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BROCHURE

# Pilot devices for elevator applications

## Next-level reliability



- Safety and protection
- Easy to install
- Global availability



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# Pilot devices for elevator applications

## Next-level reliability

ABB's pilot devices are known for their reliability in demanding environments. The products we develop are tested in extreme conditions guaranteeing maximum installation safety. The wide range makes it easy to choose the right safety product for your requirements.

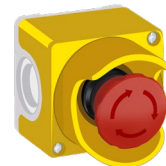
- 01  
Pilot device for car roof box \*
- 02  
Pilot device for pit inspection station \*
- 03  
Pilot device for drive control box
- \* Enclosure not part of ABB offering



01



02



03



### Safety and protection

#### Engineered for tough environments

ABB Pilot devices are designed to provide IP66, IP67 or IP69K protection, depending on the type. An innovative design with self-cleaning contacts ensures every product provides high reliability. ABB guarantees 10 million mechanical operations for contact blocks.



### Easy to install

#### Save time and space

ABB's unique modular designs enable tool-free installation that is simple and flexible. A compact, all-in-one design also reduces installation time and costs.



### Global availability

#### Comply with the latest standards

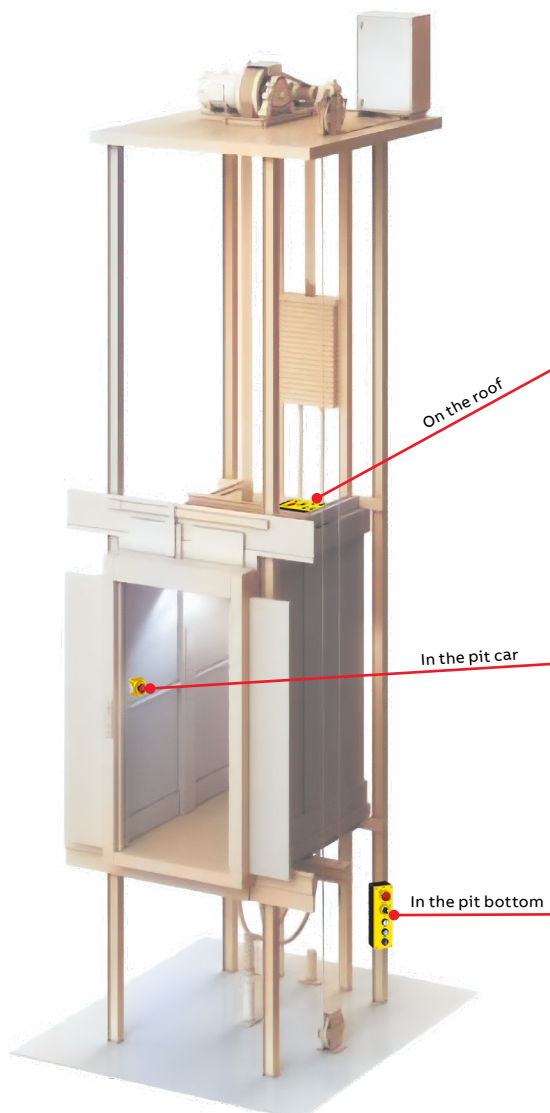
ABB's support for exporters is world-class. ABB's standardized global range fully comply with all major standards such as IEC, UL/CSA and CCC. Product markings are designed according to applications and EN 81-20 standard requirements.



# Pilot devices for elevator applications

## Main product features

- Certified according to CCC/UL/EAC/KC, DNV classified
- High protection degree: : IP66/IP67/IP69K, NEMA Type 1, 3R, 4, 4X, 12, 13
- Reliable with self-cleaning contacts
- Superior durability: 10 million mechanical operation for standard contact block and up to 2 million for operators
- Product markings designed according to applications and EN 81-20 standard requirements
- Two ranges available:
  - Modular range: tool-free, snap-on components makes mounting quick and easy
  - Compact range: all-in-one design reducing installation time and cost
- High AC-15 electrical ratings:
  - Up to 6 A for modular range
  - Up to 2 A for compact range

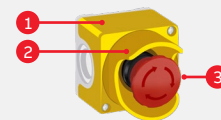


## CAR ROOF BOX



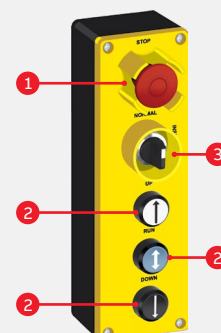
1. Emergency stop pushbutton
2. Flush pushbutton, with marking
3. Selector switch

## DRIVE CONTROL BOX



1. Enclosure
2. Shroud
3. Emergency stop pushbutton

## PIT INSPECTION STATION



1. Emergency stop pushbutton
2. Flush pushbutton, with marking
3. Selector switch

## Modular plastic range



MP9-1203

MP9-1203



MP9-1198

MP9-1198



MP9-1197

MP9-1197



MP9-1205

MP9-1205



MP9-1204

MP9-1204



MPET3-10R

1SFA611520R1001



MPET4-10R

1SFA611521R1001



M3SS2-10B

1SFA611201R1006

### Non-illuminated flush pushbuttons

With black plastic bezel, momentary

Operator	Symbol	Type	Order code	Pkg qty	Weight (1 pce) kg
Yellow		MP9-1203	1SFA611199R1203	1	0.016
Blue		MP9-1205	1SFA611199R1205	1	0.016
Blue		MP9-1198	1SFA611199R1198	1	0.016
White		MP9-1204	1SFA611199R1204	1	0.016
Black		MP9-1197	1SFA611199R1197	1	0.016

### Emergency stop pushbuttons

Operator	Release method	Type	Order code	Pkg qty	Weight (1 pce) kg
<b>Ø 30 mm</b>					
Red	Twist release	MPET3-10R	1SFA611520R1001	1	0.036
Red	Pull release	MPEP3-10R	1SFA611521R1001	1	0.036
<b>Ø 40 mm</b>					
Red	Twist release	MPET4-10R	1SFA611523R1001	1	0.036
Red	Pull release	MPEP4-10R	1SFA611524R1001	1	0.036

### Non-illuminated selector switches - Short handle

With black plastic bezel

Operating principle	Position	Type	Order code	Pkg qty	Weight (1 pce) kg
	2-position	M2SS2-10B	1SFA611201R1006	1	0.015
	3-position	M3SS2-10B	1SFA611211R1006	1	0.015

## Modular plastic range

### Accessories



MCB-10

1SFC151366V0001



MCB-01

1SFC151367V0001



MCB-10G

1SFC151376V0001



MCB-01G

1SFC151377V0001



MCB-20

1SFC151375V0001



MCB-02

1SFC151369V0001



MCB-11

1SFC151368V0001



MCBL-10

1SFC151283V0001



MCBL-01

1SFC151282V0001



MCBH-00

1SFC151401V0001




MCBH5-00

1SFC151277V0001



MA1-8015

1SFC151004F0001

Description	Contacts	Type	Order code	Pkg qty	Weight (1 pce)
					
kg					
<b>Single contact blocks for front mounting</b>					
For 3 & 5-position holder	1 0	MCB-10	1SFA611610R1001	10	0.013
	0 1	MCB-01	1SFA611610R1010	10	0.013
<b>Single contact blocks for front mounting, gold plated contacts</b>					
For 3 & 5-position holder	1 0	MCB-10G	1SFA611610R1101	10	0.013
	0 1	MCB-01G	1SFA611610R1110	10	0.013
<b>Double contact blocks for front mounting</b>					
For 5-positions holder	2 0	MCB-20	1SFA611610R1002	10	0.026
	0 2	MCB-02	1SFA611610R1020	10	0.026
	1 1	MCB-11	1SFA611610R1011	10	0.026
<b>Micro switch contact blocks</b>					
For 3-position holder	1 0	MCBL-10	1SFA611612R1010	10	0.013
	0 1	MCBL-01	1SFA611612R1001	10	0.013
<b>Holders</b>					
3-position	--	MCBH-00	1SFA611605R1100	10	0.006
5-position	--	MCBH5-00	1SFA611601R1100	10	0.008
<b>Mounting tool</b>					
Mounting tool	--	MA1-8015	1SFA611920R8015	1	0.021



## Modular plastic range

### 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
Emergency stop pushbuttons: MPET, MPEP	IP66	Type 1, 3R, 4, 4X, 12, 13
Selector switch: M2SS, M3SS	IP66	Type 1, 3R, 4, 4X, 12, 13

Note: 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.

#### Temperature

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

#### Connecting capacity

Contact block type	MCB	MCBL
Connection capacity (min. ... max.)		
	1 x 0.75...2.5 mm <sup>2</sup>	0.5...1.5 mm <sup>2</sup>
	2 x 0.75...2.5 mm <sup>2</sup>	0.5...1.5 mm <sup>2</sup>
	1 x 0.75...2.5 mm <sup>2</sup>	0.5...1.5 mm <sup>2</sup>
	2 x 0.75...2.5 mm <sup>2</sup>	0.5...1.5 mm <sup>2</sup>
	1 x 0.75...2.5 mm <sup>2</sup>	0.5...1.5 mm <sup>2</sup>
	2 x 0.75...2.5 mm <sup>2</sup>	0.5...1.5 mm <sup>2</sup>
	1 x 0.75...2.5 mm <sup>2</sup>	0.5...1.5 mm <sup>2</sup>
	2 x 0.75...2.5 mm <sup>2</sup>	0.5...1.5 mm <sup>2</sup>
	L ≤ 7.0 mm	5.9 mm
	l > 3.5 mm	3.0 mm
Connection capacity acc. to UL/CSA	1 or 2 x AWG 18...14	AWG 22...14
Stripping length	8 mm	6 mm

#### Tightening torque

Cable terminals M3.5	0.9 Nm
Cable terminals M3	0.8 Nm
Recommended screwdriver for cable terminal	Pozidriv No. 2
Operators locking nut	Min. 2 Nm / Max. 2.3 Nm

#### Electrical data

MCB Standard contact blocks (standard and gold plated)  
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 <sub>i</sub>	690 V
Rated thermal current, I <sub>th</sub>	10 A
Rated operational current, I <sub>e</sub>	at: 120 V 8 A
utilization category AC 15,	at: 230 V 6 A
	at: 400 V 4 A
	at: 690 V 2 A
Rated operational current, I <sub>e</sub>	at: 24 V 5 A
utilisation category DC 13,	at: 125 V 0.55 A
	at: 250 V 0.27 A
Rated impulse withstand voltage	U <sub>imp</sub> 6 kV
Rated frequency	50/60 Hz
Pollution degree	3

#### Ratings as per UL, CSA, NEMA

	A600	Q600
	AC	DC
Rated insulation voltage	600 V	600 V
Rated thermal current	10 A	2.5 A
Rated operational current	at: 120 V 6 A	at: 125 V 0.55 A
	at: 240 V 3 A	at: 250 V 0.27 A
	at: 480 V 1.5 A	at: 480 V 0.10 A
	at: 600 V 1.2 A	at: 600 V 0.10 A

#### 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.

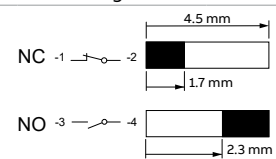
Pushbutton, selector switch, emergency stop operator 6

#### Short circuit protection

Max. fuse at 1 kA

gG 16A

Diagram for make and break contact MCB, MCBL



■ = Closed contact

#### Micro switch block

##### Ratings as per IEC 60947-5-1

Rated insulation voltage, U <sub>i</sub>	125 V
Rated thermal current, I <sub>th</sub>	3 A
Rated operational current, I <sub>e</sub>	at: 125 V 0.5 A
utilisation category AC 14,	
Rated operational current, I <sub>e</sub>	at: 24 V 0.3 A
utilization category DC 13,	
Rated operational current, I <sub>e</sub>	at: 24 V 0.1 A
utilization category DC 12,	

##### Ratings as per UL 508

	125 V AC	3 A
	60 V DC	0.2 A
	48 V DC	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

#### Mechanical data

##### Mechanical life

Standard contact blocks MCB	10 million operations
Micro switch block MCBL	1 million operations
Pushbuttons	2 million operations

#### Selector switches M2SS, M3SS

Standard contact blocks and micro switch block	3-position holder		500 000 operations
Standard contact blocks	3-position holder		
Standard contact blocks in two stacks	3-position holder		

Emergency stop pushbuttons MPET 100 000 operations



Compact range



CP9-1093

1SFC151423W0001



CP9-1091

1SFC151425V0001



CP9-1092

1SFC151424V0001

Non-illuminated flush pushbuttons - Momentary  
With black plastic bezel

Operator	Symbol	Contacts	Type	Order code	Pkg qty	Weight (1 pce)
						kg
● Blue		2 0	CP9-1093	1SFA619199R1093	10	0.022
○ White		1 1	CP9-1091	1SFA619199R1091	10	0.022
● Black		1 1	CP9-1092	1SFA619199R1092	10	0.022



CE3T-10R-01

1SFC151516V0001



CE3P-10R-01

1SFC1515162V0001



CE4T-10R-01

1SFC1515164V0001



CE4P-10R-01

1SFC1515165V0001

Non-illuminated emergency stop pushbuttons

Operator	Release method	Contacts	Type	Order code	Pkg qty	Weight (1 pce)
						kg
Ø 30 mm						
● Red	Twist release	0 1	CE3T-10R-01	1SFA619500R1041	1	0.032
● Red	Pull release	0 1	CE3P-10R-01	1SFA619501R1041	1	0.032
Ø 40 mm						
● Red	Twist release	0 1	CE4T-10R-01	1SFA619550R1041	1	0.032
● Red	Pull release	0 1	CE4P-10R-01	1SFA619551R1041	1	0.032



## Compact range





C3SS2-10B-20

1SFC151253V0001

### Non-illuminated selector switches - Short handle

With black plastic bezel

Operating principle	Position	Contact	Type	Order code	Pkg qty	Weight (1 pce)
kg						
	2-position	1 0	C2SS2-10B-10	1SFA619201R1016	10	0.020
	3-position	2 0	C3SS2-10B-20	1SFA619211R1026	10	0.024



CEPY1-2001

1SFC151387V0001

### 1-seat plastic enclosures with 40 mm compact emergency stop pushbuttons

Release method	Contact	Type	Order code	Pkg qty	Weight (1 pce)
kg					
Twist release	0 2	CEPY1-1001	1SFA619821R1001	1	0.108
Pull release	0 2	CEPY1-1002	1SFA619821R1002	1	0.108
Twist release, yellow shroud	0 2	CEPY1-2001	1SFA619821R2001	1	0.124
Pull release, yellow shroud	0 2	CEPY1-2002	1SFA619821R2002	1	0.124

## Compact range

### 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	IP66, IP67 and IP69K	Type 1, 3R, 4, 4X, 12, 13
Selector switches	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

##### Connecting capacity

##### Compact range M3.0 (pushbutton, selector switch, emergency stop)

	1 x 0.5...1.5 mm <sup>2</sup>
	2 x 0.5...1.5 mm <sup>2</sup>
	1 x 0.5...1.5 mm <sup>2</sup>
	2 x 0.5...1.5 mm <sup>2</sup>
	1 x 0.5...1.5 mm <sup>2</sup>
	2 x 0.5...1.5 mm <sup>2</sup>
	1 x 0.5...1.5 mm <sup>2</sup>
	2 x 0.5...1.5 mm <sup>2</sup>
	L < 5.9 mm l > 3.0 mm
Stripping length	6.0 mm

#### Tightening torque

Cable terminals M3	0.8 Nm
Recommended screwdriver for cable terminal	Pozidriv 2
Operators locking nut	Min. 2 Nm / Max. 2.3 Nm

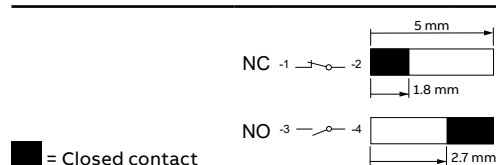
#### Short circuit protection

Max. fuse at 1 kA	gG 10A
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#### Mechanical life

Pushbuttons, selector switches	500 000 operations
Emergency stop pushbutton	50 000 operations

#### Make-and-break contacts









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You can find the address of your local  
sales organisation on the ABB home page.



<http://new.abb.com/low-voltage/products/pilot-devices>



<http://www.abb.com/lowvoltage>

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