

Main Catalog

Pilot Devices
the complete offering

Power and productivity
for a better world™

News in this Catalog

- Joysticks
- Compact Mushrooms
- Compact Illuminated Pushbuttons
- Additional Legend Plate Holders
- 50 Ω Potentiometer
- Mounting Tool for Power Tool



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Contact Blocks and Holder see the fold-out page at the end of the catalog



Customer specific marking online. For more information see page 4 or go to:
http://bolservices.it.abb.com/pilot-devices

When you think Pilot Devices – think ABB

Part of a comprehensive ABB program

ABB Pilot Devices are a part of the comprehensive ABB range of high quality Low Voltage Products and Systems for industrial control applications. ABB has a wide global network of external channel partners, such as distributors, system integrators and panel builders all around the world. Our products also meet all essential national and international products standards making us your perfect global business partner.

In combination of our wide range of Pilot Devices ABB also offers a broad product portfolio of Low Voltage Products such as Contactors, Softstarters, DOL & Y/D starters, Electronic relays, Breakers, Switches, UMC etc.

ABB Pilot Devices

ABB offers a complete range of 22 mm Pushbuttons, Emergency Stops, Selector Switches and Signaling Units. These are complemented with Enclosures and a wide range of Accessories. ABB offers high performing, robust and easy to install products, providing cost efficient solutions for our customers. ABB Pilot Devices are suitable for a wide variety of industrial environments, indoor as well as outdoor.

Made for Tough Industrial Environments

Our Pilot Device ranges feature a heavy-duty design, suitable for tough environments, and meet all major global industrial standards and approvals. Our entire Compact Range and selected parts of the Modular range features IP69K protection degree demanded in many industries such as cement and food & beverage. Whatever the application, you can feel confident that ABB Pilot Devices will do the job.

Worldwide Availability

ABB is represented in over 130 countries, giving our products world wide availability.













Pilot Devices Offering

ABB Pilot Devices offers both a Modular and Compact Range of Pushbuttons. Both feature the same front-of-panel design and appear consistent when combined.

- The Modular Range, features a wide range of operators that can be combined with high flexibility. The unique snap-on design promotes simple and fast assembly.
- The Compact Range features an all-in-one construction and rugged design for added simplicity and ease of installation.

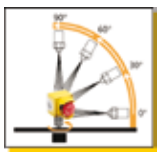
IP67 - IP69K

ABB´s entire Compact Range, and selected devices from the Modular Range, are approved IP67 and IP69K. This means that the products are designed to withstand periodic submersion, as well as high pressure, high temperature spraydown.

Wiping Action

The Contact Blocks for both compact and modular devices feature self-cleaning contacts per a built-in wiping action. Upon operation, the moving contact rolls over and slides sideways when touching the fixed contact. This feature ensures a good, clean contact even in applications of seldom or periodic use.





IP69K: High pressure, high temperature spraydown at multiple angles and rotation.



IP67: Submersion to one meter for 30 minutes.

L-Mark
customer specific marking online





L-Mark - Makes customer-specific marking easy

A new system for custom marking our Pilot Devices is now available. In addition to engraving Legend Plates, ABB can now laser-engrave our entire Pilot Device offering as well.

The customer will receive a reference number for their specified marking from the L-Mark web page, where it also will be saved, making reordering simple and ensuring that our customers receive their preferred marking every time they order.



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

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

Step 1 Find your product by typing the type or Order Code.
Step 2 Choose between text or symbol marking.
Step 3 Choose your preferred marking layout.
Step 4 Type marking or choose any of our 3000 symbols including the ISO 7000 library.
Step 5 Order the product by the Order Code + ref. code provided on the site. Example:
Order Code:1SFA 611 130 L1101
(Order Code always with a L instead of a R)
Type code: MPD1-11R-L
Reference number: MUE979

Emergency Stops
award winning design



ABB Emergency Stops
Choosing the right Emergency Stop device is vital in order to increase the safety for your personnel and equipment. ABB has a very wide range of Emergency Stops which all fulfill the IEC 60947-5-5 standard for Emergency Stop devices.

Best product award
Our Emergency Stop series was awarded ”Best Product” by the well-known magazine P&A, in the category ”Ex-shutz & sicherheit” voted by the magazine’s readers.

Modular Range - see page 18
Includes operators, holders, Contact Blocks, LED Blocks and Accessories that can be combined with high flexibility.

Compact Range - see page 47
Features an all-in-one design.

Accessories:
- Emergency Stop Shroud
- Enclosures
- Legend Plates



Pilot Devices
overview

Modular Range Pilot Devices, 22 mm



Pushbuttons
see page 11



Double Pushbuttons
see page 13



Mushroom Pushbuttons
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Selector Switches
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Key operated Selector Switches
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Pilot Lights
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Toggle Switches
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Joysticks
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Machine Stops - see page 19





Emergency Stops - see page 18

Enclosures and Stations
See page 57



Signal Towers and Signal Beacons
See page 76



Compact Range Pilot Devices, 22 mm



Pushbuttons
see page 45



Illuminated Pushbutton
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Pilot Lights with integrated LED
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Pilot Lights with BA 9s socket
see page 51



Selector Switches
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Machine Stops
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Emergency Stops
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Mushrooms
see page 49

Additional products



Extreme Duty Pushbuttons
see page 17



Buzzers
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Potentiometers
see page 27



Reset Pushbuttons
see page 28

Accessories

Modular Range – see page 32
Compact Range – see page 52
Legend Plates – see page 67

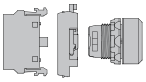


Pilot Devices, 30 mm

See page 36 (adaptors)



Modular Range





The Modular Range is our widest range of Operators with solutions for almost every need and with market leading electrical ratings.

General construction

- Unique snap on Contact Blocks.
- Simple mounting without tools.
- One of the widest range of integrated LED Bulbs
- Same front design as Compact Range
- Up to 6 Contact Blocks (8 joystick)

Product features

- Suitable in the toughest environments IP 66, (67 & 69K).
- Wiping action gives high performance with low energies.
- UL/NEMA Type 1,3R,4,4X,12,13
- Unique wide range of integrated LED Bulbs.

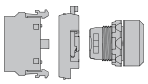
Operators

- Pushbuttons (illuminated & non illuminated).
- Emergency Stops (twist, pull & key release).
- Machine Stops (twist, pull & key release).
- Selector Switches (2 & 3 position).
- Key Switches.
- Mushrooms.
- Joysticks.
- Toggle Switches.
- Extreme Duty Pushbuttons.
- Double Pushbuttons.

Pilot Lights

- Integrated LED (wide range of voltages).
- BA9s base for Filament Bulb or LED.

Modular Range
mounting

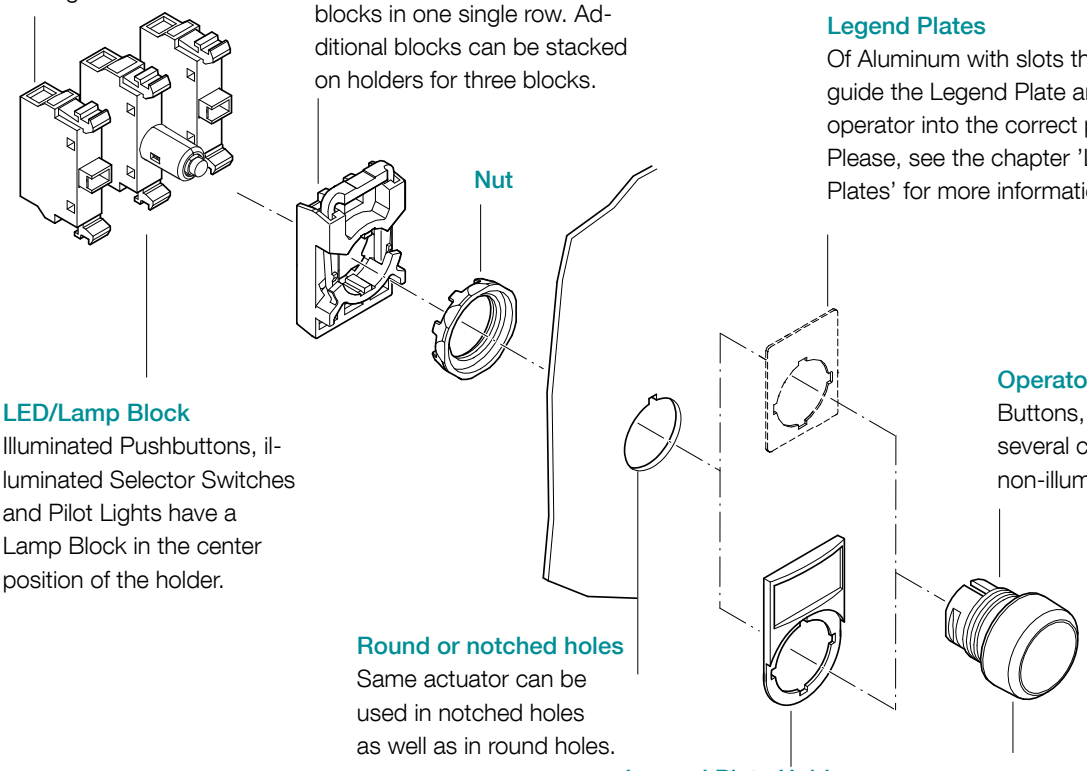


Contact Block
Single pole with making or breaking contact

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.



LED/Lamp Block
Illuminated Pushbuttons, illuminated Selector Switches and Pilot Lights have a Lamp Block in the center position of the holder.

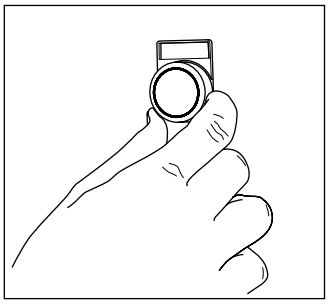
Operator
Buttons, lenses and handles in several colors. Illuminated or non-illuminated.

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

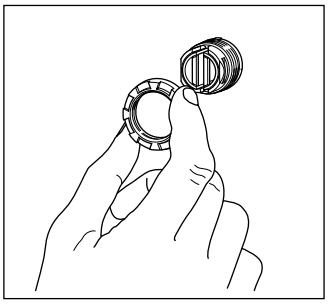
Legend Plate Holder
Of Black Plastic. Insert of brushed Aluminum. Please, see the chapter 'Legend Plates' for more information.

Bezels
Pushbuttons, Selector Switches and Toggle Switches with bezel in Black Plastic, chrome plastic or Chrome Metal are available.

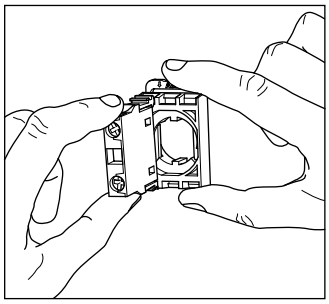
Easy to install



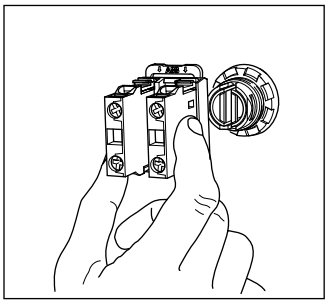
The operator is to be inserted from the front...



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

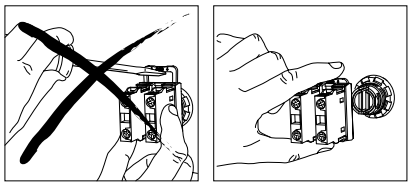


The Contact Blocks/Lamp Block are then snapped on to the holder...



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

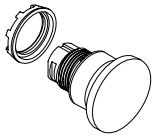
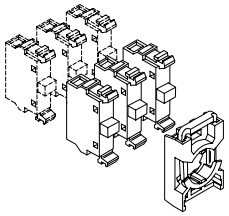
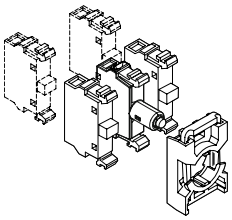
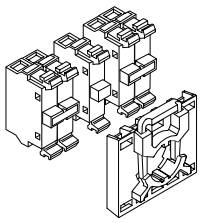
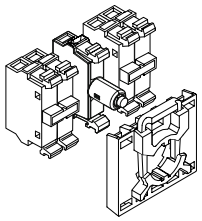
...and to remove



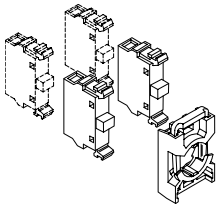
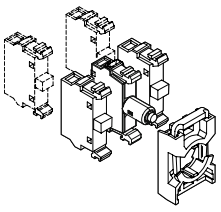
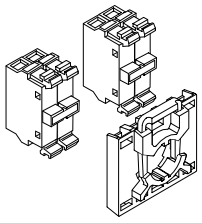
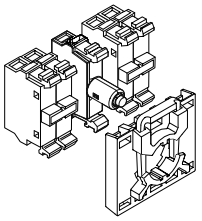
Press down the spring on the holder and pull the holder from the actuator.

Modular Range
Contact Block combinations

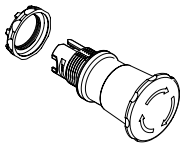
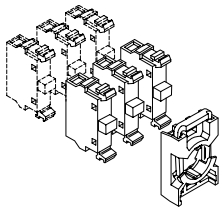
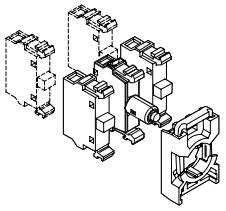
Pushbuttons | Mushroom Pushbuttons

Double Pushbuttons

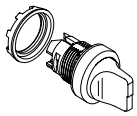
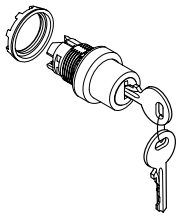
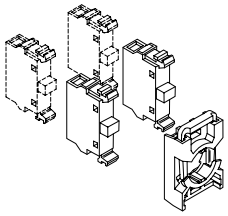
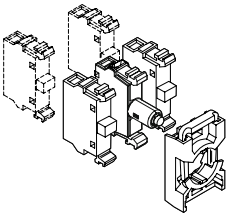
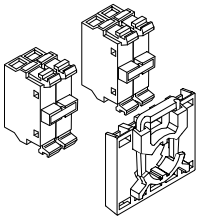
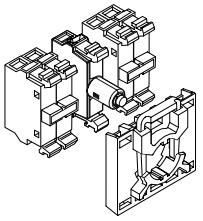






Emergency Stop Pushbuttons

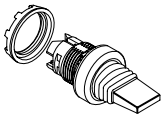
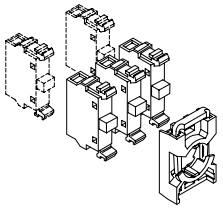
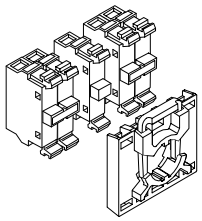




Selector Switches | Key-operated Selector Switches

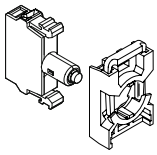
Note: Selector Switches with operation of center position available on page 22

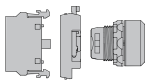
Toggle Switches

Pilot Lights

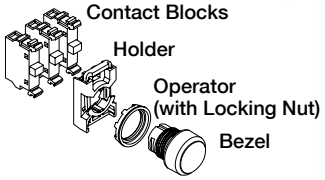
Flush and Extended Pushbuttons
non-illuminated, momentary and maintained



How to order:

Alt.1 • Operator
+ Holder
+ Contact Block(s)

Alt.2 • Operator
+ Holder with Contact Block(s)



Bezel - How to order

Black Plastic - Standard
Chrome plastic - Replace '1' with '2' in Type and Order Codes
Chrome Metal - Replace '1' with '3' in Type and Order Codes



Bezel Options	Type	Order Code
Black Plastic	MPX-10X	1SFA 611 10X R1XXX
Chrome plastic	MPX-20X	1SFA 611 10X R2XXX
Chrome Metal	MPX-30X	1SFA 611 10X R3XXX



Non-illuminated Flush Push-button with Black Plastic Bezel

Operator: Pushbutton

Description	Type	Order Code	Package Quantity	Weight Kg
Flush Pushbutton				
Momentary				
Red	MP1-10R	1SFA 611 100 R1001	1x10	0.016
Green	MP1-10G	1SFA 611 100 R1002	1x10	0.016
Yellow	MP1-10Y	1SFA 611 100 R1003	1x10	0.016
Blue	MP1-10L	1SFA 611 100 R1004	1x10	0.016
White	MP1-10W	1SFA 611 100 R1005	1x10	0.016
Black	MP1-10B	1SFA 611 100 R1006	1x10	0.016
Clear	MP1-10C	1SFA 611 100 R1008	1x10	0.016
Maintained				
Red	MP2-10R	1SFA 611 101 R1001	1x10	0.016
Green	MP2-10G	1SFA 611 101 R1002	1x10	0.016
Yellow	MP2-10Y	1SFA 611 101 R1003	1x10	0.016
Blue	MP2-10L	1SFA 611 101 R1004	1x10	0.016
White	MP2-10W	1SFA 611 101 R1005	1x10	0.016
Black	MP2-10B	1SFA 611 101 R1006	1x10	0.016
Clear	MP2-10C	1SFA 611 101 R1008	1x10	0.016



Non-illuminated Extended Push-button with Black Plastic Bezel

Extended Pushbutton				
Momentary				
Red	MP3-10R	1SFA 611 102 R1001	1x10	0.016
Green	MP3-10G	1SFA 611 102 R1002	1x10	0.016
Yellow	MP3-10Y	1SFA 611 102 R1003	1x10	0.016
Blue	MP3-10L	1SFA 611 102 R1004	1x10	0.016
White	MP3-10W	1SFA 611 102 R1005	1x10	0.016
Black	MP3-10B	1SFA 611 102 R1006	1x10	0.016
Clear	MP3-10C	1SFA 611 102 R1008	1x10	0.016
Maintained				
Red	MP4-10R	1SFA 611 103 R1001	1x10	0.016
Green	MP4-10G	1SFA 611 103 R1002	1x10	0.016
Yellow	MP4-10Y	1SFA 611 103 R1003	1x10	0.016
Blue	MP4-10L	1SFA 611 103 R1004	1x10	0.016
White	MP4-10W	1SFA 611 103 R1005	1x10	0.016
Black	MP4-10B	1SFA 611 103 R1006	1x10	0.016
Clear	MP4-10C	1SFA 611 103 R1008	1x10	0.016

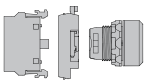


Contact Blocks and Holder see the fold-out page at the end of the catalog



Customer specific marking online. For more information see page 4 or go to:
http://bolservices.it.abb.com/pilot-devices

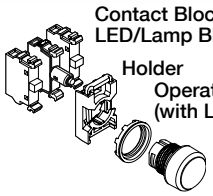
Flush and Extended Pushbuttons
illuminated, momentary and maintained



How to order:

Alt.1 • Operator
+ Holder
+ Contact Block(s)
+ LED/Lamp Block

Alt.2 • Operator
+ Holder with Contact Block(s) and Lamp Block



Bezel - How to order
Black Plastic - Standard
Chrome plastic - Replace '1' with '2' in Type and Order Codes
Chrome Metal - Replace '1' with '3' in Type and Order Codes



Bezel Options	Type	Order Code
Black Plastic	MPX-11X	1SFA 611 10X R1XXX
Chrome plastic	MPX-21X	1SFA 611 10X R2XXX
Chrome Metal	MPX-31X	1SFA 611 10X R3XXX



Illuminated Flush Pushbutton with Black Plastic Bezel

Operator: Pushbutton

Description	Type	Order Code	Package Quantity	Weight Kg
Flush Pushbutton (Light Bulb max 2 W, not included)				
Momentary				
Red	MP1-11R	1SFA 611 100 R1101	1x10	0.016
Green	MP1-11G	1SFA 611 100 R1102	1x10	0.016
Yellow	MP1-11Y	1SFA 611 100 R1103	1x10	0.016
Blue	MP1-11L	1SFA 611 100 R1104	1x10	0.016
White	MP1-11W	1SFA 611 100 R1105	1x10	0.016
Clear	MP1-11C	1SFA 611 100 R1108	1x10	0.016
Maintained				
Red	MP2-11R	1SFA 611 101 R1101	1x10	0.016
Green	MP2-11G	1SFA 611 101 R1102	1x10	0.016
Yellow	MP2-11Y	1SFA 611 101 R1103	1x10	0.016
Blue	MP2-11L	1SFA 611 101 R1104	1x10	0.016
White	MP2-11W	1SFA 611 101 R1105	1x10	0.016
Clear	MP2-11C	1SFA 611 101 R1108	1x10	0.016



Illuminated Extended Push-button with Black Plastic Bezel

Description	Type	Order Code	Package Quantity	Weight Kg
Extended Pushbutton (Light Bulb max 2 W, not included)				
Momentary				
Red	MP3-11R	1SFA 611 102 R1101	1x10	0.016
Green	MP3-11G	1SFA 611 102 R1102	1x10	0.016
Yellow	MP3-11Y	1SFA 611 102 R1103	1x10	0.016
Blue	MP3-11L	1SFA 611 102 R1104	1x10	0.016
White	MP3-11W	1SFA 611 102 R1105	1x10	0.016
Clear	MP3-11C	1SFA 611 102 R1108	1x10	0.016
Maintained				
Red	MP4-11R	1SFA 611 103 R1101	1x10	0.016
Green	MP4-11G	1SFA 611 103 R1102	1x10	0.016
Yellow	MP4-11Y	1SFA 611 103 R1103	1x10	0.016
Blue	MP4-11L	1SFA 611 103 R1104	1x10	0.016
White	MP4-11W	1SFA 611 103 R1105	1x10	0.016
Clear	MP4-11C	1SFA 611 103 R1108	1x10	0.016



Contact Blocks and Holder see the fold-out page at the end of the catalog



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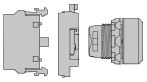
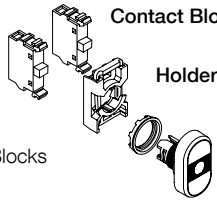
Double Pushbuttons
non-illuminated



How to order:

Alt.1 • Operator
+ Holder
+ Contact Blocks

Alt.2 • Operator
+ Holder with Contact Blocks





Double Pushbutton, non-illuminated



Double Pushbutton, non-illuminated



Legend Plate Holder



Contact Blocks and Holder see the fold-out page at the end of the catalog



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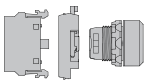
Operator: Double Pushbutton

Upper Button	Lower Button	Type	Order Code	Package Quantity	Weight Kg
Flush Pushbuttons					
● Green	● Red				
No text	No text	**MPD1-11B**	**1SFA 611 130 R1106**	1x10	0.025
I	O	**MPD2-11B**	**1SFA 611 131 R1106**	1x10	0.025
ON	OFF	**MPD3-11B**	**1SFA 611 132 R1106**	1x10	0.025
START	STOP	**MPD4-11B**	**1SFA 611 133 R1106**	1x10	0.025
○ White	● Black				
No text	No text	**MPD5-11B**	**1SFA 611 134 R1106**	1x10	0.025
With customer selected text		**MPD5-11B-L**	**1SFA 611 134 L1106**	1x10	0.025
Extended Lower Pushbutton					
● Green	● Red				
No text	No text	**MPD12-11B**	**1SFA 611 141 R1106**	1x10	0.025
I	O	**MPD13-11B**	**1SFA 611 142 R1106**	1x10	0.025
ON	OFF	**MPD14-11B**	**1SFA 611 143 R1106**	1x10	0.025
START	STOP	**MPD15-11B**	**1SFA 611 144 R1106**	1x10	0.025
○ White	● Black				
No text	No text	**MPD16-11B**	**1SFA 611 145 R1106**	1x10	0.025
With customer selected text		**MPD16-11B-L**	**1SFA 611 145 L1106**	1x10	0.025

Legend Plate Holder				
Legend Plate Holder	**MA1-8139**	**1SFA 611 920 R8139**	1	0.003

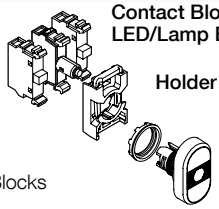
Double Pushbuttons
illuminated



How to order:

Alt.1 • Operator
+ Holder
+ Contact Blocks
+ LED/Lamp Block

Alt.2 • Operator
+ Holder with Contact Blocks and Lamp Block





Double Pushbutton, illuminated



Double Pushbutton, illuminated

Operator: Double Pushbutton

Upper Button	Lower Button	Type	Order Code	Package Quantity	Weight Kg
Flush Pushbutton					
Red Indicator Light					
● Green	● Red				
No text	No text	**MPD1-11R**	**1SFA 611 130 R1101**	1x10	0.025
I	O	**MPD2-11R**	**1SFA 611 131 R1101**	1x10	0.025
ON	OFF	**MPD3-11R**	**1SFA 611 132 R1101**	1x10	0.025
START	STOP	**MPD4-11R**	**1SFA 611 133 R1101**	1x10	0.025
○ White	● Black				
No text	No text	**MPD5-11R**	**1SFA 611 134 R1101**	1x10	0.025
With customer selected text		**MPD5-11R-L**	**1SFA 611 134 L1101**	1x10	0.025
Green Indicator Light					
● Red					
No text	No text	**MPD1-11G**	**1SFA 611 130 R1102**	1x10	0.025
I	O	**MPD2-11G**	**1SFA 611 131 R1102**	1x10	0.025
ON	OFF	**MPD3-11G**	**1SFA 611 132 R1102**	1x10	0.025
START	STOP	**MPD4-11G**	**1SFA 611 133 R1102**	1x10	0.025
○ White	● Black				
No text	No text	**MPD5-11G**	**1SFA 611 134 R1102**	1x10	0.025
With customer selected text		**MPD5-11G-L**	**1SFA 611 134 L1102**	1x10	0.025
Yellow Indicator Light					
● Green	● Red				
No text	No text	**MPD1-11Y**	**1SFA 611 130 R1103**	1x10	0.025
I	O	**MPD2-11Y**	**1SFA 611 131 R1103**	1x10	0.025
ON	OFF	**MPD3-11Y**	**1SFA 611 132 R1103**	1x10	0.025
START	STOP	**MPD4-11Y**	**1SFA 611 133 R1103**	1x10	0.025
○ White	● Black				
No text	No text	**MPD5-11Y**	**1SFA 611 134 R1103**	1x10	0.025
With customer selected text		**MPD5-11Y-L**	**1SFA 611 134 L1103**	1x10	0.025
Clear Indicator Light					
● Green	● Red				
No text	No text	**MPD1-11C**	**1SFA 611 130 R1108**	1x10	0.025
I	O	**MPD2-11C**	**1SFA 611 131 R1108**	1x10	0.025
ON	OFF	**MPD3-11C**	**1SFA 611 132 R1108**	1x10	0.025
START	STOP	**MPD4-11C**	**1SFA 611 133 R1108**	1x10	0.025
○ White	● Black				
No text	No text	**MPD5-11C**	**1SFA 611 134 R1108**	1x10	0.025
With customer selected text		**MPD5-11C-L**	**1SFA 611 134 L1108**	1x10	0.025



Contact Blocks and Holder see the fold-out page at the end of the catalog



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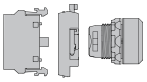
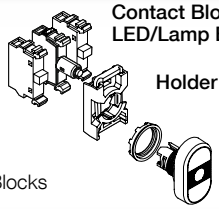
Double Pushbuttons
illuminated



How to order:

Alt.1 • Operator
+ Holder
+ Contact Blocks
+ LED/Lamp Block

Alt.2 • Operator
+ Holder with Contact Blocks and Lamp Block





Double Pushbutton with Extended Lower Button, illuminated

Operator: Double Pushbutton

Upper Button	Lower Button	Type	Order Code	Package Quantity	Weight Kg
Extended Lower Button					
Red Indicator Light					
● Green	● Red				
No text	No text	**MPD12-11R**	**1SFA 611 141 R1101**	1x10	0.025
I	O	**MPD13-11R**	**1SFA 611 142 R1101**	1x10	0.025
ON	OFF	**MPD14-11R**	**1SFA 611 143 R1101**	1x10	0.025
START	STOP	**MPD15-11R**	**1SFA 611 144 R1101**	1x10	0.025
○ White	● Black				
No text	No text	**MPD16-11R**	**1SFA 611 145 R1101**	1x10	0.025
With customer selected text		**MPD16-11R-L**	**1SFA 611 145 L1101**	1x10	0.025
Green Indicator Light					
● Green	● Red				
No text	No text	**MPD12-11G**	**1SFA 611 141 R1102**	1x10	0.025
I	O	**MPD13-11G**	**1SFA 611 142 R1102**	1x10	0.025
ON	OFF	**MPD14-11G**	**1SFA 611 143 R1102**	1x10	0.025
START	STOP	**MPD15-11G**	**1SFA 611 144 R1102**	1x10	0.025
○ White	● Black				
No text	No text	**MPD16-11G**	**1SFA 611 145 R1102**	1x10	0.025
With customer selected text		**MPD16-11G-L**	**1SFA 611 145 L1102**	1x10	0.025
Yellow Indicator Light					
● Green	● Red				
No text	No text	**MPD12-11Y**	**1SFA 611 141 R1103**	1x10	0.025
I	O	**MPD13-11Y**	**1SFA 611 142 R1103**	1x10	0.025
ON	OFF	**MPD14-11Y**	**1SFA 611 143 R1103**	1x10	0.025
START	STOP	**MPD15-11Y**	**1SFA 611 144 R1103**	1x10	0.025
○ White	● Black				
No text	No text	**MPD16-11Y**	**1SFA 611 145 R1103**	1x10	0.025
With customer selected text		**MPD16-11Y-L**	**1SFA 611 145 L1103**	1x10	0.025
Clear Indicator Light					
● Green	● Red				
No text	No text	**MPD12-11C**	**1SFA 611 141 R1108**	1x10	0.025
I	O	**MPD13-11C**	**1SFA 611 142 R1108**	1x10	0.025
ON	OFF	**MPD14-11C**	**1SFA 611 143 R1108**	1x10	0.025
START	STOP	**MPD15-11C**	**1SFA 611 144 R1108**	1x10	0.025
○ White	● Black				
No text	No text	**MPD16-11C**	**1SFA 611 145 R1108**	1x10	0.025
With customer selected text		**MPD16-11C-L**	**1SFA 611 145 L1108**	1x10	0.025



Contact Blocks and Holder see the fold-out page at the end of the catalog



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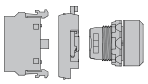
Mushroom Pushbuttons
non-illuminated and illuminated



How to order non-illuminated:

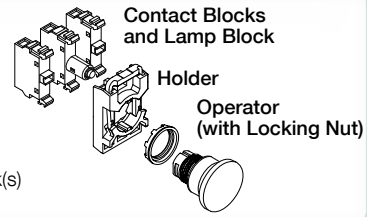
Alt.1 • Operator
+ Holder
+ Contact Block(s)

Alt.2 • Operator
+ Holder with Contact Block(s)

How to order illuminated:

Alt.1 • Operator
+ Holder
+ Contact Block(s)
+ LED/Lamp Block

Alt.2 • Operator
+ Holder with Contact Block(s)
and Lamp Block





Mushroom Pushbuttons, non-illuminated



Mushroom Pushbuttons, illuminated

Operator: Mushroom Pushbutton

Description	Type	Order Code	Package Quantity	Weight Kg
Non-illuminated				
Ø 40 mm				
Red	MPM1-10R	1SFA 611 124 R1001	1x10	0.018
Green	MPM1-10G	1SFA 611 124 R1002	1x10	0.018
Yellow	MPM1-10Y	1SFA 611 124 R1003	1x10	0.018
Black	MPM1-10B	1SFA 611 124 R1006	1x10	0.018
Ø 60 mm				
Red	MPM2-10R	1SFA 611 125 R1001	1x10	0.020
Yellow	MPM2-10Y	1SFA 611 125 R1003	1x10	0.020
Black	MPM2-10B	1SFA 611 125 R1006	1x10	0.020
Illuminated (Light Bulb max 2 W, not included)				
Ø 40 mm				
Red	MPM1-11R	1SFA 611 124 R1101	1x10	0.018
Green	MPM1-11G	1SFA 611 124 R1102	1x10	0.018
Yellow	MPM1-11Y	1SFA 611 124 R1103	1x10	0.018
Ø 60 mm				
Red	MPM2-11R	1SFA 611 125 R1101	1x10	0.020
Yellow	MPM2-11Y	1SFA 611 125 R1103	1x10	0.020



Contact Blocks and Holder see the fold-out page at the end of the catalog



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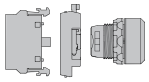
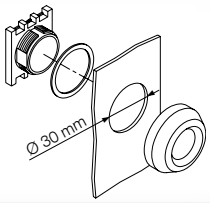
Extreme Duty Pushbuttons
for 30 mm mounting hole



How to order

• Operator
+ Contact Block(s)

Mounting





Extreme Duty Pushbuttons

Operator: Extreme Duty Pushbutton

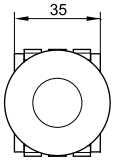
The Extreme Duty Pushbutton, for 30 mm hole, is a robust and compact Pushbutton for use in cold, hot, damp, oily and other tough environments. Suitable especially for hydraulic lifts, compact pendant controllers and Pushbutton stations.

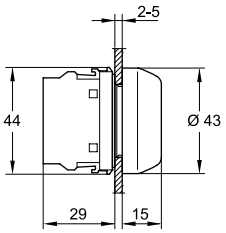
Description	Included Contact Blocks	Type	Order Code	Package Quantity	Weight Kg
Red	-	**KP6-40R**	**1SFA 616 105 R4001**	1	0.022
Green	-	**KP6-40G**	**1SFA 616 105 R4002**	1	0.022
Black	-	**KP6-40B**	**1SFA 616 105 R4006**	1	0.022
Black	1 NO + 1 NC	**KP6-40B-11**	**1SFA 616 105 R4076**	1	0.048
Black	1 NO	**KP6-40B-10**	**1SFA 616 105 R4016**	1	0.035
Black	1 NC	**KP6-40B-01**	**1SFA 616 105 R4046**	1	0.035
Black	2 NO	**KP6-40B-20**	**1SFA 616 105 R4026**	1	0.048
Black	2 NC	**KP6-40B-02**	**1SFA 616 105 R4056**	1	0.048

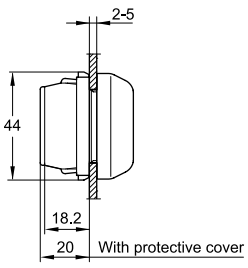
Contact Blocks				
1 NO	**MCB-10**	**1SFA 611 610 R1001**	10	0.013
1 NC	**MCB-01**	**1SFA 611 610 R1010**	10	0.013

Technical Data

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



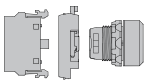






Contact Blocks and Holder see the fold-out page at the end of the catalog

Emergency Stops
non-illuminated and illuminated



How to order non-illuminated:

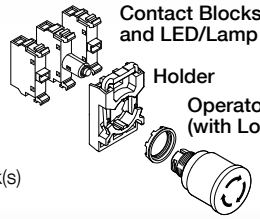
Alt.1 • Operator
+ Holder
+ Contact Block(s)

Alt.2 • Operator
+ Holder with Contact Block(s)

How to order illuminated:

Alt.1 • Operator
+ Holder
+ Contact Block(s)
+ LED/Lamp Block

Alt.2 • Operator
+ Holder with Contact Block(s)
and LED/Lamp Block





Emergency Stop, pull release, non-illuminated, Ø 30 mm



Emergency Stop, key release, non-illuminated, Ø 40 mm



Emergency Stop, twist release illuminated, Ø 40 mm

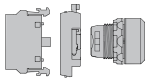
Operator: Emergency Stop

Description		Type	Order Code	Package Quantity	Weight Kg
Non-illuminated					
Ø 30 mm					
● Red	Twist release	**MPET3-10R**	**1SFA 611 520 R1001**	1	0.036
● Red	Pull release	**MPEP3-10R**	**1SFA 611 521 R1001**	1	0.036
● Red	Key release code 71/Ronis 455	**MPEK3-11R**	**1SFA 611 522 R1101**	1	0.065
● Red	Key release code 72/Ronis 421	**MPEK3-12R**	**1SFA 611 522 R1201**	1	0.065
● Red	Key release code 73/Ronis 3433-E	**MPEK3-13R**	**1SFA 611 522 R1301**	1	0.065
Ø 40 mm					
● Red	Twist release	**MPET4-10R**	**1SFA 611 523 R1001**	1	0.036
● Red	Pull release	**MPEP4-10R**	**1SFA 611 524 R1001**	1	0.036
● Red	Key release code 71/Ronis 455	**MPEK4-11R**	**1SFA 611 525 R1101**	1	0.065
● Red	Key release code 72/Ronis 421	**MPEK4-12R**	**1SFA 611 525 R1201**	1	0.065
● Red	Key release code 73/Ronis 3433-E	**MPEK4-13R**	**1SFA 611 525 R1301**	1	0.065
Illuminated (Bulb max 2 W, not included).					
Ø 40 mm					
● Red	Twist release	**MPMT3-11R**	**1SFA 611 510 R1101**	1	0.041
● Red	Pull release	**MPMP3-11R**	**1SFA 611 511 R1101**	1	0.041
Ø 60 mm					
● Red	Twist release	**MPMT4-11R**	**1SFA 611 513 R1101**	1	0.048
● Red	Pull release	**MPMP4-11R**	**1SFA 611 514 R1101**	1	0.048



Contact Blocks and Holder see the fold-out page at the end of the catalog

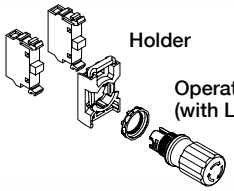
Machine Stops
non-illuminated



How to order:

Alt.1 • Operator
+ Holder
+ Contact Block(s)

Alt.2 • Operator
+ Holder with Contact Block(s)





Machine Stop,
pull release, Ø 30 mm



Machine Stop,
key release, Ø 30 mm



Machine Stop,
twist release, Ø 40 mm

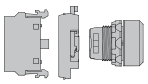


Contact Blocks and Holder see the fold-out page at the end of the catalog

Operator: Machine Stop

Description		Type	Order Code	Package Quantity	Weight Kg
Non-illuminated					
Ø 30 mm					
● Black	Twist release	**MPET3-10B**	**1SFA 611 520 R1006**	1	0.036
● Black	Pull release	**MPEP3-10B**	**1SFA 611 521 R1006**	1	0.036
● Black	Key release code 71/Ronis 455	**MPEK3-10B**	**1SFA 611 522 R1106**	1	0.065
Ø 40 mm					
● Black	Twist release	**MPET4-10B**	**1SFA 611 523 R1006**	1	0.036
● Black	Pull release	**MPEP4-10B**	**1SFA 611 524 R1006**	1	0.036
● Black	Key release code 71/Ronis 455	**MPEK4-10B**	**1SFA 611 525 R1106**	1	0.065

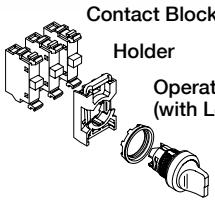
Selector Switches
two-position, non-illuminated



How to order:

Alt.1 • Operator
+ Holder
+ Contact Block(s)

Alt.2 • Operator
+ Holder with Contact Block(s)



Bezel - How to order
Black Plastic - Standard
Chrome Metal - Replace '1' with '3' in Type and Order Codes



Bezel Options	Type	Order Code
Black Plastic	M2SS(X)-10X	1SFA611 20X R10XX
Chrome Metal	M2SS(X)-30X	1SFA611 20X R30XX

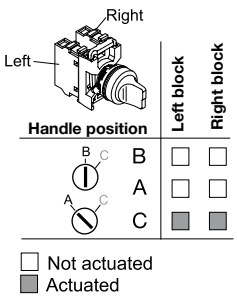


Selector Switch, short handle



Selector Switch, long handle

Contacts actuated



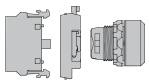


Contact Blocks and Holder see the fold-out page at the end of the catalog

Operator: Two-position Selector Switch

Description		Type	Order Code	Package Quantity	Weight Kg
Short handle					
Momentary					
	Red	M2SS1-10R	1SFA 611 200 R1001	1x10	0.015
	Black	M2SS1-10B	1SFA 611 200 R1006	1x10	0.015
	Grey	M2SS1-10U	1SFA 611 200 R1007	1x10	0.015
Maintained					
	Red	M2SS2-10R	1SFA 611 201 R1001	1x10	0.015
	Black	M2SS2-10B	1SFA 611 201 R1006	1x10	0.015
	Grey	M2SS2-10U	1SFA 611 201 R1007	1x10	0.015
Momentary, spring return from C to B					
	Red	M2SS3-10R	1SFA 611 202 R1001	1x10	0.015
	Black	M2SS3-10B	1SFA 611 202 R1006	1x10	0.015
	Grey	M2SS3-10U	1SFA 611 202 R1007	1x10	0.015
Long handle					
Maintained					
	Red	M2SS4-10R	1SFA 611 203 R1001	1x10	0.018
	Black	M2SS4-10B	1SFA 611 203 R1006	1x10	0.018
	Grey	M2SS4-10U	1SFA 611 203 R1007	1x10	0.018
Maintained					
	Red	M2SS5-10R	1SFA 611 204 R1001	1x10	0.018
	Black	M2SS5-10B	1SFA 611 204 R1006	1x10	0.018
	Grey	M2SS5-10U	1SFA 611 204 R1007	1x10	0.018
Momentary, spring return from C to B					
	Red	M2SS6-10R	1SFA 611 205 R1001	1x10	0.018
	Black	M2SS6-10B	1SFA 611 205 R1006	1x10	0.018
	Grey	M2SS6-10U	1SFA 611 205 R1007	1x10	0.018

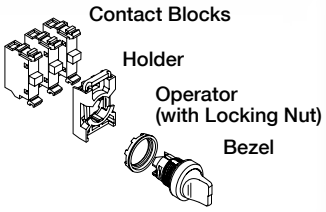
Selector Switches
three-position, non-illuminated



How to order:

Alt.1 • Operator
+ Holder
+ Contact Block(s)

Alt.2 • Operator
+ Holder with Contact Block(s)



Bezel - How to order
Black Plastic - Standard
Chrome Metal - Replace '1' with '3' in Type and Order Codes



Bezel Options	Type	Order Code
Black Plastic	M3SS(X)-10X	1SFA611 21X R10XX
Chrome Metal	M3SS(X)-30X	1SFA611 21X R30XX

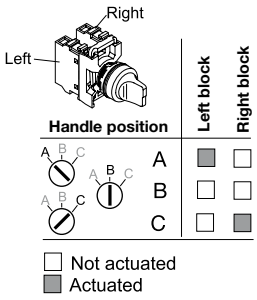


Selector Switch, short handle



Selector Switch, long handle

Contacts actuated



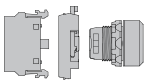


Contact Blocks and Holder see the fold-out page at the end of the catalog

Operator: Three-position Selector Switch

Description		Type	Order Code	Package Quantity	Weight Kg
Short handle					
Maintained					
	Red	M3SS1-10R	1SFA 611 210 R1001	1x10	0.015
	Black	M3SS1-10B	1SFA 611 210 R1006	1x10	0.015
	Grey	M3SS1-10U	1SFA 611 210 R1007	1x10	0.015
Momentary, spring return from A to B and from C to B					
	Red	M3SS2-10R	1SFA 611 211 R1001	1x10	0.015
	Black	M3SS2-10B	1SFA 611 211 R1006	1x10	0.015
	Grey	M3SS2-10U	1SFA 611 211 R1007	1x10	0.015
Momentary, spring return from C to B					
	Red	M3SS3-10R	1SFA 611 212 R1001	1x10	0.015
	Black	M3SS3-10B	1SFA 611 212 R1006	1x10	0.015
	Grey	M3SS3-10U	1SFA 611 212 R1007	1x10	0.015
Momentary, spring return from A to B					
	Red	M3SS7-10R	1SFA 611 216 R1001	1x10	0.015
	Black	M3SS7-10B	1SFA 611 216 R1006	1x10	0.015
	Grey	M3SS7-10U	1SFA 611 216 R1007	1x10	0.015
Long handle					
Maintained					
	Red	M3SS4-10R	1SFA 611 213 R1001	1x10	0.018
	Black	M3SS4-10B	1SFA 611 213 R1006	1x10	0.018
	Grey	M3SS4-10U	1SFA 611 213 R1007	1x10	0.018
Momentary, spring return from A to B and from C to B					
	Red	M3SS5-10R	1SFA 611 214 R1001	1x10	0.018
	Black	M3SS5-10B	1SFA 611 214 R1006	1x10	0.018
	Grey	M3SS5-10U	1SFA 611 214 R1007	1x10	0.018
Momentary, spring return from C to B					
	Red	M3SS6-10R	1SFA 611 215 R1001	1x10	0.018
	Black	M3SS6-10B	1SFA 611 215 R1006	1x10	0.018
	Grey	M3SS6-10U	1SFA 611 215 R1007	1x10	0.018
Momentary, spring return from A to B					
	Red	M3SS8-10R	1SFA 611 217 R1001	1x10	0.018
	Black	M3SS8-10B	1SFA 611 217 R1006	1x10	0.018
	Grey	M3SS8-10U	1SFA 611 217 R1007	1x10	0.018

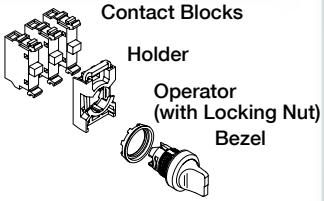
Selector Switches
three-position with operation of center position



How to order:

Alt.1 • Operator
+ Holder
+ Contact Block(s)

Alt.2 • Operator
+ Holder with Contact Block(s)



Bezel - How to order
Black Plastic - Standard
Chrome Metal - Replace '1' with '3' in Type and Order Codes



Bezel Options	Type	Order Code
Black Plastic	M3SSC(X)-10B	1SFA611 25X R1006
Chrome Metal	M3SSC(X)-30B	1SFA611 25X R3006



Selector Switch, short handle

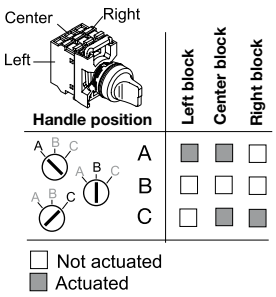


Selector Switch, long handle

Operator: Three-position Selector Switch with operation of center position

Description	Type	Order Code	Package Quantity	Weight Kg
Short handle				
● Black	M3SSC1-10B	1SFA 611 250 R1006	1x10	0.015
● Black	M3SSC2-10B	1SFA 611 251 R1006	1x10	0.015
● Black	M3SSC3-10B	1SFA 611 252 R1006	1x10	0.015
● Black	M3SSC7-10B	1SFA 611 256 R1006	1x10	0.015
Long handle				
● Black	M3SSC4-10B	1SFA 611 253 R1006	1x10	0.018
● Black	M3SSC5-10B	1SFA 611 254 R1006	1x10	0.018
● Black	M3SSC6-10B	1SFA 611 255 R1006	1x10	0.018
● Black	M3SSC8-10B	1SFA 611 258 R1006	1x10	0.018

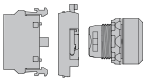
Contacts actuated





Contact Blocks and Holder see the fold-out page at the end of the catalog

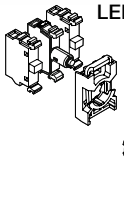
Selector Switches
two-position, illuminated



How to order:

Alt.1 • Operator
+ Holder
+ Contact Block(s)
+ LED/Lamp Block

Alt.2 • Operator
+ Holder with Contact Block(s) and LED/Lamp Block



Bezel - How to order
Black Plastic - Standard
Chrome Metal - Replace '1' with '3' in Type and Order Codes



Bezel Options	Type	Order Code
Black Plastic	M2SS(X)-11X	1SFA611 20X R110X
Chrome Metal	M2SS(X)-31X	1SFA611 20X R310X



Selector Switch, short handle



Selector Switch, long handle



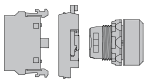
Contact Blocks and Holder see the fold-out page at the end of the catalog

Operator: Two-position Selector Switch (Light Bulb max 2W, not included)

Description		Type	Order Code	Package Quantity	Weight Kg
Short handle					
Maintained					
	Red	M2SS1-11R	1SFA 611 200 R1101	1x10	0.015
	Green	M2SS1-11G	1SFA 611 200 R1102	1x10	0.015
	Yellow	M2SS1-11Y	1SFA 611 200 R1103	1x10	0.015
	Blue	M2SS1-11L	1SFA 611 200 R1104	1x10	0.015
	Clear	M2SS1-11C	1SFA 611 200 R1108	1x10	0.015
Maintained					
	Red	M2SS2-11R	1SFA 611 201 R1101	1x10	0.015
	Green	M2SS2-11G	1SFA 611 201 R1102	1x10	0.015
	Yellow	M2SS2-11Y	1SFA 611 201 R1103	1x10	0.015
	Blue	M2SS2-11L	1SFA 611 201 R1104	1x10	0.015
	Clear	M2SS2-11C	1SFA 611 201 R1108	1x10	0.015
Momentary, spring return from C to B					
	Red	M2SS3-11R	1SFA 611 202 R1101	1x10	0.015
	Green	M2SS3-11G	1SFA 611 202 R1102	1x10	0.015
	Yellow	M2SS3-11Y	1SFA 611 202 R1103	1x10	0.015
	Blue	M2SS3-11L	1SFA 611 202 R1104	1x10	0.015
	Clear	M2SS3-11C	1SFA 611 202 R1108	1x10	0.015
Long handle					
Maintained					
	Red	M2SS4-11R	1SFA 611 203 R1101	1x10	0.018
	Green	M2SS4-11G	1SFA 611 203 R1102	1x10	0.018
	Yellow	M2SS4-11Y	1SFA 611 203 R1103	1x10	0.018
	Blue	M2SS4-11L	1SFA 611 203 R1104	1x10	0.018
	Clear	M2SS4-11C	1SFA 611 203 R1108	1x10	0.018
Maintained					
	Red	M2SS5-11R	1SFA 611 204 R1101	1x10	0.018
	Green	M2SS5-11G	1SFA 611 204 R1103	1x10	0.018
	Yellow	M2SS5-11Y	1SFA 611 204 R1103	1x10	0.018
	Blue	M2SS5-11L	1SFA 611 204 R1104	1x10	0.018
	Clear	M2SS5-11C	1SFA 611 204 R1108	1x10	0.018
Momentary, spring return from C to B					
	Red	M2SS6-11R	1SFA 611 205 R1101	1x10	0.018
	Green	M2SS6-11G	1SFA 611 205 R1102	1x10	0.018
	Yellow	M2SS6-11Y	1SFA 611 205 R1103	1x10	0.018
	Blue	M2SS6-11L	1SFA 611 205 R1104	1x10	0.018
	Clear	M2SS6-11C	1SFA 611 205 R1108	1x10	0.018

Selector Switches
three-position, illuminated, short handle

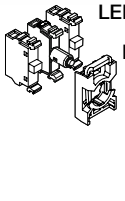
Modular Range



How to order:

Alt.1 • Operator
+ Holder
+ Contact Block(s)
+ LED/Lamp Block

Alt.2 • Operator
+ Holder with Contact Block(s) and LED/Lamp Block



Bezel - How to order
Black Plastic - Standard
Chrome Metal - Replace '1' with '3' in Type and Order Codes



Bezel Options	Type	Order Code
Black Plastic	M3SS(X)-11X	1SFA611 21X R1110X
Chrome Metal	M3SS(X)-31X	1SFA611 21X R3110X

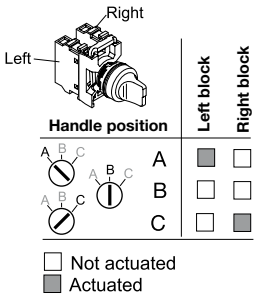


Selector Switch, short handle

Operator: Three-position Selector Switches (Light Bulb max 2W, not included)

Description		Type	Order Code	Package Quantity	Weight Kg
Short handle					
Maintained					
	Red	M3SS1-11R	1SFA 611 210 R1101	1x10	0.015
	Green	M3SS1-11G	1SFA 611 210 R1102	1x10	0.015
	Yellow	M3SS1-11Y	1SFA 611 210 R1103	1x10	0.015
	Blue	M3SS1-11L	1SFA 611 210 R1104	1x10	0.015
	Clear	M3SS1-11C	1SFA 611 210 R1108	1x10	0.015
Momentary, spring return from A to B and from C to B					
	Red	M3SS2-11R	1SFA 611 211 R1101	1x10	0.015
	Green	M3SS2-11G	1SFA 611 211 R1102	1x10	0.015
	Yellow	M3SS2-11Y	1SFA 611 211 R1103	1x10	0.015
	Blue	M3SS2-11L	1SFA 611 211 R1104	1x10	0.015
	Clear	M3SS2-11C	1SFA 611 211 R1108	1x10	0.015
Momentary, spring return from C to B					
	Red	M3SS3-11R	1SFA 611 212 R1101	1x10	0.015
	Green	M3SS3-11G	1SFA 611 212 R1102	1x10	0.015
	Yellow	M3SS3-11Y	1SFA 611 212 R1103	1x10	0.015
	Blue	M3SS3-11L	1SFA 611 212 R1104	1x10	0.015
	Clear	M3SS3-11C	1SFA 611 212 R1108	1x10	0.015
Momentary, spring return from A to B					
	Red	M3SS7-11R	1SFA 611 216 R1101	1x10	0.015
	Green	M3SS7-11G	1SFA 611 216 R1102	1x10	0.015
	Yellow	M3SS7-11Y	1SFA 611 216 R1103	1x10	0.015
	Blue	M3SS7-11L	1SFA 611 216 R1104	1x10	0.015
	Clear	M3SS7-11C	1SFA 611 216 R1108	1x10	0.015

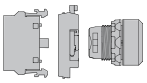
Contacts actuated





Contact Blocks and Holder see the fold-out page at the end of the catalog

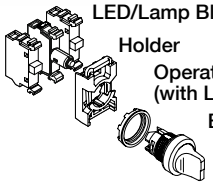
Selector Switches
three-position, illuminated, long handle



How to order:

Alt.1 • Operator
+ Holder
+ Contact Block(s)
+ LED/Lamp Block

Alt.2 • Operator
+ Holder with Contact Block(s) and LED/Lamp Block



Bezel - How to order
Black Plastic - Standard
Chrome Metal - Replace '1' with '3' in Type and Order Codes



Bezel Options	Type	Order Code
Black Plastic	M3SS(X)-11X	1SFA611 21X R110X
Chrome Metal	M3SS(X)-31X	1SFA611 21X R310X

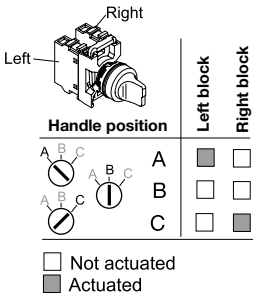


Selector Switch, long handle

Operator: Three-position Selector Switches (Light Bulb max 2W, not included)

Description		Type	Order Code	Package Quantity	Weight Kg
Long handle					
Maintained					
	Red	M3SS4-11R	1SFA 611 213 R1101	1x10	0.018
	Green	M3SS4-11G	1SFA 611 213 R1102	1x10	0.018
	Yellow	M3SS4-11Y	1SFA 611 213 R1103	1x10	0.018
	Blue	M3SS4-11L	1SFA 611 213 R1104	1x10	0.018
	Clear	M3SS4-11C	1SFA 611 213 R1108	1x10	0.018
Momentary, spring return from A to B and from C to B					
	Red	M3SS5-11R	1SFA 611 214 R1101	1x10	0.018
	Green	M3SS5-11G	1SFA 611 214 R1102	1x10	0.018
	Yellow	M3SS5-11Y	1SFA 611 214 R1103	1x10	0.018
	Blue	M3SS5-11L	1SFA 611 214 R1104	1x10	0.018
	Clear	M3SS5-11C	1SFA 611 214 R1108	1x10	0.018
Momentary, spring return from C to B					
	Red	M3SS6-11R	1SFA 611 215 R1101	1x10	0.018
	Green	M3SS6-11G	1SFA 611 215 R1102	1x10	0.018
	Yellow	M3SS6-11Y	1SFA 611 215 R1103	1x10	0.018
	Blue	M3SS6-11L	1SFA 611 215 R1104	1x10	0.018
	Clear	M3SS6-11C	1SFA 611 215 R1108	1x10	0.018
Momentary, spring return from A to B					
	Red	M3SS8-11R	1SFA 611 217 R1101	1x10	0.018
	Green	M3SS8-11G	1SFA 611 217 R1102	1x10	0.018
	Yellow	M3SS8-11Y	1SFA 611 217 R1103	1x10	0.018
	Blue	M3SS8-11L	1SFA 611 217 R1104	1x10	0.018
	Clear	M3SS8-11C	1SFA 611 217 R1108	1x10	0.018

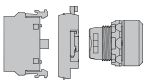
Contacts actuated





Contact Blocks and Holder see the fold-out page at the end of the catalog

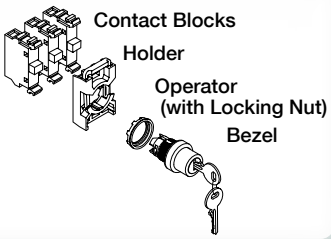
Key-operated Selector Switches
two and three positions



How to order:

Alt.1 • Operator
+ Holder
+ Contact Block(s)

Alt.2 • Operator
+ Holder with Contact Block(s)



Bezel - How to order
Black Plastic - Standard
Chrome Metal - Replace '1' with '3' in Type and Order Codes



Bezel Options	Type	Order Code
Black Plastic	M3SSK(X)-10X	1SFA611 28X R100X
Chrome Metal	M3SSK(X)-30X	1SFA611 28X R300X



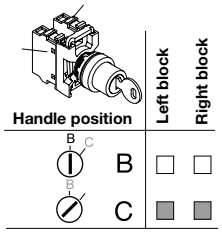
Key-operated Selector Switch

Operator: Key-operated Selector Switch

Description		Type	Order Code	Package Quantity	Weight Kg
Two positions					
Maintained (The key can be removed in both positions)					
	Key release code 71/Ronis 455	**M2SSK1-101**	**1SFA 611 280 R1001**	1	0.045
	Key release code 72/Ronis 421	**M2SSK1-102**	**1SFA 611 280 R1002**	1	0.045
	Key release code 73/Ronis 3433-E	**M2SSK1-103**	**1SFA 611 280 R1003**	1	0.045
	Random selection *)	**M2SSK1-104**	**1SFA 611 280 R1004**	1	0.045
Maintained (The key can be removed in position B only)					
	Key release code 71/Ronis 455	**M2SSK2-101**	**1SFA 611 281 R1001**	1	0.045
	Key release code 72/Ronis 421	**M2SSK2-102**	**1SFA 611 281 R1002**	1	0.045
	Key release code 73/Ronis 3433-E	**M2SSK2-103**	**1SFA 611 281 R1003**	1	0.045
	Random selection *)	**M2SSK2-104**	**1SFA 611 281 R1004**	1	0.045
Momentary, spring return from C to B (The key can be removed in position B only)					
	Key release code 71/Ronis 455	**M2SSK3-101**	**1SFA 611 282 R1001**	1	0.045
	Key release code 72/Ronis 421	**M2SSK3-102**	**1SFA 611 282 R1002**	1	0.045
	Key release code 73/Ronis 3433-E	**M2SSK3-103**	**1SFA 611 282 R1003**	1	0.045
	Random selection *)	**M2SSK3-104**	**1SFA 611 282 R1004**	1	0.045
Three positions					
Maintained (The key can be removed in all positions)					
	Key release code 71/Ronis 455	**M3SSK1-101**	**1SFA 611 283 R1001**	1	0.045
	Key release code 72/Ronis 421	**M3SSK1-102**	**1SFA 611 283 R1002**	1	0.045
	Key release code 73/Ronis 3433-E	**M3SSK1-103**	**1SFA 611 283 R1003**	1	0.045
	Random selection *)	**M3SSK1-104**	**1SFA 611 283 R1004**	1	0.045
Maintained (The key can be removed in position B only)					
	Key release code 71/Ronis 455	**M3SSK2-101**	**1SFA 611 284 R1001**	1	0.045
	Key release code 72/Ronis 421	**M3SSK2-102**	**1SFA 611 284 R1002**	1	0.045
	Key release code 73/Ronis 3433-E	**M3SSK2-103**	**1SFA 611 284 R1003**	1	0.045
	Random selection *)	**M3SSK2-104**	**1SFA 611 284 R1004**	1	0.045
Momentary, spring return from A to B and from C to B (The key can be removed in position B only)					
	Key release code 71/Ronis 455	**M3SSK3-101**	**1SFA 611 285 R1001**	1	0.045
	Key release code 72/Ronis 421	**M3SSK3-102**	**1SFA 611 285 R1002**	1	0.045
	Key release code 73/Ronis 3433-E	**M3SSK3-103**	**1SFA 611 285 R1003**	1	0.045
	Random selection *)	**M3SSK3-104**	**1SFA 611 285 R1004**	1	0.045

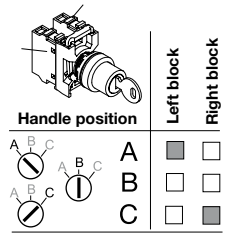
*) 25 randomly picked unique key codes. (Key codes 71,72 and 73 not included)

Contacts actuated



☐ Not actuated
■ Actuated

Contacts actuated



☐ Not actuated
■ Actuated



Contact Blocks and Holder see the fold-out page at the end of the catalog

Potentiometers



Potentiometer

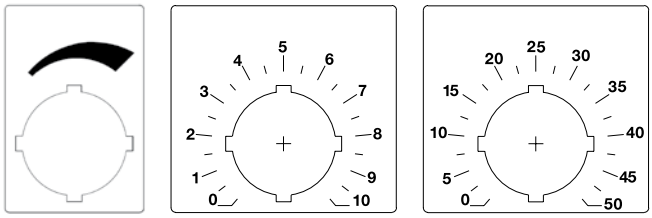
Operator: Potentiometer

Description	Type	Order Code	Package Quantity	Weight Kg
Complete Potentiometers				
Black knob with integrated position indication and marking in white				
With Resistor 5 kohm				
Black Plastic Bezel	**MT-105B**	**1SFA 611 410 R1056**	1	0.040
Chrome Metal Bezel	**MT-305B**	**1SFA 611 410 R3056**	1	0.048
With Resistor 10 kohm				
Black Plastic Bezel	**MT-110B**	**1SFA 611 410 R1106**	1	0.040
Chrome Metal Bezel	**MT-310B**	**1SFA 611 410 R3106**	1	0.048
With Resistor 50 kohm				
Black Plastic Bezel	**MT-150B**	**1SFA 611 410 R1506**	1	0.040
Chrome Metal Bezel	**MT-350B**	**1SFA 611 410 R3506**	1	0.048

Knob without Resistor				
Black knob with integrated position indication and marking in white. For shaft diameter 6 -6.35 mm. Min. shaft length 20 mm.				
Black Plastic Bezel	**KT-100B**	**1SFA 616 410 R1006**	10	0.034
Chrome Metal Bezel	**KT-300B**	**1SFA 616 410 R3006**	10	0.042

Legend Plates Aluminum				
Symbol: see fig. (29.6 x 44.5 mm)	-	**SK 615 562-87**	10	0.002
Scale: 0-10 (48.5 x 44.5 mm)	-	**SK 615 562-88**	10	0.002
Scale: 0-50 (48.5 x 44.5 mm)	-	**1SFA 611 930 R1252**	10	0.002

Legend Plates



Buzzers



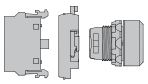
Buzzer

Operator: Buzzer

Description		Type	Order Code	Package Quantity	Weight Kg
Buzzers					
Black. Frequency: Approx. 2400 Hz. Loudness: Min 80 dB (A)/10 cm Rated Current: < 8 mA. Service Life:>5000 h Suitable for both 50 and 60 Hz networks					
Supply Voltage	**Tone Type**				
24 V AC/DC	Continuous	**KB1-4010**	**1SFA 616 401 R4010**	1x10	0.020
115 V AC/DC	Continuous	**KB1-4030**	**1SFA 616 401 R4030**	1x10	0.020
230 V AC	Continuous	**KB1-4040**	**1SFA 616 401 R4040**	1x10	0.020
24 V AC/DC	Pulsating	**KB1-4110**	**1SFA 616 401 R4110**	1x10	0.020
115 V AC/DC	Pulsating	**KB1-4130**	**1SFA 616 401 R4130**	1x10	0.020
230 V AC	Pulsating	**KB1-4140**	**1SFA 616 401 R4140**	1x10	0.020

Reset Pushbuttons

Modular Range



How to order without shaft:

Alt.1 • Operator

How to order with shaft:

Alt.1 • Operator
+ shaft
+ flexible joint

Bezel - How to order

Black Plastic - Standard

Chrome Metal - Replace '**1**' with '**3**' in Type and Order Codes



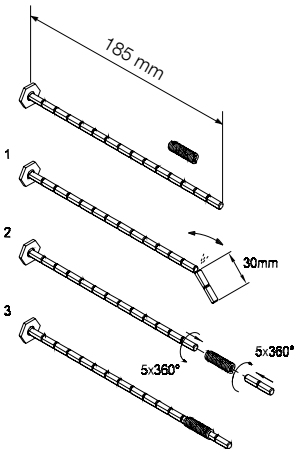
Bezel Options	Type	Order Code
Black Plastic	KPRX-**1**0XX	1SFA616 16X R**1**00X
Chrome Metal	KPRX-**3**0XX	1SFA616 16X R**3**00X



Reset Pushbutton with shaft marked "R"

Operator: Reset Pushbutton

Description	Text	Type	Order Code	Package Quantity	Weight Kg
Without Shaft					
Flush Pushbutton					
● Red	No text	KPR1-100R	1SFA 616 160 R1001	1x10	0.020
● Green	No text	KPR1-100G	1SFA 616 160 R1002	1x10	0.020
	II	KPR1-103G	1SFA 616 160 R1032	1x10	0.020
● Yellow	No text	KPR1-100Y	1SFA 616 160 R1003	1x10	0.020
● Blue	No text	KPR1-100L	1SFA 616 160 R1004	1x10	0.020
	R	KPR1-101L	1SFA 616 160 R1014	1x10	0.020
○ white	No text	KPR1-100W	1SFA 616 160 R1005	1x10	0.020
	R	KPR1-101W	1SFA 616 160 R1015	1x10	0.020
	I	KPR1-102W	1SFA 616 160 R1025	1x10	0.020
	II	KPR1-103W	1SFA 616 160 R1035	1x10	0.020
● Black	No text	KPR1-100B	1SFA 616 160 R1006	1x10	0.020
	RESET	KPR1-104B	1SFA 616 160 R1046	1x10	0.020
Extended Pushbutton					
● Red	No text	KPR2-100R	1SFA 616 161 R1001	1x10	0.021
	O	KPR2-105R	1SFA 616 161 R1051	1x10	0.021
○ white	No text	KPR2-100W	1SFA 616 161 R1005	1x10	0.021
● Black	No text	KPR2-100B	1SFA 616 161 R1006	1x10	0.021
	O	KPR2-105B	1SFA 616 161 R1056	1x10	0.021
With Shaft					
Flush Pushbutton					
● Red	No text	KPR3-100R	1SFA 616 162 R1001	1x10	0.027
● Green	No text	KPR3-100G	1SFA 616 162 R1002	1x10	0.027
	II	KPR3-103G	1SFA 616 162 R1032	1x10	0.027
● Yellow	No text	KPR3-100Y	1SFA 616 162 R1003	1x10	0.027
● Blue	No text	KPR3-100L	1SFA 616 162 R1004	1x10	0.027
	R	KPR3-101L	1SFA 616 162 R1014	1x10	0.027
○ white	No text	KPR3-100W	1SFA 616 162 R1005	1x10	0.027
	R	KPR3-101W	1SFA 616 162 R1015	1x10	0.027
	I	KPR3-102W	1SFA 616 162 R1025	1x10	0.027
	II	KPR3-103W	1SFA 616 162 R1035	1x10	0.027
● Black	No text	KPR3-100B	1SFA 616 162 R1006	1x10	0.027
	RESET	KPR3-104B	1SFA 616 162 R1046	1x10	0.027
Extended Pushbutton					
● Red	No text	KPR4-100R	1SFA 616 163 R1001	1x10	0.028
	O	KPR4-105R	1SFA 616 163 R1051	1x10	0.028
○ white	No text	KPR4-100W	1SFA 616 163 R1005	1x10	0.028
● Black	No text	KPR4-100B	1SFA 616 163 R1006	1x10	0.028
	O	KPR4-105B	1SFA 616 163 R1056	1x10	0.028
Shaft: (including fixing nut)		KA1-8046	1SFA 616 920 R8046	1x10	0.007
Flexible Joint		KA1-8047	1SFA 616 920 R8047	1x10	0.005





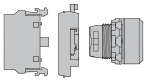
Contact Blocks and Holder see the fold-out page at the end of the catalog



Customer specific marking online. For more information see page 4 or go to:

http://bolservices.it.abb.com/pilot-devices

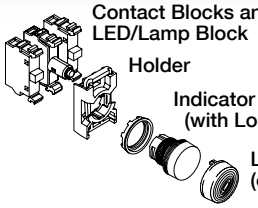
Pilot Lights



How to order:

Alt.1 • indicator
+ Holder
+ LED/Lamp Block

Alt.2 • indicator
+ Holder
+ LED/Lamp Block
+ lens: used together with LED to improve light diffusion (Cannot be used together with Text Cap)





Pilot Light

Indicator: Pilot Light

Description	Type	Order Code	Package Quantity	Weight Kg
Pilot Lights				
Red	**ML1-100R**	**1SFA 611 400 R1001**	1x10	0.018
Green	**ML1-100G**	**1SFA 611 400 R1002**	1x10	0.018
Yellow	**ML1-100Y**	**1SFA 611 400 R1003**	1x10	0.018
Blue	**ML1-100L**	**1SFA 611 400 R1004**	1x10	0.018
White	**ML1-100W**	**1SFA 611 400 R1005**	1x10	0.018
Clear	**ML1-100C**	**1SFA 611 400 R1008**	1x10	0.016

Note: Light source not included. Bulbs and Lamp Blocks or LED Blocks – See Accessories

Accessories				
Light Diffusing Lens	**KA1-8005**	**1SFA 616 920 R8005**	1x10	0.001

Note: Light Diffusing Lens is used to improve illumination of LED Bulbs. Cannot be used together with text cap.

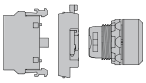


Contact Blocks and Holder see the fold-out page at the end of the catalog



Customer specific marking online. For more information see page 4 or go to:
http://bolservices.it.abb.com/pilot-devices

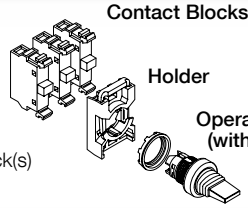
Toggle Switches
two and three positions



How to order:

Alt.1 • Operator
+ Holder
+ Contact Block(s)

Alt.2 • Operator
+ Holder with Contact Block(s)



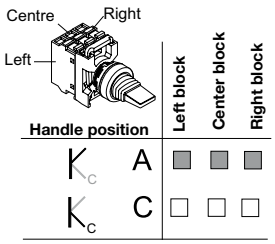


Toggle Switch

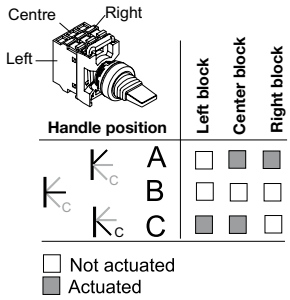
Operator: Toggle Switch

Description	Bezel	Type	Order Code	Package Quantity	Weight Kg
Two positions					
Maintained					
	Black Plastic	**MTS1-10B**	**1SFA 611 300 R1006**	1x10	0.021
	Chrome plastic	**MTS1-20B**	**1SFA 611 300 R2006**	1x10	0.021
	Chrome metal	**MTS1-30B**	**1SFA 611 300 R3006**	1x10	0.021
Three positions					
Momentary, spring return from A to B and from C to B					
	Black Plastic	**MTS2-10B**	**1SFA 611 301 R1006**	1x10	0.021
	Chrome plastic	**MTS2-20B**	**1SFA 611 301 R2006**	1x10	0.021
	Chrome metal	**MTS2-30B**	**1SFA 611 301 R3006**	1x10	0.021
Maintained					
	Black Plastic	**MTS3-10B**	**1SFA 611 302 R1006**	1x10	0.021
	Chrome plastic	**MTS3-20B**	**1SFA 611 302 R2006**	1x10	0.021
	Chrome metal	**MTS3-30B**	**1SFA 611 302 R3006**	1x10	0.021

Contacts actuated



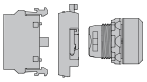
Contacts actuated





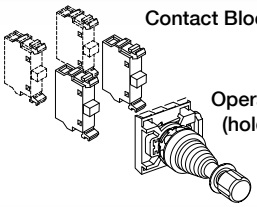
Contact Blocks and Holder see the fold-out page at the end of the catalog

Joysticks
IP67 and IP69K



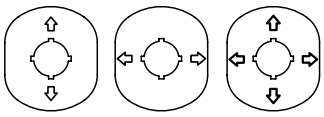
How to order:

• Operator H**older included**
+ Contact Blocks





Joystick with latching function



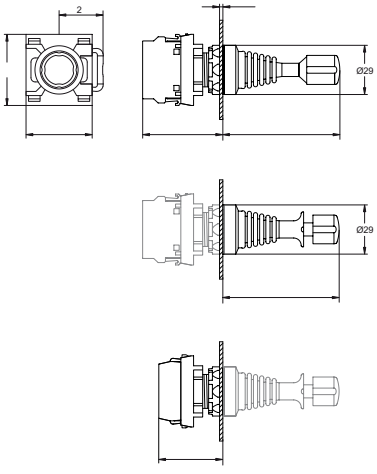
Legend Plates



Legend Plate Holders

Operator: Joystick

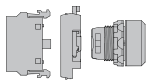
Description	Type	Order Code	Package Quantity	Weight Kg
Joystick				
2-position Maintained	**MJS1-60B**	**1SFA 611 701 R6006**	1	0.062
2-position Momentary	**MJS2-60B**	**1SFA 611 702 R6006**	1	0.062
4-position Maintained	**MJS5-60B**	**1SFA 611 705 R6006**	1	0.088
4-position Momentary	**MJS6-60B**	**1SFA 611 706 R6006**	1	0.088
Joystick with latching function				
2-position Maintained	**MJS7-60B**	**1SFA 611 707 R6006**	1	0.062
2-position Momentary	**MJS8-60B**	**1SFA 611 708 R6006**	1	0.062
4-position Maintained	**MJS11-60B**	**1SFA 611 711 R6006**	1	0.088
4-position Momentary	**MJS12-60B**	**1SFA 611 712 R6006**	1	0.088
Micro Switch Blocks				
1 NO	**MCBL-10**	**1SFA 611 612 R1010**	1x10	0.010
1 NC	**MCBL-01**	**1SFA 611 612 R1001**	1x10	0.010
Legend Plates				
2-position (1) (up - down)	**MA6-1240**	**1SFA 611 930 R1240**	1	0.004
2-position (2) (right - left)	**MA6-1241**	**1SFA 611 930 R1241**	1	0.004
4-position (3)	**MA6-1242**	**1SFA 611 930 R1242**	1	0.004
Legend Plate Holders				
4-position	**MA1-8137**	**1SFA 611 920 R8137**	1	0.004
2-position	**MA1-8138**	**1SFA 611 920 R8138**	1	0.003
Insert with symbol				
↑	**MA6-1065**	**1SFA 611 930 R1065**	10	0.001





Contact Blocks and Holder see the fold-out page at the end of the catalog

Accessories for Modular Range
LED Blocks, front mounting



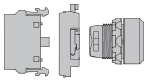


LED Block with built in leakage current protection

Description	Rated Current mA	Wave-length nm	Lumi-nance mcd	Type	Order Code	Package Quantity	Weight Kg
LED-blocks							
Rated Voltage 12 V, DC							
Red	12.0	620	320	**MLBL-00R**	**1SFA 611 621 R1001**	1x10	0.012
Green	9.3	520	1500	**MLBL-00G**	**1SFA 611 621 R1002**	1x10	0.012
Yellow	12.0	588	380	**MLBL-00Y**	**1SFA 611 621 R1003**	1x10	0.012
Blue	9.5	468	450	**MLBL-00L**	**1SFA 611 621 R1004**	1x10	0.012
White	9.3	[2]	600	**MLBL-00W**	**1SFA 611 621 R1005**	1x10	0.012
Rated Voltage 24 V, AC/DC							
Red	9.9	620	250	**MLBL-01R**	**1SFA 611 621 R1011**	1x10	0.012
Green	9.2	520	1500	**MLBL-01G**	**1SFA 611 621 R1012**	1x10	0.012
Yellow	9.9	588	250	**MLBL-01Y**	**1SFA 611 621 R1013**	1x10	0.012
Blue	9.3	468	450	**MLBL-01L**	**1SFA 611 621 R1014**	1x10	0.012
White	9.2	[2]	600	**MLBL-01W**	**1SFA 611 621 R1015**	1x10	0.012
Rated Voltage 48 V, AC/DC							
Red	10.0	620	260	**MLBL-02R**	**1SFA 611 621 R1021**	1x10	0.012
Green	9.7	520	1500	**MLBL-02G**	**1SFA 611 621 R1022**	1x10	0.012
Yellow	10.0	588	300	**MLBL-02Y**	**1SFA 611 621 R1023**	1x10	0.012
Blue	9.7	468	450	**MLBL-02L**	**1SFA 611 621 R1024**	1x10	0.012
White	9.7	[1]	600	**MLBL-02W**	**1SFA 611 621 R1025**	1x10	0.012
Rated Voltage 60 V, AC/DC							
Red	13.0	620	350	**MLBL-03R**	**1SFA 611 621 R1031**	1x10	0.012
Green	12.7	520	2000	**MLBL-03G**	**1SFA 611 621 R1032**	1x10	0.012
Yellow	13.0	588	400	**MLBL-03Y**	**1SFA 611 621 R1033**	1x10	0.012
Blue	12.7	468	550	**MLBL-03L**	**1SFA 611 621 R1034**	1x10	0.012
White	12.7	[1]	750	**MLBL-03W**	**1SFA 611 621 R1035**	1x10	0.012
Rated Voltage 110-130 V, AC							
Red	8.6	620	200	**MLBL-04R**	**1SFA 611 621 R1041**	1x10	0.012
Green	8.5	520	1200	**MLBL-04G**	**1SFA 611 621 R1042**	1x10	0.012
Yellow	8.6	588	250	**MLBL-04Y**	**1SFA 611 621 R1043**	1x10	0.012
Blue	7.0	468	400	**MLBL-04L**	**1SFA 611 621 R1044**	1x10	0.012
White	7.0	[1]	500	**MLBL-04W**	**1SFA 611 621 R1045**	1x10	0.012
Rated Voltage 110-130 V, DC							
Red	9.9	620	250	**MLBL-05R**	**1SFA 611 621 R1051**	1x10	0.012
Green	9.8	520	1500	**MLBL-05G**	**1SFA 611 621 R1052**	1x10	0.012
Yellow	9.9	588	300	**MLBL-05Y**	**1SFA 611 621 R1053**	1x10	0.012
Blue	9.8	468	450	**MLBL-05L**	**1SFA 611 621 R1054**	1x10	0.012
White	9,8	[1]	600	**MLBL-05W**	**1SFA 611 621 R1055**	1x10	0.012
Rated Voltage 220 V, DC							
Red	8.0	620	180	**MLBL-06R**	**1SFA 611 621 R1061**	1x10	0.012
Green	8.0	520	110	**MLBL-06G**	**1SFA 611 621 R1062**	1x10	0.012
Yellow	8.0	588	200	**MLBL-06Y**	**1SFA 611 621 R1063**	1x10	0.012
Blue	8.0	468	450	**MLBL-06L**	**1SFA 611 621 R1064**	1x10	0.012
White	8.0	[1]	600	**MLBL-06W**	**1SFA 611 621 R1065**	1x10	0.012
Rated Voltage 230 V, AC							
Red	9.5	620	250	**MLBL-07R**	**1SFA 611 621 R1071**	1x10	0.012
Green	9.4	520	1500	**MLBL-07G**	**1SFA 611 621 R1072**	1x10	0.012
Yellow	9.5	588	300	**MLBL-07Y**	**1SFA 611 621 R1073**	1x10	0.012
Blue	8.2	468	450	**MLBL-07L**	**1SFA 611 621 R1074**	1x10	0.012
White	8.2	[1]	600	**MLBL-07W**	**1SFA 611 621 R1075**	1x10	0.012

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

[1] X=0.31, Y=0.32 according to the ICI Chromaticity Diagram.



Accessories for Modular Range
LED Blocks, front mounting



LED Block with built in leakage current protection

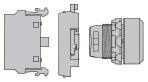
Description	Rated Current mA	Wave-length nm	Lumi-nance mcd	Type	Order Code	Package Quantity	Weight Kg
LED Blocks continued							
Rated Voltage 380 V, AC							
Red	10.2	620	250	**MLBL-08R**	**1SFA 611 621 R1081**	1x10	0.012
Green	10.2	520	1500	**MLBL-08G**	**1SFA 611 621 R1082**	1x10	0.012
Yellow	10.2	582	300	**MLBL-08Y**	**1SFA 611 621 R1083**	1x10	0.012
Blue	9.1	468	450	**MLBL-08L**	**1SFA 611 621 R1084**	1x10	0.012
White	9,1	[1]	600	**MLBL-08W**	**1SFA 611 621 R1085**	1x10	0.012
Rated Voltage 415 V, AC							
Red	11.2	620	280	**MLBL-09R**	**1SFA 611 621 R1091**	1x10	0.012
Green	11.2	520	1800	**MLBL-09G**	**1SFA 611 621 R1092**	1x10	0.012
Yellow	11.2	588	350	**MLBL-09Y**	**1SFA 611 621 R1093**	1x10	0.012
Blue	9.9	468	500	**MLBL-09L**	**1SFA 611 621 R1094**	1x10	0.012
White	9.9	[1]	650	**MLBL-09W**	**1SFA 611 621 R1095**	1x10	0.012

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

[1] X=0.31, Y=0.32 according to the ICI Chromaticity Diagram.

Rear mounted LED Blocks can be found on page 62.

Accessories for Modular Range
Contact Blocks and Holders





Holders for Contact Block



Contact Block



Micro Switch Blocks



Double Contact Blocks

Description	Type	Order Code	Package Quantity	Weight Kg
Holders				
Holders for three positions	**MCBH-00**	**1SFA 611 605 R1100**	1x10	0.006
Holders for five positions*	**MCBH5-00**	**1SFA 611 601 R1100**	1x10	0.008

* Note: Double Contact Blocks are required on side positions

Single Contact Blocks for front mounting				
1 NO	**MCB-10**	**1SFA 611 610 R1001**	1x10	0.013
1 NO	**MCB-10**	**1SFA 611 610 H1001**	100	0.013
1 NC	**MCB-01**	**1SFA 611 610 R1010**	1x10	0.013
1 NC	**MCB-01**	**1SFA 611 610 H1010**	100	0.013
1 NO with gold plated contacts	**MCB-10G**	**1SFA 611 610 R1101**	1x10	0.013
1 NC with gold plated contacts	**MCB-01G**	**1SFA 611 610 R1110**	1x10	0.013
Micro Switch Blocks				
1 NO	**MCBL-10**	**1SFA 611 612 R1010**	1x10	0.010
1 NC	**MCBL-01**	**1SFA 611 612 R1001**	1x10	0.010
Double Contact Block for front mounting				
2 NO	**MCB-20**	**1SFA 611 610 R1002**	1x10	0.026
2 NC	**MCB-02**	**1SFA 611 610 R1020**	1x10	0.026
1 NO + 1 NC	**MCB-11**	**1SFA 611 610 R1011**	1x10	0.026

Note: To be used together with MCBH5-00 when Contact Blocks in position 4- and 5- are needed. Also when using MCBH-00 together with Selector Switch and Contact Block in position 3- is needed

Contact Blocks with Holder for front mounting				
For non-illuminated Operators				
1 NC	**MCBH-01**	**1SFA 611 605 R1110**	1x10	0.019
1 NO	**MCBH-10**	**1SFA 611 605 R1101**	1x10	0.019
2 NC	**MCBH-02**	**1SFA 611 605 R1120**	1x10	0.032
2 NO	**MCBH-20**	**1SFA 611 605 R1102**	1x10	0.032
1 NO + 1 NC	**MCBH-11**	**1SFA 611 605 R1111**	1x10	0.032

Accessories for Modular Range
Transformer and Lamp Blocks



Transformer Block for Pilot Lights



Transformer Block for illuminated Operators

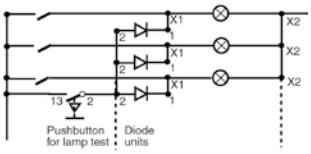


Diagram for lamp test with three Diode Blocks (not intended for integraded LED Bulbs)



Lamp Block

Description	Type	Order Code	Package Quantity	Weight Kg
Transformer Blocks for Pilot Lights				
For 6 or 24 V Filament Bulb and 24 V LED. Max 1.2 W Filament Bulb Lamp Block included in the transformer, BA 9s base				
Primary Voltage / **Secondary Voltage**				
110-127 V AC	6 V AC	**KTR1-1001**	**1SFA 616 950 R1001**	1	0.095
220-250 V AC	6 V AC	**KTR1-1002**	**1SFA 616 950 R1002**	1	0.095
380-420 V AC	6 V AC	**KTR1-1003**	**1SFA 616 950 R1003**	1	0.095
440-480 V AC	6 V AC	**KTR1-1004**	**1SFA 616 950 R1004**	1	0.095
500-600 V AC	6 V AC	**KTR1-1005**	**1SFA 616 950 R1005**	1	0.095
110-127 V AC	24 V AC [1]	**KTR1-1011**	**1SFA 616 950 R1011**	1	0.095
220-250 V AC	24 V AC [1]	**KTR1-1012**	**1SFA 616 950 R1012**	1	0.095
380-420 V AC	24 V AC [1]	**KTR1-1013**	**1SFA 616 950 R1013**	1	0.095
440-480 V AC	24 V AC [1]	**KTR1-1014**	**1SFA 616 950 R1014**	1	0.095
Transformer Blocks for illuminated Operators				
110-127 V AC	6 V AC	**KTR1-2001**	**1SFA 616 950 R2001**	1	0.095
220-250 V AC	6 V AC	**KTR1-2002**	**1SFA 616 950 R2002**	1	0.095
380-420 V AC	6 V AC	**KTR1-2003**	**1SFA 616 950 R2003**	1	0.095
440-480 V AC	6 V AC	**KTR1-2004**	**1SFA 616 950 R2004**	1	0.095
500-600 V AC	6 V AC	**KTR1-2005**	**1SFA 616 950 R2005**	1	0.095
110-127 V AC	24 V AC [1]	**KTR1-2011**	**1SFA 616 950 R2011**	1	0.095
220-250 V AC	24 V AC [1]	**KTR1-2012**	**1SFA 616 950 R2012**	1	0.095
380-420 V AC	24 V AC [1]	**KTR1-2013**	**1SFA 616 950 R2013**	1	0.095
440-480 V AC	24 V AC [1]	**KTR1-2014**	**1SFA 616 950 R2014**	1	0.095

[1] Can be used with LED Bulb

Diode Block				
Diode Block	**MDB-1001**	**1SFA 611 630 R1001**	1x10	0.015

Note: 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

Single Lamp Blocks for front mounting, BA 9s base					
230 V, 2 W X1 X2	For max. 2 W, 230 V AC and DC Filament Bulb or LED	**MLB-1**	**1SFA 611 620 R1001**	1x10	0.015
115 V 60 V 1.2 W X1 X2	115 V AC supply voltage. For 60 V Filament Bulb 1.2 W	**MLB-2**	**1SFA 611 620 R1002**	1x10	0.017
230 V 130 V 2 W X1 X2	230 V AC supply voltage. For 130 V Filament Bulb 2 W	**MLB-3**	**1SFA 611 620 R1003**	1x10	0.020
115 V 24 V LED X1 X2	115 V AC and DC supply voltage For 24 V LED only	**MLB-4**	**1SFA 611 620 R1004**	1x10	0.017
LED X1 X2 24-230V	LED Block designed to prevent glowing from leakage current.	**MLB-8**	**1SFA 611 620 R1008**	1x10	0.015

Accessories for Modular Range



DIN-rail Adaptor



Dummy Block



Adaptor



Lamp Changing Tool



Mounting Tool



Mounting Tool for Power Tool



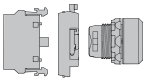
Blanking Plugs



Square Bezels

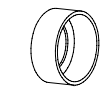
Description	Type	Order Code	Package Quantity	Weight Kg
DIN-rail Adaptor				
DIN-rail Adaptor	**MA1-8131**	**1SFA 611 920 R8131**	1	0.020
DIN-rail (adaptor) kit with one Dummy Block	**MA1-8001**	**1SFA 611 920 R8001**	1	0.028
Dummy Block				
Dummy Block	**MDB-2**	**1SFA 611 630 R1002**	10	0.003
Dummy Blocks are used when only one contact block or a compact device is used together with the DIN-Rail Adaptor				
30 mm Adaptors for 22 mm Operator (1.5-4 mm panels)				
For Emergency Stop Pushbutton				
Black Plastic	**KA1-8027**	**1SFA 616 920 R8027**	1	0.007
Metal	**KA1-8028**	**1SFA 616 920 R8028**	1	0.021
For Pushbuttons, Selector Switches, Pilot Lights, Potentiometers and Buzzers:				
Black Plastic	**KA1-8029**	**1SFA 616 920 R8029**	1	0.010
Metal	**KA1-8030**	**1SFA 616 920 R8030**	1	0.035
Flush Mounted Adaptors (metal)				
For Pushbuttons	**KA1-8073**	**1SFA 616 920 R8073**	1	0.050
For Selector Swiches	**MA1-8074**	**1SFA 611 920 R8074**	1	0.050
Lamp Changing Tool				
For LED Bulbs and for bulbs	**KA1-8072**	**1SFA 616 920 R8072**	1	0.002
Mounting Tool for operator				
Mounting Tool for tightening the Locking Nut	**MA1-8015**	**1SFA 611 920 R8015**	1	0.021
Mounting Tool for Power Tool	**MA1-8149**	**1SFA 611 920 R8149**	1	0.155
Extra key				
Ronis 455 (key code 71)	**-**	**SK 616 021-71**	10	0.007
Ronis 421 (key code 72)	**-**	**SK 616 021-72**	10	0.007
Ronis 3433-E (key code 73)	**-**	**SK 616 021-73**	10	0.007
Locking Nut				
Locking Nut	**MA1-8019**	**1SFA 611 920 R8019**	10	0.001
The Locking nut can also be used with Compact Devices.				
Blanking Plug				
Grey	**MA1-8129**	**1SFA 611 920 R8129**	10	0.005
Black	**MA1-8130**	**1SFA 611 920 R8130**	10	0.005
Light grey	**MA1-8136**	**1SFA 611 920 R8136**	10	0.005
Square Bezel				
Black, plastic	**-**	**SK 616 016-2**	10	0.001
Grey, plastic	**MA1-8124**	**1SFA 611 920 R8124**	10	0.001

Accessories for Modular Range





Protective Membrane



Protective Ring



Protective Cover



Bezel



Shroud for Emergency Stop

Description	Type	Order Code	Package Quantity	Weight Kg
Protective Membrane				
For Flush Button	**KA1-8052**	**1SFA 616 920 R8052**	10	0.002
For Extended Button	**KA1-8002**	**1SFA 616 920 R8002**	10	0.002
For Double Pushbutton	**MA1-8126**	**1SFA 611 920 R8126**	10	0.002
Protective Ring				
Operator for Protective Ring	**-**	**SK 615 512-1**	10	0.002
Note: For flush and Extended Pushbuttons. To prevent accidental operation. Cannot be used together with Legend Plate Holder				
Protective Cover				
Protective Cover	**KA1-8010**	**1SFA 616 920 R8010**	10	0.008
Note: For Flush Pushbutton. To prevent accidental operation. Cannot be used together with Legend Plate Holder.				
Bezel				
For Pushbutton				
Gray plastic	**KA1-8079**	**1SFA 616 920 R8079**	10	0.002
Black Plastic	**KA1-8022**	**1SFA 616 920 R8022**	10	0.002
Chrome metal	**KA1-8021**	**1SFA 616 920 R8021**	10	0.015
For Selector Switch				
Gray plastic	**KA1-8077**	**1SFA 616 920 R8077**	10	0.001
Black Plastic	**KA1-8080**	**1SFA 616 920 R8080**	10	0.001
Chrome metal	**KA1-8024**	**1SFA 616 920 R8024**	10	0.010
Shroud for Emergency Stop				
Yellow	**MA1-8053**	**1SFA 611 920 R8053**	10	0.020
Grey	**MA1-8128**	**1SFA 611 920 R8128**	10	0.020
Note: For 40 mm Emergency Stop Pushbuttons and Machine Stop Pushbuttons. To prevent accidental operation. With anti rotation tabs and slot for pad-lock and with water drainage.				

Accessories for Modular Range
LED Bulbs



LED Bulbs

Description	Wavelength nm	Luminance mcd	Type	Order Code	Package Quantity	Weight Kg
LED Bulbs						
Rated Voltage 12 V, DC, Rated Current 15 mA, Service Life >50 000 h						
Red	630	250	KA2-2011	1SFA 616 921 R2011	20	0.005
Green	525	1000	KA2-2012	1SFA 616 921 R2012	20	0.005
Yellow	592	250	KA2-2013	1SFA 616 921 R2013	20	0.005
Blue	470	450	KA2-2014	1SFA 616 921 R2014	20	0.005
White	[1]	600	KA2-2015	1SFA 616 921 R2015	20	0.005
Rated Voltage 24 V, (AC)/DC, Rated Current 15 mA, Service Life >50 000 h						
Red	630	250	KA2-2021	1SFA 616 921 R2021	20	0.005
Green	525	800	KA2-2022	1SFA 616 921 R2022	20	0.005
Yellow	592	250	KA2-2023	1SFA 616 921 R2023	20	0.005
Blue	470	400	KA2-2024	1SFA 616 921 R2024	20	0.005
White	[1]	500	KA2-2025	1SFA 616 921 R2025	20	0.005
Rated Voltage 36 V, (AC)/DC, Rated Current 12 mA, Service Life >50 000 h						
Red	630	200	KA2-2031	1SFA 616 921 R2031	20	0.005
Green	525	2000	KA2-2032	1SFA 616 921 R2032	20	0.005
Yellow	592	200	KA2-2033	1SFA 616 921 R2033	20	0.005
Blue	470	750	KA2-2034	1SFA 616 921 R2034	20	0.005
White	[1]	1400	KA2-2035	1SFA 616 921 R2035	20	0.005
Rated Voltage 48 V, (AC)/DC, Rated Current 12 mA, Service Life >50 000 h						
Red	630	200	KA2-2041	1SFA 616 921 R2041	20	0.005
Green	525	1700	KA2-2042	1SFA 616 921 R2042	20	0.005
Yellow	592	240	KA2-2043	1SFA 616 921 R2043	20	0.005
Blue	470	720	KA2-2044	1SFA 616 921 R2044	20	0.005
White	[1]	1200	KA2-2045	1SFA 616 921 R2045	20	0.005
Rated Voltage 60 V, (AC)/DC, Rated Current 10 mA, Service Life >50 000 h						
Red	630	160	KA2-2051	1SFA 616 921 R2051	20	0.005
Green	525	1400	KA2-2052	1SFA 616 921 R2052	20	0.005
Yellow	592	200	KA2-2053	1SFA 616 921 R2053	20	0.005
Blue	470	600	KA2-2054	1SFA 616 921 R2054	20	0.005
White	[1]	1000	KA2-2055	1SFA 616 921 R2055	20	0.005
Rated Voltage 110-130 V, AC, Rated Current 4-6 mA, Service Life 25 000 h						
Red	630	60-100	KA2-2131	1SFA 616 921 R2131	20	0.005
Green	525	500-850	KA2-2132	1SFA 616 921 R2132	20	0.005
Yellow	592	70-120	KA2-2133	1SFA 616 921 R2133	20	0.005
Blue	470	220-350	KA2-2134	1SFA 616 921 R2134	20	0.005
White	[1]	350-600	KA2-2135	1SFA 616 921 R2135	20	0.005
Rated Voltage 110-130 V, AC/DC, Rated Current 4-6 mA, Service Life 25 000 h						
Red	630	60	KA2-2141	1SFA 616 921 R2141	20	0.005
Green	525	500	KA2-2142	1SFA 616 921 R2142	20	0.005
Yellow	592	70	KA2-2143	1SFA 616 921 R2143	20	0.005
Blue	470	220	KA2-2144	1SFA 616 921 R2144	20	0.005
White	[1]	350	KA2-2145	1SFA 616 921 R2145	20	0.005
Rated Voltage 230 V, AC, Rated Current 4 mA, Service Life 25 000 h						
Red	630	60	KA2-2221	1SFA 616 921 R2221	20	0.005
Green	525	500	KA2-2222	1SFA 616 921 R2222	20	0.005
Yellow	592	70	KA2-2223	1SFA 616 921 R2223	20	0.005
Blue	470	220	KA2-2224	1SFA 616 921 R2224	20	0.005
White	[1]	350	KA2-2225	1SFA 616 921 R2225	20	0.005

Note: Care should be taken for DC supply where + and - must be correctly connected. This is marked X1 (+) and X2 (-) on the product. Choose the same color on the LED as on the lamp cap.

[1] X=0.31, Y=0.32 according to the ICI Chromaticity Diagram.

Accessories for Modular Range
LED and Filament Bulbs



LED Bulbs

Description	Wavelength nm	Luminance mcd	Type	Order Code	Package Quantity	Weight Kg
LED Bulbs continued						
Rated Voltage 230 V, AC/DC, Rated Current 4 mA, Service Life 25 000 h						
Red	630	60	**KA2-2231**	**1SFA 616 921 R2231**	20	0.005
Green	525	500	**KA2-2232**	**1SFA 616 921 R2232**	20	0.005
Yellow	592	70	**KA2-2233**	**1SFA 616 921 R2233**	20	0.005
Blue	470	220	**KA2-2234**	**1SFA 616 921 R2234**	20	0.005
White	[1]	350	**KA2-2235**	**1SFA 616 921 R2235**	20	0.005

Note: Care should be taken for DC supply where + and - must be correctly connected. This is marked X1 (+) and X2 (-) on the product. Choose the same color on the LED as on the lamp cap.

[1] X=0.31, Y=0.32 according to the ICI Chromaticity Diagram.

Flashing LED Bulbs						
Rated Voltage 24 V, Rated Current 25 mA, DC						
Description	**Wavelength nm**	**Service Life hours**	**Type**	**Order Code**	**Package Quantity**	**Weight Kg**
Red	630	50 000	-	**4950 512-1**	20	0.005
Green	565	50 000	-	**4950 512-2**	20	0.005
Yellow	585	50 000	-	**4950 512-3**	20	0.005

Note: Care should be taken for DC supply where + and - must be correctly connected. This is marked X1 (+) and X2 (-) on the product. Choose the same color on the LED as on the lamp cap.



Filament Bulbs

Filament Bulbs BA 9s base								
Rated Voltage V m AC/DC	**Rated Current A**	**Rated Output W**	**Service Life h**	**Luminance mcd**	**Type**	**Order Code**	**Package Quantity**	**Weight Kg**
6	200	1.2	10 000	350	-	**5911 086-11**	20	0.002
12	100	1.2	10 000	203	-	**5911 086-12**	20	0.002
24	50	1.2	10 000	280	-	**5911 086-13**	20	0.002
30	40	1.2	10 000	250	-	**5911 086-4**	20	0.002
48	42	2	6 000	500	-	**5911 086-5**	20	0.002
60	20	1.2	5 000	190	-	**5911 086-14**	20	0.002
110	18	2	7 500	250	-	**5911 086-7**	20	0.002
130	15	2	7 500	120	-	**5911 086-15**	20	0.002

A Lamp Changing Tool is required for changing bulb.

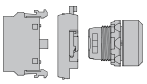


Lamp Changing Tool

Lamp Changing Tool				
For LED Bulbs and for bulbs	**KA1-8072**	**1SFA 616 920 R8072**	1	0.002

A Lamp Changing Tool is required for changing bulb.

Accessories for Modular Range
lenses





Lens for Pilot Light



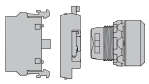
Flush Lens



Extended Lens

Description	Type	Order Code	Package Quantity	Weight Kg
Lenses for Pilot Lights				
Red	KA1-8031	1SFA 616 920 R8031	10	0.02
Green	KA1-8032	1SFA 616 920 R8032	10	0.02
Yellow	KA1-8033	1SFA 616 920 R8033	10	0.02
Blue	KA1-8034	1SFA 616 920 R8034	10	0.02
White	KA1-8035	1SFA 616 920 R8035	10	0.02
Clear	KA1-8038	1SFA 616 920 R8038	10	0.02
Lenses for non-Illuminated Pushbuttons				
Flush				
Red	KA1-8081	1SFA 616 920 R8081	10	0.015
Green	KA1-8082	1SFA 616 920 R8082	10	0.015
Yellow	KA1-8083	1SFA 616 920 R8083	10	0.015
Blue	KA1-8084	1SFA 616 920 R8084	10	0.015
White	KA1-8085	1SFA 616 920 R8085	10	0.015
Black	KA1-8086	1SFA 616 920 R8086	10	0.015
Grey	KA1-8087	1SFA 616 920 R8087	10	0.015
Clear	KA1-8088	1SFA 616 920 R8088	10	0.015
Extended				
Red	KA1-8091	1SFA 616 920 R8091	10	0.025
Green	KA1-8092	1SFA 616 920 R8092	10	0.025
Yellow	KA1-8093	1SFA 616 920 R8093	10	0.025
Blue	KA1-8094	1SFA 616 920 R8094	10	0.025
White	KA1-8095	1SFA 616 920 R8095	10	0.025
Black	KA1-8096	1SFA 616 920 R8096	10	0.025
Grey	KA1-8097	1SFA 616 920 R8097	10	0.025
Clear	KA1-8098	1SFA 616 920 R8098	10	0.025
Lenses for Illuminated Pushbuttons				
Flush				
Red	KA1-8101	1SFA 616 920 R8101	10	0.015
Green	KA1-8102	1SFA 616 920 R8102	10	0.015
Yellow	KA1-8103	1SFA 616 920 R8103	10	0.015
Blue	KA1-8104	1SFA 616 920 R8104	10	0.015
White	KA1-8105	1SFA 616 920 R8105	10	0.015
Clear	KA1-8108	1SFA 616 920 R8108	10	0.015
Extended				
Red	KA1-8111	1SFA 616 920 R8111	10	0.025
Green	KA1-8112	1SFA 616 920 R8112	10	0.025
Yellow	KA1-8113	1SFA 616 920 R8113	10	0.025
Blue	KA1-8114	1SFA 616 920 R8114	10	0.025
White	KA1-8115	1SFA 616 920 R8115	10	0.025
Clear	KA1-8118	1SFA 616 920 R8118	10	0.025

Technical Data



Standards and Approvals	
IEC / EN 60947-1	Low-Voltage Switchgear and Controlgear - Part 1: General rules
IEC / EN 60947-5-1	Low-Voltage Switchgear and Controlgear - Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices
IEC / EN 60947-5-5	Low-Voltage Switchgear and Controlgear - Part 5-5: Control circuit devices and switching elements - Electrical Emergency Stop device with mechanical latching function
IEC / EN 60073	Basic and safety principles for man-machine interface, marking and identification - Coding principles for indicators and actuators
IEC / EN 60529	Degrees of Protection provided by enclosures (IP Code)
EN 50013	Low-Voltage Switchgear and Controlgear for industrial use - Terminal marking and distinctive number for particular control switches
DIN 40050-9	Road vehicles; Degrees of Protection (IP-code); protection against foreign objects; water and contact; electrical equipment
UL 508	Industrial Control Equipment
CSA C22.2 No 14	Industrial Control Equipment

Environmental Data

Degrees of Protection

Operators	IEC/EN DIN	UL/CSA
Pushbutton: MP *	IP66	Type 1, 3R, 4, 4X, 12, 13
Double Pushbutton: MPD *	IP66	Type 1, 3R, 4, 4X, 12, 13
Mushroom Pushbutton: MPM *	IP66	Type 1, 3R, 4, 4X, 12, 13
Emergency Stop: MPMT/P *	IP66	Type 1, 3R, 4, 4X, 12, 13
Selector Switch: M2SS/M3SS *	IP66	Type 1, 3R, 4, 4X, 12, 13
Key-operated Selector Switch: M2SSK/M3SSK *	IP66	Type 1, 3R, 4, 4X, 12
Toggle Switch: MTS2/MTS3 *	IP66	Type 1, 3R, 4, 4X, 12, 13
Extreme Duty Pushbutton: KP6	-	Type 1, 3R, 4, 4X
Reset Pushbutton: KPR *	IP 66	Type 1, 3R, 4, 4X, 12, 13
Joystick: MJS	IP66, 67, 69K	Type 1, 4X (indoor), 12, 13
Pilot Lights: ML	IP66	Type 1, 3R, 4, 4X, 12, 13
Buzzer: KB	IP65	Type 4X
Potentiometer: KT *	IP66	Type 1, 3R, 4, 4X, 12, 13
Contact Block and Transformer Block	IP20	-
Plastic Enclosures	IP66	Type 1, 3R, 4, 4X, 12, 13
Metallic Enclosures	IP66, 67, 69K	-

Temperature

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

*) With Chrome Plastic Bezel IP66 Type 1, 12, 13

Please note that specified degree of protection is for operator mounted on panel. If other items are mounted in between, please make sure that they are correctly sealed.

Technical Data

Terminals

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

Connectable Area	min. 1 x 0.5 mm^2 /AWG 20 max. 2 x 2.5 mm^2/2 x AWG14

Tightening Torque

Operators Locking Nut	Min. 2 Nm / Max. 2.3 Nm
Cable Terminals	0.9 Nm

Material

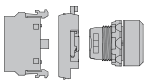
No ozone depleting substances in the products. All front of panel plastic components are made of polycarbonate

PC Polycarbonate	High impact strength, good outdoor resistance. Chemical resistance (see table below)
PSU Polysulphone	Can withstand high temperatures, acids, basic solutions, alkaline compounds, oils, alcohols.
PA Polyamide	Can withstand high temperatures, aliphatic, aromatic and chlorinated hydrocarbons, esters, ketone-aldehydes, alcohols and basic solutions.
PBT	Can withstand high temperature, aliphatic and aromatic hydrocarbons, acids, basic solutions, alcohols, grease and oils
Zinc	Good corrosion resistance in inland-, sea and industrial atmosphere.
Light-alloy	Good corrosion resistance in inland-, sea and industrial atmosphere.

Chemical Resistance for Polycarbonate

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

Technical Data



Electrical Data

Standard Contact Blocks

Self cleaning silver contacts, NC contact with positive opening. At voltages and currents below 24 V and 5.6 mA we recommend our Micro Switch Blocks.

Ratings as per IEC 60947-5-1

Rated Insulation Voltage, U_i		690 V		
Rated Thermal Current, I_{th}		10 A		
Rated Operational Current, I_e Utilization category AC 15,	at: 120 V at: 230 V at: 400 V at: 690 V	8 A 6 A 4 A 2 A		
Rated Operational Current, I_e utilisation category DC 13,	at: 24 V at:125 V at: 250 V	5 A 1.1 A 0.55 A		

Ratings as per UL, CSA, NEMA		A600 AC		Q600 DC
Rated Insulation Voltage		600 V		600 V
Rated Thermal Current		10 A		2.5 A
Rated Operational Current	at: 120 V at: 240 V at: 480 V at: 600 V	6 A 3 A 1.5 A 1.2 A	at: 125 V at: 250 V at: 480 V at: 600 V	0.55 A 0.27 A 0.10 A 0.10 A

Contact Resistance	< 25 mΩ
Compulsory Function Test	at: 5V, 16 mA

Max. number of Contact Blocks per Operator

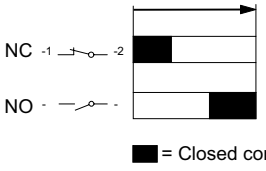
The Contact Blocks can be stacked in max two levels on the 3- block holder. Only one level is accepted on the 5-block holder.

Pushbutton, Toggle Switch, Mushroom Pushbutton, Double Pushbutton, Selector Switch, Key-operated Selector Switch and Emergency Stop Operator	6
Joystick	8

Short Circuit Protection

Max. fuse at 1 kA	gG 16A

Diagram for Make-and-Break Contact



Micro Switch Block / Ratings as per IEC 60947-5-1

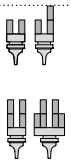
Rated Insulation Voltage, U_i		125 V
Rated Thermal Current, I_{th}		3 A
Rated Operational Current, I_e utilisation category AC 14,	at: 125 V	0.5 A
Rated Operational Current, I_e utilization category DC 13,	at: 24 V	0.3 A
Rated Operational Current, I_e utilization category DC 12,	at: 24 V	0.1 A

Minimum Switching Capacity

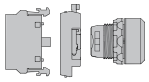
Standard Contact Blocks	24 V DC	5.6 mA
Gold plated Contact Blocks	5 V DC	12 mA
	12 V DC	1 mA
Micro Switch Blocks	3 V DC	1 mA
Ratings as per UL 508	125 V AC	3 A
	60 V DC	0.2 A
	48 V DC	0.1 A

Mechanical Data

Mechanical Life

Standard Contact Blocks		10 million operations
Pushbuttons, Momentary Mushroom Pushbutton		2 million operations
Selector Switches Present standard (no operation of center contact)		500 000 operations
With operation of center contact		250 000 operations
		150 000 operations
Maintained Mushroom Pushbutton, Key-operated Selector Switch and Double Pushbutton		500 000 operations
Emergency Stop		100 000 operations
Toggle Switch		1 million operations
Joystick		500 000 operations
		400 000 operations
		300 000 operations

Technical Data

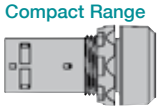


Lamp Block ratings as per IEC 60 947-5-1	
Rated Insulation Voltage	230 V
Base	BA 9s
Permissible power, up to	2 W

Transformer Block	
Suitable for Filament Bulb 6 or 24 V AC, 1.2 W and LED 24 V.	
Rated Power	1.5 W
Rated Insulation Voltage acc. to IEC 70 °C (DT)	Class E

LED Bulbs	
Service Life for LED Bulbs means number of service hours until the brightness has been reduced down 50 %. Service Life 50 000 h	
Color of white LED	x=0.31 Y=0.32 means the position of color in the ICI Chromaticity Diagram
Voltage Tolerance on LED Bulbs	-30 to +10 % voltage is acceptable without affecting the Service Life
Voltage Peaks on LED Bulbs	Voltage Peaks up to 1000 V Current Peaks up to 500 mA during a few msec
Glowing Light	All integrated LED Bulbs have a function built in to cut leakage currents.

Compact Range





The Compact Range is designed to be our most efficient solution when it comes to assembly and cost, suitable for the most demanding environments. It can also be combined with the Modular Range to cover the needs of additional flexibility.

General Construction

- ”All-in-one design”
- Same front as modular
- 42 mm built in depth
- Up to 2 electrical separated contacts.
- Metal or Black Plastic look.

Product Features

- Suitable in the toughest environments IP 66, 67 & 69K.
- Wiping Action gives high performance with low energies.
- UL/NEMA Type 1,3R,4,4X,12,13.

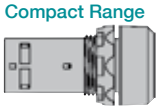
Operators

- Pushbuttons (illuminated & non illuminated).
- Emergency Stops (twist, pull & key release).
- Machine Stops (twist, pull & key release).
- Selector Switches (2 & 3 position).
- Mushrooms.

Pilot Lights

- Integrated LED (wide range of voltages).
- BA9s base for Filament Bulb or LED.

Pushbuttons
flush and extended, non-illuminated



Color codes for Pushbuttons

	Red	Green	Yellow	Blue	White	Black	Grey
■	R	G	Y	L	W	B	U
□	1	2	3	4	5	6	7

Bezel - How to order

Black Plastic - Standard
Chrome Metal - Replace '1' with '3' in Type and Order Codes



Bezel Options	Type	Order Code
Black Plastic	CP(X)-10X-XX	1SFA619 10X R10XX
Chrome Metal	CP(X)-30X-XX	1SFA619 10X R30XX



Flush Pushbutton



Extended Pushbutton



Flush Pushbutton with marking



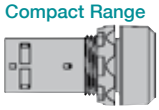
Customer specific marking online. For more information see page 4 or go to:
http://bolservices.it.abb.com/pilot-devices

Operator: Flush and Extended Pushbutton

Description	Type	Order Code	Package Quantity	Weight Kg
Flush Pushbutton				
Momentary				
1 NO	CP1-10■-10	1SFA 619 100 R101□	1x10	0.018
2 NO	CP1-10■-20	1SFA 619 100 R102□	1x10	0.022
1 NC	CP1-10■-01	1SFA 619 100 R104□	1x10	0.018
2 NC	CP1-10■-02	1SFA 619 100 R105□	1x10	0.022
1 NO +1 NC	CP1-10■-11	1SFA 619 100 R107□	1x10	0.022
Maintained				
1 NO	CP2-10■-10	1SFA 619 101 R101□	1x10	0.018
2 NO	CP2-10■-20	1SFA 619 101 R102□	1x10	0.022
1 NC	CP2-10■-01	1SFA 619 101 R104□	1x10	0.018
2 NC	CP2-10■-02	1SFA 619 101 R105□	1x10	0.022
1 NO +1 NC	CP2-10■-11	1SFA 619 101 R107□	1x10	0.022
Extended Pushbutton				
Momentary				
1 NO	CP3-10■-10	1SFA 619 102 R101□	1x10	0.019
2 NO	CP3-10■-20	1SFA 619 102 R102□	1x10	0.022
1 NC	CP3-10■-01	1SFA 619 102 R104□	1x10	0.019
2 NC	CP3-10■-02	1SFA 619 102 R105□	1x10	0.022
1 NO +1 NC	CP3-10■-11	1SFA 619 102 R107□	1x10	0.022
Maintained				
1 NO	CP4-10■-10	1SFA 619 103 R101□	1x10	0.019
2 NO	CP4-10■-20	1SFA 619 103 R102□	1x10	0.022
1 NC	CP4-10■-01	1SFA 619 103 R104□	1x10	0.019
2 NC	CP4-10■-02	1SFA 619 103 R105□	1x10	0.022
1 NO +1 NC	CP4-10■-11	1SFA 619 103 R107□	1x10	0.022
Flush Pushbutton				
Momentary, white button with black I				
1 NO	CP11-10W-10	1SFA 619 110 R1015	1x10	0.018
Momentary, white button with black II				
1 NO	CP12-10W-10	1SFA 619 120 R1015	1x10	0.018
Extended Pushbutton				
Momentary, black button with white O				
1 NC	CP33-10B-01	1SFA 619 132 R1046	1x10	0.018

Selector Swiches
two- and three-position, non-illuminated

Compact Range



Color Codes for Switches

	Red ●	Black ●	Grey ●
■	R	B	U
□	1	6	7

Bezel - How to order

Black Plastic - Standard
Chrome Metal - Replace '1' with '3' in Type and Order Codes



Bezel Options	Type	Order Code
Black Plastic	C(X)SS(X)-10X-XX	1SFA619 XXX R10XX
Chrome Metal	C(X)SS(X)-30X-XX	1SFA619 XXX R30XX



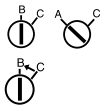
Selector Switch

Operator: Selector Swiches

Description		Type	Order Code	Package Quantity	Weight Kg
Two-position					
Maintained					
	1 NO	C2SS1-10■-10	1SFA 619 200 R101□	1x10	0.020
	2 NO	C2SS1-10■-20	1SFA 619 200 R102□	1x10	0.024
	1 NC	C2SS1-10■-01	1SFA 619 200 R104□	1x10	0.020
	2 NC	C2SS1-10■-02	1SFA 619 200 R105□	1x10	0.024
	1 NO +1 NC	C2SS1-10■-11	1SFA 619 200 R107□	1x10	0.024
Maintained					
	1 NO	C2SS2-10■-10	1SFA 619 201 R101□	1x10	0.020
	2 NO	C2SS2-10■-20	1SFA 619 201 R102□	1x10	0.024
	1 NC	C2SS2-10■-01	1SFA 619 201 R104□	1x10	0.020
	2 NC	C2SS2-10■-02	1SFA 619 201 R105□	1x10	0.024
	1 NO +1 NC	C2SS2-10■-11	1SFA 619 201 R107□	1x10	0.024
Momentary					
	1 NO	C2SS3-10■-10	1SFA 619 202 R101□	1x10	0.020
	2 NO	C2SS3-10■-20	1SFA 619 202 R102□	1x10	0.024
	1 NC	C2SS3-10■-01	1SFA 619 202 R104□	1x10	0.020
	2 NC	C2SS3-10■-02	1SFA 619 202 R105□	1x10	0.024
	1 NO +1 NC	C2SS3-10■-11	1SFA 619 202 R107□	1x10	0.024
Three-position					
Maintained					
	2 NO	C3SS1-10■-20	1SFA 619 210 R102□	1x10	0.024
	2 NC	C3SS1-10■-02	1SFA 619 210 R105□	1x10	0.024
	1 NO +1 NC	C3SS1-10■-11	1SFA 619 210 R107□	1x10	0.024
Momentary					
	2 NO	C3SS2-10■-20	1SFA 619 211 R102□	1x10	0.024
	2 NC	C3SS2-10■-02	1SFA 619 211 R105□	1x10	0.024
	1 NO +1 NC	C3SS2-10■-11	1SFA 619 211 R107□	1x10	0.024
Momentary					
	2 NO	C3SS3-10■-20	1SFA 619 212 R102□	1x10	0.024
	2 NC	C3SS3-10■-02	1SFA 619 212 R105□	1x10	0.024
	1 NO +1 NC	C3SS3-10■-11	1SFA 619 212 R107□	1x10	0.024
Momentary					
	2 NO	C3SS7-10■-20	1SFA 619 216 R102□	1x10	0.024
	2 NC	C3SS7-10■-02	1SFA 619 216 R105□	1x10	0.024
	1 NO +1 NC	C3SS7-10■-11	1SFA 619 216 R107□	1x10	0.024

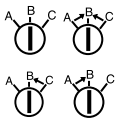
Contacts actuated

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	–

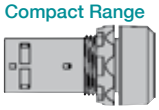
Three position Selector Switch Contacts included,



	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

Emergency Stop
non-illuminated

Compact Range





Emergency Stop Pushbutton twist release, 30 mm



Emergency Stop Pushbutton pull release, 40 mm

Operator: Emergency Stop Pushbutton

Description	Type	Order Code	Package Quantity	Weight Kg
Emergency Stop Pushbutton				
Twist release, Ø 30 mm				
1 NC	CE3T-10R-01	1SFA 619 500 R1041	1	0.032
2 NC	CE3T-10R-02	1SFA 619 500 R1051	1	0.032
1 NO + 1 NC	CE3T-10R-11	1SFA 619 500 R1071	1	0.032
Pull release Ø 30 mm				
2 NC	CE3P-10R-02	1SFA 619 501 R1051	1	0.032
1 NO + 1NC	CE3P-10R-11	1SFA 619 501 R1071	1	0.032
Key release Ø 30 mm: Ronis 455, Key code 71				
2 NC	CE3K1-10R-02	1SFA 619 502 R1051	1	0.060
1 NO +1 NC	CE3K1-10R-11	1SFA 619 502 R1071	1	0.060
Twist release Ø 40 mm				
1 NC	CE4T-10R-01	1SFA 619 550 R1041	1	0.036
2 NC	CE4T-10R-02	1SFA 619 550 R1051	1	0.036
1 NO + NC	CE4T-10R-11	1SFA 619 550 R1071	1	0.036
Pull release Ø 40 mm				
2 NC	CE4P-10R-02	1SFA 619 551 R1051	1	0.036
1 NO + 1 NC	CE4P-10R-11	1SFA 619 551 R1071	1	0.036
Key release Ø 40 mm: Key code 71 = Ronis 455				
2 NC	CE4K1-10R-02	1SFA 619 552 R1051	1	0.064
1 NO +1 NC	CE4K1-10R-11	1SFA 619 552 R1071	1	0.064

Machine Stop
non-illuminated



Machine Stop Pushbutton twist release 30 mm



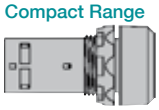
Customer specific marking online. For more information see page 4 or go to:
http://bolservices.it.abb.com/pilot-devices

Operator: Machine Stop Pushbutton

Description	Type	Order Code	Package Quantity	Weight Kg
Machine Stop Pushbutton				
Twist release Ø 30 mm				
1 NO +1 NC	CE3T-10B-11	1SFA 619 500 R1076	1	0.032
Pull release Ø 30 mm				
1 NO +1 NC	CE3P-10B-11	1SFA 619 501 R1076	1	0.032
Key release Ø 30 mm: Key code 71 = Ronis 455				
1 NO +1 NC	CE3K1-10B-11	1SFA 619 502 R1076	1	0.060
Twist release Ø 40 mm				
1 NO +1 NC	CE4T-10B-11	1SFA 619 550 R1076	1	0.032
Pull release Ø 40 mm				
1 NO +1 NC	CE4P-10B-11	1SFA 619 551 R1076	1	0.032
Key release Ø 40 mm: Key code 71 = Ronis 455				
1 NO +1 NC	CE4K1-10B-11	1SFA 619 552 R1076	1	0.064

Illuminated Pushbutton

Compact Range



Bezel - How to order
Black Plastic - Standard
Chrome Metal - Replace '1' with '3' in Type and Order Codes



Bezel Options	Type	Order Code
Black Plastic	CP(X)-1XX-XX	1SFA619 X0X R1XXX
Chrome Metal	CP(X)-3XX-XX	1SFA619 X0X R3XXX



Illuminated Pushbutton



Illuminated Pushbutton Extended

Operator: Illuminated Pushbutton

Description		Type	Order Code	Package Quantity	Weight Kg
Flush Pushbutton 24V AC/DC					
Momentary					
Red	1 NC	**CP1-11R-01**	**1SFA 619 100 R1141**	1x10	0.025
Red	1 NO	**CP1-11R-10**	**1SFA 619 100 R1111**	1x10	0.025
Green	1 NO	**CP1-11G-10**	**1SFA 619 100 R1112**	1x10	0.025
Yellow	1 NO	**CP1-11Y-10**	**1SFA 619 100 R1113**	1x10	0.025
Maintained					
Red	1 NC	**CP2-11R-01**	**1SFA 619 101 R1141**	1x10	0.025
Red	1 NO	**CP2-11R-10**	**1SFA 619 101 R1111**	1x10	0.025
Green	1 NO	**CP2-11G-10**	**1SFA 619 101 R1112**	1x10	0.025
Yellow	1 NO	**CP2-11Y-10**	**1SFA 619 101 R1113**	1x10	0.025
Extended Pushbutton 24V AC/DC					
Momentary					
Red	1 NC	**CP3-11R-01**	**1SFA 619 102 R1141**	1x10	0.025
Red	1 NO	**CP3-11R-10**	**1SFA 619 102 R1111**	1x10	0.025
Green	1 NO	**CP3-11G-10**	**1SFA 619 102 R1112**	1x10	0.025
Yellow	1 NO	**CP3-11Y-10**	**1SFA 619 102 R1113**	1x10	0.025
Maintained					
Red	1 NC	**CP4-11R-01**	**1SFA 619 103 R1141**	1x10	0.025
Red	1 NO	**CP4-11R-10**	**1SFA 619 103 R1111**	1x10	0.025
Green	1 NO	**CP4-11G-10**	**1SFA 619 103 R1112**	1x10	0.025
Yellow	1 NO	**CP4-11Y-10**	**1SFA 619 103 R1113**	1x10	0.025
Flush Pushbutton 110-130V AC/DC					
Momentary					
Red	1 NC	**CP1-12R-01**	**1SFA 619 100 R1241**	1x10	0.025
Red	1 NO	**CP1-12R-10**	**1SFA 619 100 R1211**	1x10	0.025
Green	1 NO	**CP1-12G-10**	**1SFA 619 100 R1212**	1x10	0.025
Yellow	1 NO	**CP1-12Y-10**	**1SFA 619 100 R1213**	1x10	0.025
Maintained					
Red	1 NC	**CP2-12R-01**	**1SFA 619 101 R1241**	1x10	0.025
Red	1 NO	**CP2-12R-10**	**1SFA 619 101 R1211**	1x10	0.025
Green	1 NO	**CP2-12G-10**	**1SFA 619 101 R1212**	1x10	0.025
Yellow	1 NO	**CP2-12Y-10**	**1SFA 619 101 R1213**	1x10	0.025
Extended Pushbutton 110-130V AC/DC					
Momentary					
Red	1 NC	**CP3-12R-01**	**1SFA 619 102 R1241**	1x10	0.025
Red	1 NO	**CP3-12R-10**	**1SFA 619 102 R1211**	1x10	0.025
Green	1 NO	**CP3-12G-10**	**1SFA 619 102 R1212**	1x10	0.025
Yellow	1 NO	**CP3-12Y-10**	**1SFA 619 102 R1213**	1x10	0.025



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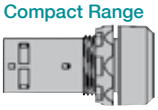
Illuminated Pushbutton and Compact Mushroom





Illuminated Pushbutton



Illuminated Pushbutton Extended

Operator: Illuminated Pushbutton

Description		Type	Order Code	Package Quantity	Weight Kg
Extended Pushbutton 110-130V AC/DC					
Maintained					
Red	1 NC	CP4-12R-01	1SFA 619 103 R1241	1x10	0.025
Red	1 NO	CP4-12R-10	1SFA 619 103 R1211	1x10	0.025
Green	1 NO	CP4-12G-10	1SFA 619 103 R1212	1x10	0.025
Yellow	1 NO	CP4-12Y-10	1SFA 619 103 R1213	1x10	0.025
Flush Pushbutton 220V AC/DC					
Momentary					
Red	1 NC	CP1-13R-01	1SFA 619 100 R1341	1x10	0.025
Red	1 NO	CP1-13R-10	1SFA 619 100 R1311	1x10	0.025
Green	1 NO	CP1-13G-10	1SFA 619 100 R1312	1x10	0.025
Yellow	1 NO	CP1-13Y-10	1SFA 619 100 R1313	1x10	0.025
Maintained					
Red	1 NC	CP2-13R-01	1SFA 619 101 R1341	1x10	0.025
Red	1 NO	CP2-13R-10	1SFA 619 101 R1311	1x10	0.025
Green	1 NO	CP2-13G-10	1SFA 619 101 R1312	1x10	0.025
Yellow	1 NO	CP2-13Y-10	1SFA 619 101 R1313	1x10	0.025
Extended Pushbutton 220V AC/DC					
Momentary					
Red	1 NC	CP3-13R-01	1SFA 619 102 R1341	1x10	0.025
Red	1 NO	CP3-13R-10	1SFA 619 102 R1311	1x10	0.025
Green	1 NO	CP3-13G-10	1SFA 619 102 R1312	1x10	0.025
Yellow	1 NO	CP3-13Y-10	1SFA 619 102 R1313	1x10	0.025
Maintained					
Red	1 NC	CP4-13R-01	1SFA 619 103 R1341	1x10	0.025
Red	1 NO	CP4-13R-10	1SFA 619 103 R1311	1x10	0.025
Green	1 NO	CP4-13G-10	1SFA 619 103 R1312	1x10	0.025
Yellow	1 NO	CP4-13Y-10	1SFA 619 103 R1313	1x10	0.025

Compact Mushroom



Compact Mushroom

Operator: Compact Mushroom

Description		Type	Order Code	Package Quantity	Weight Kg
Red	1 NO + 1 NC	CPM3-10R-11	1SFA 619 126 R1071	1	0.036
Green	1 NO + 1 NC	CPM3-10G-11	1SFA 619 126 R1072	1	0.036
Yellow	1 NO + 1 NC	CPM3-10Y-11	1SFA 619 126 R1073	1	0.036
Black	1 NO + 1 NC	CPM3-10B-11	1SFA 619 126 R1076	1	0.036
Blue	1 NO + 1 NC	CPM3-10L-11	1SFA 619 126 R1074	1	0.036



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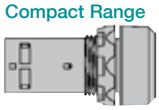
Pilot Lights with integrated LED

Compact Range





Pilot Light with integrated LED, with leakage current protection

Operator: Pilot Light with integrated LED

Description	Rated Current mA	Wave-length nm	Luminance mcd	Type	Order Code	Package Quantity	Weight Kg
Pilot Light with integrated LED Service Life >50 000 hours							
Rated Voltage 12 V, DC [1]							
Red	30	625	60	**CL-501R**	**1SFA 619 402 R5011**	1x10	0.023
Green	15	520	126	**CL-501G**	**1SFA 619 402 R5012**	1x10	0.023
Yellow	30	590	60	**CL-501Y**	**1SFA 619 402 R5013**	1x10	0.023
Blue	30	470	22	**CL-501L**	**1SFA 619 402 R5014**	1x10	0.023
White	30	[2]	88	**CL-501W**	**1SFA 619 402 R5015**	1x10	0.023
Rated Voltage 24 V, AC/DC							
Red	15	625	60	**CL-502R**	**1SFA 619 402 R5021**	1x10	0.023
Green	15	520	126	**CL-502G**	**1SFA 619 402 R5022**	1x10	0.023
Yellow	15	590	60	**CL-502Y**	**1SFA 619 402 R5023**	1x10	0.023
Blue	15	470	22	**CL-502L**	**1SFA 619 402 R5024**	1x10	0.023
White	15	[2]	88	**CL-502W**	**1SFA 619 402 R5025**	1x10	0.023
Rated Voltage 48 V, AC/DC							
Red	15	625	60	**CL-504R**	**1SFA 619 402 R5041**	1x10	0.023
Green	15	520	126	**CL-504G**	**1SFA 619 402 R5042**	1x10	0.023
Yellow	15	590	60	**CL-504Y**	**1SFA 619 402 R5043**	1x10	0.023
Blue	15	470	22	**CL-504L**	**1SFA 619 402 R5044**	1x10	0.023
White	15	[2]	88	**CL-504W**	**1SFA 619 402 R5045**	1x10	0.023
Rated Voltage 60 V, AC/DC							
Red	15	625	60	**CL-505R**	**1SFA 619 402 R5051**	1x10	0.023
Green	15	520	126	**CL-505G**	**1SFA 619 402 R5052**	1x10	0.023
Yellow	15	590	60	**CL-505Y**	**1SFA 619 402 R5053**	1x10	0.023
Blue	15	470	22	**CL-505L**	**1SFA 619 402 R5054**	1x10	0.023
White	15	[2]	88	**CL-505W**	**1SFA 619 402 R5055**	1x10	0.023
Rated Voltage 110-130 V, AC							
Red	15	625	60	**CL-513R**	**1SFA 619 402 R5131**	1x10	0.023
Green	15	520	126	**CL-513G**	**1SFA 619 402 R5132**	1x10	0.023
Yellow	15	590	60	**CL-513Y**	**1SFA 619 402 R5133**	1x10	0.023
Blue	15	470	22	**CL-513L**	**1SFA 619 402 R5134**	1x10	0.023
White	15	[2]	88	**CL-513W**	**1SFA 619 402 R5135**	1x10	0.023
Rated Voltage 110-130 V, DC [1]							
Red	15	625	60	**CL-515R**	**1SFA 619 402 R5151**	1x10	0.023
Green	15	520	126	**CL-515G**	**1SFA 619 402 R5152**	1x10	0.023
Yellow	15	590	60	**CL-515Y**	**1SFA 619 402 R5153**	1x10	0.023
Blue	15	470	22	**CL-515L**	**1SFA 619 402 R5154**	1x10	0.023
White	15	[2]	88	**CL-515W**	**1SFA 619 402 R5155**	1x10	0.023
Rated Voltage 220 V, DC [1]							
Red	15	625	60	**CL-520R**	**1SFA 619 402 R5201**	1x10	0.023
Green	15	520	126	**CL-520G**	**1SFA 619 402 R5202**	1x10	0.023
Yellow	15	590	60	**CL-520Y**	**1SFA 619 402 R5203**	1x10	0.023
Blue	15	470	22	**CL-520L**	**1SFA 619 402 R5204**	1x10	0.023
White	15	[2]	88	**CL-520W**	**1SFA 619 402 R5205**	1x10	0.023

Note: [1] Care should be taken for DC supply where + and - must be correctly connected. This is marked X1 (+) and X2 (-) on the product.

[2] X=0.31, Y=0.32 according to the ICI Chromaticity Diagram.



Customer specific marking online. For more information see page 4 or go to:
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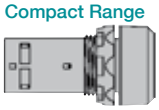



Pilot Light with integrated LED, with leakage current protection

Operator: Pilot Light with integrated LED

Description	Rated Current mA	Wave-length nm	Luminance mcd	Type	Order Code	Package Quantity	Weight Kg
Rated Voltage 230 V, AC							
Red	15	625	60	**CL-523R**	**1SFA 619 402 R5231**	1x10	0.023
Green	15	520	126	**CL-523G**	**1SFA 619 402 R5232**	1x10	0.023
Yellow	15	590	60	**CL-523Y**	**1SFA 619 402 R5233**	1x10	0.023
Blue	15	470	22	**CL-523L**	**1SFA 619 402 R5234**	1x10	0.023
White	15	[2]	88	**CL-523W**	**1SFA 619 402 R5235**	1x10	0.023
Rated Voltage 380 V, AC							
Red	15	625	60	**CL-530R**	**1SFA 619 402 R5301**	1x10	0.023
Green	15	520	126	**CL-530G**	**1SFA 619 402 R5302**	1x10	0.023
Yellow	15	590	60	**CL-530Y**	**1SFA 619 402 R5303**	1x10	0.023
Blue	15	470	22	**CL-530L**	**1SFA 619 402 R5304**	1x10	0.023
White	15	[2]	88	**CL-530W**	**1SFA 619 402 R5305**	1x10	0.023
Rated Voltage 415 V, AC							
Red	15	625	60	**CL-541R**	**1SFA 619 402 R5411**	1x10	0.023
Green	15	520	126	**CL-541G**	**1SFA 619 402 R5412**	1x10	0.023
Yellow	15	590	60	**CL-541Y**	**1SFA 619 402 R5413**	1x10	0.023
Blue	15	470	22	**CL-541L**	**1SFA 619 402 R5414**	1x10	0.023
White	15	[2]	88	**CL-541W**	**1SFA 619 402 R5415**	1x10	0.023

Note: [2] X=0.31, Y=0.32 according to the ICI Chromaticity Diagram.

Pilot Lights



Pilot Light

Operator: Pilot Light

Description	Type	Order Code	Package Quantity	Weight Kg
Pilot Light BA 9s base, Bulb not included				
Red	**CL-100R**	**1SFA 619 402 R1001**	1x10	0.018
Green	**CL-100G**	**1SFA 619 402 R1002**	1x10	0.018
Yellow	**CL-100Y**	**1SFA 619 402 R1003**	1x10	0.018
Blue	**CL-100L**	**1SFA 619 402 R1004**	1x10	0.018
White	**CL-100W**	**1SFA 619 402 R1005**	1x10	0.018
Clear	**CL-100C**	**1SFA 619 402 R1008**	1x10	0.018



Customer specific marking online. For more information see page 4 or go to:
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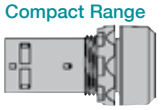


Accessories for Compact Range
LED Bulbs



LED Bulbs

Description	Rated Current mA	Wave-length nm	Lumi-nance mcd	Type	Order Code	Package Quantity	Weight Kg
LED Bulbs							
Rated Voltage 12 V, AC Service Life >50 000 h							
Red	15	630	250	KA2-2011	1SFA 616 921 R2011	20	0.005
Green	15	525	1000	KA2-2012	1SFA 616 921 R2012	20	0.005
Yellow	15	592	250	KA2-2013	1SFA 616 921 R2013	20	0.005
Blue	15	470	450	KA2-2014	1SFA 616 921 R2014	20	0.005
White	15	[1]	600	KA2-2015	1SFA 616 921 R2015	20	0.005
Rated Voltage 24 V, (AC)/DC Service Life >50 000 h							
Red	15	630	250	KA2-2021	1SFA 616 921 R2021	20	0.005
Green	15	525	800	KA2-2022	1SFA 616 921 R2022	20	0.005
Yellow	15	592	250	KA2-2023	1SFA 616 921 R2023	20	0.005
Blue	15	470	400	KA2-2024	1SFA 616 921 R2024	20	0.005
White	15	[1]	500	KA2-2025	1SFA 616 921 R2025	20	0.005
Rated Voltage 36 V, (AC)/DC Service Life >50 000 h							
Red	12	630	200	KA2-2031	1SFA 616 921 R2031	20	0.005
Green	12	525	2000	KA2-2032	1SFA 616 921 R2032	20	0.005
Yellow	12	592	200	KA2-2033	1SFA 616 921 R2033	20	0.005
Blue	12	470	750	KA2-2034	1SFA 616 921 R2034	20	0.005
White	12	[1]	1400	KA2-2035	1SFA 616 921 R2035	20	0.005
Rated Voltage 48 V, (AC)/DC Service Life >50 000 h							
Red	12	630	200	KA2-2041	1SFA 616 921 R2041	20	0.005
Green	12	525	1700	KA2-2042	1SFA 616 921 R2042	20	0.005
Yellow	12	592	240	KA2-2043	1SFA 616 921 R2043	20	0.005
Blue	12	470	720	KA2-2044	1SFA 616 921 R2044	20	0.005
White	12	[1]	1200	KA2-2045	1SFA 616 921 R2045	20	0.005
Rated Voltage 60 V, (AC)/DC Service Life >50 000 h							
Red	10	630	160	KA2-2051	1SFA 616 921 R2051	20	0.005
Green	10	525	1400	KA2-2052	1SFA 616 921 R2052	20	0.005
Yellow	10	592	200	KA2-2053	1SFA 616 921 R2053	20	0.005
Blue	10	470	600	KA2-2054	1SFA 616 921 R2054	20	0.005
White	10	[1]	1000	KA2-2055	1SFA 616 921 R2055	20	0.005
Rated Voltage 110-130 V, AC Service Life 25 000 h							
Red	4-6	630	60-100	KA2-2131	1SFA 616 921 R2131	20	0.005
Green	4-6	525	500-850	KA2-2132	1SFA 616 921 R2132	20	0.005
Yellow	4-6	592	70-120	KA2-2133	1SFA 616 921 R2133	20	0.005
Blue	4-6	470	220-350	KA2-2134	1SFA 616 921 R2134	20	0.005
White	4-6	[1]	350-600	KA2-2135	1SFA 616 921 R2135	20	0.005
Rated Voltage 110-130 V, AC/DC Service Life 25 000 h							
Red	4-6	630	60	KA2-2141	1SFA 616 921 R2141	20	0.005
Green	4-6	525	500	KA2-2142	1SFA 616 921 R2142	20	0.005
Yellow	4-6	592	70	KA2-2143	1SFA 616 921 R2143	20	0.005
Blue	4-6	470	220	KA2-2144	1SFA 616 921 R2144	20	0.005
White	4-6	[1]	350	KA2-2145	1SFA 616 921 R2145	20	0.005
Rated Voltage 230 V, AC Service Life 25 000 h							
Red	4	630	60	KA2-2221	1SFA 616 921 R2221	20	0.005
Green	4	525	500	KA2-2222	1SFA 616 921 R2222	20	0.005
Yellow	4	592	70	KA2-2223	1SFA 616 921 R2223	20	0.005
Blue	4	470	220	KA2-2224	1SFA 616 921 R2224	20	0.005
White	4	[1]	350	KA2-2225	1SFA 616 921 R2225	20	0.005

Note: Care should be taken for DC supply where + and - must be correctly connected. This is marked X1 (+) and X2 (-) on the product. Choose the same color on the LED as on the lamp cap.

[1] X=0.31, Y=0.32 according to the ICI Chromaticity Diagram.

Accessories for Compact Range
LED and Filament Bulbs



LED Bulbs

Description		Rated Current mA	Wavelength nm	Luminance mcd	Type	Order Code	Package Quantity	Weight Kg
LED Bulbs continued								
Rated Voltage 230 V, AC/DC Service Life 25 000 h								
●	Red	4	630	60	**KA2-2231**	**1SFA 616 921 R2231**	20	0.005
●	Green	4	525	500	**KA2-2232**	**1SFA 616 921 R2232**	20	0.005
●	Yellow	4	592	70	**KA2-2233**	**1SFA 616 921 R2233**	20	0.005
●	Blue	4	470	220	**KA2-2234**	**1SFA 616 921 R2234**	20	0.005
○	White	4	[1]	350	**KA2-2235**	**1SFA 616 921 R2235**	20	0.005

Note: Care should be taken for DC supply where + and - must be correctly connected. This is marked X1 (+) and X2 (-) on the product. Choose the same color on the LED as on the lamp cap.

[1] X=0.31, Y=0.32 according to the ICI Chromaticity Diagram.



Filament Bulb

Rated Voltage V	Rated Current mA	Rated Output W	Service Life h	Luminance mcd	Type	Order Code	Package Quantity	Weight Kg
Filament Bulbs BA 9s base								
6	200	1.2	10 000	350	-	**5911 086-11**	20	0.002
12	100	1.2	10 000	230	-	**5911 086-12**	20	0.002
24	50	1.2	10 000	280	-	**5911 086-13**	20	0.002
30	40	1.2	10 000	250	-	**5911 086-4**	20	0.002
48	42	2	6 000	500	-	**5911 086-5**	20	0.002
60	20	1.2	5 000	190	-	**5911 086-14**	20	0.002
110	18	2	7 500	250	-	**5911 086-7**	20	0.002
130	15	2	7 500	120	-	**5911 086-15**	20	0.002

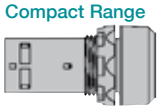
Note: Type of current: AC/DC. A Lamp Changing Tool is required for changing Bulb.



Lamp Changing Tool

Lamp Changing Tool				
For LED and Filament Bulbs	**KA1-8072**	**1SFA 616 920 R8072**	1	0.002

Accessories for Compact Range





DIN-rail Adaptor with Pushbutton



Lamp Changing Tool



Mounting Tool



Mounting Tool for Power Tool



Protective Cover



Bezels



Square Bezels



Blanking Plugs

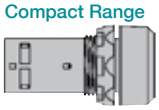




Adaptor

Description	Type	Order Code	Package Quantity	Weight Kg
DIN-rail Adaptor				
DIN-rail Adaptor	**CA1-8080**	**1SFA 619 920 R8080**	1x10	0.028
Dummy Block	**MDB-2**	**1SFA 611 630 R1002**	10	0.003
Note: Two Dummy blocks are included with the DIN-rail Adaptor to make it possible to mount any Compact Device				
Lamp Changing Tool				
For LED Bulbs and for bulbs	**KA1-8072**	**1SFA 616 920 R8072**	1	0.002
Mounting Tool				
Used for tightening the Locking Nut	**MA1-8015**	**1SFA 611 920 R8015**	1	0.021
Mounting Tool for Power Tool	**MA1-8149**	**1SFA 611 620 R8149**	1	0.155
Membrane				
Flush Button	**KA1-8052**	**1SFA 616 920 R8052**	10	0.002
Extended Button	**KA1-8002**	**1SFA 616 920 R8002**	10	0.002
Note: Made of transparent, heat and cold resistant silicon rubber. Does not harden at low temperature. Remove the gasket when using membrane.				
Protective Ring				
Protective Ring	**-**	**SK 615 512-1**	10	0.002
Note: For flush and Extended Pushbutton to prevent inadvertent operation. Cannot be used together with Legend Plate Holder.				
Protective Cover				
Protective cover	**KA1-8010**	**1SFA 616 920 R8010**	10	0.008
Note: For Flush Pushbutton. To prevent accidental operation. Cannot be used together with Legend Plate Holder.				
Button				
Grey, flush	**KA1-8087**	**1SFA 616 920 R8087**	10	0.001
Grey, extended	**KA1-8097**	**1SFA 616 920 R8097**	10	0.001
Bezel				
For Pushbutton				
Black	**KA1-8022**	**1SFA 616 920 R8022**	10	0.002
Metal	**KA1-8021**	**1SFA 616 920 R8021**	10	0.015
For Selector Switch				
Black	**CA1-8077**	**1SFA 619 920 R8077**	10	0.001
Metal	**CA1-8078**	**1SFA 619 920 R8078**	10	0.010
Square Bezel				
Black, plastic	**-**	**SK 616 016-2**	10	0.001
Grey, plastic	**MA1-8124**	**1SFA 611 920 R8124**	10	0.001
Light Diffusing Lens				
Light Diffusing Lens	**KA1-8005**	**1SFA 616 920 R8005**	10	0.001
Note: To improve illumination. Cannot be used with text cap. The lens is used instead of text cap				
Blanking Plug				
Light Grey	**MA1-8136**	**1SFA 611 920 R8136**	10	0.005
Grey	**MA1-8129**	**1SFA 611 920 R8129**	10	0.005
Black	**MA1-8130**	**1SFA 611 920 R8130**	10	0.005
Adaptors 30 mm				
Black Plastic	**KA1-8029**	**1SFA 616 920 R8029**	1	0.010
Metal	**KA1-8030**	**1SFA 616 920 R8030**	1	0.035
Note: For use when fitting the 22 mm Pilot Devices in 30 mm mounting holes (1.5 - 4 mm panels). For use with Pushbuttons, Selector Switches, Emergency Stop Pushbutton and Pilot Lights.				
Adaptors				
For flush mounted Pushbutton	**KA1-8073**	**1SFA 616 920 R8073**	1	0.050
For flush mounted Selector Switches	**CA1-8075**	**1SFA 616 920 R8075**	1	0.046
Extra key				
Key code 71=Ronis 455	**SK 616 021-71**	**-**	10	0.007

Technical Data



Standards and Approvals	
IEC / EN 60947-1	Low-Voltage Switchgear and Controlgear - Part 1: General rules
IEC / EN 60947-5-1	Low-Voltage Switchgear and Controlgear - Part 5-1: Control circuit devices and switching elements - Electro-mechanical control circuit devices
IEC / EN 60947-5-5	Low-Voltage Switchgear and Controlgear - Part 5-5: Control circuit devices and switching elements - Electrical Emergency Stop device with mechanical latching function
IEC / EN 60073	Basic and safety principles for man-machine interface, marking and identification - Coding principles for indicators and actuators
IEC / EN 60529	Degrees of Protection provided by enclosures (IP Code)
EN 50013	Low-Voltage Switchgear and Controlgear for industrial use - Terminal Marking and distinctive number for particular control switches
DIN 40050-9	Road vehicles; Degrees of Protection (IP-code); protection against foreign objects; water and contact; electrical equipment
UL 508	Industrial Control Equipment
CSA C22.2 No 14	Industrial Control Equipment

Environmental Data		
Degrees of Protection		
Pilot device:	**IEC/EN DIN**	**UL/CSA**
Pushbuttons	IP66, IP67 and IP69K	Type 1, 3R, 4, 4X, 12, 13
Selector Switches	IP66, IP67 and IP69K	Type 1, 3R, 4, 4X, 12, 13
Pilot Lights	IP66, IP67 and IP69K	Type 1, 3R, 4, 4X, 12, 13
Emergency Stops	IP66, IP67 and IP69K	Type 1, 3R, 4, 4X, 12, 13
Terminals	IP20	
Temperature		
Ambient temperature during operation		-25 to +70 °C
Storage temperature		-40 to +85 °C

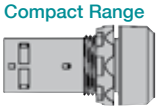
Technical Data	
Cable Connections	
Operator	**Cable Terminal**
Pushbutton Selector Switch Emergency Stop	Plus-minus Pozidriv No. 2 Connectable area: min. 1 x 0.5 mm^2 / 1 x AWG22 max. 2 x 1.5 mm^2 / 2 x AWG14
Pilot Light	Connectable area: min. 1 x 0.5 mm^2 / 1 x AWG20 max. 2 x 2.5 mm^2 / 2 x AWG14
Tightening Torque	
Operators Locking Nut	Min. 2 Nm / Max. 2.3 Nm
Cable Terminals M3	0.8 Nm
Cable Terminals M3.5	0.9 Nm
Short Circuit Protection	
Max. fuse at 1 kA	gG 10A
Mechanical Life	
Pushbuttons, Selector Switches	500 000 operations
Emergency Stop Pushbutton	50 000 operations

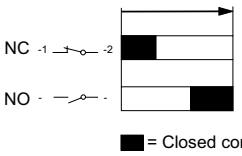
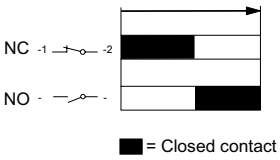
Material	
No ozone depleting substances in the products. All front of panel plastic components are made of polycarbonate	
PC Polycarbonate	High impact strength, good outdoor resistance. Chemical resistance (see table below)
PSU Polysulphone	Can withstand high temperatures, acids, basic solutions, alkaline compounds, oils, alcohols.
PA Polyamide	Can withstand high temperatures, aliphatic, aromatic and chlorinated hydrocarbons, esters, ketone-aldehydes, alcohols and basic solutions.
PBT	Can withstand high temperature, aliphatic and aromatic hydrocarbons, acids, basic solutions, alcohols, grease and oils
Zinc	Good corrosion resistance in inland-, sea and industrial atmosphere.
Light-alloy	Good corrosion resistance in inland-, sea and industrial atmosphere.

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

Please note that specified degree of protection is for operator mounted on panel. If other items are mounted in between, please make sure that they are correctly sealed.

Technical Data



Electrical Data			
Contacts			
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 Utilization category AC-15	at: 240 V	1 A	
Rated Operational Current, I_e Utilization category DC-13,	at: 24 V at: 125 V	0.3 A 0.2 A	
Ratings as per UL, CSA, NEMA		**C300 AC**	**R300 DC**
Rated Insulation Voltage		250 V	250 V
Rated Thermal Current		2.5 A	1 A
Rated Operational Current	at: 120 V at: 125 V at: 240 V at: 250 V	1.5 A 0.75 A 	 0.22 A 0.11 A
Short Circuit Protection			
Max. fuse at 1 kA	gG 10A		
Minimum Switching Capacity			
5 V DC	1 mA		
Make-and-break Contacts			
Pushbutton  	Emergency Stop Pushbutton  		

LED Bulbs	
Service Life for LED Bulbs means number of service hours until the brightness has been reduced down 50 %. Service Life 50 000 h	
Color of white LED	x=0.31 Y=0.32 means the position of color in the ICI Chromaticity Diagram
Voltage Tolerance on LED Bulbs	-30 to +10 % Voltage is acceptable without affecting the Service Life
Voltage Peaks on LED Bulbs	Voltage peaks up to 1000 V Current peaks up to 500 mA during a few msec
Glowing Light	All integrated LED Bulbs have a function built in to cut leakage currents

Enclosures and Assembled Stations



Large Plastic Enclosure (Modular & Compact)

This enclosure can fit both Modular and Compact Operators with the unique possibility to mount up to 5 Contact Blocks assigned to one Operator.

Protection Degree:
IP 66
UL/NEMA Type 1, 3R, 4, 4X, 12, 13

Compact Plastic Enclosure

The Compact enclosure is one of the smallest on the market intended for compact operators.

Protection Degree:
IP 66, 67, 69K
UL/NEMA Type 1, 3R, 4, 4X, 12, 13

Metallic Enclosure

Our Metallic line is made in addition to our plastic lines when plastic is not accepted. Featuring a high Protection Degree and large installation space.

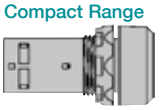
Protection Degree:
IP 66, 67, 69K

Assembled Stations

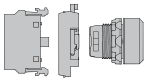
We can also offer some of the most common Assembled Stations as a standard with combination from both Modular and Compact Range.

Plastic Enclosures
for Modular & Compact Range

Compact Range



Modular Range





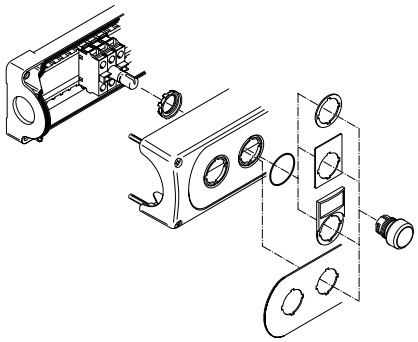
Empty enclosures
1-seat - 6-seat

Description		Type	Order Code	Package Quantity	Weight Kg
Empty plastic enclosures with stainless steel screws					
1-seat	Dark grey/Light grey	**MEP1-0**	**1SFA 611 811 R1000**	10	0.15
1-seat	Yellow/Light grey	**MEPY1-0**	**1SFA 611 821 R1000**	10	0.15
2-seat	Dark grey/Light grey	**MEP2-0**	**1SFA 611 812 R1000**	10	0.17
3-seat	Dark grey/Light grey	**MEP3-0**	**1SFA 611 813 R1000**	10	0.20
4-seat	Dark grey/Light grey	**MEP4-0**	**1SFA 611 814 R1000**	10	0.23
6-seat	Dark grey/Light grey	**MEP6-0**	**1SFA 611 816 R1000**	10	0.30

When ordering

- Select Operators
- Note: Select Contact Blocks and Lamp Blocks for rear mounting
- Accessories
  N.B. One spacer per operator has to be ordered if Legend Plate is not used.
  (for rear mounted Pilot Devices)
- Holes for Cable Glands
  1-seat to 3-seat enclosures: M20 and Pg 13.5/Pg16 and (M20)
  4-seat and 6-seat enclosures: M25/Pg 16 and (M20)

UL-listed Applications: For end of line use only.



Enclosures for Compact Range

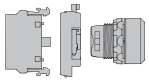


1-seat Plastic Enclosure for Emergency Stop Pushbutton (yellow) and Machine Stops (Grey)

Description	Type	Order Code	Package Quantity	Weight Kg
Enclosure for emergency stop pushbutton				
Yellow/Light grey	**CEPY1-0**	**1SFA 619 821 R1000**	1	0.072
Shroud				
Yellow	**CA1-8053**	**1SFA 619 920 R8053**	1	0.016
Enclosure for machine stop pushbutton				
Dark grey/Light grey	**CEP1-0**	**1SFA 619 811 R1000**	1	0.072
Shroud				
Grey	**CA1-8054**	**1SFA 619 920 R8054**	1	0.016

Assembled Stations - see page 65.

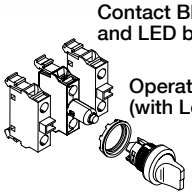
Two Position Selector Switches for Vertically Mounted Enclosures



How to order:

Alt.1 • Operator
+ Contact Blocks for rear mounting

Alt.2 • Operator
+ Contact Blocks and Lamp Block for rear mounting



Bezel - How to order
Black Plastic - Standard
Chrome Metal - Replace '1' with '3' in Type and Order Codes



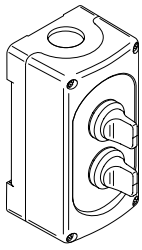
Bezel Options	Type	Order Code
Black Plastic	M2SSVX-1XX	1SFA61122X R1X0X
Chrome Metal	M2SSVX-3XX	1SFA61122X R3X0X



Two-position Selector Switch non-illuminated



Two-position Selector Switch illuminated

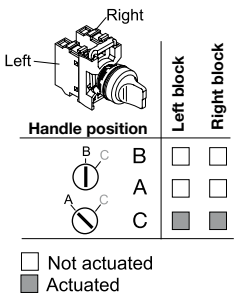


Enclosure with Selector Switches

Operator: Two-position Selector Switch

Description		Type	Order Code	Package Quantity	Weight Kg
Short Handle, non-illuminated					
Maintained					
	Red	M2SSV1-10R	1SFA 611 220 R1001	1x10	0.015
	Black	M2SSV1-10B	1SFA 611 220 R1006	1x10	0.015
Maintained					
	Red	M2SSV2-10R	1SFA 611 221 R1001	1x10	0.015
	Black	M2SSV2-10B	1SFA 611 221 R1006	1x10	0.015
Momentary, spring return from C to B					
	Red	M2SSV3-10R	1SFA 611 222 R1001	1x10	0.015
	Black	M2SSV3-10B	1SFA 611 222 R1006	1x10	0.015
Short Handle, illuminated					
Maintained					
	Red	M2SSV1-11R	1SFA 611 220 R1101	1x10	0.015
	Green	M2SSV1-11G	1SFA 611 220 R1102	1x10	0.015
	Yellow	M2SSV1-11Y	1SFA 611 220 R1103	1x10	0.015
Maintained					
	Red	M2SSV2-11R	1SFA 611 221 R1101	1x10	0.015
	Green	M2SSV2-11G	1SFA 611 221 R1102	1x10	0.015
	Yellow	M2SSV2-11Y	1SFA 611 221 R1103	1x10	0.015
Momentary, spring return from C to B					
	Red	M2SSV3-11R	1SFA 611 222 R1101	1x10	0.015
	Green	M2SSV3-11G	1SFA 611 222 R1102	1x10	0.015
	Yellow	M2SSV3-11Y	1SFA 611 222 R1103	1x10	0.015

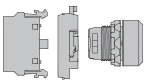
Contacts actuated





Contact Blocks and Holder see the fold-out page at the end of the catalog

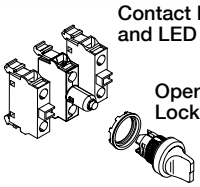
Three Position Selector Switches for Vertically Mounted Enclosures



How to order:

Alt.1 • Operator
+ Contact Blocks for rear mounting

Alt.2 • Operator
+ Contact Blocks and Lamp Block for rear mounting



Bezel - How to order
Black Plastic - Standard
Chrome Metal - Replace '1' with '3' in Type and Order Codes



Bezel Options	Type	Order Code
Black Plastic	M3SSVX-1XX	1SFA61123X R1X0X
Chrome Metal	M3SSVX-3XX	1SFA61123X R3X0X



Three-position Selector Switch non-illuminated

Operator: Three-position Selector Switch

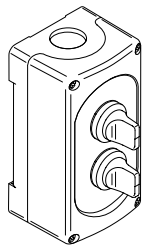
Description		Type	Order Code	Package Quantity	Weight Kg
Short Handle, non-illuminated					
Maintained					
	Red	M3SSV1-10R	1SFA 611 230 R1001	1x10	0.015
	Black	M3SSV1-10B	1SFA 611 230 R1006	1x10	0.015
Momentary, spring return from A to B and from C to B					
	Red	M3SSV2-10R	1SFA 611 231 R1001	1x10	0.015
	Black	M3SSV2-10B	1SFA 611 231 R1006	1x10	0.015
Momentary, spring return from C to B					
	Red	M3SSV3-10R	1SFA 611 232 R1001	1x10	0.015
	Black	M3SSV3-10B	1SFA 611 232 R1006	1x10	0.015



Three-position Selector Switch illuminated

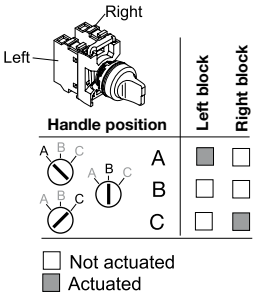
Description		Type	Order Code	Package Quantity	Weight Kg
Short Handle, illuminated					
Maintained					
	Red	M3SSV1-11R	1SFA 611 230 R1101	1x10	0.015
	Green	M3SSV1-11G	1SFA 611 230 R1102	1x10	0.015
	Yellow	M3SSV1-11Y	1SFA 611 230 R1103	1x10	0.015
Momentary, spring return from A to B and from C to B					
	Red	M3SSV2-11R	1SFA 611 231 R1101	1x10	0.015
	Green	M3SSV2-11G	1SFA 611 231 R1102	1x10	0.015
	Yellow	M3SSV2-11Y	1SFA 611 231 R1103	1x10	0.015
Momentary, spring return from C to B					
	Red	M3SSV3-11R	1SFA 611 232 R1101	1x10	0.015
	Green	M3SSV3-11G	1SFA 611 232 R1102	1x10	0.015
	Yellow	M3SSV3-11Y	1SFA 611 232 R1103	1x10	0.015

Note: No contact in centre position. Lamp Block for max 230 V AC/DC. Bulb not included. Other Lamp Block see accessories



Enclosure with Selector Switches

Contacts actuated





Contact Blocks and Holder see the fold-out page at the end of the catalog

LED Blocks
for rear mounting



LED Block with built in leakage current protection

Description	Rated Current mA	Wave-length nm	Lumi-nance mcd	Type	Order Code	Package Quantity	Weight Kg
LED Blocks							
Rated Voltage 12 V, DC [1]							
Red	12.0	620	320	MLBL-00BR	1SFA 611 621 R2001	10	0.012
Green	9.3	520	1500	MLBL-00BG	1SFA 611 621 R2002	10	0.012
Yellow	12.0	588	380	MLBL-00BY	1SFA 611 621 R2003	10	0.012
Blue	9.5	468	450	MLBL-00BL	1SFA 611 621 R2004	10	0.012
White	9.3	[2]	600	MLBL-00BW	1SFA 611 621 R2005	10	0.012
Rated Voltage 24 V, AC/DC [1]							
Red	9.9	620	250	MLBL-01BR	1SFA 611 621 R2011	10	0.012
Green	9.2	520	1500	MLBL-01BG	1SFA 611 621 R2012	10	0.012
Yellow	9.9	588	250	MLBL-01BY	1SFA 611 621 R2013	10	0.012
Blue	9.3	468	450	MLBL-01BL	1SFA 611 621 R2014	10	0.012
White	9.2	[2]	600	MLBL-01BW	1SFA 611 621 R2015	10	0.012
Rated Voltage 48 V, AC/DC [1]							
Red	10.0	620	260	MLBL-02BR	1SFA 611 621 R2021	10	0.012
Green	9.7	520	1500	MLBL-02BG	1SFA 611 621 R2022	10	0.012
Yellow	10.0	588	300	MLBL-02BY	1SFA 611 621 R2023	10	0.012
Blue	9.7	468	450	MLBL-02BL	1SFA 611 621 R2024	10	0.012
White	9.7	[2]	600	MLBL-02BW	1SFA 611 621 R2025	10	0.012
Rated Voltage 60 V, AC/DC [1]							
Red	13.0	620	350	MLBL-03BR	1SFA 611 621 R2031	10	0.012
Green	12.7	520	2000	MLBL-03BG	1SFA 611 621 R2032	10	0.012
Yellow	13.0	588	400	MLBL-03BY	1SFA 611 621 R2033	10	0.012
Blue	12.7	468	550	MLBL-03BL	1SFA 611 621 R2034	10	0.012
White	12.7	[2]	750	MLBL-03BW	1SFA 611 621 R2035	10	0.012
Rated Voltage 110-130 V, AC							
Red	8.6	620	200	MLBL-04BR	1SFA 611 621 R2041	10	0.012
Green	8.5	520	1200	MLBL-04BG	1SFA 611 621 R2042	10	0.012
Yellow	8.6	588	250	MLBL-04BY	1SFA 611 621 R2043	10	0.012
Blue	7.0	468	400	MLBL-04BL	1SFA 611 621 R2044	10	0.012
White	7.0	[2]	500	MLBL-04BW	1SFA 611 621 R2045	10	0.012
Rated Voltage 110-130 V, DC [1]							
Red	9.9	620	250	MLBL-05BR	1SFA 611 621 R2051	10	0.012
Green	9.8	520	1500	MLBL-05BG	1SFA 611 621 R2052	10	0.012
Yellow	9.9	588	300	MLBL-05BY	1SFA 611 621 R2053	10	0.012
Blue	9.8	468	450	MLBL-05BL	1SFA 611 621 R2054	10	0.012
White	9.8	[2]	600	MLBL-05BW	1SFA 611 621 R2055	10	0.012
Rated Voltage 220 V, DC [1]							
Red	8.0	620	180	MLBL-06BR	1SFA 611 621 R2061	10	0.012
Green	8.0	520	110	MLBL-06BG	1SFA 611 621 R2062	10	0.012
Yellow	8.0	588	200	MLBL-06BY	1SFA 611 621 R2063	10	0.012
Blue	8.0	468	450	MLBL-06BL	1SFA 611 621 R2064	10	0.012
White	8.0	[2]	600	MLBL-06BW	1SFA 611 621 R2065	10	0.012
Rated Voltage 230 V, AC							
Red	9.5	620	250	MLBL-07BR	1SFA 611 621 R2071	10	0.012
Green	9.4	520	1500	MLBL-07BG	1SFA 611 621 R2072	10	0.012
Yellow	9.5	588	300	MLBL-07BY	1SFA 611 621 R2073	10	0.012
Blue	8.2	468	450	MLBL-07BL	1SFA 611 621 R2074	10	0.012
White	8.2	[2]	600	MLBL-07BW	1SFA 611 621 R2075	10	0.012

Note: [1] Care should be taken for DC supply where + and - must be correctly connected. This is marked X1 (+) and X2 (-) on the product.

[2] X=0.31, Y=0.32 according to the ICI Chromaticity Diagram.

LED Blocks
for rear mounting



LED Block with built in leakage current protection

Description	Rated Current mA	Wave-length nm	Lumi-nance mcd	Type	Order Code	Package Quantity	Weight Kg
Cont. LED Blocks							
Rated Voltage 380 V, AC							
Red	10.2	620	250	**MLBL-08BR**	**1SFA 611 621 R2081**	10	0.012
Green	10.2	520	1500	**MLBL-08BG**	**1SFA 611 621 R2082**	10	0.012
Yellow	10.2	582	300	**MLBL-08BY**	**1SFA 611 621 R2083**	10	0.012
Blue	9.1	468	450	**MLBL-08BL**	**1SFA 611 621 R2084**	10	0.012
White	9.1	[2]	600	**MLBL-08BW**	**1SFA 611 621 R2085**	10	0.012
Rated Voltage 415 V, AC							
Red	11.2	620	280	**MLBL-09BR**	**1SFA 611 621 R2091**	10	0.012
Green	11.2	520	1800	**MLBL-09BG**	**1SFA 611 621 R2092**	10	0.012
Yellow	11.2	588	350	**MLBL-09BY**	**1SFA 611 621 R2093**	10	0.012
Blue	9.9	468	500	**MLBL-09BL**	**1SFA 611 621 R2094**	10	0.012
White	9.9	[2]	650	**MLBL-09BW**	**1SFA 611 621 R2095**	10	0.012

[2] X=0.31, Y=0.32 according to the ICI Chromaticity Diagram.

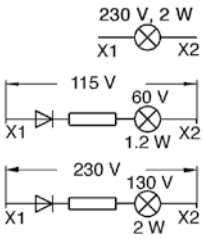
Accessories For Plastic Enclosures



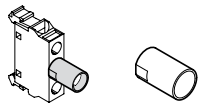
Contact Block



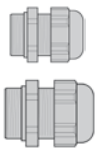
Double Contact Block



Lamp Blocks



Protective Sleeve



Cable Gland



Sealing Ring



Blanking Plugs

Description	Type	Order Code	Package Quantity	Weight Kg
Contact Block for rear mounting				
1NO	**MCB-10B**	**1SFA 611 610 R2001**	10	0.013
1NC	**MCB-01B**	**1SFA 611 610 R2010**	10	0.013
Double Contact Block				
2NO	**MCB-20B**	**1SFA 611 610 R2002**	10	0.026
2NC	**MCB-02B**	**1SFA 611 610 R2020**	10	0.026
1NO+1NC	**MCB-11B**	**1SFA 611 610 R2011**	10	0.026
Contact Block with gold plated contacts				
1NO	**MCB-10BG**	**1SFA 611 610 R2101**	10	0.013
1NC	**MCB-01BG**	**1SFA 611 610 R2110**	10	0.013
Lamp Block for rear mounting				
For max. 2 W, 230 V AC and DC Filament Bulb or LED	**MLB-1B**	**1SFA 611 620 R2001**	10	0.015
115 V AC supply voltage. For 60 V Filament Bulb 1.2 W	**MLB-2B**	**1SFA 611 620 R2002**	10	0.017
230 V AC supply voltage. For 130 V Filament Bulb 2 W	**MLB-3B**	**1SFA 611 620 R2003**	10	0.020
Protective Sleeve				
Protective Sleeve	**-**	**5396 0543-1**	10	0.002
Note: To make a rear mounted Lamp Block screen protected. IP20 (Not together with illuminated Selector Switch)				
Cable Gland				
Grey plastic. threaded outer sleeve Sealing Ring included.				
M25	**MA5-3001**	**1SFA 611 925 R3001**	10	0.015
M20	**MA5-3002**	**1SFA 611 925 R3002**	10	0.015
PG 13.5	**MA5-3006**	**1SFA 611 925 R3006**	10	0.010
PG 16	**MA5-3007**	**1SFA 611 925 R3007**	10	0.015
Nut				
Grey plastic. For Cable Gland above.				
M25	**MA5-3003**	**1SFA 611 925 R3003**	10	0.005
M20	**MA5-3004**	**1SFA 611 925 R3004**	10	0.005
PG 13.5	**MA5-3008**	**1SFA 611 925 R3008**	10	0.001
PG 16	**MA5-3009**	**1SFA 611 925 R3009**	10	0.001
Earthing Terminal				
For Plastic Enclosure.	**MA5-3005**	**1SFA 611 925 R3005**	10	0.005
Sealing Ring				
For Plastic Enclosure.	**MA1-8150**	**1SFA 611 620 H8150**	100	0.001
Spacer				
1 mm thick. Needed when Legend Plates are not used in Plastic Enclosures.				
Spacer	**-**	**SK 615 516-1**	10	0.002
Spacer for Modular Emergency Stop Pushbutton	**KA1-8045**	**1SFA 616 920 R 8045**	10	0.004
Blanking Plug				
Grey	**MA1-8129**	**1SFA 611 920 R8129**	10	0.005
Black	**MA1-8130**	**1SFA 611 920 R8130**	10	0.005
Light Grey	**MA1-8136**	**1SFA 611 920 R8136**	10	0.005
Adaptor				
PG 16/M20	**MA5-3010**	**1SFA 611 925 R3010**	10	0.010

Metallic Enclosures and Accessories
degree of protection IP66, IP67 and IP69K



Empty Metallic Enclosures



Cable Gland



Hexagon Nut



Sealing Ring



Blanking Plate



Blanking Plugs

Description	Type	Order Code	Package Quantity	Weight Kg
Empty Metallic Enclosures for front mounted Pilot Devices				
1-seat ☐ Grey	**KEM1-0**	**SK 616 701-AA**	1	0.40
2-seat ☐ Grey	**KEM2-0**	**SK 616 702-AA**	1	0.70
3-seat ☐ Grey	**KEM3-0**	**SK 616 703-AA**	1	0.80
4-seat ☐ Grey	**KEM4-0**	**SK 616 704-AA**	1	1.20
6-seat ☐ Grey	**KEM6-0**	**SK 616 706-AA**	1	1.40
Blanking plates not included				
Accessories for Metallic Enclosures				
Cable Gland. Metal. Threaded outer sleeve.				
Pr Pg diameter, mm				
22.5 16 8.5 - 11.5	-	**SK 170 7685**	1	0.040
22.5 16 10.5 - 13.5	-	**SK 170 7686**	1	0.045
22.5 16 12.5 - 15.0	-	**SK 170 7687**	1	0.050
Hexagon Nut				
Metal, Pr 22.5, Pg 16	-	**SK 175 0152**	1	0.010
Sealing Ring				
Rubber, Pr 22.5, Pg 16	-	**SK 170 0182**	1	0.010
Blanking Plates without holes. Metal. Black For 4- and 6-seat enclosures. Note: Gasket not included				
For flange opening **Suitable flange gasket Order Code**				
FL 13 SK 170 4536	-	**SK 172 105-AA**	1	0.010
Blanking Plates with holes. Metal. Black for 4- and 6-seat enclosures. Note: Gasket not included				
For flange opening **Suitable flange gasket**				
Two holes Pr 22.5 (Pg 16). Hole centre distance 50 mm FL 13 SK 170 4536	-	**SK 172 105-AD**	1	0.110
Three holes Pr 22.5 (Pg 16). Hole centre distance 38 mm FL 13 SK 170 4536	-	**SK 172 105-AE**	1	0.110
Four holes Pr 22.5 (Pg 16). Hole centre distance 30 mm FL 13 SK 170 4536	-	**SK 172 105-AF**	1	0.110
Flange Gasket				
FL 13	-	**SK 170 4536**	1	0.005
Blanking Plug. Applicable to cover a 22 mm-hole in an enclosure instead of an operator. Gasket and nut included				
Grey	**MA1-8129**	**1SFA 611 920 R8129**	10	0.005
Black	**MA1-8130**	**1SFA 611 920 R8130**	10	0.005
Light grey	**MA1-8136**	**1SFA 611 920 R8136**	10	0.005
Sealing Plug Black Plastic				
Pr 22.5 Pg 16	-	**SK 175 919-3**	10	0.010

Assembled Stations



Emergency Stop Enclosure



Emergency Stop Enclosure with Shroud



2-seat Plastic Enclosure

Description		Type	Order Code	Package Quantity	Weight Kg
1-seat Plastic Enclosures					
Emergency Stop Pushbutton, 40 mm. Twist release. No Legend Plate. Yellow top / light grey bottom					
● Red	2 NC	**MEPY1-1005**	**1SFA 611 821 R1005**	1	0.234
● Red	1 NO + 2 NC	**MEPY1-1024**	**1SFA 611 821 R1024**	1	0.250
1-seat Plastic Enclosures					
Emergency Stop Pushbutton, 40 mm. Twist release. Legend Plate: “Emergency Stop“ Yellow top/light grey bottom					
● Red	2 NC	**MEPY1-1026**	**1SFA 611 821 R1026**	1	-
1-seat Plastic Enclosure					
■ □ Yellow/Light grey Twist release. Red button 2 NC		**CEPY1-1001**	**1SFA 619 821 R1001**	1	0.108
■ □ Yellow/Light grey Pull release. Red button 2 NC		**CEPY1-1002**	**1SFA 619 821 R1002**	1	0.108
■ □ Yellow/Light grey Key release. Red button 2 NC		**CEPY1-1006**	**1SFA 619 821 R1006**	1	0.105
1-seat Plastic Enclosure with Shroud					
■ □ Yellow/Light grey Twist release. Red button 2 NC		**CEPY1-2002**	**1SFA 619 821 R2002**	1	0.124
■ □ Yellow/Light grey Pull release. Red button 2 NC		**CEPY1-2001**	**1SFA 619 821 R2001**	1	0.124
1-seat Plastic Enclosure with Black Mushroom Pushbutton					
■ □ Dark grey/Light grey Twist release. Black button 1 NO + 1 NC		**CEP1-1001**	**1SFA 619 811 R1001**	1	0.108
■ □ Dark grey/Light grey Pull release. Black button 1 NO + 1 NC		**CEP1-1002**	**1SFA 619 811 R1002**	1	0.108
1-seat Plastic Enclosure with Black Mushroom Pushbutton and Shroud					
■ □ Dark grey/Light grey Twist release. Black button 1 NO + 1 NC		**CEP1-2001**	**1SFA 619 811 R2001**	1	0.124
■ □ Dark grey/Light grey Pull release. Black button 1 NO + 1 NC		**CEP1-2002**	**1SFA 619 811 R2002**	1	0.124
2-seat Plastic Enclosure					
Dark grey top / light grey bottom Two Flush Pushbuttons. Momentary. Left	Right				
● Red	● Green	**MEP2-1001**	**1SFA 611 812 R1001**	1	0.220
1 NC	1 NO				
O	I				

Legend Plates



ABB offers a wide range of alternatives to label our products. It's also possible in a large number of markets to get these engraved from factory with our L-Mark system - http://bolservices.it.abb.com/pilot-devices.

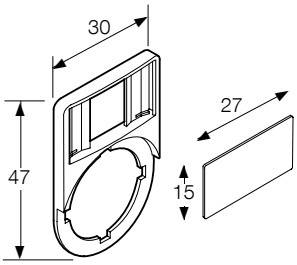
Products:

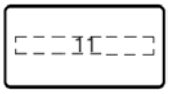
- Legend Plates for Emergency Stops.
- Inserts and Holders.
- Fixed Legend Plates in aluminum.
- Text Caps.
- Legend Plates for Enclosures.

Legend Plate Holder
with Inserts



Legend Plate Holders





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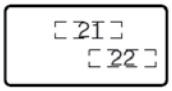
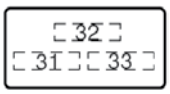


Insert for two-pos. Selector Switch



Insert for three-pos. Selector Switch

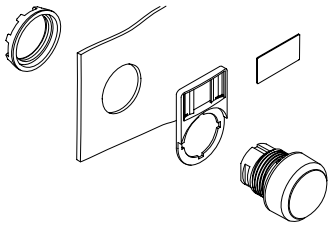
Description	Type	Order Code	Package Quantity	Weight Kg
Legend Plate Holders with Inserts - Holder of Black Plastic - Insert of brushed Aluminum look on Black Plastic.				
Legend Plate Holder				
Black	**KA1-8120**	**1SFA 616 920 R8120**	10	0.002
Inserts				
Without text or symbol	**KA1-8121**	**1SFA 616 920 R8121**	10	0.001
Inserts with text/symbol engraved with L-Mark				
O	**MA6-1032**	**1SFA 611 930 R1032**	10	0.001
I	**MA6-1033**	**1SFA 611 930 R1033**	10	0.001
→	**MA6-1034**	**1SFA 611 930 R1034**	10	0.001
→→	**MA6-1035**	**1SFA 611 930 R1035**	10	0.001
Close	**MA6-1036**	**1SFA 611 930 R1036**	10	0.001
Open	**MA6-1037**	**1SFA 611 930 R1037**	10	0.001
On	**MA6-1038**	**1SFA 611 930 R1038**	10	0.001
Off	**MA6-1039**	**1SFA 611 930 R1039**	10	0.001
Fast	**MA6-1040**	**1SFA 611 930 R1040**	10	0.001
Slow	**MA6-1041**	**1SFA 611 930 R1041**	10	0.001
Down	**MA6-1042**	**1SFA 611 930 R1042**	10	0.001
Up	**MA6-1043**	**1SFA 611 930 R1043**	10	0.001
Start	**MA6-1044**	**1SFA 611 930 R1044**	10	0.001
Stop	**MA6-1045**	**1SFA 611 930 R1045**	10	0.001
Inserts for two-position Selector Switches				
With text or symbol: Pos. 21 Pos. 22				
O I	**MA6-1070**	**1SFA 611 930 R1070**	10	0.001
I II	**MA6-1071**	**1SFA 611 930 R1071**	10	0.001
→ →→	**MA6-1072**	**1SFA 611 930 R1072**	10	0.001
Off On	**MA6-1073**	**1SFA 611 930 R1073**	10	0.001
Stop Start	**MA6-1074**	**1SFA 611 930 R1074**	10	0.001
Low High	**MA6-1075**	**1SFA 611 930 R1075**	10	0.001
Slow Fast	**MA6-1076**	**1SFA 611 930 R1076**	10	0.001
Close Open	**MA6-1077**	**1SFA 611 930 R1077**	10	0.001
Jog Run	**MA6-1078**	**1SFA 611 930 R1078**	10	0.001
Hand Auto	**MA6-1079**	**1SFA 611 930 R1079**	10	0.001
Inserts for three-position Selector Switches				
With text or symbol Pos. 31 Pos. 32 Pos. 33				
← O →	**MA6-1080**	**1SFA 611 930 R1080**	10	0.001
→ O →→	**MA6-1081**	**1SFA 611 930 R1081**	10	0.001
I O II	**MA6-1082**	**1SFA 611 930 R1082**	10	0.001
Hand O Auto	**MA6-1083**	**1SFA 611 930 R1083**	10	0.001
Slow Off Fast	**MA6-1084**	**1SFA 611 930 R1084**	10	0.001

L-Mark

Customer specific marking online. For more information see page 4 or go to:

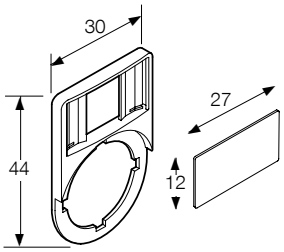
http://bolservices.it.abb.com/pilot-devices

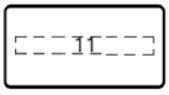
Legend Plate Holder
with Inserts for Plastic Enclosures





Legend Plate Holders





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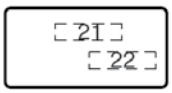
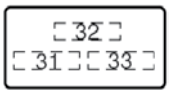


Insert for two-pos. Selector Switch



Insert for three-pos. Selector Switch

Description	Type	Order Code	Package Quantity	Weight Kg
Legend Plate Holder For Plastic Enclosures				
Grey	**MA6-1060**	**1SFA 611 930 R1060**	10	0.002
Inserts: Packing				
Without text or symbol	**MA6-1061**	**1SFA 611 930 R1061**	10	0.001
Inserts with text/symbol engraved with L-Mark				
O	**MA6-1062**	**1SFA 611 930 R1062**	10	0.001
I	**MA6-1063**	**1SFA 611 930 R1063**	10	0.001
II	**MA6-1064**	**1SFA 611 930 R1064**	10	0.001
→	**MA6-1130**	**1SFA 611 930 R1130**	10	0.001
→→	**MA6-1131**	**1SFA 611 930 R1131**	10	0.001
Close	**MA6-1132**	**1SFA 611 930 R1132**	10	0.001
Open	**MA6-1133**	**1SFA 611 930 R1133**	10	0.001
On	**MA6-1134**	**1SFA 611 930 R1134**	10	0.001
Off	**MA6-1135**	**1SFA 611 930 R1135**	10	0.001
Fast	**MA6-1136**	**1SFA 611 930 R1136**	10	0.001
Slow	**MA6-1137**	**1SFA 611 930 R1137**	10	0.001
Down	**MA6-1138**	**1SFA 611 930 R1138**	10	0.001
Up	**MA6-1139**	**1SFA 611 930 R1139**	10	0.001
Start	**MA6-1140**	**1SFA 611 930 R1140**	10	0.001
Stop	**MA6-1141**	**1SFA 611 930 R1141**	10	0.001

Inserts for two-position Selector Switches					
With text or symbol: Pos. 21	Pos. 22				
O	I	**MA6-1170**	**1SFA 611 930 R1170**	10	0.001
I	II	**MA6-1171**	**1SFA 611 930 R1171**	10	0.001
→	→→	**MA6-1172**	**1SFA 611 930 R1172**	10	0.001
Off	On	**MA6-1173**	**1SFA 611 930 R1173**	10	0.001
Stop	Start	**MA6-1174**	**1SFA 611 930 R1174**	10	0.001
Low	High	**MA6-1175**	**1SFA 611 930 R1175**	10	0.001
Slow	Fast	**MA6-1176**	**1SFA 611 930 R1176**	10	0.001
Close	Open	**MA6-1177**	**1SFA 611 930 R1177**	10	0.001
Jog	Run	**MA6-1178**	**1SFA 611 930 R1178**	10	0.001
Hand	Auto	**MA6-1179**	**1SFA 611 930 R1179**	10	0.001

Inserts for three-position Selector Switches						
With text or symbol Pos. 31	Pos. 32	Pos. 33				
←	O	→	**MA6-1190**	**1SFA 611 930 R 1190**	10	0.001
→	O	→→	**MA6-1191**	**1SFA 611 930 R 1191**	10	0.001
I	O	II	**MA6-1192**	**1SFA 611 930 R 1192**	10	0.001
Hand	O	Auto	**MA6-1193**	**1SFA 611 930 R 1193**	10	0.001
Slow	Off	Fast	**MA6-1194**	**1SFA 611 930 R 1194**	10	0.001



Customer specific marking online. For more information see page 4 or go to:
http://bolservices.it.abb.com/pilot-devices

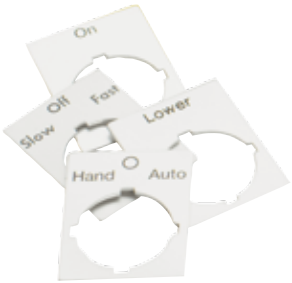
Legend Plates
for Emergency Stop



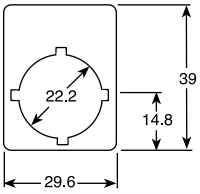
Emergency Stop Legend Plate

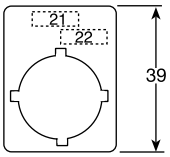
Description	Type	Order Code	Package Quantity	Weight Kg
Emergency Stop Legend Plates				
Black text on a yellow plastic plate. Can be used as yellow background				
Emergency Stop	-	**1SFA 616 915 R1005**	10	0.003
Not Aus	-	**1SFA 616 915 R6005**	10	0.003
Without text	-	**1SFA 616 915 R1038**	10	0.003
With customer-selected marking	-	**1SFA 616 915 L1038**	10	0.003
Black text on a Yellow Aluminum Plate				
Nöd Stopp	-	**SK 615 546-1**	10	0.010
Emergency Stop	-	**SK 615 546-2**	10	0.010
Not Aus	-	**SK 615 546-3**	10	0.010
ARRET D'URGENCE	-	**SK 615 546-4**	10	0.010
HÄTÄSEIS	-	**SK 615 546-5**	10	0.010
PARADA DE EMERGENCIA	-	**SK 615 546-6**	10	0.010
Emergency Stop NOT AUS ARRET D'URGENCE	-	**SK 615 546-13**	10	0.010
Without text	-	**SK 615 546-8**	10	0.010

Legend Plates
for Pushbuttons

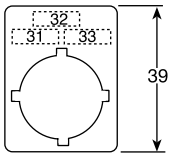


Legend Plates





For two-position Selector Switch



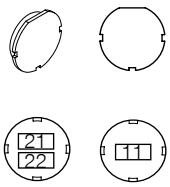
For three-position Selector Switch

Text / symbol	Type	Order Code	Package Quantity	Weight Kg
Fixed Legend Plates without text (for Pushbuttons, Mushroom Pushbuttons and Pilot Lights) Made of Silver-grey Aluminum				
H = 39 mm	**MA16-1000**	**1SFA 611 940 R1000**	10	0.002
H = 44 mm	**MA16-1001**	**1SFA 611 940 R1001**	10	0.002
Engraved Fixed Legend Plates. Text height 3 mm				
For Pushbuttons – with symbols				
O	-	**SK 615 550-61**	10	0.002
I	-	**SK 615 550-62**	10	0.002
I I	-	**SK 615 550-63**	10	0.002
←	-	**SK 615 562-12**	10	0.002
→	-	**SK 615 562-18**	10	0.002
→→	-	**SK 615 562-27**	10	0.002
For Pushbuttons – with text in English				
Close	-	**SK 615 552-13**	10	0.002
Down	-	**SK 615 552-14**	10	0.002
Emergency Stop	-	**SK 615 552-15**	10	0.002
Fast	-	**SK 615 552-16**	10	0.002
Forward	-	**SK 615 552-17**	10	0.002
In	-	**SK 615 550-29**	10	0.002
Inching	-	**SK 615 552-18**	10	0.002
Left	-	**SK 615 552-39**	10	0.002
Lower	-	**SK 615 552-20**	10	0.002
Off	-	**SK 615 552-21**	10	0.002
On	-	**SK 615 552-22**	10	0.002
Open	-	**SK 615 552-23**	10	0.002
Out	-	**SK 615 552-24**	10	0.002
Raise	-	**SK 615 552-25**	10	0.002
Reset	-	**SK 615 552-27**	10	0.002
Reverse	-	**SK 615 552-28**	10	0.002
Right	-	**SK 615 552-40**	10	0.002
Run	-	**SK 615 552-29**	10	0.002
Slow	-	**SK 615 552-30**	10	0.002
Start	-	**SK 615 550-44**	10	0.002
Stop	-	**SK 615 552-31**	10	0.002
Up	-	**SK 615 552-32**	10	0.002
For two-position Selector Switches – with symbols (Description/Symbol/Text Pos 21 Pos 22)				
I O II	-	**SK 615 550-81**	10	0.002
← O →	-	**SK 615 562-82**	10	0.002
→ O →→	-	**SK 615 562-83**	10	0.002
For two-position Selector Switches – with text in English				
Hand O Auto	-	**SK 615 550-80**	10	0.002
Slow Off Fast	-	**SK 615 552-60**	10	0.002
Legend Plate – with customer specific marking				
H = 39 mm	**MA16-1000-L**	**1SFA 611 940 L1000**	10	0.002
H = 44 mm	**MA16-1001-L**	**1SFA 611 940 L1001**	10	0.002

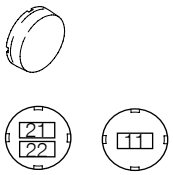


Customer specific marking online. For more information see page 4 or go to:
http://bolservices.it.abb.com/pilot-devices

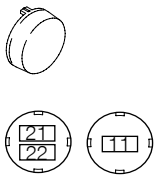
Text Caps
for Illuminated Pushbuttons and Pilot Lights



Flush Button
(Can be turned 90° or 180°)



Extended Button
(Can be turned 90° or 180°)



Pilot Light

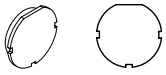
Text / symbol	Cap color [1]	Type	Order Code	Package Quantity	Weight Kg
Text Caps for Illuminated Pushbuttons and Pilot Lights					
Flush Button					
START	White	**KTC6-1042**	**1SFA 616 906 R1042**	**10**	**0.001**
R	White	**KTC1-9009**	**1SFA 616 901 R9009**	**10**	**0.001**
	Black	**KTC8-9009**	**1SFA 616 908 R9009**	**10**	**0.001**
On	White	**KTC1-1020**	**1SFA 616 901 R1020**	**10**	**0.001**
ON	White	**KTC1-1039**	**1SFA 616 901 R1039**	**10**	**0.001**
	Green	**KTC6-1039**	**1SFA 616 906 R1039**	**10**	**0.001**
	Black	**KTC8-1039**	**1SFA 616 908 R1039**	**10**	**0.001**
Off	White	**KTC1-1019**	**1SFA 616 901 R1019**	**10**	**0.001**
Stop	White	**KTC1-1031**	**1SFA 616 901 R1031**	**10**	**0.001**
STOP	Red	**KTC4-1047**	**1SFA 616 904 R1047**	**10**	**0.001**
Reset	White	**KTC1-1025**	**1SFA 616 901 R1025**	**10**	**0.001**
(Without text)	White	**KTC1-9000**	**1SFA 616 901 R9000**	**10**	**0.001**
(Customer specific marking)	White	**KTC1-9000-L**	**1SFA 616 901 L9000**	**10**	**0.001**
Extended Button					
R	White	**KTC2-9009**	**1SFA 616 902 R9009**	**10**	**0.001**
	Black	**KTC9-9009**	**1SFA 616 909 R9009**	**10**	**0.001**
On	White	**KTC2-1020**	**1SFA 616 902 R1020**	**10**	**0.001**
Off	White	**KTC2-1019**	**1SFA 616 902 R1019**	**10**	**0.001**
OFF	White	**KTC2-1040**	**1SFA 616 902 R1040**	**10**	**0.001**
	Red	**KTC5-1040**	**1SFA 616 905 R1040**	**10**	**0.001**
	Black	**KTC9-1040**	**1SFA 616 909 R1040**	**10**	**0.001**
Stop	White	**KTC2-1031**	**1SFA 616 902 R1031**	**10**	**0.001**
STOP	Red	**KTC5-1047**	**1SFA 616 905 R1047**	**10**	**0.001**
Reset	White	**KTC2-1025**	**1SFA 616 902 R1025**	**10**	**0.001**
(Without text)	White	**KTC2-9000**	**1SFA 616 902 R9000**	**10**	**0.001**
(Customer specific marking)	White	**KTC2-9000-L**	**1SFA 616 902 L9000**	**10**	**0.001**
Pilot Light					
R	White	**KTC3-9009**	**1SFA 616 903 R9009**	**10**	**0.001**
On	White	**KTC3-1020**	**1SFA 616 903 R1020**	**10**	**0.001**
ON	White	**KTC3-1039**	**1SFA 616 903 R1039**	**10**	**0.001**
Off	White	**KTC3-1019**	**1SFA 616 903 R1019**	**10**	**0.001**
Stop	White	**KTC3-1031**	**1SFA 616 903 R1031**	**10**	**0.001**
Reset	White	**KTC3-1025**	**1SFA 616 903 R1025**	**10**	**0.001**
(Without text)	White	**KTC3-9000**	**1SFA 616 903 R9000**	**10**	**0.001**
(Customer specific marking)	White	**KTC3-9000-L**	**1SFA 616 903 L9000**	**10**	**0.001**

[1] Use only white caps for illuminated Pushbutton and Pilot Lights.

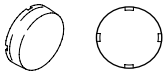


Customer specific marking online. For more information see page 4 or go to:
http://bolservices.it.abb.com/pilot-devices

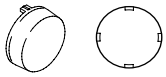
Text Caps
for Illuminated Pushbuttons and Pilot Lights



Flush Button
(Can be turned 90° or 180°)



Extended Button
(Can be turned 90° or 180°)



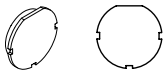
Pilot Light

Text / symbol	Cap Color [1]	Type	Order Code	Package Quantity	Weight Kg
Text Caps for Illuminated Pushbuttons and Pilot Lights					
Flush Button					
O	White	KTC1-9004	1SFA 616 901 R9004	10	0.001
	Red	KTC4-9004	1SFA 616 904 R9004	10	0.001
	Black	KTC8-9004	1SFA 616 908 R9004	10	0.001
I	White	KTC1-9002	1SFA 616 901 R9002	10	0.001
	Green	KTC6-9002	1SFA 616 906 R9002	10	0.001
	Black	KTC8-9002	1SFA 616 908 R9002	10	0.001
II	White	KTC1-9003	1SFA 616 901 R9003	10	0.001
	Green	KTC6-9003	1SFA 616 906 R9003	10	0.001
	Black	KTC8-9003	1SFA 616 908 R9003	10	0.001
III	White	KTC1-9028	1SFA 616 901 R9028	10	0.001
	Black	KTC8-9028	1SFA 616 908 R9028	10	0.001
+	White	KTC1-9011	1SFA 616 901 R9011	10	0.001
	Green	KTC6-9011	1SFA 616 906 R9011	10	0.001
	Black	KTC8-9011	1SFA 616 908 R9011	10	0.001
-	White	KTC1-9012	1SFA 616 901 R9012	10	0.001
	Red	KTC4-9012	1SFA 616 904 R9012	10	0.001
	Black	KTC8-9012	1SFA 616 908 R9012	10	0.001
↑	White	KTC1-9005	1SFA 616 901 R9005	10	0.001
	Black	KTC8-9005	1SFA 616 908 R9005	10	0.001
↗	White	KTC1-9014	1SFA 616 901 R9014	10	0.001
	Black	KTC8-9014	1SFA 616 908 R9014	10	0.001
→⋈←	White	KTC1-9015	1SFA 616 901 R9015	10	0.001
	Black	KTC8-9015	1SFA 616 908 R9016	10	0.001
⇤⊣⊢⇥	White	KTC1-9016	1SFA 616 901 R9016	10	0.001
	Black	KTC8-9016	1SFA 616 908 R9016	10	0.001
→⊳|	White	KTC1-9017	1SFA 616 901 R9017	10	0.001
	Black	KTC8-9017	1SFA 616 908 R9017	10	0.001
Extended Button					
O	White	KTC2-9004	1SFA 616 902 R9004	10	0.001
	Red	KTC5-9004	1SFA 616 905 R9004	10	0.001
I	White	KTC2-9002	1SFA 616 902 R9002	10	0.001
II	White	KTC2-9003	1SFA 616 902 R9003	10	0.001
III	White	KTC2-9028	1SFA 616 902 R9011	10	0.001
+	White	KTC2-9011	1SFA 616 902 R9011	10	0.001
↑	White	KTC2-9005	1SFA 616 902 R9005	10	0.001
↗	White	KTC2-9014	1SFA 616 902 R9014	10	0.001
→⋈←	White	KTC2-9015	1SFA 616 902 R9015	10	0.001
⇤⊣⊢⇥	White	KTC2-9016	1SFA 616 902 R9016	10	0.001
→⊳|	White	KTC2-9017	1SFA 616 902 R9017	10	0.001
Pilot Light					
O	White	KTC3-9004	1SFA 616 903 R9004	10	0.001
I	White	KTC3-9002	1SFA 616 903 R9002	10	0.001
II	White	KTC3-9003	1SFA 616 903 R9003	10	0.001
↑	White	KTC3-9005	1SFA 616 903 R9005	10	0.001

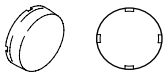
[1] Use only white caps for illuminated Pushbutton and Pilot Lights. Cont. next page



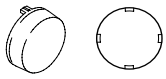
Customer specific marking online. For more information see page 4 or go to:
http://bolservices.it.abb.com/pilot-devices



Flush Button
(Can be turned 90° or 180°)



Extended Button
(Can be turned 90° or 180°)



Pilot Light

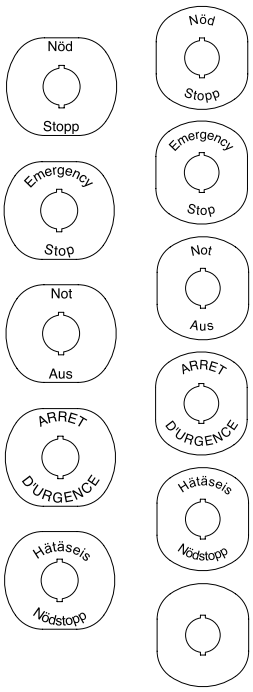
Text / symbol	Cap Color [1]	Type	Order Code	Package Quantity	Weight Kg
Text Caps for Illuminated Pushbuttons and Pilot Lights					
Flush Button					
	White	KTC1-9006	1SFA 616 901 R9006	10	0.001
	White	KTC1-9018	1SFA 616 901 R9018	10	0.001
	Black	KTC8-9018	1SFA 616 908 R9018	10	0.001
	White	KTC1-9019	1SFA 616 901 R9019	10	0.001
	Black	KTC8-9019	1SFA 616 908 R9019	10	0.001
	White	KTC1-9020	1SFA 616 901 R9020	10	0.001
	Black	KTC8-9020	1SFA 616 908 R9020	10	0.001
	White	KTC1-9021	1SFA 616 901 R9021	10	0.001
	Black	KTC8-9021	1SFA 616 908 R9021	10	0.001
	White	KTC1-9022	1SFA 616 901 R9022	10	0.001
	Black	KTC8-9022	1SFA 616 908 R9022	10	0.001
	White	KTC1-9023	1SFA 616 901 R9023	10	0.001
	Black	KTC8-9023	1SFA 616 908 R9023	10	0.001
	White	KTC1-9024	1SFA 616 901 R9024	10	0.001
	Black	KTC8-9024	1SFA 616 908 R9024	10	0.001
	White	KTC1-9025	1SFA 616 901 R9025	10	0.001
	Black	KTC8-9025	1SFA 616 908 R9025	10	0.001
	White	KTC1-9026	1SFA 616 901 R9026	10	0.001
	Black	KTC8-9026	1SFA 616 908 R9026	10	0.001
	White	KTC1-9027	1SFA 616 901 R9027	10	0.001
	Black	KTC8-9027	1SFA 616 908 R9027	10	0.001
Extended Button					
	White	KTC2-9006	1SFA 616 902 R9006	10	0.001
	White	KTC2-9018	1SFA 616 902 R9018	10	0.001
	White	KTC2-9019	1SFA 616 902 R9019	10	0.001
	White	KTC2-9020	1SFA 616 902 R9020	10	0.001
	White	KTC2-9021	1SFA 616 902 R9021	10	0.001
	White	KTC2-9022	1SFA 616 902 R9022	10	0.001
	White	KTC2-9023	1SFA 616 902 R9023	10	0.001
	White	KTC2-9024	1SFA 616 902 R9024	10	0.001
	White	KTC2-9025	1SFA 616 902 R9025	10	0.001
	White	KTC2-9026	1SFA 616 902 R9026	10	0.001
	White	KTC2-9027	1SFA 616 902 R9027	10	0.001
Pilot Light					
	White	KTC3-9006	1SFA 616 903 R9006	10	0.001

[1] Use only white caps for illuminated Pushbutton and Pilot Lights.



Customer specific marking online. For more information see page 4 or go to:
http://bolservices.it.abb.com/pilot-devices

Special Legend Plates
for Plastic Enclosures

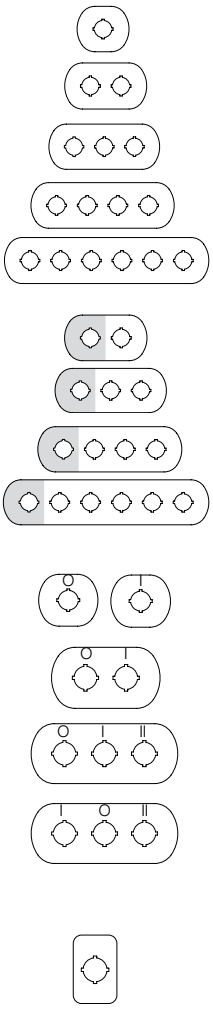




Emergency Stop Legend Plate

Description	Type	Order Code	Package Quantity	Weight Kg
Emergency Stop Legend Plates For Plastic Enclosures				
For Horizontally Mounted Enclosures. Yellow Plastic with black text:				
Nöd Stopp	**MA6-1025**	**1SFA 611 930 R1025**	1	0.004
Emergency Stop	**MA6-1026**	**1SFA 611 930 R1026**	1	0.004
Not Aus	**MA6-1027**	**1SFA 611 930 R1027**	1	0.004
ARRET DURGENCE	**MA6-1028**	**1SFA 611 930 R1028**	1	0.004
Hätäseis	**MA6-1029**	**1SFA 611 930 R1029**	1	0.004
For Vertically Mounted Enclosures. Yellow Plastic with black text				
Nöd Stopp	**MA6-1100**	**1SFA 611 930 R1100**	1	0.004
Emergency Stop	**MA6-1101**	**1SFA 611 930 R1101**	1	0.004
Not Aus	**MA6-1102**	**1SFA 611 930 R1102**	1	0.004
ARRET DURGENCE	**MA6-1103**	**1SFA 611 930 R1103**	1	0.004
Hätäseis	**MA6-1104**	**1SFA 611 930 R1104**	1	0.004
Yellow Plastic				
Without text	**MA6-1024**	**1SFA 611 930 R1024**	1	0.004
With customer-selected marking	**MA6-1024-L**	**1SFA 611 930 L1024**	10	0.004

Emergency Stop Legend Plates for compact enclosure Black text on yellow Aluminum plate				
Emergency Stop	**CA6-1026**	**1SFA 619 930 R1026**	10	0.004
Not Aus	**CA6-1027**	**1SFA 619 930 R1027**	10	0.004



Description	Type	Order Code	Package Quantity	Weight Kg
Legend Plates For Plastic Enclosures				
Silver-grey Aluminum on plastic				
1-seat without text	**MA6-1000**	**1SFA 611 930 R1000**	1	0.004
2-seat without text	**MA6-1002**	**1SFA 611 930 R1002**	1	0.006
3-seat without text	**MA6-1003**	**1SFA 611 930 R1003**	1	0.008
4-seat without text	**MA6-1004**	**1SFA 611 930 R1004**	1	0.010
6-seat without text	**MA6-1005**	**1SFA 611 930 R1005**	1	0.012
Silver-grey Aluminum on plastic (Pos. 1 Yellow)				
2-seat without text	**MA6-1006**	**1SFA 611 930 R1006**	1	0.006
3-seat without text	**MA6-1007**	**1SFA 611 930 R1007**	1	0.008
4-seat without text	**MA6-1008**	**1SFA 611 930 R1008**	1	0.010
6-seat without text	**MA6-1009**	**1SFA 611 930 R1009**	1	0.012
Silver-grey Aluminum on plastic				
Symbol/Text Pos				
1-seat O	**MA6-1012**	**1SFA 611 930 R1012**	1	0.004
1-seat I	**MA6-1013**	**1SFA 611 930 R1013**	1	0.004
2-seat O I	**MA6-1014**	**1SFA 611 930 R1014**	1	0.006
3-seat O I I	**MA6-1015**	**1SFA 611 930 R1015**	1	0.008
3-seat I O II	**MA6-1016**	**1SFA 611 930 R1016**	1	0.008

Emergency Stop Legend Plate				
Black text on an Yellow Aluminum Plate				
Without text	**MA6-1010**	**1SFA 611 930 R1010**	1	0.005
Nöd stopp	**MA6-1017**	**1SFA 611 930 R1017**	1	0.005
Not Aus	**MA6-1018**	**1SFA 611 930 R1018**	1	0.005
Emergency Stop	**MA6-1019**	**1SFA 611 930 R1019**	1	0.005
ARRET D'URGENCE	**MA6-1020**	**1SFA 611 930 R1020**	1	0.005
Hätäseis	**MA6-1021**	**1SFA 611 930 R1021**	1	0.005
PARADA DE EMERGENCIA	**MA6-1022**	**1SFA 611 930 R1022**	1	0.005
Black text on an Yellow Plastic Plate				
Without text	**MA6-1011**	**1SFA 611 930 R1011**	1	0.002
Emergency Stop	**MA6-1023**	**1SFA 611 930 R1023**	1	0.002

Signal Towers K70 and Signal Beacons KSB



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

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
- High protection rating optical and audible signal elements with IP 54
- LED elements for long life

Signal Beacons KSB

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

Signal Towers and Beacons

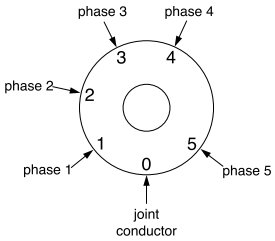
- Permanent Light
- Blinking Light
- Flashing Light
- Audible
- LED Permanent Light
- LED Blinking Light
- LED Rotating Light

Simple fitting with quick fix system

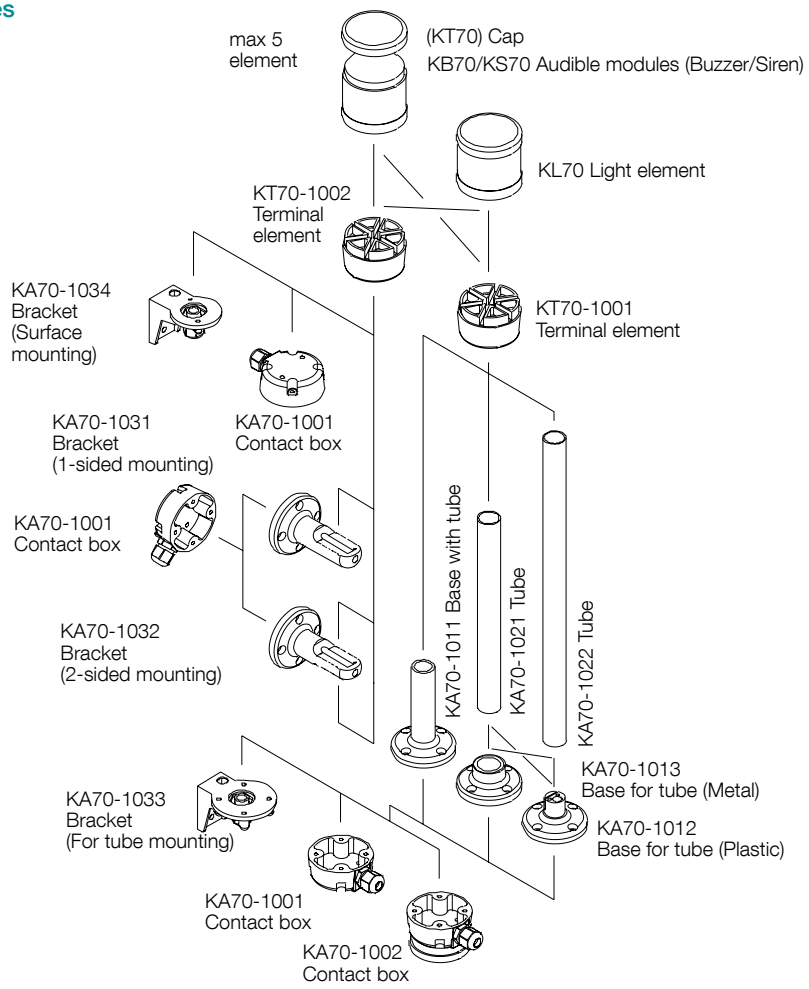
Each K 70 module is equipped with a bayonet fixing with integral contact system. The modules are fastened together by aligning the corresponding white marks then with a gentle twist they are locked into place (see the figures).



Connection Plans



Combination Possibilities



Optical Modules
for Signal Towers K70







Light Elements

Description	Type	Order Code	Package Quantity	Weight Kg
Light Element				
Permanent Light, 12-240 V AC/DC. For bulb BA 15d. Bulb not included				
Red	KL70-401R	1SFA 616 070 R4011	1	0.09
Green	KL70-401G	1SFA 616 070 R4012	1	0.09
Yellow	KL70-401Y	1SFA 616 070 R4013	1	0.09
Blue	KL70-401L	1SFA 616 070 R4014	1	0.09
Clear	KL40-401C	1SFA 616 070 R4018	1	0.09
Blinking Light, 24 V AC/DC. With Integrated LED				
Red	KL70-306R	1SFA 616 070 R3061	1	0.10
Green	KL70-306G	1SFA 616 070 R3062	1	0.10
Yellow	KL70-306Y	1SFA 616 070 R3063	1	0.10
Blue	KL70-306L	1SFA 616 070 R3064	1	0.10
Clear	KL70-306C	1SFA 616 070 R3068	1	0.10
Flashing Light, 24 V AC/DC. With Integrated Xenon Tube				
Red	KL70-203R	1SFA 616 070 R2031	1	0.12
Green	KL70-203G	1SFA 616 070 R2032	1	0.12
Yellow	KL70-203Y	1SFA 616 070 R2033	1	0.12
Blue	KL70-203L	1SFA 616 070 R2034	1	0.12
Clear	KL70-203C	1SFA 616 070 R2038	1	0.12
Blinking Light, 115 V AC. With Integrated LED				
Red	KL70-342R	1SFA 616 070 R3421	1	0.10
Green	KL70-342G	1SFA 616 070 R3422	1	0.10
Yellow	KL70-342Y	1SFA 616 070 R3423	1	0.10
Blue	KL70-342L	1SFA 616 070 R3424	1	0.10
Clear	KL70-342C	1SFA 616 070 R3428	1	0.10
Flashing Light, 115 V AC. With Integrated Xenon Tube				
Red	KL70-113R	1SFA 616 070 R1131	1	0.11
Green	KL70-113G	1SFA 616 070 R1132	1	0.11
Yellow	KL70-113Y	1SFA 616 070 R1133	1	0.11
Blue	KL70-113L	1SFA 616 070 R1134	1	0.11
Clear	KL70-113C	1SFA 616 070 R1138	1	0.11
Blinking Light, 230 V AC. With Integrated LED				
Red	KL70-352R	1SFA 616 070 R3521	1	0.10
Green	KL70-352G	1SFA 616 070 R3522	1	0.10
Yellow	KL70-352Y	1SFA 616 070 R3523	1	0.10
Blue	KL70-352L	1SFA 616 070 R3524	1	0.10
Clear	KL70-352C	1SFA 616 070 R3528	1	0.10
Flashing Light, 230 V AC. With Integrated Xenon Tube				
Red	KL70-123R	1SFA 616 070 R1231	1	0.11
Green	KL70-123G	1SFA 616 070 R1232	1	0.11
Yellow	KL70-123Y	1SFA 616 070 R1233	1	0.11
Blue	KL70-123L	1SFA 616 070 R1234	1	0.11
Clear	KL70-123C	1SFA 616 070 R1238	1	0.11
LED Permanent Light, 24 V AC/DC. With Integrated LED				
Red	KL70-305R	1SFA 616 070 R3051	1	0.10
Green	KL70-305G	1SFA 616 070 R3052	1	0.10
Yellow	KL70-305Y	1SFA 616 070 R3053	1	0.10
Blue	KL70-305L	1SFA 616 070 R3054	1	0.10
Clear	KL70-305C	1SFA 616 070 R3058	1	0.10
LED Rotating Light, 24 V AC/DC. With Integrated LED				
Red	KL70-307R	1SFA 616 070 R3071	1	0.10
Green	KL70-307G	1SFA 616 070 R3072	1	0.10
Yellow	KL70-307Y	1SFA 616 070 R3073	1	0.10
Blue	KL70-307L	1SFA 616 070 R3074	1	0.10
Clear	KL70-307C	1SFA 616 070 R3078	1	0.10



Signal Towers K70



LED Bulb



Terminal Element



Contact Box



Bracket

Description	Type	Order Code	Package Quantity	Weight Kg
Bulbs for Signal Tower K70 Bulb Ba 15d, 42mm, Max 7 W For permanent or blinking light				
24 V, 5 W, AC/DC	**KA4-1021**	**1SFA 616 923 R1028**	10	0.009
115 V, 5 W, AC/DC	**KA4-1118**	**1SFA 616 923 R1118**	10	0.009
230 V, 5 W, AC/DC	**KA4-1148**	**1SFA 616 923 R1148**	10	0.009
LED Bulbs for Signal Tower K70 Ba 15d. For 24 V AC/DC, 40mA				
Red	**KA4-1021**	**1SFA 616 924 R1021**	1	0.009
Green	**KA4-1022**	**1SFA 616 924 R1022**	1	0.009
Yellow	**KA4-1023**	**1SFA 616 924 R1023**	1	0.009
Blue	**KA4-1024**	**1SFA 616 924 R1024**	1	0.009
White	**KA4-1025**	**1SFA 616 924 R1025**	1	0.009
Audible Modules. Buzzer Element. 85 dB, continuous or pulsating tone, adjustable				
24 V AC/DC	**KB70-3001**	**1SFA 616 071 R3001**	1	0.11
115 V AC	**KB70-3101**	**1SFA 616 071 R3101**	1	0.11
230 V AC/DC	**KB70-1201**	**1SFA 616 071 R1201**	1	0.12
Siren Element				
Multi function, 8 diff. Tones adjustable, volume adjustable 100 dB, 115 V AC	**KS70-1104**	**1SFA 616 073 R1104**	1	0.13
Multi function, 8 diff. Tones adjustable, volume adjustable 100 dB, 230 V AC	**KS70-1204**	**1SFA 616 073 R1204**	1	0.12
Multi function, 7 diff. Tones adjustable, volume adjustable, remote control, 100 dB, 24 V DC	**KS70-2004**	**1SFA 616 073 R2004**	1	0.12
Multi function, 8 diff. Tones adjustable, volume adjustable 100 dB, 24 V AC/DC	**KS70-3004**	**1SFA 616 073 R3004**	1	0.12
Continouos tone alternating 108 dB, 24 V DC	**KS70-2002**	**1SFA 616 073 R2002**	1	0.15
Terminal Elements				
For tube mounting, including cap	**KT70-1001**	**1SFA 616 075 R1001**	1	0.15
For bracket or base, including cap	**KT70-1002**	**1SFA 616 075 R1002**	1	0.15
Special Parts				
Contact Box				
Cable exit at side	**KA70-1001**	**1SFA 616 077 R1001**	1	0.07
Magnetic base	**KA70-1002**	**1SFA 616 077 R1002**	1	0.07
Base with tube				
D=25 mm L=110 mm	**KA70-1011**	**1SFA 616 077 R1011**	1	0.06
Base for tube				
D=25 mm, Plastic	**KA70-1012**	**1SFA 616 077 R1012**	1	0.03
D=25 mm, Metal	**KA70-1013**	**1SFA 616 077 R1013**	1	0.32
Tube, anodized Aluminum				
D=25 mm L=250 mm	**KA70-1021**	**1SFA 616 077 R1021**	1	0.08
D=25 mm L=400 mm	**KA70-1022**	**1SFA 616 077 R1022**	1	0.12
D=25 mm L=800 mm	**KA70-1023**	**1SFA 616 077 R1023**	1	0.24
Bracket				
1-sided mounting	**KA70-1031**	**1SFA 616 077 R1031**	1	0.07
2-sided mounting	**KA70-1032**	**1SFA 616 077 R1032**	1	0.07
For tube mounting	**KA70-1033**	**1SFA 616 077 R1033**	1	0.07
For surface mounting	**KA70-1034**	**1SFA 616 077 R1034**	1	0.07

Signal Beacons KSB



Light element

Description	Type	Order Code	Package Quantity	Weight Kg
Light Element				
Permanent Light, 12-240 V AC/DC. For Bulb BA 15d. Bulb not included				
Red	KSB-401R	1SFA 616 080 R4011	1	0.13
Green	KSB-401G	1SFA 616 080 R4012	1	0.13
Yellow	KSB-401Y	1SFA 616 080 R4013	1	0.13
Blue	KSB-401L	1SFA 616 080 R4014	1	0.13
Clear	KSB-401C	1SFA 616 080 R4018	1	0.13
Flashing Light, 24 V DC. With Integrated Xenon Tube				
Red	KSB-203R	1SFA 616 080 R2031	1	0.14
Green	KSB-203G	1SFA 616 080 R2032	1	0.14
Yellow	KSB-203Y	1SFA 616 080 R2033	1	0.14
Blue	KSB-203L	1SFA 616 080 R2034	1	0.14
Clear	KSB-203C	1SFA 616 080 R2038	1	0.14
Flashing Light, 115 V AC. With Integrated Xenon Tube				
Red	KSB-113R	1SFA 616 080 R1131	1	0.14
Green	KSB-113G	1SFA 616 080 R1132	1	0.14
Yellow	KSB-113Y	1SFA 616 080 R1133	1	0.14
Blue	KSB-113L	1SFA 616 080 R1134	1	0.14
Clear	KSB-113C	1SFA 616 080 R1138	1	0.14
Flashing Light, 230 V AC. With Integrated Xenon Tube				
Red	KSB-123R	1SFA 616 080 R1231	1	0.14
Green	KSB-123G	1SFA 616 080 R1232	1	0.14
Yellow	KSB-123Y	1SFA 616 080 R1233	1	0.14
Blue	KSB-123L	1SFA 616 080 R1234	1	0.14
Clear	KSB-123C	1SFA 616 080 R1238	1	0.14
LED Permanent Light, 24 V AC/DC. With Integrated LED				
Red	KSB-305R	1SFA 616 080 R3051	1	0.14
Green	KSB-305G	1SFA 616 080 R3052	1	0.14
Yellow	KSB-305Y	1SFA 616 080 R3053	1	0.14
LED Blinking Light, 24 V AC/DC. With Integrated LED				
Red	KSB-306R	1SFA 616 080 R3061	1	0.14
Green	KSB-306G	1SFA 616 080 R3062	1	0.14
Yellow	KSB-306Y	1SFA 616 080 R3063	1	0.14
LED Rotation Light, 24 V AC/DC. With Integrated LED				
Red	KSB-307R	1SFA 616 080 R3071	1	0.14
Green	KSB-307G	1SFA 616 080 R3072	1	0.14
Yellow	KSB-307Y	1SFA 616 080 R3073	1	0.14

Special Parts				
Anti-twist Device	KASB-100	1SFA 616 087 R1000	1	0.005

Bulbs for Signal Beacons Max 10 W. For Permanent Light. Bulb Ba 15d, 52mm.				
12 V, 7 W, AC/DC	KA3-1018	1SFA 616 922 R1018	10	0.011
24 V, 7 W, AC/DC	KA3-1028	1SFA 616 922 R1028	10	0.011
115 V, 7 W, AC/DC	KA3-1118	1SFA 616 922 R1118	10	0.011
220-260 V, 7-10 W, AC/DC	KA3-1148	1SFA 616 922 R1148	10	0.011



Anti-twist Device

Technical Data
Signal Towers K70 and Signal Beacons KSB

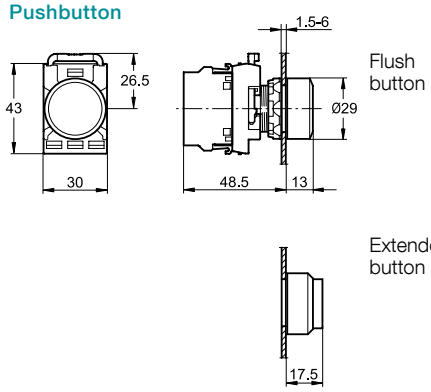
Signal Towers K70			
Approvals			
CE	E 175 441 c UL us		
Technical Specifications			
Housing and Accessories	Polyamide, high impact, black		
Dome	Polycarbonate, transparent		
Fixing	Base mounting, tube Ø 25mm, bracket mounting		
Socket	B 15 d, for bulb max. 7W		
Connection	Screw connection up to 2.5 mm^2		
Number of modules possible -2-sided bracket	max. 5 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		
Flashing Light Element	24 V DC	115 V AC	230 V 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 reduced for AS-Interface	125 mA 80 mA	20mA	35 mA
Starting Current	< 0.5 A at 24 V		
LED Permanent Light Element	24 V AC/DC	115 V AC	230 V AC
Life Duration	100 000 hours		
Current Consumption	45 mA	25mA	25mA
Starting Current	< 0.5 A at 24 V		
LED Blinking Light Element	24 V AC/DC	115 V AC	230 V AC
Life Duration	100 000 hours		
Current Consumption	25 mA	25mA	25mA
Starting Current	< 0.5 A at 24 V		
Blink Frequency	c. 1 Hz	c. 1 Hz	c. 1 Hz
LED Rotation Light Element	24 V, AC/DC		
Life Duration	100 000 hours		
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			
CE	E 175 441 c UL us		
Technical Specifications			
Housing and Accessories	PC/ABS-Blend, high impact, black		
Dome	Polycarbonate, transparent		
Fixing	Installation mounting for Ø 37mm, (PG 29)		
Bulb Socket	B 15 d, for bulb max. 10W		
Bulb Change	Via rear access with bayonet mechanism (Bulb not included)		
Connection	Screw connection max 2.5 mm^2		
Degrees of Protection	IP 65, UL Type 5		
Electrical Data			
Permanent Light Element Operating Voltage	max. 250 V		
Life Duration	100 000 hours		
Bulb socket B 15 d, max 10 W	Bulb not included		
LED version: permanent light	24 V, AC/DC		
Life Duration	100 000 hours		
Current Consumption	45 mA		
Blinking Light Element	24 V, AC/DC		
Life Duration	100 000 hours		
Current Consumption	25 mA		
Rotation Light Element	24 V, AC/DC		
Life Duration	100 000 hours		
Current Consumption	70 mA		
Starting Current	< 0.5 A		
Flashing Light Element			
Operating Voltage	24 V AC/DC	115 V AC	230 V 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	20mA	35 mA
Starting Current	< 0.5 A	< 0.5 A	< 0.5 A
Temperature			
Ambient Temperature during operations	-20 to +50 °C		

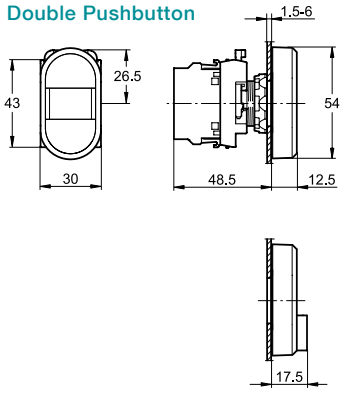
Dimensions
Modular Range

3D drawings can be found in ABB Library.

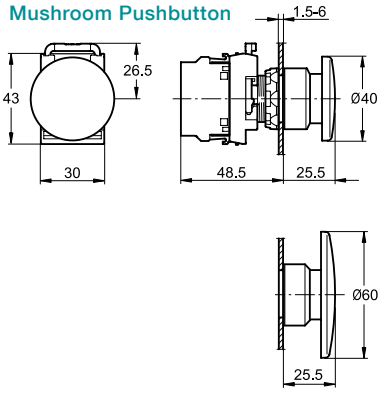
Pushbutton



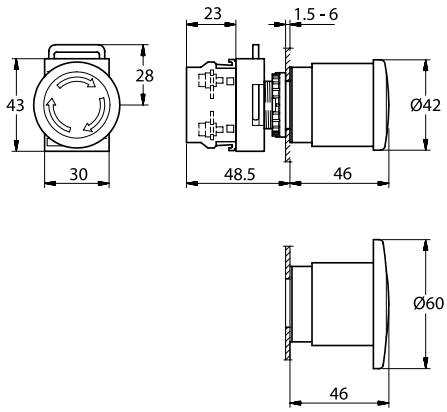
Double Pushbutton



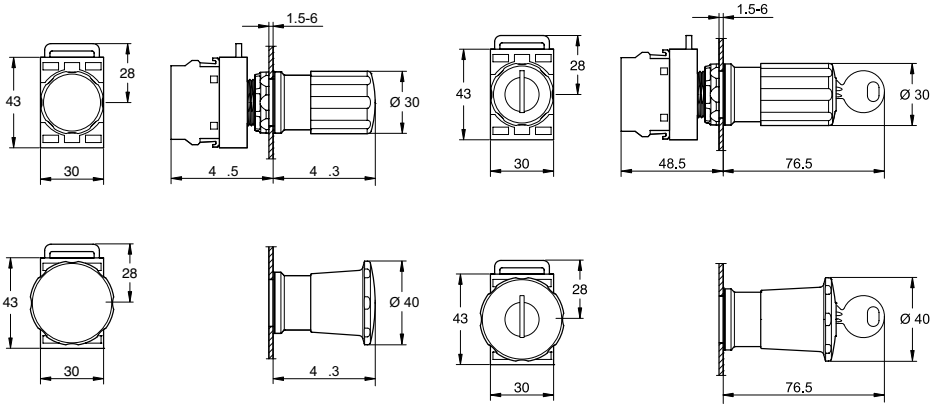
Mushroom Pushbutton



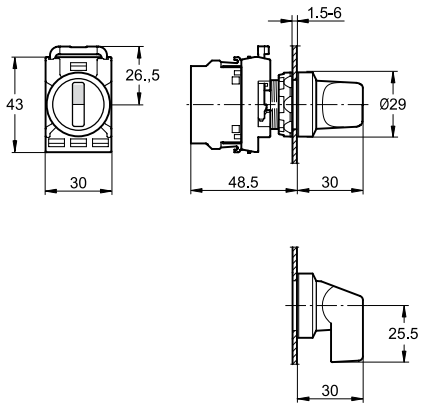
Emergency Stop Pushbutton type MPM



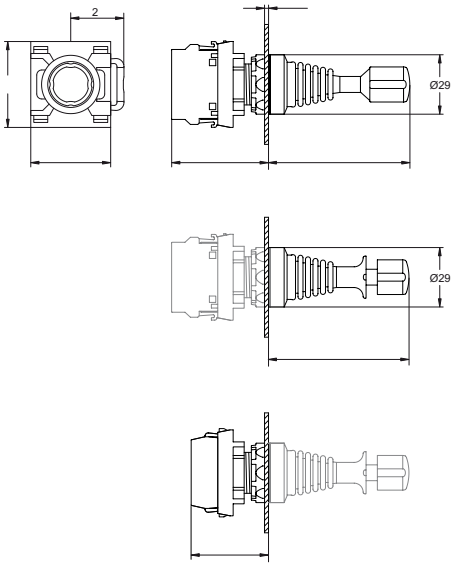
Emergency Stop Pushbutton type MPE



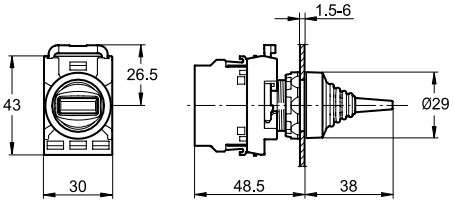
Selector Switch



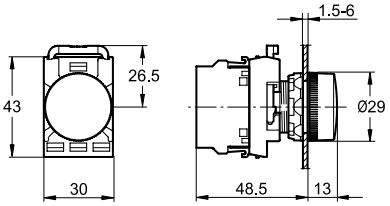
Joystick



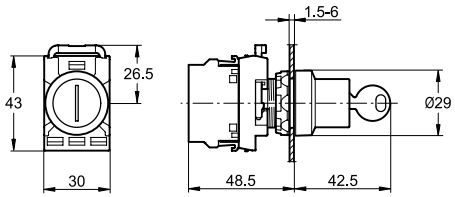
Toggle Switch



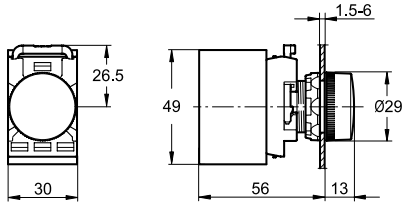
Pilot Light



Key-operated Selector Switch

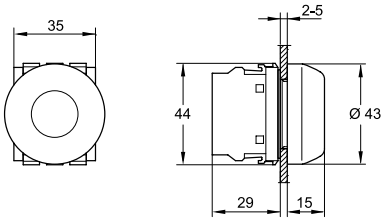


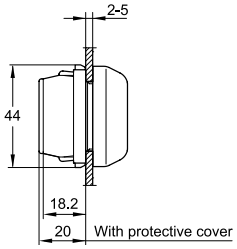
Pilot Light with transformer



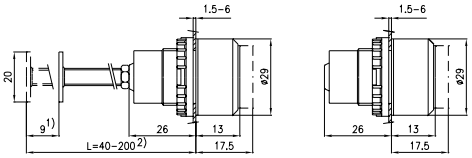
Dimensions and drilling plans
miscellaneous

Heavy Duty Pushbutton



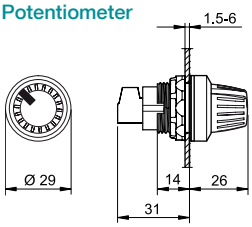


Reset Pushbutton

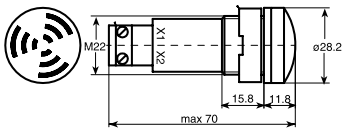


1) Length of stroke.
2) Can be cut to desired length.

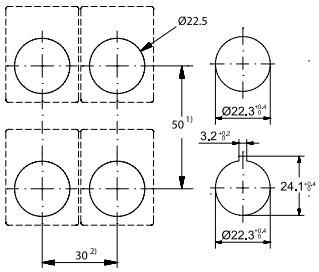
Potentiometer



Buzzer

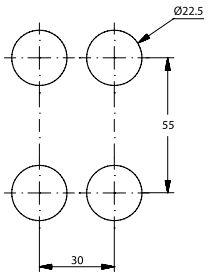


Drilling Plans for Pushbuttons, Switches and Pilot Lights

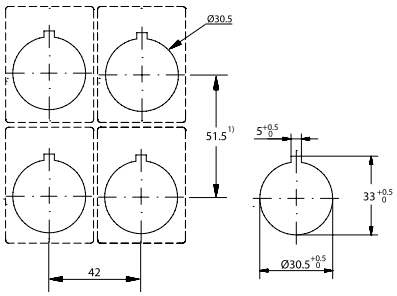


1) 55 mm when Legend Plate H= 44.5 mm is used.
61 mm for mushroom Pushbutton with D=60 mm
2) 37 mm when Legend Plate with insert is used,

Drilling Plan for Double Pushbutton

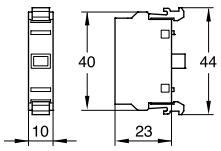


Drilling Plan for 30 mm Adaptor



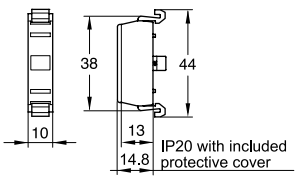
Contact Block

(for front mounting)



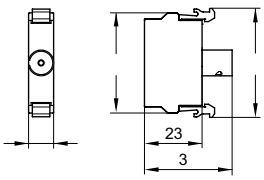
Micro Contact Block

(for front mounting)

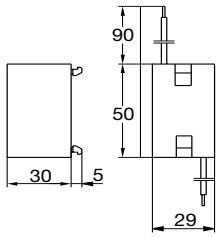


Lamp Block

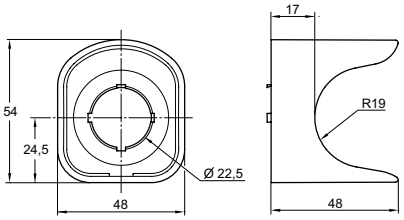
(for front mounting)



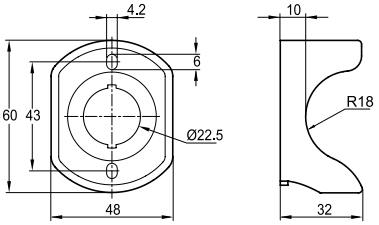
Transformer Block



Emergency Stop Shroud
Modular Range

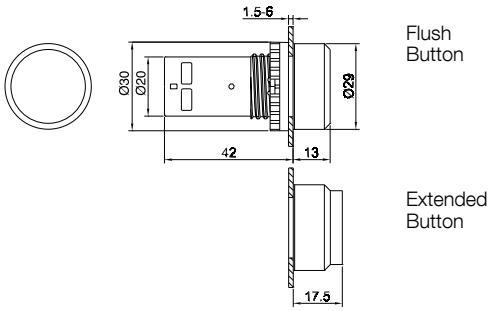


Emergency Stop Shroud
Compact Range

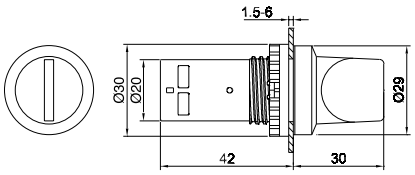


Dimensions
Compact Range

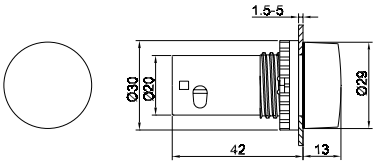
Pushbutton



Selector Switch

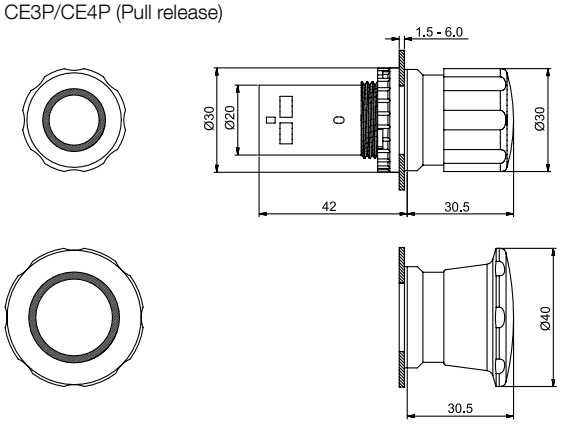


Pilot Light

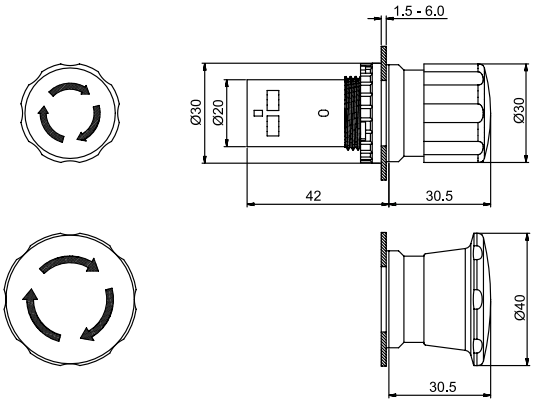


Emergency Stop Pushbuttons

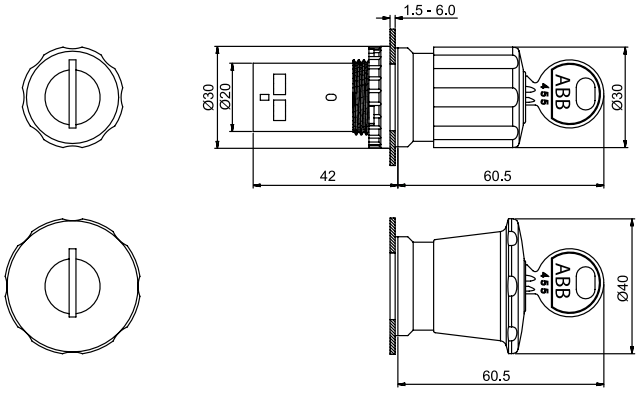
CE3P/CE4P (Pull release)



CE3T/CE4T (Twist release)

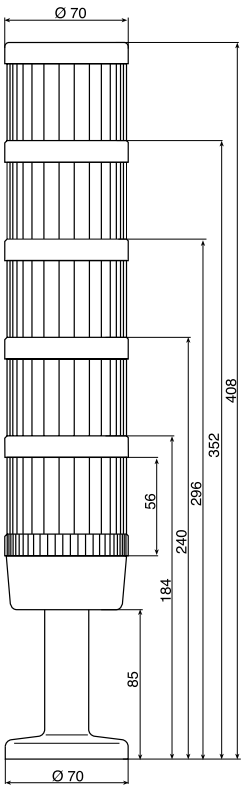


CE3K1/CE4K1

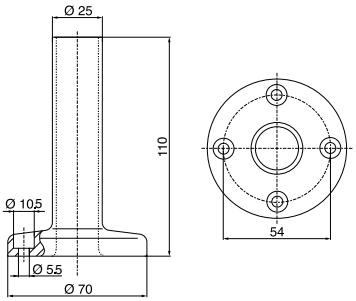


Dimensions and drilling plans
Signal Towers

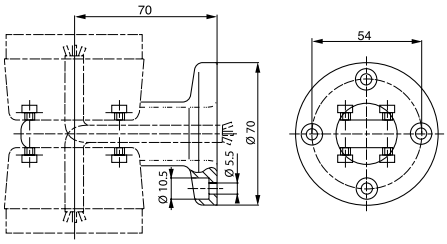
Signal Towers K 70



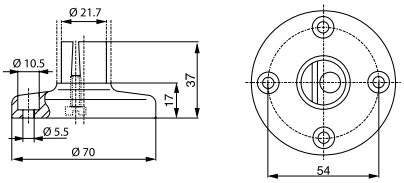
Base with Integrated Tube



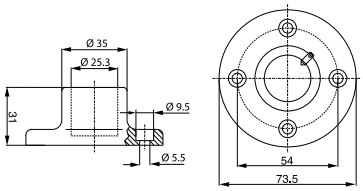
Bracket 2-sided mounting



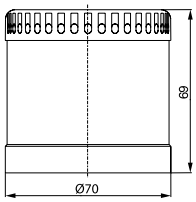
Base for Tube, Plastic



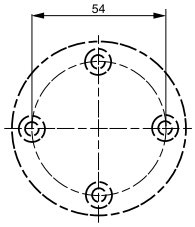
Base for Tube, Metal



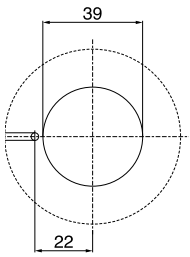
Audible Module



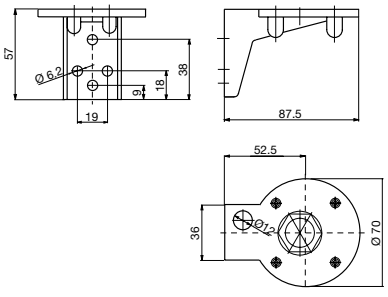
Drilling Plan for Signal Towers K 70



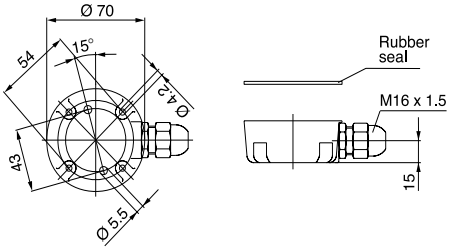
Drilling Plan for Signal Beacons KSB



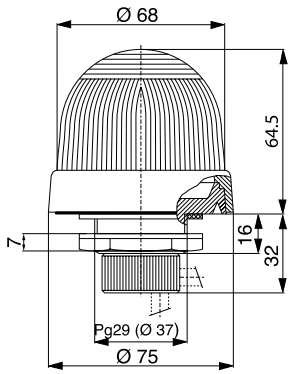
Bracket for tube mounting



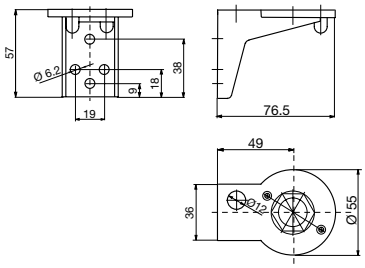
Contact Box for cable exit at side



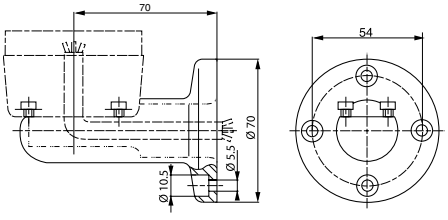
Signal Beacons K SB

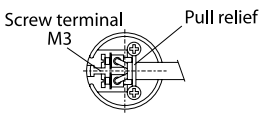


Bracket for surface mounting

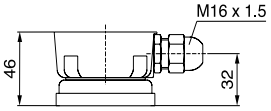


Bracket 1-sided mounting





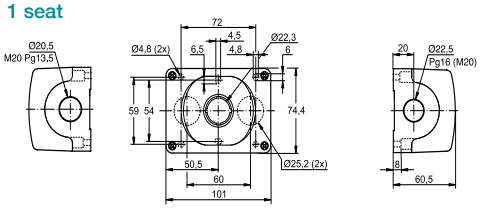
Contact box with magnetic base



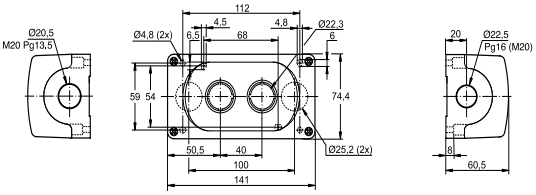
Dimensions
Enclosures

Plastic Enclosures

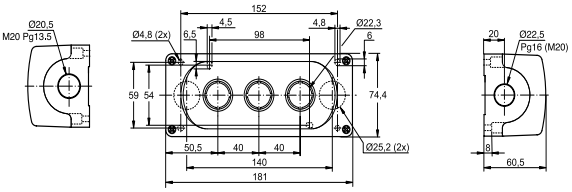
1 seat



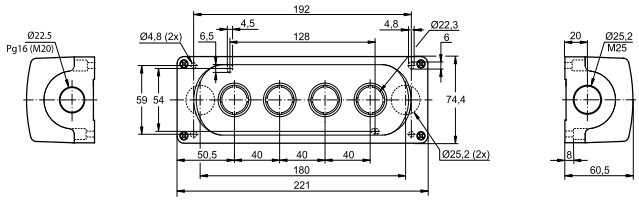
2 seats



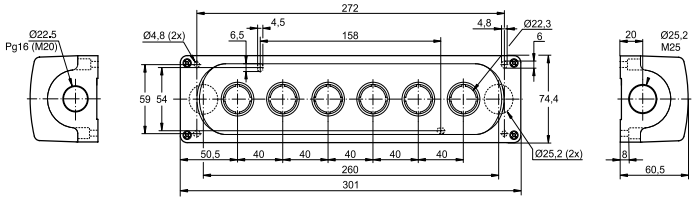
3 seats



4 seats

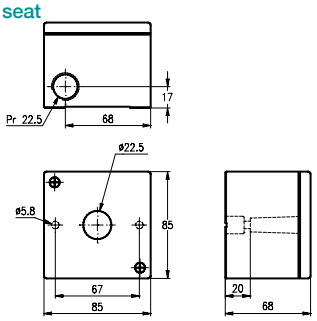


6 seats

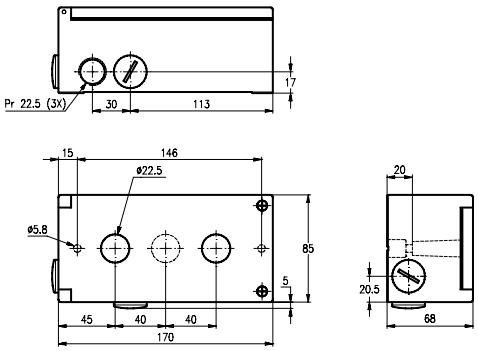


Metallic Enclosures

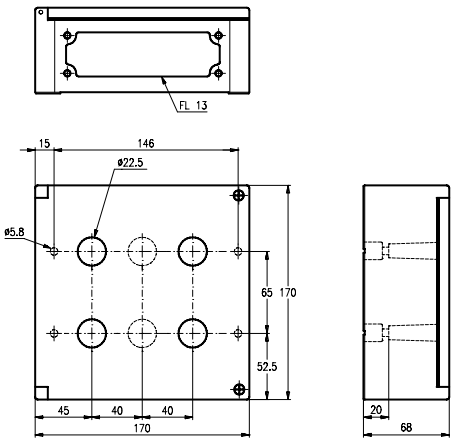
1 seat



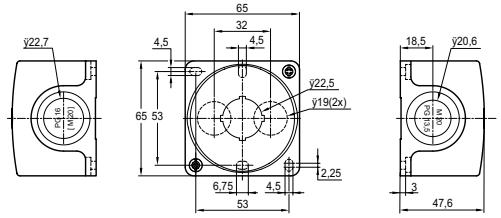
2 or 3 seats



4 or 6 seats



Plastic Enclosure for Compact Range



Color selection

Color selection according to IEC 60 073

IEC 60 073 specifies coding principles for indicators and actuators and gives recommendation regarding the use of colors. An excerpt from the standard is given below. For detailed information, see the standard.

Meaning of colors – General principles

	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 / STOP or ON / OFF

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

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

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

RESET Actuators

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

Degrees of Protection

General

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

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

IP... code	Figures or Letters	Specifications for installation protection	Protection of Persons
First Figure		**Against ingress of foreign bodies**	**Against access to hazardous parts with:**
	0	No protection	No protection
	1	Diameter > 50 mm	Back of hand
	2	Diameter > 12.5 mm	Finger
	3	Diameter > 2.5 mm	Tool
	4	Diameter > 1 mm	Wire
	5	Limited protection against dust	Wire
	6	Total protection against dust	Wire
Second Figure		**Against entrance of water having a harmful effect**	
	0	No protection	
	1	Vertical dripping	
	2	Dripping at a vertical angle of < 15°	
	3	Rain at a vertical angle of < 60°	
	4	Splashing	
	5	Low pressure water jet	
	6	Powerful water jets	
	7	Temporary immersion	
	8	Permanent immersion	
	9K*	High Pressure, High Temperature washdown	

Note: The type of enclosure or cubicle in which the equipment must be installed prevails with respect to the degree of protection.
*) According to DIN 400 50-9

Explanation of Type Codes

Modular Pilot Devices

Pilot Light

Example 1: Type ML1-100R

L	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
PET	Pushbutton, Emergency Stop, Twist release
PEP	Pushbutton, Emergency Stop, Pull release
PEK	Pushbutton, Emergency Stop, Key release
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
2SSC	2-pos. Selector Switch, operation of Center position
3SSC	3-pos. Selector Switch, operation of Center position

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

Example 3: Type M2SSK1-101

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

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

Buzzer, Contact Blocks, Lamp Block

Example 4: Type MCBH-10

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

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

M = ”Generation” M, Modular Range

Compact Pilot Devices

Example 5: Type CL-100R

Example 6: Type C2SS1-10R -10

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

Button color/
Lens color for compact Pilot Light and Push-buttons
R = Red W= White
G = Green B = Black
Y = Yellow C = Clear (Pilot Light only)
L = Blue U = Grey

Button color for compact Selector Switch
R = Red
B = Black
U = Grey

C = Compact Range

Index
Type - Order Code

Type	Order Code	Page
C2SS1-10■-01	1SFA 619 200 R104■	46
C2SS1-10■-02	1SFA 619 200 R105■	46
C2SS1-10■-10	1SFA 619 200 R101■	46
C2SS1-10■-11	1SFA 619 200 R107■	46
C2SS1-10■-20	1SFA 619 200 R102■	46
C2SS2-10■-01	1SFA 619 201 R104■	46
C2SS2-10■-02	1SFA 619 201 R105■	46
C2SS2-10■-10	1SFA 619 201 R101■	46
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C2SS3-10■-11	1SFA 619 202 R107■	46
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C3SS7-10■-20	1SFA 619 216 R102■	46
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CA1-8077	1SFA 619 920 R8077	54
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CE3T-10R-11	1SFA 619 500 R1071	47
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CEPY1-2002	1SFA 619 821 R2002	65
CL-100C	1SFA 619 402 R1008	51
CL-100G	1SFA 619 402 R1002	51
CL-100L	1SFA 619 402 R1004	51
CL-100R	1SFA 619 402 R1001	51
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CL-100Y	1SFA 619 402 R1003	51
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1SFA 616 950 R1014	KTR1-1014	35
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1SFA 616 950 R2003	KTR1-2003	35
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1SFA 619 211 R107■	C3SS2-10■-11	46
1SFA 619 212 R102■	C3SS3-10■-20	46
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1SFA 619 402 R1004	CL-100L	51
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1SFA 619 402 R5012	CL-501G	50
1SFA 619 402 R5013	CL-501Y	50
1SFA 619 402 R5014	CL-501L	50
1SFA 619 402 R5015	CL-501W	50
1SFA 619 402 R5021	CL-502R	50
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1SFA 619 402 R5045	CL-504W	50
1SFA 619 402 R5051	CL-505R	50
1SFA 619 402 R5052	CL-505G	50
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1SFA 619 402 R5203	CL-520Y	50
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1SFA 619 402 R5205	CL-520W	50
1SFA 619 402 R5231	CL-523R	51
1SFA 619 402 R5232	CL-523G	51
1SFA 619 402 R5233	CL-523Y	51
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1SFA 619 402 R5301	CL-530R	51
1SFA 619 402 R5302	CL-530G	51
1SFA 619 402 R5303	CL-530Y	51
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1SFA 619 402 R5305	CL-530W	51
1SFA 619 402 R5411	CL-541R	51
1SFA 619 402 R5412	CL-541G	51
1SFA 619 402 R5413	CL-541Y	51
1SFA 619 402 R5414	CL-541L	51
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1SFA 619 500 R1071	CE3T-10R-11	47
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1SFA 619 502 R1071	CE3K1-10R-11	47
1SFA 619 502 R1076	CE3K1-10B-11	47
1SFA 619 550 R1041	CE4T-10R-01	47
1SFA 619 550 R1051	CE4T-10R-02	47
1SFA 619 550 R1071	CE4T-10R-11	47
1SFA 619 550 R1076	CE4T-10B-11	47
1SFA 619 551 R1051	CE4P-10R-02	47
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1SFA 619 551 R1076	CE4P-10B-11	47
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1SFA 619 552 R1071	CE4K1-10R-11	47
1SFA 619 552 R1076	CE4K1-10B-11	47
1SFA 619 811 R1001	CEP1-1001	65
1SFA 619 811 R1002	CEP1-1002	65
1SFA 619 811 R2001	CEP1-2001	65
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SK 615 562-18	-	70
SK 615 562-27	-	70
SK 615 562-82	-	70
SK 615 562-83	-	70
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SK 615 562-88	-	27
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SK 616 021-72	-	36
SK 616 021-73	-	36
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SK 616 704-AA	KEM4-0	64
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Notes

Accessories



Contact Blocks and Holder



Micro Switch Blocks



LED Block with built in leakage current protection



Legend Plate Holders for Joystick



Legend Plate Holders



Legend Plate Holder for Double Pushbutton



Protective Cover



Mounting Tool



Mounting Tool for Power Tool

Description	Type	Order Code	Package Qty
Separate Holder			
Holders for three blocks	MCBH-00	1SFA611605R1100	10
Contact Blocks (see page 34)			
1 NO	MCB-10	1SFA611610R1001	10
1 NC	MCB-01	1SFA611610R1010	10
Micro Switch Blocks			
1 NO	MCBL-10	1SFA611612R1010	10
1 NC	MCBL-01	1SFA611612R1001	10
Contact Blocks with 3-Blocks Holder included (Contact Blocks - see page 34)			
1 NO	MCBH-10	1SFA611605R1101	1
1 NC	MCBH-01	1SFA611605R1110	1
2 NC	MCBH-02	1SFA611605R1120	1
2 NO	MCBH-20	1SFA611605R1102	1
1 NO + 1 NC	MCBH-11	1SFA611605R1111	1
2 NO + 1 NC	MCBH-21	1SFA611605R1112	1
LED Blocks (see page 32, 61)			
Colors ■ : ● =R ● =G ● =Y ● =L ○ =W	□ : ● =1 ● =2 ● =3 ● =4 ○ =5		
Rated Voltage 24 V, AC/DC	MLBL-01■	1SFA611621R101□	10
Rated Voltage 110-130 V, AC	MLBL-04■	1SFA611621R104□	10
Rated Voltage 110-130 V, DC	MLBL-05■	1SFA611621R105□	10
Rated Voltage 220 V, DC	MLBL-06■	1SFA611621R106□	10
Rated Voltage 230 V, AC	MLBL-07■	1SFA611621R107□	10
Legend Plate Holders			
Legend Plate Holder (4-pos. Joystick)	MA1-8137	1SFA611920R8137	1
Legend Plate Holder (2-pos. Joystick)	MA1-8138	1SFA611920R8138	1
Legend Plate Holder (2-pos. Double)	MA1-8039	1SFA611920R8039	1
Legend Plate Holder (black)	KA1-8120	1SFA616920R8120	10
Inserts without text	KA1-8121	1SFA616920R8121	10
Legend Plate Holder for Plastic Enclosure	MA6-1060	1SFA611930R1060	10
Inserts without text for Plastic Enclosure	MA6-1061	1SFA611930R1061	10
Accessories (see page 34, 52, 63)			
Mounting Tool	MA1-8015	1SFA611920R8015	1
Mounting Tool for Power Tool	MA1-8149	1SFA611920R8149	1
Silicone Membrane for Flush Pushbutton	KA1-8052	1SFA611920R8052	1
Silicone Membrane for Extended Pushbutton	KA1-8002	1SFA611920R8002	1
Silicone Membrane for Double Pushbutton	MA1-8126	1SFA611920R8126	1
Locking Nut	MA1-8019	1SFA611920R8019	10
Light Diffusing Lens	KA1-8005	1SFA611920R8005	1
Protective Cover	KA1-8010	1SFA611920R8010	1
Spacer*	-	SK615516-1	1
Spacer for Modular Emergency Stop*	KA1-8045	1SFA616920R8045	1

*Spacer is needed when Legend Plates are not used in Plastic Enclosures

Enclosures



Empty Enclosures



DIN-rail Adaptor

Description	Type	Order Code	Package Qty
Empty Plastic Enclosures for Modular and Compact Range			
■ □ 1-seat	MEPY1-0	1SFA611821R1000	1
■ □ 1-seat	MEP1-0	1SFA611811R1000	1
■ □ 2-seat	MEP2-0	1SFA611812R1000	1
■ □ 3-seat	MEP3-0	1SFA611813R1000	1
■ □ 4-seat	MEP4-0	1SFA611814R1000	1
■ □ 6-seat	MEP6-0	1SFA611816R1000	1
Shroud			
■ Yellow	MA1-8053	1SFA611920R8053	1
■ Grey	MA1-8128	1SFA611920R8128	1
Empty Plastic Enclosures for Compact Range			
■ □ Yellow/Light grey	CEPY1-0	1SFA619821R1000	1
■ □ Dark grey/Light grey	CEP1-0	1SFA619811R1000	1
Shroud			
■ Yellow	CA1-8053	1SFA619920R8053	1
■ Grey	CA1-8054	1SFA619920R8054	1
DIN-rail Adaptor			
DIN-rail Adaptor	MA1-8131	1SFA611920R8131	1

Enclosures - see page 57

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