Main Catalog

Pilot devices, 22 mm



Pilot Devices
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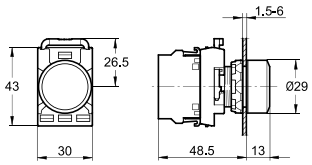
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Pilot devices

ABB – A sure hit in Pilot Devices



Part of comprehensive ABB program

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

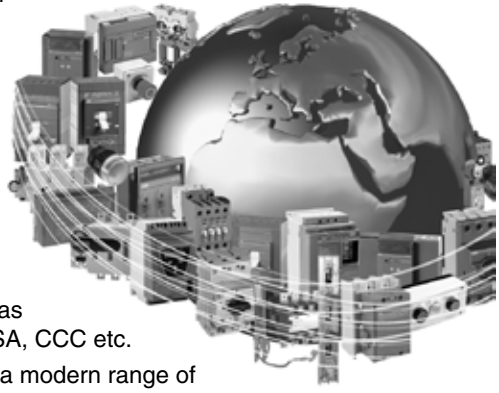


ABB also offers a modern range of Control products such as contactors, soft starters, across the line, combination, many different reduced voltage starters and a wide range of electronic relays, switches and sensors.

Pilot Devices

ABB offers a complete range of 22mm pushbuttons, emergency stop pushbuttons, selector switches and signalling units. These are complemented with enclosures and a wide range of accessories. The main advantage is the durability that is provided for all types of industrial environments, indoor as well as outdoor. Other key market segments include trucks, buses, trains and office buildings.

Complete range

The ABB Pilot Device family is divided into two ranges; the Modular range includes operators, holders, contact blocks and accessories that offer high flexibility with different combinations of components. The Compact range has all functions built-in as one single unit for quick installation where the same function is used in high volumes.

Modular pilot devices

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

The Modular range consists of pushbuttons including pushbuttons that can be used in emergency stop circuits, selector switches, pilot lights with filament bulbs or LEDs. Buzzers, potentiometers, toggle switches, reset buttons and special definite purpose buttons (30mm) complete the range.

The main benefits are:

- Can be used in tough environments
- Large text and push area
- Up to six contact blocks on one actuator
- Easy to mount and to wire

Compact pilot devices

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

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

The Compact range consists of pushbuttons, including pushbuttons that can be used in emergency stop circuits, selector switches and pilot lights that include our new integrated LED style. These work in perfect harmony with the extensive Modular range since the front design is identical.

The main benefits are:

- Reliable and durable design
- Fast mounting
- Built in LED as an option
- Reduced inventory
- Low built-in depth

22mm or 30mm

ABB can provide products for 30mm applications by combining the modular or compact pilot devices with a 30mm adaptor.

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Emergency stop devices



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

By choosing our Emergency Stop pushbuttons, you can ensure personal safety in all installations.

Signal Towers and Signal Beacons

ABB offers a wide range of signal devices with optical and audible signal elements up to five elements or by using a bracket for 2 sided mounting up to ten elements can be mounted.

Accessories

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

Assembled stations and enclosures

Assembled pushbutton stations can be provided and are available in 1-, 2-, 3-, 4- or 6-seat Type 4X non-metallic enclosures. We can also provide other special assemblies upon request including metal enclosures.



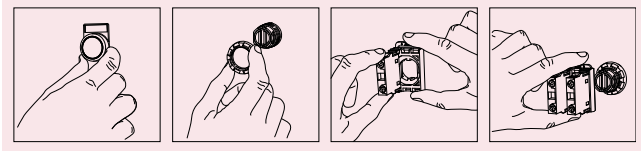
Accessories

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



Fast and easy to install

All pilot devices are easy to install. Spring loaded tabs ensure that actuators and legend plates are in the correct position. Same actuator can be used in both 22mm notched or round holes.



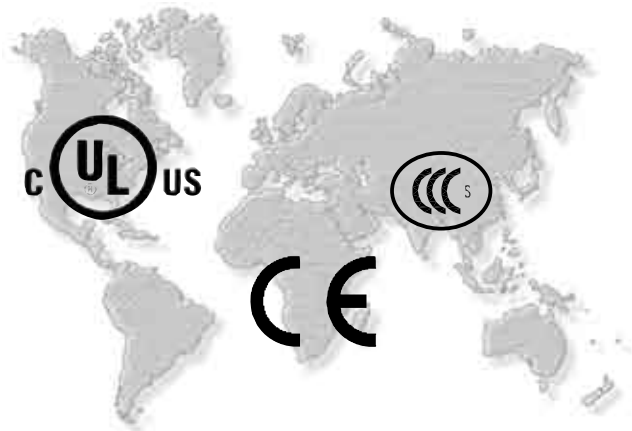
Aesthetic – Functional – Flexible

The pilot devices have an aesthetic and functional design that withstands even the toughest environment. No additional protective boot is needed.

- Large text and push area, clear and visible markings for quick and easy handling.
- Different choices of bezels: black plastic or metal. A Grey plastic bezel can also be provided.
- Contacts provide a wiping action. The tips of the contacts rub against each other each time the contacts close thus forcing dust and oxide to the side providing a highly reliable electrical circuit. The NC block has a positive opening for high performance in safety circuits.

Worldwide availability

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



Alphanumeric
1SFA 611 930 R 1070 – KA1-8028

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1SFA 611 930 R 1084	8.51	1SFA 616 902 R9002	8.64	1SFA616901R2030	8.63	C3SS210 -02	8.34	CL-520G	8.35
1SFA 611 930 R1000	8.65	1SFA 616 902 R9003	8.64	1SFA616901R9000	8.63	C3SS210 -11	8.34	CL-520L	8.35
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1SFA 611 930 R1014	8.65	1SFA 616 902 R9022	8.64	1SFA616903R1039	8.63	CBK-XPA	8.27	CL-530Y	8.35
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1SFA 611 930 R1017	8.65	1SFA 616 902 R9025	8.64	1SFA616904R1047	8.63	CBK-XSWL	8.27	CL-541R	8.35
1SFA 611 930 R1018	8.65	1SFA 616 902 R9026	8.64	1SFA616905R1040	8.63	CE3K1-10R-02	8.33	CL-541W	8.35
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KA1-8083	8.26	KA2-2131	8.36	KL70-203R	8.69	KPR4-100B	8.19	M2SS2-10B	8.12
KA1-8084	8.26	KA2-2132	8.24	KL70-203Y	8.69	KPR4-100R	8.19	M2SS2-10R	8.12
KA1-8085	8.26	KA2-2132	8.36	KL70-302C	8.69	KPR4-100W	8.19	M2SS2-10U	8.12
KA1-8086	8.26	KA2-2133	8.24	KL70-302G	8.69	KPR4-105B	8.19	M2SS2-11C	8.14
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KA1-8087	8.37	KA2-2134	8.24	KL70-302R	8.69	KS70-1104	8.7	M2SS2-11L	8.14
KA1-8088	8.26	KA2-2134	8.36	KL70-302Y	8.69	KS70-1204	8.7	M2SS2-11R	8.14
KA1-8091	8.26	KA2-2135	8.24	KL70-305C	8.69	KS70-2002	8.7	M2SS2-11Y	8.14
KA1-8092	8.26	KA2-2135	8.36	KL70-305C	8.69	KS70-2004	8.7	M2SS3-10B	8.12
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KA1-8098	8.26	KA2-2143	8.36	KL70-305R	8.69	KSB-113Y	8.71	M2SS3-11R	8.14
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KA1-8112	8.26	KA2-2222	8.36	KL70-312C	8.69	KSB-203L	8.71	M2SS4-11R	8.14
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P2-1HOARL	8.42
P2-1OORL	8.42
P2-SS	8.42
P3-1ESHOARL	8.42
P3-1HOARLGL	8.42
P3-1HOASRL	8.42
P3-1OORLGL	8.42
P3-1SSRL	8.42
P4-1ESHOARLGL	8.43
P4-1ESOORLGL	8.43
P4-1ESSSRL	8.43
P4-1HOARLYLGL	8.43
P4-1HOASRLGL	8.43
P4-1OORLYLGL	8.43
P4-1SSRLGL	8.43
SK 615 502-B	8.45
SK 615 512-1	8.25
SK 615 512-1	8.37
SK 615 516-1	8.45
SK 615 545-1	8.52
SK 615 545-2	8.52
SK 615 545-3	8.52
SK 615 545-4	8.52
SK 615 545-5	8.52
SK 615 546-1	8.52
SK 615 546-13	8.52
SK 615 546-2	8.52
SK 615 546-3	8.52
SK 615 546-4	8.52
SK 615 546-5	8.52
SK 615 546-6	8.52
SK 615 546-8	8.52
SK 615 550-29	8.53
SK 615 550-44	8.53
SK 615 550-61	8.53
SK 615 550-62	8.53
SK 615 550-63	8.53
SK 615 550-71	8.54
SK 615 550-75	8.54
SK 615 550-76	8.54
SK 615 550-80	8.55
SK 615 550-81	8.55
SK 615 552-13	8.53
SK 615 552-14	8.53
SK 615 552-15	8.53
SK 615 552-16	8.53
SK 615 552-17	8.53
SK 615 552-18	8.53
SK 615 552-20	8.53
SK 615 552-21	8.53
SK 615 552-22	8.53
SK 615 552-23	8.53
SK 615 552-24	8.53
SK 615 552-25	8.53
SK 615 552-27	8.53
SK 615 552-28	8.53
SK 615 552-29	8.53
SK 615 552-30	8.53
SK 615 552-31	8.53
SK 615 552-32	8.53
SK 615 552-39	8.53
SK 615 552-40	8.53
SK 615 552-52	8.54
SK 615 552-53	8.54
SK 615 552-55	8.54
SK 615 552-60	8.55
SK 615 562-12	8.53
SK 615 562-18	8.53
SK 615 562-27	8.53
SK 615 562-72	8.54
SK 615 562-82	8.55
SK 615 562-83	8.55
SK 615 562-87	8.21
SK 615 562-88	8.21
SK 615 998-1	8.52
SK 615 998-2	8.52
SK 615 998-3	8.52
SK 615 998-4	8.52
SK 615 998-5	8.52
SK 616 016-2	8.37
SK 616 021-71	8.26
SK 616 021-71	8.38
SK 616 021-72	8.26
SK 616 021-73	8.26

Modular range



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

Mounting

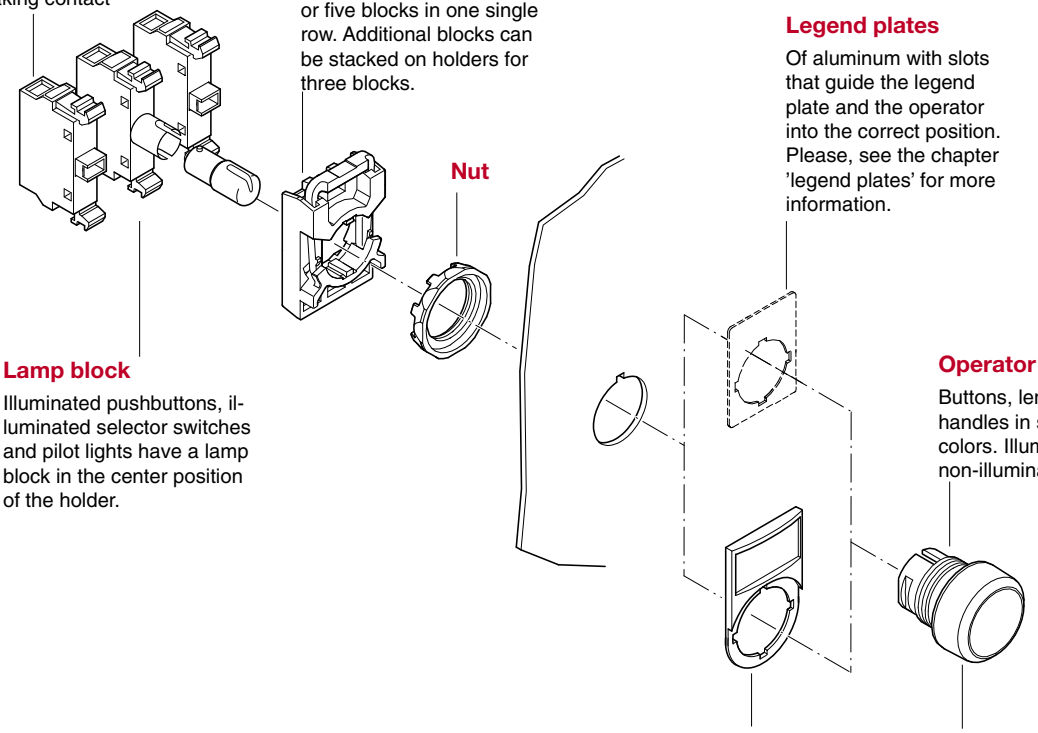
Exploded view

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.



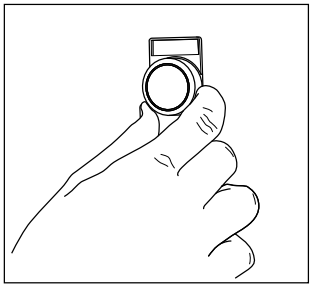
Lamp block
Illuminated pushbuttons, illuminated selector switches and pilot lights have a lamp block in the center position of the holder.

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

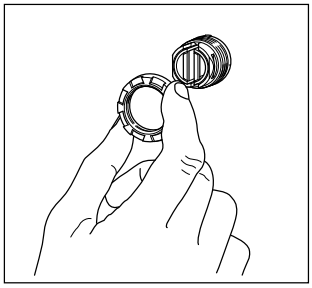
Legend plate holder
Of black plastic. Insert of brushed aluminum. Please, see the chapter 'legend plates' for more information.

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

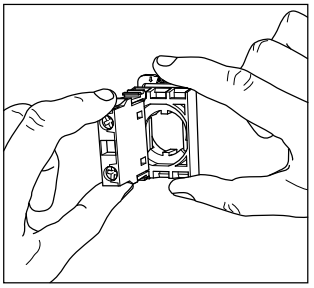
Easy to mount



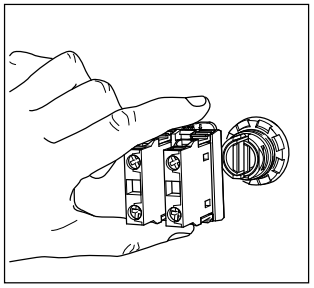
The operator is to be inserted from the front.....



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

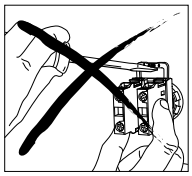


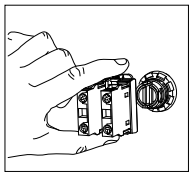
The contact blocks/lamp block are then snapped on to the holder...



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

...and to remove

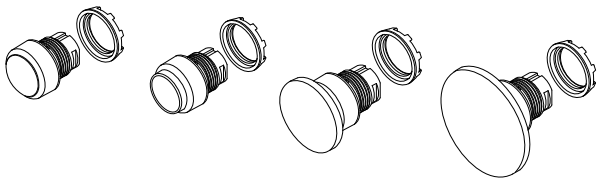




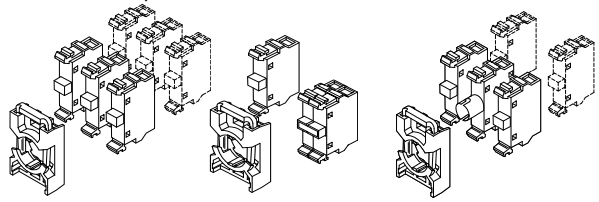
Press down the spring on the holder and pull the holder from the actuator.

Selection Guide

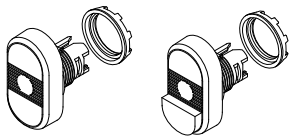
Pushbuttons and Mushroom pushbuttons



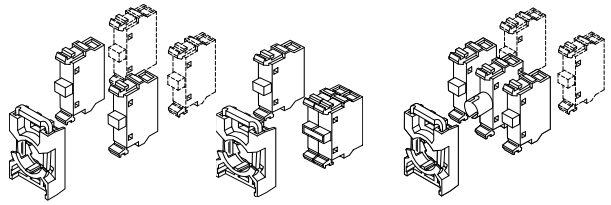
Contact block/lamp block combinations



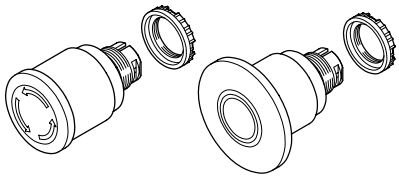
Double pushbuttons



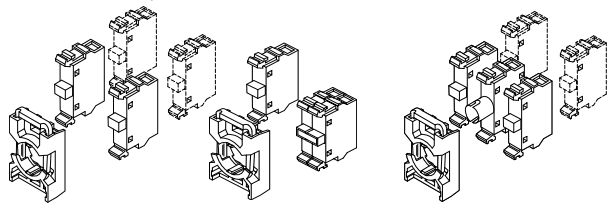
Contact block/lamp block combinations



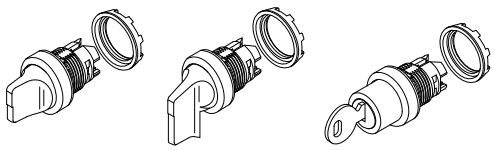
Emergency stop pushbuttons



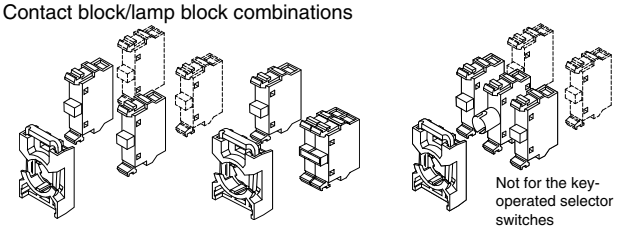
Contact block/lamp block combinations



Selector switches

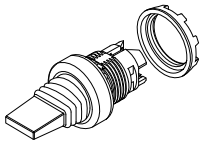


Contact block/lamp block combinations

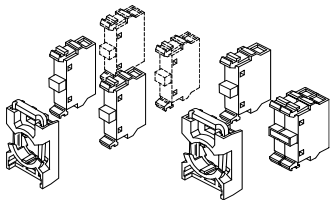


Not for the key-operated selector switches

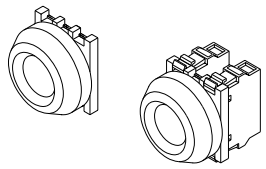
Toggle switches



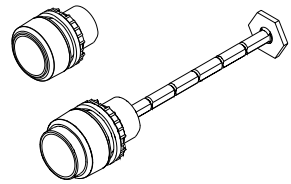
Contact block combinations



Definite purpose push-buttons

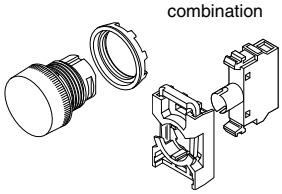


Reset pushbuttons

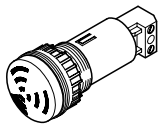


Pilot lights

Lamp block combination



Buzzers

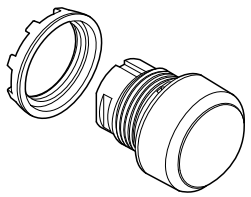


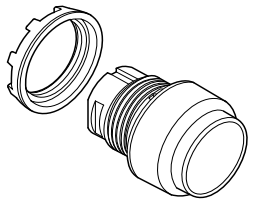
Potentiometers



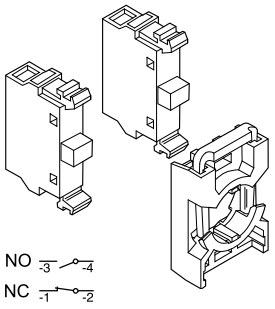
8

Flush and extended pushbuttons
Non-illuminated
Momentary and maintained





Bezel in black plastic as standard
Bezel in metal:
Replace '**1**' in the:
Cat No. MPX-1 0X
Ref Code 1SFA 611XXX R 1XXX
3 for metal bezel
4 for grey plastic



Operator ...

Description	Catalog No.	Ref. Code	List Price
with flush button			
Momentary			
Red	**MP1-10R**	1SFA 611 100 R1001	
Green	**MP1-10G**	1SFA 611 100 R1002	
Yellow	**MP1-10Y**	1SFA 611 100 R1003	
Blue	**MP1-10L**	1SFA 611 100 R1004	**$ 6.10**
White	**MP1-10W**	1SFA 611 100 R1005	
Black	**MP1-10B**	1SFA 611 100 R1006	
Clear	**MP1-10C**	1SFA 611 100 R1008	
Maintained ①			
Red	**MP2-10R**	1SFA 611 101 R1001	
Green	**MP2-10G**	1SFA 611 101 R1002	
Yellow	**MP2-10Y**	1SFA 611 101 R1003	
Blue	**MP2-10L**	1SFA 611 101 R1004	**17.30**
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	
Green	**MP3-10G**	1SFA 611 102 R1002	
Yellow	**MP3-10Y**	1SFA 611 102 R1003	
Blue	**MP3-10L**	1SFA 611 102 R1004	**6.10**
White	**MP3-10W**	1SFA 611 102 R1005	
Black	**MP3-10B**	1SFA 611 102 R1006	
Clear	**MP3-10C**	1SFA 611 102 R1008	
Maintained ①			
Red	**MP4-10R**	1SFA 611 103 R1001	
Green	**MP4-10G**	1SFA 611 103 R1002	
Yellow	**MP4-10Y**	1SFA 611 103 R1003	
Blue	**MP4-10L**	1SFA 611 103 R1004	**17.30**
White	**MP4-10W**	1SFA 611 103 R1005	
Black	**MP4-10B**	1SFA 611 103 R1006	
Clear	**MP4-10C**	1SFA 611 103 R1008	

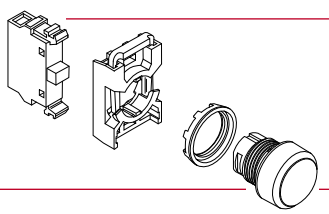
Contact blocks, and holder

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.

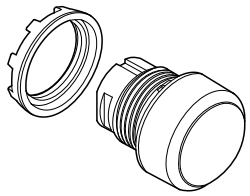
Ref.: 1 piece of MP1-10R + 1 piece of MCBH-10

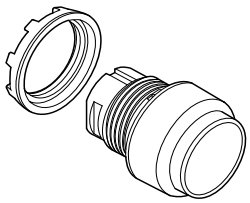


① No contact block in the center position

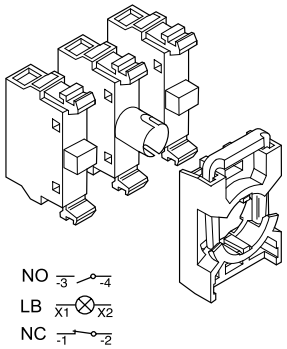
Flush and extended pushbuttons
Illuminated
Momentary and maintained

Bulb max 1.2 W





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



Operator ...

Description	Catalog No.	Ref. Code	List Price
with flush button			
Momentary ①			
Red	**MP1-11R**	1SFA 611 100 R1101	
Green	**MP1-11G**	1SFA 611 100 R1102	
Yellow	**MP1-11Y**	1SFA 611 100 R1103	**$ 6.10**
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	
Green	**MP2-11G**	1SFA 611 101 R1102	
Yellow	**MP2-11Y**	1SFA 611 101 R1103	**17.30**
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	
Green	**MP3-11G**	1SFA 611 102 R1102	
Yellow	**MP3-11Y**	1SFA 611 102 R1103	**6.10**
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	
Green	**MP4-11G**	1SFA 611 103 R1102	
Yellow	**MP4-11Y**	1SFA 611 103 R1003	**17.30**
Blue	**MP4-11L**	1SFA 611 103 R1004	
White	**MP4-11W**	1SFA 611 103 R1005	
Clear	**MP4-11C**	1SFA 611 103 R1108	

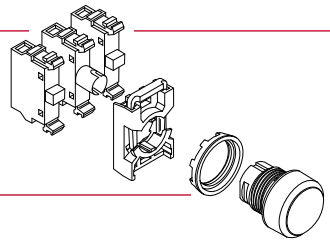
Contact blocks, lamp block and holder ②

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

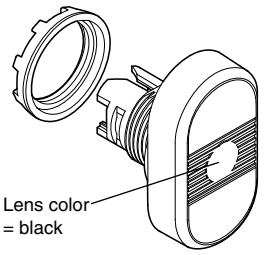
Requested: A modular pushbutton, maintained and illuminated with green flush button and one NO + one NC contact.

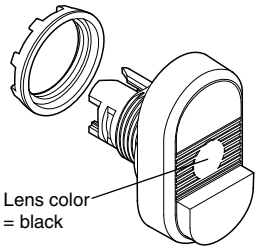
Ref.: 1 piece of MP2-11G + 1 piece of MCBH-111
Bulb - see accessories

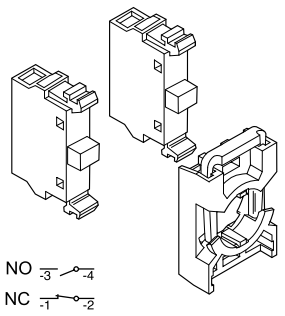


① No contact block in the center position
② Lamp block MLB-1. Bulb not included. For other lamp blocks see Accessories.
③ Bulb max 1.2 W, not included.

Double pushbuttons
Non-illuminated







Operator ...

Upper button Color	Text	Lower button Color	Text	Catalog No.	Ref. Code	List Price
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**

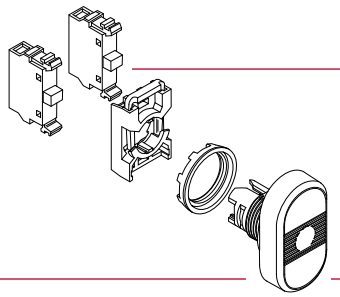
Contact blocks, and holder

Blocks	Catalog No.	Ref. Code	List Price
2 NO with holder	**MCBH-20**	1SFA 611 605 R1102	
2 NC with holder	**MCBH-02**	1SFA 611 605 R1120	**$ 18.00**
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

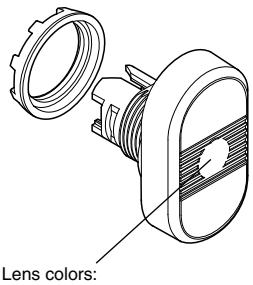
Requested: A non-illuminated double pushbutton,Green/Red,
No text, with 2 NO blocks

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

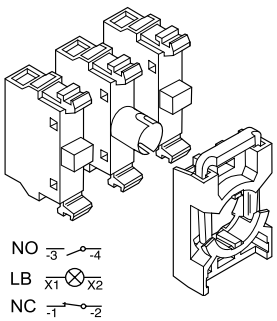


① No contact block in the center position.

Double pushbuttons
Illuminated



Lens colors:
Red
Green
Yellow
Clear



Operator ...

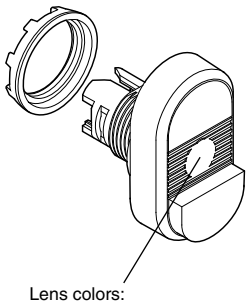
Upper button Color	Text	Lower button Color	Text	Catalog No.	Ref. Code	List Price
with flush buttons ①						
Red lens						
Green	*No text*	Red	*No text*	**MPD1-11R**	1SFA 611 130 R1101	**$ 26.00**
	I		O	**MPD2-11R**	1SFA 611 131 R1101	**29.00**
	ON		OFF	**MPD3-11R**	1SFA 611 132 R1101	**29.00**
	START		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	
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	
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.
② Lamp block MLB-1. Bulb not included. For other lamp blocks see Accessories, bulb max 1.2 W.

Double pushbuttons
Illuminated

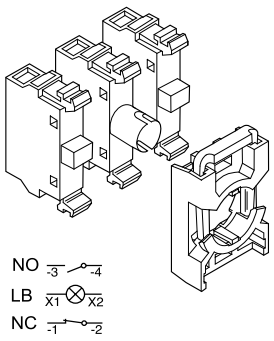


Lens colors:
Red
Green
Yellow
Clear

8

Operator ...

Upper button Color	Text	Lower button Color	Text	Catalog No.	Ref. Code	List Price
with extended lower button ①						
Red lens						
Green	*No text*	Red	*No text*	**MPD12-11R**	1SFA 611 141 R1101	**$ 26.00**
	I		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**
	I		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**
	I		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**
	I		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**
	I		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**
	I		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**
	I		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**
	I		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**



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

Press-to-test pushbuttons
Illuminated



CBK-MLFPT1Y



CBK-MLTPT1Y

Press-to-test

Type	Black plastic ring	
	Catalog number	List price
Operator only ①	MP1-MLPT★	**$ 22.50**
Full voltage type		
6V	MP1-MLFPT6★	
12V	MP1-MLFPT7★	
24V	MP1-MLFPT8★	**46.00**
48V	MP1-MLFPT9★	
120V	MP1-MLFPT1★	
Resistor type		
120V	MP1-MLRPT1★	**54.00**
240V	MP1-MLRPT2★	
Transformer type		
120V/6V	MP1-MLTPT1★	
240V/6V	MP1-MLTPT2★	**80.00**
380V/6V	MP1-MLTPT3★	
480V/6V	MP1-MLTPT4★	
120V/24V	MP1-MLTPT5★	
240V/24V	MP1-MLTPT6★	**80.00**
380V/24V	MP1-MLTPT7★	
480V/24V	MP1-MLTPT8★	

★ Select the lens color from the “Illuminated buttons & lenses” selection chart and substitute the suffix code for the ★. The lens and bulb are included in the price.

Press-to-test (LED bulb) ②

Type	Black plastic ring	
	Catalog number	List price
Full voltage type		
24V	MP1-MLFPTL8★	**$ 55.00**
120V	MP1-MLFPTL1★	**55.00**
230V	MP1-MLFPTL2★	**61.00**
Transformer type		
120V/24V	MP1-MLTPTL1★	
240V/24V	MP1-MLTPTL2★	**80.00**
380V/24V	MP1-MLTPTL3★	
480V/24V	MP1-MLTPTL4★	

★ Select the lens color from the “Illuminated buttons & lenses” selection chart and substitute the suffix code for the ★. The lens and bulb are included in the price.

Press-to-test (neon bulb) ③

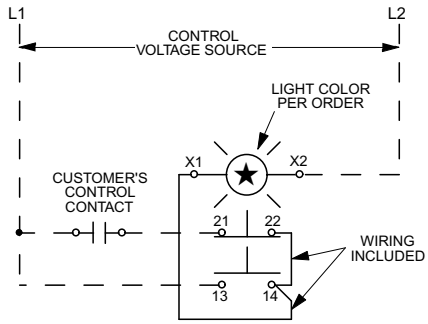
Item	Black plastic ring	
	Catalog number	List price
Full voltage type		
220VAC	MP1-MLTPN2★	**$ 46.00**

★ Illuminated buttons

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

NOTE: White LEDs use clear lenses.

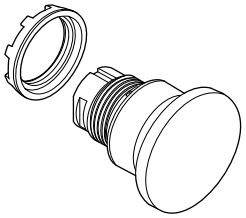
Schematic

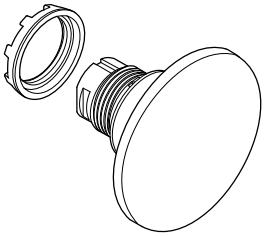


Press- to-test schematic

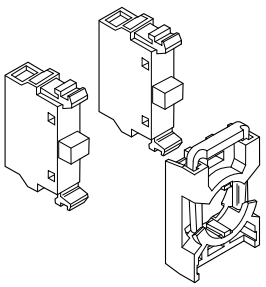
① 1 N.O. & 1 N.C. contact supplied; lamp module and bulb must be ordered separately.
② For blue or white LEDs, add $ 3 to the list price.
③ Use with red, yellow and clear lenses only. For 120VAC, consult factory.

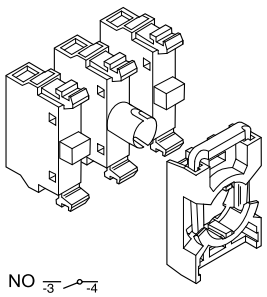
Mushroom pushbuttons
Non-illuminated and illuminated
Momentary

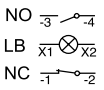




Bezel in black plastic as standard
Bezel in metal:
Replace '**1**' in the:
Catalog No. MPMX-1 0X
Ref. Code 1SFA611XXX R 1XXX
3 for metal bezel
4 for grey plastic bezel







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	Red	**MPM1-11R**	1SFA 611 124 R1101	**16.00**
	Yellow	**MPM1-11Y**	1SFA 611 124 R1103	**16.00**
Ø 60 mm				
Plastic	Red	**MPM2-11R**	1SFA 611 125 R1101	**20.00**
	Yellow	**MPM2-11Y**	1SFA 611 125 R1103	**20.00**

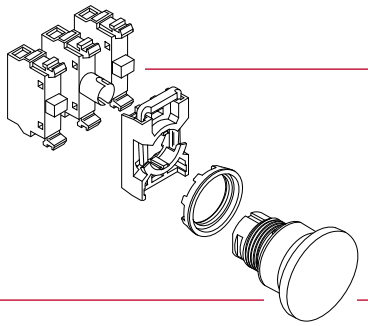
Contact blocks, lamp block and holder ②

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 LBwith 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

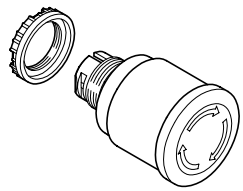
Ref.: 1 piece of MPM1-11R + 1 piece of MCBH-111
Bulb - see accessories

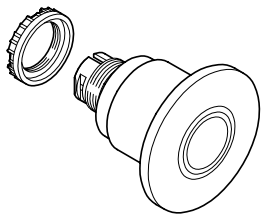


① No contact block in the center position
② Lamp block MLB-1. Bulb not included. Other lamp block see Accessories, bulb max 1.2 W.

Emergency stop pushbuttons
Non-illuminated and illuminated

Fulfills IEC 60947-5-5

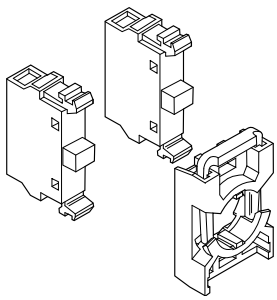


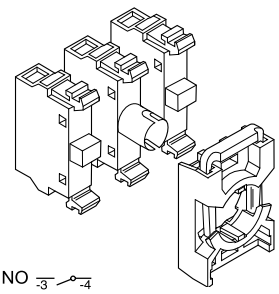


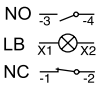
Operator ...

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	
Ø 60 mm				
Twist release	Red, plastic	**MPMT4-10R**	1SFA 611 513 R1001	**46.00**
Pull release	Red, plastic	**MPMP4-10R**	1SFA 611 514 R1001	
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**

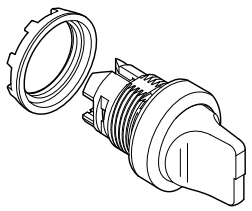
To comply with the standard, IEC 60947-5-5, a number of tests have to be conducted:

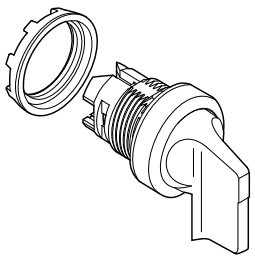
Durability test	6,050 cycles. This is not a test of mechanical life. The product has a mechanical life of 100,000 operations.
Robustness	The force 113 N applied in three axes
Conditioning	Heat and cold, moist atmosphere, and in 5 % NaC

Latching test	Impulse voltage test at 2,500 V
Resetting test	Pulling force < 50 N Turning torque < 1 Nm
Shock	15 g shock
Vibration	2 h at 50m/s²
Contacts with positive opening operation	15 g shock

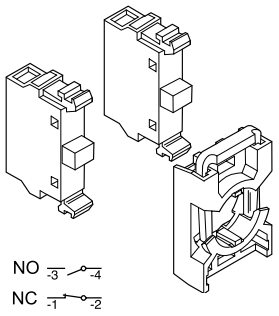
① No contact in the center position
② Lamp block MLB-1. Bulb not included. Other lamp block see Accessories, bulb max 2 W.

Two-position selector switches
Non-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



Contact functions

Block positions as seen from operator front.

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

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

Operator ...

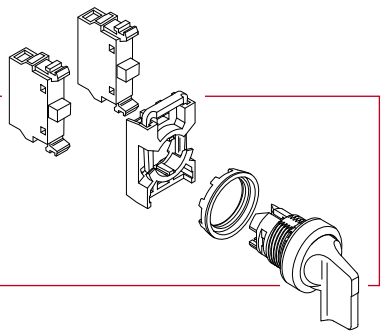
Symbol	Handle color	Catalog No.	Ref. Code	List Price
with short handle ①				
Maintained				
B C	Red	**M2SS1-10R**	1SFA 611 200 R1001	
	Black	**M2SS1-10B**	1SFA 611 200 R1006	
	Grey	**M2SS1-10U**	1SFA 611 200 R1007	
Maintained				$ **11.00**
A C	Red	**M2SS2-10R**	1SFA 611 201 R1001	
	Black	**M2SS2-10B**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

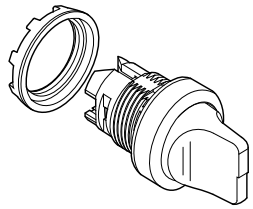
Ordering example

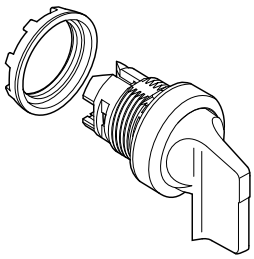
Requested: A non-illuminated modular selector switch. Black.
Maintained.
Handle positions: A and C
With 2 NC contacts
Ref.: 1 piece of M2SS2-10B + 1 pice of MCBH-02



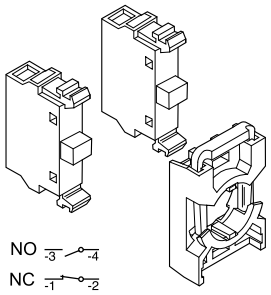
① No contact block in the center position

Three-position selector switches
Non-illuminated





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 ...

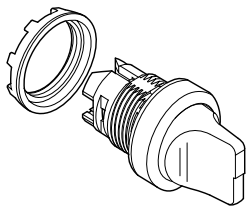
Symbol	Handle color	Catalog No.	Ref. Code	List Price
with short handle ①				
Maintained				
A B C	Red	**M3SS1-10R**	1SFA 611 210 R1001	
	Black	**M3SS1-10B**	1SFA 611 210 R1006	$ **11.00**
	Grey	**M3SS1-10U**	1SFA 611 210 R1007	
Momentary, spring return from A to B and from C to B				
A B C	Red	**M3SS2-10R**	1SFA 611 211 R1001	
	Black	**M3SS2-10B**	1SFA 611 211 R1006	**14.00**
	Grey	**M3SS2-10U**	1SFA 611 211 R1007	
Momentary, spring return from C to B				
A B C	Red	**M3SS3-10R**	1SFA 611 212 R1001	
	Black	**M3SS3-10B**	1SFA 611 212 R1006	**14.00**
	Grey	**M3SS3-10U**	1SFA 611 212 R1007	
Momentary, spring return from A to B				
A B C	Red	**M3SS7-10R**	1SFA 611 216 R1001	
	Black	**M3SS7-10B**	1SFA 611 216 R1006	**14.00**
	Grey	**M3SS7-10U**	1SFA 611 216 R1007	
with long handle ①				
Maintained				
A B C	Red	**M3SS4-10R**	1SFA 611 213 R1001	
	Black	**M3SS4-10B**	1SFA 611 213 R1006	**11.00**
	Grey	**M3SS4-10U**	1SFA 611 213 R1007	
Momentary, spring return from A to B and from C to B				
A B C	Red	**M3SS5-10R**	1SFA 611 214 R1001	
	Black	**M3SS5-10B**	1SFA 611 214 R1006	**14.00**
	Grey	**M3SS5-10U**	1SFA 611 214 R1007	
Momentary, spring return from C to B				
A B C	Red	**M3SS6-10R**	1SFA 611 215 R1001	
	Black	**M3SS6-10B**	1SFA 611 215 R1006	**14.00**
	Grey	**M3SS6-10U**	1SFA 611 215 R1007	
Momentary, spring return from A to B				
A B C	Red	**M3SS8-10R**	1SFA 611 217 R1001	
	Black	**M3SS8-10B**	1SFA 611 217 R1006	**14.00**
	Grey	**M3SS8-10U**	1SFA 611 217 R1007	

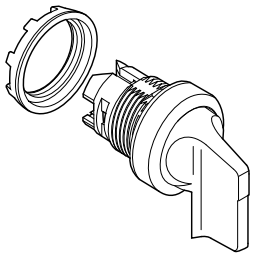
Contact blocks and holder

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**

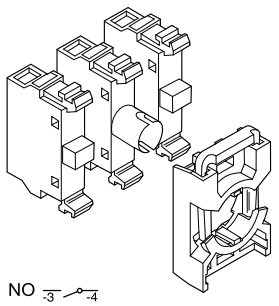
① No contact block in center position

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



Operator ...

Symbol	Handle color	Catalog No.	Ref. Code	List Price
with short handle ①				
Maintained				
B C	Red	**M2SS1-11R**	1SFA 611 200 R1101	
	Green	**M2SS1-11G**	1SFA 611 200 R1102	
	Yellow	**M2SS1-11Y**	1SFA 611 200 R1103	$ **17.00**
	Blue	**M2SS1-11L**	1SFA 611 200 R1104	
	Clear	**M2SS1-11C**	1SFA 611 200 R1108	
Maintained				
A C	Red	**M2SS2-11R**	1SFA 611 201 R1101	
	Green	**M2SS2-11G**	1SFA 611 201 R1102	
	Yellow	**M2SS2-11Y**	1SFA 611 201 R1103	**17.00**
	Blue	**M2SS2-11L**	1SFA 611 201 R1104	
	Clear	**M2SS2-11C**	1SFA 611 201 R1108	
Momentary, spring return from C to B				
B C	Red	**M2SS3-11R**	1SFA 611 202 R1101	
	Green	**M2SS3-11G**	1SFA 611 202 R1102	
	Yellow	**M2SS3-11Y**	1SFA 611 202 R1103	**26.00**
	Blue	**M2SS3-11L**	1SFA 611 202 R1104	
	Clear	**M2SS3-11C**	1SFA 611 202 R1108	
with long handle ①				
Maintained				
B C	Red	**M2SS4-11R**	1SFA 611 203 R1101	
	Green	**M2SS4-11G**	1SFA 611 203 R1102	
	Yellow	**M2SS4-11Y**	1SFA 611 203 R1103	**17.00**
	Blue	**M2SS4-11L**	1SFA 611 203 R1104	
	Clear	**M2SS4-11C**	1SFA 611 203 R1108	
Maintained				
A C	Red	**M2SS5-11R**	1SFA 611 204 R1101	
	Green	**M2SS5-11G**	1SFA 611 204 R1102	
	Yellow	**M2SS5-11Y**	1SFA 611 204 R1103	**17.00**
	Blue	**M2SS5-11L**	1SFA 611 204 R1104	
	Clear	**M2SS5-11C**	1SFA 611 204 R1108	
Momentary, spring return from C to B				
B C	Red	**M2SS6-11R**	1SFA 611 205 R1101	
	Green	**M2SS6-11G**	1SFA 611 205 R1102	
	Yellow	**M2SS6-11Y**	1SFA 611 205 R1103	**26.00**
	Blue	**M2SS6-11L**	1SFA 611 205 R1104	
	Clear	**M2SS6-11C**	1SFA 611 205 R1108	

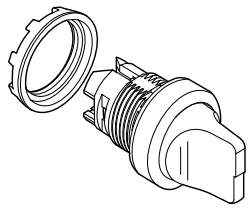
Contact blocks, lamp block and holder ②

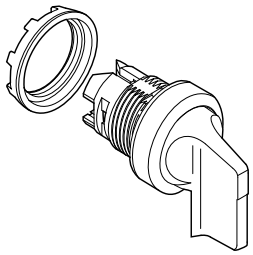
Blocks	Catalog No.	Ref. Code	List Price
1 NO + 1 LB with holder	**MCBH-101**	1SFA 611 605 R1201	$ **27.50**
1 NC + 1 LB with holder	**MCBH-011**	1SFA 611 605 R1210	**27.50**
2 NO + 1 LB with holder	**MCBH-201**	1SFA 611 605 R1202	**35.50**
2 NC + 1 LB with holder	**MCBH-021**	1SFA 611 605 R1220	**35.50**
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
② Lamp block MLB-1. Bulb not included. Other lamp block see Accessories, bulb max 1.2 W.

Three-position selector switches
Illuminated





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

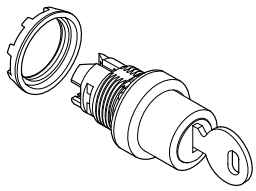
Operator ...

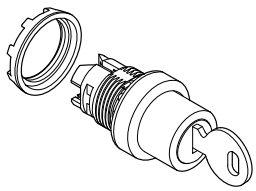
Symbol	Handle color	Catalog No.	Ref. Code	List Price
with short handle ①				
Maintained				
	Red	**M3SS1-11R**	1SFA 611 210 R1101	
	Green	**M3SS1-11G**	1SFA 611 210 R1102	
	Yellow	**M3SS1-11Y**	1SFA 611 210 R1103	$ **17.00**
	Blue	**M3SS1-11L**	1SFA 611 210 R1104	
	Clear	**M3SS1-11C**	1SFA 611 210 R1108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

Key-operated selector switches
Two and three positions





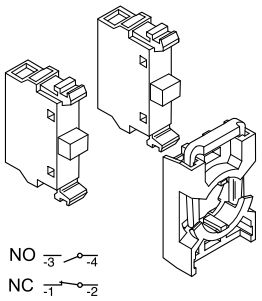
Bezel in black plastic as standard
Bezel in metal:
Replace '**1**' in the:
Catalog No. MXSSKX-1 0■
Ref. Code 1SFA6112XX R 1XX■
3 for metal bezel

② **Key codes**

71 (standard)	■ =1
72	■ =2
73	■ =3
Other	(on request)

③ **Key codes**

71 (standard)	■ =1
72	■ =2



Operator ...

Symbol	The key can be removed in	Catalog No.	Ref. Code	List Price
two positions ①				
Maintained	in both positions	**M2SSK1-10■** ②	1SFA 611 280 R100■ ②	
Maintained	in position B only	**M2SSK2-10■** ②	1SFA 611 281 R100■ ②	$ **41.00**
Momentary, spring return from C to B	in position B only	**M2SSK3-10■** ②	1SFA 611 282 R100■ ②	
three positions ①				
Maintained	in all positions	**M3SSK1-10■** ②	1SFA 611 283 R100■ ②	
Maintained	in position B only	**M3SSK2-10■** ②	1SFA 611 284 R100■ ②	
Momentary, spring return from A to B and from C to B	**in position B only**	**M3SSK3-10■** ②	**1**SFA 611 285 R100■ ②	**$ 53.00**
Momentary, spring return from C to B	**in position A only**	**M3SSK4-10■** ③	1SFA 611 286 R100■ ③	
Momentary, spring return from C to B	**in all positions**	**M3SSK5-10■** ②	1SFA 611 287 R100■ ②	

Contact blocks and holder

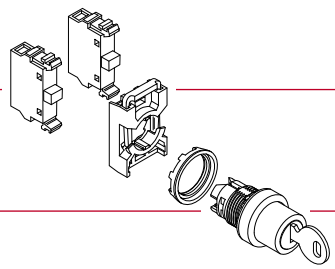
Blocks	Catalog No.	Ref. Code	List Price
2 NO with holder	**MCBH-20**	1SFA 611 605 R1102	
2 NC with holder	**MCBH-02**	1SFA 611 605 R1120	$ **18.00**
1 NO + 1 NC with holder	**MCBH-11**	1SFA 611 605 R1111	
1 NO without holder	**MCB-10**	1SFA 611 610 R1001	**8.00**
1 NC without holder	**MCB-01**	1SFA 611 610 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

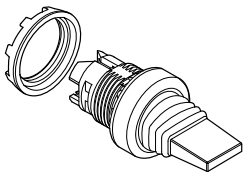
Requested: A key-operated selector switch. Three positions. Maintained. The key removeable in position B. Key code 72. With 2 NC contacts

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



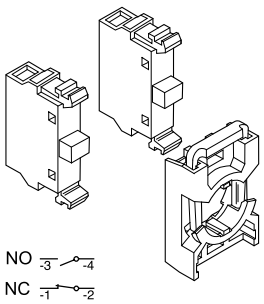
① No contact block in the center position

Toggle switches
Two and three positions



Operator

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

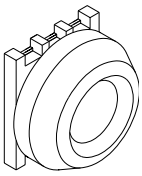
O = not actuated (normal state)
x = actuated (state changed)

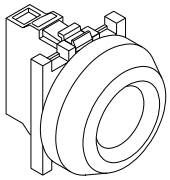
Three-position switch

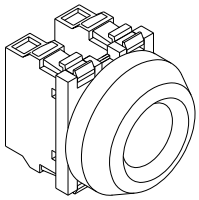
Handle position	Left block	Middle block	Right block
A	O	x	x
B	O	O	O
C	x	x	O

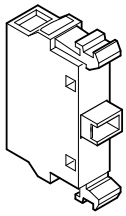
O = not actuated (normal state)
x = actuated (state changed)

Definite purpose pushbuttons
30 mm
IP 66 Rated only









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 No.	Ref. Code	List Price
1 NO + 1 NC	Black	**1SFA 616 105 R4076**	1SFA 616 105 R4076	**$ 45.00**
1 NO	Black	**1SFA 616 105 R4016**	1SFA 616 105 R4016	**37.00**
1 NC	Black	**1SFA 616 105 R4046**	1SFA 616 105 R4046	**37.00**
2 NO	Black	**1SFA 616 105 R4026**	1SFA 616 105 R4026	**45.00**
2 NC	Black	**1SFA 616 105 R4056**	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 No.	Ref. Code	List Price
1 NO	**MCB-10**	1SFA 611 610 R1001	$ **8.00**
1 NC	**MCB-01**	1SFA 611 610 R1010	

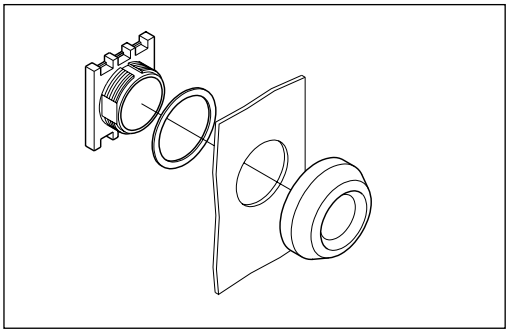
Accessories

Description	Catalog No. ①	Ref. Code	List Price
Guide washer for positioning and anti rotation	**2154 373-1**	2154 373-1	**$ 3.00**

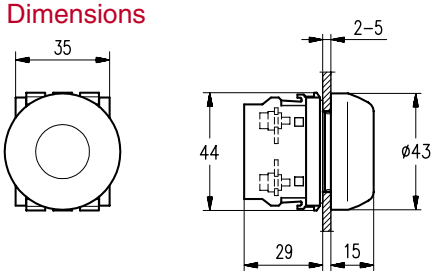
Technical data

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

Mounting

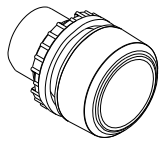


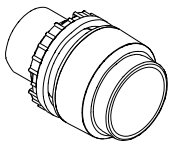
Dimensions

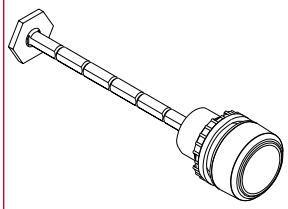


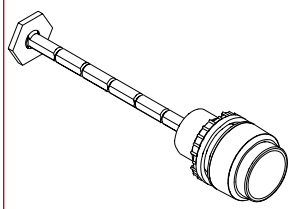
① IP66 Rating only.

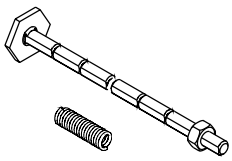
Reset pushbuttons

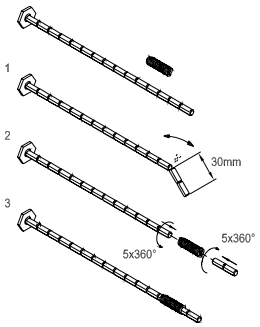












Reset pushbutton without shaft

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	
	O	**KPR2-105R**	1SFA 616 161 R1051	
White	No text	**KPR2-100W**	1SFA 616 161 R1005	**9.10**
Black	No text	**KPR2-100B**	1SFA 616 161 R1006	
	O	**KPR2-105B**	1SFA 616 161 R1056	

Reset pushbutton with 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	
	O	**KPR4-105R**	1SFA 616 163 R1051	
White	No text	**KPR4-100W**	1SFA 616 163 R1005	**12.00**
Black	No text	**KPR4-100B**	1SFA 616 163 R1006	
	O	**KPR4-105B**	1SFA 616 163 R1056	

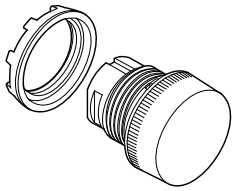
Accessories

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
Shaft Including fixing nut	**KA1-8046**	1SFA 616 920 R8046	**$ 2.25**
Flexible joint	**KA1-8047**	1SFA 616 920 R8047	**5.00**
Metal shaft Including fixing nut & foot	**KA1-8046MR**	—	**12.00**

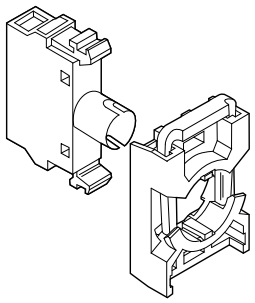
8

Pilot lights and Buzzers

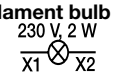
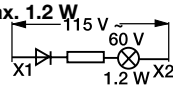
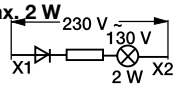


Pilot light head ①②

Lens color	Catalog No.	Ref. Code	List Price
Red	**ML1-100R**	1SFA 611 400 R1001	
Green	**ML1-100G**	1SFA 611 400 R1002	
Yellow	**ML1-100Y**	1SFA 611 400 R1003	$ **4.50**
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

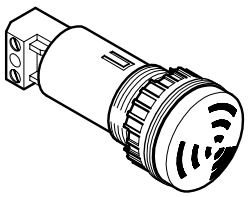
Supply voltage	Catalog No.	Ref. Code	List Price
For max. 2 W, 230 V AC and DC filament bulb or LED 	**MCBH-001**	1SFA 611 605 R1200	**$ 19.50**
115 V AC supply voltage. **For 60 V filament bulb max. 1.2 W** 	**MCBH-002**	1SFA 611 605 R1300	**23.50**
230 V AC supply voltage. **For 130 V filament bulb 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 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

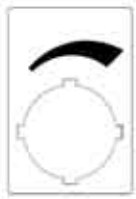
Supply voltage	Tone	Catalog No.	Ref. Code	List Price
24 V AC/DC	Continuous	**KB1-4010**	1SFA 616 401 R4010	$ **75.00**
115 V AC/DC	Continuous	**KB1-4030**	1SFA 616 401 R4030	**75.00**
230 VAC	Continuous	**KB1-4040**	1SFA 616 401 R4040	**75.00**
24 V AC/DC	Pulsating	**KB1-4110**	1SFA 616 401 R4110	**85.00**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

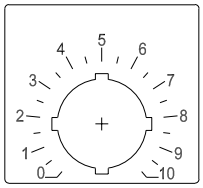


Resistor data

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.

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**

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**

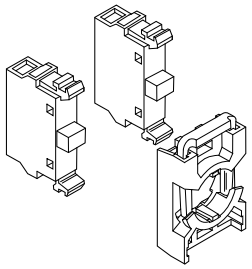
Legend plates

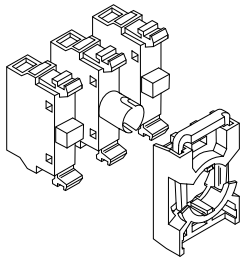
Aluminum

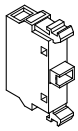
Description	Catalog No.	Ref. Code	List Price
Symbol - see figure	**SK 615 562-87**	SK 615 562-87	$ **10.00**
Scale: 0 - 10	**SK 615 562-88**	SK 615 562-88	

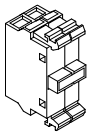
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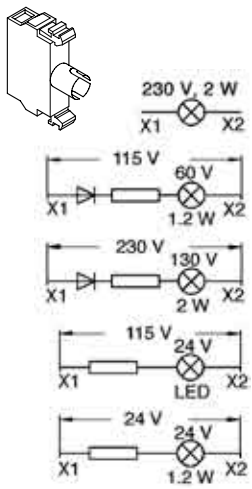
Accessories

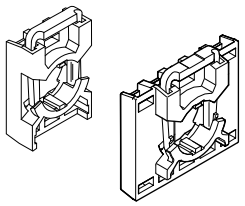












Contact blocks and lamp blocks with holder for front mounting

Max. number of blocks in holder	Included blocks	Catalog No.	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 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 positioon 3- is needed

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

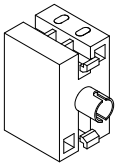
Single lamp blocks for front mounting, Ba 9s base

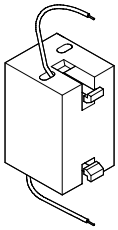
Description	Catalog No.	Ref. Code	List Price
For max. 2 W, 230 V AC and DC filament bulb or LED	**MLB-1**	1SFA 611 620 R1001	**$ 17.50**
115 V AC supply voltage. **For 60 V filament bulb max. 1.2 W**	**MLB-2**	1SFA 611 620 R1002	**21.50**
230 V AC supply voltage. **For 130 V filament bulb max. 2 W**	**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**

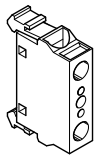
Holders

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**

Contact blocks and lamp blocks for rear mounting See Page 8.43







Transformer block

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

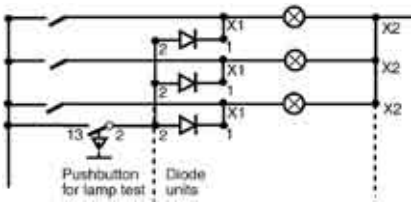
Primary voltage	Secondary voltage	Catalog No.	Ref. Code	List Price
With lamp holder for front mounting, Ba 9s base				
Intended to supply a 1.2 W filament bulb.				
110 - 127V AC	6 V AC	**KTR1-1001**	1SFA 616 950 R1001	
220 - 250 V AC	6 V AC	**KTR1-1002**	1SFA 616 950 R1002	
380 - 420 V AC	6 V AC	**KTR1-1003**	1SFA 616 950 R1003	
440 - 480 V AC	6 V AC	**KTR1-1004**	1SFA 616 950 R1004	
500 - 600 V AC	6 V AC	**KTR1-1005**	1SFA 616 950 R1005	**$ 35.00**
110 - 127 V AC	24 V AC ①	**KTR1-1011**	1SFA 616 950 R1011	
220 - 250 V AC	24 V AC ①	**KTR1-1012**	1SFA 616 950 R1012	
380 - 420 V AC	24 V AC ①	**KTR1-1013**	1SFA 616 950 R1013	
440 - 480 V AC	**24 V AC** ①	**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	**KTR1-2001**	1SFA 616 950 R2001	
220 - 250 V AC	6 V AC	**KTR1-2002**	1SFA 616 950 R2002	
380 - 420 V AC	6 V AC	**KTR1-2003**	1SFA 616 950 R2003	
440 - 480 V AC	6 V AC	**KTR1-2004**	1SFA 616 950 R2004	
500 - 600 V AC	6 V AC	**KTR1-2005**	1SFA 616 950 R2005	**35.00**
110 - 127 V AC	24 V AC ①	**KTR1-2011**	1SFA 616 950 R2011	
220 - 250 V AC	24 V AC ①	**KTR1-2012**	1SFA 616 950 R2012	
380 - 420 V AC	24 V AC ①	**KTR1-2013**	1SFA 616 950 R2013	
440 - 480 V AC	**24 V AC** ①	**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





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	
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	**$6.00**
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 086-7**	5911 086-7	

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						
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	**$ 21.00**
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 ① Service life >50 000 h						
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	**15.00**
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 ① Service life >50 000 h						
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	**21.00**
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 ① Service life >50 000 h						
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	**21.00**
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 ① Service life 25 000 h						
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	**15.00**
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 ① Service life 25 000 h						
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	**21.00**
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 ① Service life 25 000 h						
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	**21.00**
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	

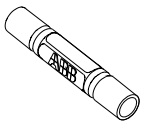
① At AC the luminance is decreased with 30 % and there is also a slight flickering.



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	**MA1-8015**	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	



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

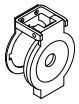
For flush and extended buttons

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



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



8

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 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**



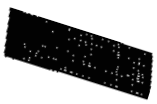
Adaptors

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

Description	Catalog No.	Ref. Code	List Price
Ronis 455 (key code 71)	**SK 616 021-71**	SK 616 021-71	
Ronis 421 (key code 72)	**SK 616 021-72**	SK 616 021-72	**$ 10.00**
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	
Green	**KA1-8032**	1SFA 616 920 R8032	
Yellow	**KA1-8033**	1SFA 616 920 R8033	$ **2.50**
Blue	**KA1-8034**	1SFA 616 920 R8034	
White	**KA1-8035**	1SFA 616 920 R8035	



Buttons for pushbuttons (Packing unit 10 pieces)

Description	Color	Catalog No.	Ref. Code	List Price
Flush, opaque	Red	**KA1-8081**	1SFA 616 920 R8081	
	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	$ **1.50**
	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	













22mm hole plug (UL Type 1, 3R, 4, 4X, 12)

Hole plugs are used to cover pushbutton holes in panels

Description	Catalog No.	List Price
22mm hole plug	**CBK-XP**	**$ 2.00**

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 de-pressed position. Holes fit standard 1/4" padlock.

Description	Catalog No.	List Price
Padlock attachment	**CBK-XPA**	**$ 20.00**

Spare gasket

Description	Catalog No.	List Price
Gasket	**CBK-XRG**	**$ 1.00**

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**

Technical data

E 57057

Approvals

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

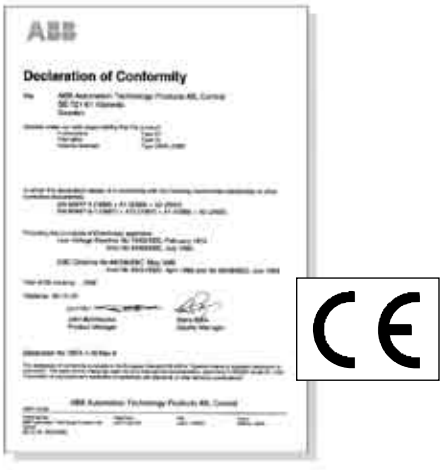
For detail information please contact ABB

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	Type1, 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	–
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 push-button	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
Exception: All pilot devices with 2 W continuously lit filament bulb	*-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 mm²/AWG 20 max. 2 x 2.5 mm²/2 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

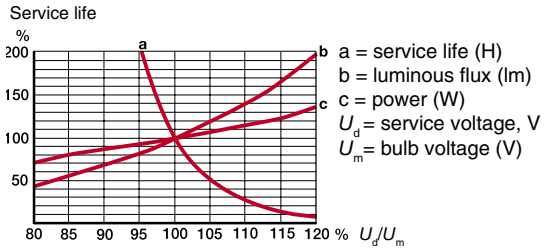
Lamp block

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.

Notes

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
- 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

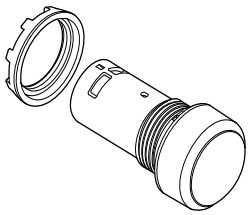
Pilot lights

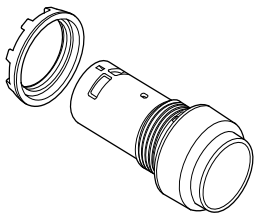
- Ba 9s base for bulbs (6-130 V) or LED (12-130 V DC, 24-230 V AC)
- Pilot light with integrated LED (12-220 V DC, 24-230 V AC)



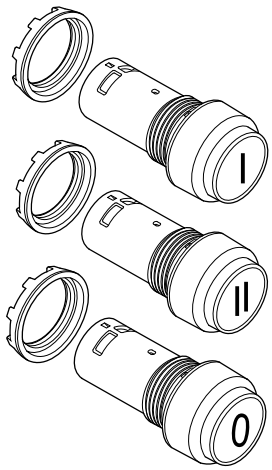
42 mm

Flush and extended pushbuttons
Non-illuminated





Bezel in black plastic as standard
Bezel in metal:
Replace '**1**' in the:
Catalog No. CPX-1 0X
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 ...

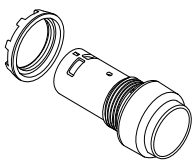
Description	Catalog No.	Ref. Code	List Price
Flush button			
Momentary			
Contacts included:			
1 NO	**CP110■-10**	1SFA 619 100 R101□	**$ 15.20**
2 NO	**CP110■-20**	1SFA 619 100 R102□	**19.90**
1 NC	**CP110■-01**	1SFA 619 100 R104□	**15.20**
2 NC	**CP110■-02**	1SFA 619 100 R105□	**19.90**
1 NO +1 NC	**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**
Flush button			
Momentary			
White button with black I			
Contacts included:			
1 NO	**CP1110W-10**	1SFA 619 110 R1015	**16.70**
Momentary			
White button with black II			
Contacts included:			
1 NO	**CP1210W-10**	1SFA 619 120 R1015	**16.70**
Extended button			
Momentary			
Black button with white O			
Contacts included:			
1NC	**CP3310B-01**	1SFA 619 132 R1046	**16.70**

Ordering example – Compact pushbutton

Requested: A compact pushbutton, momentary, with red extended button and one NO contact.

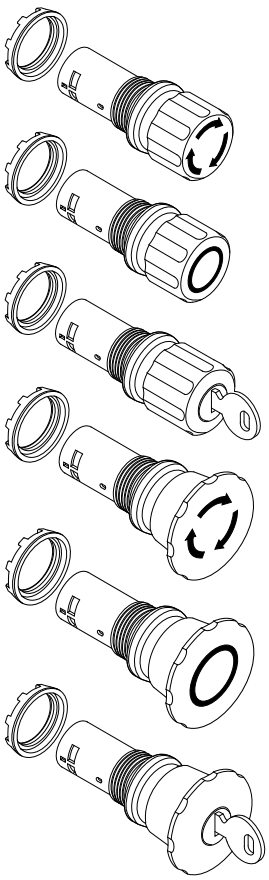
Ref.: 10 pieces of CP3-10R-10

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



Emergency stop pushbuttons
Non-illuminated

Fulfills IEC 60947-5-5



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

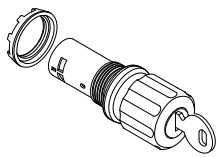
Plastic operator

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

Ordering example – Compact Emergency stop pushbutton

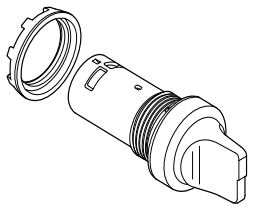
Requested: A compact emergency stop pushbutton, 30 mm, with key release and two NC contacts.

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



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

Two and three position selector switches
Non-illuminated

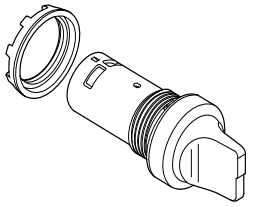


Contacts actuated

Two position selector switch

Contacts included,

	actuated in position **C**			
	NC	NO	NC	NO
	11	13	21	23
	12	14	22	24
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. CPX-1 0X

Ref. Code 1SFA619XXX R 1XXX

3 for metal bezel

Contacts actuated

Three position selector switch

Contacts included,

	actuated in position:			
	A		**C**	
	NC	NO	NC	NO
	21	23	11	13
	22	24	12	14
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 ...

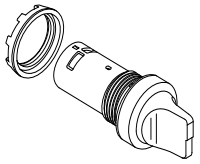
Description	Catalog No.	Ref. Code	List Price
Short handle. Two positions			
Maintained			
Contacts included: 			
1 NO	**C2SS110■-10**	1SFA 619 200 R101□	**$ 19.60**
2 NO	**C2SS110■-20**	1SFA 619 200 R102□	**27.20**
1 NC	**C2SS110■-01**	1SFA 619 200 R104□	**22.70**
2 NC	**C2SS110■-02**	1SFA 619 200 R105□	**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□	**16.70**
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□	
2 NC	**C3SS110■-02**	1SFA 619 210 R105□	**27.20**
1 NO + 1 NC	**C3SS110■-11**	1SFA 619 210 R107□	
Momentary			
Contacts included: 			
2 NO	**C3SS210■-20**	1SFA 619 211 R102□	
2 NC	**C3SS210■-02**	1SFA 619 211 R105□	**27.20**
1 NO + 1 NC	**C3SS210■-11**	1SFA 619 211 R107□	
Momentary			
Contacts included: 			
2 NO	**C3SS310■-20**	1SFA 619 212 R102□	
2 NC	**C3SS310■-02**	1SFA 619 212 R105□	**27.20**
1 NO + 1 NC	**C3SS310■-11**	1SFA 619 212 R107□	
Momentary			
Contacts included: 			
2 NO	**C3SS710■-20**	1SFA 619 216 R102□	
2 NC	**C3SS710■-02**	1SFA 619 216 R105□	**27.20**
1 NO + 1 NC	**C3SS710■-11**	1SFA 619 216 R107□	

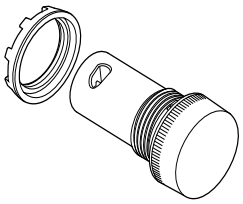
Ordering example – Compact selector switch

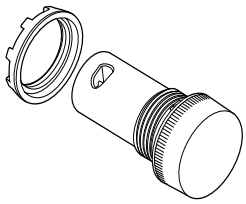
Requested: A red compact selector switch with three positions, Momentary, spring return from A to B and maintained position in C. With 2 NC contacts.

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

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







Pilot light Ba 9s base, bulb not included

Description	Catalog No.	Ref. Code	List Price
Color:			
Red	**CL-100R**	1SFA 619 402 R1001	
Green	**CL-100G**	1SFA 619 402 R1002	
Yellow	**CL-100Y**	1SFA 619 402 R1003	**$ 14.00**
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	Wavelength nm	Catalog No.	Ref. Code	List Price
Rated voltage 12 V, DC ①						
Red	30	60	625	**CL-501R**	1SFA 619 402 R5011	
Green	15	126	520	**CL-501G**	1SFA 619 402 R5012	
Yellow	30	60	590	**CL-501Y**	1SFA 619 402 R5013	**$ 25.00**
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	
Green	15	126	520	**CL-502G**	1SFA 619 402 R5022	
Yellow	15	60	590	**CL-502Y**	1SFA 619 402 R5023	**25.00**
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	
Green	15	126	520	**CL-504G**	1SFA 619 402 R5042	
Yellow	15	60	590	**CL-504Y**	1SFA 619 402 R5043	**25.00**
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	
Green	15	126	520	**CL-505G**	1SFA 619 402 R5052	
Yellow	15	60	590	**CL-505Y**	1SFA 619 402 R5053	**25.00**
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	
Green	15	126	520	**CL-513G**	1SFA 619 402 R5132	
Yellow	15	60	590	**CL-513Y**	1SFA 619 402 R5133	**25.00**
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	
Green	15	126	520	**CL-515G**	1SFA 619 402 R5152	
Yellow	15	60	590	**CL-515Y**	1SFA 619 402 R5153	**25.00**
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	
Green	15	126	520	**CL-520G**	1SFA 619 402 R5202	
Yellow	15	60	590	**CL-520Y**	1SFA 619 402 R5203	**25.00**
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	
Green	15	126	520	**CL-523G**	1SFA 619 402 R5232	
Yellow	15	60	590	**CL-523Y**	1SFA 619 402 R5233	**25.00**
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	
Green	15	126	520	**CL-530G**	1SFA 619 402 R5302	
Yellow	15	60	590	**CL-530Y**	1SFA 619 402 R5303	**25.00**
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	
Green	15	126	520	**CL-541G**	1SFA 619 402 R5412	
Yellow	15	60	590	**CL-541Y**	1SFA 619 402 R5413	**25.00**
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	
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	**$ 6.00**
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	Wavelength 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	
Green	15	525	1000	**KA2-2012**	1SFA 616 921 R2012	
Yellow	15	592	250	**KA2-2013**	1SFA 616 921 R2013	**$ 21.00**
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 ① Service life >50 000 h						
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	**15.00**
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 ① Service life >50 000 h						
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	**21.00**
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 ① Service life >50 000 h						
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	**21.00**
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 ① Service life 25 000 h						
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	**15.00**
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 ① Service life 25 000 h						
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	**21.00**
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 ① Service life 25 000 h						
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	**21.00**
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	

① At AC the luminance is decreased with 30 % and there is also a slight flickering.

Accessories



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	**MA1-8015**	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.	**SK 615 512-1**	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**



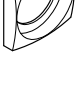
Button

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

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

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

E 57057

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

Ratings as per UL, CSA, NEMA	**C300**	**R300**
Rated insulation voltage	250 V	250 V
Rated thermal current	2.5 A	1 A
Rated operational current		
at 120 V	1.5 A	
125 V		0.22 A
240 V	0.75 A	
250 V		0.11 A
Ratings as per IEC 60947-5-1		
Rated insulation voltage, U_i	300 V	
Rated thermal current, I_{th}	5 A	
Rated operational current, I_e utilisation category AC-15		
at 120 V	1.5 A	
240 V	1 A	
Rated operational current, I_e, utilisation category DC-13,		
at 24 V	0.3 A	
125 V	0.2 A	
Short circuit protection		
Max. fuse at 1 kA	16 A ordinary 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 mm²/1 x AWG22 max. 2 x 1.5 mm²/2 x AWG14	
Compact pilot light		
Connectable area	min. 1 x 0.5 mm²/1 x AWG20 max. 2 x 2.5 mm²/2 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

Notes

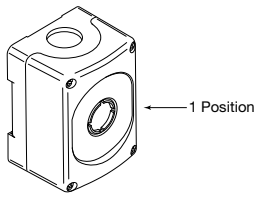
Assembled stations and enclosures



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

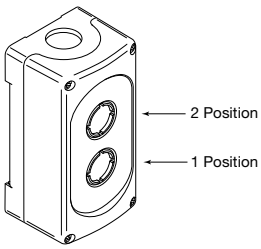


1-seat Plastic enclosures. Yellow top/light grey bottom

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

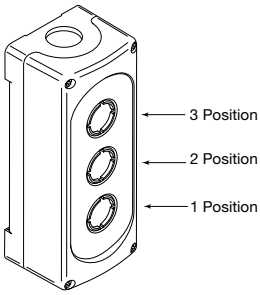
1-seat Plastic enclosure, dark grey top/light grey bottom

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



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

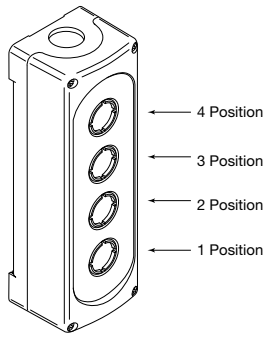
Description	Pos - 1	Pos - 2	Pos - 3	Pos - 4	Catalog No.	List Price
Type	Button mom, Ext.	Button mom, Flush	—	—		
Color	Red	Green	—	—		
Contacts	1 NC	1 NO	—	—		
Name plate	STOP	START	—	—	P2-SS	$ 63.20
Type	3-pos sel. Main	Pilot Light	—	—		
Color	Black	Red	—	—		
Contacts	2 NO	1 LB	—	—		
Name plate	HAND/OFF/AUTO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



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

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

Plastic enclosures
4 seat

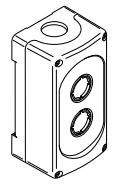
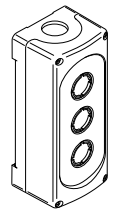
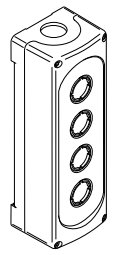
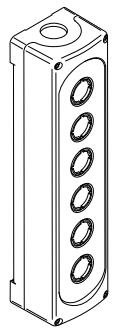


4-seat Plastic enclosure, dark grey top/light grey bottom

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

Degree of protection IP 66



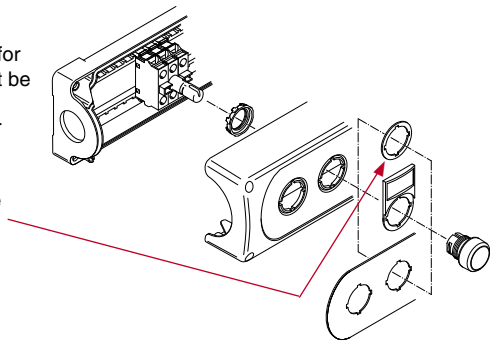
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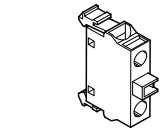
Empty plastic enclosures Now with stainless steel screws

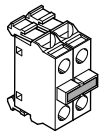
Size	Color top/bottom	Catalog No.	Ref. Code	List Price
1-seat	Dark grey/Light grey	**MEP1-0**	1SFA 611 811 R1000	**$ 28.00**
1-seat	Yellow/Light grey	**MEPY-0**	1SFA 611 821 R1000	**28.00**
2-seat	Dark grey/Light grey	**MEP2-0**	1SFA 611 812 R1000	**32.00**
3-seat	Dark grey/Light grey	**MEP3-0**	1SFA 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**

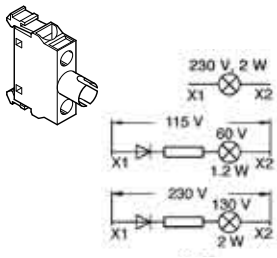
When Ordering

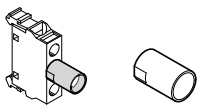
- Select operators from page 8.4 and 8.38.
  N.B. Selector switches with short handle for vertically mounted selector switches must be Ref.ed from page 8.45 - 8.46
- Select contact blocks and lamp blocks for **rear** mounting,see page 8.44.
- Accessories, see page 8.43
  N.B. **One spacer per operator** has to be Ref.ed if legend plate is not used.
  (for rear mounted pilot devices)





















Contact blocks for rear mounting

Description	Catalog No.	Ref. Code	List Price
Contact block			
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	
2NC	**MCB-02B**	1SFA 611 610 R2020	**16.00**
1NO+1NC	**MCB-11B**	1SFA 611 610 R2011	
Contact block 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**

Protective sleeve

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

Earthing terminal

Description	Catalog No.	Ref. Code	List Price
For plastic enclosure.	**MA5-2005**	1SFA 611 925 R3005	**$ 2.00**

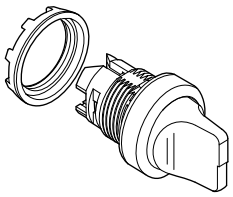
Spacer

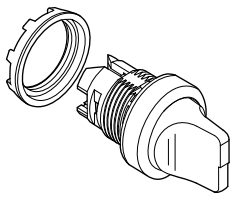
Description	Catalog No.	Ref. Code	List Price
1 mm thick. Needed when legend plates are not used in plastic enclosures. Spacer (Packing unit 10 pieces)	**SK 615 516-1**	SK 615 516-1	**$ 1.00**
Spacer for Modular emergency stop pushbutton, page ?? (Packing unit 10 pieces)	**KA1-8045**	1SFA 616 920 R 8045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

Blanking plug (22mm)

Description	Catalog No.	Ref. Code	List Price
Black plastic	**SK 615 502-B**	SK 615 502-B	**$ 2.00**

Two position selector switches
for mounting in vertically mounted enclosures





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

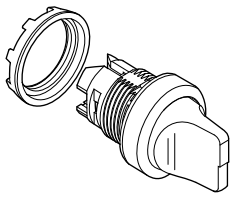
Symbol	Handle color	Catalog No.	Ref. Code	List Price
with short handle				
Maintained				
	Red	**M2SSV1-10R**	1SFA 611 220 R1001	**$ 11.00**
	Black	**M2SSV1-10B**	1SFA 611 220 R1006	
Maintained				
	Red	**M2SSV2-10R**	1SFA 611 221 R1001	**11.00**
	Black	**M2SSV2-10B**	1SFA 611 221 R1006	
Momentary, spring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

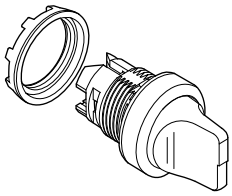
Illuminated operator ... ① ②

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

Three position selector switches
for mounting in vertically mounted enclosures





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

Non-illuminated operator ... ①

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

Notes

Legend plates



Fixed legend plates

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

Special legend plates

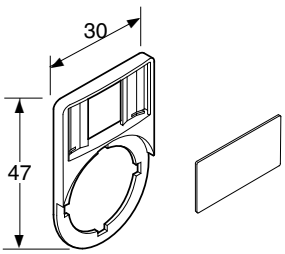
- For emergency stop pushbuttons
- Legend plate with or without customer selected text
- Legend plate holders with inserts of brushed aluminum on black plastic. With or without text or symbol for:
  -pushbuttons
  -two-position selector switch
  -three position selector switch
  -customer selected text

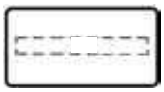
  For plastic enclosures:
- Legend plate holders with inserts of brushed aluminum on black plastic. With or without text or symbol for push-buttons
- Legend plates of silvergrey aluminum For 1- 2-, 3- 4- or 6-seat plastic enclosures
  With or without text or symbol for:
  -pushbuttons

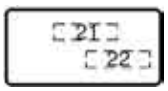
Text caps

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

Special legend plates





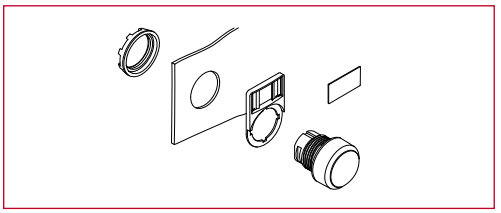


For two-position. selector switch

Legend plate holders with inserts

- Holder of black plastic.
- Holder of grey plastic for plastic enclosures.
- Insert of brushed 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

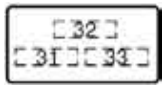
Description	Catalog No.	List Price
Of brushed aluminum on black plastic With text or symbol		
O	**1SFA 611 930 R1032**	**$ .70**
I	**1SFA 611 930 R1033**	
→	**1SFA 611 930 R1034**	
→→	**1SFA 611 930 R1035**	
Close	**1SFA 611 930 R1036**	
Open	**1SFA 611 930 R1037**	
On	**1SFA 611 930 R1038**	
Off	**1SFA 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

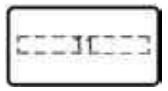
Of brushed aluminum on black plastic. Text on both sides.

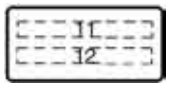
Description		Catalog No.	List Price
With text or symbol			
Pos. 21	Pos. 22		
O	I	**1SFA 611 930 R 1070**	**$ .70**
I	II	**1SFA 611 930 R 1071**	
→	→→	**1SFA 611 930 R 1072**	
Off	On	**1SFA 611 930 R 1073**	
Stop	Start	**1SFA 611 930 R 1074**	
Low	High	**1SFA 611 930 R 1075**	
Slow	Fast	**1SFA 611 930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

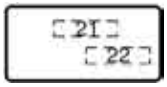
Special legend plates

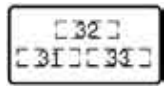


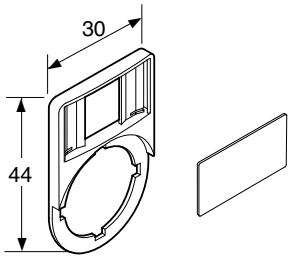
For three-position selector switch











Inserts for three-position selector switches

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

Description			Catalog No.	List Price
With text or symbol				
Pos. 31	Pos. 32	Pos. 33		
←	O	→	**1SFA 611 930 R 1080**	
→	O	→→	**1SFA 611 930 R 1081**	
I	O	II	**1SFA 611 930 R 1082**	**$ .70**
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**	**$ .70**

Inserts with text/symbol

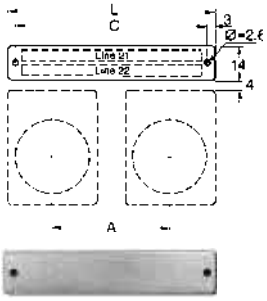
Description	Catalog No.	List Price
Of brushed aluminum on black plastic		
With text or symbol		
O	**1SFA 611 930 R1062**	
I	**1SFA 611 930 R1063**	**$ .70**
II	**1SFA 611 930 R1064**	

8

Special legend plates







Emergency stop legend plates ①

Description/Text	Catalog No.	List Price
Black text on a yellow aluminum plate.		
Nöd Stopp	**SK 615 546-1**	
Emergency Stop	**SK 615 546-2**	
Not Aus	**SK 615 546-3**	
ARRET D'URGENCE	**SK 615 546-4**	
HÄTÄSEIS	**SK 615 546-5**	**$ 6.00**
PARADA DE EMERGENCIA	**SK 615 546-6**	
EMERGENCY STOP		
NOT AUS		
ARRET D'URGENCE	**SK 615 546-13**	
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**

More emergency stop legend plates on page 8.60.

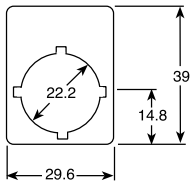
Legend plates without or with customer-selected text

Of aluminum

Number of operations	Max. number of characters per line	Dimensions A	L	C	Without text ② Catalog No.	With text ③ Catalog No.	List Price
1	7	-	29.6	23.6	**SK 615 545-1**	**SK 615 998-1**	
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**	**$ 6.00**
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**	

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 packkage: 1.

Legend plates
for pushbuttons



Engraved fixed legend plates, with symbols ①

Of silvergrey aluminum

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

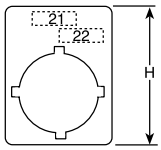
Engraved fixed legend plates, with text ①

Of silvergrey aluminum

Text	Catalog No.	List Price
English		
Close	SK 615 552-13	$ 1.50
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	
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	

① Text height 3 mm.

Legend plates
for two-position selector switches



H = 39 mm

Engraved fixed legend plates, with symbols ①

Of silvergrey aluminum

Symbol/Text Pos 21	Pos. 22	Catalog No.	List Price
O	I	**SK 615 550-75**	
I	II	**SK 615 550-76**	**$ 1.50**
→	→→	**SK 615 562-72**	

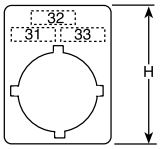
Engraved fixed legend plates, with text ①

Of silvergrey aluminum

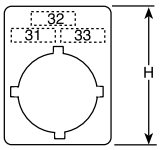
Symbol/Text Pos 21	Pos. 22	Catalog No.	List Price
English			
Hand	Auto	**SK 615 550-71**	
Jog	Run	**SK 615 552-52**	**$ 1.50**
Off	On	**SK 615 552-53**	
Stop	Start	**SK 615 552-55**	

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

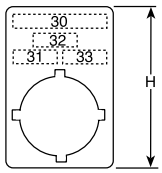
Legend plates
for three-position selector switches



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	Catalog No.	List Price
I	O	II	**SK 615 550-81**	
←	O	→	**SK 615 562-82**	**$ 1.50**
→	O	→→	**SK 615 562-83**	

Engraved fixed legend plates, with text ①
Of silvergrey aluminum

Symbol/Text Pos 31	Pos. 32	Pos. 33	Catalog No.	List Price
English				
Hand	O	Auto	**SK 615 550-80**	**$ 1.50**
Slow	Off	Fast	**SK 615 552-60**	

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

Custom engraved inserts

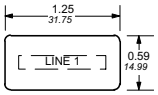
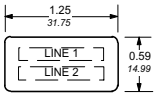
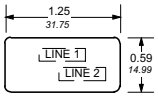
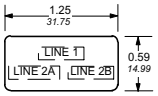
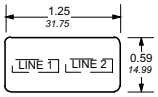




CBK-NPE19-01

Nameplate inserts — aluminum ①

8

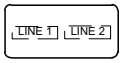
Type	Maximum letters per line	Catalog number	List price
 1 line	11	MP-NP19-01	
 2 lines	11	MP-NP19-02	
 2 position selector switch	5	MP-NP19-03	**$ 5.90**
 3 position selector switch	5	MP-NP19-04	
 2 position selector switch	5	MP-NP19-05	

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.

EXAMPLE:

MP-NP19-05
1: FWD
2: REV



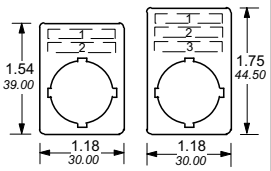
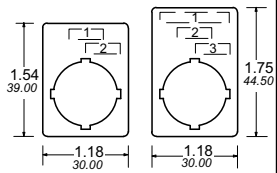
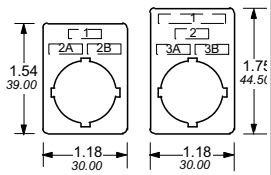
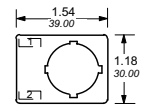
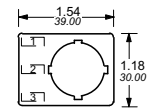


"MP-NP19" is the blank legend plate catalog number. "-05" refers to the layout of text (see dimension illustrations).

① For drilling plans, see page 8.68.
② "PW" and "PB" are the same material with either the white or black side showing.

Custom engraved nameplates

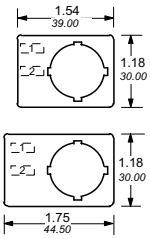
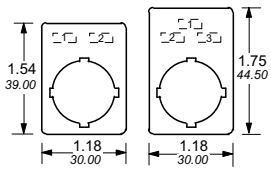
Fixed nameplates — aluminum or plastic ①

Type	Maximum letters per line	Finish ②	Catalog number	List price
 Pushbuttons or pilot lights	11 39mm	A B BA W	MP-NPE28-01 MP-NPE28B-01 MP-NPE28BA-01 MP-NPE28W-01	$ 6.50
	11 44.5mm	A B BA W	MP-NPE29-01 MP-NPE29B-01 MP-NPE29BA-01 MP-NPE29W-01	
 2 Position selector switches	5 39mm	A B BA W	MP-NPE28-02 MP-NPE28B-02 MP-NPE28BA-02 MP-NPE28W-02	
	11 (line 1) 5 (line 2) 5 (line 3) 44.5mm	A B BA W	MP-NPE29-02 MP-NPE29B-02 MP-NPE29BA-02 MP-NPE29W-02	
 3 Position selector switches	5 39mm	A B BA W	MP-NPE28-03 MP-NPE28B-03 MP-NPE28BA-03 MP-NPE28W-03	
	11 (line 1) 5 (line 2) 5 (line 3A) 5 (line 3B) 44.5mm	A B BA W	MP-NPE29-03 MP-NPE29B-03 MP-NPE29BA-03 MP-NPE29W-03	
 2 Position toggle switches	4 39mm	A B BA W	MP-NPE28-04 MP-NPE28B-04 MP-NPE28BA-04 MP-NPE28W-04	
	5 44.5mm	A B BA W	MP-NPE29-04 MP-NPE29B-04 MP-NPE29BA-04 MP-NPE29W-04	
 3 Position toggle switches	39mm	A B BA W	MP-NPE28-05 MP-NPE28B-05 MP-NPE28BA-05 MP-NPE28W-05	
	44.5mm	A B BA W	MP-NPE29-05 MP-NPE29B-05 MP-NPE29BA-05 MP-NPE29W-05	



CBK-NPE28-02

Fixed nameplates — aluminum or plastic ①

Type	Maximum letters per line	Finish ②	Catalog number	List price
 Pushbuttons or pilot lights	11 39mm	A B BA W	MP-NPE28-06 MP-NPE28B-06 MP-NPE28BA-06 MP-NPE28W-016	$ 6.50
	11 44.5mm	A B BA W	MP-NPE29-06 MP-NPE29B-06 MP-NPE29BA-06 MP-NPE29W-06	
 2 Position selector switches	5 39mm	A B BA W	MP-NPE28-07 MP-NPE28B-07 MP-NPE28BA-07 MP-NPE28W-07	
	11 (line 1) 5 (line 2) 5 (line 3) 44.5mm	A B BA W	MP-NPE29-07 MP-NPE29B-07 MP-NPE29BA-07 MP-NPE29W-07	

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.

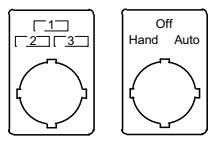
Ordering custom engraved nameplates

1. Select the desired legend plate.
2. 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 8.68.
② Finish: A = brushed aluminum; B = black plastic face with white letters; BA = plastic with brushed aluminum finish; W = white plastic face with black letters.

Engraved legend plate form
Custom engraved nameplates

ENGRAVED LEGEND PLATE FORM
MP-NP19, MP-NP19B, MP-NP19W

PAGE: _____ OF: _____

MP-NP19- ___ ___ (BRUSHED ALUMINUM)

MP-NP19B- ___ ___ (PLASTIC, BLACK FACE / WHITE LTRS)

MP-NP19W- ___ ___ (PLASTIC, WHITE FACE / BLACK LTRS)

ORIG. DATE: _____

ISSUED BY: _____

ALL CAPITALS? YES NO

REMARKS: _____

ORDER NUMBER: _____

ORDER: QTY: _____

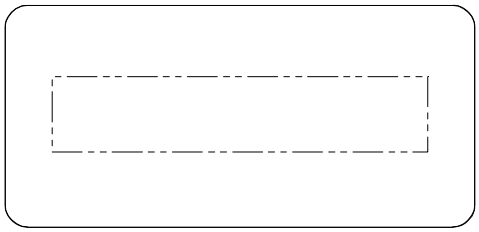
SHIPPING METHOD: _____

DUE DATE: _____ – _____ – _____

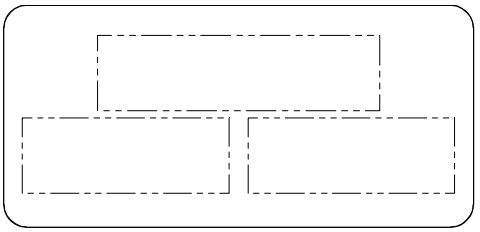
ENGRAVER: _____

Q.C. INSPECTION: _____

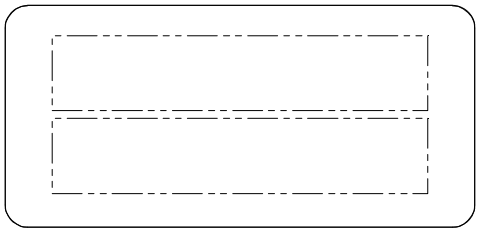
PRINT INFORMATION TO BE ENGRAVED



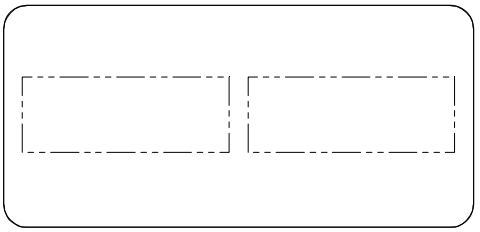
-01



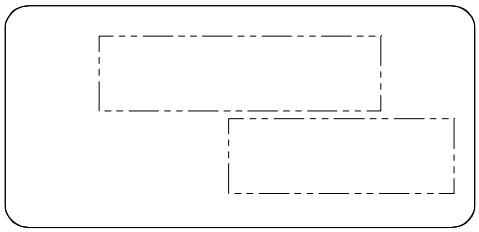
-04



-02



-05



-03

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

ENGRAVED LEGEND PLATE FORM

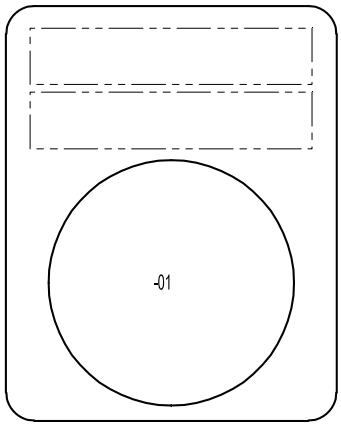
MP-NPE28, MP-NPE28P, MP-NPE28B, MP-NPE28W PAGE:____OF:_____

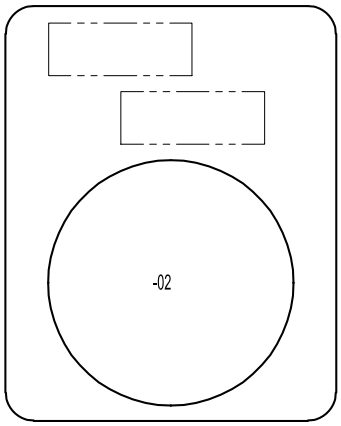
MP-NPE28-___ ___ (BRUSHED ALUMNINUM)
MP-NPE28BA-___ ___ (PLASTIC, BRUSHED FINISH)
MP-NPE28B-___ ___ (PLASTIC, BLACK FACE/WHITE LTRS)
MP-NPE28W-___ ___ (PLASTIC, WHITE FACE/BLACK LTRS)

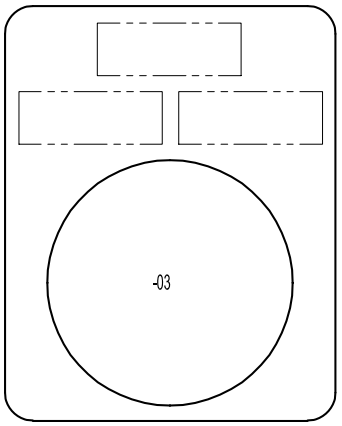
ORIG. DATE:_____
ISSUED BY:_____
ALL CAPITALS? YES NO
REMARKS:_____

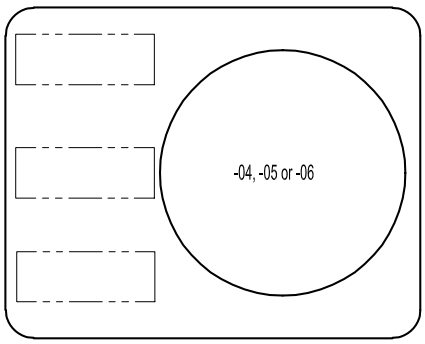
ORDER NUMBER:_____
ORDER: QTY:_____
SHIPPING METHOD:_____
DUE DATE:____ - ____ - ___
ENGRAVER: _____
Q.C. INSPECTION:_____

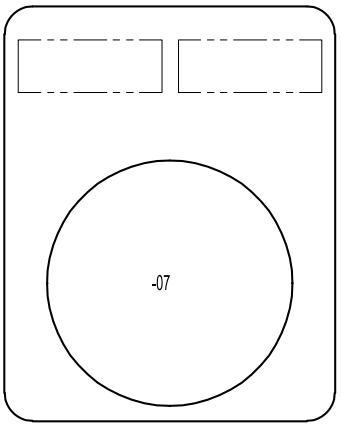
PRINT INFORMATION TO BE ENGRAVED











MP-NPE28
5/26/04

8

Engraved legend plate form
Custom engraved nameplates

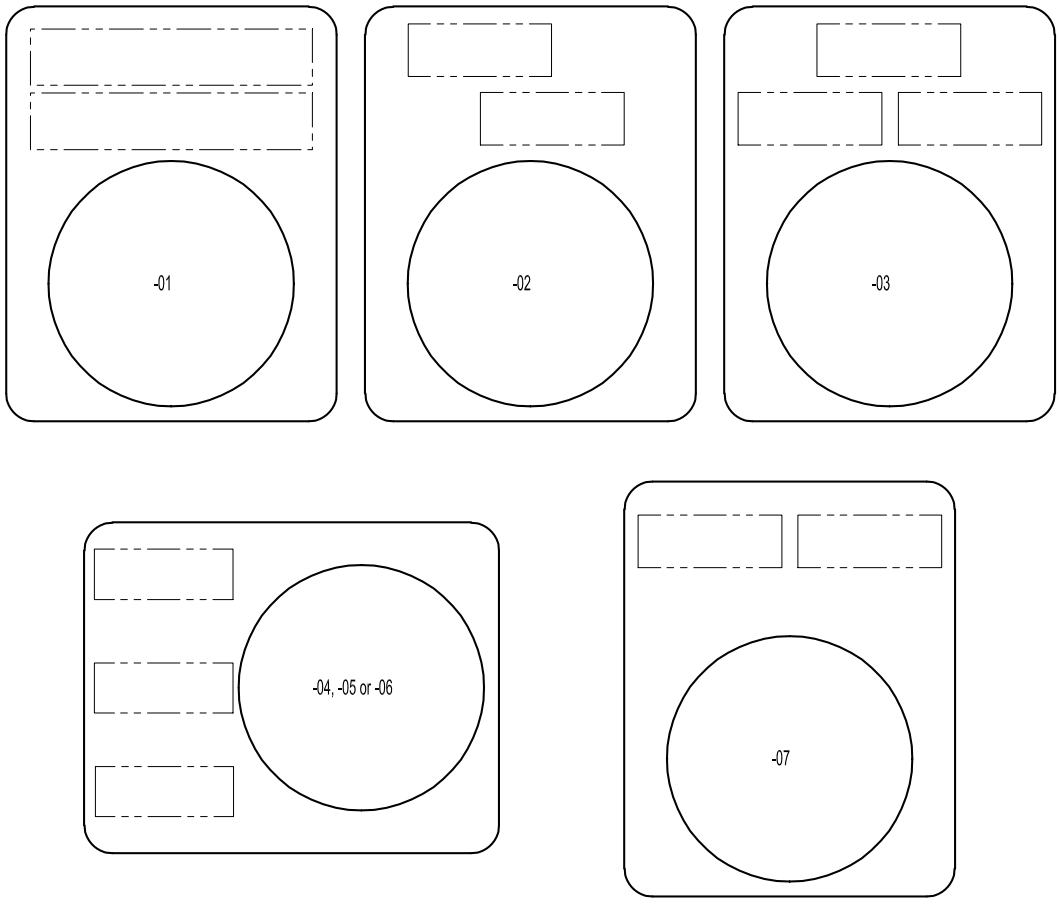
ENGRAVED LEGEND PLATE FORM

G1MP-NPE28, G1MP-NPE28P, G1MP-NPE28B, G1MP-NPE28W PAGE:____OF:_____

G1MP-NPE28-___ ___ (BRUSHED ALUMNINUM)
G1MP-NPE28BA-___ ___ (PLASTIC, BRUSHED FINISH)
G1MP-NPE28B-___ ___ (PLASTIC, BLACK FACE/WHITE LTRS)
G1MP-NPE28W-___ ___ (PLASTIC, WHITE FACE/BLACK LTRS)
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



G1MP-NPE28
6/10/04

Engraved legend plate form
Custom engraved nameplates

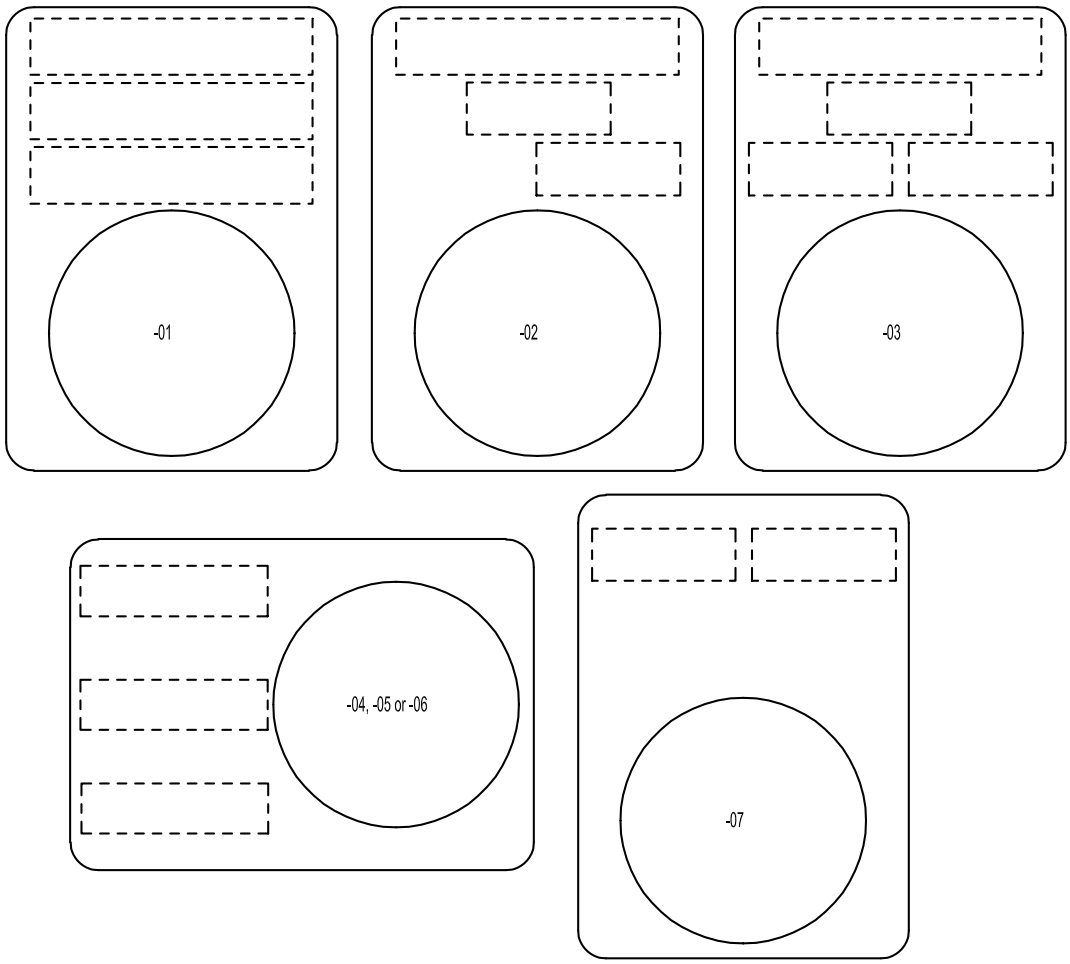
ENGRAVED LEGEND PLATE FORM

G1MP-NPE29, G1MP-NPE29P, G1MP-NPE29B, G1MP-NPE29W PAGE:____OF:_____

G1MP-NPE29-___ ___ (BRUSHED ALUMNINUM)
G1MP-NPE29BA-___ ___ (PLASTIC, BRUSHED FINISH)
G1MP-NPE29B-___ ___ (PLASTIC, BLACK FACE/WHITE LTRS)
G1MP-NPE29W-___ ___ (PLASTIC, WHITE FACE/BLACK LTRS)
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



G1MP-NPE29
6/10/04

8

Engraved legend plate form
Custom engraved nameplates

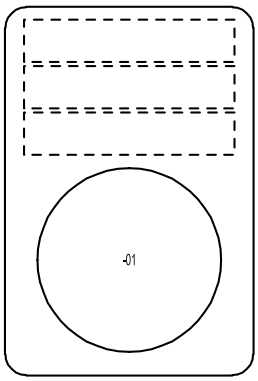
ENGRAVED LEGEND PLATE FORM

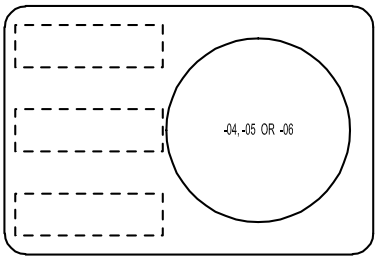
MP-NPE29, MP-NPE29P, MP-NPE29B, MP-NPE29W PAGE:____OF:_____

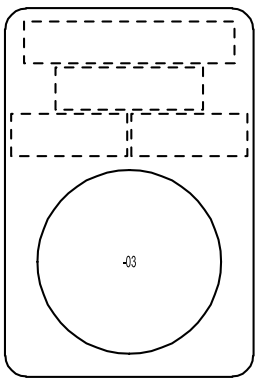
MP-NPE29- ___ ___ (BRUSHED ALUMNINUM)
MP-NPE29BA- ___ ___ (PLASTIC, BRUSHED FINISH)
MP-NPE29B- ___ ___ (PLASTIC, BLACK FACE/WHITE LTRS)
MP-NPE29W- ___ ___ (PLASTIC, WHITE FACE/BLACK LTRS)
ORIG. DATE:_____
ISSUED BY:_____
ALL CAPITALS? YES NO
REMARKS:_____

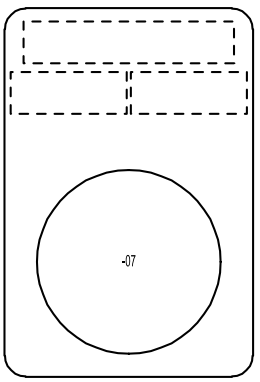
ORDER NUMBER:_____
ORDER: QTY:_____
SHIPPING METHOD:_____
DUE DATE:____ - ____ - ___
ENGRAVER: _____
Q.C. INSPECTION:_____

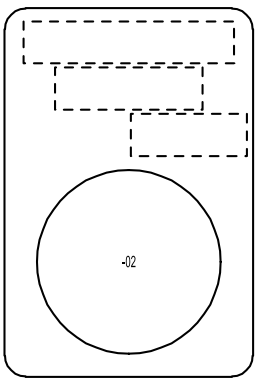
PRINT INFORMATION TO BE ENGRAVED











MP-NPE29
6/10/04

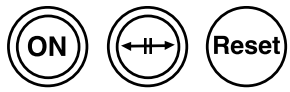
Text caps

Legend	Cap color ①	Suffix code ②	Flush button catalog number	Extended button catalog number	Pilot light catalog number	List price
☀	White	C82	1SFA616901R9036	—	—	$ .90
Start	White	C67	1SFA616901R2030	1SFA616902R2030	1SFA616903R2030	
START	Green	C5	1SFA616906R1042	—	—	
	Black	C81	1SFA616908R1042	—	—	
On	White	C68	1SFA616901R1020	1SFA616902R1020	1SFA616903R1020	
ON	White	C69	1SFA616901R1039	—	1SFA616903R1039	
	Green	C70	1SFA616906R1039	—	—	
	Black	C1	1SFA616908R1030	—	—	
Off	White	C71	1SFA616901R1019	1SFA616902R1019	1SFA616903R1019	
OFF	White	C72	—	1SFA616902R1040	—	
	Red	C73	—	1SFA616905R1040	—	
	Black	C2	1SFA616908R1040	1SFA616909R1040	—	
Stop	White	C74	1SFA616901R1031	1SFA616902R1031	1SFA616903R1031	
STOP	Red	C4	1SFA616904R1047	1SFA616905R1047	—	
Reset	White	C75	1SFA616901R1025	1SFA616902R1025	1SFA616903R1025	
Blank	White	C15	1SFA616901R9000	1SFA616902R9000	1SFA616903R9000	
	Green	CG	2949 1468-2	2949 1469-2	—	
UP	Green	C11	1SFA616906R1043	—	—	
DOWN	Green	C12	1SFA616906R1044	—	—	
OPEN	White	C16	1SFA616901R1045	—	—	
	Green	C19	1SFA616906R1045	—	—	
CLOSE	White	C17	1SFA616901R1046	—	—	
	Green	C20	1SFA616906R1046	—	—	
REV	Green	C6	1SFA616906R1048	—	—	
FWD	Green	C7	1SFA616906R1049	—	—	
SLOW	Green	C8	1SFA616906R1050	—	—	
FAST	Green	C9	1SFA616906R1051	—	—	
JOG	Green	C10	1SFA616906R1052	—	—	
RESET	Black	C3	1SFA616908R1041	—	—	
LATCH	White	C18	1SFA616901R1053	—	—	

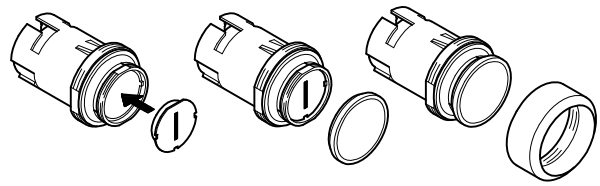

Flush pushbutton


Extended pushbutton


Pilot light



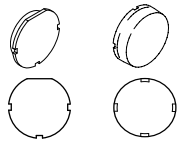
Examples of inserts


1 2 3
Insert assembly

① Illuminated pushbuttons and pilot lights must use white insert.
② For extended pushbuttons, insert “E” at the end of the catalog number. For pilot lights, insert “P” at end of the catalog number.

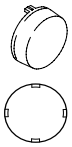
Text caps

Flush button **Extended button**



Can be turned 90° or 180°

Pilot light

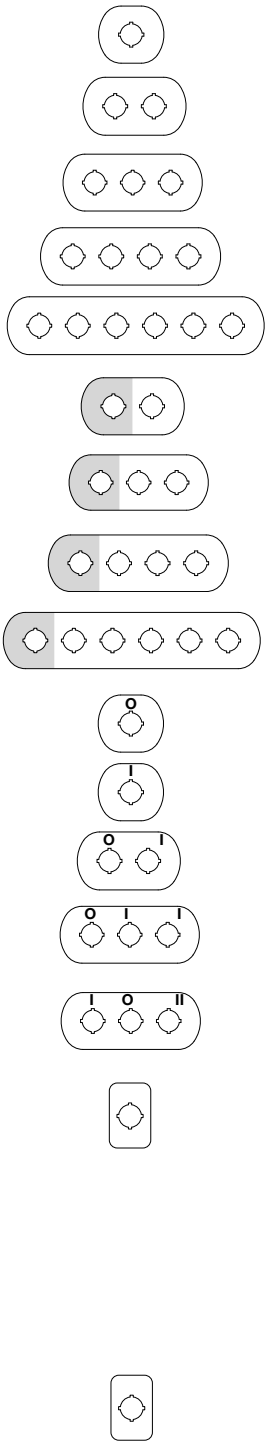


Text caps for illuminated pushbuttons and pilot lights

Text/Symbol ①	Cap color 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**	
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 “E” for extended button or “P” for pilot light.

Special legend plates
for plastic enclosures



Legend plates for plastic enclosures
For 1, 2, 3, 4 or 6-seat

Description	Catalog No.	List Price
Of silvergrey aluminum.		
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.(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**

Symbol/Text Pos 1 2 3	Catalog No.	List Price
Of silvergrey aluminum.		
1-seat OFF	**1SFA 611 930 R1012**	**$ 17**
1-seat ON	**1SFA 611 930 R1013**	**17**
2-seat OFF/ON	**1SFA 611 930 R1014**	**20**
3-seat OFF/ON/RUN	**1SFA 611 930 R1015**	**23**
3-seat HAND/OFF/AUTO	**1SFA 611 930 R1016**	**23**

Emergency stop legend plate

Desciption/Text	Catalog No.	List Price
Black text on an yellow aluminum plate.		
Legend plate without text	**1SFA 611 930 R1010**	
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**	**$ 15**
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**

Notes

Signal Towers K70
Signal Beacons KSB



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, 24-230V

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

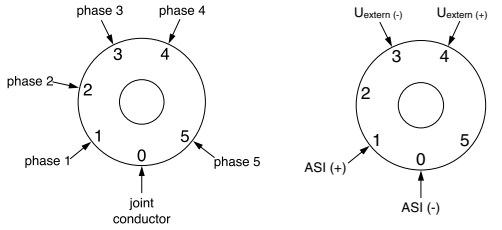
Simple fitting with quick fix system

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).

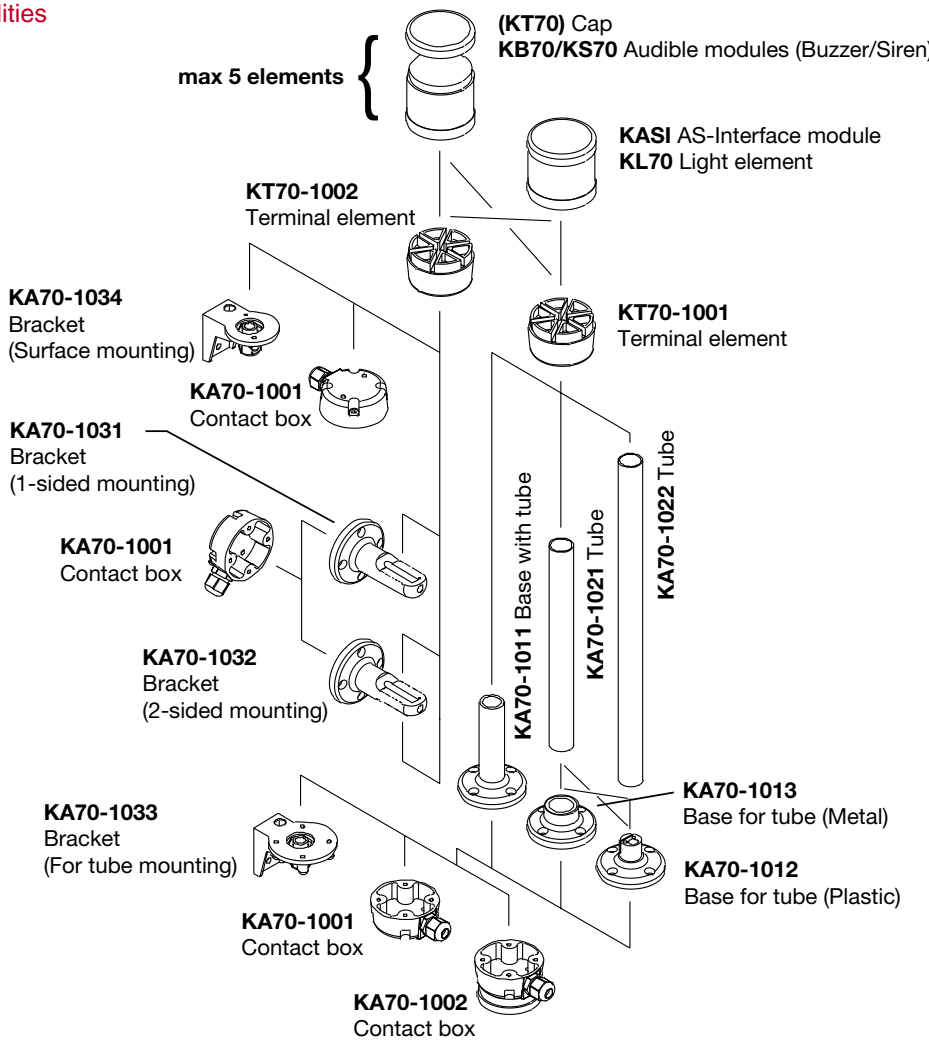


Connection plans

With AS Interface module



Combination possibilities









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








KA70-1001


KA70-1002


KA70-1012


KA70-1013

KA70-1021


KA70-1011


KA70-1032


KA70-1033

Description	Catalog No.	Ref. Code	List Price
Bulbs for Signal Tower K70 Bulb Ba 15d, 42 mm, Max 7 W For permanent or blinking light.			
24 V, 5 W, AC/DC	**1SFA 616 923 R1028**	1SFA 616 923 R1028	
115 V, 5 W, AC/DC	**1SFA 616 923 R1118**	1SFA 616 923 R1118	**$ 8.00**
230 V, 5 W, AC/DC	**1SFA 616 923 R1148**	1SFA 616 923 R1148	
LED bulbs for Signal Tower K70 Ba 15d. For 24 V AC/DC, 40 mA			
Color:			
Red	**KA4-1021**	1SFA 616 924 R1021	
Green	**KA4-1022**	1SFA 616 924 R1022	
Yellow	**KA4-1023**	1SFA 616 924 R1023	**175.00**
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			
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 V AC	**KS70-1104**	1SFA 616 073 R1104	**155.00**
Multi function, 8 diff. tones adjustable, volume adjustable 100 dB, 230 V AC	**KS70-1204**	1SFA 616 073 R1204	**155.00**
Multi function, 7 diff. tones adjustable, volume adjustable, remote control 100 dB, 24 V DC	**KS70-2004**	1SFA 616 073 R2004	**145.00**
Multi function, 8 diff. tones adjustable, volume adjustable,100 dB, 24 V AC/DC	**KS70-3004**	1SFA 616 073 R3004	**145.00**
Continuous tone alternating 108 dB, 24 V DC	**KS70-2002**	1SFA 616 073 R2002	**100.00**
AS-Interface Module			
18,5-31,6 V AC/DC	**KASI-4101**	1SFA 616 079 R4101	**300.00**
for external voltage 18,5-31,6 V AC/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**



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	
Green	**KSB-401G**	1SFA 616 080 R4012	
Yellow	**KSB-401Y**	1SFA 616 080 R4013	**$ 55.00**
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	
Green	**KSB-203G**	1SFA 616 080 R2032	
Yellow	**KSB-203Y**	1SFA 616 080 R2033	**180.00**
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	
Green	**KSB-113G**	1SFA 616 080 R1132	
Yellow	**KSB-113Y**	1SFA 616 080 R1133	**155.00**
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	
Green	**KSB-123G**	1SFA 616 080 R1232	
Yellow	**KSB-123Y**	1SFA 616 080 R1233	**155.00**
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	
Green	**KSB-305G**	1SFA 616 080 R3052	**190.00**
Yellow	**KSB-305Y**	1SFA 616 080 R3053	
LED Blinking light, 24 V AC/DC. LED included. Not changeable.			
Red	**K SB-306R**	1SFA 616 080 R3061	
Green	**K SB-306G**	1SFA 616 080 R3062	**195.00**
Yellow	**K SB-306Y**	1SFA 616 080 R3063	
LED Rotating light, 24 V AC/DC. LED included. Not changeable.			
Red	**KSB-307R**	1SFA 616 080 R3071	
Green	**KSB-307G**	1SFA 616 080 R3072	**195.00**
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.

Bulb Ba15d, 52 mm:			
12 V, 7 W, AC/DC	**1SFA 616 922 R1018**	1SFA 616 922 R1018	**8.00**
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

E 175 441

Technical specifications

Housing and accessories	Polyamide, high impact, black
Dome	Polycarbonate, transparent
Fixing	Base mounting Tube mounting, for tube ø 25 mm Bracket mounting
Socket	B 15 d, for bulb max. 7W
Connection	Screwable connection up to 2.5 mm²
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	24 V	115 V	230 V
AC/DC	AC/DC Bulb not included	AC/DC	
Starting current	< 0.5 A		
Flashing light element	24 V	115 V	230 V
	DC	AC	AC
Flash frequency	1 Hz	1 Hz	1 Hz
Flash energy	2 Ws	2 Ws	2 Ws
Life duration	4 x 10 ^{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	24 V	115 V	230 V
	AC/DC	AC	AC
Current consumption	45 mA	25 mA	25 mA
Starting current	< 0.5 A at 24 V		
LED Blinking light element	24 V	115 V	230 V
	AC/DC	AC	AC
Current consumption	25 mA	25 mA	25 mA
Starting current	< 0.5 A at 24 V		
Blink frequency	c. 1 Hz	c. 1Hz	c. 1 Hz
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

E 175 441

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 mm²

Degrees of protection

IP 65 UL Type 5

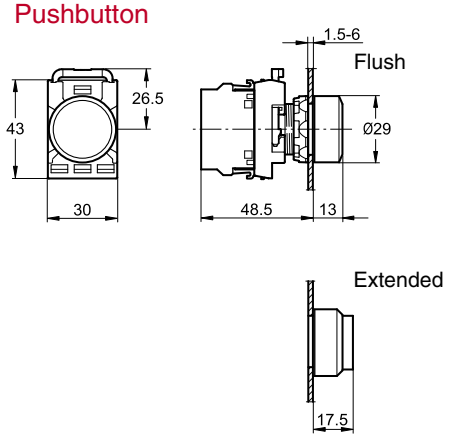
Electrical data

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	24 V	115 V	230 V
	AC/DC	AC	AC
Flash frequency	1 Hz	1 Hz	1 Hz
Flash energy	2 Ws	2 Ws	2 Ws
Life duration	4 x 10 ^{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		

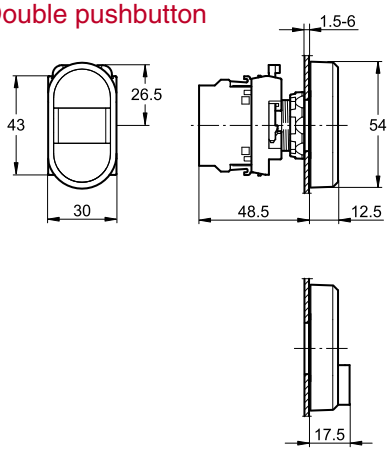
Approximate dimensions
Modular range

All dimensions in MM

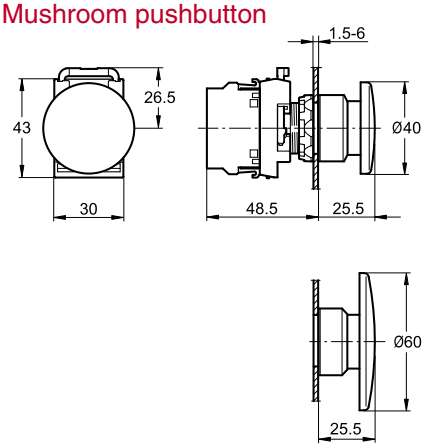
Pushbutton



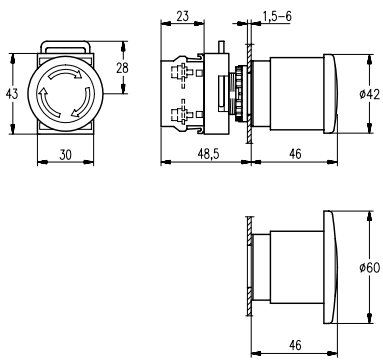
Double pushbutton



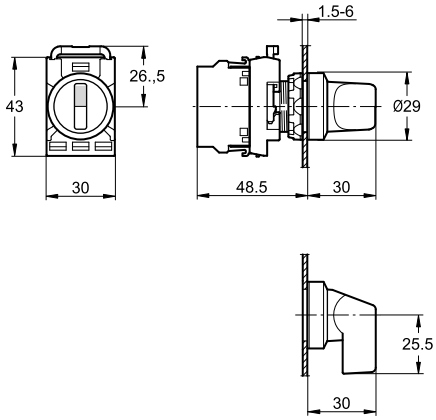
Mushroom pushbutton



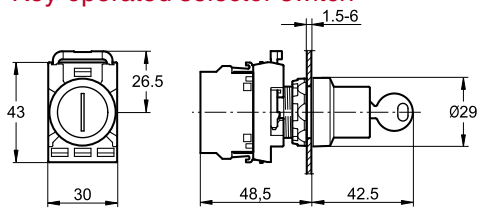
Emergency stop pushbutton



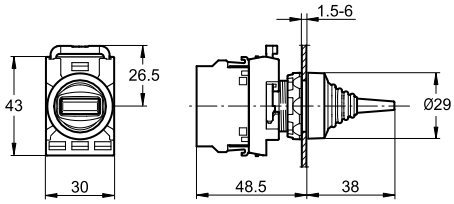
Selector switch



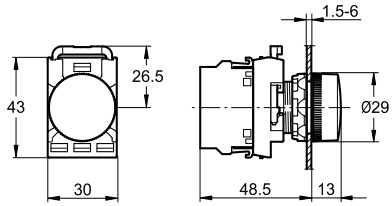
Key-operated selector switch



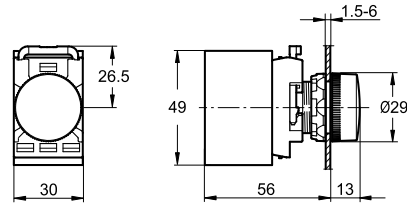
Toggle switch



Pilot light



Pilot light with transformer

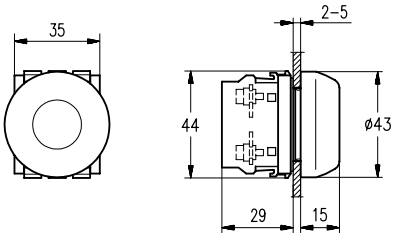


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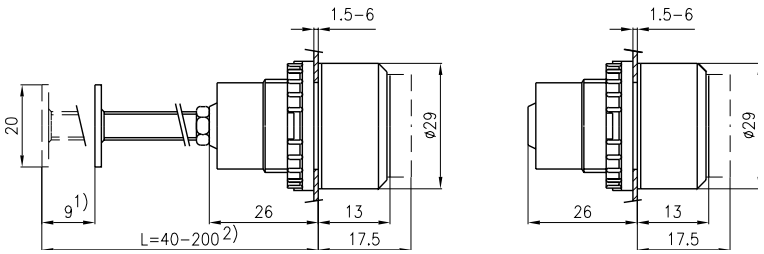
Approximate dimensions and drilling plans
Miscellaneous

All dimensions in MM

Definite purpose pushbutton

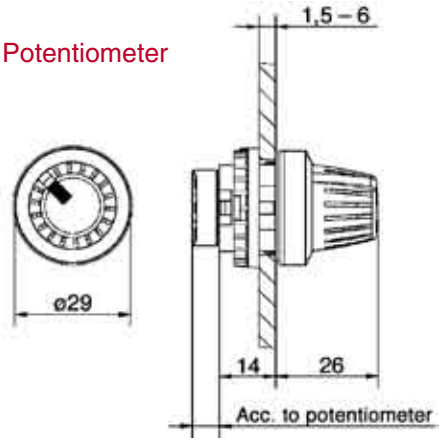


Reset pushbutton

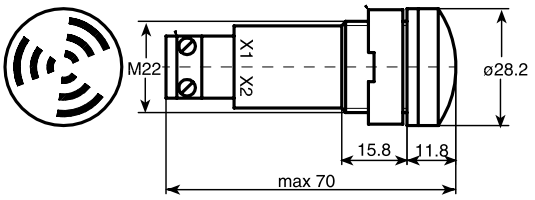


1) Length of stroke.
2) Can be cut to desired length.

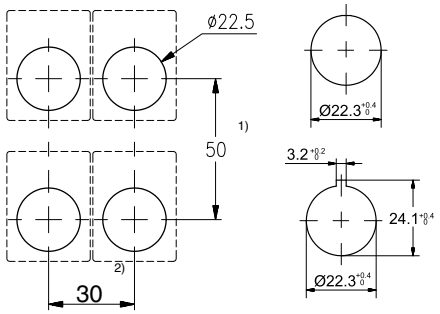
Potentiometer



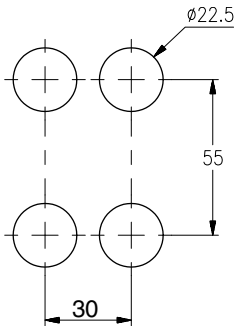
Buzzer



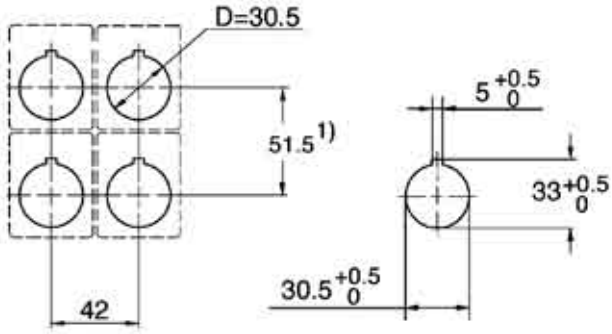
Drilling plans for pushbuttons, switches and pilot lights



Drilling plan for double pushbutton



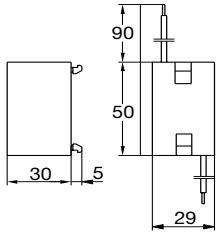
Drilling plan for 30 mm adaptor



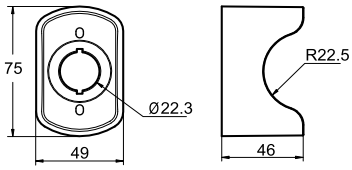
1) 55 mm when legend plate H= 44.5 mm is used.
61 mm for mushroom pushbutton with D=60 mm

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

Transformer block



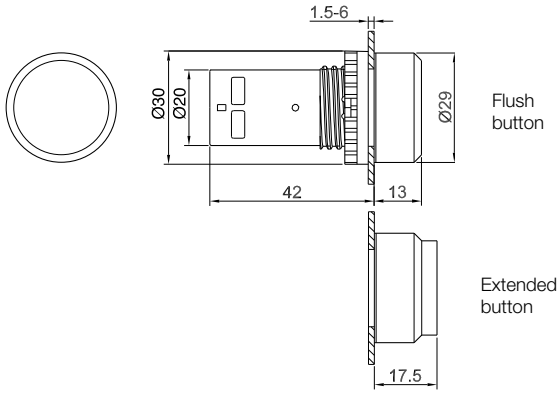
Emergency stop shroud



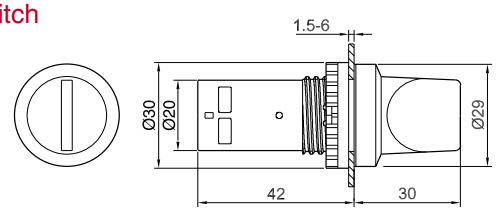
Approximate dimensions
Compact range

All dimensions in MM

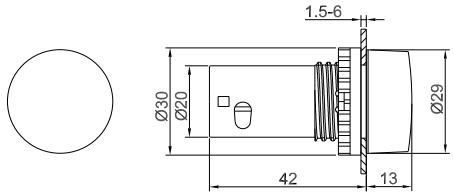
Pushbutton



Selector switch

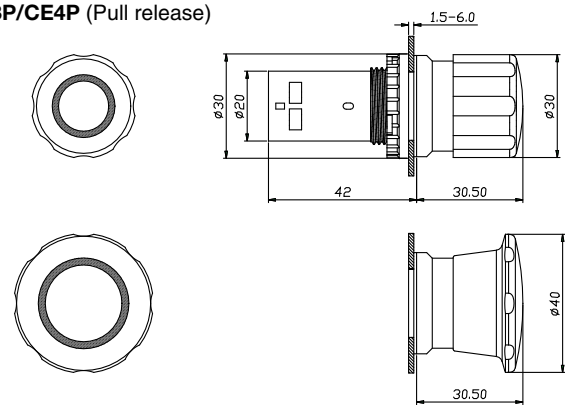


Pilot light

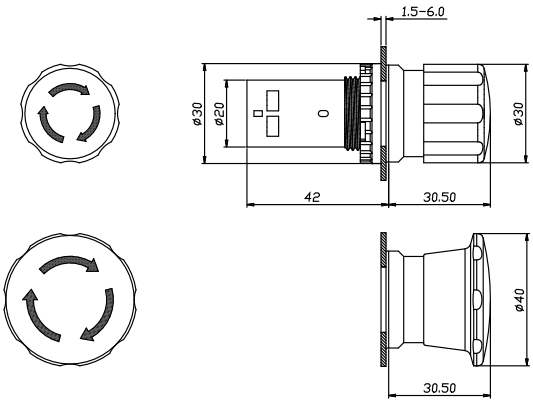


Emergency stop pushbuttons

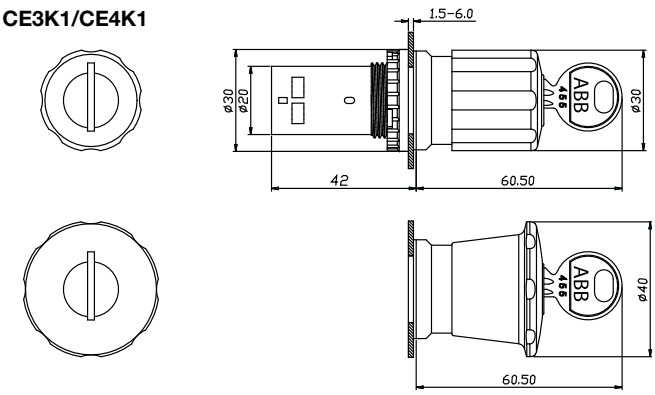
CE3P/CE4P (Pull release)



CE3T/CE4T (Twist release)



CE3K1/CE4K1

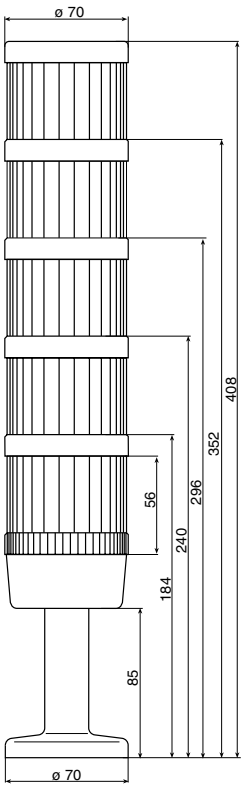


8

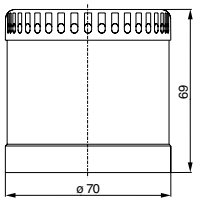
Approximate dimensions and drilling plans
Signal Towers/Signal Beacons

All dimensions in MM

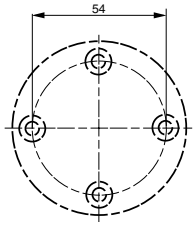
Signal Towers K 70



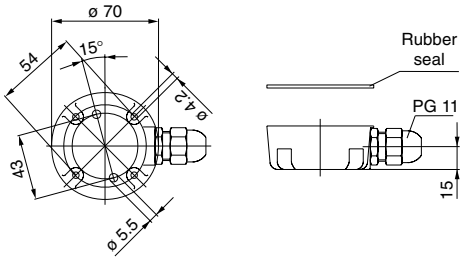
Audible module



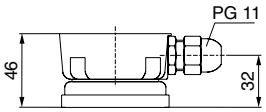
Drilling plan for Signal Towers K 70



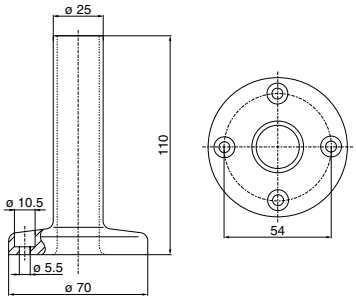
Contact box for cable exit at side



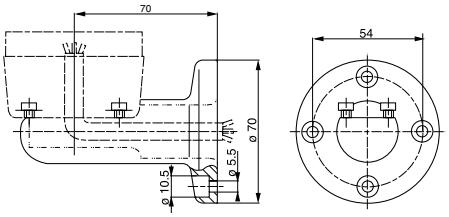
Contact box with magnetic base



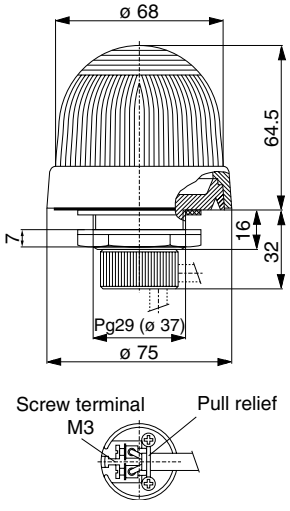
Base with integrated tube



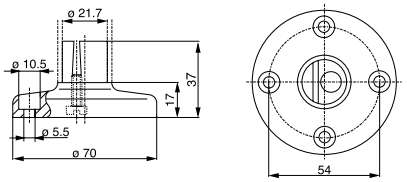
Bracket 1-sided mounting



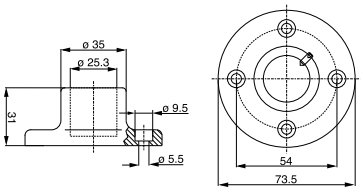
Signal Beacons K SB



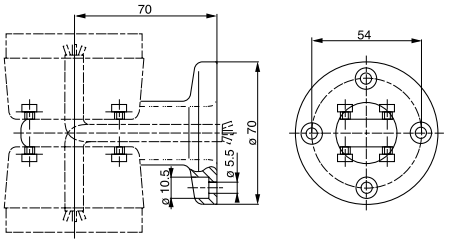
Base for tube, plastic



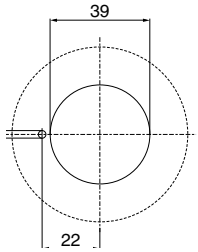
Base for tube, metal



Bracket 2-sided mounting



Drilling plan for Signal Beacons KSB

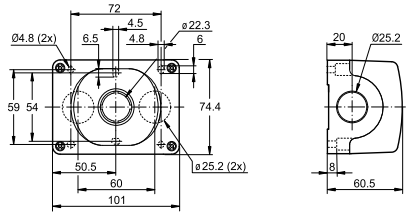


Approximate dimensions
Enclosures

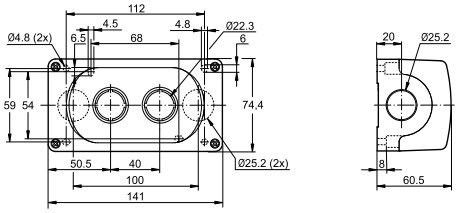
All dimensions in MM

Plastic enclosures

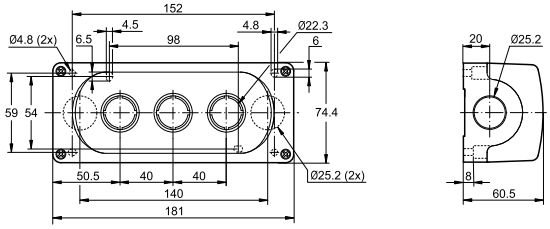
1 seat



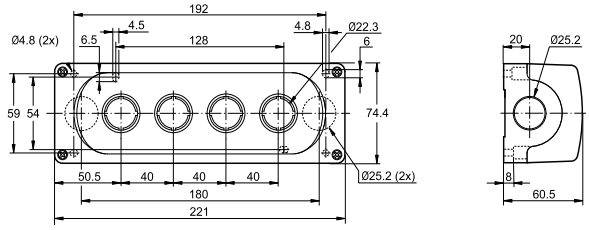
2 seats



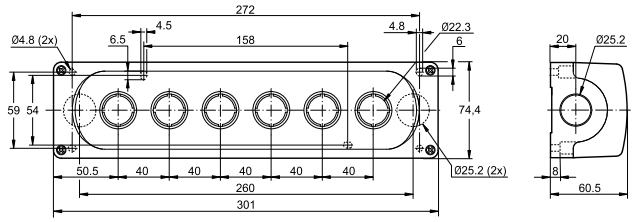
3 seats



4 seats



6 seats



8

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

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

Non-illuminated actuators

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

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

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

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

The same actuators serving for START and STOP or ON and OFF
WHITE, **GREY** and **BLACK** are the preferred colors for actuators which, when actuated several times, act alternately as a START / ON and STOP / OFF actuator.
The colors YELLOW and GREEN shall not be used. The color **RED** shall be used only in cases where the same actuator, other than a push-button, is used for both EMERGENCYSTOP / OFF and normal operation.

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

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

Explanation of type codes

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

Compact Pilot Devices

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

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

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

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

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

C= Compact Range

Notes



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ABB Inc.
1206 Hatton Road
Wichita Falls, TX 76302
Telephone 888-385-1221; 940-397-7000
Fax 940-397-7085
http://www.abb-control.com