



Panorama

**Pilot devices**  
22 & 30mm applications



**When you think Pilot Devices**

**The comprehensive ABB program**

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



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

**ABB Pilot Devices**

ABB offers a complete range of 22 mm Pushbuttons, Emergency Stops, Selector Switches and Signalling units. These are complemented with enclosures and a wide range of accessories.

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

**Made for tough industrial environments**

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

For industrial machines and equipment, control panels and control stations

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

**The important link**

Pushbuttons and pilot lights – the world's simplest devices. They are used to make and break a circuit, pass on a message or control an operation: in short, to be a link between man and machine.

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

**- think ABB**

**Complete range**

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

**Fast and easy to install**

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

**Flexible-Functional-Aesthetic**

The pilot devices have an aesthetic and functional design

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

**Worldwide availability**

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



**ABB**

**ABB**

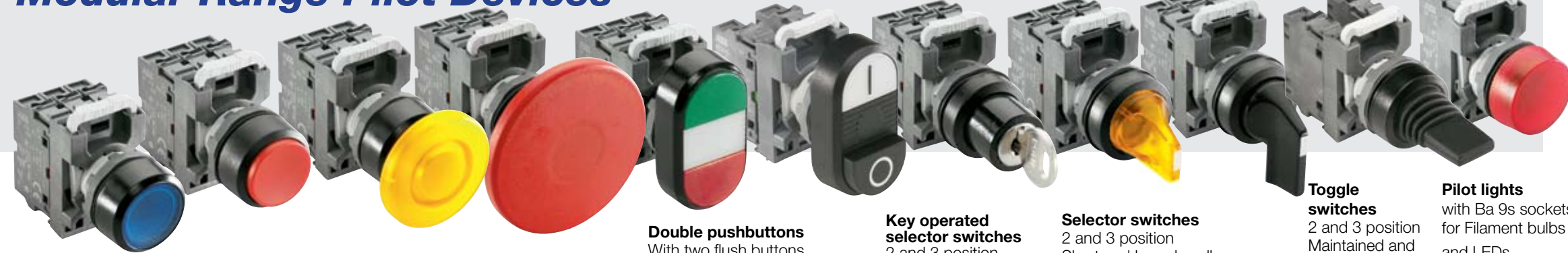
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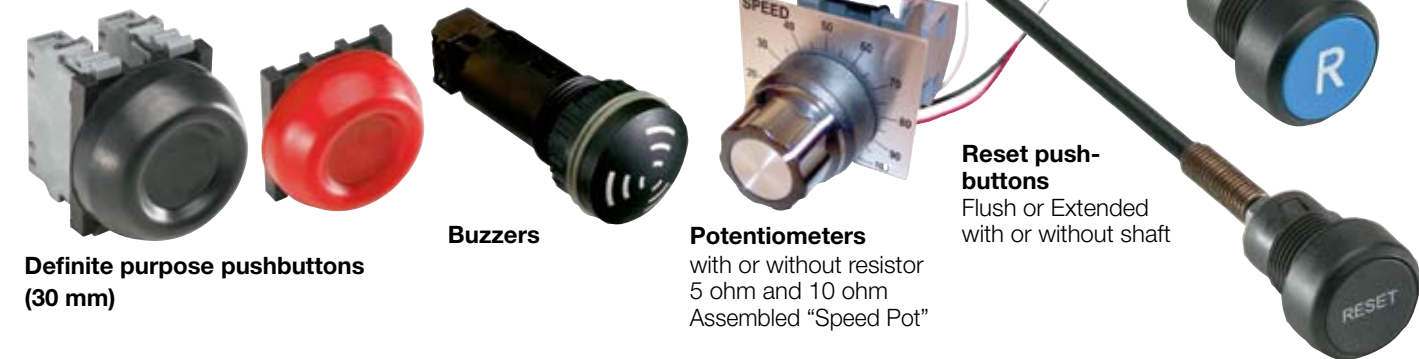


## Modular Range Pilot Devices



- Pushbuttons**  
Flush and Extended buttons  
Maintained and Momentary  
Illuminated and Non-illuminated
- Mushroom pushbuttons**  
Ø 40 mm and Ø 60 mm heads  
Momentary  
Illuminated and Non-illuminated
- Double pushbuttons**  
With two flush buttons  
or with extended lower button.  
Illuminated or Non-illuminated
- Key operated selector switches**  
2 and 3 position
- Selector switches**  
2 and 3 position  
Short and Long handle  
Maintained and Momentary  
Illuminated and Non-illuminated
- Toggle switches**  
2 and 3 position  
Maintained and Momentary
- Pilot lights**  
with Ba 9s sockets  
for Filament bulbs  
and LEDs

## Additional Products



- Definite purpose pushbuttons (30 mm)**
- Buzzers**
- Potentiometers**  
with or without resistor  
5 ohm and 10 ohm  
Assembled "Speed Pot"
- Reset push-buttons**  
Flush or Extended  
with or without shaft

## Compact Range Pilot Devices



- Pushbuttons**  
Flush and Extended buttons  
Momentary and Maintained
- Selector switches**  
2 or 3 position  
Short handle  
Maintained and Momentary
- Pilot lights**  
with Ba 9s sockets  
for Filament bulbs  
or LEDs
- Pilot lights**  
with integrated LED

## Emergency Stops and Machine Stops in Modular and Compact range



- Modular range Emergency Stops**  
Ø 40 mm and Ø 60 mm, Twist release, Pull release  
Illuminated and Non-illuminated, Maintained
- Compact range Emergency Stops**  
Ø 30 mm and Ø 40 mm, Twist release, Pull release  
and Key release, Maintained
- Modular range Machine Stops**  
Ø 40 mm, Twist release, Pull release  
Non-illuminated, Maintained
- Compact range Machine Stops**  
Ø 30 mm and Ø 40 mm, Twist release, Pull release  
and Key release, Maintained

## 30mm Adaptors



Both the Modular Range and the Compact Range (22 mm) can, by use of adaptors, be mounted in 30 mm holes.

## Accessories



## Enclosures & Stations

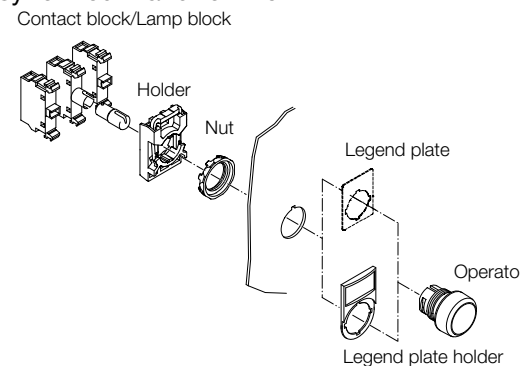


## Signal Towers & Signal Beacons



## Modular range – flexible and tough

- Made for tough environments
- Wiping action to secure contact function
- IP66, NEMA Type 1, 3R, 4, 4X, 12 and 13
- Easy to mount and to wire



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

In addition to traditional operators like Pushbuttons, Selector Switches, Emergency Stops and Pilot Lights, ABB also offers a wide range of special functions such as Machine Stops, Toggle Switches, Buzzers, Definite Purpose Pushbuttons, Potentiometers and Reset Buttons.

## Compact range – competitive alternative

- Robust all-in-one design
- Wiping action
- IP66
- IP69K (rubber membrane required for pushbuttons)
- UL Type 1, 3R, 4, 4X, 12, 13
- Fast mounting
- Pilot lights with integrated LED as an option
- Low built-in depth

The Compact Range is a very price competitive "all-in-one" alternative to traditional modular products. The ABB family design with the same appearance from the front side is an advantage when combining the Compact range with the Modular range.

The all-in-one design makes everything easier; the entire functionality is condensed into one unit. Each item has a single ordering number.

The Compact range includes Pushbuttons, Selector Switches, Emergency Stops and Pilot Lights. The Compact range works in perfect harmony with the extensive Modular range since the front design is identical.

## Emergency Stops

The Emergency Stops are designed for tough industrial environments. The products are approved according to IEC 60947-5-5 and meet protection degree IP66 on the front side and IP20 on the terminal side. They are also approved in accordance with NEMA Type 1, 3R, 4, 4X, 12 and 13.

### Emergency Stop test IEC60947-5-5:

<b>Durability test</b>	6050 cycles. This is not a test of mechanical life. The product has a mechanical life of 100 000 operations.
<b>Robustness</b>	Test force, 113 N applied in three axes
<b>Conditioning</b>	Hot, cold, moist, dry and salty atmospheres
<b>Shock</b>	15 g shock (equivalent to 150 m/s <sup>2</sup> )
<b>Vibration</b>	2 h at max. acc. 50 m/s <sup>2</sup> , 10 - 500 Hz
<b>Opening test</b>	Impulse voltage test at 2500 V
<b>Latching test</b>	with 1.6 kg hammer
<b>Resetting test</b>	Pulling force < 50 N, Turning torque < 1 Nm
<b>Impact test</b>	Three strikes with 1.6 kg hammer
<b>Electrical tests</b>	acc. to utilization category AC15 and DC13
<b>Contacts with positive opening operation</b>	acc. to Annex K § 5.2

## Machine Stops

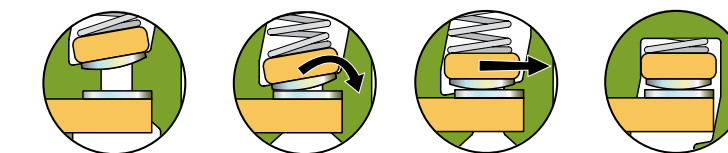
These maintained mushroom pushbuttons have the same design as the Emergency Stop pushbuttons, except for the color. The products have passed the same tests but do not, due to the black color, fulfil the requirements for emergency stop pushbuttons.

Machine stops are used by customers when a robust and reliable stop is needed but an emergency stop is not required. Non-illuminated yellow and illuminated blue maintained 40 mm mushroom pushbuttons are also available.



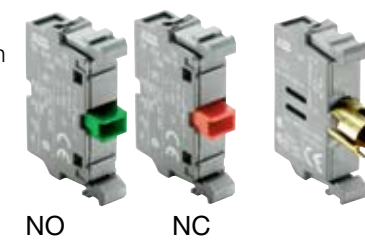
## Contact Blocks/Lamp Blocks

ABB Contact Blocks offer self cleaning contacts thanks to a built in wiping action. At operation the moving contact rolls over and moves sideways when touching the fixed contact. This feature ensures a good clean contact function in critical applications.



The contact carriers are color coded to indicate normally open and normally closed contacts.

The same lamp blocks can be used for both filament bulbs and LEDs for all illuminated products.



## To make both the Modular and Compact range even more flexible...

ABB offers a wide range of accessories such as:

- Legend plates and text caps, with or without text or symbols.
- Protective covers and membranes
- Shrouds
- Bezels
- Wide ranges of bulbs and LED's
- Gold plated contact blocks
- Double contact blocks
- Adapters for assembly of 22 mm pilot devices in 30 mm diameter holes, available in plastic and metal versions
- Assembly tools and lamp changing tools
- Shrouds for Emergency Stops and Machine Stops
- DIN-rail adaptors
- Blanking plugs



## Plastic Enclosures

ABB offers 1-, 2-, 3-, 4- and 6- seat Plastic Enclosures made of PC and suitable for indoor and outdoor use. All enclosures are approved according to IP66 and NEMA Type 1, 3R, 4, 4X, 12 and 13. The fronts are made in a dark grey color and the bases are light grey. The 1-seat enclosures are also available with yellow fronts suitable for emergency stop applications.

The enclosures are equipped with DIN-rails suitable for rear mounted contact blocks and have space for 4 contact blocks / lamp block for each operator.

### Enclosures for the Compact Range

1-seat Enclosures are available with yellow front for Emergency Stops and dark grey fronts for other operators.

## Metal Enclosures

ABB also offers 1-, 2-, 3-, 4- and 6-seat Metal Enclosures in a light grey color. These enclosures are approved according to IP66 and IP67.

## A solution for every signalling field

The modular 70 mm Signal Tower system offers a wide range of optical and audible elements in all common voltages. A bayonet mechanism allows the components to be mechanically and electrically connected within seconds. Up to 5 signalling elements can be combined per station and the protection degree is IP54.

The vandal proof design of Signal Beacons withstands all mechanical and natural challenges, indoors and outdoors. The protection degree is IP65.