer type			
120V/6V	MP1-KLTPT1Δ	MP1-MLTPT1Δ	80.00
240V/6V	MP1-KLTPT2Δ	MP1-MLTPT2Δ	
380V/6V	MP1-KLTPT3Δ	MP1-MLTPT3Δ	
480V/6V	MP1-KLTPT4Δ	MP1-MLTPT4Δ	
600V/6V	MP1-KLTPT5Δ	MP1-MLTPT5Δ	
120V/24V	MP1-KLTPT6Δ	MP1-MLTPT6Δ	80.00
240V/24V	MP1-KLTPT7Δ	MP1-MLTPT7Δ	
380V/24V	MP1-KLTPT8Δ	MP1-MLTPT8Δ	
480V/24V	MP1-KLTPT9Δ	MP1-MLTPT9Δ	

Δ Select the lens color from the "Illuminated lenses" selection chart and substitute the suffix code for the Δ. The lens and bulb are included in the price.

Press-to-test (LED bulb)

Type	Black plastic ring	Chrome metal ring	
	Catalog number	Catalog number	List price
Full voltage type			
24V	MP1-KLFPTL8Δ	MP1-MLFPTL8Δ	\$ 55.00
120V	MP1-KLFPTL1Δ	MP1-MLFPTL1Δ	55.00
230V		MP1-MLFPTL2Δ	61.00
Transformer type			
120V/24V	MP1-KLTPTL1Δ	MP1-MLTPTL1Δ	80.00
240V/24V	MP1-KLTPTL2Δ	MP1-MLTPTL2Δ	
380V/24V	MP1-KLTPTL3Δ	MP1-MLTPTL3Δ	
480V/24V	MP1-KLTPTL4Δ	MP1-MLTPTL4Δ	

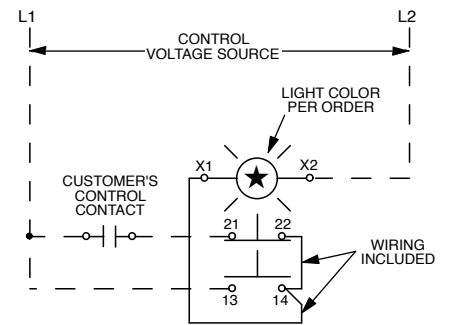
Δ Select the lens color from the "Illuminated lenses" selection chart and substitute the suffix code for the Δ. The lens and bulb are included in the price.

Δ Illuminated lenses

Button color	Suffix code
Red	R
Green	G
Yellow	Y
Blue	L
Clear	C
White	W

NOTE: White LEDs use clear lenses.

Schematic



Press-to-test schematic

① 1 N.O. & 1 N.C. contact supplied; lamp module and bulb must be ordered separately.

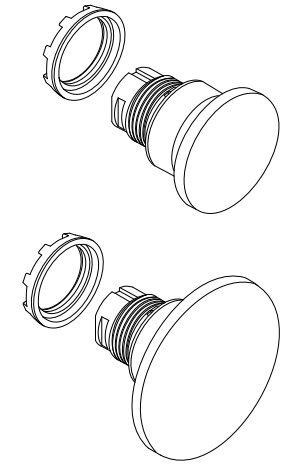
Mushroom pushbuttons

Non-illuminated and illuminated

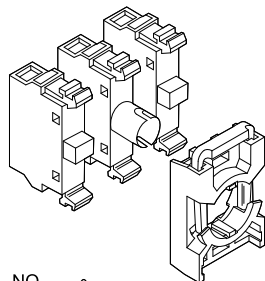
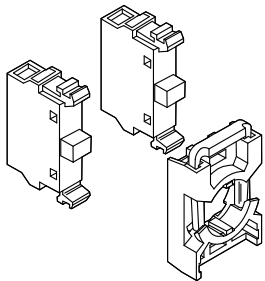
Momentary

Operator ...

Operator material	Button color	Catalog No.	Ref. Code	List Price
non-illuminated				
Ø 40 mm				
Plastic	Red	MPM1-10R	1SFA 611 124 R1001	\$ 16.00
	Yellow	MPM1-10Y	1SFA 611 124 R1003	16.00
	Black	MPM1-10B	1SFA 611 124 R1006	16.00
Ø 60 mm				
Plastic	Red	MPM2-10R	1SFA 611 125 R1001	20.00
	Yellow	MPM2-10Y	1SFA 611 125 R1003	20.00
	Black	MPM2-10B	1SFA 611 125 R1006	20.00
illuminated ①				
Ø 40 mm				
Plastic	Green	MPM1-11G	—	16.00
	Red	MPM1-11R	1SFA 611 124 R1101	16.00
	Yellow	MPM1-11Y	1SFA 611 124 R1103	16.00
Ø 60 mm				
Plastic	Green	MPM2-11G	—	20.00
	Red	MPM2-11R	1SFA 611 125 R1101	20.00
	Yellow	MPM2-11Y	1SFA 611 125 R1103	20.00



Bezel in black plastic as standard
Bezel in metal:
Replace '1' in the:
Catalog No. MPMX-1 0X
Ref. Code 1SFA611XXX R 1XXX
3 for metal bezel
4 for grey plastic bezel



NO $\begin{matrix} \text{---} & \text{---} \\ \text{---} & \text{---} \end{matrix}$
LB $\begin{matrix} \text{X1} & \text{X2} \\ \text{---} & \text{---} \end{matrix}$
NC $\begin{matrix} \text{---} & \text{---} \\ \text{---} & \text{---} \end{matrix}$

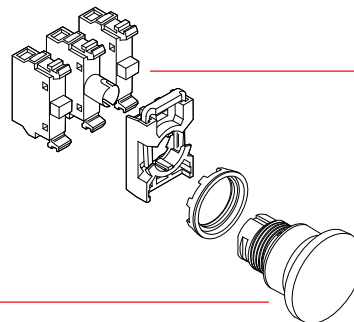
Contact blocks, lamp block and holder ②

Blocks	Catalog No.	Ref. Code	List Price
1 NO with holder	MCBH-10	1SFA 611 605 R1101	\$ 10.00
1 NC with holder	MCBH-01	1SFA 611 605 R1110	10.00
2 NO with holder	MCBH-20	1SFA 611 605 R1102	18.00
2 NC with holder	MCBH-02	1SFA 611 605 R1120	18.00
1 NO + 1 NC with holder	MCBH-11	1SFA 611 605 R1111	18.00
1 NO + 1 LB with holder	MCBH-101	1SFA 611 605 R1201	27.50
1 NC + 1 LB with holder	MCBH-011	1SFA 611 605 R1210	27.50
2 NO + 1 LB with holder	MCBH-201	1SFA 611 605 R1202	35.50
2 NC + 1 LB with holder	MCBH-021	1SFA 611 605 R1220	35.50
1 NO + 1 NC + 1 LB with holder	MCBH-111	1SFA 611 605 R1211	35.50
1 NO without holder	MCB-10	1SFA 611 610 R1001	8.00
1 NC without holder	MCB-01	1SFA 611 610 R1010	8.00
Lamp block for 2 W, max 230 V AC/DC bulb or LED	MLB-1	1SFA 611 620 R1001	17.50
Holder for 3 blocks	MCBH-00	1SFA 611 605 R1100	2.00

Ordering example – Mushroom Pushbutton

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

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



① No contact block in the center position, reserved for lamp block.
② Lamp block MLB-1. Bulb not included. Other lamp block see Accessories, bulb max 1.2 W.

Emergency stop pushbuttons Non-illuminated and illuminated

Fulfills IEC 60947-5-5

Operator ...

Operator function	Button color and material	Catalog No.	Ref. Code	List Price
non-illuminated				
Ø 40 mm				
Twist release	Red, plastic	MPMT3-10R	1SFA 611 510 R1001	\$ 34.00
Pull release	Red, plastic	MPMP3-10R	1SFA 611 511 R1001	
Twist release	Black, plastic	MPMT3-10B	1SFA 611 510 R1006	
Pull release	Black, plastic	MPMP3-10B	1SFA 611 511 R1006	
Ø 60 mm				
Twist release	Red, plastic	MPMT4-10R	1SFA 611 510 R1006	46.00
Pull release	Red, plastic	MPMP4-10R	1SFA 611 511 R1006	
illuminated ①				
Ø 40 mm				
Twist release	Red, plastic	MPMT3-11R	1SFA 611 510 R1101	34.00
Pull release	Red, plastic	MPMP3-11R	1SFA 611 511 R1101	
Ø 60 mm				
Twist release	Red, plastic	MPMT4-11R	1SFA 611 513 R1101	46.00
Pull release	Red, plastic	MPMP4-11R	1SFA 611 514 R1101	

For compact E-Stops, see page 8.31.

Contact blocks, lamp block and holder ②

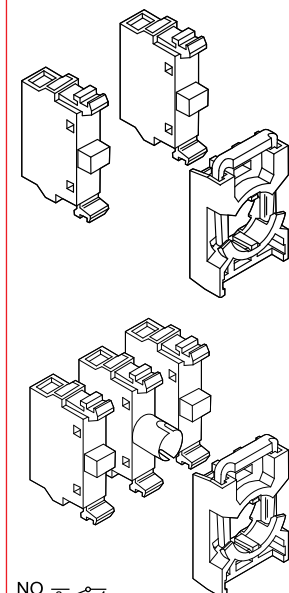
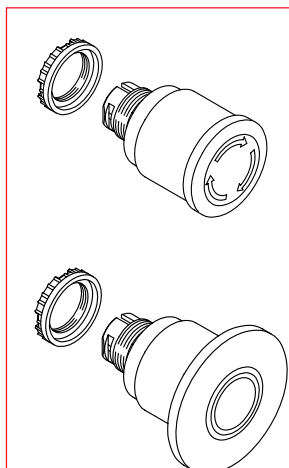
Blocks	Catalog No.	Ref. Code	List Price
1 NO with holder	MCBH-10	1SFA 611 605 R1101	\$ 10.00
1 NC with holder	MCBH-01	1SFA 611 605 R1110	10.00
2 NO with holder	MCBH-20	1SFA 611 605 R1102	18.00
2 NC with holder	MCBH-02	1SFA 611 605 R1120	18.00
1 NO + 1 NC with holder	MCBH-11	1SFA 611 605 R1111	18.00
1 NO + 1 LB with holder	MCBH-101	1SFA 611 605 R1201	27.50
1 NC + 1 LB with holder	MCBH-011	1SFA 611 605 R1210	27.50
2 NO + 1 LB with holder	MCBH-201	1SFA 611 605 R1202	35.50
2 NC + 1 LB with holder	MCBH-021	1SFA 611 605 R1220	35.50
1 NO + 1 NC + 1 LB with holder	MCBH-111	1SFA 611 605 R1211	35.50
1 NO without holder	MCB-10	1SFA 611 610 R1001	8.00
1 NC without holder	MCB-01	1SFA 611 610 R1010	8.00
Lamp block for 2 W, max 230 V AC/DC bulb or LED	MLB-1	1SFA 611 620 R1001	17.50
Holder for 3 blocks	MCBH-00	1SFA 611 605 R1100	2.00




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

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

① No contact in the center position







② Lamp block MLB-1. Bulb not included. Other lamp block see Accessories, bulb max 2 W.

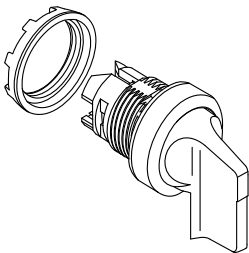
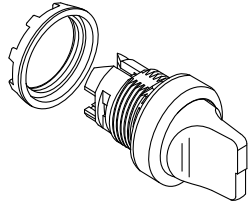


NO 
LB 
NC 

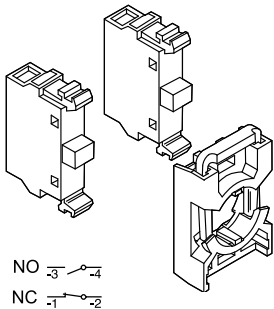
Two-position selector switches Non-illuminated

Operator ...

Symbol	Handle color	Catalog No.	Ref. Code	List Price
with short handle ①				
Maintained				
	Red	M2SS1-10R	1SFA 611 200 R1001	\$ 11.00
	Black	M2SS1-10B	1SFA 611 200 R1006	
	Grey	M2SS1-10U	1SFA 611 200 R1007	
Maintained				
	Red	M2SS2-10R	1SFA 611 201 R1001	\$ 11.00
	Black	M2SS2-10B	1SFA 611 201 R1006	
	Grey	M2SS2-10U	1SFA 611 201 R1007	
Momentary, spring return from C to B				
	Red	M2SS3-10R	1SFA 611 202 R1001	14.00
	Black	M2SS3-10B	1SFA 611 202 R1006	
	Grey	M2SS3-10U	1SFA 611 202 R1007	
with long handle ①				
Maintained				
	Red	M2SS4-10R	1SFA 611 203 R1001	11.00
	Black	M2SS4-10B	1SFA 611 203 R1006	
	Grey	M2SS4-10U	1SFA 611 203 R1007	
Maintained				
	Red	M2SS5-10R	1SFA 611 204 R1001	11.00
	Black	M2SS5-10B	1SFA 611 204 R1006	
	Grey	M2SS5-10U	1SFA 611 204 R1007	
Momentary, spring return from C to B				
	Red	M2SS6-10R	1SFA 611 205 R1001	14.00
	Black	M2SS6-10B	1SFA 611 205 R1006	
	Grey	M2SS6-10U	1SFA 611 205 R1007	



Bezel in black plastic as standard
Bezel in metal:
Replace '1' in the:
Catalog No. M2SSX-1 0X
Ref. Code 1SFA61 XXX R 1XXX
3 for metal bezel
4 for grey plastic bezel



Contact functions

Block positions as seen from operator front.

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

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

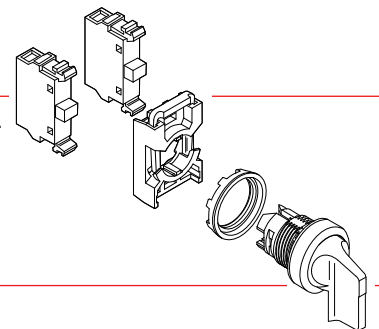
Contact blocks and holder

Blocks	Catalog No.	Ref. Code	List Price
1 NO with holder	MCBH-10	1SFA 611 605 R1101	\$ 10.00
1 NC with holder	MCBH-01	1SFA 611 605 R1110	10.00
2 NO with holder	MCBH-20	1SFA 611 605 R1102	18.00
2 NC with holder	MCBH-02	1SFA 611 605 R1120	18.00
1 NO + 1 NC with holder	MCBH-11	1SFA 611 605 R1111	18.00
1 NO without holder	MCB-10	1SFA 611 610 R1001	8.00
1 NC without holder	MCB-01	1SFA 611 610 R1010	8.00
Holder for 3 blocks	MCBH-00	1SFA 611 605 R1100	2.00

Ordering example

Requested: A non-illuminated modular selector switch. Black.
Maintained.
Handle positions: A and C
With 2 NC contacts

Ref.: 1 piece of M2SS2-10B + 1 piece of MCBH-02

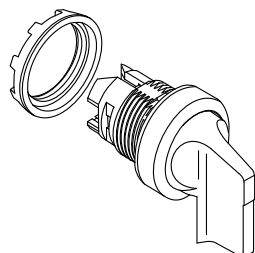
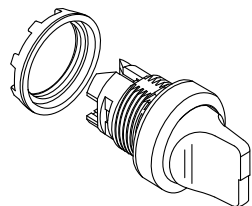


① No contact block in the center position

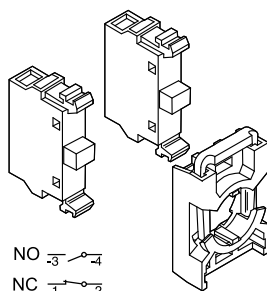
Three-position selector switches

Non-illuminated

Pilot Devices
Modular Range
22mm



Bezel in black plastic as standard
Bezel in metal:
Replace '1' in the:
Catalog No. M3SSX-1 0X
Ref. Code 1SFA611XXX R 1XXX
3 for metal bezel
4 for grey plastic bezel



Contact functions

Block positions as seen from operator front.

Handle position	Left block	Right block
A	x	o
B	o	o
C	o	x

Operator ...

Symbol	Handle color	Catalog No.	Ref. Code	List Price
with short handle ①				
Maintained				
	Red	M3SS1-10R	1SFA 611 210 R1001	\$ 11.00
	Black	M3SS1-10B	1SFA 611 210 R1006	
	Grey	M3SS1-10U	1SFA 611 210 R1007	
Momentary, spring return from A to B and from C to B				
	Red	M3SS2-10R	1SFA 611 211 R1001	14.00
	Black	M3SS2-10B	1SFA 611 211 R1006	
	Grey	M3SS2-10U	1SFA 611 211 R1007	
Momentary, spring return from C to B				
	Red	M3SS3-10R	1SFA 611 212 R1001	14.00
	Black	M3SS3-10B	1SFA 611 212 R1006	
	Grey	M3SS3-10U	1SFA 611 212 R1007	
Momentary, spring return from A to B				
	Red	M3SS7-10R	1SFA 611 216 R1001	14.00
	Black	M3SS7-10B	1SFA 611 216 R1006	
	Grey	M3SS7-10U	1SFA 611 216 R1007	

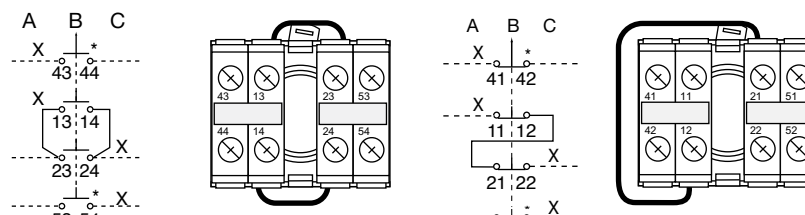
with long handle ①

Maintained				
	Red	M3SS4-10R	1SFA 611 213 R1001	11.00
	Black	M3SS4-10B	1SFA 611 213 R1006	
	Grey	M3SS4-10U	1SFA 611 213 R1007	
Momentary, spring return from A to B and from C to B				
	Red	M3SS5-10R	1SFA 611 214 R1001	14.00
	Black	M3SS5-10B	1SFA 611 214 R1006	
	Grey	M3SS5-10U	1SFA 611 214 R1007	
Momentary, spring return from C to B				
	Red	M3SS6-10R	1SFA 611 215 R1001	14.00
	Black	M3SS6-10B	1SFA 611 215 R1006	
	Grey	M3SS6-10U	1SFA 611 215 R1007	
Momentary, spring return from A to B				
	Red	M3SS8-10R	1SFA 611 217 R1001	14.00
	Black	M3SS8-10B	1SFA 611 217 R1006	
	Grey	M3SS8-10U	1SFA 611 217 R1007	

Contact blocks and holder

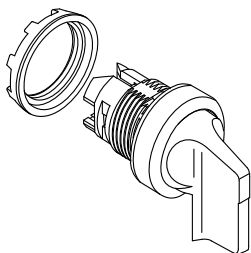
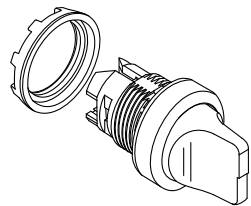
Blocks	Catalog No.	Ref. Code	List Price
1 NO with holder	MCBH-10	1SFA 611 605 R1101	\$ 10.00
1 NC with holder	MCBH-01	1SFA 611 605 R1110	10.00
2 NO with holder	MCBH-20	1SFA 611 605 R1102	18.00
2 NC with holder	MCBH-02	1SFA 611 605 R1120	18.00
1 NO + 1 NC with holder	MCBH-11	1SFA 611 605 R1111	18.00
1 NO without holder	MCB-10	1SFA 611 610 R1001	8.00
1 NC without holder	MCB-01	1SFA 611 610 R1010	8.00
Holder for 3 blocks	MCBH-00	1SFA 611 605 R1100	2.00

Center position connection detail

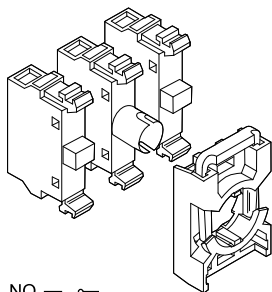


① No contact block in center position

Two-position selector switches Illuminated



Bezel in black plastic as standard
Bezel in metal:
Replace '1' in the:
Catalog No. M2SSX-1 0X
Ref. Code 1SFA61 XXX R 1XXX
3 for metal bezel
4 for grey plastic bezel



NO $\frac{3}{-}$ $\frac{4}{-}$
LB $\frac{x1}{\otimes}$ $\frac{x2}{\otimes}$
NC $\frac{-1}{-}$ $\frac{-2}{-}$

Operator ...

Symbol	Handle color	Catalog No.	Ref. Code	List Price
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with short handle ①

Maintained



Red	M2SS1-11R	1SFA 611 200 R1101	\$ 17.00
Green	M2SS1-11G	1SFA 611 200 R1102	
Yellow	M2SS1-11Y	1SFA 611 200 R1103	
Blue	M2SS1-11L	1SFA 611 200 R1104	
Clear	M2SS1-11C	1SFA 611 200 R1108	

Maintained



Red	M2SS2-11R	1SFA 611 201 R1101	17.00
Green	M2SS2-11G	1SFA 611 201 R1102	
Yellow	M2SS2-11Y	1SFA 611 201 R1103	
Blue	M2SS2-11L	1SFA 611 201 R1104	
Clear	M2SS2-11C	1SFA 611 201 R1108	

Momentary, spring return from C to B



Red	M2SS3-11R	1SFA 611 202 R1101	26.00
Green	M2SS3-11G	1SFA 611 202 R1102	
Yellow	M2SS3-11Y	1SFA 611 202 R1103	
Blue	M2SS3-11L	1SFA 611 202 R1104	
Clear	M2SS3-11C	1SFA 611 202 R1108	

with long handle ①

Maintained



Red	M2SS4-11R	1SFA 611 203 R1101	17.00
Green	M2SS4-11G	1SFA 611 203 R1102	
Yellow	M2SS4-11Y	1SFA 611 203 R1103	
Blue	M2SS4-11L	1SFA 611 203 R1104	
Clear	M2SS4-11C	1SFA 611 203 R1108	

Maintained



Red	M2SS5-11R	1SFA 611 204 R1101	17.00
Green	M2SS5-11G	1SFA 611 204 R1102	
Yellow	M2SS5-11Y	1SFA 611 204 R1103	
Blue	M2SS5-11L	1SFA 611 204 R1104	
Clear	M2SS5-11C	1SFA 611 204 R1108	

Momentary, spring return from C to B



Red	M2SS6-11R	1SFA 611 205 R1101	26.00
Green	M2SS6-11G	1SFA 611 205 R1102	
Yellow	M2SS6-11Y	1SFA 611 205 R1103	
Blue	M2SS6-11L	1SFA 611 205 R1104	
Clear	M2SS6-11C	1SFA 611 205 R1108	

Contact blocks, lamp block and holder ②

Blocks	Catalog No.	Ref. Code	List Price
1 NO + 1 LB with holder	MCBH-101	1SFA 611 605 R1201	\$ 27.50
1 NC + 1 LB with holder	MCBH-011	1SFA 611 605 R1210	27.50
2 NO + 1 LB with holder	MCBH-201	1SFA 611 605 R1202	35.50
2 NC + 1 LB with holder	MCBH-021	1SFA 611 605 R1220	35.50
1 NO + 1 NC with holder	MCBH-111	1SFA 611 605 R1211	35.50
1 NO without holder	MCB-10	1SFA 611 610 R1001	8.00
1 NC without holder	MCB-01	1SFA 611 610 R1010	8.00
Lamp block for 2 W, max 230 V AC/DC bulb or LED	MLB-1	1SFA 611 620 R1001	17.50
Holder for 3 blocks	MCBH-00	1SFA 611 605 R1100	2.00

Contact functions See Page 8.11

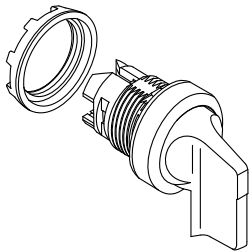
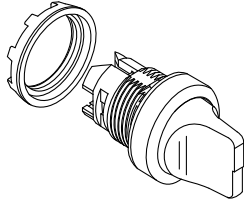
Ordering example See Page 8.12

① No contact block in the center position, reserved for lamp block.

② Lamp block MLB-1. Bulb not included. Other lamp block see Accessories, bulb max 1.2 W.

Three-position selector switches Illuminated

Pilot Devices
Modular Range
22mm



Bezel in black plastic as standard

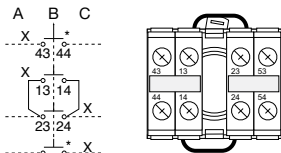
Bezel in metal:

Replace '1' in the:

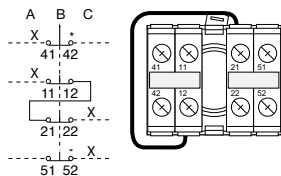
Catalog No. M3SSX-1 0X

3 for metal bezel

Center position connection detail



* Contacts may be N.O. or N.C.



* Contacts may be N.O. or N.C.

Operator ...

Symbol	Handle color	Catalog No.	Ref. Code	List Price
with short handle ①				
Maintained				
	Red	M3SS1-11R	1SFA 611 210 R1101	\$ 17.00
	Green	M3SS1-11G	1SFA 611 210 R1102	
	Yellow	M3SS1-11Y	1SFA 611 210 R1103	
	Blue	M3SS1-11L	1SFA 611 210 R1104	
	Clear	M3SS1-11C	1SFA 611 210 R1108	
Momentary, spring return from A to B and from C to B				
	Red	M3SS2-11R	1SFA 611 211 R1101	26.00
	Green	M3SS2-11G	1SFA 611 211 R1102	
	Yellow	M3SS2-11Y	1SFA 611 211 R1103	
	Blue	M3SS2-11L	1SFA 611 211 R1104	
	Clear	M3SS2-11C	1SFA 611 211 R1108	
Momentary, spring return from C to B				
	Red	M3SS3-11R	1SFA 611 212 R1101	26.00
	Green	M3SS3-11G	1SFA 611 212 R1102	
	Yellow	M3SS3-11Y	1SFA 611 212 R1103	
	Blue	M3SS3-11L	1SFA 611 212 R1104	
	Clear	M3SS3-11C	1SFA 611 212 R1108	
Momentary, spring return from A to B				
	Red	M3SS7-11R	1SFA 611 216 R1101	26.00
	Green	M3SS7-11G	1SFA 611 216 R1102	
	Yellow	M3SS7-11Y	1SFA 611 216 R1103	
	Blue	M3SS7-11L	1SFA 611 216 R1104	
	Clear	M3SS7-11C	1SFA 611 216 R1108	
with long handle ①				
Maintained				
	Red	M3SS4-11R	1SFA 611 213 R1101	17.00
	Green	M3SS4-11G	1SFA 611 213 R1102	
	Yellow	M3SS4-11Y	1SFA 611 213 R1103	
	Blue	M3SS4-11L	1SFA 611 213 R1104	
	Clear	M3SS4-11C	1SFA 611 213 R1108	
Momentary, spring return from A to B and from C to B				
	Red	M3SS5-11R	1SFA 611 214 R1101	26.00
	Green	M3SS5-11G	1SFA 611 214 R1102	
	Yellow	M3SS5-11Y	1SFA 611 214 R1103	
	Blue	M3SS5-11L	1SFA 611 214 R1104	
	Clear	M3SS5-11C	1SFA 611 214 R1108	
Momentary, spring return from C to B				
	Red	M3SS6-11R	1SFA 611 215 R1101	26.00
	Green	M3SS6-11G	1SFA 611 215 R1102	
	Yellow	M3SS6-11Y	1SFA 611 215 R1103	
	Blue	M3SS6-11L	1SFA 611 215 R1104	
	Clear	M3SS6-11C	1SFA 611 215 R1108	
Momentary, spring return from A to B				
	Red	M3SS8-11R	1SFA 611 217 R1101	26.00
	Green	M3SS8-11G	1SFA 611 217 R1102	
	Yellow	M3SS8-11Y	1SFA 611 217 R1103	
	Blue	M3SS8-11L	1SFA 611 217 R1104	
	Clear	M3SS8-11C	1SFA 611 217 R1108	

Contact blocks, lamp block and holder See Page 8.13

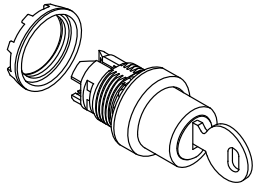
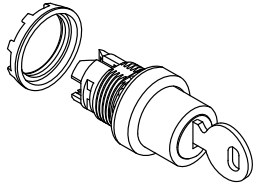
Contact functions See Page 8.12

Ordering example See Page 8.12

① No contact block in the center position, reserved for lamp block.

Key-operated selector switches 2 and 3 positions

8



Bezel in black plastic as standard

Bezel in metal:

Replace '1' in the:

Catalog No. MXSSKX-1 0Δ

Ref. Code 1SFA6112XX R 1XXΔ

3 for metal bezel

② Key codes

71 (standard) Δ =1

72 Δ =2

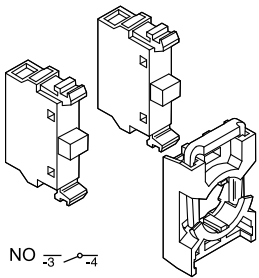
73 Δ =3

Other (on request)

③ Key codes

71 (standard) Δ =1

72 Δ =2



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

Operator ...

Symbol	The key can be removed in	Catalog No.	Ref. Code	List Price
2 positions ①				
Maintained 	in both positions	M2SSK1-10Δ ②	1SFA 611 280 R100Δ ②	\$ 41.00
Maintained 	in position B only	M2SSK2-10Δ ②	1SFA 611 281 R100Δ ②	
Momentary, spring return from C to B 	in position B only	M2SSK3-10Δ ②	1SFA 611 282 R100Δ ②	
3 positions ①				
Maintained 	in all positions	M3SSK1-10Δ ②	1SFA 611 283 R100Δ ②	53.00
Maintained 	in position B only	M3SSK2-10Δ ②	1SFA 611 284 R100Δ ②	
Momentary, spring return from A to B and from C to B 	in position B only	M3SSK3-10Δ ②	1SFA 611 285 R100Δ ②	
Momentary, spring return from C to B 	in position A only	M3SSK4-10Δ ③	1SFA 611 286 R100Δ ③	
Momentary, spring return from C to B 	in all positions	M3SSK5-10Δ ②	1SFA 611 287 R100Δ ②	

Contact blocks and holder

Blocks	Catalog No.	Ref. Code	List Price
2 NO with holder	MCBH-20	1SFA 611 605 R1102	\$ 18.00
2 NC with holder	MCBH-02	1SFA 611 605 R1120	
1 NO + 1 NC with holder	MCBH-11	1SFA 611 605 R1111	
1 NO without holder	MCB-10	1SFA 611 610 R1001	8.00
1 NC without holder	MCB-01	1SFA 611 610 R1010	8.00
Holder for 3 blocks	MCBH-00	1SFA 611 605 R1100	2.00

Contact functions

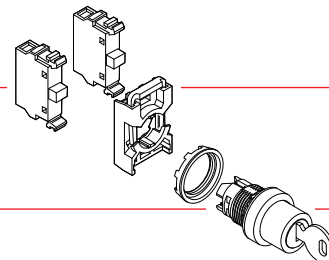
Two positions: See Page 8.12

Three positions: See Page 8.13

Ordering example

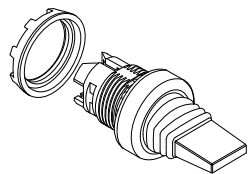
Requested: A key-operated selector switch. Three positions. Maintained. The key removeable in position B. Key code 72. With 2 NC contacts

Ref.: 1 piece of M3SSK2-102 + 1 piece of MCBH-02



① No contact block in the center position

Toggle switches 2 and 3 positions



Operator

Symbol	Bezel	Catalog No.	Ref. Code	List Price
Toggle switch with 2 positions				
Maintained				
	Black plastic	MTS1-10B	1SFA 611 300 R1006	\$ 18.00
	Metal	MTS1-30B	1SFA 611 300 R 3006	

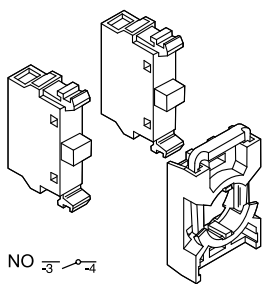
Toggle switch with 3 positions

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

	Black plastic	MTS2-10B	1SFA 611 301 R1006	18.00
	Metal	MTS2-30B	1SFA 611 301 R 3006	
Maintained				
	Black plastic	MTS3-10B	1SFA 611 302 R1006	18.00
	Metal	MTS3-30B	1SFA 611 302 R 3006	

Contact blocks and holder

Blocks	Catalog No.	Ref. Code	List Price
1 NO with holder	MCBH-10	1SFA 611 605 R1101	\$ 10.00
1 NC with holder	MCBH-01	1SFA 611 605 R1110	10.00
2 NO with holder	MCBH-20	1SFA 611 605 R1102	18.00
2 NC with holder	MCBH-02	1SFA 611 605 R1120	18.00
1 NO + 1 NC with holder	MCBH-11	1SFA 611 605 R1111	18.00
1 NO without holder	MCB-10	1SFA 611 610 R1001	8.00
1 NC without holder	MCB-01	1SFA 611 610 R1010	8.00
Holder for 3 blocks	MCBH-00	1SFA 611 605 R1100	2.00



Contact block functions

Block positions as seen from operator front.

Two-position maintained switch

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

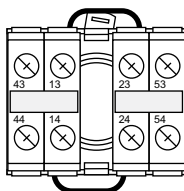
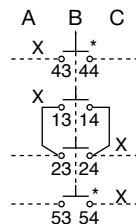
O = not actuated (normal state)
x = actuated (state changed)

Three-position switch

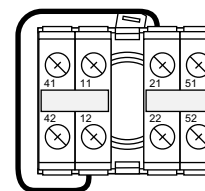
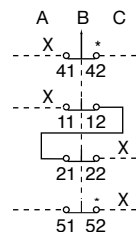
Handle position	Left block	Middle block	Right block
A	O	x	x
B	O	O	O
C	x	x	O

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

Center position connection detail



* Contacts may be N.O. or N.C.



* Contacts may be N.O. or N.C.

Reset pushbuttons

Reset pushbutton without shaft

Lens Color	Text	Catalog No.	Ref. Code	List Price
With flush button				
Red	No text	KPR1-100R	1SFA 616 160 R1001	\$ 8.50
Green	No text	KPR1-100G	1SFA 616 160 R1002	8.50
	II	KPR1-103G	1SFA 616 160 R1032	8.50
Yellow	No text	KPR1-100Y	1SFA 616 160 R1003	8.50
Blue	No text	KPR1-100L	1SFA 616 160 R1004	8.50
	R	KPR1-101L	1SFA 616 160 R1014	8.50
White	No text	KPR1-100W	1SFA 616 160 R1005	8.50
	R	KPR1-101W	1SFA 616 160 R1015	8.50
	I	KPR1-102W	1SFA 616 160 R1025	8.50
	II	KPR1-103W	1SFA 616 160 R1035	8.50
Black	No text	KPR1-100B	1SFA 616 160 R1006	8.50
	RESET	KPR1-104B	1SFA 616 160 R1046	12.00
With extended button				
Red	No text	KPR2-100R	1SFA 616 161 R1001	9.10
	O	KPR2-105R	1SFA 616 161 R1051	
White	No text	KPR2-100W	1SFA 616 161 R1005	
Black	No text	KPR2-100B	1SFA 616 161 R1006	
	O	KPR2-105B	1SFA 616 161 R1056	

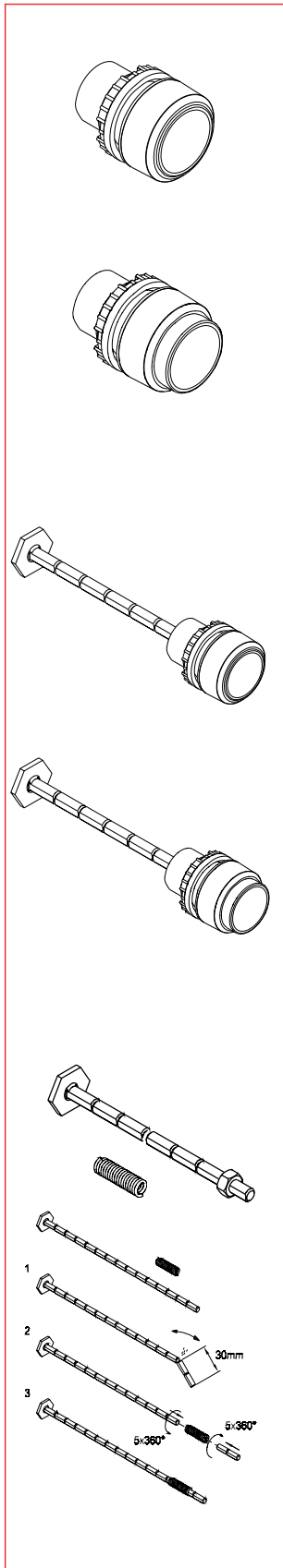
Reset pushbutton with 180mm shaft The shaft can be cut to desired length

Lens Color	Text	Catalog No.	Ref. Code	List Price
With flush button				
Red	No text	KPR3-100R	1SFA 616 162 R1001	\$ 11.00
Green	No text	KPR3-100G	1SFA 616 162 R1002	11.00
	II	KPR3-103G	1SFA 616 162 R1032	11.00
Yellow	No text	KPR3-100Y	1SFA 616 162 R1003	11.00
Blue	No text	KPR3-100L	1SFA 616 162 R1004	11.00
	R	KPR3-101L	1SFA 616 162 R1014	11.00
White	No text	KPR3-100W	1SFA 616 162 R1005	11.00
	R	KPR3-101W	1SFA 616 162 R1015	11.00
	I	KPR3-102W	1SFA 616 162 R1025	11.00
	II	KPR3-103W	1SFA 616 162 R1035	11.00
Black	No text	KPR3-100B	1SFA 616 162 R1006	11.00
	RESET	KPR3-104B	1SFA 616 162 R1046	14.00
	RESET	KPR3-104BMR	(Reset w/metal shaft)	29.00
With extended button				
Red	No text	KPR4-100R	1SFA 616 163 R1001	12.00
	O	KPR4-105R	1SFA 616 163 R1051	
White	No text	KPR4-100W	1SFA 616 163 R1005	
Black	No text	KPR4-100B	1SFA 616 163 R1006	
	O	KPR4-105B	1SFA 616 163 R1056	

Accessories

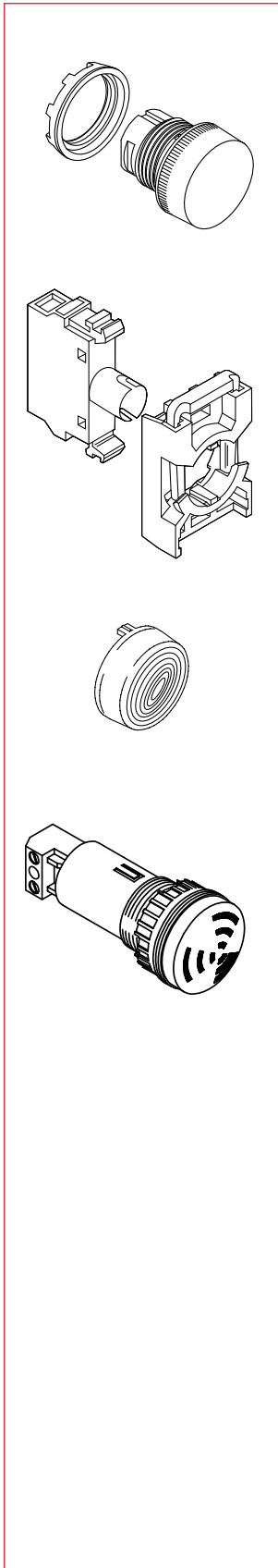
In applications with a long shaft, a flexible joint can be used to avoid damage to the shaft.

Description	Catalog No.	Ref. Code	List Price
180mm Shaft Including fixing nut	KA1-8046	1SFA 616 920 R8046	\$ 2.25
Flexible joint	KA1-8047	1SFA 616 920 R8047	5.00
180mm Metal shaft Including fixing nut & foot	KA1-8046MR	—	12.00



Pilot lights and Buzzers

Pilot Devices
Modular Range
22mm



Pilot light head ①②

Lens color	Catalog No.	Ref. Code	List Price
Red	ML1-100R	1SFA 611 400 R1001	\$ 4.50
Green	ML1-100G	1SFA 611 400 R1002	
Yellow	ML1-100Y	1SFA 611 400 R1003	
Blue	ML1-100L	1SFA 611 400 R1004	
White	ML1-100W	1SFA 611 400 R1005	
Clear	ML1-100C	1SFA 611 400 R1008	

Lamp blocks with holder ①

Supply voltage	Catalog No.	Ref. Code	List Price
For max. 2 W, 230 V AC and DC filament bulb or LED $\frac{230\text{ V, } 2\text{ W}}{X1 \quad \otimes \quad X2}$ 115 V AC supply voltage. For 60 V filament bulb max. 1.2 W $\frac{115\text{ V}}{X1} \quad \text{---} \quad \frac{60\text{ V}}{1.2\text{ W } X2}$ 230 V AC supply voltage. For 130 V filament bulb max. 2 W $\frac{230\text{ V}}{X1} \quad \text{---} \quad \frac{130\text{ V}}{2\text{ W } X2}$	MCBH-001	1SFA 611 605 R1200	\$ 19.50
	MCBH-002	1SFA 611 605 R1300	23.50
	MCBH-003	1SFA 611 605 R1400	23.50

Light diffusing lens

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

Description	Catalog No.	Ref. Code	List Price
The lens is used instead of text cap	KA1-8005	1SFA 616 920 R8005	\$ 3.00

Buzzers

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

Supply voltage	Tone	Catalog No.	Ref. Code	List Price
24 V AC/DC	Continuous	KB1-4010	1SFA 616 401 R4010	\$ 75.00
115 V AC/DC	Continuous	KB1-4030	1SFA 616 401 R4030	75.00
230 V AC	Continuous	KB1-4040	1SFA 616 401 R4040	75.00
24 V AC/DC	Pulsating	KB1-4110	1SFA 616 401 R4110	85.00
115 V AC/DC	Pulsating	KB1-4130	1SFA 616 401 R4130	85.00
230 V AC	Pulsating	KB1-4140	1SFA 616 401 R4140	85.00

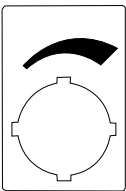
① Bulb not included. See page 8.23
② For compact style, see page 8.33.

Potentiometers

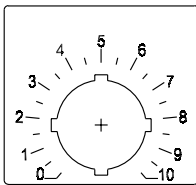


Resistor data

Element Catalog No. Cermet
Power rating 2 W
Mechanical angle 280°
Terminals Solder lugs
Insulation voltage 900 V
Operating temperature -1 – +70 °C



29.6 x 44.5 mm



48.5 x 44.5 mm

Complete potentiometers

Black knob with integrated position indication and marking in white, no leads

Description	Catalog No.	Ref. Code	List Price
- with resistor 5 kohm			
Black plastic	KT-105B	1SFA 616 410 R1056	\$ 90.00
Metal	KT-305B	1SFA 616 410 R3056	95.00
- with resistor 10 kohm			
Black plastic	KT-110B	1SFA 616 410 R1106	90.00
Metal	KT-310B	1SFA 616 410 R3106	95.00

Speed potentiometer, with legend plate, leads and terminal blocks

Description	Catalog No.	Ref. Code	List Price
- with resistor 5 kohm			
Black plastic	MP1-KSP5K		\$ 110.00
- with resistor 10 kohm			
Black plastic	MP1-KSP10K		110.00

Operating knob – without resistor

Black knob with integrated position indication and marking in white.

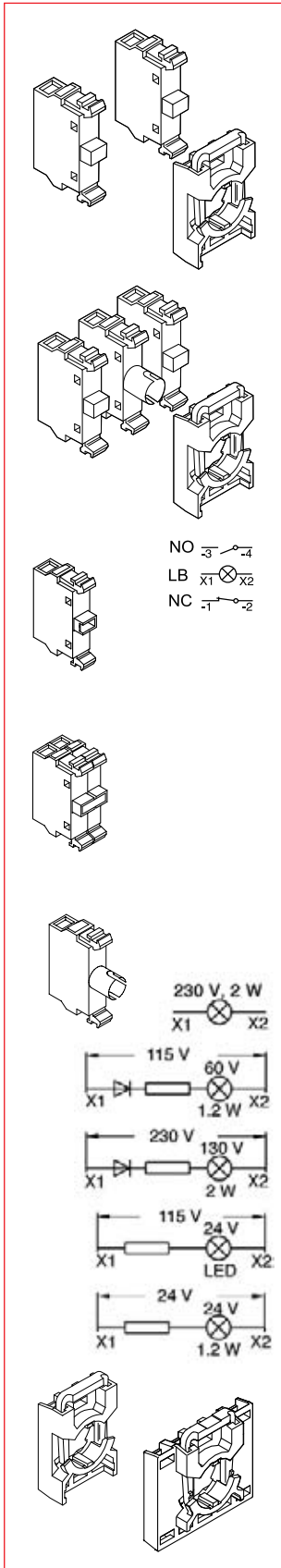
For shaft diameter 6 - 6.35 mm.
Min. shaft length 20 mm

Description	Catalog No.	Ref. Code	List Price
Black plastic	KT-100B	1SFA 616 410 R1006	\$ 15.00
Metal	KT-300B	1SFA 616 410 R3006	20.00

Legend plates

Aluminum

Description	Catalog No.	Ref. Code	List Price
Symbol - see figure	SK615562-87	SK 615 562-87	\$ 10.00
Scale: 0 - 10	SK615562-88	SK 615 562-88	



Contact blocks and lamp blocks with holder for front mounting

Max. number of blocks in holder	Included blocks	Catalog No.	Ref. Code	List Price
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For non-illuminated operators

3	1 NC	MCBH-01	1SFA 611 605 R1110	\$ 10.00
3	1 NO	MCBH-10	1SFA 611 605 R1101	10.00
3	2 NC	MCBH-02	1SFA 611 605 R1120	18.00
3	2 NO	MCBH-20	1SFA 611 605 R1102	18.00
3	3 NC	MCBH-03	1SFA 611 605 R1130	26.00
3	3 NO	MCBH-30	1SFA 611 605 R1103	26.00
3	1 NO + 1 NC	MCBH-11	1SFA 611 605 R1111	18.00
3	1 NO + 2 NC	MCBH-12	1SFA 611 605 R1121	26.00
3	2 NO + 1 NC	MCBH-21	1SFA 611 605 R1112	26.00

For illuminated operators

3	1 LB	MCBH-001	—	19.50
3	1 NC + 1 LB	MCBH-011	1SFA 611 605 R1210	27.50
3	1 NO + 1 LB	MCBH-101	1SFA 611 605 R1201	27.50
3	1 NO + 1 NC + 1 LB	MCBH-111	1SFA 611 605 R1211	35.50
3	2 NC + 1 LB	MCBH-021	1SFA 611 605 R1220	35.50
3	2 NO + 1 LB	MCBH-201	1SFA 611 605 R1202	35.50

Single contact blocks for front mounting

Included blocks	Catalog No.	Ref. Code	List Price
1 NO	MCB-10	1SFA 611 610 R1001	\$ 8.00
1 NC	MCB-01	1SFA 611 610 R1010	8.00
1 NO with gold plated contacts	MCB-10G	1SFA 611 610 R1101	16.00
1 NC with gold plated contacts	MCB-01G	1SFA 611 610 R1110	16.00

Double contact block for front mounting

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

Included blocks	Catalog No.	Ref. Code	List Price
2 NO	MCB-20	1SFA 611 610 R1002	\$ 16.00
2 NC	MCB-02	1SFA 611 610 R1020	
1 NO + 1 NC	MCB-11	1SFA 611 610 R1011	

Single lamp blocks for front mounting, Ba 9s base

Description	Catalog No.	Ref. Code	List Price
For max. 2 W, 230 V AC and DC filament bulb or LED	MLB-1	1SFA 611 620 R1001	\$ 17.50
115 V AC supply voltage. For 60 V filament bulb max. 1.2 W	MLB-2	1SFA 611 620 R1002	21.50
230 V AC supply voltage. For 130 V filament bulb max. 2 W	MLB-3	1SFA 611 620 R1003	21.50
115 V AC and DC supply voltage For 24 V LED	MLB-4	1SFA 611 620 R1004	21.50
24 V AC and DC supply voltage. With resistor. Intended for electronic circuits. The resistor limits the making current and protects against disturbances in the electronic circuit For 24 V filament bulb	MLB-5	1SFA 611 620 R1005	21.50

Holders

Description	Catalog No.	Ref. Code	List Price
Holders for front mounting			
For three blocks	MCBH-00	1SFA 611 605 R1100	\$ 2.00
For five blocks	MCBH5-00	1SFA 611 601 R1100	4.00

Accessories

Transformer block

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

Primary voltage	Secondary voltage	Bulb Suffix LED Filament	Catalog No.	Ref. Code	List Price
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With lamp holder for front mounting, Ba 9s base

Intended to supply a 1.2 W filament bulb.

110 - 127 V AC 6 V AC	-	T1	KTR1-1001	1SFA 616 950 R1001	\$ 35.00
220 - 250 V AC 6 V AC	-	T2	KTR1-1002	1SFA 616 950 R1002	
380 - 420 V AC 6 V AC	-	T3	KTR1-1003	1SFA 616 950 R1003	
440 - 480 V AC 6 V AC	-	T4	KTR1-1004	1SFA 616 950 R1004	
500 - 600 V AC 6 V AC	-	T5	KTR1-1005	1SFA 616 950 R1005	
110 - 127 V AC 24 V AC ①	TL1	T6	KTR1-1011	1SFA 616 950 R1011	\$ 35.00
220 - 250 V AC 24 V AC ①	TL2	T7	KTR1-1012	1SFA 616 950 R1012	
380 - 420 V AC 24 V AC ①	TL3	T8	KTR1-1013	1SFA 616 950 R1013	
440 - 480 V AC 24 V AC ①	TL4	T9	KTR1-1014	1SFA 616 950 R1014	

For illuminated operators ②

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

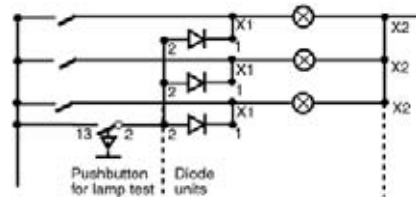
110 - 127 V AC 6 V AC	-	T1	KTR1-2001	1SFA 616 950 R2001	35.00
220 - 250 V AC 6 V AC	-	T2	KTR1-2002	1SFA 616 950 R2002	
380 - 420 V AC 6 V AC	-	T3	KTR1-2003	1SFA 616 950 R2003	
440 - 480 V AC 6 V AC	-	T4	KTR1-2004	1SFA 616 950 R2004	
500 - 600 V AC 6 V AC	-	T5	KTR1-2005	1SFA 616 950 R2005	
110 - 127 V AC 24 V AC ①	TL1	T6	KTR1-2011	1SFA 616 950 R2011	35.00
220 - 250 V AC 24 V AC ①	TL2	T7	KTR1-2012	1SFA 616 950 R2012	
380 - 420 V AC 24 V AC ①	TL3	T8	KTR1-2013	1SFA 616 950 R2013	
440 - 480 V AC 24 V AC ①	TL4	T9	KTR1-2014	1SFA 616 950 R2014	

Diode block

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

Description	Catalog No.	Ref. Code	List Price
Diode block	MDB-1001	1SFA 611 630 R1001	\$ 14.00

Diagram for lamp test with three diode block



① Can be used with LED bulb
② To be used with with directly supplied lamp blocks only.

Accessories

Pilot Devices
Modular Range
22mm



Filament bulbs

Ba 9s base Catalog No. of current: AC/DC. A lamp changing tool is required for changing bulb.

Description					Catalog No.	Ref. Code	List Price
Rated voltage V	Rated current mA	Rated output W	Service life h	Luminance mcd			
6	200	1.2	10 000	350	5911 086-11	5911 086-11	\$ 6.00
12	100	1.2	10 000	230	5911 086-12	5911 086-12	
24	50	1.2	10 000	280	5911 086-13	5911 086-13	
30	40	1.2	10 000	250	5911 086-4	5911 086-4	
48	42	2	6 000	500	5911 086-5	5911 086-5	
60	20	1.2	5 000	190	5911 086-14	5911 086-14	
110	18	2	7 500	250	5911 086-7	5911 086-7	
130	15	2	7 500	120	5911 086-15	5911 086-15	

LEDs

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

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

Description					Catalog No.	Ref. Code	List Price
Color	Rated current mA	Wave-length nm	Luminance mcd				
Rated voltage 12 V, DC Service life >50 000 h							\$ 21.00
Red	15	630	250	KA2-2011	1SFA 616 921 R2011		
Green	15	525	1000	KA2-2012	1SFA 616 921 R2012		
Yellow	15	592	250	KA2-2013	1SFA 616 921 R2013		
Blue	15	470	450	KA2-2014	1SFA 616 921 R2014		
White	15	x=0.31 y=0.32	600	KA2-2015	1SFA 616 921 R2015		
Rated voltage 24 V, (AC)/DC Service life >50 000 h							15.00
Red	15	630	250	KA2-2021	1SFA 616 921 R2021		
Green	15	525	800	KA2-2022	1SFA 616 921 R2022		
Yellow	15	592	250	KA2-2023	1SFA 616 921 R2023		
Blue	15	470	400	KA2-2024	1SFA 616 921 R2024		
White	15	x=0.31 y=0.32	500	KA2-2025	1SFA 616 921 R2025		
Rated voltage 48 V, (AC)/DC Service life >50 000 h							21.00
Red	12	630	200	KA2-2041	1SFA 616 921 R2041		
Green	12	525	1700	KA2-2042	1SFA 616 921 R2042		
Yellow	12	592	240	KA2-2043	1SFA 616 921 R2043		
Blue	12	470	720	KA2-2044	1SFA 616 921 R2044		
White	12	x=0.31 y=0.32	1200	KA2-2045	1SFA 616 921 R2045		
Rated voltage 60 V, (AC)/DC Service life >50 000 h							21.00
Red	10	630	160	KA2-2051	1SFA 616 921 R2051		
Green	10	525	1400	KA2-2052	1SFA 616 921 R2052		
Yellow	10	592	200	KA2-2053	1SFA 616 921 R2053		
Blue	10	470	600	KA2-2054	1SFA 616 921 R2054		
White	10	x=0.31 y=0.32	1000	KA2-2055	1SFA 616 921 R2055		
Rated voltage 110-130 V, AC Service life 25 000 h							15.00
Red	4-6	630	60-100	KA2-2131	1SFA 616 921 R2131		
Green	4-6	525	500-850	KA2-2132	1SFA 616 921 R2132		
Yellow	4-6	592	70-120	KA2-2133	1SFA 616 921 R2133		
Blue	4-6	470	220-350	KA2-2134	1SFA 616 921 R2134		
White	4-6	x=0.31 y=0.32	350-600	KA2-2135	1SFA 616 921 R2135		
Rated voltage 110-130 V, AC/DC Service life 25 000 h							21.00
Red	4-6	630	60-100	KA2-2141	1SFA 616 921 R2141		
Green	4-6	525	500-850	KA2-2142	1SFA 616 921 R2142		
Yellow	4-6	592	70-120	KA2-2143	1SFA 616 921 R2143		
Blue	4-6	470	220-350	KA2-2144	1SFA 616 921 R2144		
White	4-6	x=0.31 y=0.32	350-600	KA2-2145	1SFA 616 921 R2145		
Rated voltage 230 V, AC Service life 25 000 h							21.00
Red	4	630	60	KA2-2221	1SFA 616 921 R2221		
Green	4	525	500	KA2-2222	1SFA 616 921 R2222		
Yellow	4	592	70	KA2-2223	1SFA 616 921 R2223		
Blue	4	470	220	KA2-2224	1SFA 616 921 R2224		
White	4	x=0.31 y=0.32	350	KA2-2225	1SFA 616 921 R2225		

Ⓢ At AC the luminance is decreased with 30 % and there is also a slight flickering.

Accessories

Flashing LED

A lamp changing tool is required for changing bulb.
Choose the same color for the LED and the lamp cap or use a clear lamp cap.
The lamp base has to be connected to cathode (-) and the bottom contact to anode (+).

Description	Catalog No.	Ref. Code	List Price
Rated voltage 24 V, rated current 25 mA, DC			
Color	Wave length nm	Service life hours	
Red	630	50 000	4950 512-1 4950 512-1 \$ 20.00
Green	565	50 000	4950 512-2 4950 512-2 44.25
Yellow	585	50 000	4950 512-3 4950 512-3 20.00

Lamp changing tool

Description	Catalog No.	Ref. Code	List Price
For LEDs and for bulbs	KA1-8072	1SFA 616 920 R8072	\$ 10.00

Mounting tool

Description	Catalog No.	Ref. Code	List Price
Used for tightening the sleeve	KA1-8015	1SFA 611 920 R8015	\$ 10.00

Membrane of rubber

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

For operator with	Catalog No.	Ref. Code	List Price
Flush button	KA1-8052	1SFA 616 920 R8052	\$ 8.00
Extended button	KA1-8002	1SFA 616 920 R8002	
Double pushbutton	MA1-8126	—	

Emergency stop shroud

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

Color	Catalog No.	Ref. Code	List Price
To prevent inadvertant operation. Yellow	KA1-8053	1SFA 616 920 R8053	\$ 16.00

Protective ring

For flush and extended buttons

Description	Catalog No.	Ref. Code	List Price
To prevent inadvertant operation. Not together with legend plate holder.	SK615512-1	SK 615 512-1	\$ 4.00

Protective cover

For flush button.
To prevent inadvertant operation.
Not together with legend plate holder.

Description	Catalog No.	Ref. Code	List Price
	KA1-8010	1SFA 616 920 R8010	\$ 15.00

Bezel (Packing unit 10 pieces)

Description	Catalog No.	Ref. Code	List Price
For pushbutton			
Grey, plastic	KA1-8079	1SFA 616 920 R8079	\$ 1.00
Black, plastic	KA1-8022	1SFA 616 920 R8022	1.00
Metal	KA1-8021	1SFA 616 920 R8021	2.50
For selector switch			
Grey, plastic	KA1-8077	1SFA 616 920 R8077	1.00
Black, plastic	KA1-8080	1SFA 616 920 R8080	1.00
Metal	KA1-8024	1SFA 616 920 R8024	2.50
Square bezel			
Black, plastic (Packing unit 10 pieces)	SK616016-2	SK 616 016-2	2.00
Grey, plastic (Packing unit 10 pieces)	KA1-8124	1SFA 611 920 R8124	

Accessories

Pilot Devices
Modular Range
22mm



30 mm adaptors

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

Description	Catalog No.	Ref. Code	List Price
For use with emergency stop pushbuttons			
Black plastic	KA1-8027	1SFA 616 920 R8027	\$ 8.00
Metal	KA1-8028	1SFA 616 920 R8028	10.00
For use with pushbuttons, selector switches, pilot lights, potentiometers and buzzers			
Black plastic	KA1-8029	1SFA 616 920 R8029	8.00
Metal	KA1-8030	1SFA 616 920 R8030	10.00

Adaptors

Description	Catalog No.	Ref. Code	List Price
For flush mounted pushbuttons	KA1-8073	1SFA 616 920 R8073	\$ 15.00
For flush mounted selector switches	KA1-8074	1SFA 616 920 R8074	

Extra key (packing unit, 2 pcs)

Description	Catalog No.	Ref. Code	List Price
Ronis 455 (key code 71)	SK 616 021-71	SK 616 021-71	\$ 10.00
Ronis 421 (key code 72)	SK 616 021-72	SK 616 021-72	
Ronis 3433-E (key code 73)	SK 616 021-73	SK 616 021-73	

Label sheet

Description	Catalog No.	Ref. Code	List Price
For marking of contact blocks at two levels	2949 1725-1	2949 1725-1	\$ 10.00

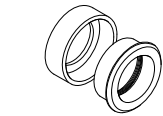
Lenses for pilot lights (Packing unit 10 pieces)

Description/Color	Catalog No.	Ref. Code	List Price
Red	KA1-8031	1SFA 616 920 R8031	\$ 2.50
Green	KA1-8032	1SFA 616 920 R8032	
Yellow	KA1-8033	1SFA 616 920 R8033	
Blue	KA1-8034	1SFA 616 920 R8034	
White	KA1-8035	1SFA 616 920 R8035	
Clear	KA1-8038	1SFA 616 920 R8038	
Fresnel light diffusing lens ①	KA1-8005	1SFA 616 920 R8005	3.00

Buttons for pushbuttons (Packing unit 10 pieces)

Description	Color	Catalog No.	Ref. Code	List Price
Flush, opaque	Red	KA1-8081	1SFA 616 920 R8081	\$ 1.50
	Green	KA1-8082	1SFA 616 920 R8082	
	Yellow	KA1-8083	1SFA 616 920 R8083	
	Blue	KA1-8084	1SFA 616 920 R8084	
	White	KA1-8085	1SFA 616 920 R8085	
	Black	KA1-8086	1SFA 616 920 R8086	
	Grey	KA1-8087	1SFA 616 920 R8087	
	Clear	KA1-8088	1SFA 616 920 R8088	
Extended, opaque	Red	KA1-8091	1SFA 616 920 R8091	
	Green	KA1-8092	1SFA 616 920 R8092	
	Yellow	KA1-8093	1SFA 616 920 R8093	
	Blue	KA1-8094	1SFA 616 920 R8094	
	White	KA1-8095	1SFA 616 920 R8095	
	Black	KA1-8096	1SFA 616 920 R8096	
	Grey	KA1-8097	1SFA 616 920 R8097	
	Clear	KA1-8098	1SFA 616 920 R8098	
Flush, transparent	Red	KA1-8101	1SFA 616 920 R8101	
	Green	KA1-8102	1SFA 616 920 R8102	
	Yellow	KA1-8103	1SFA 616 920 R8103	
	Blue	KA1-8104	1SFA 616 920 R8104	
	White	KA1-8105	1SFA 616 920 R8105	
	Clear	KA1-8108	1SFA 616 920 R8108	
Extended, transparent	Red	KA1-8111	1SFA 616 920 R8111	
	Green	KA1-8112	1SFA 616 920 R8112	
	Yellow	KA1-8113	1SFA 616 920 R8113	
	Blue	KA1-8114	1SFA 616 920 R8114	
	White	KA1-8115	1SFA 616 920 R8115	
	Clear	KA1-8118	1SFA 616 920 R8118	

① Light diffusing insert is placed between the bulb and the lens.



Accessories

8



Blanking plug (22mm)

Description	Catalog No.	Reference Code	List Price
Grey plastic	MA1-8129	1SFA 611 920 R8129	\$ 5.80
Black plastic	MA1-8130	1SFA 611 920 R8130	5.80

Blanking plug (30mm)

Description	Catalog No.	Reference Code	List Price
Black plastic	MA1-8133	1SFA 611 920 R8133	7.30

Spare gasket, 22mm

Description	Catalog No.	List Price
Gasket, 22mm	21520357-1	\$ 1.00

Locking nut – for mounting 22mm pilot devices

Description	Catalog No.	Reference Code	List Price
Grey plastic, 22mm	MA1-8019	1SFA 611 920 R8019	\$ 1.50

Locking nut – for mounting 30mm adaptor with 22mm device

Description	Catalog No.	Reference Code	List Price
Grey plastic, 30mm	MA1-8134	1SFA 611 920 R8134	\$ 2.50

Selector switch lock

Description	Catalog No.	List Price
Selector switch lock	CBK-XSWL	\$ 35.00

Selector switch guard

Description	Catalog No.	List Price
Selector switch guard	CBK-XSWG	\$ 8.00

DIN rail adaptor

For 35mm DIN rail. To be used with rear-mounting contact blocks. Accessories kit includes 1 dummy block and 2 connector pins. Must be used when DIN-rail mounting pilot devices with only 1 contact block.

Description	Catalog No.	Reference Code	List Price
DIN rail adaptor	MA1-8131	1SFA611920R8131	\$ 18.00
DIN rail adaptor, with accessories	MA1-8001	1SFA611920R8001	20.00
Extra dummy block, rear mount	MDB-2	1SFA611630R1002	4.00

Technical data

Pilot Devices
Modular Range
22mm



Approvals

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

For detail information please contact ABB

Standards

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

Degrees of protection

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



Material

No ozone depleting substances in the products.

All front parts are made of polycarbonate

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

Mechanical life

Operators

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

Temperature

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

8

Terminals

Plus-minus Pozidriv No.2 screw with DIN-washer.	
Connectable area	min. 1 x 0.5 mm ² /AWG 20 max. 2 x 2.5 mm ² /2 x AWG14
Recommended torque	0.9 Nm

Tightening torque

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

Contact blocks

Mechanical endurance	10 million operations
Self cleaning contacts of silver, NC contact with positive opening.	
At voltages and currents below 24 V and 5.6 mA two contact blocks in parallel are recommended. As an alternative, gold plated contacts can be used.	

Ratings as per UL, CSA, NEMA	A600	Q600
	AC	DC
Rated insulation voltage	600 V	600 V
Rated thermal current	10 A	2.5 A
Rated operational current	at 120 V 240 V 480 V 600 V	at 125 V 250 V 480 V 600 V
	6 A 3 A 1.5 A 1.2 A	0.55 A 0.27 A 0.10 A 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 resistance	< 25 mΩ
Compulsory function test	at 5V, 16 mA

Max. number of contact blocks per operator ①

Pushbutton, toggle switch and mushroom pushbutton	6
Maintained pushbutton	4
Double pushbutton, selector switch, key operated selector switch and emergency stop pushbutton	4
Short circuit protection	
Max. fuse at 1 kA	16 A ordinary 10 A delayed

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

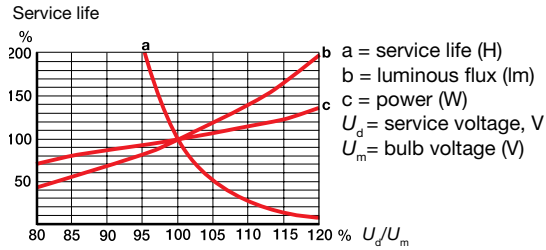
Lamp block

Ratings as per IEC 60 947-5-1

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

Service life of filament bulb

Relative service life, luminous flux and power consumption at different service voltages.
It is generally true to say that bulbs for lower voltages give more light and have better vibration-withstand capability than bulbs for higher voltages.



Lamp comparison

Bulb Catalog No.	Approx. life (hours)	Shock and service immunity	High vibration temperature	Low power operating	Brightness consumption
Filament	5000 - 10 000	+	+	+	+++
LED	25 000 - 50 000	+++	++	++	++

Very good +++
Good ++
Less good +

Transformer block

Suitable for filament bulb 6 or 24 V AC and 1.2 W and LED 24 V.	
Rated power	1.5 W
Rated voltage	Ratio, see Accessories page 8.25
Rated insulation voltage acc. to IEC 70 °C (DT)	Class E



Modular range
30mm



30mm Pilot devices

General construction

- Snap-on features reduce installation time
- Bezels: black plastic or chrome metal
- 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
- UL File# E57057
- CSA File# LR19700

Operators

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

Contact blocks

- Quick-mount, quick release contact block holder for fast and easy assembly/disassembly
- NO & NC contact blocks are color-coded for easy identification: Green = NO; Red = NC
- Silver-tipped contacts
- Wiping action for high reliability
- Low energy gold-plated contact blocks
- Contact block holder for three or five blocks in a single row

Pilot lights

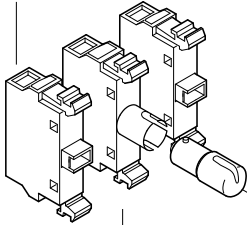
- Full voltage, resistor and transformer
- LED and filament bulbs available

General information Mounting

Exploded view

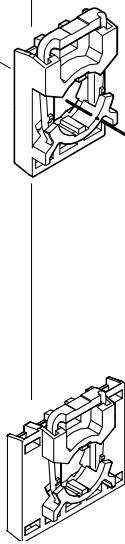
Contact block

Single pole with making or breaking contact

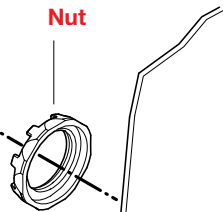


Holder

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

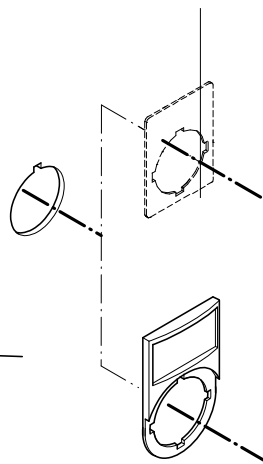


Nut



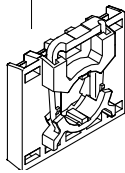
Legend plates

Of aluminum with slots that guide the legend plate and the operator into the correct position.



Lamp block

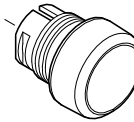
Illuminated pushbuttons, illuminated selector switches and pilot lights have a lamp block in the center position of the holder.



Five block holder

Operator

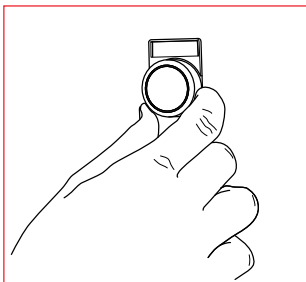
Buttons, lenses and handles in several colors. Illuminated or non-illuminated.



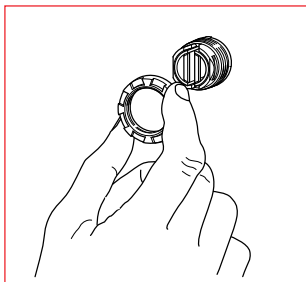
Bezels

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

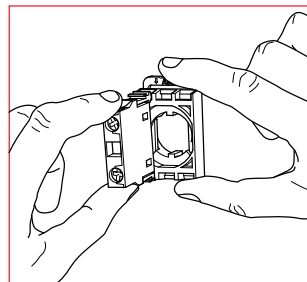
Easy to mount



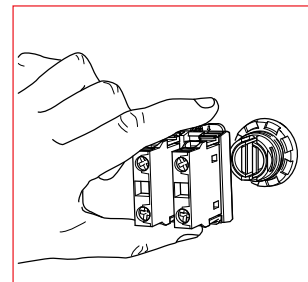
The operator is to be inserted from the front.....



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

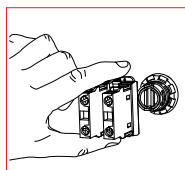
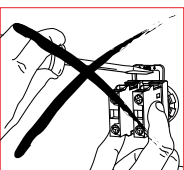


The contact blocks/lamp block are then snapped on to the holder...



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

...and to remove

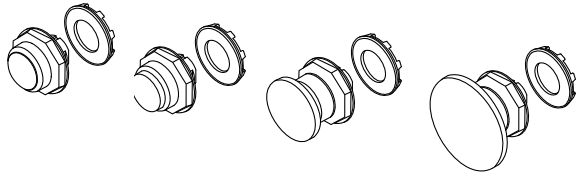


Press down the spring on the holder and pull the holder from the actuator.

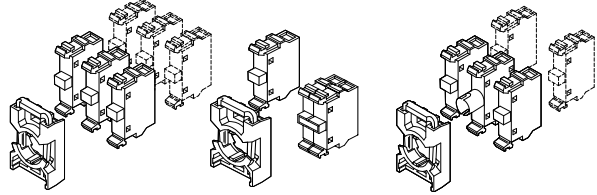
Selection guide

Pilot Devices
Modular Range
30mm

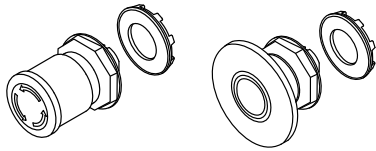
Pushbuttons and Mushroom pushbuttons



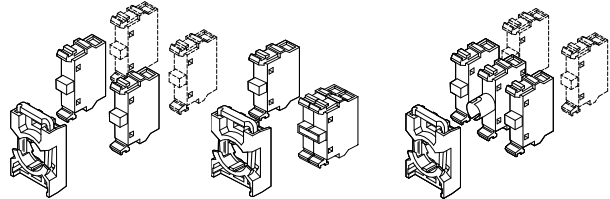
Contact block/lamp block combinations



Emergency stop pushbuttons



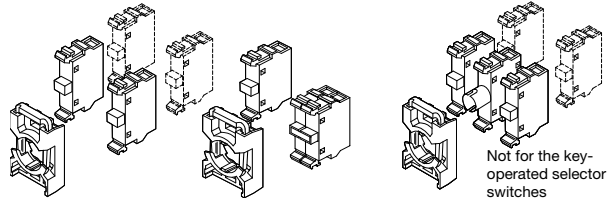
Contact block/lamp block combinations



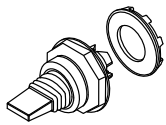
Selector switches



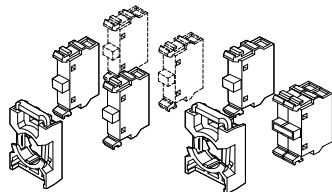
Contact block/lamp block combinations



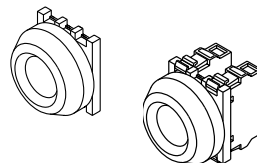
Toggle switches



Contact block combinations

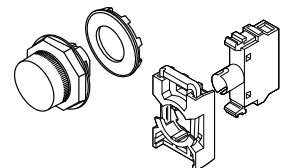


Definite purpose push-buttons



Pilot lights

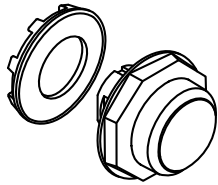
Lamp block combination



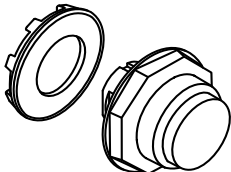
Flush and extended pushbuttons

Non-illuminated and illuminated

Momentary and maintained



Flush



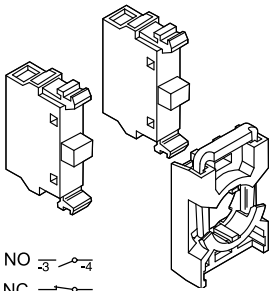
Extended

Δ Non-illuminated
button color

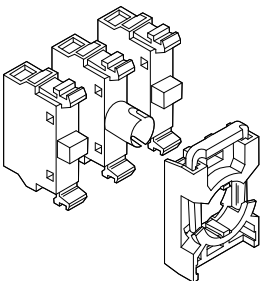
R Red
G Green
Y Yellow
L Blue
W White
B Black
C Clear

‡ Illuminated
button color

R Red
G Green
Y Yellow
L Blue
W White
C Clear



NO 3-4
NC 1-2



Non-illuminated

Description	Catalog number	List price
Black plastic bezel		
Flush, momentary	G1MP1-10Δ	\$ 14.10
Flush, maintained	G1MP2-10Δ	25.30
Extended, momentary	G1MP3-10Δ	14.10
Extended, maintained	G1MP4-10Δ	25.30
Chrome bezel		
Flush, momentary	G2MP1-30Δ	16.10
Flush, maintained	G2MP2-30Δ	27.30
Extended, momentary	G2MP3-30Δ	16.10
Extended, maintained	G2MP4-30Δ	27.30

Illuminated^①

Description	Catalog number	List price
Black plastic bezel		
Flush, momentary	G1MP1-11‡	\$ 14.10
Flush, maintained	G1MP2-11‡	25.30
Extended, momentary	G1MP3-11‡	14.10
Extended, maintained	G1MP4-11‡	25.30
Chrome bezel		
Flush, momentary	G2MP1-31‡	16.10
Flush, maintained	G2MP2-31‡	27.30
Extended, momentary	G2MP3-31‡	16.10
Extended, maintained	G2MP4-31‡	27.30

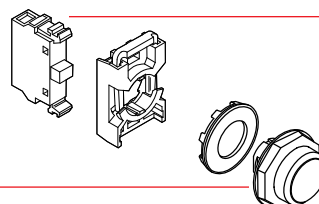
Contact blocks, lamp block and holder^②

Blocks	Catalog number	Ref. code	List price
1 NO with holder	MCBH-10	1SFA 611 605 R1101	\$ 10.00
1 NC with holder	MCBH-01	1SFA 611 605 R1110	10.00
2 NO with holder	MCBH-20	1SFA 611 605 R1102	18.00
2 NC with holder	MCBH-02	1SFA 611 605 R1120	18.00
1 NO + 1 NC with holder	MCBH-11	1SFA 611 605 R1111	18.00
1 NO + 1 LB with holder	MCBH-101	1SFA 611 605 R1201	27.50
1 NC + 1 LB with holder	MCBH-011	1SFA 611 605 R1210	27.50
2 NO + 1 LB with holder ^①	MCBH-201	1SFA 611 605 R1202	35.50
2 NC + 1 LB with holder	MCBH-021	1SFA 611 605 R1220	35.50
1 NO + 1 NC + 1 LB with holder	MCBH-111	1SFA 611 605 R1211	35.50
1 NO without holder	MCB-10	1SFA 611 610 R1001	8.00
1 NC without holder	MCB-01	1SFA 611 610 R1010	8.00
Lamp block for 2 W, max 230 V AC/DC bulb or LED	MLB-1	1SFA 611 620 R1001	17.50
Holder for 3 blocks	MCBH-00	1SFA 611 605 R1100	2.00

Ordering example

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

Ref.: 1 piece of G1MP1- 40R +1 piece of MCBH-10



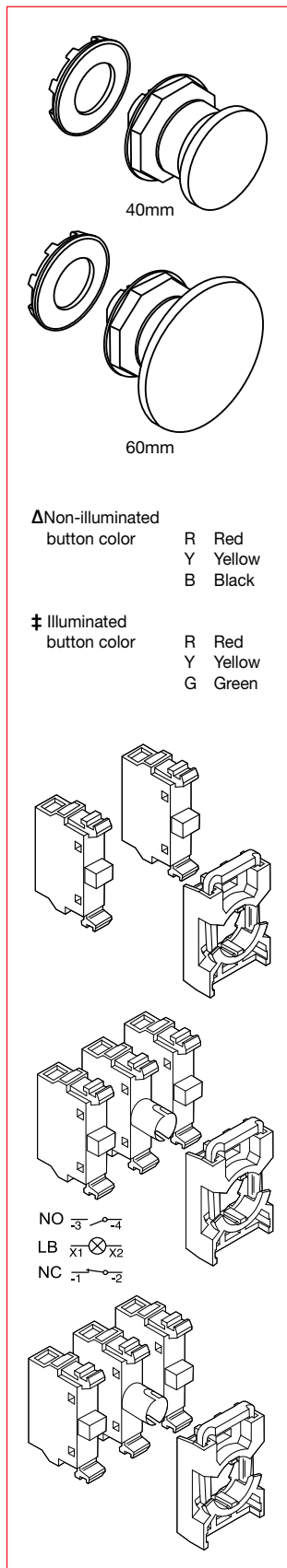
① No contact block in the center position.

② Lamp block MLB-1. Bulb not included. Other lamp block see Accessories, bulb max 1.2 W.

Mushroom pushbuttons

Non-illuminated and illuminated

Momentary



Non-illuminated

Description	Catalog number	List price
Black plastic bezel		
40mm	G1MPM1-10Δ	\$ 24.00
60mm	G1MPM2-10Δ	28.00
Chrome bezel		
40mm	G2MPM1-30Δ	26.00
60mm	G2MPM2-30Δ	30.00

Illuminated[Ⓢ]

Description	Catalog number	List price
Black plastic bezel		
40mm	G1MPM1-11‡	\$ 24.00
60mm	G1MPM2-11‡	28.00
Chrome bezel		
40mm	G2MPM1-31‡	26.00
60mm	G2MPM2-31‡	30.00

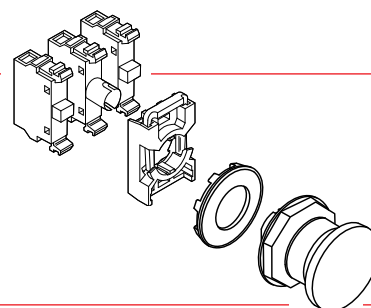
Contact blocks, lamp block and holder[Ⓢ]

Blocks	Catalog number	Ref. code	List price
1 NO with holder	MCBH-10	1SFA 611 605 R1101	\$ 10.00
1 NC with holder	MCBH-01	1SFA 611 605 R1110	10.00
2 NO with holder	MCBH-20	1SFA 611 605 R1102	18.00
2 NC with holder	MCBH-02	1SFA 611 605 R1120	18.00
1 NO + 1 NC with holder	MCBH-11	1SFA 611 605 R1111	18.00
1 NO + 1 LB with holder	MCBH-101	1SFA 611 605 R1201	27.50
1 NC + 1 LB with holder	MCBH-011	1SFA 611 605 R1210	27.50
2 NO + 1 LB with holder ^①	MCBH-201	1SFA 611 605 R1202	35.50
2 NC + 1 LB with holder	MCBH-021	1SFA 611 605 R1220	35.50
1 NO + 1 NC + 1 LB with holder	MCBH-111	1SFA 611 605 R1211	35.50
1 NO without holder	MCB-10	1SFA 611 610 R1001	8.00
1 NC without holder	MCB-01	1SFA 611 610 R1010	8.00
Lamp block for 2 W, max 230 V AC/DC bulb or LED	MLB-1	1SFA 611 620 R1001	17.50
Holder for 3 blocks	MCBH-00	1SFA 611 605 R1100	2.00

Ordering example – Mushroom Pushbutton

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

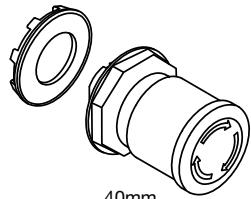
Ref.: 1 piece of G1MPM1-41B + 1 piece of MCBH-111
Bulb - see accessories



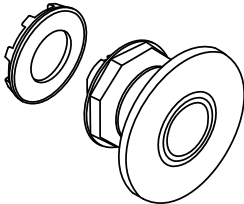
- ① No contact block in the center position
② Lamp block MLB-1. Bulb not included. Other lamp block see Accessories, bulb max 1.2 W.

Emergency stop pushbuttons Non-illuminated and illuminated

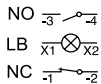
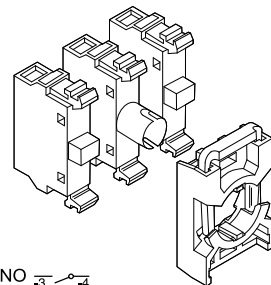
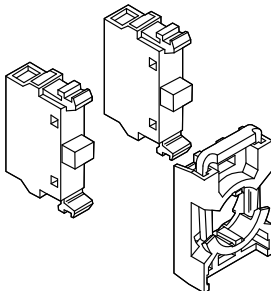
Fulfills IEC 60947-5-5



40mm



60mm



Non-illuminated, red

Description	Catalog number	List price
Black plastic bezel		
40mm, twist release	G1MPMT3-10R	\$ 42.00
40mm, pull release	G1MPMP3-10R	42.00
60mm, twist release	G1MPMT4-10R	54.00
60mm, pull release	G1MPMP4-10R	54.00
Chrome bezel		
40mm, twist release	G2MPMT3-10R	44.00
40mm, pull release	G2MPMP3-10R	44.00
60mm, twist release	G2MPMT4-10R	56.00
60mm, pull release	G2MPMP4-10R	56.00

Illuminated, red^①

Description	Catalog number	List price
Black plastic bezel		
40mm, twist release	G1MPMT3-11R	\$ 42.00
40mm, pull release	G1MPMP3-11R	42.00
60mm, twist release	G1MPMT4-11R	54.00
60mm, pull release	G1MPMP4-11R	54.00
Chrome bezel		
40mm, twist release	G2MPMT3-11R	44.00
40mm, pull release	G2MPMP3-11R	44.00
60mm, twist release	G2MPMT4-11R	56.00
60mm, pull release	G2MPMP4-11R	56.00

Contact blocks, lamp block and holder^②

Blocks	Catalog number	Ref. code	List price
1 NO with holder	MCBH-10	1SFA 611 605 R1101	\$ 10.00
1 NC with holder	MCBH-01	1SFA 611 605 R1110	10.00
2 NO with holder	MCBH-20	1SFA 611 605 R1102	18.00
2 NC with holder	MCBH-02	1SFA 611 605 R1120	18.00
1 NO + 1 NC with holder	MCBH-11	1SFA 611 605 R1111	18.00
1 NO + 1 LB with holder	MCBH-101	1SFA 611 605 R1201	27.50
1 NC + 1 LB with holder	MCBH-011	1SFA 611 605 R1210	27.50
2 NO + 1 LB with holder	MCBH-201	1SFA 611 605 R1202	35.50
2 NC + 1 LB with holder	MCBH-021	1SFA 611 605 R1220	35.50
1 NO + 1 NC + 1 LB with holder	MCBH-111	1SFA 611 605 R1211	35.50
1 NO without holder	MCB-10	1SFA 611 610 R1001	8.00
1 NC without holder	MCB-01	1SFA 611 610 R1010	8.00
Lamp block for 2 W, max 230 V AC/DC bulb or LED	MLB-1	1SFA 611 620 R1001	17.50
Holder for 3 blocks	MCBH-00	1SFA 611 605 R1100	2.00

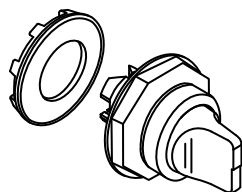
To comply with the standard, IEC 60947-5-5, a number of tests have to be conducted:

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

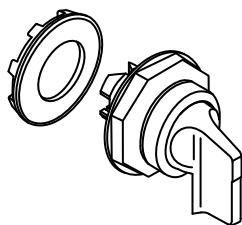
① No contact in the center position

② Lamp block MLB-1. Bulb not included. Other lamp block see Accessories, bulb max 2 W.

2 Position selector switches Non-illuminated



Short handle



Long handle

Δ Switch color R Red
 B Black
 U Grey

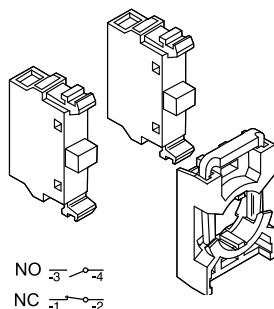
Maintained



Maintained



Momentary,
spring return
from C to B



NO
NC

Contact functions

Block positions as seen from operator front.

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

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

Non-illuminated

Description	Catalog number	List price
Short handle		
Black plastic bezel		
Maintained B & C	G1M2SS1-10Δ	\$ 19.00
Maintained A & C	G1M2SS2-10Δ	19.00
Spring return from C to B	G1M2SS3-10Δ	22.00
Chrome bezel		
Maintained B & C	G2M2SS1-30Δ	21.00
Maintained A & C	G2M2SS2-30Δ	21.00
Spring return from C to B	G2M2SS3-30Δ	24.00
Long handle		
Black plastic bezel		
Maintained B & C	G1M2SS4-10Δ	19.00
Maintained A & C	G1M2SS5-10Δ	19.00
Spring return from C to B	G1M2SS6-10Δ	22.00
Chrome bezel		
Maintained B & C	G2M2SS4-30Δ	21.00
Maintained A & C	G2M2SS5-30Δ	21.00
Spring return from C to B	G2M2SS6-30Δ	24.00

Contact blocks and holder

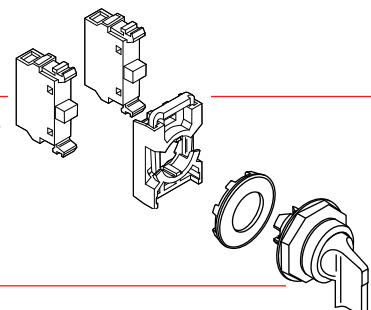
Blocks	Catalog number	Ref. code	List price
1 NO with holder	MCBH-10	1SFA 611 605 R1101	\$ 10.00
1 NC with holder	MCBH-01	1SFA 611 605 R1110	10.00
2 NO with holder	MCBH-20	1SFA 611 605 R1102	18.00
2 NC with holder	MCBH-02	1SFA 611 605 R1120	18.00
1 NO + 1 NC with holder	MCBH-11	1SFA 611 605 R1111	18.00
1 NO without holder	MCB-10	1SFA 611 610 R1001	8.00
1 NC without holder	MCB-01	1SFA 611 610 R1010	8.00
Holder for 3 blocks	MCBH-00	1SFA 611 605 R1100	2.00

Ordering example

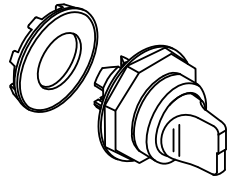
Requested: A non-illuminated modular selector switch. Black. Maintained.

Handle positions: A and C
With 2 NC contacts

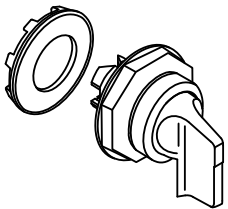
Ref.: 1 piece of G1M2SS2-40B + 1 piece of MCBH-02



2 Position selector switches Illuminated

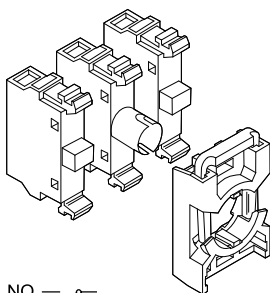
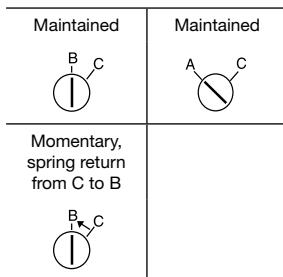


Short handle



Long handle

Δ Switch color	R	Red
	G	Green
	Y	Yellow
	L	Blue
	C	Clear



Illuminated^①

Description	Catalog number	List price
Short handle		
Black plastic bezel		
Maintained B & C	G1M2SS1-11Δ	\$ 25.00
Maintained A & C	G1M2SS2-11Δ	25.00
Spring return from C to B	G1M2SS3-11Δ	34.00
Chrome bezel		
Maintained B & C	G2M2SS1-31Δ	27.00
Maintained A & C	G2M2SS2-31Δ	27.00
Spring return from C to B	G2M2SS3-31Δ	36.00
Long handle		
Black plastic bezel		
Maintained B & C	G1M2SS4-11Δ	25.00
Maintained A & C	G1M2SS5-11Δ	25.00
Spring return from C to B	G1M2SS6-11Δ	34.00
Chrome bezel		
Maintained B & C	G2M2SS4-31Δ	27.00
Maintained A & C	G2M2SS5-31Δ	27.00
Spring return from C to B	G2M2SS6-31Δ	36.00

Contact blocks, lamp block and holder^②

Blocks	Catalog number	Ref. code	List price
1 NO + 1 LB with holder	MCBH-101	1SFA 611 605 R1201	\$ 27.50
1 NC + 1 LB with holder	MCBH-011	1SFA 611 605 R1210	27.50
2 NO + 1 LB with holder	MCBH-201	1SFA 611 605 R1202	35.50
2 NC + 1 LB with holder	MCBH-021	1SFA 611 605 R1220	35.50
1 NO + 1 NC with holder	MCBH-111	1SFA 611 605 R1211	35.50
1 NO without holder	MCB-10	1SFA 611 610 R1001	8.00
1 NC without holder	MCB-01	1SFA 611 610 R1010	8.00
Lamp block for 2 W, max 230 V AC/DC bulb or LED	MLB-1	1SFA 611 620 R1001	17.50
Holder for 3 blocks	MCBH-00	1SFA 611 605 R1100	2.00

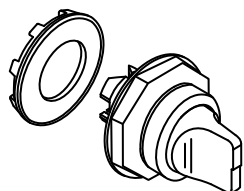
Contact functions See Page 7

Ordering example See Page 7

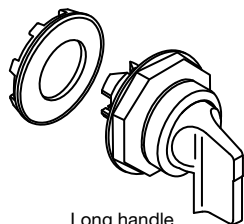
① No contact block in the center position

② Lamp block MLB-1. Bulb not included. Other lamp block see Accessories, bulb max 1.2 W.

3 Position selector switches Non-illuminated

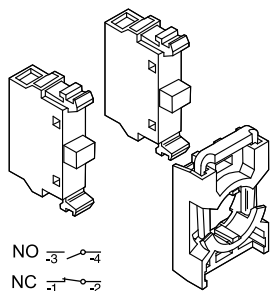
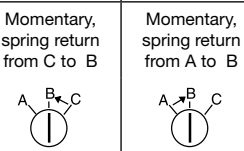
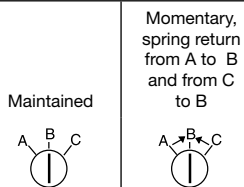


Short handle



Long handle

Δ Switch color
R Red
B Black
U Grey



Contact functions

Block positions as seen from operator front.

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

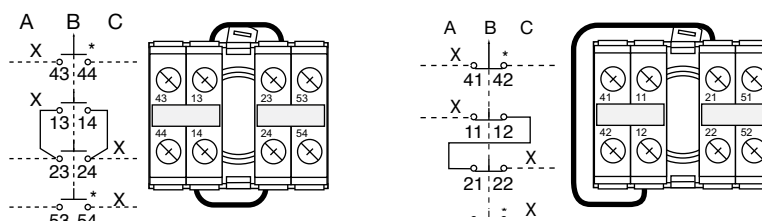
Non-illuminated

Description	Catalog number	List price
Short handle		
Black plastic bezel		
Maintained A, B & C	G1M3SS1-10Δ	\$ 19.00
Spring return A & C to B	G1M3SS2-10Δ	22.00
Maint A, Spring ret C to B	G1M3SS3-10Δ	22.00
Maint C, Spring ret A to B	G1M3SS7-10Δ	22.00
Chrome bezel		
Maintained A, B & C	G2M3SS1-30Δ	21.00
Spring return A & C to B	G2M3SS2-30Δ	24.00
Maint A, Spring ret C to B	G2M3SS3-30Δ	24.00
Maint C, Spring ret A to B	G2M3SS7-30Δ	24.00
Long handle		
Black plastic bezel		
Maintained A, B & C	G1M3SS4-10Δ	19.00
Spring return A & C to B	G1M3SS5-10Δ	22.00
Maint A, Spring ret C to B	G1M3SS6-10Δ	22.00
Maint C, Spring ret A to B	G1M3SS8-10Δ	22.00
Chrome bezel		
Maintained A, B & C	G2M3SS4-30Δ	21.00
Spring return A & C to B	G2M3SS5-30Δ	24.00
Maint A, Spring ret C to B	G2M3SS6-30Δ	24.00
Maint C, Spring ret A to B	G2M3SS8-30Δ	24.00

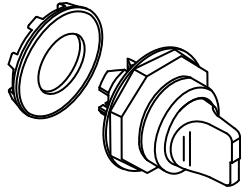
Contact blocks and holder

Blocks	Catalog number	Ref. code	List price
1 NO with holder	MCBH-10	1SFA 611 605 R1101	\$ 10.00
1 NC with holder	MCBH-01	1SFA 611 605 R1110	10.00
2 NO with holder	MCBH-20	1SFA 611 605 R1102	18.00
2 NC with holder	MCBH-02	1SFA 611 605 R1120	18.00
1 NO + 1 NC with holder	MCBH-11	1SFA 611 605 R1111	18.00
1 NO without holder	MCB-10	1SFA 611 610 R1001	8.00
1 NC without holder	MCB-01	1SFA 611 610 R1010	8.00
Holder for 3 blocks	MCBH-00	1SFA 611 605 R1100	2.00

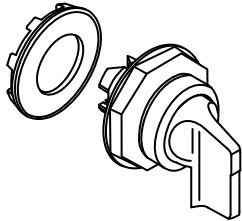
Center position connection detail



3 Position selector switches Illuminated



Short handle



Long handle

Δ Switch color	R	Red
	G	Green
	Y	Yellow
	L	Blue
	C	Clear

Maintained



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



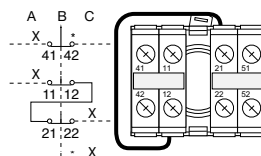
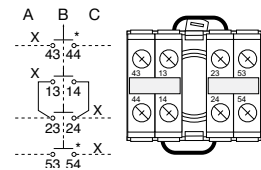
Momentary,
spring return
from C to B



Momentary,
spring return
from A to B



Center position connection detail



Illuminated^①

Description	Catalog number	List price
Short handle		
Black plastic bezel		
Maintained A, B & C	G1M3SS1-11Δ	\$ 25.00
Spring return A & C to B	G1M3SS2-11Δ	34.00
Maint A, Spring ret C to B	G1M3SS3-11Δ	34.00
Maint C, Spring ret A to B	G1M3SS7-11Δ	34.00
Chrome bezel		
Maintained A, B & C	G2M3SS1-31Δ	27.00
Spring return A & C to B	G2M3SS2-31Δ	36.00
Maint A, Spring ret C to B	G2M3SS3-31Δ	36.00
Maint C, Spring ret A to B	G2M3SS7-31Δ	36.00
Long handle		
Black plastic bezel		
Maintained A, B & C	G1M3SS4-11Δ	25.00
Spring return A & C to B	G1M3SS5-11Δ	34.00
Maint A, Spring ret C to B	G1M3SS6-11Δ	34.00
Maint C, Spring ret A to B	G1M3SS8-11Δ	34.00
Chrome bezel		
Maintained A, B & C	G2M3SS4-31Δ	27.00
Spring return A & C to B	G2M3SS5-31Δ	36.00
Maint A, Spring ret C to B	G2M3SS6-31Δ	36.00
Maint C, Spring ret A to B	G2M3SS8-31Δ	36.00

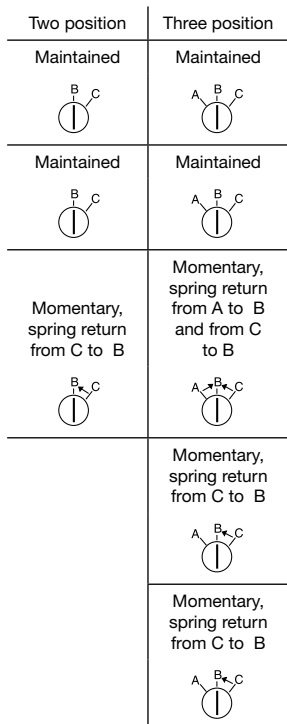
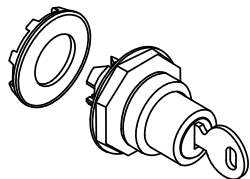
Contact blocks, lamp block and holder See Page 8

Contact functions See Page 9

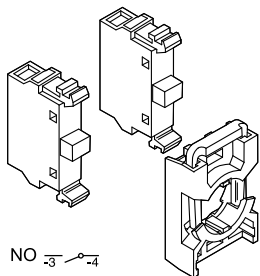
Ordering example See Page 7

^① No contact block in the center position

Key-operated selector switches^① 2 and 3 positions



Δ Key code 1 Ronis 71
 2 Ronis 72
 3 Ronis 73



NO

NC

Description	The key can be removed in...	Catalog number	List price
2-position			
Black plastic bezel			
Maintained B & C	B & C	G1M2SSK1-10Δ	\$ 49.00
Maintained B & C	B only	G1M2SSK2-10Δ	49.00
Spring return C to B	B only	G1M2SSK3-10Δ	49.00
Chrome bezel			
Maintained B & C	B & C	G2M2SSK1-30Δ	51.00
Maintained B & C	B only	G2M2SSK2-30Δ	51.00
Spring return C to B	B only	G2M2SSK3-30Δ	51.00
3-position			
Black plastic bezel			
Maintained A, B, & C	A, B & C	G1M3SSK1-10Δ	61.00
Maintained A, B, & C	B only	G1M3SSK2-10Δ	61.00
Spring return A & C to B	B only	G1M3SSK3-10Δ	61.00
Spring return C to B	A only	G1M3SSK4-10Δ	61.00
Spring return C to B	A, B, & C	G1M3SSK5-10Δ	61.00
Chrome bezel			
Maintained A, B, & C	A, B & C	G2M3SSK1-30Δ	63.00
Maintained A, B, & C	B only	G2M3SSK2-30Δ	63.00
Spring return A & C to B	B only	G2M3SSK3-30Δ	63.00
Spring return C to B	A only	G2M3SSK4-30Δ	63.00
Spring return C to B	A, B, & C	G2M3SSK5-30Δ	63.00

Contact blocks and holder

Blocks	Catalog number	Ref. code	List price
2 NO with holder	MCBH-20	1SFA 611 605 R1102	\$ 18.00
2 NC with holder	MCBH-02	1SFA 611 605 R1120	
1 NO + 1 NC with holder	MCBH-11	1SFA 611 605 R1111	
1 NO without holder	MCB-10	1SFA 611 610 R1001	8.00
1 NC without holder	MCB-01	1SFA 611 610 R1010	8.00
Holder for 3 blocks	MCBH-00	1SFA 611 605 R1100	2.00

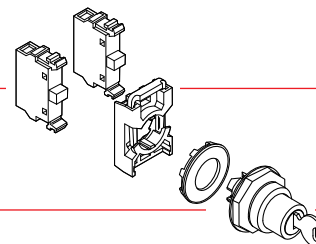
Contact functions

2 positions: See Page 9
3 positions: See Page 9

Ordering example

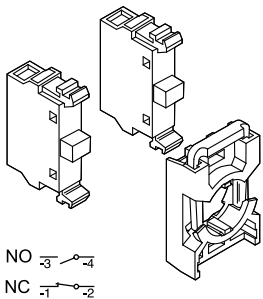
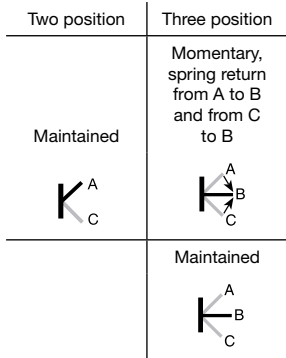
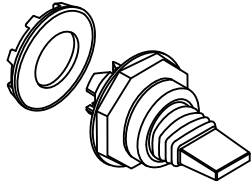
Requested: A key-operated selector switch. Three positions. Maintained. The key removeable in position B. Key code 72. With 2 NC contacts

Ref.: 1 piece of G1M3SSK2-402 + 1 piece of MCBH-02



① Includes two keys

Toggle switches 2 and 3 positions



Description	Catalog number	List price
2-position		
Maintained, black bezel	G1MTS1-10B	\$ 26.00
Maintained, chrome bezel	G2MTS1-30B	28.00
3-position		
Maintained, black bezel	G1MTS3-10B	26.00
Maintained, chrome bezel	G2MTS3-30B	28.00
Spring return from A and C to B, black bezel	G1MTS2-10B	26.00
Spring return from A and C to B, chrome bezel	G2MTS2-30B	28.00

Contact blocks and holder

Blocks	Catalog number	Ref. code	List price
1 NO with holder	MCBH-10	1SFA 611 605 R1101	\$ 10.00
1 NC with holder	MCBH-01	1SFA 611 605 R1110	10.00
2 NO with holder	MCBH-20	1SFA 611 605 R1102	18.00
2 NC with holder	MCBH-02	1SFA 611 605 R1120	18.00
1 NO + 1 NC with holder	MCBH-11	1SFA 611 605 R1111	18.00
1 NO without holder	MCB-10	1SFA 611 610 R1001	8.00
1 NC without holder	MCB-01	1SFA 611 610 R1010	8.00
Holder for 3 blocks	MCBH-00	1SFA 611 605 R1100	2.00

Contact block functions

Block positions as seen from operator front.

2-position maintained switch

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

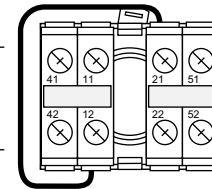
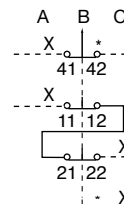
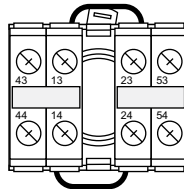
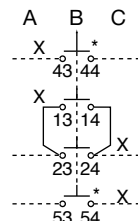
O = not actuated (normal state)
x = actuated (state changed)

3-position switch

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

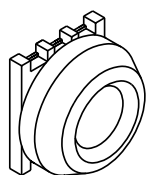
O = not actuated (normal state)
x = actuated (state changed)

Center position connection detail

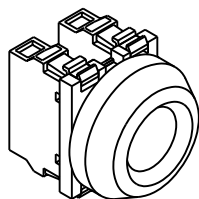


Definite purpose pushbuttons

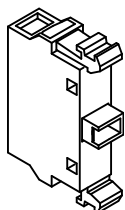
IP 66, and now NEMA 1, 3R, 4 & 4X!



Actuator only



Actuator with blocks



Contact block

Definite purpose pushbuttons

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

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

Included contact blocks	Membrane color	Catalog number	Ref. code	List price
1 NO + 1 NC	Black	1SFA616105R4076	1SFA 616 105 R4076	\$ 45.00
1 NO	Black	1SFA616105R4016	1SFA 616 105 R4016	37.00
1 NC	Black	1SFA616105R4046	1SFA 616 105 R4046	37.00
2 NO	Black	1SFA616105R4026	1SFA 616 105 R4026	45.00
2 NC	Black	1SFA616105R4056	1SFA 616 105 R4056	45.00
–	Red	KP6-40R	1SFA 616 105 R4001	29.00
–	Green	KP6-40G	1SFA 616 105 R4002	29.00
–	Black	KP6-40B	1SFA 616 105 R4006	29.00

Contact block

Description	Catalog number	Ref. code	List price
1 NO	MCB-10	1SFA 611 610 R1001	\$ 8.00
1 NC	MCB-01	1SFA 611 610 R1010	

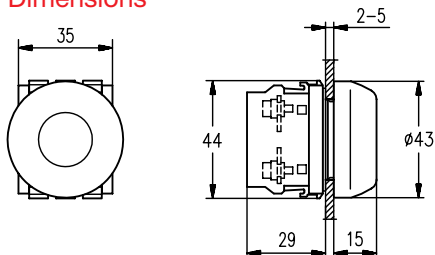
Accessories

Description	Catalog number ①	Ref. code	List price
Guide washer for positioning and anti rotation	2154373-1	2154 373-1	\$ 3.00

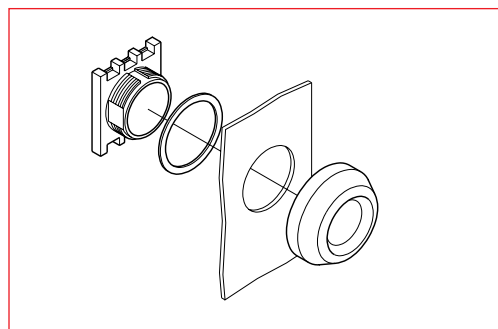
Technical data

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

Dimensions

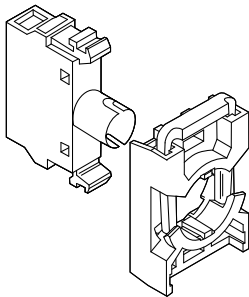
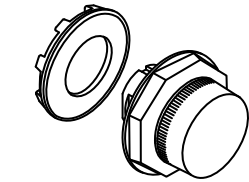


Mounting



① IP66 Rating only.

Pilot lights



Lamp block + holder



Diffusing lens

Δ Lens color	R Red
	G Green
	Y Yellow
	L Blue
	W White
	C Clear

Description	Catalog number	List price
Black plastic mounting ring	G1ML1-100Δ	\$ 12.50
Chrome mounting ring	G2ML1-100Δ	14.50

Lamp blocks with holder [Ⓞ]

Supply voltage	Catalog number	Ref. code	List price
For max. 2 W, 230 V AC and DC filament bulb or LED 230 V, 2 W 	MCBH-001	1SFA 611 605 R1200	\$ 19.50
115 V AC supply voltage. For 60 V filament bulb max. 1.2 W 	MCBH-002	1SFA 611 605 R1300	23.50
230 V AC supply voltage. For 130 V filament bulb max. 2 W 	MCBH-003	1SFA 611 605 R1400	23.50

Light diffusing lens

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

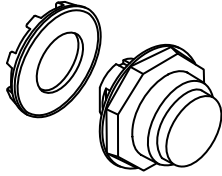
Description	Catalog number	Ref. code	List price
The lens is used instead of text cap	KA1-8005	1SFA 616 920 R8005	\$ 3.00

[Ⓞ] Bulb not included. See page 18

Press-to-test pilot light pushbuttons

Momentary

Pilot Devices
Modular Range
30mm

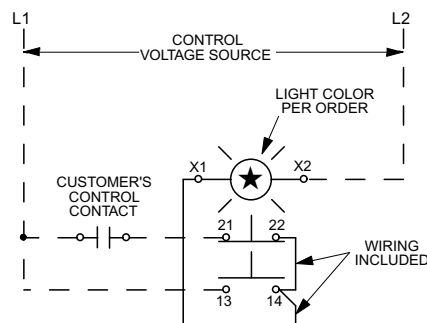


- Button type
- 1 Flush
 - 3 Extended
- Δ Lens color
- R Red
 - G Green
 - Y Yellow
 - L Blue
 - W White
 - C Clear

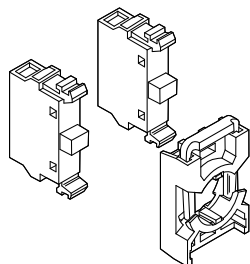
Complete device: 1No+1NC, lamp block, and bulb
Light difusing lens not included

Description	Voltage type	Catalog number	List price
Full voltage type			
Black plastic bezel			
	6V	G1MP‡ -KLFPT6Δ	\$ 55.60
	12V	G1MP‡ -KLFPT7Δ	55.60
	24V	G1MP‡ -KLFPT8Δ	55.60
	48V	G1MP‡ -KLFPT9Δ	55.60
	120V	G1MP‡ -KLFPT1Δ	55.60
Chrome bezel			
	6V	G2MP‡ -MLFPT6Δ	57.60
	12V	G2MP‡ -MLFPT7Δ	57.60
	24V	G2MP‡ -MLFPT8Δ	57.60
	48V	G2MP‡ -MLFPT9Δ	57.60
	120V	G2MP‡ -MLFPT1Δ	57.60
Transformer type			
Black plastic bezel			
6V fil bulb included			
	110-127V/6V	G1MP‡ -KLTPT1Δ	73.10
	220-240V/6V	G1MP‡ -KLTPT2Δ	73.10
	380-420V/6V	G1MP‡ -KLTPT3Δ	73.10
	440/480V/6V	G1MP‡ -KLTPT4Δ	73.10
	500-600V/6V	G1MP‡ -KLTPT5Δ	73.10
24V fil bulb included			
	110-127V/24V	G1MP‡ -KLTPT6Δ	73.10
	220-240V/24V	G1MP‡ -KLTPT7Δ	73.10
	380-420V/24V	G1MP‡ -KLTPT8Δ	73.10
	440/480V/24V	G1MP‡ -KLTPT9Δ	73.10
24V AC/DC LED included			
	110-127V/24V	G1MP‡ -KLTPTL1Δ	82.10
	220-240V/24V	G1MP‡ -KLTPTL2Δ	82.10
	380-420V/24V	G1MP‡ -KLTPTL3Δ	82.10
	440/480V/24V	G1MP‡ -KLTPTL4Δ	82.10
Chrome bezel			
6V fil bulb included			
	110-127V/6V	G2MP‡ -MLTPT1Δ	73.10
	220-240V/6V	G2MP‡ -MLTPT2Δ	73.10
	380-420V/6V	G2MP‡ -MLTPT3Δ	73.10
	440/480V/6V	G2MP‡ -MLTPT4Δ	73.10
	500-600V/6V	G2MP‡ -MLTPT5Δ	73.10
24V fil bulb included			
	110-127V/24V	G2MP‡ -MLTPT6Δ	73.10
	220-240V/24V	G2MP‡ -MLTPT7Δ	73.10
	380-420V/24V	G2MP‡ -MLTPT8Δ	73.10
	440/480V/24V	G2MP‡ -MLTPT9Δ	73.10
24V AC/DC LED included			
	110-127V/24V	G2MP‡ -MLTPTL1Δ	82.10
	220-240V/24V	G2MP‡ -MLTPTL2Δ	82.10
	380-420V/24V	G2MP‡ -MLTPTL3Δ	82.10
	440/480V/24V	G2MP‡ -MLTPTL4Δ	82.10
Resistor type			
Black plastic bezel			
	120V fil bulb	G1MP‡ -KLRPT1Δ	59.60
	120V AC/DC LED	G1MP‡ -KLRPTL1Δ	74.60
	240V AC LED	G1MP‡ -KLRPTL2Δ	74.60
Chrome bezel			
	120V fil bulb	G2MP‡ -MLRPT1Δ	61.60
	120V AC/DC LED	G2MP‡ -MLRPTL1Δ	76.60
	240V AC LED	G2MP‡ -MLRPTL2Δ	76.60

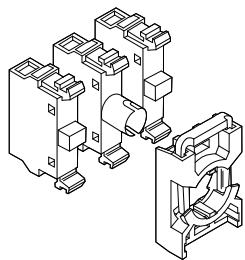
Schematic



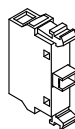
Press- to-test schematic



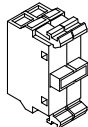
Contact block + holder



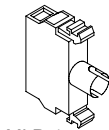
Contacts and lamp block + holder



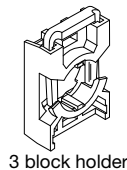
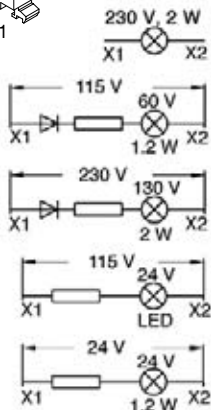
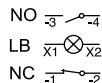
MCB-10



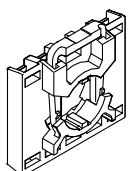
MCB-20



MLB-1



3 block holder



5 block holder

Contact blocks and lamp blocks with holder for front mounting

Max. number of blocks in holder	Included blocks	Catalog number	Ref. code	List price
For non-illuminated operators				
3	1 NC	MCBH-01	1SFA 611 605 R1110	\$ 10.00
3	1 NO	MCBH-10	1SFA 611 605 R1101	10.00
3	2 NC	MCBH-02	1SFA 611 605 R1120	18.00
3	2 NO	MCBH-20	1SFA 611 605 R1102	18.00
3	3 NC	MCBH-03	1SFA 611 605 R1130	26.00
3	3 NO	MCBH-30	1SFA 611 605 R1103	26.00
3	1 NO + 1 NC	MCBH-11	1SFA 611 605 R1111	18.00
3	1 NO + 2 NC	MCBH-12	1SFA 611 605 R1121	26.00
3	2 NO + 1 NC	MCBH-21	1SFA 611 605 R1112	26.00

For illuminated operators				
3	1 NC + 1 LB	MCBH-011	1SFA 611 605 R1210	27.50
3	1 NO + 1 LB	MCBH-101	1SFA 611 605 R1201	27.50
3	1 NO + 1 NC + 1 LB	MCBH-111	1SFA 611 605 R1211	35.50
3	2 NC + 1 LB	MCBH-021	1SFA 611 605 R1220	35.50
3	2 NO + 1 LB	MCBH-201	1SFA 611 605 R1202	35.50

Single contact blocks for front mounting

Included blocks	Catalog number	Ref. code	List price
1 NO	MCB-10	1SFA 611 610 R1001	\$ 8.00
1 NC	MCB-01	1SFA 611 610 R1010	8.00
1 NO with gold plated contacts	MCB-10G	1SFA 611 610 R1101	16.00
1 NC with gold plated contacts	MCB-01G	1SFA 611 610 R1110	16.00

Double contact block for front mounting

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

Included blocks	Catalog number	Ref. code	List price
2 NO	MCB-20	1SFA 611 610 R1002	\$ 16.00
2 NC	MCB-02	1SFA 611 610 R1020	
1 NO + 1 NC	MCB-11	1SFA 611 610 R1011	

Single lamp blocks for front mounting, Ba 9s base

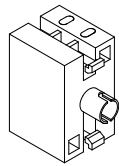
Description	Catalog number	Ref. code	List price
For max. 2 W, 230 V AC and DC filament bulb or LED	MLB-1	1SFA 611 620 R1001	\$ 17.50
115 V AC supply voltage. For 60 V filament bulb max. 1.2 W	MLB-2	1SFA 611 620 R1002	21.50
230 V AC supply voltage. For 130 V filament bulb max. 2 W	MLB-3	1SFA 611 620 R1003	21.50
115 V AC and DC supply voltage For 24 V LED	MLB-4	1SFA 611 620 R1004	21.50
24 V AC and DC supply voltage. With resistor. Intended for electronic circuits. The resistor limits the making current and protects against disturbances in the electronic circuit For 24 V filament bulb	MLB-5	1SFA 611 620 R1005	21.50

Holders

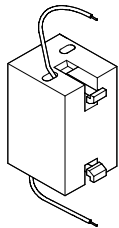
Description	Catalog number	Ref. code	List price
Holders for front mounting			
For three blocks	MCBH-00	1SFA 611 605 R1100	\$ 2.00
For five blocks	MCBH5-00	1SFA 611 601 R1100	4.00

Accessories

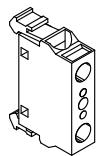
Pilot Devices
Modular Range
30mm



Transformer block with lamp holder for pilot lights



Transformer block for illuminated operators



Diode block

Transformer block

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

Primary voltage	Secondary voltage	Bulb Suffix LED Filament	Catalog number	Ref. code	List price
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With lamp holder for front mounting, Ba 9s base

Intended to supply a 1.2 W filament bulb.

110 - 127 V AC 6 V AC	-	T1	KTR1-1001	1SFA 616 950 R1001	\$ 35.00
220 - 250 V AC 6 V AC	-	T2	KTR1-1002	1SFA 616 950 R1002	
380 - 420 V AC 6 V AC	-	T3	KTR1-1003	1SFA 616 950 R1003	
440 - 480 V AC 6 V AC	-	T4	KTR1-1004	1SFA 616 950 R1004	
500 - 600 V AC 6 V AC	-	T9	KTR1-1005	1SFA 616 950 R1005	
110 - 127 V AC 24 V AC ①	TL1	T5	KTR1-1011	1SFA 616 950 R1011	\$ 35.00
220 - 250 V AC 24 V AC ①	TL2	T6	KTR1-1012	1SFA 616 950 R1012	
380 - 420 V AC 24 V AC ①	TL3	T7	KTR1-1013	1SFA 616 950 R1013	
440 - 480 V AC 24 V AC ①	TL4	T8	KTR1-1014	1SFA 616 950 R1014	

For illuminated operators ②

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

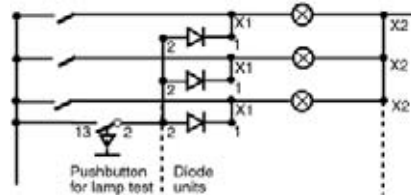
110 - 127V AC 6 V AC	-	T1	KTR1-2001	1SFA 616 950 R2001	35.00
220 - 250 V AC 6 V AC	-	T2	KTR1-2002	1SFA 616 950 R2002	
380 - 420 V AC 6 V AC	-	T3	KTR1-2003	1SFA 616 950 R2003	
440 - 480 V AC 6 V AC	-	T4	KTR1-2004	1SFA 616 950 R2004	
500 - 600 V AC 6 V AC	-	T9	KTR1-2005	1SFA 616 950 R2005	
110 - 127 V AC 24 V AC ①	TL1	T5	KTR1-2011	1SFA 616 950 R2011	35.00
220 - 250 V AC 24 V AC ①	TL2	T6	KTR1-2012	1SFA 616 950 R2012	
380 - 420 V AC 24 V AC ①	TL3	T7	KTR1-2013	1SFA 616 950 R2013	
440 - 480 V AC 24 V AC ①	TL4	T8	KTR1-2014	1SFA 616 950 R2014	

Diode block

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

Description	Catalog number	Ref. code	List price
Diode block	MDB-1001	1SFA 611 630 R1001	\$ 14.00

Diagram for lamp test with three diode block



① Can be used with LED bulb
② To be used with directly supplied lamp blocks only.

Accessories



Filament bulbs

Ba 9s base. A lamp changing tool is required for changing bulb.

Description					Catalog number	Ref. code	List price
Rated voltage V	Rated current mA	Rated output W	Service life h	Luminance mcd			
6	200	1.2	10 000	350	5911 086-11	5911 086-11	\$ 6.00
12	100	1.2	10 000	230	5911 086-12	5911 086-12	
24	50	1.2	10 000	280	5911 086-13	5911 086-13	
30	40	1.2	10 000	250	5911 086-4	5911 086-4	
48	42	2	6 000	500	5911 086-5	5911 086-5	
60	20	1.2	5 000	190	5911 086-14	5911 086-14	
110	18	2	7 500	250	5911 086-7	5911 086-7	
130	15	2	7 500	120	5911 086-15	5911 086-15	

LEDs

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

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

Description					Catalog number	Ref. code	List price
Color	Rated current mA	Wave-length nm	Luminance mcd				
Rated voltage 12 V, DC Service life >50 000 h							
Red	15	630	250	KA2-2011	1SFA 616 921 R2011	\$ 21.00	
Green	15	525	1000	KA2-2012	1SFA 616 921 R2012		
Yellow	15	592	250	KA2-2013	1SFA 616 921 R2013		
Blue	15	470	450	KA2-2014	1SFA 616 921 R2014		
White	15	x=0.31 y=0.32	600	KA2-2015	1SFA 616 921 R2015		
Rated voltage 24 V, (AC)/DC ⊕ Service life >50 000 h							
Red	15	630	250	KA2-2021	1SFA 616 921 R2021	15.00	
Green	15	525	800	KA2-2022	1SFA 616 921 R2022		
Yellow	15	592	250	KA2-2023	1SFA 616 921 R2023		
Blue	15	470	400	KA2-2024	1SFA 616 921 R2024		
White	15	x=0.31 y=0.32	500	KA2-2025	1SFA 616 921 R2025		
Rated voltage 48 V, (AC)/DC ⊕ Service life >50 000 h							
Red	12	630	200	KA2-2041	1SFA 616 921 R2041	21.00	
Green	12	525	1700	KA2-2042	1SFA 616 921 R2042		
Yellow	12	592	240	KA2-2043	1SFA 616 921 R2043		
Blue	12	470	720	KA2-2044	1SFA 616 921 R2044		
White	12	x=0.31 y=0.32	1200	KA2-2045	1SFA 616 921 R2045		
Rated voltage 60 V, (AC)/DC ⊕ Service life >50 000 h							
Red	10	630	160	KA2-2051	1SFA 616 921 R2051	21.00	
Green	10	525	1400	KA2-2052	1SFA 616 921 R2052		
Yellow	10	592	200	KA2-2053	1SFA 616 921 R2053		
Blue	10	470	600	KA2-2054	1SFA 616 921 R2054		
White	10	x=0.31 y=0.32	1000	KA2-2055	1SFA 616 921 R2055		
Rated voltage 110-130 V, AC ⊕ Service life 25 000 h							
Red	4-6	630	60-100	KA2-2131	1SFA 616 921 R2131	15.00	
Green	4-6	525	500-850	KA2-2132	1SFA 616 921 R2132		
Yellow	4-6	592	70-120	KA2-2133	1SFA 616 921 R2133		
Blue	4-6	470	220-350	KA2-2134	1SFA 616 921 R2134		
White	4-6	x=0.31 y=0.32	350-600	KA2-2135	1SFA 616 921 R2135		
Rated voltage 110-130 V, AC/DC ⊕ Service life 25 000 h							
Red	4-6	630	60-100	KA2-2141	1SFA 616 921 R2141	21.00	
Green	4-6	525	500-850	KA2-2142	1SFA 616 921 R2142		
Yellow	4-6	592	70-120	KA2-2143	1SFA 616 921 R2143		
Blue	4-6	470	220-350	KA2-2144	1SFA 616 921 R2144		
White	4-6	x=0.31 y=0.32	350-600	KA2-2145	1SFA 616 921 R2145		
Rated voltage 230 V, AC ⊕ Service life 25 000 h							
Red	4	630	60	KA2-2221	1SFA 616 921 R2221	21.00	
Green	4	525	500	KA2-2222	1SFA 616 921 R2222		
Yellow	4	592	70	KA2-2223	1SFA 616 921 R2223		
Blue	4	470	220	KA2-2224	1SFA 616 921 R2224		
White	4	x=0.31 y=0.32	350	KA2-2225	1SFA 616 921 R2225		

⊕ At AC the luminance is decreased by 30% and there is also a slight flickering.



Approvals

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

For detail information please contact ABB

Standards

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

Degrees of protection

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



Material

No ozone depleting substances in the products.

All front parts are made of polycarbonate

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

Mechanical life

Operators

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

Temperature

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

Terminals

Plus-minus Pozidriv No.2 screw with DIN-washer.	
Connectable area	min. 1 x 0.5 mm ² /AWG 20 max. 2 x 2.5 mm ² /2 x AWG14
Recommended torque	0.9 Nm

Tightening torque

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

Contact blocks

Mechanical endurance 10 million operations

Self cleaning contacts of silver, NC contact with positive opening.

At voltages and currents below 24 V and 5.6 mA two contact blocks in parallel are recommended. As an alternative, gold plated contacts can be used.

Ratings as per UL, CSA, NEMA	A600	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
	240 V 3 A	250 V 0.27 A
	480 V 1.5 A	480 V 0.10 A
	600 V 1.2 A	600 V 0.10 A

Ratings as per IEC 60 947-5-1

Rated insulation voltage, U_i	690 V
Rated thermal current, I_{th}	10 A
Rated operational current, I_e	
utilisation category AC 15,	at 120 V 8 A
	230 V 6 A
	400 V 4 A
	690 V 2 A

Rated operational current, I_e	
utilisation category DC 13,	at 24 V 5 A
	125 V 1.1 A
	250 V 0.55 A

Contact resistance	< 25 mΩ
Compulsory function test	at 5V, 16 mA

Max. number of contact blocks per operator ①

Pushbutton, toggle switch and mushroom pushbutton	6
Maintained pushbutton	4
Double pushbutton, selector switch, key operated selector switch and emergency stop pushbutton	4
Short circuit protection	
Max. fuse at 1 kA	16 A ordinary 10 A delayed

Lamp block

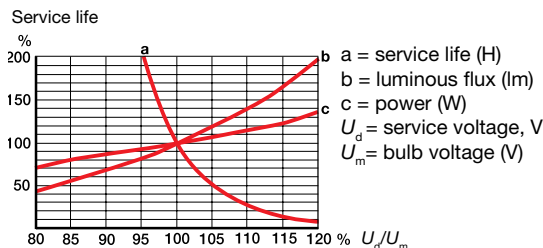
Ratings as per IEC 60 947-5-1

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.



Lamp comparison

Bulb Catalog No.	Approx. life (hours)	Shock and service immunity	High vibration temperature	Low power operating	Brightness consumption
Filament	5000 - 10 000	+	+	+	+++
LED	25 000 - 50 000	+++	++	++	++

Very good +++
Good ++
Less good +

Transformer block

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

Rated power	1.5 W
Rated voltage	Ratio, see Accessories page 8.25
Rated insulation voltage acc. to IEC 70 °C (DT)	Class E

① 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.

Assembled Modular range

ABB**Assembled Modular Range**
22mm**General construction**

- Snap-on feature reduces installation time
- Bezels: black plastic, chrome metal
- 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
- UL File# E57057
- CSA File# LR19700

Operators

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

Contact blocks

- Quick-mount, quick release contact block holder for fast and easy assembly/disassembly
- NO & NC contact blocks are color-coded for easy identification: Green = NO; Red = NC
- Silver-tipped contacts
- Wiping action for high reliability
- Low energy gold-plated contact blocks
- Contact block holder for three or five blocks in a single row

Pilot lights

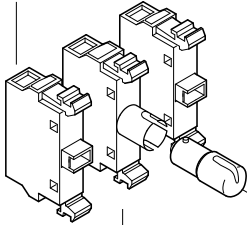
- Full voltage, resistor and transformer
- LED and filament bulbs available

Mounting

Exploded view

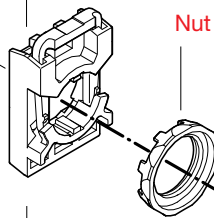
Contact block

Single pole with making or breaking contact



Holder

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

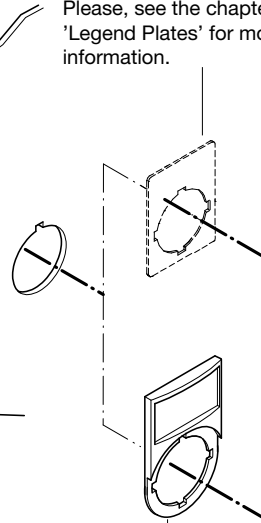


Nut

Legend plates

Of brushed aluminum with slots that guide the legend plate and the operator into the correct position.

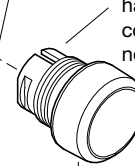
Please, see the chapter 'Legend Plates' for more information.



30mm adaptor

Operator

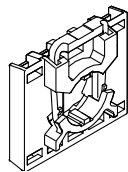
Buttons, lenses and handles in several colors. Illuminated or non-illuminated.



Lamp block

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

Five block holder



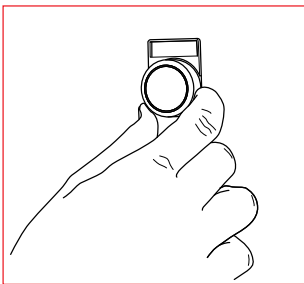
Legend plate holder

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

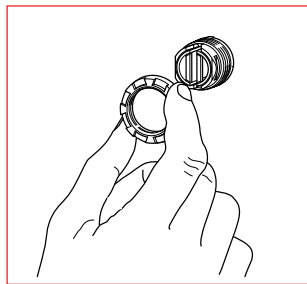
Bezels

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

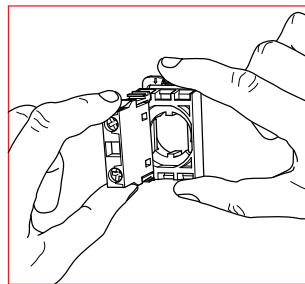
Easy to mount



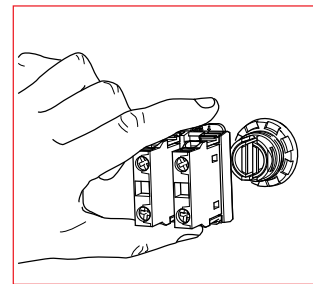
The operator is to be inserted from the front.....



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

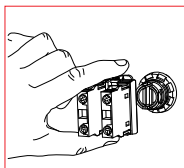
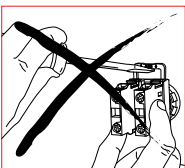


The contact blocks/lamp block are then snapped onto the holder...



...and the holder snaps onto the operator.

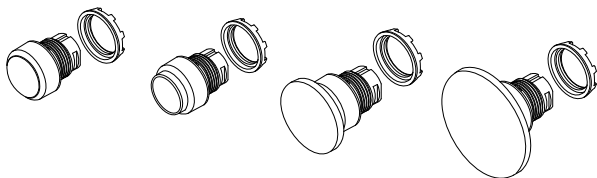
...and to remove



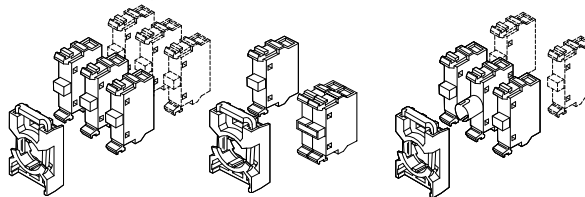
Press down the spring clip on the holder and pull the holder from the actuator.

Selection guide

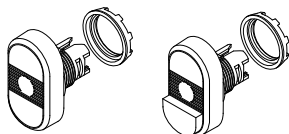
Pushbuttons and Mushroom pushbuttons



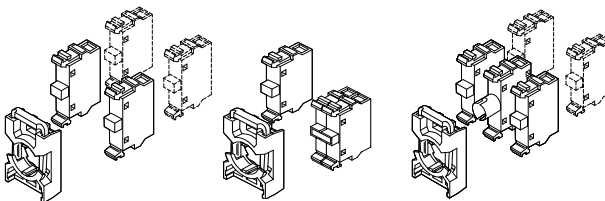
Contact block/lamp block combinations



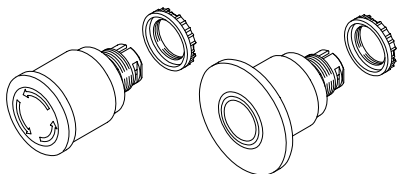
Double pushbuttons



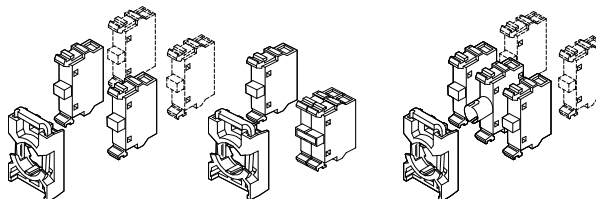
Contact block/lamp block combinations



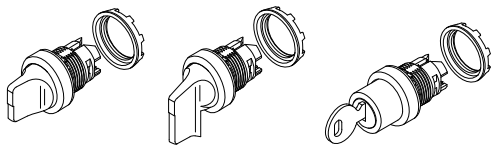
Emergency stop pushbuttons



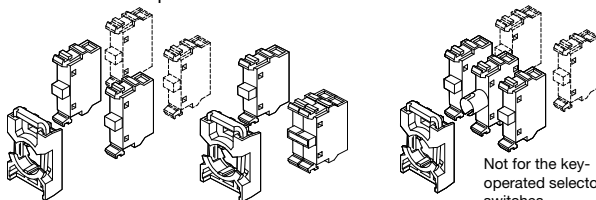
Contact block/lamp block combinations



Selector switches



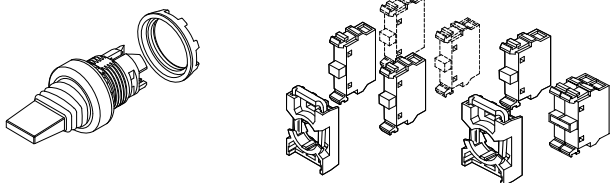
Contact block/lamp block combinations



Not for the key-operated selector switches

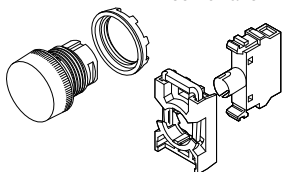
Toggle switches

Contact block combinations



Pilot lights

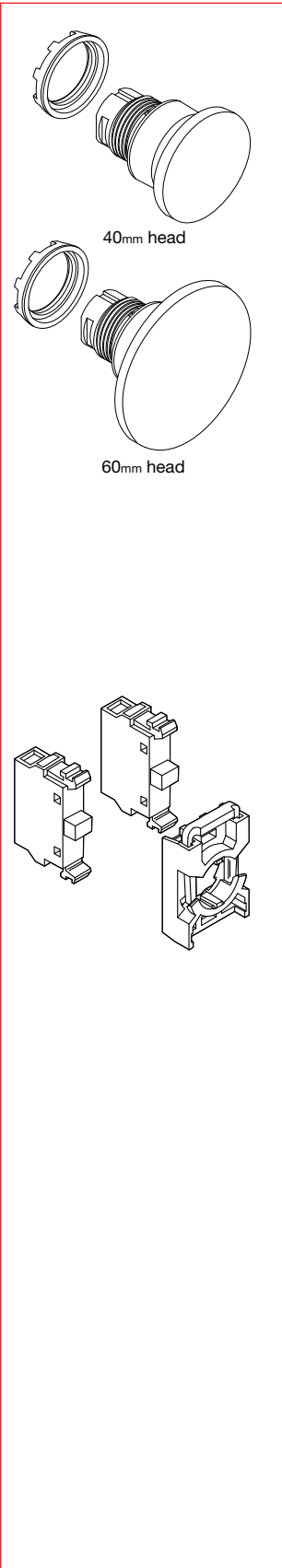
Lamp block combination



Mushroom pushbuttons

Non-illuminated, momentary

Mushroom pushbuttons, non-illuminated

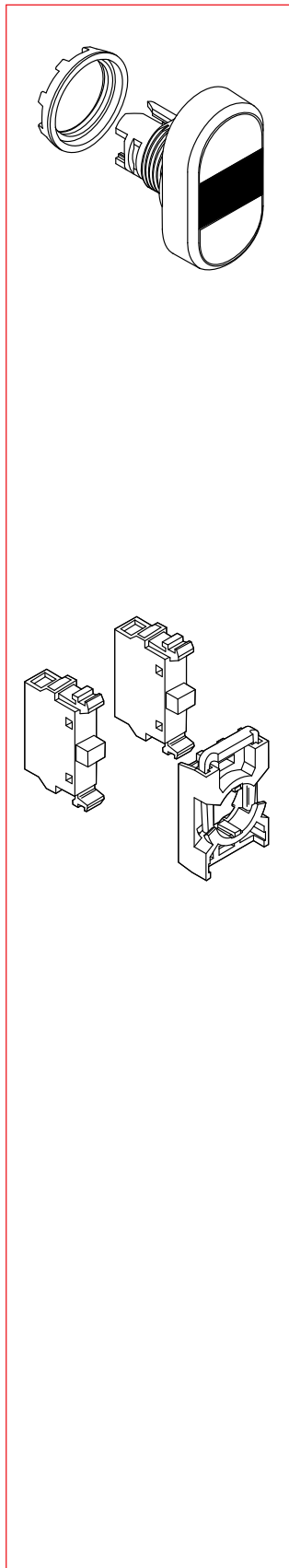


Options	Catalog number characters										List Price		
Momentary, 40 mm			M	P	M	1	-					\$ 16.00	
Momentary, 60 mm			M	P	M	2	-					20.00	
Bezel, Black Plastic, with Holder							-	4	0			2.00	
Bezel, Chrome Metal, with Holder							-	6	0			2.00	
Button Color - Red										R		-	
Button Color - Yellow										Y		-	
Button Color - Black										B		-	
Contact Blocks, 1NO											1 0	8.00	
Contact Blocks, 2NO											2 0	16.00	
Contact Blocks, 3NO											3 0	24.00	
Contact Blocks, 1NC											0 1	8.00	
Contact Blocks, 2NC											0 2	16.00	
Contact Blocks, 3NC											0 3	24.00	
Contact Blocks, 1NO+1NC											1 1	16.00	
Contact Blocks, 2NO+1NC											2 1	24.00	
Contact Blocks, 1NO+2NC											1 2	24.00	
Contact Blocks, 1NO, Gold											1 0 G	16.00	
Contact Blocks, 2NO, Gold											2 0 G	32.00	
Contact Blocks, 3NO, Gold											3 0 G	48.00	
Contact Blocks, 1NC, Gold											0 1 G	16.00	
Contact Blocks, 2NC, Gold											0 2 G	32.00	
Contact Blocks, 3NC, Gold											0 3 G	48.00	
Contact Blocks, 1NO+1NC, Gold											1 1 G	32.00	
Contact Blocks, 2NO+1NC, Gold											2 1 G	48.00	
Contact Blocks, 1NO+2NC, Gold											1 2 G	48.00	
5 Block Holder												5	4.00
30mm Black Plastic Adaptor Ring ①	G												8.00
30mm Chrome Metal Adaptor Ring ①	G												10.00

See catalog number explanation on page 4.

① For 30mm devices, use Discount Schedule CC.

Double pushbuttons Flush/flush, non-illuminated ①



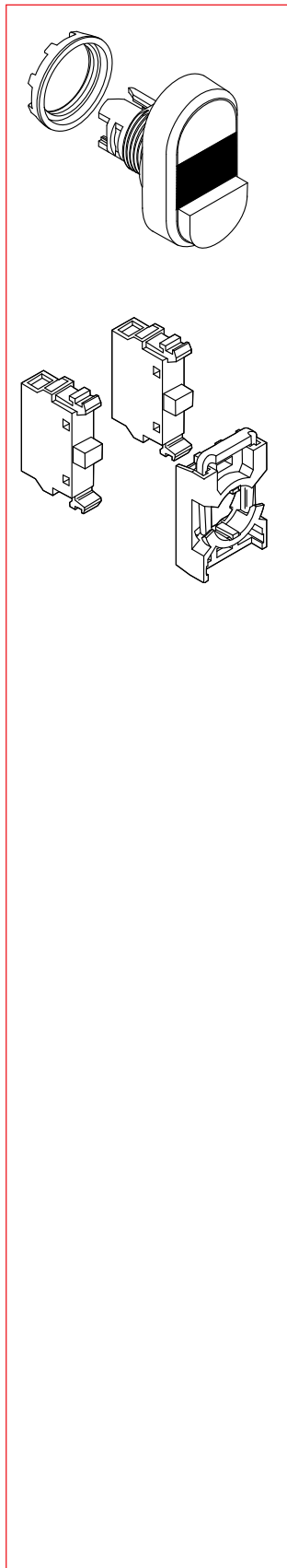
Double pushbutton, flush/flush, non-illuminated ①

Options	Catalog number characters										List Price	
Flush/Flush, Green/Red	M	P	D	1	-	-	-	-	-	-	-	\$ 18.00
Flush/Flush, Green/Red, I/O	M	P	D	2	-	-	-	-	-	-	-	21.00
Flush/Flush, Green/Red, ON/OFF	M	P	D	3	-	-	-	-	-	-	-	21.00
Flush/Flush, Green/Red, START/STOP	M	P	D	4	-	-	-	-	-	-	-	21.00
Flush/Flush, White/Black	M	P	D	5	-	-	-	-	-	-	-	18.00
Flush/Flush, White/Black, I/O	M	P	D	6	-	-	-	-	-	-	-	21.00
Flush/Flush, White/Black, ON/OFF	M	P	D	7	-	-	-	-	-	-	-	21.00
Flush/Flush, White/Black, START/STOP	M	P	D	8	-	-	-	-	-	-	-	21.00
With Holder	-	-	-	-	-	2	0	-	-	-	-	2.00
Center Lens Color - Black	-	-	-	-	-	-	-	B	-	-	-	-
Contact Blocks, 1NO	-	-	-	-	-	-	-	1	0	-	-	8.00
Contact Blocks, 2NO	-	-	-	-	-	-	-	2	0	-	-	16.00
Contact Blocks, 3NO	-	-	-	-	-	-	-	3	0	-	-	24.00
Contact Blocks, 1NC	-	-	-	-	-	-	-	0	1	-	-	8.00
Contact Blocks, 2NC	-	-	-	-	-	-	-	0	2	-	-	16.00
Contact Blocks, 3NC	-	-	-	-	-	-	-	0	3	-	-	24.00
Contact Blocks, 1NO+1NC	-	-	-	-	-	-	-	1	1	-	-	16.00
Contact Blocks, 2NO+1NC	-	-	-	-	-	-	-	2	1	-	-	24.00
Contact Blocks, 1NO+2NC	-	-	-	-	-	-	-	1	2	-	-	24.00
Contact Blocks, 1NO, Gold	-	-	-	-	-	-	-	1	0	G	-	16.00
Contact Blocks, 2NO, Gold	-	-	-	-	-	-	-	2	0	G	-	32.00
Contact Blocks, 3NO, Gold	-	-	-	-	-	-	-	3	0	G	-	48.00
Contact Blocks, 1NC, Gold	-	-	-	-	-	-	-	0	1	G	-	16.00
Contact Blocks, 2NC, Gold	-	-	-	-	-	-	-	0	2	G	-	32.00
Contact Blocks, 3NC, Gold	-	-	-	-	-	-	-	0	3	G	-	48.00
Contact Blocks, 1NO+1NC, Gold	-	-	-	-	-	-	-	1	1	G	-	32.00
Contact Blocks, 2NO+1NC, Gold	-	-	-	-	-	-	-	2	1	G	-	48.00
Contact Blocks, 1NO+2NC, Gold	-	-	-	-	-	-	-	1	2	G	-	48.00
5 Block Holder	-	-	-	-	-	-	-	-	-	-	5	4.00

See catalog number explanation on page 4.

① No contact block in center position.

Double pushbuttons Flush/extended, non-illuminated ①



Double pushbutton, flush/extended, non-illuminated ①

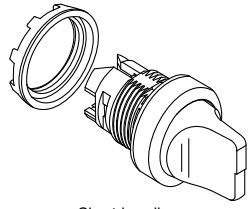
Options	Catalog number characters										List price		
Flush/Extended, Green/Red	M	P	D	1	2	-						\$ 18.00	
Flush/Extended, Green/Red, I/O	M	P	D	1	3	-						21.00	
Flush/Extended, Green/Red, ON/OFF	M	P	D	1	4	-						21.00	
Flush/Extended, Green/Red, START/STOP	M	P	D	1	5	-						21.00	
Flush/Extended, White/Black	M	P	D	1	6	-						18.00	
Flush/Extended, White/Black, I/O	M	P	D	1	7	-						21.00	
Flush/Extended, White/Black, ON/OFF	M	P	D	1	8	-						21.00	
Flush/Extended, White/Black, START/STOP	M	P	D	1	9	-						21.00	
With Holder								2	0			2.00	
Center Lens Color - Black										B		-	
Contact Blocks, 1NO										1	0	8.00	
Contact Blocks, 2NO										2	0	16.00	
Contact Blocks, 3NO										3	0	24.00	
Contact Blocks, 1NC										0	1	8.00	
Contact Blocks, 2NC										0	2	16.00	
Contact Blocks, 3NC										0	3	24.00	
Contact Blocks, 1NO+1NC										1	1	16.00	
Contact Blocks, 2NO+1NC										2	1	24.00	
Contact Blocks, 1NO+2NC										1	2	24.00	
Contact Blocks, 1NO, Gold										1	0	G	16.00
Contact Blocks, 2NO, Gold										2	0	G	32.00
Contact Blocks, 3NO, Gold										3	0	G	48.00
Contact Blocks, 1NC, Gold										0	1	G	16.00
Contact Blocks, 2NC, Gold										0	2	G	32.00
Contact Blocks, 3NC, Gold										0	3	G	48.00
Contact Blocks, 1NO+1NC, Gold										1	1	G	32.00
Contact Blocks, 2NO+1NC, Gold										2	1	G	48.00
Contact Blocks, 1NO+2NC, Gold										1	2	G	48.00
5 Block Holder												5	4.00

See catalog number explanation on page 4.

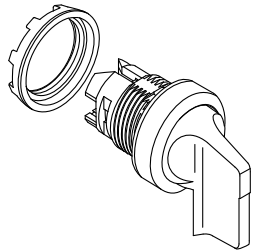
① No contact block in center position.

Selector switches, 3 position Non-illuminated ①

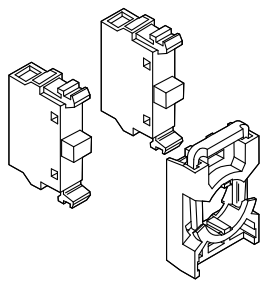
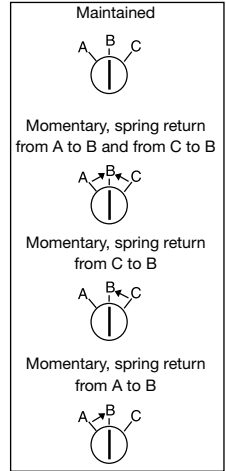
Selector switches, 3 position, non-illuminated ①



Short handle



Long handle



Contact functions

Block positions as seen from operator front.

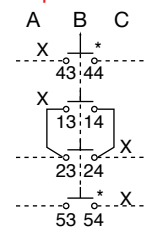
Handle position	Left block	Right block
A	X	O
B	O	O
C	O	X

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

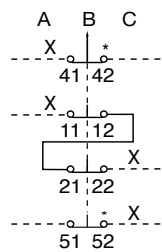
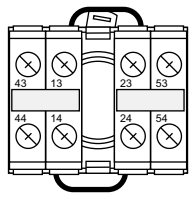
Options	Catalog number characters										List price		
Short/3-Main				M	3	S	S	1	-			\$ 11.00	
Short/Spring Return to B				M	3	S	S	2	-			14.00	
Short/Main A&B/Spring Return C to B				M	3	S	S	3	-			14.00	
Long/3-Main				M	3	S	S	4	-			11.00	
Long/Spring Return to B				M	3	S	S	5	-			14.00	
Long/Main A&B/Spring Return C to B				M	3	S	S	6	-			14.00	
Short/Main B&C/Spring Return A to B				M	3	S	S	7	-			14.00	
Long/Main B&C/Spring Return A to B				M	3	S	S	8	-			14.00	
Bezel, Black Plastic, with Holder										-	4 0	2.00	
Bezel, Chrome Metal, with Holder											6 0	2.00	
Switch Color - Red												-	
Switch Color - Black											R	-	
Switch Color - Grey											B	-	
Switch Color - Grey											U	-	
Contact Blocks, 1NO											1 0	8.00	
Contact Blocks, 2NO											2 0	16.00	
Contact Blocks, 3NO											3 0	24.00	
Contact Blocks, 1NC											0 1	8.00	
Contact Blocks, 2NC											0 2	16.00	
Contact Blocks, 3NC											0 3	24.00	
Contact Blocks, 1NO+1NC											1 1	16.00	
Contact Blocks, 2NO+1NC											2 1	24.00	
Contact Blocks, 1NO+2NC											1 2	24.00	
Contact Blocks, 1NO, Gold											1 0 G	16.00	
Contact Blocks, 2NO, Gold											2 0 G	32.00	
Contact Blocks, 3NO, Gold											3 0 G	48.00	
Contact Blocks, 1NC, Gold											0 1 G	16.00	
Contact Blocks, 2NC, Gold											0 2 G	32.00	
Contact Blocks, 3NC, Gold											0 3 G	48.00	
Contact Blocks, 1NO+1NC, Gold											1 1 G	32.00	
Contact Blocks, 2NO+1NC, Gold											2 1 G	48.00	
Contact Blocks, 1NO+2NC, Gold											1 2 G	48.00	
5 Block Holder												5	4.00
30mm Black Plastic Adaptor Ring ②	G	1											8.00
30mm Chrome Metal Adaptor Ring ②	G	2											10.00

See catalog number explanation on page 4.

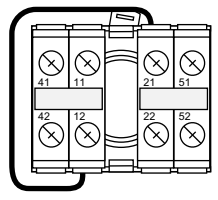
Center position connection detail



* Contacts may be N.O. or N.C.



* Contacts may be N.O. or N.C.

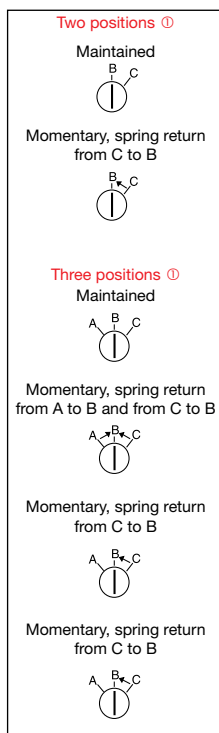
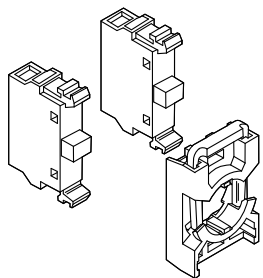
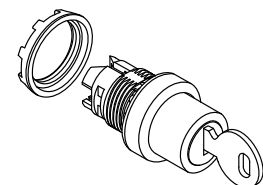


① No contact block in center position.
② For 30mm devices, use Discount Schedule CC.

Key-operated selector switches

2 & 3 position ①

Key-operated selector switches ①



Options	Catalog number characters										List price	
2 Maintained Positions, Key Removable in B and C	M	2	S	S	K	1	-					\$ 41.00
2 Maintained Positions, Key Removable in B	M	2	S	S	K	2	-					41.00
2 Positions, Spring Return from C to B, Key Removable in B	M	2	S	S	K	3	-					41.00
3 Maintained Positions, Key Removable in A, B and C	M	3	S	S	K	1	-					53.00
3 Maintained Positions, Key Removable in B	M	3	S	S	K	2	-					53.00
3 Positions, Spring Return from A and C to B, Key Removable in B	M	3	S	S	K	3	-					53.00
3 Positions, A and B maintained, Spring Return C to B, Key Removable in A	M	3	S	S	K	4	-					53.00
3 Positions, A and B maintained, Spring Return C to B, Key Removable in All Positions.	M	3	S	S	K	5	-					53.00
Bezel, Black Plastic, with Holder								-	4	0		2.00
Bezel, Chrome Metal, with Holder								-	6	0		2.00
Key Code 71											1	-
Key Code 72											2	-
Key Code 73											3	-
Other Key Code											4	-
Contact Blocks, 1NO											1	0
Contact Blocks, 2NO											2	0
Contact Blocks, 3NO											3	0
Contact Blocks, 1NC											0	1
Contact Blocks, 2NC											0	2
Contact Blocks, 3NC											0	3
Contact Blocks, 1NO+1NC											1	1
Contact Blocks, 2NO+1NC											2	1
Contact Blocks, 1NO+2NC											1	2
Contact Blocks, 1NO, Gold											1	0
Contact Blocks, 2NO, Gold											2	0
Contact Blocks, 3NO, Gold											3	0
Contact Blocks, 1NC, Gold											0	1
Contact Blocks, 2NC, Gold											0	2
Contact Blocks, 3NC, Gold											0	3
Contact Blocks, 1NO+1NC, Gold											1	1
Contact Blocks, 2NO+1NC, Gold											2	1
Contact Blocks, 1NO+2NC, Gold											1	2
5 Block Holder												5
30mm Black Plastic Adaptor Ring ②	G	1										8.00
30mm Chrome Metal Adaptor Ring ②	G	2										10.00

See catalog number explanation on page 4.

Extra key

Description	Catalog No.	Ref. Code	List Price
Ronis 455 (key code 71)	SK 616 021-71	SK 616 021-71	\$ 10.00
Ronis 421 (key code 72)	SK 616 021-72	SK 616 021-72	
Ronis 3433-E (key code 73)	SK 616 021-73	SK 616 021-73	

Contact block functions

Block positions as seen from operator front.

Two-position switch

Handle position	Left block	Right block
B	O	O
C	X	X

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

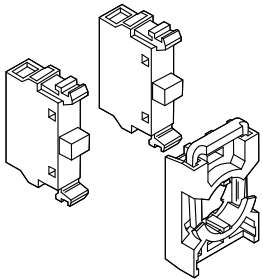
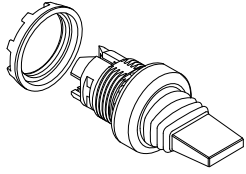
Three-position switch

Handle position	Left block	Right block
A	O	X
B	O	O
C	X	O

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

① No contact block in center position.
② For 30mm devices, use Discount Schedule CC.

Toggle switches



Toggle switches

Options	Catalog number characters										List price	
2 Maintained Positions			M	T	S	1	-					\$ 18.00
3 Positions, Spring Return to Center			M	T	S	2	-					18.00
3 Maintained Positions			M	T	S	3	-					18.00
Bezel, Black, with Holder								4	0			2.00
Bezel, Chrome, with Holder								6	0			2.00
Switch Color - Black										B		-
Contact Blocks, 1NO										1	0	8.00
Contact Blocks, 2NO										2	0	16.00
Contact Blocks, 3NO										3	0	24.00
Contact Blocks, 1NC										0	1	8.00
Contact Blocks, 2NC										0	2	16.00
Contact Blocks, 3NC										0	3	24.00
Contact Blocks, 1NO+1NC										1	1	16.00
Contact Blocks, 2NO+1NC										2	1	24.00
Contact Blocks, 1NO+2NC										1	2	24.00
Contact Blocks, 1NO, Gold										1	0	G 16.00
Contact Blocks, 2NO, Gold										2	0	G 32.00
Contact Blocks, 3NO, Gold										3	0	G 48.00
Contact Blocks, 1NC, Gold										0	1	G 16.00
Contact Blocks, 2NC, Gold										0	2	G 32.00
Contact Blocks, 3NC, Gold										0	3	G 48.00
Contact Blocks, 1NO+1NC, Gold										1	1	G 32.00
Contact Blocks, 2NO+1NC, Gold										2	1	G 48.00
Contact Blocks, 1NO+2NC, Gold										1	2	G 48.00
5 Block Holder												5 4.00
30mm Black Plastic Adaptor Ring ①	G		1									8.00
30mm Chrome Metal Adaptor Ring ①	G		2									10.00

See catalog number explanation on page 4.

Contact block functions

Block positions as seen from operator front.

Two-position maintained switch

Handle position	Left block	Right block
A	O	O
C	X	X

O = not actuated (normal state)

X = actuated (state changed)

Three-position switch

Handle position	Left block	Right block
A	O	X
B	O	O
C	X	O

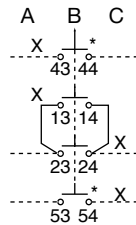
O = not actuated (normal state)

X = actuated (state changed)

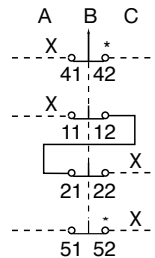
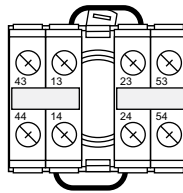
Maintained



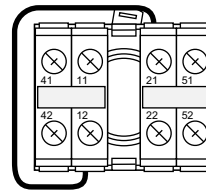
Center position connection detail



* Contacts may be N.O. or N.C.



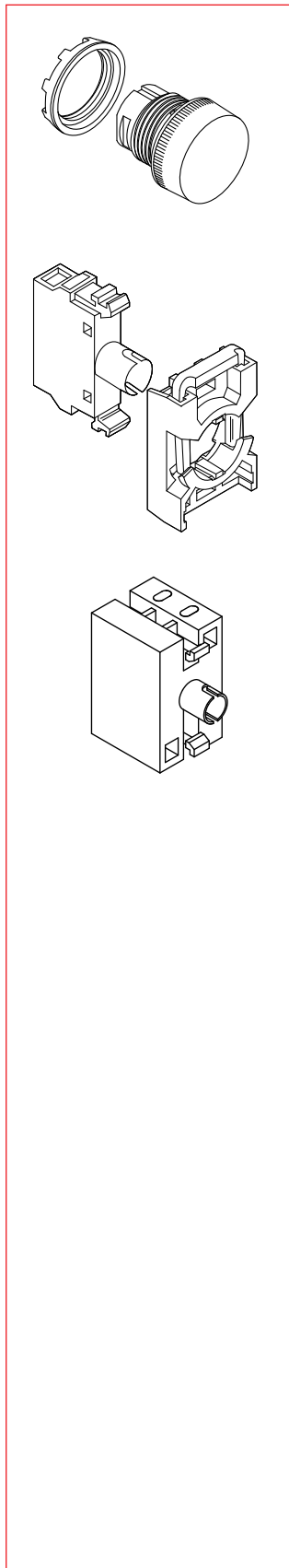
* Contacts may be N.O. or N.C.



① For 30mm devices, use Discount Schedule CC.

Pilot lights

Pilot Devices
Modular Range
Assembled, 22mm



Pilot lights

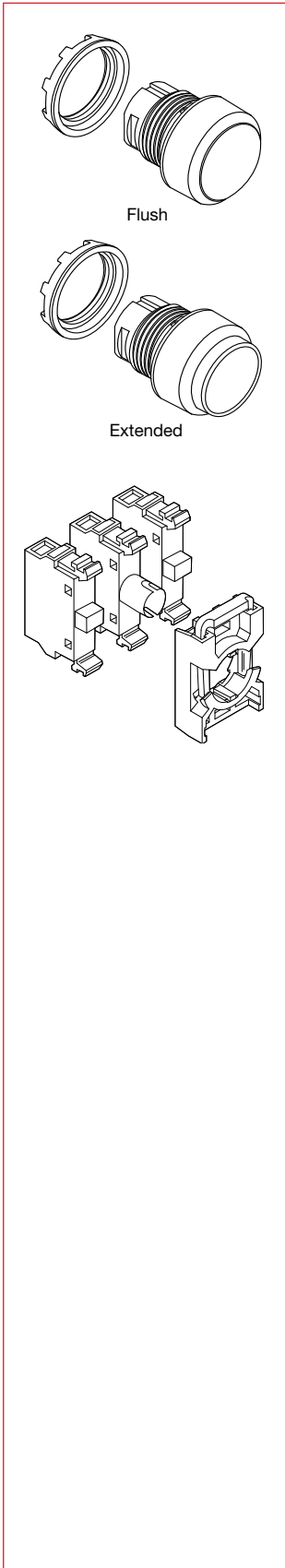
Options	Catalog number characters													List price			
	M	L	1	-	2	0	R	G	Y	L	W	C	F		L	T	G
Pilot Light with light diffusing lens																	\$ 7.50
With Holder					2	0											2.00
Lens Color - Red							R										—
Lens Color - Green							G										—
Lens Color - Yellow							Y										—
Lens Color - Blue							L										—
Lens Color - White							W										—
Lens Color - Clear							C										—
Lamp block, MLB-1, Bulb not Included										1	0						17.50
Lamp block, MLB-2, Bulb not Included										2	0						21.50
Lamp block, MLB-3, Bulb not Included										3	0						21.50
Lamp block, MLB-4, Bulb not Included										0	1						21.50
Lamp block, MLB-5, Bulb not Included										0	2						21.50
Filament Bulb, 6V													F	6			6.00
Filament Bulb, 12V													F	7			6.00
Filament Bulb, 24V													F	8			6.00
Filament Bulb, 30V													F	3	0		6.00
Filament Bulb, 48V													F	9			6.00
Filament Bulb, 60V													F	6	0		6.00
Filament Bulb, 110V													F	1	1		6.00
Filament Bulb, 130V													F	1			6.00
LED, 12VDC													L	7			21.00
LED, 24VAC/DC													L	8			15.00
LED, 48VAC/DC													L	9			21.00
LED, 60VAC/DC													L	6	0		21.00
LED, 110-130VAC													L	1			15.00
LED, 110-130VAC/DC													L	1	3		21.00
LED, 230VAC													L	2			21.00
Transformer Block, 110-127V/6V, bulb 6V															T	1	41.00
Transformer Block, 220-240V/6V, bulb 6V															T	2	41.00
Transformer Block, 380-420V/6V, bulb 6V															T	3	41.00
Transformer Block, 440-480V/6V, bulb 6V															T	4	41.00
Transformer Block, 500-600V/6V, bulb 6V															T	5	41.00
Transformer Block, 110-127/24V, bulb 24V															T	6	41.00
Transformer Block, 220-240/24V, bulb 24V															T	7	41.00
Transformer Block, 380-420/24V, bulb 24V															T	8	41.00
Transformer Block, 440-480/24V, bulb 24V															T	9	41.00
Transformer Block, 110-127/24V, bulb 24V LED															TL	1	50.00
Transformer Block, 220-240/24V, bulb 24V LED															TL	2	50.00
Transformer Block, 380-420/24V, bulb 24V LED															TL	3	50.00
Transformer Block, 440-480/24V, bulb 24V LED															TL	4	50.00
5 Block Holder																5	4.00
30mm Black Plastic Adaptor Ring ①	G	1															8.00
30mm Chrome Metal Adaptor Ring ①	G	2															10.00

See catalog number explanation on page 4.

① For 30mm devices, use Discount Schedule CC.

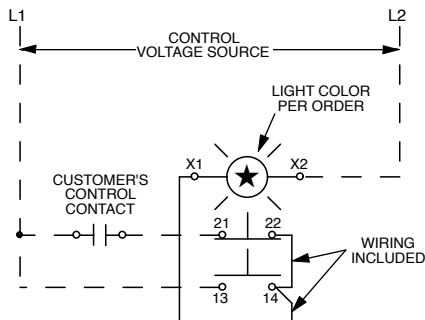
Press to test pilot lights

Press to test pilot lights



Options	Catalog number characters								List price
Momentary, Flush			M	P	1	-			\$ 6.10
Momentary, Extended			M	P	3	-			6.10
Bezel, Black Plastic with Holder, 1/1 Contacts						-	KL		18.00
Bezel, Chrome Metal with Holder, 1/1 Contacts						-	ML		18.00
Illuminated without Lamp Block								PT	-
Full Voltage Lamp Block, (select Filament bulb or LED from below)						-		FPT	17.50
Resistor Lamp Block, (select 120V or 240V bulb or LED only)						-		RPT	21.50
Filament bulb, 6V						-		6	6.00
Filament bulb, 12V						-		7	6.00
Filament bulb, 24V						-		8	6.00
Filament bulb, 48V						-		9	6.00
Filament bulb, 120V						-		1	6.00
LED, 12 V AC						-		L7	21.00
LED, 24 V AC/DC						-		L8	15.00
LED, 48 V AC/DC						-		L9	21.00
LED, 60 V AC/DC						-		L60	21.00
LED, 120V AC						-		L1	15.00
LED, 120 V AC/DC						-		L13	21.00
LED, 240 V AC						-		L2	21.00
Transformer Block, 110-127/6V, includes 6V fill. bulb						-		TPT1	58.50
Transformer Block, 220-240/6V, includes 6V fill. bulb						-		TPT2	58.50
Transformer Block, 380-420/6V, includes 6V fill. bulb						-		TPT3	58.50
Transformer Block, 440-480/6V, includes 6V fill. bulb						-		TPT4	58.50
Transformer Block, 500-600/6V, includes 6V fill. bulb						-		TPT5	58.50
Transformer Block, 110-127/24V, includes 24V fill. bulb						-		TPT6	58.50
Transformer Block, 220-240/24V, includes 24V fill. bulb						-		TPT7	58.50
Transformer Block, 380-420/24V, includes 24V fill. bulb						-		TPT8	58.50
Transformer Block, 440-480/24V, includes 24V fill. bulb						-		TPT9	58.50
Transformer Block, 110-127/24V, includes 24V LED						-		TPTL1	67.50
Transformer Block, 220-240/24V, includes 24V LED						-		TPTL2	67.50
Transformer Block, 380-420/24V, includes 24V LED						-		TPTL3	67.50
Transformer Block, 440-480/24V, includes 24V LED						-		TPTL4	67.50
Button Color - Red								R	x
Button Color - Green								G	x
Button Color - Yellow								Y	x
Button Color - Blue								L	x
Button Color - White								W	x
Button Color - Clear								C	x
30mm Black Plastic Adaptor Ring ②	G	1							8.00
30mm Chrome Metal Adaptor Ring ②	G	2							10.00

Schematic



Press- to-test schematic

① No filament bulb, LED or transformer block can be combined with "Illuminated without Lamp block" selection.
② For 30mm devices, use Discount Schedule CC.

Catalog number explanation Modular pilot devices

Pilot light

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

L1 Pilot Light Head

Lens color:

R = Red W = White
G = Green C = Clear
Y = Yellow
L = Blue

Operators

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

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

Button color:

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

Lens color for double pushbuttons:

R = Red
G = Green
Y = Yellow
C = Clear
B = Black (non-illuminated only)

Example 3: Type **M2SSK1-101**

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

Key code :

1 = 71
2 = 72
3 = 73

Buzzer, contact blocks, lamp block

Example 4: Type **MCBH-10**

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

Contact blocks:

10 1 NO
01 1 NC
11 1 NO +1 NC
02 2 NO
20 2 NC

M= "Generation" M, Modular range

Color selection

Color selection according to IEC 60204-1

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

Meaning of colors – General principles

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

Non-illuminated actuators

Emergency actuators

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

STOP / OFF actuators

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

START / ON actuators

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

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

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

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

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

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



Compact range

22mm



8

22mm Compact range

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

General construction

- "All-in-one function"
- One Ref. code =one complete function
- Easy mounting
- Less inventory
- Broad range of accessories
- Same front design as for the modular range.
- Durable actuators in clear colors with large text and push area
- Marked push areas available
- UL File# E57057
- CSA File# LR19700

Technical advantages

- High degree of protection:
UL Type 1, 3R, 4, 4X, 12 & 13
- One or two built-in electrically separated contacts (1NO, 1NC, 2NO, 2NC or 1NC & 1NO)
- Contacts with wiping action
- Low built-in depth

Operators

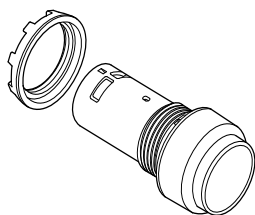
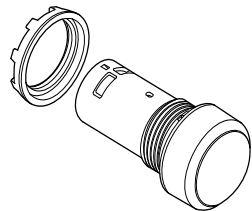
- Pushbuttons, non-illuminated
- Emergency stop pushbuttons, non-illuminated, twist, pull or key release
- Selector switches, non-illuminated, 2 or 3 position

Pilot lights

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



Flush and extended pushbuttons Non-illuminated



Bezel in black plastic as standard
Bezel in metal:

Replace '1' in the:
Catalog No. CP#10Δ-...
Ref. Code 1SFA619XXX R 1XXX
3 for metal bezel

Codes for button colors

	Catalog No.	Ref. Code
		‡
Red	R	1
Green	G	2
Yellow	Y	3
Blue	L	4
White	W	5
Black	B	6
Grey	U	7

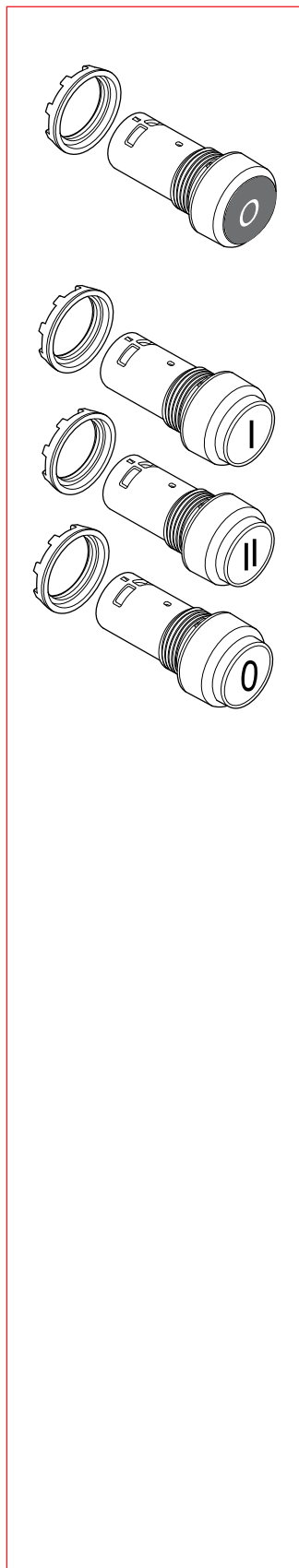
Pushbutton with ...

Description	Catalog No.	Ref. Code	List Price
Flush button			
Momentary			
Contacts included:			
1 NO	CP110 -10	1SFA 619 100 R101‡	\$ 15.20
2 NO	CP110 -20	1SFA 619 100 R102‡	19.90
1 NC	CP110 -01	1SFA 619 100 R104‡	15.20
2 NC	CP110 -02	1SFA 619 100 R105‡	19.90
1 NO +1 NC	CP110 -11	1SFA 619 100 R107‡	19.90
Maintained			
Contacts included:			
1 NO	CP210 -10	1SFA 619 101 R101‡	19.90
2 NO	CP210 -20	1SFA 619 101 R102‡	22.50
1 NC	CP210 -01	1SFA 619 101 R104‡	19.90
2 NC	CP210 -02	1SFA 619 101 R105‡	22.50
1 NO +1 NC	CP210 -11	1SFA 619 101 R107‡	22.50
Extended button			
Momentary			
Contacts included:			
1 NO	CP310 -10	1SFA 619 102 R101‡	15.20
2 NO	CP310 -20	1SFA 619 102 R102‡	19.90
1 NC	CP310 -01	1SFA 619 102 R104‡	15.20
2 NC	CP310 -02	1SFA 619 102 R105‡	19.90
1 NO +1 NC	CP310 -11	1SFA 619 102 R107‡	19.90
Maintained			
Contacts included:			
1 NO	CP410 -10	1SFA 619 103 R101‡	19.90
2 NO	CP410 -20	1SFA 619 103 R102‡	22.50
1 NC	CP410 -01	1SFA 619 103 R104‡	19.90
2 NC	CP410 -02	1SFA 619 103 R105‡	22.50
1 NO +1 NC	CP410 -11	1SFA 619 103 R107‡	22.50

Marked pushbuttons

Marked on push area, non-illuminated
Momentary

Pilot Devices
Compact range
22mm

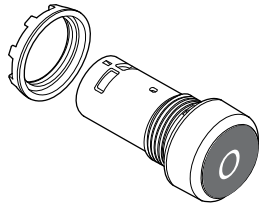


Legend	Button description ①	Contacts	Catalog Number	Reference. Code	List Price
	white, flush	1NO	CP1110W-10	1SFA619110R1015	\$ 16.70
	white, flush	1NO	CP1210W-10	1SFA619120R1015	16.70
	red, flush	1NC	CP1310R-01	1SFA619130R1041	16.70
	red, extended	1NC	CP3310B-01	1SFA619132R1046	16.70
	green, flush	1NO + 1NC	CP9-1007	1SFA619199R1007	21.00
	green, flush	2NO	CP9-1008	1SFA619199R1008	21.00
	grey, flush	1NO + 1NC	CP9-1025	1SFA619199R1025	21.00
	red, flush	1NO + 1NC	CP9-1009	1SFA619199R1009	21.00
	red, flush	2NO	CP9-1010	1SFA619199R1010	21.00
	red, extended	1NO + 1NC	CP9-1018	1SFA619199R1018	21.00
	green, flush	1NO + 1NC	CP9-1033	1SFA619199R1033	21.00
	red, flush	1NO + 1NC	CP9-1034	1SFA619199R1034	21.00
	blue, flush	1NO + 1NC	CP9-1021	1SFA619199R1021	21.00
	black, flush	1NO + 1NC	CP9-1015	1SFA619199R1015	21.00

① Black bezel available only.

Marked pushbuttons

Marked on push area, non-illuminated
Momentary



Legend	Button description ①	Contacts	Catalog Number	Reference. Code	List Price
	black, extended	1NO + 1NC	CP9-1017	1SFA619199R1017	\$ 21.00
	black, flush	1NO + 1NC	CP9-1016	1SFA619199R1016	21.00
	black, flush	2NO	CP9-1032	1SFA619199R1032	21.00
	white, flush	1NO	CP9-1022	1SFA619199R1022	16.70
	white, flush	1NO + 1NC	CP9-1005	1SFA619199R1005	21.00
	white, flush	2NO	CP9-1006	1SFA619199R1006	21.00
	green, flush	1NO + 1NC	CP9-1019	1SFA619199R1019	21.00
	black, flush	1NO + 1NC	CP9-1020	1SFA619199R1020	21.00
	white, flush	1NO	CP9-1024	1SFA619199R1024	16.70
	black, flush	2NO	CP9-1023	1SFA619199R1023	21.00
	black, flush	1NO + 1NC	CP9-1045	1SFA619199R1045	21.00
	black, flush	1NO + 1NC	CP9-1046	1SFA619199R1046	21.00
	black, flush	1NO + 1NC	CP9-1047	1SFA619199R1047	21.00
	black, flush	1NO + 1NC	CP9-1048	1SFA619199R1048	21.00

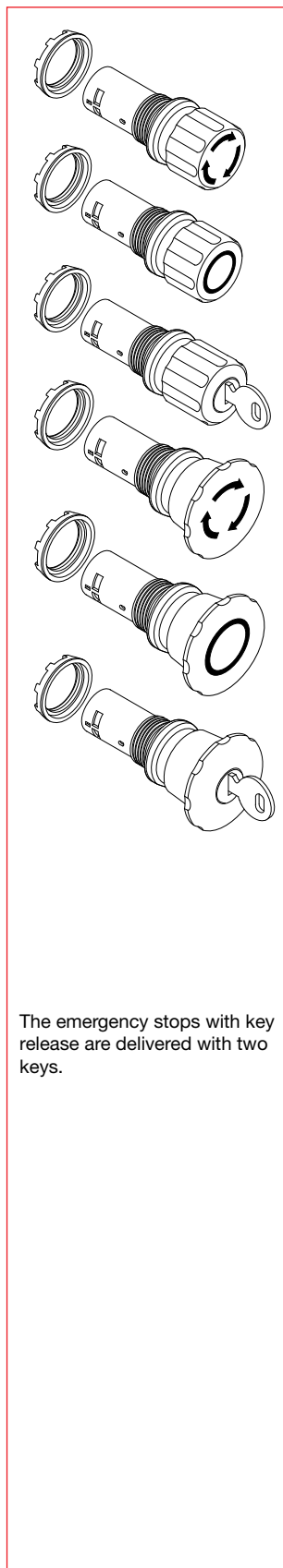
① Black bezel available only.

Emergency stop pushbuttons

Non-illuminated

Pilot Devices
Compact range
22mm

Fulfills IEC 60947-5-5

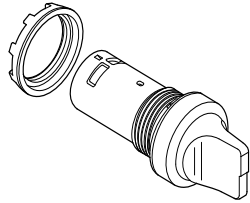


The emergency stops with key release are delivered with two keys.

Plastic operator

Description	Color	Catalog No.	Ref. Code	List Price
Ø 30 mm				
Twist release	Red			
<u>Contacts included:</u>				
1 NC		CE3T-10R-01	1SFA 619 500 R1041	\$ 28.00
2 NO		CE3T-10R-20	1SFA 619 500 R1021	33.60
2 NC		CE3T-10R-02	1SFA 619 500 R1051	33.60
1 NO +1 NC		CE3T-10R-11	1SFA 619 500 R1071	33.60
Twist release	Black			
<u>Contacts included:</u>				
1 NO + 1 NC		CE3T-10B-11	1SFA 619 500 R1076	33.60
Pull release	Red			
<u>Contacts included:</u>				
2 NC		CE3P-10R-02	1SFA 619 501 R1051	33.60
1 NO +1 NC		CE3P-10R-11	1SFA 619 501 R1071	33.60
Pull release	Black			
<u>Contacts included:</u>				
1 NO +1 NC		CE3P-10B-11	1SFA 619 501 R1076	33.60
Key release (Key code 71, Ronis 455)	Red			
<u>Contacts included:</u>				
2 NC		CE3K1-10R-02	1SFA 619 502 R1051	53.40
1 NO +1 NC		CE3K1-10R-11	1SFA 619 502 R1071	53.40
Key release (Key code 71, Ronis 455)	Black			
<u>Contacts included:</u>				
1 NO +1 NC		CE3K1-10B-11	1SFA 619 502 R1076	53.40
Ø 40 mm				
Twist release	Red			
<u>Contacts included:</u>				
1 NC		CE4T-10R-01	1SFA 619 550 R1041	30.80
2 NO		CE4T-10R-20	1SFA 619 550 R1021	36.40
2 NC		CE4T-10R-02	1SFA 619 550 R1051	36.40
1 NO +1 NC		CE4T-10R-11	1SFA 619 550 R1071	36.40
Twist release	Black			
<u>Contacts included:</u>				
1 NO & 1 NC		CE4T-10B-11	1SFA 619 550 R1076	36.40
Pull release	Red			
<u>Contacts included:</u>				
2 NC		CE4P-10R-02	1SFA 619 551 R1051	36.40
1 NO +1 NC		CE4P-10R-11	1SFA 619 551 R1071	36.40
Pull release	Black			
<u>Contacts included:</u>				
1 NO +1 NC		CE4P-10B-11	1SFA 619 551 R1076	36.40
Key release (Key code 71, Ronis 455)	Red			
<u>Contacts included:</u>				
2 NC		CE4K1-10R-02	1SFA 619 552 R1051	57.50
1 NO +1 NC		CE4K1-10R-11	1SFA 619 552 R1071	57.50
Key release (Key code 71, Ronis 455)	Black			
<u>Contacts included:</u>				
1 NO +1 NC		CE4K1-10B-11	1SFA 619 552 R1076	57.50

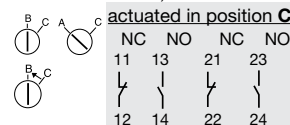
2 and 3 position selector switches Non-illuminated



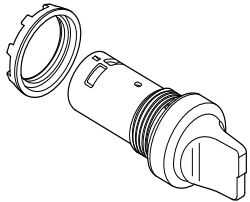
Contacts actuated

Two position selector switch

Contacts included,



	NC	NO	NC	NO
1NO	-	1	-	-
2NO	-	1	-	1
1NC	1	-	-	-
2NC	1	-	1	-
1NO + 1NC	-	1	1	-



Bezel in black plastic as standard

Bezel in metal:

Replace '1' in the:

Catalog No. C#SS#10Δ-...

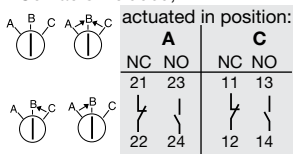
Ref. Code 1SFA619XXX R 1XXX

3 for metal bezel

Contacts actuated

Three position selector switch

Contacts included,



	A		C	
	NC	NO	NC	NO
2NO	-	1	-	1
2NC	1	-	1	-
1NO + 1NC	1	-	-	1

Codes for handle colors

	Catalog No.	Ref. Code
Red	R	1
Black	B	6
Grey	U	7

Selector switch with ...

Description	Catalog No.	Ref. Code	List Price
-------------	-------------	-----------	------------

Short handle. Two positions


Maintained

Contacts included:

1 NO		C2SS110 -10	1SFA 619 200 R101‡	\$ 22.70
2 NO		C2SS110 -20	1SFA 619 200 R102‡	27.20
1 NC		C2SS110 -01	1SFA 619 200 R104‡	22.70
2 NC		C2SS110 -02	1SFA 619 200 R105‡	27.20
1 NO + 1 NC		C2SS110 -11	1SFA 619 200 R107‡	27.20


Maintained

Contacts included:

1 NO		C2SS210 -10	1SFA 619 201 R101‡	22.70
2 NO		C2SS210 -20	1SFA 619 201 R102‡	27.20
1 NC		C2SS210 -01	1SFA 619 201 R104‡	22.70
2 NC		C2SS210 -02	1SFA 619 201 R105‡	27.20
1 NO + 1 NC		C2SS210 -11	1SFA 619 201 R107‡	27.20

Momentary


Contacts included:

1 NO		C2SS310 -10	1SFA 619 202 R101‡	22.70
2 NO		C2SS310 -20	1SFA 619 202 R102‡	27.20
1 NC		C2SS310 -01	1SFA 619 202 R104‡	22.70
2 NC		C2SS310 -02	1SFA 619 202 R105‡	27.20
1 NO + 1 NC		C2SS310 -11	1SFA 619 202 R107‡	27.20

Short handle. Three positions


Maintained

Contacts included:

2 NO		C3SS110 -20	1SFA 619 210 R102‡	27.20
2 NC		C3SS110 -02	1SFA 619 210 R105‡	
1 NO + 1 NC		C3SS110 -11	1SFA 619 210 R107‡	


Momentary

Contacts included:

2 NO		C3SS210 -20	1SFA 619 211 R102‡	27.20
2 NC		C3SS210 -02	1SFA 619 211 R105‡	
1 NO + 1 NC		C3SS210 -11	1SFA 619 211 R107‡	


Momentary

Contacts included:

2 NO		C3SS310 -20	1SFA 619 212 R102‡	27.20
2 NC		C3SS310 -02	1SFA 619 212 R105‡	
1 NO + 1 NC		C3SS310 -11	1SFA 619 212 R107‡	

Momentary

Contacts included:

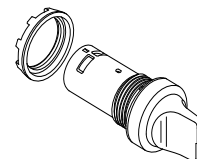
2 NO		C3SS710 -20	1SFA 619 216 R102‡	27.20
2 NC		C3SS710 -02	1SFA 619 216 R105‡	
1 NO + 1 NC		C3SS710 -11	1SFA 619 216 R107‡	

Ordering example – Compact selector switch

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

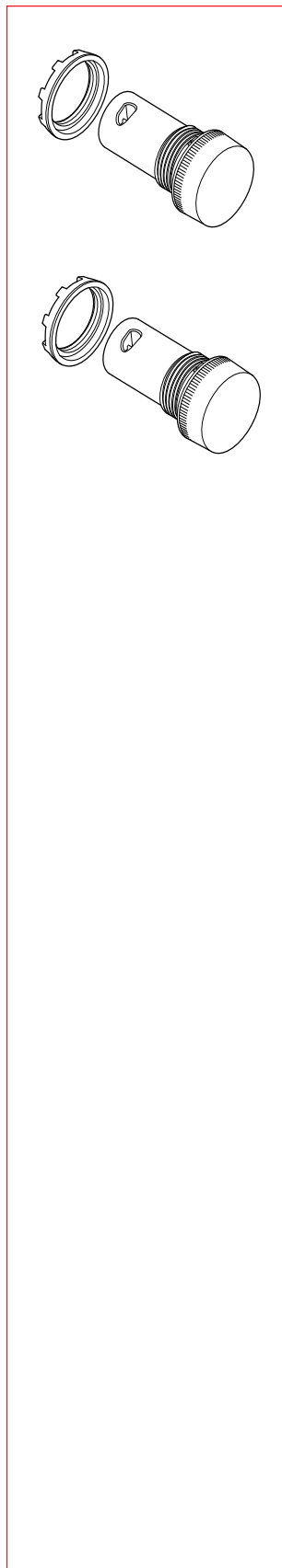
Ref.: 10 pieces of C3SS7-10R-02

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



Pilot lights

Pilot Devices
Compact range
22mm



Pilot light Ba 9s base, bulb not included

Description	Catalog No.	Ref. Code	List Price
Color:			
Red	CL-100R	1SFA 619 402 R1001	\$ 14.00
Green	CL-100G	1SFA 619 402 R1002	
Yellow	CL-100Y	1SFA 619 402 R1003	
Blue	CL-100L	1SFA 619 402 R1004	
White	CL-100W	1SFA 619 402 R1005	
Clear	CL-100C	1SFA 619 402 R1008	

Pilot light with integrated LED Service life >50 000 hours

Color	Rated current mA	Luminance mcd	Wave-length nm	Catalog No.	Ref. Code	List Price
Rated voltage 12 V, DC ①						
Red	30	60	625	CL-501R	1SFA 619 402 R5011	\$ 25.00
Green	15	126	520	CL-501G	1SFA 619 402 R5012	
Yellow	30	60	590	CL-501Y	1SFA 619 402 R5013	
Blue	30	22	470	CL-501L	1SFA 619 402 R5014	
White	30	88	②	CL-501W	1SFA 619 402 R5015	
Rated voltage 24 V, AC/DC						
Red	15	60	625	CL-502R	1SFA 619 402 R5021	25.00
Green	15	126	520	CL-502G	1SFA 619 402 R5022	
Yellow	15	60	590	CL-502Y	1SFA 619 402 R5023	
Blue	15	22	470	CL-502L	1SFA 619 402 R5024	
White	15	88	②	CL-502W	1SFA 619 402 R5025	
Rated voltage 48 V, AC/DC						
Red	15	60	625	CL-504R	1SFA 619 402 R5041	25.00
Green	15	126	520	CL-504G	1SFA 619 402 R5042	
Yellow	15	60	590	CL-504Y	1SFA 619 402 R5043	
Blue	15	22	470	CL-504L	1SFA 619 402 R5044	
White	15	88	②	CL-504W	1SFA 619 402 R5045	
Rated voltage 60 V, AC/DC						
Red	15	60	625	CL-505R	1SFA 619 402 R5051	25.00
Green	15	126	520	CL-505G	1SFA 619 402 R5052	
Yellow	15	60	590	CL-505Y	1SFA 619 402 R5053	
Blue	15	22	470	CL-505L	1SFA 619 402 R5054	
White	15	88	②	CL-505W	1SFA 619 402 R5055	
Rated voltage 110-130 V, AC						
Red	15	60	625	CL-513R	1SFA 619 402 R5131	25.00
Green	15	126	520	CL-513G	1SFA 619 402 R5132	
Yellow	15	60	590	CL-513Y	1SFA 619 402 R5133	
Blue	15	22	470	CL-513L	1SFA 619 402 R5134	
White	15	88	②	CL-513W	1SFA 619 402 R5135	
Rated voltage 110-130 V, DC ①						
Red	15	60	625	CL-515R	1SFA 619 402 R5151	25.00
Green	15	126	520	CL-515G	1SFA 619 402 R5152	
Yellow	15	60	590	CL-515Y	1SFA 619 402 R5153	
Blue	15	22	470	CL-515L	1SFA 619 402 R5154	
White	15	88	②	CL-515W	1SFA 619 402 R5155	
Rated voltage 220 V, DC ①						
Red	15	60	625	CL-520R	1SFA 619 402 R5201	25.00
Green	15	126	520	CL-520G	1SFA 619 402 R5202	
Yellow	15	60	590	CL-520Y	1SFA 619 402 R5203	
Blue	15	22	470	CL-520L	1SFA 619 402 R5204	
White	15	88	②	CL-520W	1SFA 619 402 R5205	
Rated voltage 230 V, AC						
Red	15	60	625	CL-523R	1SFA 619 402 R5231	25.00
Green	15	126	520	CL-523G	1SFA 619 402 R5232	
Yellow	15	60	590	CL-523Y	1SFA 619 402 R5233	
Blue	15	22	470	CL-523L	1SFA 619 402 R5234	
White	15	88	②	CL-523W	1SFA 619 402 R5235	
Rated voltage 380 V, AC						
Red	15	60	625	CL-530R	1SFA 619 402 R5301	25.00
Green	15	126	520	CL-530G	1SFA 619 402 R5302	
Yellow	15	60	590	CL-530Y	1SFA 619 402 R5303	
Blue	15	22	470	CL-530L	1SFA 619 402 R5304	
White	15	88	②	CL-530W	1SFA 619 402 R5305	
Rated voltage 415 V, AC						
Red	15	60	625	CL-541R	1SFA 619 402 R5411	25.00
Green	15	126	520	CL-541G	1SFA 619 402 R5412	
Yellow	15	60	590	CL-541Y	1SFA 619 402 R5413	
Blue	15	22	470	CL-541L	1SFA 619 402 R5414	
White	15	88	②	CL-541W	1SFA 619 402 R5415	

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

② X=0.31, Y=0.32

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

Accessories



Filament bulbs Ba 9s base Catalog No. of current: AC/DC. A lamp changing tool is required for changing bulb.

Description					Catalog No.	Ref. Code	List Price
Rated voltage V	Rated current mA	Rated output W	Service life h	Luminance mcd			
6	200	1.2	10 000	350	5911 086-11	5911 086-11	\$ 6.00
12	100	1.2	10 000	230	5911 086-12	5911 086-12	
24	50	1.2	10 000	280	5911 086-13	5911 086-13	
30	40	1.2	10 000	250	5911 086-4	5911 086-4	
48	42	2	6 000	500	5911 086-5	5911 086-5	
60	20	1.2	5 000	190	5911 086-14	5911 086-14	
110	18	2	7 500	250	5911 086-7	5911 086-7	
130	15	2	7 500	120	5911 086-15	5911 086-15	

LEDs

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

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

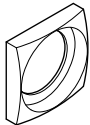
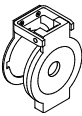
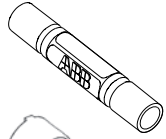


Color	Rated current mA	Wave-length nM	Luminance mcd	Catalog No.	Ref. Code	List Price
Rated voltage 12 V, DC Service life >50 000 h						
Red	15	630	250	KA2-2011	1SFA 616 921 R2011	\$ 21.00
Green	15	525	1000	KA2-2012	1SFA 616 921 R2012	
Yellow	15	592	250	KA2-2013	1SFA 616 921 R2013	
Blue	15	470	450	KA2-2014	1SFA 616 921 R2014	
White	15	x=0.31 y=0.32	600	KA2-2015	1SFA 616 921 R2015	
Rated voltage 24 V, (AC)/DC Service life >50 000 h						
Red	15	630	250	KA2-2021	1SFA 616 921 R2021	15.00
Green	15	525	800	KA2-2022	1SFA 616 921 R2022	
Yellow	15	592	250	KA2-2023	1SFA 616 921 R2023	
Blue	15	470	400	KA2-2024	1SFA 616 921 R2024	
White	15	x=0.31 y=0.32	500	KA2-2025	1SFA 616 921 R2025	
Rated voltage 48 V, (AC)/DC Service life >50 000 h						
Red	12	630	200	KA2-2041	1SFA 616 921 R2041	21.00
Green	12	525	1700	KA2-2042	1SFA 616 921 R2042	
Yellow	12	592	240	KA2-2043	1SFA 616 921 R2043	
Blue	12	470	720	KA2-2044	1SFA 616 921 R2044	
White	12	x=0.31 y=0.32	1200	KA2-2045	1SFA 616 921 R2045	
Rated voltage 60 V, (AC)/DC Service life >50 000 h						
Red	10	630	160	KA2-2051	1SFA 616 921 R2051	21.00
Green	10	525	1400	KA2-2052	1SFA 616 921 R2052	
Yellow	10	592	200	KA2-2053	1SFA 616 921 R2053	
Blue	10	470	600	KA2-2054	1SFA 616 921 R2054	
White	10	x=0.31 y=0.32	1000	KA2-2055	1SFA 616 921 R2055	
Rated voltage 110-130 V, AC Service life 25 000 h						
Red	4-6	630	60-100	KA2-2131	1SFA 616 921 R2131	15.00
Green	4-6	525	500-850	KA2-2132	1SFA 616 921 R2132	
Yellow	4-6	592	70-120	KA2-2133	1SFA 616 921 R2133	
Blue	4-6	470	220-350	KA2-2134	1SFA 616 921 R2134	
White	4-6	x=0.31 y=0.32	350-600	KA2-2135	1SFA 616 921 R2135	
Rated voltage 110-130 V, AC/DC Service life 25 000 h						
Red	4-6	630	60-100	KA2-2141	1SFA 616 921 R2141	21.00
Green	4-6	525	500-850	KA2-2142	1SFA 616 921 R2142	
Yellow	4-6	592	70-120	KA2-2143	1SFA 616 921 R2143	
Blue	4-6	470	220-350	KA2-2144	1SFA 616 921 R2144	
White	4-6	x=0.31 y=0.32	350-600	KA2-2145	1SFA 616 921 R2145	
Rated voltage 230 V, AC Service life 25 000 h						
Red	4	630	60	KA2-2221	1SFA 616 921 R2221	21.00
Green	4	525	500	KA2-2222	1SFA 616 921 R2222	
Yellow	4	592	70	KA2-2223	1SFA 616 921 R2223	
Blue	4	470	220	KA2-2224	1SFA 616 921 R2224	
White	4	x=0.31 y=0.32	350	KA2-2225	1SFA 616 921 R2225	

Ⓢ At AC the luminance is decreased with 30 % and there is also a slight flickering.

Accessories

Pilot Devices
Compact range
22mm



Lamp changing tool

Description	Catalog No.	Ref. Code	List Price
For LEDs and for bulbs	KA1-8072	1SFA 616 920 R8072	\$ 10.00

Mounting tool

Description	Catalog No.	Ref. Code	List Price
Used for tightening the locking nut	KA1-8015	1SFA 611 920 R8015	\$ 10.00

Membrane of silicone

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

For operator with	Catalog No.	Ref. Code	List Price
Flush button	KA1-8052	1SFA 616 920 R8052	\$ 8.00
Extended button	KA1-8002	1SFA 616 920 R8002	8.00

Protective ring

Description	Catalog No.	Ref. Code	List Price
For flush and extended pushbutton To prevent inadvertant operation. Not together with legend plate holder.	SK615512-1	SK 615 512-1	\$ 4.00

Protective cover

Description	Catalog No.	Ref. Code	List Price
For flush button. To prevent inadvertant operation. Not together with legend plate holder.	KA1-8010	1SFA 616 920 R8010	\$ 15.00

Button

Description	Catalog No.	Ref. Code	List Price
Grey, flush (Packing unit 10 pieces)	KA1-8087	1SFA 616 920 R8087	\$ 1.50
Grey, extended (Packing unit 10 pieces)	KA1-8097	1SFA 616 920 R8097	1.50

Bezel

Description	Catalog No.	Ref. Code	List Price
For pushbutton			
Grey (Packing unit 10 pieces)	KA1-8079	1SFA 616 920 R8079	\$ 1.00
Black (Packing unit 10 pieces)	KA1-8022	1SFA 616 920 R8022	1.00
Metal (Packing unit 10 pieces)	KA1-8021	1SFA 616 920 R8021	2.50
For selector switch			
Grey (Packing unit 10 pieces)	CA1-8076	1SFA 619 920 R8076	1.00
Black (Packing unit 10 pieces)	CA1-8077	1SFA 619 920 R8077	1.00
Metal (Packing unit 10 pieces)	CA1-8078	1SFA 619 920 R8078	2.50

Square bezel

Black, plastic (Packing unit 10 pieces)	SK616016-2	SK 616 016-2	2.00
Grey, plastic (Packing unit 10 pieces)	KA1-8124	1SFA 611 920 R8124	2.00

Blanking plug (22mm)

Description	Catalog No.	Ref. Code	List Price
Grey plastic	MA1-8129	1SFA 611 920 R8129	\$ 5.80
Black plastic	MA1-8130	1SFA 611 920 R8130	5.80

Blanking plug (30mm)

Description	Catalog No.	Ref. Code	List Price
Black plastic	MA1-8133	1SFA 611 920 R8133	7.30

Accessories



30 mm adaptors

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

Description	Catalog No.	Ref. Code	List Price	
For use with pushbuttons, selector switches, emergency stop push-button and pilot lights	Black plastic.	KA1-8029	1SFA 616 920 R8029	\$ 8.00
	Metal.	KA1-8030	1SFA 616 920 R8030	10.00



Adaptors

For flush mounted pushbutton

KA1-8073

1SFA 616 920 R8073

15.00

For flush mounted selector switches

CA1-8075

1SFA 619 920 R8075



Extra key (packing unit, 2 pcs)

Description	Catalog No.	Ref. Code	List Price
Ronis 455 (key code 71)	SK616021-71	SK 616 021-71	\$ 10.00



Padlock attachment for 30mm mushroom head (twist release only)

Prevents unauthorized use of equipment. Provides space for up to 4 padlocks with the button in the depressed position. Holes fit standard 1/4" padlock.

Description	Catalog No.	List Price
Padlock attachment	SK615502-D	\$ 20.00



Approvals

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

For detail information please contact ABB

Standards

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

Degrees of protection

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

Temperature

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

Tightening torque

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

Contacts

Self-cleaning contacts of silver-coated brass

Ratings as per UL, CSA, NEMA	AC C300	DC R300
Rated insulation voltage	250 V	250 V
Rated thermal current	2.5 A	1 A
Rated operational current		
at 120 V	1.5 A	
125 V		0.22 A
240 V	0.75 A	
250 V		0.11 A
Ratings as per IEC 60947-5-1		
Rated insulation voltage, U_i	300 V	
Rated thermal current, I_{th}	5 A	
Rated operational current, I_o , utilisation category AC-15		
at 120 V	1.5 A	
240 V	1 A	
Rated operational current, I_o , utilisation category DC-13,		
at 24 V	0.3 A	
125 V	0.2 A	
Short circuit protection		
Max. fuse at 1 kA	16 A ordinary 10 A delayed	
Tightening torque		
compact pushbutton & selector switch	0.8 Nm (M3)	
compact pilot light	0.9 Nm (M3.5)	
compact emergency stop pushbutton	0.8 Nm (M3)	
Terminals		
Plus-minus Pozidriv No. 2		
Compact pushbutton		
Compact selector switch		
Compact emergency stop		
Connectable area	min. 1 x 0.5 mm ² /1 x AWG22 max. 2 x 1.5 mm ² /2 x AWG14	
Compact pilot light		
Connectable area	min. 1 x 0.5 mm ² /1 x AWG20 max. 2 x 2.5 mm ² /2 x AWG14	

Material

No ozone depleting substances in the products.

All front parts are made of polycarbonate

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

Assembled Stations & enclosures

ABB Assembled stations & enclosures

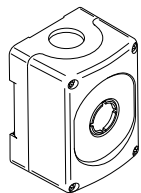


8

Features

- Available for 1, 2, 3, 4 & 6 operators.
- Base mounted contacts allow for easy removal of operator cover. Wiring remains with base.
- Up to 5 contact blocks can be used per operator for some combinations.
- Environmental ratings: UL/CSA Type 1, 3R, 4, 4X, 12 & 13, IP66
- Available in high impact strength polycarbonate (plastic) material.
- Rated for outdoor use.
- Enclosures can withstand light acid solutions and other chemicals.
- Metallic enclosures available.

Plastic enclosures 1, 2 & 3 seat Modular range



1 Position

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

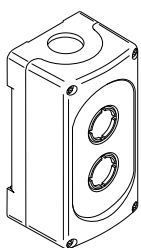
Description					Catalog No.	List Price
	Pos - 1	Pos - 2	Pos - 3	Pos - 4		
Type	Twist Release 40mm E	—	—	—	P1-ES	\$ 84.00
	Stop	—	—	—		
Color	Red	—	—	—		
Contacts	2 NC	—	—	—		
Name plate	EMERGENCY STOP	—	—	—		
Type	III. Twist Release 40mm E	—	—	—	P1-1ES	107.50
	40mm E-Stop	—	—	—		
Color	Red, 120V	—	—	—		
Contacts	2 NC, 1 LB	—	—	—		
Name plate	EMERGENCY STOP	—	—	—		

1-seat Plastic enclosure, dark grey top/light grey bottom

Description					Catalog No.	List Price
	Pos - 1	Pos - 2	Pos - 3	Pos - 4		
Type	3-pos sel. Main	—	—	—	P1-HOA	\$ 55.00
Color	Black	—	—	—		
Contacts	2 NO	—	—	—		
Name plate	HAND/OFF/AUTO	—	—	—		

2-seat Plastic enclosure, dark grey top/light grey bottom

Description					Catalog No.	List Price
	Pos - 1	Pos - 2	Pos - 3	Pos - 4		
Type	Button mom, Ext.	Button mom, Flush	—	—	P2-SS	\$ 63.20
Color	Red	Green	—	—		
Contacts	1 NC	1 NO	—	—		
Name plate	STOP	START	—	—		
Type	3-pos sel. Main	Pilot Light	—	—	P2-1HOARL	90.00
Color	Black	Red	—	—		
Contacts	2 NO	1 LB	—	—		
Name plate	HAND/OFF/AUTO	RUN	—	—		
Type	2-pos sel. Main	Pilot Light	—	—	P2-1OORL	82.00
Color	Black	Red	—	—		
Contacts	1 NO	1 LB	—	—		
Name plate	ON/OFF	RUN	—	—		

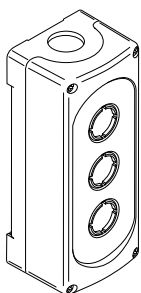


2 Position

1 Position

3-seat Plastic enclosure, dark grey top/light grey bottom

Description					Catalog No.	List Price
	Pos - 1	Pos - 2	Pos - 3	Pos - 4		
Type	Button mom, Ext.	Button mom, Flush	Pilot Light	—	P3-1SSRL	\$ 96.70
Color	Red	Green	Red	—		
Contacts	1 NC	1 NO	1 LB	—		
Name plate	STOP	START	RUN	—		
Type	3-pos sel. Main	Pilot Light	Pilot Light	—	P3-1HOARLGL	123.50
Color	Black	Red	Green	—		
Contacts	2 NO	1 LB	1 LB	—		
Name plate	HAND/OFF/AUTO	RUN	OFF	—		
Type	2-pos sel. Main	Pilot Light	Pilot Light	—	P3-1OORLGL	115.50
Color	Black	Red	Green	—		
Contacts	1 NO	1 LB	1 LB	—		
Name plate	ON/OFF	RUN	OFF	—		
Type	3-pos sel. Main	Button mom, Flush	Pilot Light	—	P3-1HOASRL	109.60
Color	Black	Green	Red	—		
Contacts	2 NO	1 NO	1 LB	—		
Name plate	HAND/OFF/AUTO	START	RUN	—		
Type	Twist Release 40mm E Stop	3-pos sel. Main	Pilot Light	—	P3-1ESHOARL	145.50
Color	Red	Black	Red	—		
Contacts	2 NC	2 NO	1 LB	—		
Name plate	EMERGENCY STOP	HAND/OFF/AUTO	RUN	—		



3 Position

2 Position

1 Position

Plastic enclosures

4 seat

Modular range



4-seat Plastic enclosure, dark grey top/light grey bottom

Description					Catalog No.	List Price
	Pos - 1	Pos - 2	Pos - 3	Pos - 4		
Type	Button mom., Ext.	Button mom., Flush	Pilot Light	Pilot Light	P4-1SSRLGL	\$ 134.20
Color	Red	Green	Green	Red		
Contacts	1 NC	1 NO	1 LB	1 LB		
Name plate	STOP	START	OFF	RUN		
Type	3-pos sel. Main	Button mom., Flush	Pilot Light	Pilot Light	P4-1HOASRLGL	147.10
Color	Black	Green	Green	RED		
Contacts	2 NO	1 NO	1 LB	1 LB		
Name plate	HAND/OFF/AUTO	START	OFF	RUN		
Type	3-pos sel. Main	Pilot Light	Pilot Light	Pilot Light	P4-1HOARLYLGL	161.00
Color	Black	Green	Yellow	Red		
Contacts	2 NO	1 LB	1 LB	1 LB		
Name plate	HAND/OFF/AUTO	OFF	FAULT	RUN		
Type	2-pos. sel. Main	Pilot Light	Pilot Light	Pilot Light	P4-10ORLYLGL	153.00
Color	Black	Green	Yellow	Red		
Contacts	1 NO	1 LB	1 LB	1 LB		
Name plate	ON/OFF	OFF	FAULT	RUN		
Type	Twist Release 40mm E Stop	Button mom., Ext.	Button mom., Flush	Pilot Light	P4-1ESSRL	156.20
Color	Red	Red	Green	Red		
Contacts	2 NC	1 NC	1 NO	1 LB		
Name plate	EMERGENCY STOP	STOP	START	RUN		
Type	Twist Release 40mm E Stop	3-pos. sel. Main	Pilot Light	Pilot Light	P4-1ESHOARLGL	183.00
Color	Red	Black	Green	Red		
Contacts	2 NC	2 NO	1 LB	1 LB		
Name plate	EMERGENCY STOP	HAND/OFF/AUTO	OFF	RUN		
Type	Twist Release 40mm E Stop	2-pos sel. Main	Pilot Light	Pilot Light	P4-1ESOORLGL	175.00
Color	Red	Black	Green	Red		
Contacts	2 NC	1 NO	1 LB	1 LB		
Name plate	EMERGENCY STOP	ON/OFF	OFF	RUN		

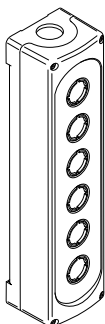
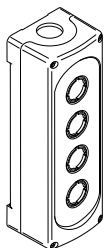
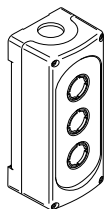
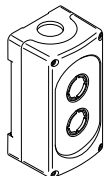
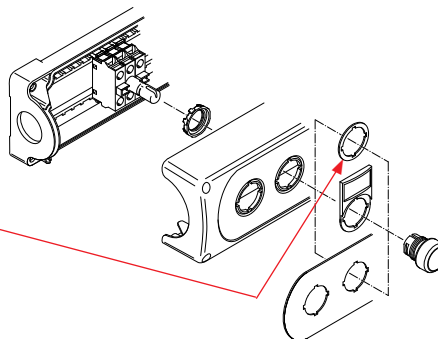
Degree of protection, IP 66 Modular range

Empty plastic enclosures Now with stainless steel screws

Size	Color top/bottom	Catalog No.	Ref. Code	List Price
1-seat	Dark grey/Light grey	MEP1-0	1SFA 611 811 R1000	\$ 28.00
1-seat	Yellow/Light grey	MEPY1-0	1SFA 611 821 R1000	28.00
2-seat	Dark grey/Light grey	MEP2-0	1SFA 611 812 R1000	32.00
3-seat	Dark grey/Light grey	MEP3-0	1SFA 611 813 R1000	36.00
4-seat	Dark grey/Light grey	MEP4-0	1SFA 611 814 R1000	44.00
6-seat	Dark grey/Light grey	MEP6-0	1SFA 611 816 R1000	52.00

When Ordering

- Select operators from page 8.4 and 8.38.
N.B. Selector switches with short handle for vertically mounted selector switches must be Ref.ed from page 8.45 - 8.46
- Select contact blocks and lamp blocks for rear mounting, see page 8.45
- Accessories, see page 8.45
N.B. **One spacer per operator** has to be Ref.ed if legend plate is not used.
(for rear mounted pilot devices)



Accessories

Modular range

Contact blocks for rear mounting

Description	Catalog No.	Ref. Code	List Price
Contact blocks			
1NO	MCB-10B	1SFA 611 610 R2001	\$ 8.00
1NC	MCB-01B	1SFA 611 610 R2010	

Double contact block

2NO	MCB-20B	1SFA 611 610 R2002	16.00
2NC	MCB-02B	1SFA 611 610 R2020	
1NO+1NC	MCB-11B	1SFA 611 610 R2011	

Contact blocks with gold plated contacts

1NO	MCB-10BG	1SFA 611 610 R2101	16.00
1NC	MCB-01BG	1SFA 611 610 R2110	

Lamp blocks

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

MLB-1B	1SFA 611 620 R2001	17.50
---------------	--------------------	--------------

115 V AC supply voltage.

For 60 V filament bulb max. 1.2 W

MLB-2B	1SFA 611 620 R2002	21.50
---------------	--------------------	--------------

230 V AC supply voltage.

For 130 V filament bulb max. 2 W

MLB-3B	1SFA 611 620 R2003	21.50
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Protective sleeve

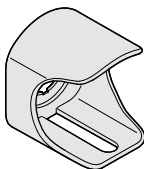
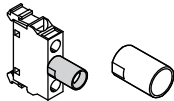
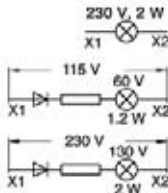
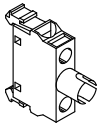
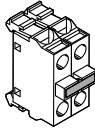
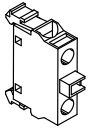
Description	Catalog No.	Ref. Code	List Price
To make a rear mounted lamp block screen protected. IP20	53960543-1	5396 0543-1	\$ 2.00

Earthing terminal

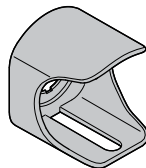
Description	Catalog No.	Ref. Code	List Price
For plastic enclosure.	MA5-3005	1SFA 611 925 R3005	\$ 2.00

Shrouds

Color	Catalog No.	Reference Code
Yellow	MA1-8053	1SFA611920R8053
Gray	MA1-8128	1SFA611920R8128



Yellow shroud



Gray shroud

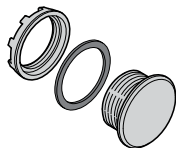
Accessories Modular range

8



Spacer

Description	Catalog No.	Ref. Code	List Price
1 mm thick. Needed when legend plates are not used in plastic enclosures.			
Spacer (Packing unit 10 pieces)	SK615516-1	SK 615 516-1	\$ 1.00
Spacer for Modular emergency stop pushbutton (Packing unit 10 pieces)	KA1-8045	1SFA 616 920 R 8045	1.00



Blanking plug

Description	Catalog No.	Ref. Code	List Price
Grey plastic, 22mm	MA1-8129	1SFA 611 920 R8129	\$ 5.80
Black plastic, 22mm	MA1-8130	1SFA 611 920 R8130	5.80
Black plastic, 30mm	MA1-8133	1SFA 611 920 R8133	7.30

Cable gland

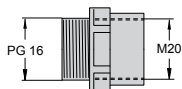
Description	Catalog No.	Ref. Code	List Price
PG 13.5	MA5-3006	1SFA 611 925 R3006	\$ 8.40
PG 16	MA5-3007	1SFA 611 925 R3007	9.40

Nut

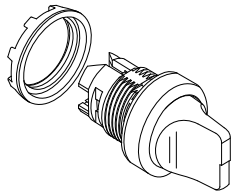
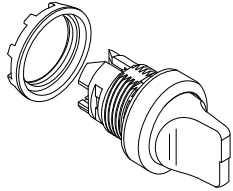
Description	Catalog No.	Ref. Code	List Price
PG 13.5	MA5-3008	1SFA 611 925 R3007	\$ 2.60
PG 16	MA5-3009	1SFA 611 925 R3009	2.60

Adaptor

Description	Catalog No.	Ref. Code	List Price
PG 16/M20	MA5-3010	1SFA 611 925 R3010	\$ 16.20



2 position selector switches for mounting in vertically mounted enclosures Modular range



Bezel in black plastic as standard

Bezel in metal:

Replace '1' in the:

Catalog No. M2SSX-1 0X

Ref. Code 1SFA611XXX R 1XXX

3 for metal bezel

4 for grey plastic bezel

Contact functions

Block positions as seen from operator front.

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

O = not actuated (normal state)

x = actuated (state changed)

Non-illuminated operator ... ①

Symbol	Handle color	Catalog No.	Ref. Code	List Price
with short handle				
Maintained				
	Red	M2SSV1-10R	1SFA 611 220 R1001	\$ 11.00
	Black	M2SSV1-10B	1SFA 611 220 R1006	
Maintained				
	Red	M2SSV2-10R	1SFA 611 221 R1001	11.00
	Black	M2SSV2-10B	1SFA 611 221 R1006	
Momentary, spring return from C to B				
	Red	M2SSV3-10R	1SFA 611 222 R1001	14.00
	Black	M2SSV3-10B	1SFA 611 222 R1006	

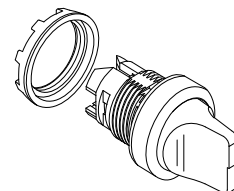
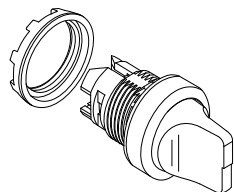
Illuminated operator ... ① ②

Symbol	Handle color	Catalog No.	Ref. Code	List Price
with short handle				
Maintained				
	Red	M2SSV1-11R	1SFA 611 220 R1101	\$ 17.00
	Green	M2SSV1-11G	1SFA 611 220 R1102	
	Yellow	M2SSV1-11Y	1SFA 611 220 R1103	
Maintained				
	Red	M2SSV2-11R	1SFA 611 221 R1101	17.00
	Green	M2SSV2-11G	1SFA 611 221 R1102	
	Yellow	M2SSV2-11Y	1SFA 611 221 R1103	
Momentary, spring return from C to B				
	Red	M2SSV3-11R	1SFA 611 222 R1101	26.00
	Green	M2SSV3-11G	1SFA 611 222 R1102	
	Yellow	M2SSV3-11Y	1SFA 611 222 R1103	

① No contact in center position

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

3 position selector switches for mounting in vertically mounted enclosures Modular range



Bezel in black plastic as standard

Bezel in metal:

Replace '1' in the:

Catalog No. M3SSX-1 0X

Ref. Code 1SFA611XXX R 1XXX

3 for metal bezel

4 for grey plastic bezel

Contact functions

Block positions as seen from operator front.

Handle position	Left block	Right block
A	x	0
B	0	0
C	0	x

Non-illuminated operator ... ①

Symbol	Handle color	Catalog No.	Ref. Code	List Price
with short handle				
Maintained				
	Red	M3SSV1-10R	1SFA 611 230 R1001	\$ 11.00
	Black	M3SSV1-10B	1SFA 611 230 R1006	
Momentary, spring return from A to B and from C to B				
	Red	M3SSV2-10R	1SFA 611 231 R1001	14.00
	Black	M3SSV2-10B	1SFA 611 231 R1006	
Momentary, spring return from C to B				
	Red	M3SSV3-10R	1SFA 611 232 R1001	14.00
	Black	M3SSV3-10B	1SFA 611 232 R1006	

Illuminated operator ... ① ②

Symbol	Handle color	Catalog No.	Ref. Code	List Price
with short handle				
Maintained				
	Red	M3SSV1-11R	1SFA 611 230 R1101	\$ 17.00
	Green	M3SSV1-11G	1SFA 611 230 R1102	
	Yellow	M3SSV1-11Y	1SFA 611 230 R1103	
Momentary, spring return from A to B and from C to B				
	Red	M3SSV2-11R	1SFA 611 231 R1101	26.00
	Green	M3SSV2-11G	1SFA 611 231 R1102	
	Yellow	M3SSV2-11Y	1SFA 611 231 R1103	
Momentary, spring return from C to B				
	Red	M3SSV3-11R	1SFA 611 232 R1001	26.00
	Green	M3SSV3-11G	1SFA 611 232 R1002	
	Yellow	M3SSV3-11Y	1SFA 611 232 R1003	

Contact blocks, lamp block and holder See Page 8.45

① No contact in center position

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

Compact E-Stop Component parts

1-seat emergency-stop enclosures

	Description	Catalog Number	Order Code	List Price
	Enclosure 1-Seat Dark grey/light grey 50D _{mm} x 65W _{mm} 65H _{mm}	CEP1-0	1SFA 619 811 R1000	\$ 22
	Enclosure 1-Seat Yellow/light grey 50D _{mm} x 65W _{mm} 65H _{mm}	CEPY1-0	1SFA 619 821 R1000	22
	Shroud For emergency stops; yellow 30D _{mm} x 45W _{mm} 60H _{mm}	CA1-8053	1SFA 619 920 R8053	10
	Shroud For machine stops; dark grey 30D _{mm} x 45W _{mm} 60H _{mm}	CA1-8054	1SFA 619 920 R8054	10
	Legend plate, yellow aluminum 60mm	CA6-1026	1SFA619930R1026	6

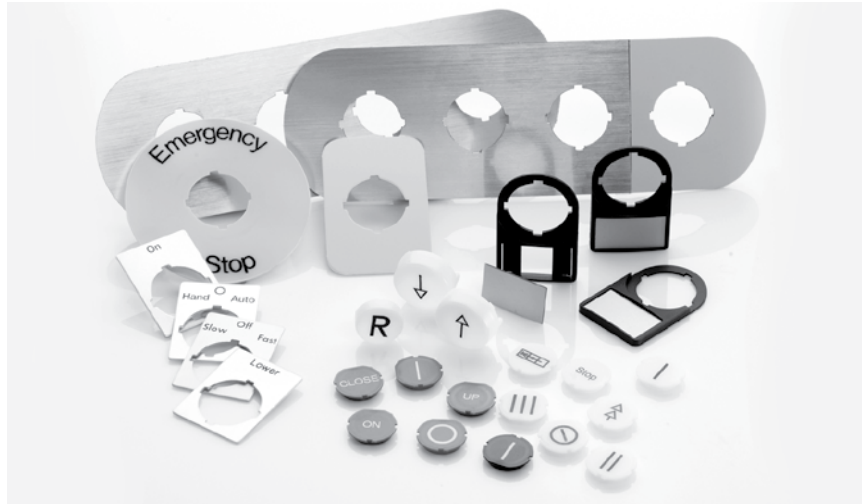
Compact E-Stop Assembled stations

Assembled 1-seat emergency stop enclosures

	Description	Catalog Number	Order Code	List Price
	Emergency Stop Enclosure Twist release; red button 2NC	CEPY1-1001	1SFA 619 821 R1001	\$ 73
	Emergency Stop Enclosure Pull release; red button 2NC	CEPY1-1002	1SFA 619 821 R1002	73
	Emergency Stop Enclosure with Shroud Twist release; red button 2NC	CEPY1-2001	1SFA 619 821 R2001	84
	Emergency Stop Enclosure with Shroud Pull release; red button 2NC	CEPY1-2002	1SFA 619 821 R2002	84
	Machine Stop Enclosure Twist release; black button 1NO + 1NC	CEP1-1001	1SFA 619 81 R1002	73
	Machine Stop Enclosure Pull release; black button 1NO + 1NC	CEP1-1002	1SFA 619 811 R1002	73
	Machine Stop Enclosure with Shroud Twist release; black button 1NO + 1NC	CEP1-2001	1SFA 619 811 R2001	84
	Machine Stop Enclosure with Shroud Pull release; black button 1NO + 1NC	CEP1-2002	1SFA 619 811 R2002	84

22mm Legend plates

ABB Legend plates 22mm



Fixed legend plates

- Of silvergrey anodized aluminum for:
 - pushbuttons
 - two-position selector switches
 - three-position selector switches
 - toggle switches
 - customer selected text

Special legend plates

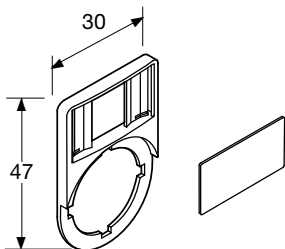
- For emergency stop pushbuttons
- Legend plate with or without customer selected text
- Legend plate holders with inserts of anodized brushed aluminum
With or without text or symbol for:
 - pushbuttons
 - two-position selector switch
 - three position selector switch
 - customer selected textFor plastic enclosures:
- Legend plate holders with inserts of anodized brushed aluminum on black plastic.
With or without text or symbol for push-buttons
- Legend plates of silvergrey anodized aluminum. For 1- 2-, 3- 4- or 6-seat plastic enclosures

Text caps

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

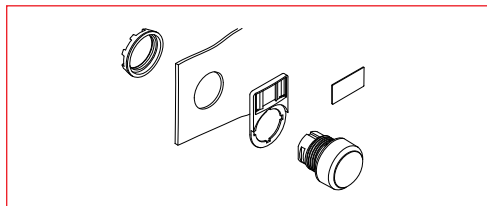
Special legend plates

22mm



Legend plate holders with inserts

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



Legend plate holder (black)

Description	Catalog No.	List Price
Black	1SFA 616 920 R8120	\$.70

Inserts

Description	Catalog No.	List Price
Of brushed aluminum on black plastic Without text or symbol	1SFA 616 920 R8121	\$.70

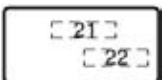
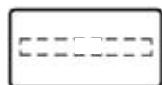
Inserts with text/symbol

Description	Catalog No.	List Price
Of brushed aluminum on black plastic With text or symbol		
O	1SFA 611 930 R1032	\$.70
I	1SFA 611 930 R1033	
→	1SFA 611 930 R1034	
→→	1SFA 611 930 R1035	
Close	1SFA 611 930 R1036	
Open	1SFA 611 930 R1037	
On	1SFA 611 930 R1038	
Off	1SFA 611 930 R1039	
Fast	1SFA 611 930 R1040	
Slow	1SFA 611 930 R1041	
Down	1SFA 611 930 R1042	
Up	1SFA 611 930 R1043	
Start	1SFA 611 930 R1044	
Stop	1SFA 611 930 R1045	

Inserts for two-position selector switches

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

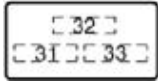
Description	Catalog No.	List Price
With text or symbol		
Pos. 21 Pos. 22		
O I	1SFA 611 930 R 1070	\$.70
I II	1SFA 611 930 R 1071	
→ →→	1SFA 611 930 R 1072	
Off On	1SFA 611 930 R 1073	
Stop Start	1SFA 611 930 R 1074	
Low High	1SFA 611 930 R 1075	
Slow Fast	1SFA 611 930 R 1076	
Close Open	1SFA 611 930 R 1077	
Jog Run	1SFA 611 930 R 1078	
Hand Auto	1SFA 611 930 R 1079	



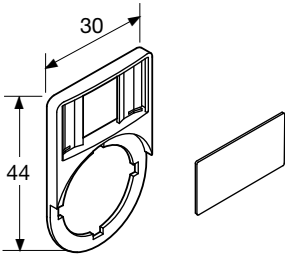
For two-position selector switch

Special legend plates

22mm



For three-position selector switch



Inserts for three-position selector switches

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

Description	Catalog No.	List Price
<u>With text or symbol</u>		
Pos. 31 Pos. 32 Pos. 33		
← O →	1SFA 611 930 R 1080	\$.70
→ O →→	1SFA 611 930 R 1081	
I O II	1SFA 611 930 R 1082	
Hand O Auto	1SFA 611 930 R 1083	
Slow Off Fast	1SFA 611 930 R 1084	

Legend plate holder (grey) for plastic enclosures

Description	Catalog No.	List Price
Grey	1SFA 611 930 R1060	\$.70

Inserts

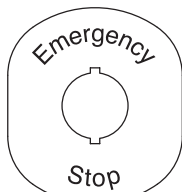
Description	Catalog No.	List Price
Of brushed aluminum on black plastic		
Without text or symbol	1SFA 611 930 R1061	\$.50

Inserts with text/symbol

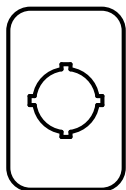
Description	Catalog No.	List Price
Of brushed aluminum on black plastic		
<u>With text or symbol</u>		
O	1SFA 611 930 R1062	\$.70
I	1SFA 611 930 R1063	
II	1SFA 611 930 R1064	

Special legend plates Emergency stops 22mm

Emergency stop legend plates, 70mm, for modular enclosures ①



MA6-1026



Description/Text	Catalog No.	List Price
Black text on a yellow aluminum plate.		
Nöd Stopp	SK 615 546-1	\$ 6.00
Emergency Stop	SK 615 546-2	
Not Aus	SK 615 546-3	
ARRET D'URGENCE	SK 615 546-4	
HÄTÄSEIS	SK 615 546-5	
PARADA DE EMERGENCIA	SK 615 546-6	
Without text	SK 615 546-8	
Black text on a yellow plastic plate.		
Quantity per package: 10		
Can be used as yellow background.		
Emergency Stop	1SFA 616 915 R1005	5.00

Emergency stop legend plates, 60mm, for compact enclosures

Description/Text	Catalog No.	Order code	List Price
Legend plate, yellow aluminum, 60mm	CA6-1026	1SFA619930R1026	\$ 6.00

Emergency stop legend plates for modular compact enclosures

Description/Text	Catalog No.	Order code	List Price
For horizontally mounted enclosures with yellow plastic/black text	MA6-1026	1SFA611930R1026	\$ 25.00
For vertically mounted enclosures with yellow plastic/black text	MA6-1026	1SFA611930R1101	25.00

Emergency stop legend plate

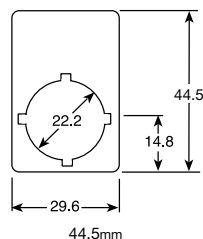
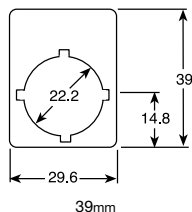
Description/Text	Catalog No.	List Price
Black text on an yellow aluminum plate.		
Legend plate without text	1SFA 611 930 R1010	\$ 15
Legend plate (1SFA 611 930 R1010) with text:		
Nöd stopp	1SFA 611 930 R1017	
Not Aus	1SFA 611 930 R1018	
Emergency Stop	1SFA 611 930 R1019	
ARRET D'URGENCE	1SFA 611 930 R1020	
Hätäseis	1SFA 611 930 R1021	
PARADA DE EMERGENCIA	1SFA 611 930 R1022	
Black text on an yellow plastic plate.		
Legend plate without text	1SFA 611 930 R1011	5
Legend plate (1SFA 611 930 R1011) with text:		
Emergency Stop	1SFA 611 930 R1023	10

① Does not work with pushbutton enclosure.

② Quantity per package: 10.

③ When ordering, please state text and position (Line 21 and Line 22). Only the initial character is upper case unless other is stated. Quantity per package: 1.

Legend plates for pushbuttons 22mm



22mm Blank fixed legend plates

Of silvergrey aluminum

Size	Catalog No.	List Price
39mm H	SK 615 540-1	\$ 1.50
44.5mm H	SK 615 541-1	

22mm Engraved fixed legend plates, with symbols ①

Of silvergrey aluminum

Symbol	Catalog No.	List Price
○	SK 615 550-61	\$ 1.50
	SK 615 550-62	
	SK 615 550-63	
←	SK 615 562-12	
→	SK 615 562-18	
↔	SK 615 562-27	

22mm Engraved fixed legend plates, with text ①

Of silvergrey aluminum

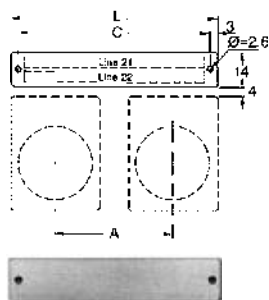
Text	Catalog No.	List Price
English		\$ 1.50
Close	SK 615 552-13	
Down	SK 615 552-14	
Emergency stop	SK 615 552-15	
Fast	SK 615 552-16	
Forward	SK 615 552-17	
In	SK 615 550-29	
Inching	SK 615 552-18	
Jog	SK 615 552-JO	
Left	SK 615 552-39	
Lower	SK 615 552-20	
Off	SK 615 552-21	
On	SK 615 552-22	
Open	SK 615 552-23	
Out	SK 615 552-24	
Raise	SK 615 552-25	
Reset	SK 615 552-27	
Reverse	SK 615 552-28	
Right	SK 615 552-40	
Run	SK 615 552-29	
Slow	SK 615 552-30	
Start	SK 615 550-44	
Stop	SK 615 552-31	
Up	SK 615 552-32	

Legend plates without or with customer-selected text

Of aluminum

Number of operations	Max. number of characters per line	Dimensions			Without text ②	With text ③	List Price
		A	L	C	Catalog No.	Catalog No.	
1	7	-	29.6	23.6	SK 615 545-1	SK 615 998-1	\$ 6.00
2	20	30.5	60	54	SK 615 545-2	SK 615 998-2	
2	24	40	70	64	SK 615 545-3	SK 615 998-3	
3	33	30.5	90	84	SK 615 545-4	SK 615 998-4	
3	42	40	110	104	SK 615 545-5	SK 615 998-5	

USE CUSTOM ENGRAVING FORM ON NEXT PAGE



① Text height 3 mm.

Engraved legend plate form
Special legend plates
22mm

ENGRAVED LEGEND PLATE FORM

PAGE: ___ OF: ___

ORDER DATE: _____

ORDER NUMBER: _____

ISSUED BY: _____

ORDER QTY: _____

ALL CAPITALS? YES NO

SHIPPING METHOD: _____

REMARKS: _____

DUE DATE: ____ - ____ - ____

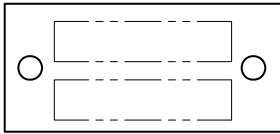
To be completed by ABB personnel:

ENGRAVER: _____

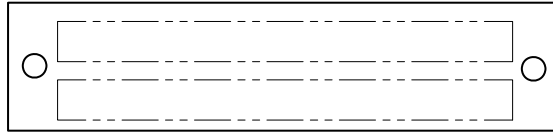
Q.C. INSPECTION: _____

PRINT INFORMATION TO BE ENGRAVED

MAX 7
CHARAC-
TERS PER
LINE

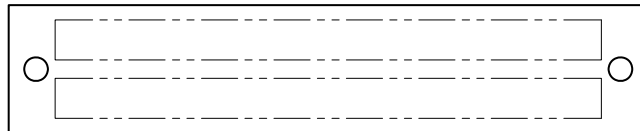


SK 615 545-1



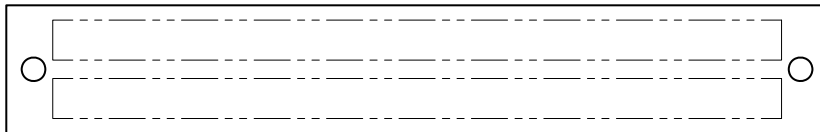
SK 615 545-2

MAXIMUM OF 20
CHARACTERS PER LINE



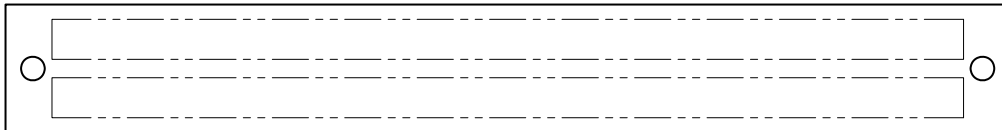
SK 615 545-3

MAXIMUM OF 24
CHARACTERS PER LINE



SK 615 545-4

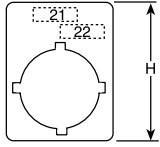
MAXIMUM OF 33
CHARACTERS PER LINE



SK 615 545-5

MAXIMUM OF 44
CHARACTERS PER LINE

Legend plates for 2 position selector switches 22mm



H = 39 mm

Engraved fixed legend plates, with symbols ①

Of silvergrey aluminum

Symbol/Text

Pos 21 Pos. 22

O I
I II
→ →→

Catalog No.

SK 615 550-75
SK 615 550-76
SK 615 562-72

List Price

\$ 1.50

Engraved fixed legend plates, with text ①

Of silvergrey aluminum

Symbol/Text

Pos 21 Pos. 22

English

Hand Auto
Jog Run
Off On
Stop Start

Catalog No.

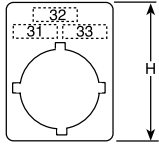
SK 615 550-71
SK 615 552-52
SK 615 552-53
SK 615 552-55

List Price

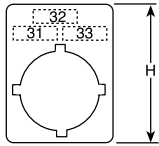
\$ 1.50

① Text height 3 mm. Only the initial character is upper case unless other is stated.

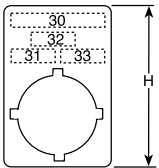
Legend plates for 3 position selector switches 22mm



H = 39 mm



H = 39 mm



H = 44.5 mm

Engraved fixed legend plates, with symbols ①

Of silvergrey aluminum

Symbol/Text

Pos 31 Pos. 32 Pos. 33

I	O	II
←	O	→
→	O	→→

Catalog No.

List Price

SK 615 550-81

SK 615 562-82

SK 615 562-83

\$ 1.50

Engraved fixed legend plates, with text ①

Of silvergrey aluminum

Symbol/Text

Pos 31 Pos. 32 Pos. 33

English

Hand	O	Auto
Slow	Off	Fast

Catalog No.

List Price

SK 615 550-80

SK 615 552-60

\$ 1.50

Aluminum name plate blank (anodized silvergray aluminum)

Blank 39mm

44.5mm

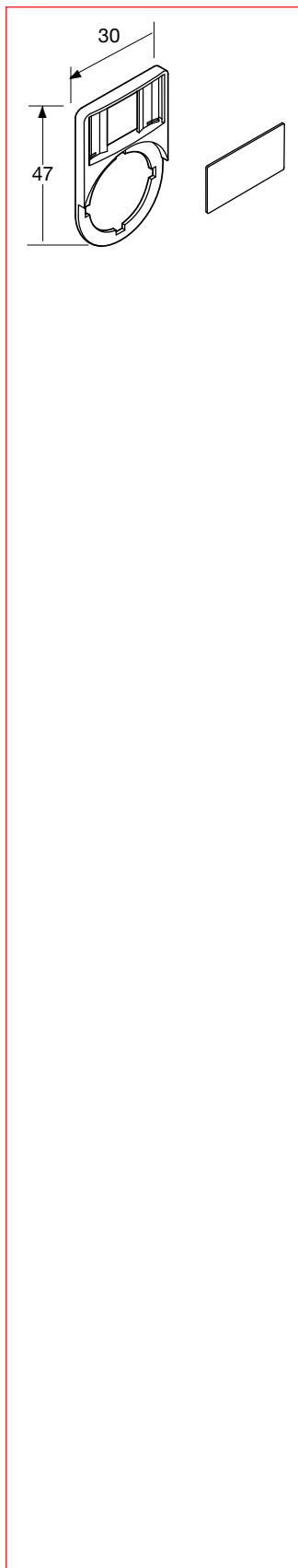
SK 615 540-1

SK 615 541-1

1.50

① Text height 3 mm. Only the initial character is upper case unless other is stated.

Custom engraved inserts for legend plate holders 22mm



Nameplate Inserts — Brushed aluminum

Type	Maximum letters per line	Catalog number	List price
 1 line	11	MP-NP19-01	\$ 5.90
 2 lines	11	MP-NP19-02	
 2 position selector switch	5	MP-NP19-03	
 3 position selector switch	5	MP-NP19-04	
 2 position selector switch	5	MP-NP19-05	

8

General specifications

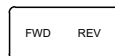
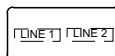
- All characters are 1/8" high, upper & lower case. Please specify if all capital letters are desired.
- The legend plate inserts and the fixed legend plates are silver-grey anodized aluminum.
- All special engravings involve engraving the desired lettering into the metal surface and then treating the engraved surfaces with black ink.

EXAMPLE:

MP-NP19-05

1: FWD

2: REV



"MP-NP19" is the blank legend plate catalog number. "-05" refers to the layout of text (see dimension illustrations).

Legend Plate order form

Use legend plate order form on next page.

Engraved legend plate form

Custom engraved nameplates

22mm

8

ENGRAVED LEGEND PLATE FORM
MP-NP19

PAGE: ____ OF: ____

MP-NP19- ____ (BRUSHED ALUMINUM)

ORIG. DATE: _____

ISSUED BY: _____

ALL CAPITALS? YES NO

REMARKS: _____

ORDER NUMBER: _____

ORDER: QTY: _____

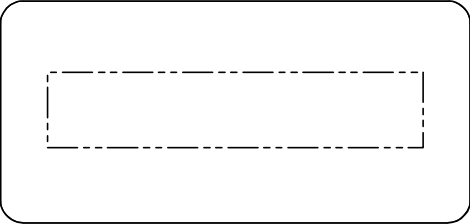
SHIPPING METHOD: _____

DUE DATE: ____ - ____ - ____

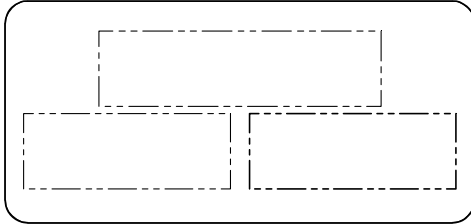
ENGRAVER: _____

Q.C. INSPECTION: _____

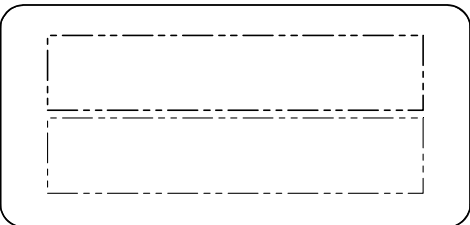
PRINT INFORMATION TO BE ENGRAVED



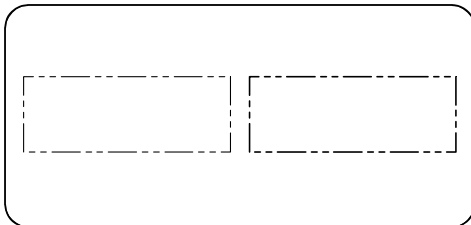
-01



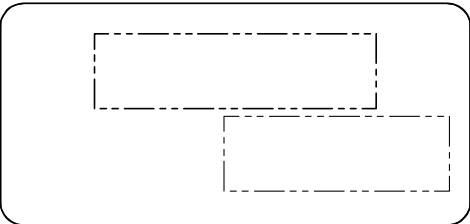
-04



-02



-05



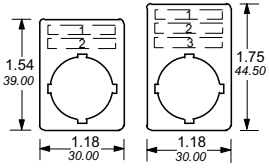
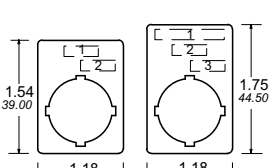
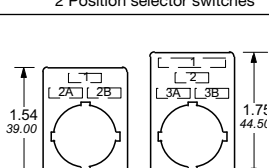
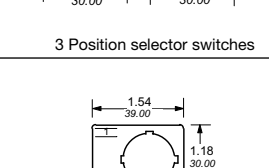
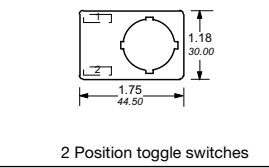
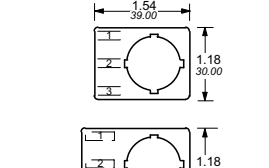
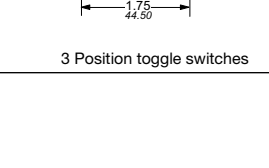
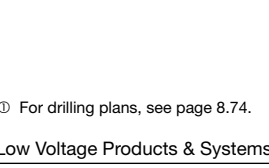

-03

MP-NP19: REV. A
03/04/05

Custom engraved nameplates 22mm

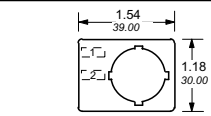
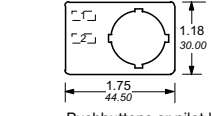
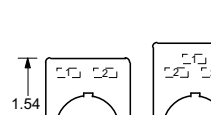

Pilot Devices
Legend plates

Fixed nameplates – aluminum ①

Type	Maximum letters per line	Catalog number	List price
 Pushbuttons or pilot lights	11	MP-NPE28-01	\$ 6.50
	39mm		
 2 Position selector switches	11	MP-NPE29-01	\$ 6.50
	44.5mm		
 2 Position selector switches	5	MP-NPE28-02	\$ 6.50
	39mm		
 2 Position selector switches	11 (line 1) 5 (line 2) 5 (line 3)	MP-NPE29-02	\$ 6.50
	44.5mm		
 3 Position selector switches	5	MP-NPE28-03	\$ 6.50
	39mm		
 3 Position selector switches	11 (line 1) 5 (line 2) 5 (line 3A) 5 (line 3B)	MP-NPE29-03	\$ 6.50
	44.5mm		
 2 Position toggle switches	4	MP-NPE28-04	\$ 6.50
	39mm		
 2 Position toggle switches	5	MP-NPE29-04	\$ 6.50
	44.5mm		
 3 Position toggle switches	5	MP-NPE28-05	\$ 6.50
	39mm		
 3 Position toggle switches	11 (line 1) 5 (line 2) 5 (line 3)	MP-NPE29-05	\$ 6.50
	44.5mm		



Fixed nameplates – aluminum or plastic ①

Type	Maximum letters per line	Catalog number	List price
 Pushbuttons or pilot lights	11	MP-NPE28-06	\$ 6.50
	39mm		
 Pushbuttons or pilot lights	11	MP-NPE29-06	\$ 6.50
	44.5mm		
 2 Position selector switches	5	MP-NPE28-07	\$ 6.50
	39mm		
 2 Position selector switches	11 (line 1) 5 (line 2) 5 (line 3)	MP-NPE29-07	\$ 6.50
	44.5mm		

General specifications

1. All characters are 1/8" high, upper & lower case. Please specify if all capital letters are desired.
2. The legend plate inserts and the fixed legend plates are silver-grey anodized aluminum.
3. All special engravings involve engraving the desired lettering into the metal surface and then treating the engraved surfaces with black ink.

Ordering custom engraved nameplates – USE ORDER FORM FROM FOLLOWING PAGES

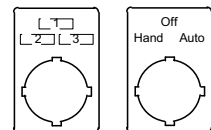
1. Select the desired legend plate.
2. Indicate the catalog number.
3. Write the desired words to be engraved on each line.

EXAMPLE:

MP-NPE28P-03

- 1: OFF
- 2: HAND
- 3: AUTO

"MP-NPE28P" is the blank legend plate catalog number. "B" indicates that the black side of the plate is to be engraved. "-03" refers to the layout of text (see dimension illustrations above).



① For drilling plans, see page 8.74.

Engraved legend plate form

Custom engraved nameplates

22mm

ENGRAVED LEGEND PLATE FORM

MP-NPE28

PAGE: ___ OF: ___

MP-NPE28-___ (BRUSHED ALUMNINUM)

ORDER NUMBER: _____

ORIG. DATE: _____

ORDER: QTY: _____

ISSUED BY: _____

SHIPPING METHOD: _____

ALL CAPITALS? YES NO

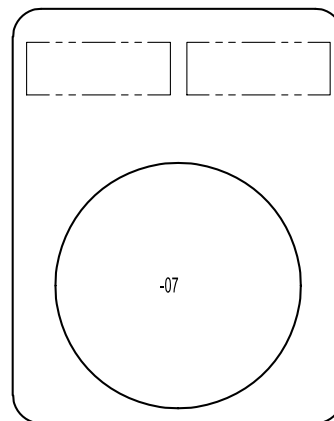
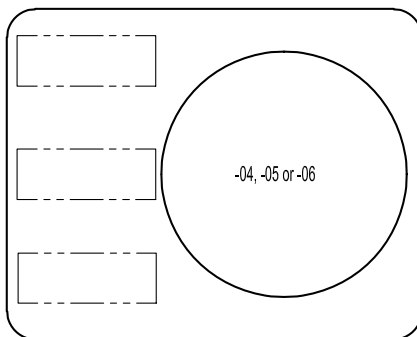
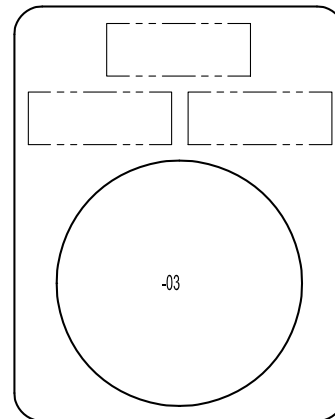
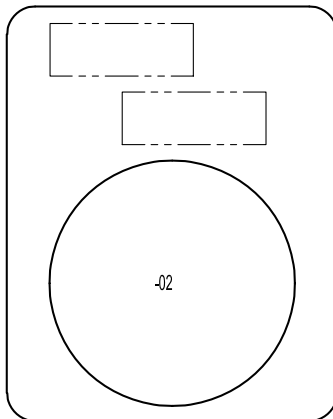
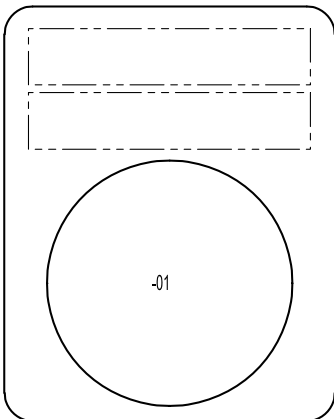
DUE DATE: ___ - ___ - ___

REMARKS: _____

ENGRAVER: _____

Q.C. INSPECTION: _____

PRINT INFORMATION TO BE ENGRAVED



MP-NPE28

5/26/04

Engraved legend plate form
Custom engraved nameplates
22mm

ENGRAVED LEGEND PLATE FORM

MP-NPE29

PAGE: ___ OF: ___

MP-NPE29- ___ (BRUSHED ALUMNINUM)

ORDER NUMBER: _____

ORIG. DATE: _____

ORDER: QTY: _____

ISSUED BY: _____

SHIPPING METHOD: _____

ALL CAPITALS? YES NO

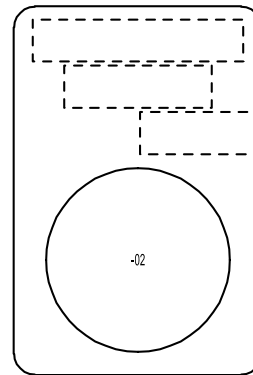
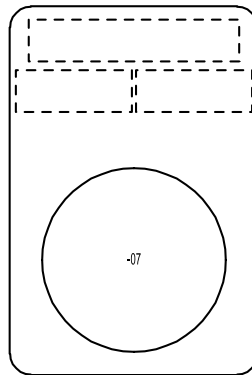
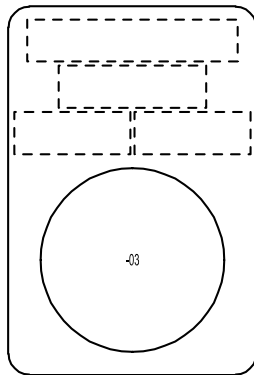
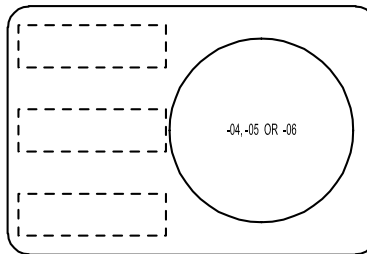
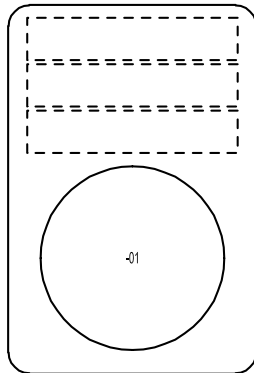
DUE DATE: ___ - ___ - ___

REMARKS: _____

ENGRAVER: _____

Q.C. INSPECTION: _____

PRINT INFORMATION TO BE ENGRAVED



MP-NPE29
6/10/04

Special legend plates for plastic enclosures 22mm

Legend plates for plastic enclosures

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

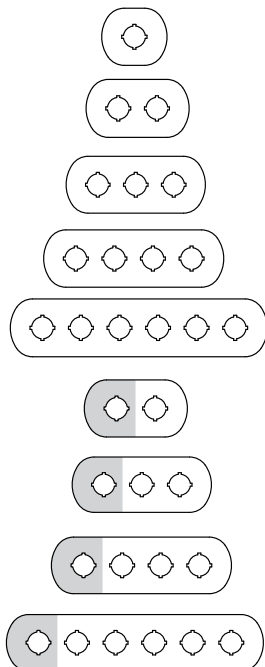
Description	Catalog No.	List Price
Of silvergrey aluminum on plastic.		
1-seat	1SFA 611 930 R1000	\$ 12
2-seat	1SFA 611 930 R1002	15
3-seat	1SFA 611 930 R1003	18
4-seat	1SFA 611 930 R1004	21
6-seat	1SFA 611 930 R1005	27
Of silvergrey aluminum on plastic. (Pos. 1 Yellow)		
2-seat	1SFA 611 930 R1006	20
3-seat	1SFA 611 930 R1007	23
4-seat	1SFA 611 930 R1008	26
6-seat	1SFA 611 930 R1009	32

Custom engraved legend plates for plastic enclosures

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


Fill in appropriate templates on the following pages when ordering

Description	Name Plate	Catalog No.	List Price
Custom engraved 1-seat	1SFA 611 930 R1000	CUSTOM 1 SEAT	\$ 24
Custom engraved 2-seat	1SFA 611 930 R1002	CUSTOM 2 SEAT	30
Custom engraved 3-seat	1SFA 611 930 R1003	CUSTOM 3 SEAT	36
Custom engraved 4-seat	1SFA 611 930 R1004	CUSTOM 4 SEAT	42
Custom engraved 6-seat	1SFA 611 930 R1005	CUSTOM 6 SEAT	54
Custom engraved 2-seat, position 1 yellow	1SFA 611 930 R1006	CUSTOM 2 SEAT Y	40
Custom engraved 3-seat, position 1 yellow	1SFA 611 930 R1007	CUSTOM 3 SEAT Y	46
Custom engraved 4-seat, position 1 yellow	1SFA 611 930 R1008	CUSTOM 4 SEAT Y	52
Custom engraved 6-seat, position 1 yellow	1SFA 611 930 R1009	CUSTOM 6 SEAT Y	64

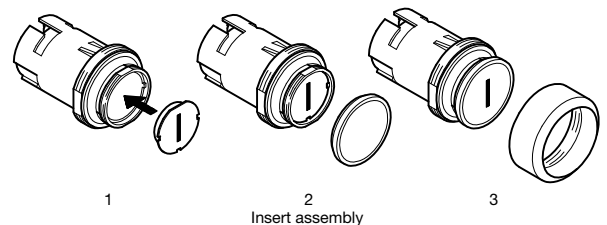
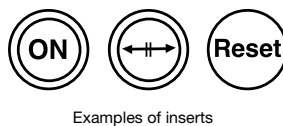
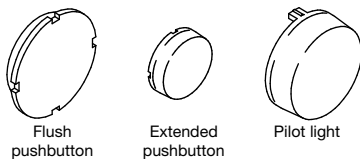


Text cap inserts 22mm

Pilot Devices
Legend plates

Legend	Cap color ①	Suffix code ②	Flush button catalog number	Extended button catalog number	Pilot light catalog number	List price
	White	C82	1SFA 616 901 R9036	—	—	\$.90
Start	White	C67	1SFA 616 901 R2030	1SFA 616 902 R2030	1SFA 616 903 R2030	
START	Green	C5	1SFA 616 906 R1042	—	—	
	Black	C81	1SFA 616 908 R1042	—	—	
On	White	C68	1SFA 616 901 R1020	1SFA 616 902 R1020	1SFA 616 903 R1020	
ON	White	C69	1SFA 616 901 R1039	—	1SFA 616 903 R1039	
	Green	C70	1SFA 616 906 R1039	—	—	
	Black	C1	1SFA 616 908 R1030	—	—	
Off	White	C71	1SFA 616 901 R1019	1SFA 616 902 R1019	1SFA 616 903 R1019	
OFF	White	C72	—	1SFA 616 902 R1040	—	
	Red	C73	—	1SFA 616 905 R1040	—	
	Black	C2	1SFA 616 908 R1040	1SFA 616 909 R1040	—	
Stop	White	C74	1SFA 616 901 R1031	1SFA 616 902 R1031	1SFA 616 903 R1031	
STOP	Red	C4	1SFA 616 904 R1047	1SFA 616 905 R1047	—	
Reset	White	C75	1SFA 616 901 R1025	1SFA 616 902 R1025	1SFA 616 903 R1025	
Blank	White	C15	1SFA 616 901 R9000	1SFA 616 902 R9000	1SFA 616 903 R9000	
	Green	CG	2949 1468-2	2949 1469-2	—	
UP	Green	C11	1SFA 616 906 R1043	—	—	
DOWN	Green	C12	1SFA 616 906 R1044	—	—	
OPEN	White	C16	1SFA 616 901 R1045	—	—	
	Green	C19	1SFA 616 906 R1045	—	—	
CLOSE	White	C17	1SFA 616 901 R1046	—	—	
	Green	C20	1SFA 616 906 R1046	—	—	
REV	Green	C6	1SFA 616 906 R1048	—	—	
FWD	Green	C7	1SFA 616 906 R1049	—	—	
SLOW	Green	C8	1SFA 616 906 R1050	—	—	
FAST	Green	C9	1SFA 616 906 R1051	—	—	
JOG	Green	C10	1SFA 616 906 R1052	—	—	
RESET	Black	C3	1SFA 616 908 R1041	—	—	
LATCH	White	C18	1SFA 616 901 R1053	—	—	

8



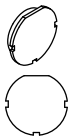
① Illuminated pushbuttons and pilot lights must use white insert.

② For extended pushbuttons, insert "E" at the end of the catalog number. For pilot lights, insert "P" at end of the catalog number.

Text cap inserts 22mm

Text caps for illuminated pushbuttons and pilot lights

Flush button

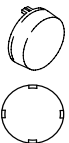


Extended button



Can be turned 90° or 180°

Pilot light



Text/Symbol ^①	Cap color ^②	Suffix	Flush button Catalog No.	Extended button Catalog No.	Pilot light Catalog No.	List Price
→	White	C14	1SFA 616 901 R9006	1SFA 616 902 R9006	1SFA 616 903 R9006	\$.90
O	White	C21	1SFA 616 901 R9004	1SFA 616 902 R9004	1SFA 616 903 R9004	
	Red	C22	1SFA 616 904 R9004	1SFA 616 905 R9004	-	
	Black	C23	1SFA 616 908 R9004	-	-	
I	White	C24	1SFA 616 901 R9002	1SFA 616 902 R9002	1SFA 616 903 R9002	
	Green	C25	1SFA 616 906 R9002	-	-	
	Black	C26	1SFA 616 908 R9002	-	-	
II	White	C27	1SFA 616 901 R9003	1SFA 616 902 R9003	1SFA 616 903 R9003	
	Green	C28	1SFA 616 906 R9003	-	-	
	Black	C29	1SFA 616 908 R9003	-	-	
III	White	C30	1SFA 616 901 R9028	1SFA 616 902 R9028	-	
	Black	C31	1SFA 616 908 R9028	-	-	
+	White	C32	1SFA 616 901 R9011	1SFA 616 902 R9011	-	
	Green	C33	1SFA 616 906 R9011	-	-	
	Black	C34	1SFA 616 908 R9011	-	-	
-	White	C35	1SFA 616 901 R9012	-	-	
	Red	C36	1SFA 616 904 R9012	-	-	
	Black	C37	1SFA 616 908 R9012	-	-	
↑	White	C38	1SFA 616 901 R9005	1SFA 616 902 R9005	1SFA 616 903 R9005	
	Black	C39	1SFA 616 908 R9005	-	-	
↗	White	C40	1SFA 616 901 R9014	1SFA 616 902 R9014	-	
	Black	C41	1SFA 616 908 R9014	-	-	
↔	White	C42	1SFA 616 901 R9015	1SFA 616 902 R9015	-	
	Black	C43	1SFA 616 908 R9015	-	-	
↔	White	C44	1SFA 616 901 R9016	1SFA 616 902 R9016	-	
	Black	C45	1SFA 616 908 R9016	-	-	
↘	White	C46	1SFA 616 901 R9017	1SFA 616 902 R9017	-	
	Black	C47	1SFA 616 908 R9017	-	-	
⊕	White	C47	1SFA 616 901 R9018	1SFA 616 902 R9018	-	
	Black	C48	1SFA 616 908 R9018	-	-	
●	White	C49	1SFA 616 901 R9019	1SFA 616 902 R9019	-	
	Black	C50	1SFA 616 908 R9019	-	-	
⊙	White	C51	1SFA 616 901 R9020	1SFA 616 902 R9020	-	
	Black	C52	1SFA 616 908 R9020	-	-	
☞	White	C53	1SFA 616 901 R9021	1SFA 616 902 R9021	-	
	Black	C54	1SFA 616 908 R9021	-	-	
☞	White	C55	1SFA 616 901 R9022	1SFA 616 902 R9022	-	
	Black	C56	1SFA 616 908 R9022	-	-	
⚡	White	C57	1SFA 616 901 R9023	1SFA 616 902 R9023	-	
	Black	C58	1SFA 616 908 R9023	-	-	
⚡	White	C59	1SFA 616 901 R9024	1SFA 616 902 R9024	-	
	Black	C60	1SFA 616 908 R9024	-	-	
⬆	White	C61	1SFA 616 901 R9025	1SFA 616 902 R9025	-	
	Black	C62	1SFA 616 908 R9025	-	-	
⬇	White	C63	1SFA 616 901 R9026	1SFA 616 902 R9026	-	
	Black	C64	1SFA 616 908 R9026	-	-	
⬇	White	C65	1SFA 616 901 R9027	1SFA 616 902 R9027	-	
	Black	C66	1SFA 616 908 R9027	-	-	

① Use only white caps for illuminated pushbutton and pilot lights.

② Add "E" for extended button or "P" for pilot light.

Engraved legend plate form
Custom engraved nameplates
1-Seat, vertical, 22mm

ENGRAVED LEGEND PLATE FORM

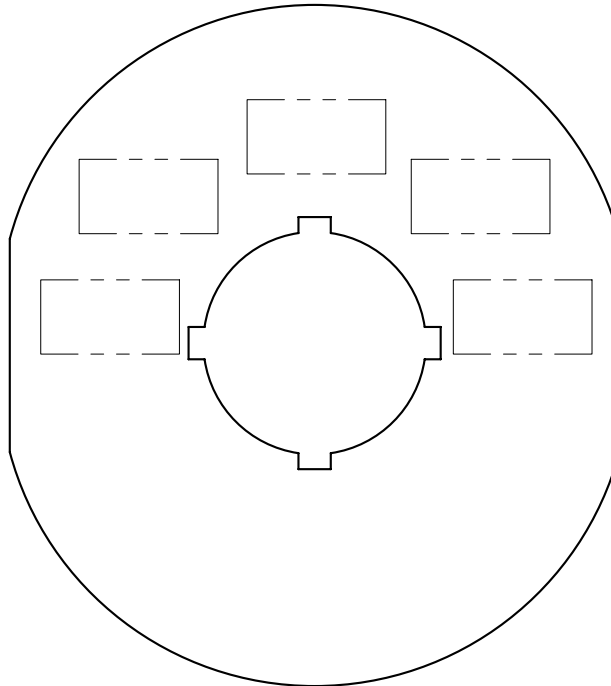
PAGE ____ of ____

CUSTOM 1 SEAT
(silver-grey brushed plastic)

ORDER NUMBER : _____ ORDER QTY: _____
SHIPPING METHOD _____ DUE DATE: ____ / ____ / ____
ALL CAPITALS? YES NO
ORDER DATE: _____ ISSUED BY _____
REMARKS: _____

To be completed by ABB personnel.
ENGRAVER _____ Q.C. INSPECTION: _____

PRINT INFORMATION TO BE ENGRAVED:



Engraved legend plate form

Custom engraved nameplates

1-Seat, horizontal, 22mm

ENGRAVED LEGEND PLATE FORM

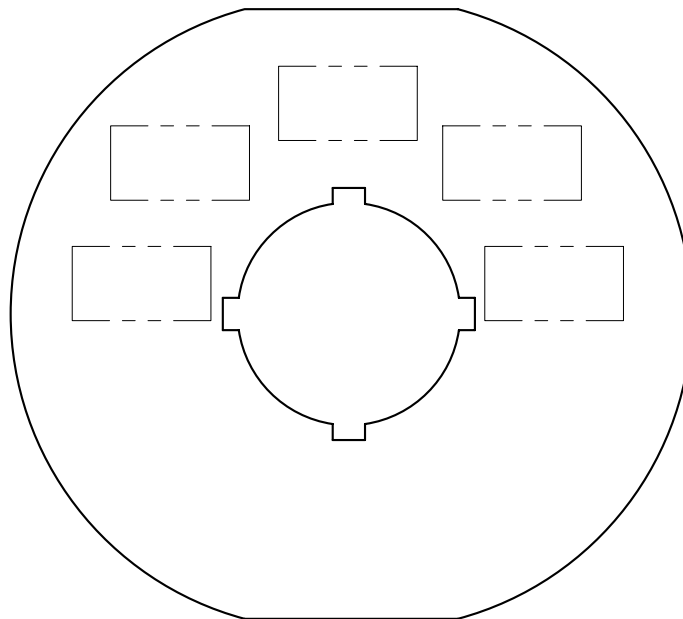
PAGE ____ of ____

CUSTOM 1 SEAT
(silver-grey brushed plastic)

ORDER NUMBER : _____ ORDER QTY: _____
SHIPPING METHOD _____ DUE DATE: ____ / ____ / ____
ALL CAPITALS? YES NO
ORDER DATE: _____ ISSUED BY _____
REMARKS: _____

To be completed by ABB personnel.
ENGRAVER _____ Q.C. INSPECTION : _____

PRINT INFORMATION TO BE ENGRAVED:



Engraved legend plate form
Custom engraved nameplates
2-Seat, vertical, 22mm

ENGRAVED LEGEND PLATE FORM

PAGE ____ of ____

CIRCLE ONE: **CUSTOM 2 SEAT**
 (silver-grey aluminum)

CUSTOM 2 SEAT Y
 (position 1 yellow)

ORDER NUMBER : _____

ORDER QTY: _____

SHIPPING METHOD _____

DUE DATE: ____ / ____ / ____

ALL CAPITALS? YES NO

ORDER DATE: _____

ISSUED BY _____

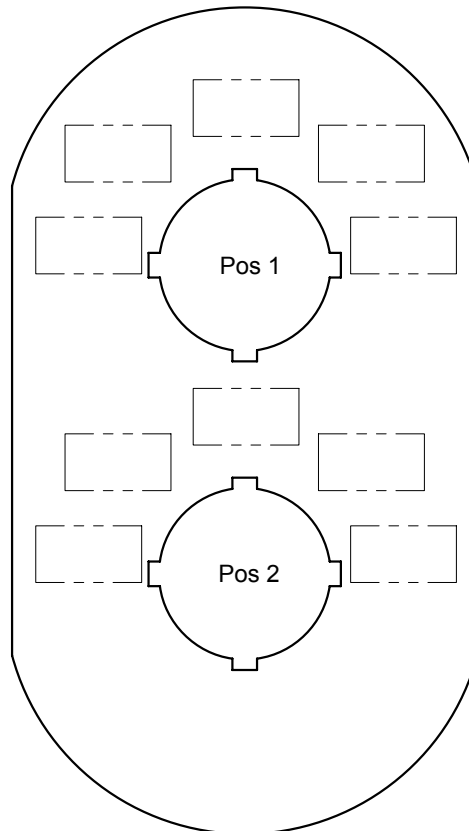
REMARKS : _____

To be completed by ABB personnel.

ENGRAVER _____

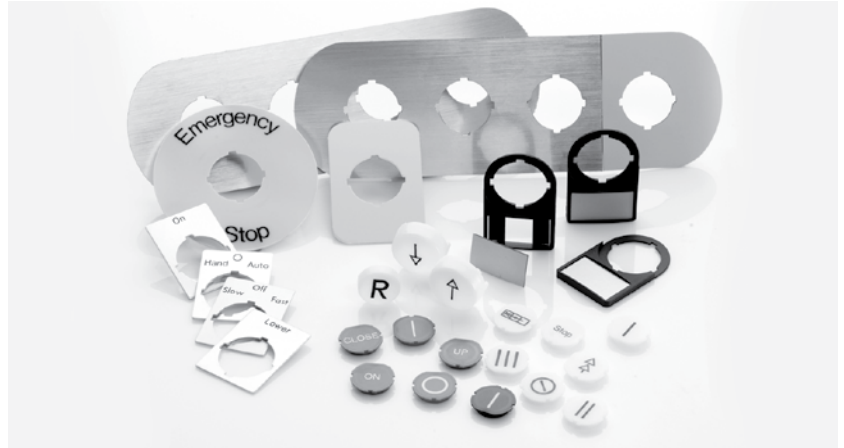
Q.C. INSPECTION: _____

PRINT INFORMATION TO BE ENGRAVED:





Legend plates 30mm



Custom legend plates

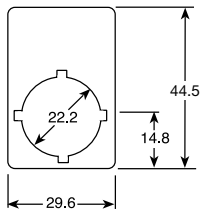
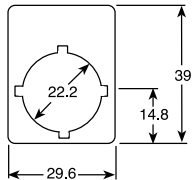
- Legend plate with customer selected text

Text caps

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

30mm Legend plates

Legend plates for pushbuttons 30mm



Blank fixed legend plates

Of silvergrey aluminum

Size	Catalog Number	List Price
50mm H	SK 615 640-1	\$ 1.80
56mm H	SK 615 641-1	

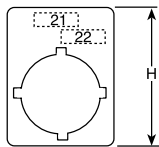
Engraved fixed legend plates, with text ①

Of silvergrey aluminum, 50mm H

Text	Catalog Number	List Price
English		
Close	SK 615 652-13	\$ 1.80
Down	SK 615 652-14	
Emergency stop	SK 615 652-15	
Fast	SK 615 652-16	
Forward	SK 615 652-17	
In	SK 615 652-29	
Inching	SK 615 652-18	
Left	SK 615 652-39	
Lower	SK 615 652-20	
Off	SK 615 652-21	
On	SK 615 652-22	
Open	SK 615 652-23	
Out	SK 615 652-24	
Raise	SK 615 652-25	
Reset	SK 615 652-27	
Reverse	SK 615 652-28	
Right	SK 615 652-40	
Run	SK 615 652-29	
Slow	SK 615 652-30	
Start	SK 615 652-44	
Stop	SK 615 652-31	
Up	SK 615 652-32	

① Text height 3 mm.

Legend plates for 2 position selector switches 30mm



Engraved fixed legend plates, with text ①

Of silvergrey aluminum, 50mm H

Symbol/Text

Pos. 21 Pos. 22

Catalog Number

List Price

English

Hand Auto

SK 615 652-71

Jog Run

SK 615 652-52

Off On

SK 615 652-53

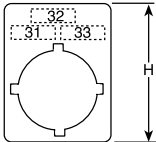
\$ 1.80

Stop Start

SK 615 652-55

① Text height 3 mm. Only the initial character is upper case unless other is stated.

Legend plates for 3 position selector switches 30mm



Engraved fixed legend plates, with text ①

Of silvergrey aluminum, 50mm H

Symbol/Text

Pos 31 Pos. 32 Pos. 33

Catalog Number

List Price

English

Hand O Auto

Slow Off Fast

SK 615 652-80

SK 615 652-60

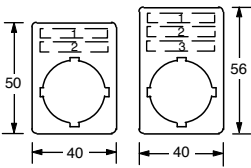
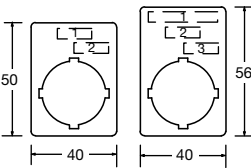
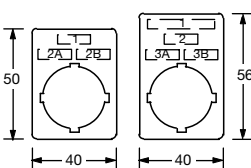
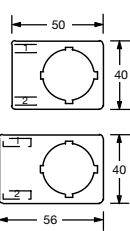
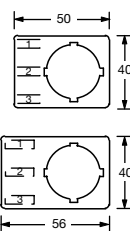
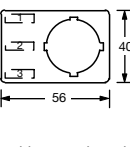
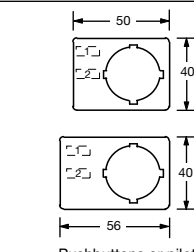
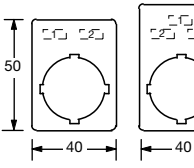
\$ 1.80

① Text height 3 mm. Only the initial character is upper case unless other is stated.

Custom engraved legend plates

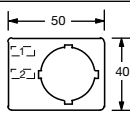
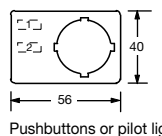
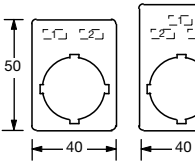
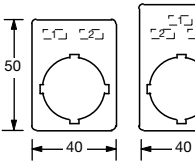
30mm

Fixed nameplates – aluminum

Type	Maximum letters per line	Catalog number	List price
 <p>Pushbuttons or pilot lights</p>	11	G1MP-NPE28-01	\$ 6.50
	50mm	G1MP-NPE29-01	
 <p>2 Position selector switches</p>	5	G1MP-NPE28-02	\$ 6.50
	11 (line 1) 5 (line 2) 5 (line 3) 56mm	G1MP-NPE29-02	
 <p>3 Position selector switches</p>	5	G1MP-NPE28-03	\$ 6.50
	11 (line 1) 5 (line 2) 5 (line 3A) 5 (line 3B) 56mm	G1MP-NPE29-03	
 <p>2 Position toggle switches</p>	4	G1MP-NPE28-04	\$ 6.50
	50mm	G1MP-NPE29-04	
 <p>3 Position toggle switches</p>	5	G1MP-NPE28-05	\$ 6.50
	50mm	G1MP-NPE29-05	
 <p>3 Position toggle switches</p>	5	G1MP-NPE28-06	\$ 6.50
	56mm	G1MP-NPE29-06	
 <p>2 Position selector switches</p>	5	G1MP-NPE28-07	\$ 6.50
	50mm	G1MP-NPE29-07	
 <p>2 Position selector switches</p>	11 (line 1) 5 (line 2) 5 (line 3) 56mm	G1MP-NPE29-07	\$ 6.50
	56mm		



Fixed nameplates – aluminum

Type	Maximum letters per line	Catalog number	List price
 <p>Pushbuttons or pilot lights</p>	11	G1MP-NPE28-06	\$ 6.50
	50mm	G1MP-NPE29-06	
 <p>2 Position selector switches</p>	11	G1MP-NPE29-06	\$ 6.50
	56mm		
 <p>2 Position selector switches</p>	5	G1MP-NPE28-07	\$ 6.50
	50mm	G1MP-NPE29-07	
 <p>2 Position selector switches</p>	11 (line 1) 5 (line 2) 5 (line 3) 56mm	G1MP-NPE29-07	\$ 6.50
	56mm		

General specifications

1. All characters are 1/8" high, upper & lower case. Please specify if all capital letters are desired.
2. The legend plate inserts and the fixed legend plates are silver-grey anodized aluminum.
3. All special engravings involve engraving the desired lettering into the metal surface and then treating the engraved surfaces with black ink.

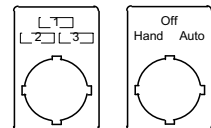
Ordering custom engraved nameplates

1. Select the desired legend plate.
2. Use following pages to order.
3. Indicate the catalog number.
4. Write the desired words to be engraved on each line.

EXAMPLE:

G1MP-NPE28P-03

- 1: OFF
- 2: HAND
- 3: AUTO



Engraved legend plate form

Custom engraved legend plates
30mm

ENGRAVED LEGEND PLATE FORM

G1MP-NPE28

PAGE: ___ OF: ___

G1MP-NPE28-___ (BRUSHED ALUMNINUM)

ORDER NUMBER: _____

ORIG. DATE: _____

ORDER: QTY: _____

ISSUED BY: _____

SHIPPING METHOD: _____

ALL CAPITALS? YES NO

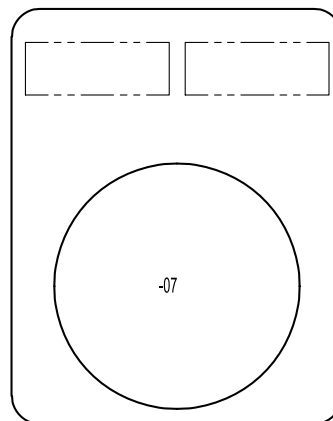
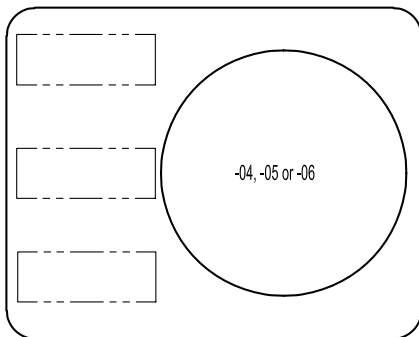
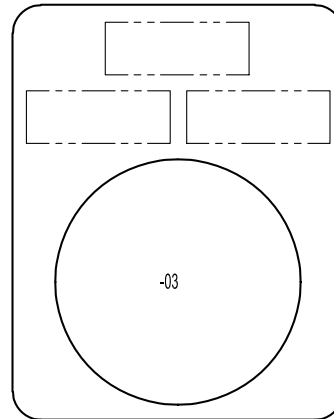
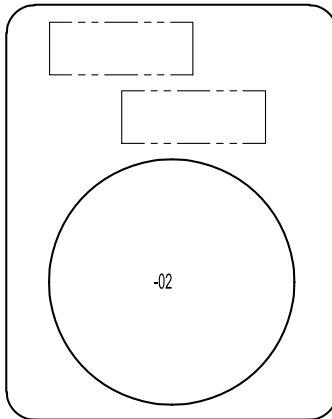
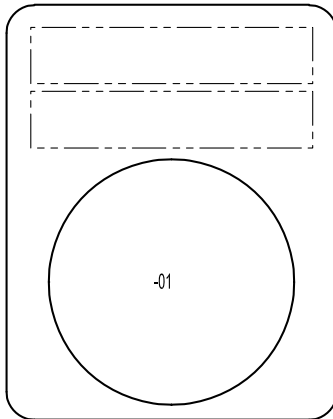
DUE DATE: ___ - ___ - ___

REMARKS: _____

ENGRAVER: _____

Q.C. INSPECTION: _____

PRINT INFORMATION TO BE ENGRAVED



G1MP-NPE28
6/10/04

Engraved legend plate form
Custom engraved legend plates
30mm

ENGRAVED LEGEND PLATE FORM
G1MP-NPE29

G1MP-NPE29-____ (BRUSHED ALUMINUM) PAGE: ____ OF: ____
ORIG. DATE: _____ ORDER NUMBER: _____
ISSUED BY: _____ ORDER: QTY: ____
ALL CAPITALS? YES NO SHIPPING METHOD: _____
REMARKS: _____ DUE DATE: ____ - ____ - ____
 ENGRAVER: _____
 Q.C. INSPECTION: _____

PRINT INFORMATION TO BE ENGRAVED

-01

-02

-03

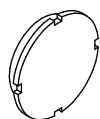
-04, -05 or -06

-07

G1MP-NPE29
6/10/04

Text cap inserts 30mm

Legend	Cap color ①	Suffix code ②	Flush button catalog number	Extended button catalog number	Pilot light catalog number	List price
	White	C82	1SFA 616 901 R9036	—	—	\$.90
Start	White	C67	1SFA 616 901 R2030	1SFA 616 902 R2030	1SFA 616 903 R2030	
START	Green	C5	1SFA 616 906 R1042	—	—	
	Black	C81	1SFA 616 908 R1042	—	—	
On	White	C68	1SFA 616 901 R1020	1SFA 616 902 R1020	1SFA 616 903 R1020	
ON	White	C69	1SFA 616 901 R1039	—	1SFA 616 903 R1039	
	Green	C70	1SFA 616 906 R1039	—	—	
	Black	C1	1SFA 616 908 R1030	—	—	
Off	White	C71	1SFA 616 901 R1019	1SFA 616 902 R1019	1SFA 616 903 R1019	
OFF	White	C72	—	1SFA 616 902 R1040	—	
	Red	C73	—	1SFA 616 905 R1040	—	
	Black	C2	1SFA 616 908 R1040	1SFA 616 909 R1040	—	
Stop	White	C74	1SFA 616 901 R1031	1SFA 616 902 R1031	1SFA 616 903 R1031	
STOP	Red	C4	1SFA 616 904 R1047	1SFA 616 905 R1047	—	
Reset	White	C75	1SFA 616 901 R1025	1SFA 616 902 R1025	1SFA 616 903 R1025	
Blank	White	C15	1SFA 616 901 R9000	1SFA 616 902 R9000	1SFA 616 903 R9000	
	Green	CG	2949 1468-2	2949 1469-2	—	
UP	Green	C11	1SFA 616 906 R1043	—	—	
DOWN	Green	C12	1SFA 616 906 R1044	—	—	
OPEN	White	C16	1SFA 616 901 R1045	—	—	
	Green	C19	1SFA 616 906 R1045	—	—	
CLOSE	White	C17	1SFA 616 901 R1046	—	—	
	Green	C20	1SFA 616 906 R1046	—	—	
REV	Green	C6	1SFA 616 906 R1048	—	—	
FWD	Green	C7	1SFA 616 906 R1049	—	—	
SLOW	Green	C8	1SFA 616 906 R1050	—	—	
FAST	Green	C9	1SFA 616 906 R1051	—	—	
JOG	Green	C10	1SFA 616 906 R1052	—	—	
RESET	Black	C3	1SFA 616 908 R1041	—	—	
LATCH	White	C18	1SFA 616 901 R1053	—	—	



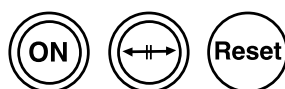
Flush
pushbutton



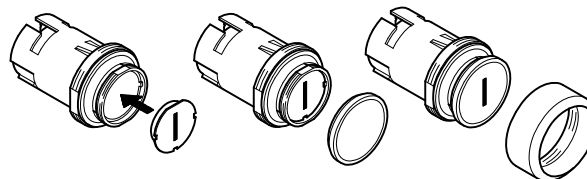
Extended
pushbutton



Pilot light



Examples of inserts



1

2

3

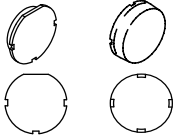
Insert assembly

① Illuminated pushbuttons and pilot lights must use white insert.
② Add suffix code to end of the catalog number.

Text cap inserts 30mm

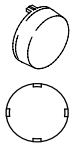
Pilot Devices
Legend plates

Flush button Extended button



Can be turned 90° or 180°

Pilot light



Text caps for illuminated pushbuttons and pilot lights

Text/Symbol ^①	Cap color	Suffix ^②	Flush button Catalog No.	Extended button Catalog No.	Pilot light Catalog No.	List Price
→	White	C14	1SFA 616 901 R9006	1SFA 616 902 R9006	1SFA 616 903 R9006	
O	White	C21	1SFA 616 901 R9004	1SFA 616 902 R9004	1SFA 616 903 R9004	
	Red	C22	1SFA 616 904 R9004	1SFA 616 905 R9004	-	
	Black	C23	1SFA 616 908 R9004	-	-	
I	White	C24	1SFA 616 901 R9002	1SFA 616 902 R9002	1SFA 616 903 R9002	
	Green	C25	1SFA 616 906 R9002	-	-	
	Black	C26	1SFA 616 908 R9002	-	-	
II	White	C27	1SFA 616 901 R9003	1SFA 616 902 R9003	1SFA 616 903 R9003	
	Green	C28	1SFA 616 906 R9003	-	-	
	Black	C29	1SFA 616 908 R9003	-	-	
III	White	C30	1SFA 616 901 R9028	1SFA 616 902 R9028	-	
	Black	C31	1SFA 616 908 R9028	-	-	
+	White	C32	1SFA 616 901 R9011	1SFA 616 902 R9011	-	
	Green	C33	1SFA 616 906 R9011	-	-	
	Black	C34	1SFA 616 908 R9011	-	-	
-	White	C35	1SFA 616 901 R9012	-	-	
	Red	C36	1SFA 616 904 R9012	-	-	
	Black	C37	1SFA 616 908 R9012	-	-	
↑	White	C38	1SFA 616 901 R9005	1SFA 616 902 R9005	1SFA 616 903 R9005	
	Black	C39	1SFA 616 908 R9005	-	-	
↗	White	C40	1SFA 616 901 R9014	1SFA 616 902 R9014	-	
	Black	C41	1SFA 616 908 R9014	-	-	
↔	White	C42	1SFA 616 901 R9015	1SFA 616 902 R9015	-	
	Black	C43	1SFA 616 908 R9015	-	-	
↔	White	C44	1SFA 616 901 R9016	1SFA 616 902 R9016	-	\$.90
	Black	C45	1SFA 616 908 R9016	-	-	
→	White	C46	1SFA 616 901 R9017	1SFA 616 902 R9017	-	
	Black	C47	1SFA 616 908 R9017	-	-	
⊕	White	C47	1SFA 616 901 R9018	1SFA 616 902 R9018	-	
	Black	C48	1SFA 616 908 R9018	-	-	
●	White	C49	1SFA 616 901 R9019	1SFA 616 902 R9019	-	
	Black	C50	1SFA 616 908 R9019	-	-	
⊙	White	C51	1SFA 616 901 R9020	1SFA 616 902 R9020	-	
	Black	C52	1SFA 616 908 R9020	-	-	
☞	White	C53	1SFA 616 901 R9021	1SFA 616 902 R9021	-	
	Black	C54	1SFA 616 908 R9021	-	-	
⚡	White	C55	1SFA 616 901 R9022	1SFA 616 902 R9022	-	
	Black	C56	1SFA 616 908 R9022	-	-	
⚡	White	C57	1SFA 616 901 R9023	1SFA 616 902 R9023	-	
	Black	C58	1SFA 616 908 R9023	-	-	
⚡	White	C59	1SFA 616 901 R9024	1SFA 616 902 R9024	-	
	Black	C60	1SFA 616 908 R9024	-	-	
⚡	White	C61	1SFA 616 901 R9025	1SFA 616 902 R9025	-	
	Black	C62	1SFA 616 908 R9025	-	-	
⚡	White	C63	1SFA 616 901 R9026	1SFA 616 902 R9026	-	
	Black	C64	1SFA 616 908 R9026	-	-	
⚡	White	C65	1SFA 616 901 R9027	1SFA 616 902 R9027	-	
	Black	C66	1SFA 616 908 R9027	-	-	

① Use only white caps for illuminated pushbutton and pilot lights.
② Add suffix code to end of the catalog number.

Signal Towers & beacons



Signal towers K70 Signal beacons KSB



8

Signal towers K70 and Signal beacons KSB offer a wide range of signal elements in all voltages and a solution for every signalling field.

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
- Large variety of different versions
 - Permanent light, 12-240V, AC/DC
 - Blinking light, 24-230V
 - Flashing light, 24-230V
 - Audible 85db continuous or pulsating
 - LED, 24V

Signal beacons KSB

- Large variety of different versions:
 - Permanent light, max. 250V
 - Blinking light, 24V, AC/DC
 - Flashing light, 24-230VAC
 - LED light, 24V, AC/DC
- IP65 for outdoor use
- Available in 5 colors
- High impact polycarbonate

Signal towers K70 Description

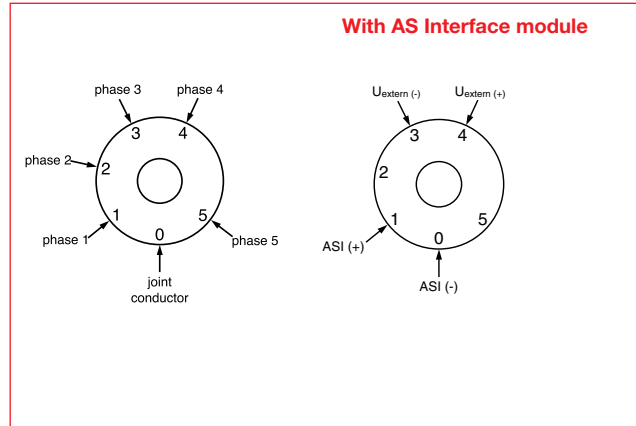
Simple fitting with quick fix system

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).

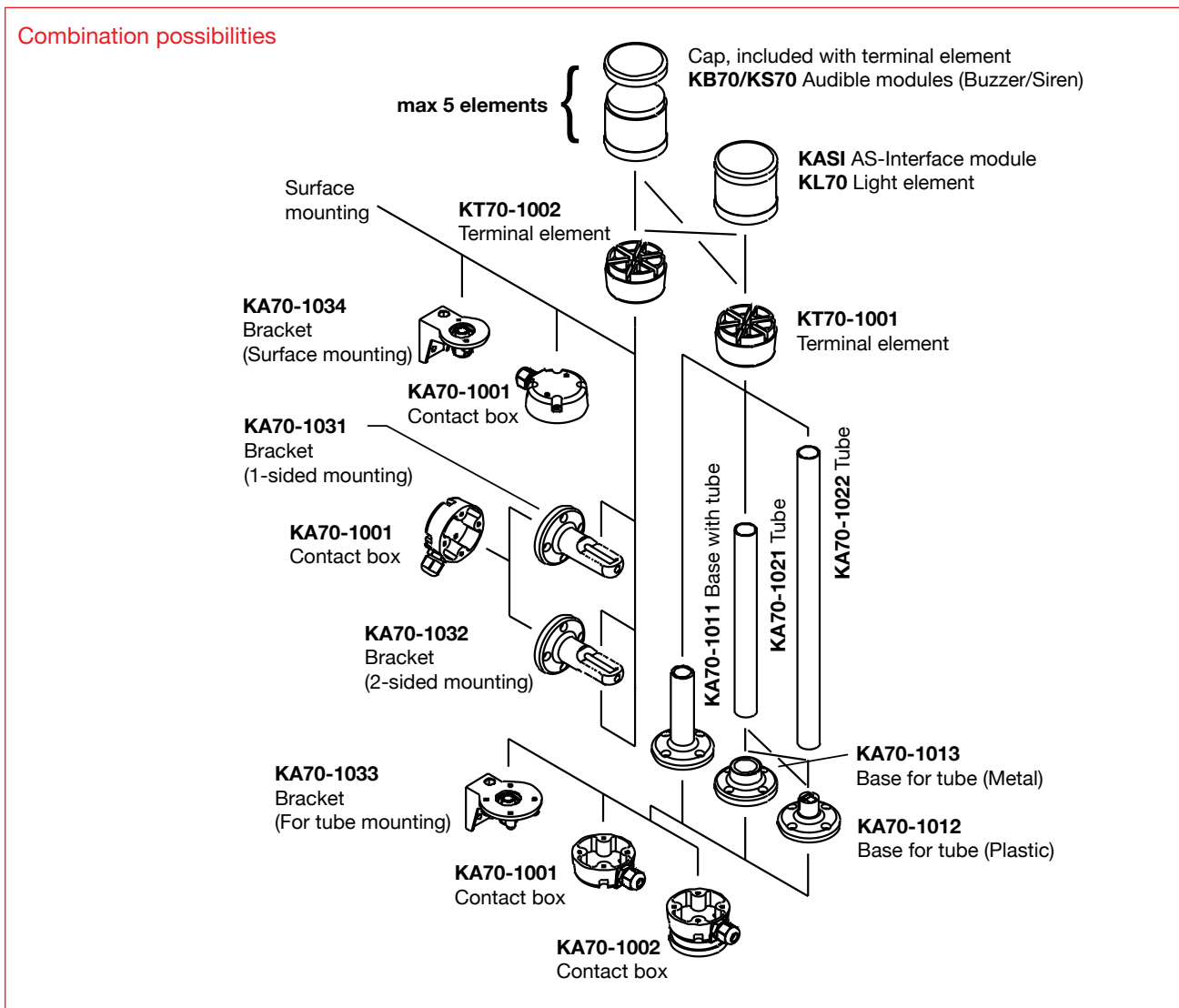


8

Connection plans



Combination possibilities



Signal towers K70

Pilot Devices
Stacklights &
signal beacons



Optical modules

Description	Catalog No.	Ref. Code	List Price
Light element			
Permanent light , 12-240 V AC/DC. For bulb BA15d. Bulb not included.			
Red	KL70-401R	1SFA 616 070 R4011	\$ 36.00
Green	KL70-401G	1SFA 616 070 R4012	
Yellow	KL70-401Y	1SFA 616 070 R4013	
Blue	KL70-401L	1SFA 616 070 R4014	
Clear	KL70-401C	1SFA 616 070 R4018	
Blinking light , 24 V AC/DC. For bulb BA15d. Bulb not included.			
Red	KL70-302R	1SFA 616 070 R3021	100.00
Green	KL70-302G	1SFA 616 070 R3022	
Yellow	KL70-302Y	1SFA 616 070 R3023	
Blue	KL70-302L	1SFA 616 070 R3024	
Clear	KL70-302C	1SFA 616 070 R3028	
Flashing light , 24 V DC. Xenon tube included. Not changeable.			
Red	KL70-203R	1SFA 616 070 R2031	165.00
Green	KL70-203G	1SFA 616 070 R2032	
Yellow	KL70-203Y	1SFA 616 070 R2033	
Blue	KL70-203L	1SFA 616 070 R2034	
Clear	KL70-203C	1SFA 616 070 R2038	
Blinking light , 115 V AC/DC. For bulb BA15d. Bulb not included.			
Red	KL70-312R	1SFA 616 070 R3121	100.00
Green	KL70-312G	1SFA 616 070 R3122	
Yellow	KL70-312Y	1SFA 616 070 R3123	
Blue	KL70-312L	1SFA 616 070 R3124	
Clear	KL70-312C	1SFA 616 070 R3128	
Flashing light , 115 V AC. Xenon tube included. Not changeable.			
Red	KL70-113R	1SFA 616 070 R1131	155.00
Green	KL70-113G	1SFA 616 070 R1132	
Yellow	KL70-113Y	1SFA 616 070 R1133	
Blue	KL70-113L	1SFA 616 070 R1134	
Clear	KL70-113C	1SFA 616 070 R1138	
Blinking light , 230 V AC/DC. For bulb BA15d. Bulb not included.			
Red	KL70-322R	1SFA 616 070 R3221	100.00
Green	KL70-322G	1SFA 616 070 R3222	
Yellow	KL70-322Y	1SFA 616 070 R3223	
Blue	KL70-322L	1SFA 616 070 R3224	
Clear	KL70-322C	1SFA 616 070 R3228	
Flashing light , 230 V AC. Xenon tube included. Not changeable.			
Red	KL70-123R	1SFA 616 070 R1231	155.00
Green	KL70-123G	1SFA 616 070 R1232	
Yellow	KL70-123Y	1SFA 616 070 R1233	
Blue	KL70-123L	1SFA 616 070 R1234	
Clear	KL70-123C	1SFA 616 070 R1238	
LED Permanent light , 24 V AC/DC. LED included. Not changeable.			
Red	KL70-305R	1SFA 616 070 R3051	135.00
Green	KL70-305G	1SFA 616 070 R3052	
Yellow	KL70-305Y	1SFA 616 070 R3053	
Blue	KL70-305L	1SFA 616 070 R3054	
White	KL70-305C	1SFA 616 070 R3058	
LED Blinking light , 24 V AC/DC. LED included. Not changeable.			
Red	KL70-306R	1SFA 616 070 R3061	140.00
Green	KL70-306G	1SFA 616 070 R3062	
Yellow	KL70-306Y	1SFA 616 070 R3063	
Blue	KL70-305L	1SFA 616 070 R3064	
White	KL70-305C	1SFA 616 070 R3068	
LED Rotating light , 24 V AC/DC. LED included. Not changeable.			
Red	KL70-307R	1SFA 616 070 R3071	140.00
Green	KL70-307G	1SFA 616 070 R3072	
Yellow	KL70-307Y	1SFA 616 070 R3073	
Blue	KL70-305L	1SFA 616 070 R3074	
White	KL70-305C	1SFA 616 070 R3078	

Signal towers K70 Accessories

Description	Catalog No.	Ref. Code	List Price
Bulbs Bulb Ba 15d, 42 mm, Max 7 W For permanent or blinking light.			
24 V, 5 W, AC/DC	KLB24	1SFA 616 923 R1028	\$ 8.00
115 V, 5 W, AC/DC	KLB1	1SFA 616 923 R1118	
230 V, 5 W, AC/DC	KLB2	1SFA 616 923 R1148	
LED bulbs Ba 15d. For 24 V AC/DC, 40 mA			
Red	KA4-1021	1SFA 616 924 R1021	175.00
Green	KA4-1022	1SFA 616 924 R1022	
Yellow	KA4-1023	1SFA 616 924 R1023	
Blue	KA4-1024	1SFA 616 924 R1024	
White	KA4-1025	1SFA 616 924 R1025	
Audible modules			
Buzzer element			
85 dB, continuous or pulsating tone, adjustable, 8mA			
24 V AC/DC	KB70-3001	1SFA 616 071 R3001	95.00
115 V AC/DC	KB70-3101	1SFA 616 071 R3101	115.00
230 V AC	KB70-1201	1SFA 616 071 R1201	115.00
Siren element			
Multi function, 8 diff. tones adjustable, volume adjustable 100 dB, 115 VAC, 40 mA			
	KS70-1104	1SFA 616 073 R1104	155.00
Multi function, 8 diff. tones adjustable, 40 mA volume adjustable 100 dB, 230 VAC, 40 mA			
	KS70-1204	1SFA 616 073 R1204	155.00
Multi function, 7 diff. tones adjustable, volume adjustable, remote control 100 dB, 24 VDC, 100 mA			
	KS70-2004	1SFA 616 073 R2004	145.00
Multi function, 8 diff. tones adjustable, volume adjustable, 100 dB, 24 VAC/DC, 80 mA			
	KS70-3004	1SFA 616 073 R3004	145.00
Continuous tone alternating 108 dB, 24 VDC, 100 mA			
	KS70-2002	1SFA 616 073 R2002	100.00
AS-Interface module			
18,5-31,6 VAC/DC for external voltage	KASI-4101	1SFA 616 079 R4101	300.00
18,5-31,6 VAC/DC	KASI-4102	1SFA 616 079 R4102	300.00
Terminal elements			
For tube mounting, including cap	KT70-1001	1SFA 616 075 R1001	40.00
For bracket or base, including cap	KT70-1002	1SFA 616 075 R1002	40.00
Special parts			
Contact box			
Cable exit at side	KA70-1001	1SFA 616 077 R1001	23.00
Magnetic base	KA70-1002	1SFA 616 077 R1002	65.00
Base with tube			
D=25 mm L=110 mm	KA70-1011	1SFA 616 077 R1011	33.00
Base for tube			
D=25 mm, Plastic	KA70-1012	1SFA 616 077 R1012	15.00
D=25 mm, Metal	KA70-1013	1SFA 616 077 R1013	32.00
Tube, anodized aluminum			
D=25 mm L=250 mm	KA70-1021	1SFA 616 077 R1021	20.00
D=25 mm L=400 mm	KA70-1022	1SFA 616 077 R1022	27.00
Bracket			
1-sided mounting	KA70-1031	1SFA 616 077 R1031	20.00
2-sided mounting	KA70-1032	1SFA 616 077 R1032	20.00
For tube mounting	KA70-1033	1SFA 616 077 R1033	20.00
For surface mounting	KA70-1034	1SFA 616 077 R1034	20.00



KA70-1001



KA70-1002



KA70-1012



KA70-1013

KA70-1021



KA70-1011



KA70-1032



KA70-1033

Signal Beacons KSB

Pilot Devices
Stacklights &
signal beacons

Signal Beacons KSB



Description	Catalog No.	Ref. Code	List Price
Permanent light , 12-240 V AC/DC. For bulb BA15d. Bulb not included.			
Red	KSB-401R	1SFA 616 080 R4011	\$ 55.00
Green	KSB-401G	1SFA 616 080 R4012	
Yellow	KSB-401Y	1SFA 616 080 R4013	
Blue	KSB-401L	1SFA 616 080 R4014	
Clear	KSB-401C	1SFA 616 080 R4018	
Flashing light , 24 V DC. Xenon tube included. Not changeable.			
Red	KSB-203R	1SFA 616 080 R2031	180.00
Green	KSB-203G	1SFA 616 080 R2032	
Yellow	KSB-203Y	1SFA 616 080 R2033	
Blue	KSB-203L	1SFA 616 080 R2034	
Clear	KSB-203C	1SFA 616 080 R2038	
Flashing light , 115 V AC. Xenon tube included. Not changeable.			
Red	KSB-113R	1SFA 616 080 R1131	155.00
Green	KSB-113G	1SFA 616 080 R1132	
Yellow	KSB-113Y	1SFA 616 080 R1133	
Blue	KSB-113L	1SFA 616 080 R1134	
Clear	KSB-113C	1SFA 616 080 R1138	
Flashing light , 230 V AC. Xenon tube included. Not changeable.			
Red	KSB-123R	1SFA 616 080 R1231	155.00
Green	KSB-123G	1SFA 616 080 R1232	
Yellow	KSB-123Y	1SFA 616 080 R1233	
Blue	KSB-123L	1SFA 616 080 R1234	
Clear	KSB-123C	1SFA 616 080 R1238	
LED Permanent light , 24 V AC/DC. LED included. Not changeable.			
Red	KSB-305R	1SFA 616 080 R3051	190.00
Green	KSB-305G	1SFA 616 080 R3052	
Yellow	KSB-305Y	1SFA 616 080 R3053	
LED Blinking light , 24 V AC/DC. LED included. Not changeable.			
Red	KSB-306R	1SFA 616 080 R3061	195.00
Green	KSB-306G	1SFA 616 080 R3062	
Yellow	KSB-306Y	1SFA 616 080 R3063	
LED Rotating light , 24 V AC/DC. LED included. Not changeable.			
Red	KSB-307R	1SFA 616 080 R3071	195.00
Green	KSB-307G	1SFA 616 080 R3072	
Yellow	KSB-307Y	1SFA 616 080 R3073	
Special parts			
Anti-twist device	KASB-100	1SFA 616 087 R1000	8.00
Bulbs for Signal Beacons Max 10 W. For permanent light, 2,000 hour life.			
Bulb Ba15d, 52 mm:			8.00
12 V, 7 W, AC/DC	1SFA 616 922 R1018	1SFA 616 922 R1018	
24 V, 7 W, AC/DC	1SFA 616 922 R1028	1SFA 616 922 R1028	
115 V, 7 W, AC/DC	1SFA 616 922 R1118	1SFA 616 922 R1118	
220-260 V, 7-10 W, AC/DC	1SFA 616 922 R1148	1SFA 616 922 R1148	



Technical data

Signal Towers K70

Signal Beacons KSB

Signal Towers K70

Approvals



Technical specifications

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

Degrees of protection

Light elements	IP 54 UL Type 5
Audible elements	IP 54 UL Type 5

Electrical data

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

Signal Beacons KSB

Approvals



Technical specifications

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

Degrees of protection

IP 65 UL Type 5

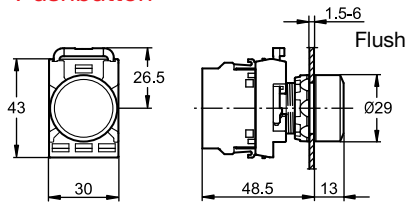
Electrical data

Permanent light element			
Operating voltage	max. 250 V		
Bulb socket B 15 d, max 10 W	Bulb not included		
LED version:			
Permanent light	24 V, AC/DC		
Current consumption	45 mA		
Blinking light element	24 V, AC/DC		
Current consumption	25 mA		
Rotating light element	24 V, AC/DC		
Current consumption	70 mA		
Starting current	< 0.5 A		
Flashing light element			
Operating voltage	<u>24 V</u>	<u>115 V</u>	<u>230 V</u>
	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 ⁶ flashes		
Current consumption	125 mA	20 mA	35 mA
Starting current	< 0.5 A	< 0.5 A	< 0.25 A
Temperature			
Ambient temperature during operations	-20 to +50 °C		

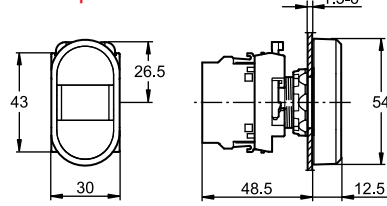
Approximate dimensions Modular range

All dimensions in MM

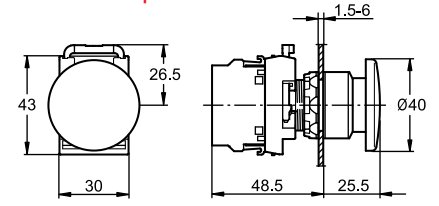
Pushbutton



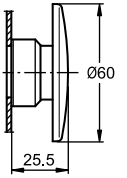
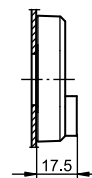
Double pushbutton



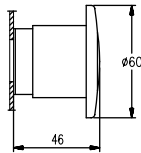
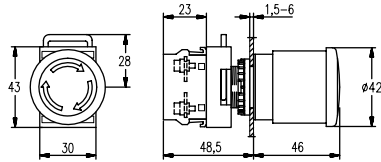
Mushroom pushbutton



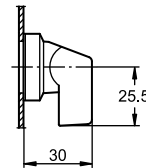
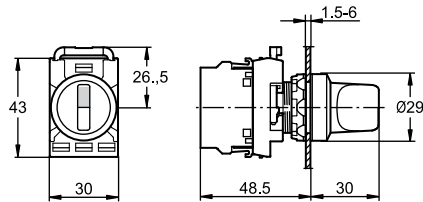
Extended



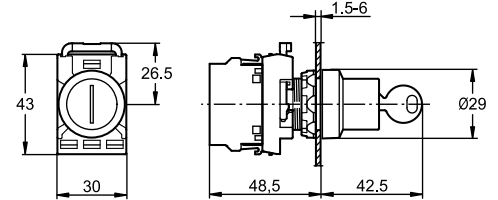
Emergency stop pushbutton



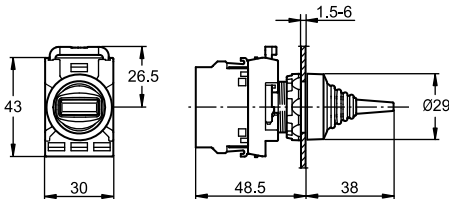
Selector switch



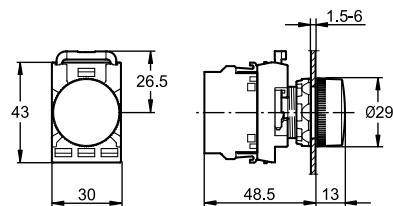
Key-operated selector switch



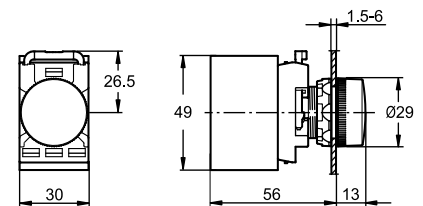
Toggle switch



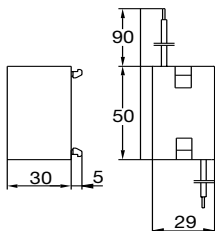
Pilot light



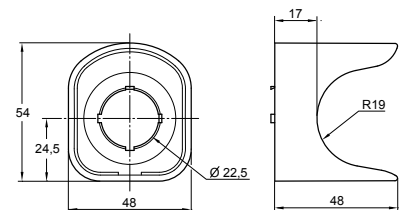
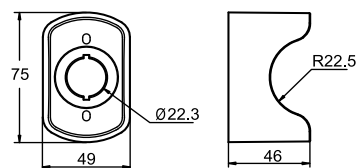
Pilot light with transformer



Transformer block



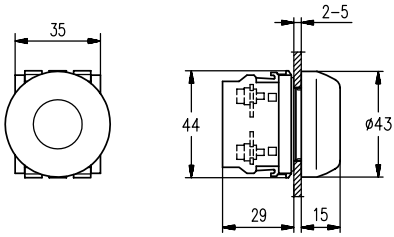
Emergency stop shroud



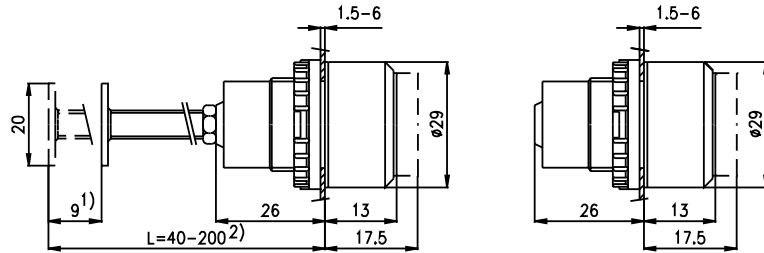
Approximate dimensions and drilling plans Modular range

All dimensions in MM

Definite purpose pushbutton

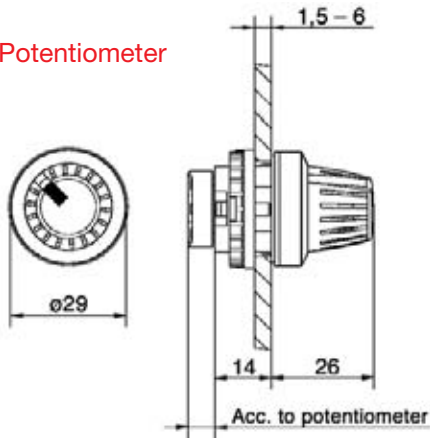


Reset pushbutton

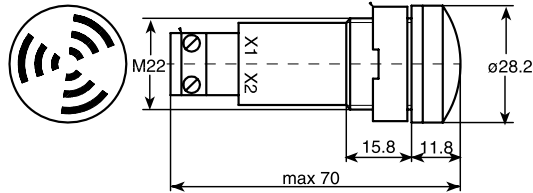


- 1) Length of stroke.
- 2) Can be cut to desired length.

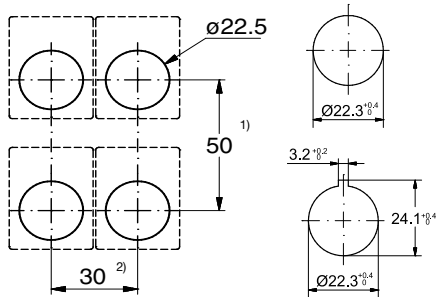
Potentiometer



Buzzer

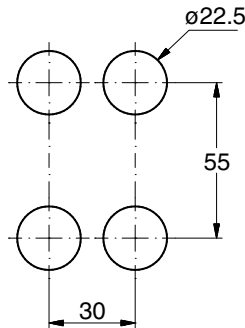


Drilling plans for pushbuttons, switches and pilot lights

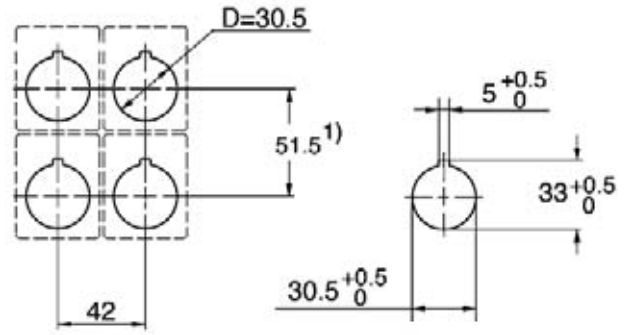


- 1) 55 mm when legend plate H= 44.5 mm is used.
61 mm for mushroom pushbutton with D=60 mm
- 2) 37 mm when legend plate with insert is used,

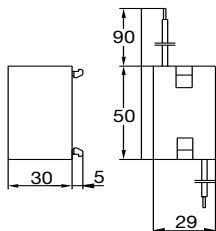
Drilling plan for double pushbutton



Drilling plan for 30 mm adaptor



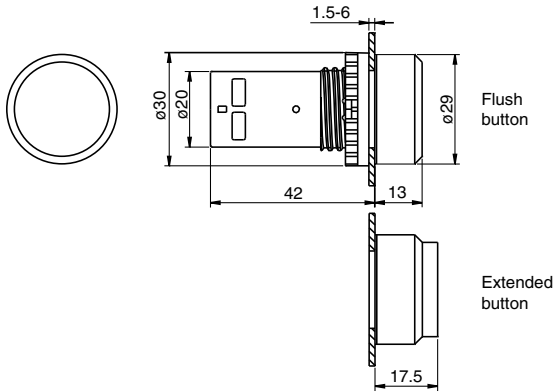
Transformer block



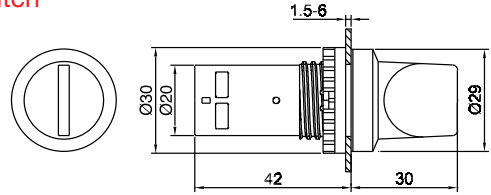
Approximate dimensions Compact range

All dimensions in MM

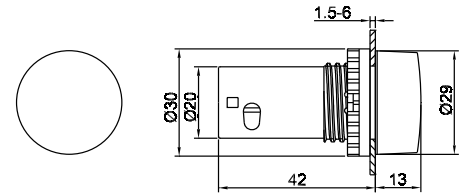
Pushbutton



Selector switch

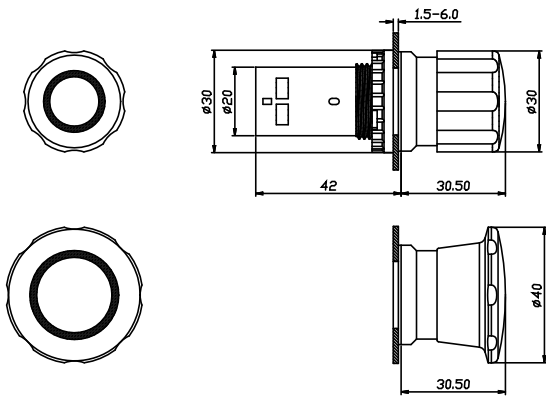


Pilot light

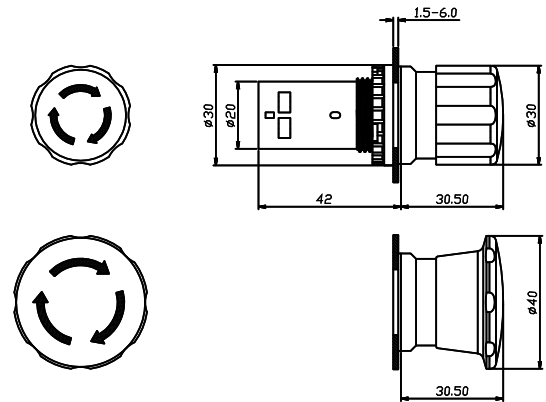


Emergency stop pushbuttons

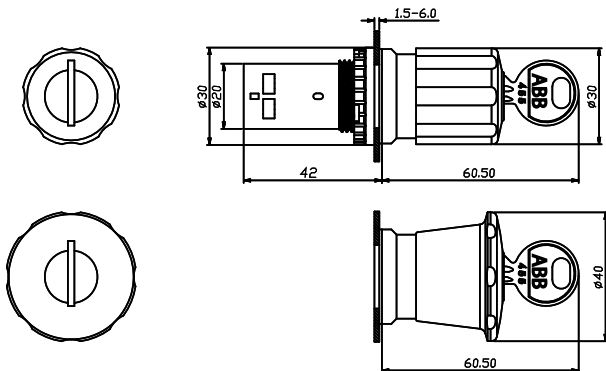
CE3P/CE4P (Pull release)



CE3T/CE4T (Twist release)



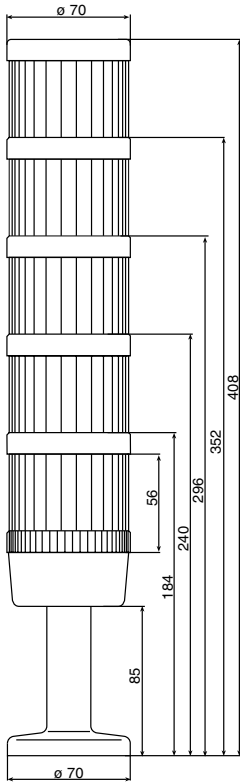
CE3K1/CE4K1



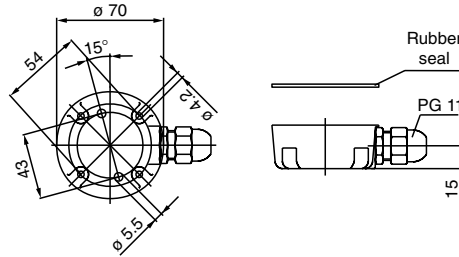
Approximate dimensions and drilling plans Signal Towers/Signal Beacons

All dimensions in MM

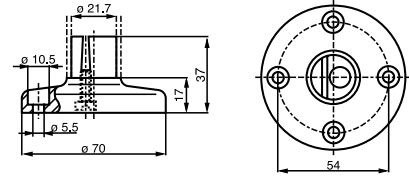
Signal Towers K 70



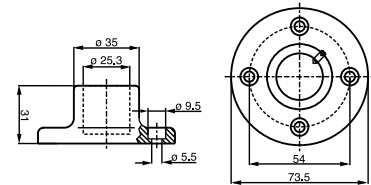
Contact box for cable exit at side



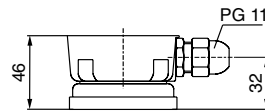
Base for tube, plastic



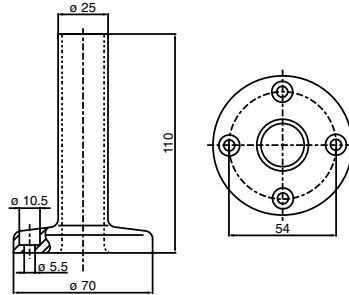
Base for tube, metal



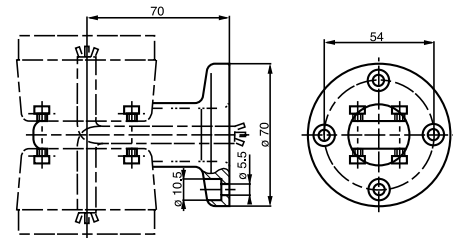
Contact box with magnetic base



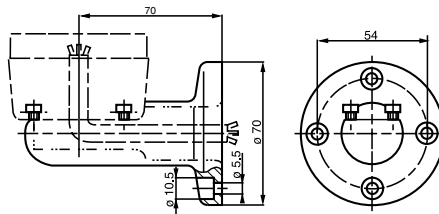
Base with integrated tube



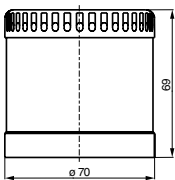
Bracket 2-sided mounting



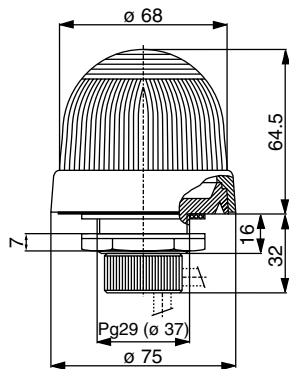
Bracket 1-sided mounting



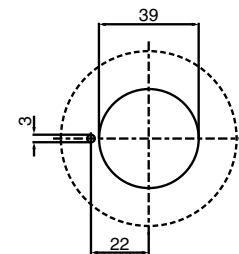
Audible module



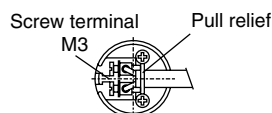
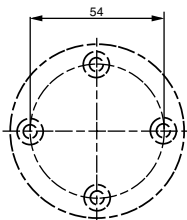
Signal Beacons K SB



Drilling plan for Signal Beacons KSB



Drilling plan for Signal Towers K 70



Approximate dimensions Enclosures

All dimensions in MM

~22,6 / Pg 16 / (M20)

~20,5 / M20 / Pg 13,5

Hole diameter / Cable gland
 ~20,5 / M20, Pg13,5
 ~22,6 / Pg16, (M20)
 ~25,2 / M25

~22,6 / Pg 16 / (M20)

~20,5 / M20 / Pg 13,5

~22,6 / Pg 16 / (M20)

~20,5 / M20 / Pg 13,5

~22,6 / Pg 16 / (M20)

~25,2 / M25

~22,6 / Pg 16 / (M20)

~25,2 / M25

Color selection

Color selection according to IEC 60204-1

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

Meaning of colors – General principles

Color	Meaning		
	Safety of persons or environment	Condition of process	State of equipment
RED	Danger	Emergency	Faulty
YELLOW	Warning/caution	Abnormal	Abnormal
GREEN	Safe	Normal	Normal
8 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.

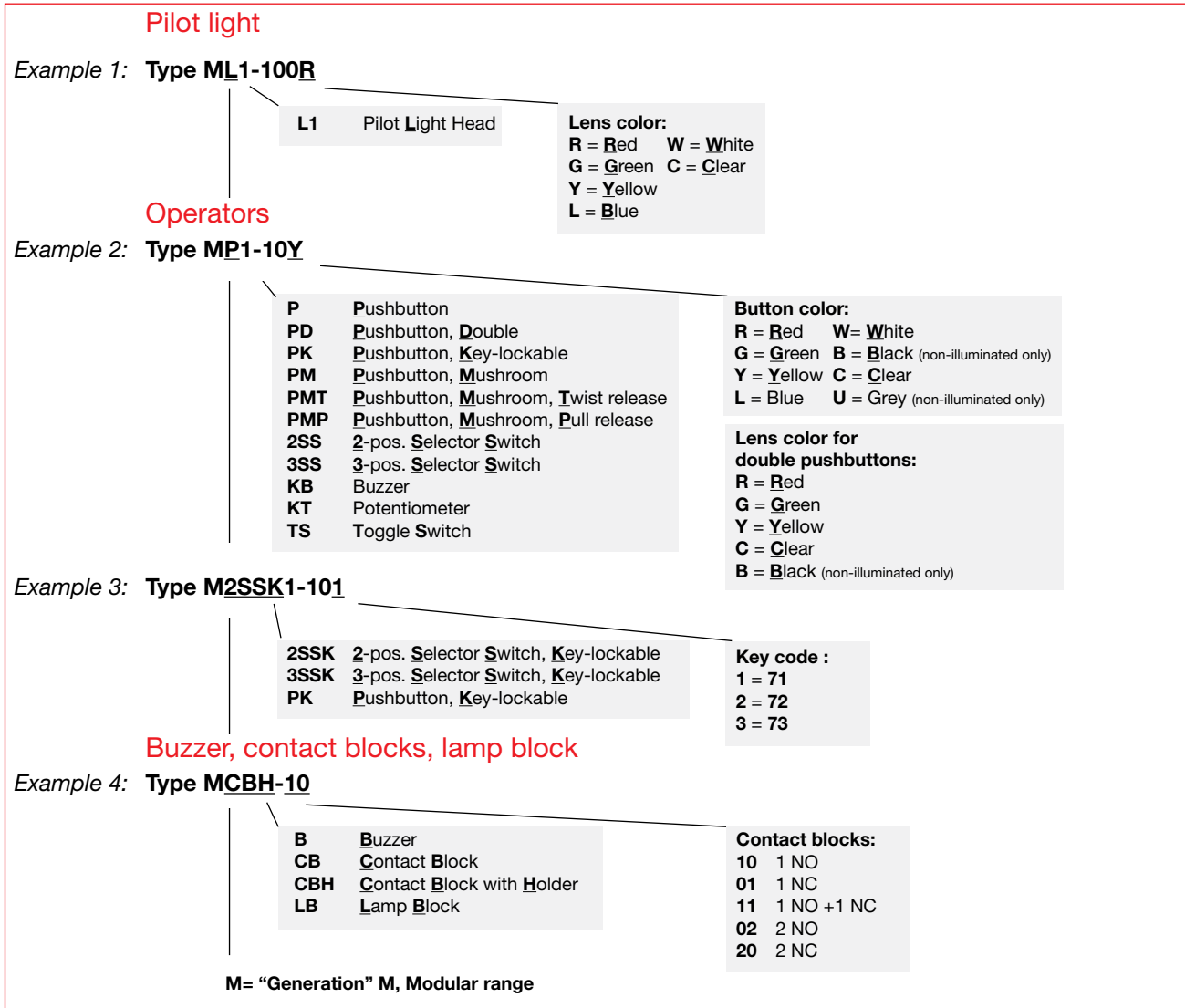
RESET actuators

RESET actuators (used, for example, with protective relays) shall be **BLUE, WHITE, GREY** and **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.

Catalog number explanation

Modular pilot devices



Compact pilot devices

