



# Pilot devices

## Product overview

# Unique benefits from ABB's pilot devices

## Fast and easy installation

All of ABB's pilot devices are easy to install. Spring-loaded tabs ensure that actuators and legend plates are kept in their correct positions. Our actuators can be used in both notched and round holes and with the modular snap-on design. We provide one of the fastest assemblies on the market.



### Time Saving

Both modular and compact design allows for quick and easy installation. The modular range is a quick, snap-action design; while compact, it is a 2 contact all-in-one design and has only one part number for ordering.



### Durable Ratings

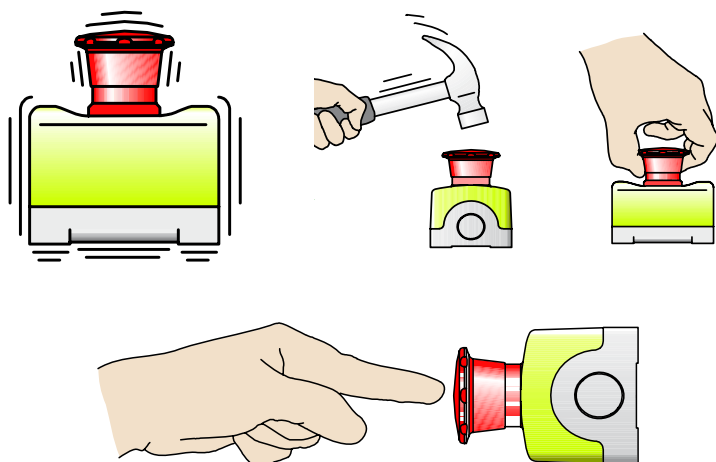
All devices have been certified with our enclosures as IP69K and IP67.

IP69K certifies all angle-spray down at high pressure and heat, with continued functionality. This is great for intensive cleaning areas such as dump trucks, cement mixers, etc.

IP67 certifies ABB pilot devices have been submerged at 1 meter depth for 30 minutes with continued reliability. This is great for use in waste water treatment areas.

## Mechanical reliability

At over a half million actuations in mechanical durability, ABB's pilot devices will supply your needs for daily starts and stops. We supply businesses with reliable and efficient operators to ensure consistent contact each and every actuation. Higher mechanical durability means less replacement, saving your business time and money.



### Robust Design

All devices are designed to withstand IEC 60947-5-5, tested for vibration durability, used in all environment temperatures, and latched for mechanical integrity.



### Wiping Action

The contact blocks for both the compact and modular devices are easily kept clean. While operating, the moving contact rolls over and slides sideways when touching the fixed contact. This ensures a long-lasting and clean contact function also in low-energy applications. With the long service life of our pilot devices, fewer replacements are required and you ultimately save time and money.

# Modular range

## Designed for flexibility and quick assembly

### Modular range pilot devices, 22 mm



**Pushbuttons**  
flush and extended buttons,  
maintained and momentary,  
illuminated and non-illuminated



**Mushroom pushbuttons**  
Ø 40 mm and Ø 60 mm, momentary,  
illuminated and non-illuminated



**Key operated selector switches,**  
2 and 3 position, several key codes



**Pilot lights**  
with integrated LED blocks, Ba9  
sockets for LEDs or filament bulbs



**Double pushbuttons**  
with two flush buttons or with  
extended lower button, illuminated  
or non-illuminated



**Toggle switches**  
2 and 3 position maintained  
and momentary



**Selector switches**  
2 and 3 position short and long  
handle maintained and momentary,  
illuminated and non-illuminated



**Joysticks**  
with and without latching function,  
2 and 4 position, maintained and  
spring return

### Modular range – The flexible range

- Made for tough environments
- Wiping action to secure contact function
- IP66, NEMA Type 1, 3R, 4, 4X, 12 and 13
- Fast and easy installing
- Widest range of integrated LEDs

ABB's extensive modular range is well-known for its flexibility and robustness. A few high-quality, basic components, can be combined to configure a large number of different devices – all with the same high quality, meeting your exact needs.

ABB also offers a wide range of special function devices such as machine stops, joysticks, toggle switches, buzzers, definite purpose pushbuttons, potentiometers and reset buttons.



# Compact range and additional products

## All in one design

### Compact range pilot devices with additional products, 22 mm



#### Pushbuttons

flush and extended buttons, momentary and maintained, illuminated and non-illuminated



#### Selector switches

2 or 3 position, short handle, maintained and momentary



#### Pilot lights

with integrated LED or Ba9 sockets



#### Compact mushroom

mushrooms in several colors with heavy duty design



#### Extreme duty pushbuttons

with 30 mm mounting hole



#### Buzzers

wide range of voltages, both continuous and pulsing sound, illuminated and non-illuminated, different colors



#### Reset pushbuttons

flush or extended button, with or without shaft



#### Potentiometers

with or without resistor, 5 ohm, 10 ohm and 50 ohm

The compact “all-in-one design” creates efficiencies from production to ordering to inventory.

### Compact range – The competitive alternative to traditional modular series

- Robust all-in-one design
- Wiping action
- IP66, 67
- IP69K
- NEMA Type 1, 3R, 4, 4X, 12, 13
- Fast mounting
- Pilot lights with integrated LED as an option
- Low built-in depth
- Up to 2 contacts built into design

### Segments and applications required IP67 and IP69K rating:

- Food processing
- Pharmaceutical
- Petrochemical
- Waste treatment
- Bottling
- Trucking / transportation
- Water / waste water processing



# Emergency stops

## Quality robust design

### Emergency stops in modular and compact range



#### Modular range - emergency stops

Ø 30 mm, Ø 40 mm, Ø 60 mm, twist release, pull release, key release, illuminated and non-illuminated



#### Compact range - emergency stops

Ø 30 mm and Ø 40 mm, twist release, pull release and key release

### Emergency stop ratings

Approved according to IEC 60947-5-5

IP66	Front side (C-type IP67, 69K)
IP20	Terminal side
NEMA	Type 1, Type 3R, Type 4, Type 4X, 12, 13

### Emergency stop test IEC60947-5-5:

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

### Machine stops

The mushroom machine stops have the same design as the emergency stop, except for the color. The products have passed the same tests but do not, due to the black color, fulfill 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.



#### Machine stops - Modular range

Ø 30 mm and Ø 40 mm, twist release, pull release and key release.



#### Machine stops - Compact range

Ø 30 mm and Ø 40 mm, twist release, pull release and key release.

# Other offerings

## Enclosures and stations



### Plastic enclosures - Modular range

up to five base mounted contact blocks / operator, available in yellow and grey

## Signal towers and signal beacons



### Wide range with a number of

functions with light and sound



### Plastic enclosures - Compact range

1-hole , IP69K, available in yellow and grey

## Accessories and pilot devices, 30 mm



### Wide range of accessories

## A solution for every signalling field

The modular 70mm signal tower offers an array of options for common voltages:

- Mechanical and electrical connectivity in seconds
- Up to 5 elements per station
- IP54 and IP65 protection
- Durable in indoor and outdoor applications

## Enclosures for modular and compact range

### Plastic (1, 2, 3, 4, 6-hole)

- Rear mounted contact blocks (DIN-rail)
- Up to 5 blocks / actuator
- NEMA type: 1, 3R, 4, 4X, 12 and 13, IP 66

### Metallic (1, 2, 3, 4, 6-hole)

- IP 66, 67, 69K
- Aluminium

### Compact plastic 1-hole

- NEMA type: 1, 3R, 4, 4X, 12 and 13, IP 66, 67, 69K
- One of the smallest on the market

## To make both the modular and compact range even more flexible, ABB offers a wide range of accessories such as:

- Adapters for assembly of 22 mm pilot devices in 30 mm diameter holes, available in plastic and metal versions
- Legend plates and text caps with or without text or symbols
- Protective covers and membranes
- Shrouds
- Bezels
- Widest range of integrated LEDs on the market
- Gold plated contact blocks
- Double contact blocks
- Assembly tools and lamp changing tools
- DIN-rail adaptors
- Blanking plugs

# Contact us

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