

# PILOT DEVICES

Maximum protection for severe environments





# BACO provides solutions for severe environments

Some applications demand high performance in difficult environments such as outdoor use of machinery, high pressure cleaning. Environments subject to humidity, dust, etc.

## Design that protects

Approved for tough industrial applications, BACO front elements are designed to reveal their advantages under the most adverse conditions.

### Greater performance

Perfect for environments requiring greater protection from dust, submersion, and high-pressure, high-temperature spray-down.

### ► Common functions & accessories

Extra accessories can give you further customization options.

### ► Contents

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Control & Signalling devices Ø 22 mm	. 8
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# Greater performance

Maximum protection with BACO  $\emptyset$  22mm control and signalling devices. All  $\emptyset$  22 mm components feature an IP66 rating, and some carry IP67 when shrouded and some carry IP69K for wash down environments.

Baco operators like pushbuttons, selector switches, emergency stops, machine stops and pilot lights are designed for tough industrial environments. These robust pieces are approved according to IEC 60947-5-1 and meet protection degree IP66, when shrouded they are IP67 (see p. 28). All here below functions are IP69K on the front side and IP20 on the terminal side and also approved according to UL type 1, 3R, 4, 4X, 12 and 13.











IP66 - IP69K E-Stops

IP66 - IP69K operators

IP66 - IP69K selectors

IP66 - IP69K pilot devices

# Accessories to perform

BACO  $\emptyset$  22mm control and signalling devices can be equipped with protective shrouds which guarantee a degree of protection to IP67 shrouds prevent ingress of water and dust.



Shrouds for Twin touch operator



Shrouds for projected operator



Shrouds for flush operator



IP67 Shrouded Twin touch operator



IP67 Shrouded projected operator

# Products for industrial environments

# ► BACO provides solutions for harsh industrial environments

BACO push buttons Ø 22mm are available in plastic bodies and can be fitted with an external shroud to protect against liquid and dust ingress into the head itself.

All front elements are rated to a minimum IP66 environmental rating, protecting against high seas, sprayed water and dirt. Many standard operators have more stringent IP67 and IP69K ratings, protecting from submersion and high-pressure/high-temperature wash down environments.



High-pressure wash down

BACO operators to meet the needs of industries such as:

Outdoor Machinery Trucking/Transportation

Food processing Mobile Machines
Pharmaceutical Material Handling

Petrochemical Marine

Waste Treatment Metal Forming

Bottling Mining
Car Wash Centers Oil & Gas

# Degree of ingress protection

# ► What is the meaning of IP66/67/69K protection degree?

IP66/IP67 protection degrees are degrees of protection provided by the standard (respectively against strong water jets and temporary water immersion). BACO has introduced on its products IP69K protection degree (against water jets with high temperature and pressure), to offer the maximum achievable and testable performances, fulfilling more strict standards.

Illuminated or non-illuminated, momentary or maintained action pushbuttons, selector switches, emergency stop buttons and pilot devices for harsh environments, sealed to IP67 or IP69K when manufactured after week 36 2015.

# Does your application require IP69K or IP67 protected pushbuttons?

If your application is in the food, beverage or pharmaceutical industry chances are you already require IP69K ratings.

Any high-pressure, high-temperature wash down applications would benefit from this line of IP69K pushbuttons.

BACO L Series offers you 4 key functions and a range of colors to choose from.

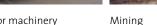
We offer both illuminated or non-illuminated versions as well.

- See more at: http://www.baco-international.com















Marine

# ► What is the meaning of IP66/67/69K protection degree? (continued)

# ▶ Waterproof according to IP66

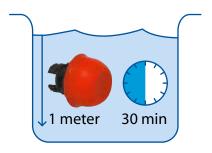
BACO's control & pilot devices are protected from total dust ingress.

Protected from high pressure water jets from any direction too.



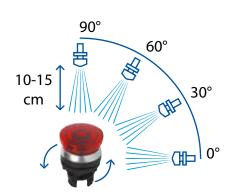
# ► Waterproof according to IP67

BACO's control & pilot devices are perfect for tough environments where a waterproof enclosure is required. Shrouded modular devices are approved according to IP67. The products are protected against the effects of temporary immersion in water, one meter down, for up to 30 minutes.



# ► Tough and robust according to IP69K

The IP69K certification was initially developed for applications that need regular intensive cleaning (dump trucks, cement mixers, etc.). BACO's control devices are certified according to IP69K meaning you do not have to worry about treating them rough. Spray them with water or leave them out in the snow. They will stay reliable and functional.



### ► RECOMMENDATIONS

# Protection class

The IP (Ingress Protection) rating system is published by the IEC (International Electrotechnical Commission) and classifies the degree of protection against solid objects and liquids in order to operate the electrical equipment.



- 1 Protection Against Solid Objects
- 2 Protection Against Liquids

### First digit of IP-Codes

1.digit Mea		<b>N</b> eaning	
ISO 20653	IEC 60529	Protection against objects	Effective against
О	0	No protection	No protection
1	1	Solid objects ≥ 50mm	Any large surface of the body, such as the back of a hand, but no protection against deliberate contact with a body part
2	2	Solid objects ≥ 12.5mm	Fingers or similar objects
3	3	Solid objects ≥ 2.5mm	Tools, thick wires, etc.
4	4	Solid objects ≥ 1mm	Most wires, screws, etc.
5K	5	Dust protected	Ingress of dust is not entirely prevented, but it must not enter in sufficient quantity to interfere with the satisfactory opera- tion of the equipment; complete protection against contact
6K	6	Dust tight	No ingress of dust; complete protection against contact

### **Second digit of IP-Codes**

According to the Codes		
2.digit		Meaning
ISO 20653	IEC 60529	Protection against water
0	0	No protection
1	1	Dripping water (vertically falling drops) shall have no harmful effect.
2	2	Vertically dripping water shall have no harmful effect when the enclosure is tilted at an angle up to 15° from its normal position.
3	3	Water falling as a spray at any angle up to 60° from the vertical shall have no harmful effect.
4	4	Water splashing against the enclosure from any direction shall have no harmful effect.
5	5	Water projected by a nozzle (6.3 mm) against enclosure from any direction shall have no harmful effects.
6	6	Water projected in powerful jets (12.5 mm nozzle) against the enclosure from any direction shall have no harmful effects.
7	7	Ingress of water in harmful quantity shall not be possible when the enclosure is immersed in water under defined conditions of pressure and time (up to 1 m of submersion).
8	8	The equipment is suitable for continuous immersion in water under conditions which shall be specified by the manufacturer. Normally, this will mean that the equipment is hermetically sealed. However, with certain types of equipment, it can mean that water can enter but only in such a manner that it produces no harmful effects.
	9	Protected against close-range high pressure, high temperature spray downs.
9K		Protected against close-range high pressure, high temperature spray downs, specific for cars.

IP66 IP69K
To be combined with a clip and electrical blocks
Equipped with a locking ring
Plastic chrome bezel - Black bezel on request
Conform to IEC 60947-5-1, IEC 60529, ISO 20653

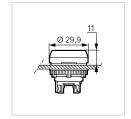


### ► PUSH-BUTTONS - NON ILLUMINATED

SPRING RETURN - FLUSH Cat. No.



L21AA02



Without engraving

• Red

Green

Black

YellowWhite

Blue

L21AA02 L21AA03 L21AA04 L21AA05 L21AA06

L21AA01

With engraving

O Red

Croon

Green
Black

**L21AA81 L21AA82**L21AA83

On demand engraving

Symbol code to be added at the end of the catalogue number

• Red

Green

BlackYellow

○ White

Blue

L21AA31 LLLL L21AA32 LLLL L21AA33 LLLL

L21AA34 LLLL L21AA35 LLLL L21AA36 LLLL

Without button plate L21AA00

Button plate (see p.31)



L21AA00

### **SPRING RETURN - PROJECTING**





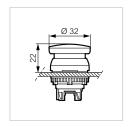
- RedGreen
- BlackYellow
- White
- Blue

L21AB01 L21AB02 L21AB03 L21AB04 L21AB05 L21AB06

L21AB01

### SPRING RETURN - MUSHROOM HEAD Ø 32





- Push
- RedGreen
- Black
- Yellow

**L21AC01 L21AC02 L21AC03**L21AC04

IP66 IP69K
To be combined with a clip and electrical blocks
Equipped with a locking ring
Plastic chrome bezel - Black bezel on request
Conform to IEC 60947-5-1, IEC 60529, ISO 20653



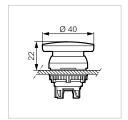
### ► PUSH-BUTTONS - NON ILLUMINATED

### SPRING RETURN - MUSHROOM HEAD Ø 40

### Push

Cat. No.





RedGreenBlackYellow

Blue

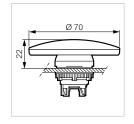
L21AD01 L21AD02 L21AD03 L21AD04 L21AD06

L21AD01

### SPRING RETURN - MUSHROOM HEAD Ø 70

Push



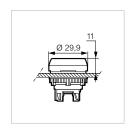


RedBlack

L21AE01 L21AE03

STAY-PUT - FLUSH





RedGreenBlackYellowWhiteBlue

L21CA01 L21CA02 L21CA03 L21CA04 L21CA05 L21CA06

L21CA01

### STAY-PUT - PROJECTING Cat. No





Plastic chrome bezel Black bezel on request

- RedGreen
- GreenBlack
- YellowWhite
- Blue

L21CB01 L21CB02 L21CB03 L21CB04 L21CB05 L21CB06

L21CB02

IP66 IP69K
To be combined with a clip and electrical blocks
Equipped with a locking ring
Plastic chrome bezel - Black bezel on request
Conform to IEC 60947-5-1, IEC 60529, ISO 20653



### ► MUSHROOM HEADS - NON ILLUMINATED

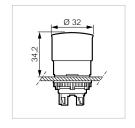
# Push-turn to reset Cat. No. Red Green Black Yellow Cat. No.

L22EC01

### Ø 32 - STAY-PUT

### Push-turn to reset





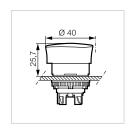
Red

L22DC01

Ø 40 - STAY-PUT

Push-turn to reset





Without engraving

RedGreen

BlackYellow

With engraving

Red - engraving STOP - STOP - STOP

L22ED01 L22ED02

**L22ED03** L22ED04

L22ED01B

10

IP66 IP69K
To be combined with a clip and electrical blocks
Equipped with a locking ring
Plastic chrome bezel - Black bezel on request
Conform to IEC 60947-5-1, IEC 60529, ISO 20653



### ► MUSHROOM HEADS - NON ILLUMINATED

**Ø 40 - STAY-PUT** Push-pull to reset Cat. No.





RedBlack

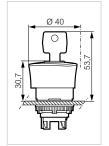
L22DD01 L22DD03

L22DD01

### Ø 40 - STAY-PUT

### Key to reset





Supplied with 2 keys profile n° 455 • Red

L22GM01

L22GM01

IP66 IP69K
To be combined with a clip and electrical blocks
Equipped with a locking ring
Plastic chrome bezel - Black bezel on request
Conform to IEC 60947-5-1, IEC 60529, ISO 20653



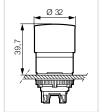
### ► ISO 13850 EMERGENCY STOP - NON ILLUMINATED

### Ø 32 ISO 13850 - STAY-PUT

### Push-pull

Cat. No.





Head position visible from the side with yellow collar Compliant with the requirements of emergency stop: IEC 60947-5-5 /ISO 13850

Red

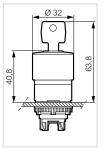
L22DQ01

L22DQ01

### Ø 32 ISO 13850 - STAY-PUT

### Key to reset





Supplied with 2 keys profile n° 455 Head position visible from the side with yellow collar Compliant with the requirements of emergency stop: IEC 60947-5-5 /ISO 13850

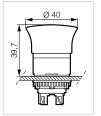
Red

L22GQ01

Ø 40 ISO 13850 - STAY-PUT

### Push-pull to reset





Head position visible from the side with yellow collar Compliant with the requirements of emergency stop: IEC 60947-5-5 /ISO 13850

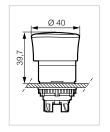
Red

L22DR01

Ø 40 ISO 13850 - STAY-PUT

### Push-turn to reset





Head position visible from the side with yellow collar Compliant with the requirements of emergency stop: IEC 60947-5-5 /ISO 13850

Red

L22ER01

L22ER01

IP66 IP69K
To be combined with a clip and electrical blocks
Equipped with a locking ring
Plastic chrome bezel - Black bezel on request
Conform to IEC 60947-5-1, IEC 60529, ISO 20653



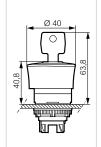
### ► ISO 13850 EMERGENCY STOP - NON ILLUMINATED

### Ø 40 ISO 13850 - STAY-PUT

### Key to reset

Cat. No.





Supplied with 2 keys profile n° 455 Head position visible from the side with yellow collar Compliant with the requirements of emergency stop: IEC 60947-5-5 /ISO 13850

Red

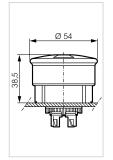
L22GR01

### L22GR01

### Ø 54 ISO 13850 - STAY-PUT

### Push-pull to reset with flag indicator





Double position indicator: head and collar Compliant with the requirements of emergency stop: IEC 60947-5-5 /ISO 13850

- Red- engraving O- I
- Red- engraving STOP I

L22DU01A L22DU01

L22DU01

IP66 IP69K
To be combined with a clip and electrical blocks
Equipped with a locking ring
Plastic chrome bezel - Black bezel on request
Conform to IEC 60947-5-1, IEC 60529, ISO 20653



### ► SELECTOR SWITCHES - NON ILLUMINATED

WITH HANDLE 2 positions Cat. No.





Stay-put positions - 45° • Red • Green • Black • Grey	L21KA01 L21KA02 L21KA03 L21KA08
Spring return - 45°  • Red • Green • Black • Grey	L21KB01 L21KB02 <b>L21KB03</b> L21KB08
Stay-put positions - 45°  Red Green Black Grey	L21KC01 L21KC02 L21KC03 L21KC08
Spring return - 45°  • Red • Green • Black • Grey	L21KD01 L21KD02 L21KD03 L21KD08
Stay-put positions - 90°  Red Green Black Grey	L21KE01 L21KE02 <b>L21KE03</b> L21KE08
Stay-put positions - 90°  • Red • Green • Black • Grey	L21KF01 L21KF02 <b>L21KF03</b> L21KF08

IP66 IP69K
To be combined with a clip and electrical blocks
Equipped with a locking ring
Plastic chrome bezel - Black bezel on request
Conform to IEC 60947-5-1, IEC 60529, ISO 20653



### ► SELECTOR SWITCHES - NON ILLUMINATED

WITH HANDLE 2 positions Cat. No.





L21MA03



L21MA08

Stay-put positions - 45°  Red Green Black Grey	L21MA01 L21MA02 L21MA03 L21MA08
Spring return from left to 0 - 45°  Red Green Black Grey	L21MB01 L21MB02 <b>L21MB03</b> L21MB08
Spring return from right to 0 - 45°  Red Green Black Grey	L21MC01 L21MC02 <b>L21MC03</b> L21MC08
Spring return to 0 - 45°  Red Green Black Grey	L21MD01 L21MD02 <b>L21MD03</b> L21MD08
Stay-put positions - 90°  Red Green Black Grey	L21MK01 L21MK02 <b>L21MK03</b> L21MK08

IP66 IP69K
To be combined with a clip and electrical blocks
Equipped with a locking ring
Plastic chrome bezel - Black bezel on request
Conform to IEC 60947-5-1, IEC 60529, ISO 20653



### ► SELECTOR SWITCHES - NON ILLUMINATED

WITH LONG HANDLE 2 positions Cat. No.





Stay-put positions - 45° Red L21KP01 Green L21KP02 Black L21KP03 Grey L21KP08 Spring return - 45° L21KQ01 Red Green L21KQ02 Black L21KQ03 Stay-put positions - 45° L21KR01 Red Green L21KR02 Black L21KR03 Spring return - 45° Red L21KS01 Green L21KS02 Black L21KS03 Stay-put positions - 90° Red L21KT01 Green L21KT02 Black L21KT03 Stay-put positions - 90° Red L21KU01 Green L21KU02 Black L21KU03

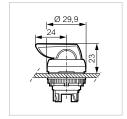
IP66 IP69K
To be combined with a clip and electrical blocks
Equipped with a locking ring
Plastic chrome bezel - Black bezel on request
Conform to IEC 60947-5-1, IEC 60529, ISO 20653



### ► SELECTOR SWITCHES - NON ILLUMINATED

WITH LONG HANDLE 3 positions Cat. No.





L21MR03

Stay-put positions - 45°	
Red Green Black Grey	L21MR01 L21MR02 <b>L21MR03</b> L21MR08
Spring return from left to 0 - 45°	
Red Green Black Grey	L21MS01 L21MS02 <b>L21MS03</b> L21MS08
Spring return from right to 0 - 45°	
Red Green Black Grey	L21MT01 L21MT02 <b>L21MT03</b> L21MT08
Spring return to 0 - 45°	
Red Oreen Black Grey	L21MU01 L21MU02 <b>L21MU03</b> L21MU08

IP66 IP69K
To be combined with a clip and electrical blocks
Equipped with a locking ring
Plastic chrome bezel - Black bezel on request
Conform to IEC 60947-5-1, IEC 60529, ISO 20653

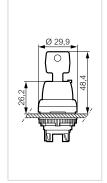


### ► SELECTOR SWITCHES - NON ILLUMINATED

WITH KEY 2 positions Cat. No.



L21LG00



Supplied with 2 keys profile n° 455

Stay-put positions - 45°

● Black

0
1

Spring return - 45°

• Black

O L21LB00

0

Key free in position:

Stay-put positions - 45°

● Black

1 0

L21LA00

L21LC00

Spring return - 45°

● Black



0 **L21LD00** 

Stay-put positions - 90°

● Black



0 **L21LF00** 

**Stay-put positions - 90°**● Black



0 - 1 **L21LG00** 

Stay-put positions - 90°

● Black



0 - 1 **L21LH00** 

Stay-put positions - 90°

● Black



1 **L21LK00** 

Key profile n° 1424 A and others (form p. 79)

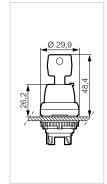
IP66 IP69K To be combined with a clip and electrical blocks Equipped with a locking ring Plastic chrome bezel - Black bezel on request Conform to IEC 60947-5-1, IEC 60529, ISO 20653



### ► SELECTOR SWITCHES - NON ILLUMINATED

WITH KEY 3 positions Cat. No.





L21NA00

Supplied with 2 keys pro-	file n° 455		
Stay-put positions - 45°  ● Black	1 2	0	L21NA00
Spring return from left to  ● Black	0 0 - 45°	0	L21NB00
Spring return from right  ● Black	to 0 - 45°	0	L21NC00
Spring return to 0 - 45°  ● Black	1 2	0	L21ND00
Stay-put positions - 45°  ● Black	1 2.	1 - 2	L21NE00
Spring return from right  ● Black	to 0 - 45°	1	L21NJOO
Stay-put positions - 90°  ● Black	12	1 - 0 - 2	L21NK00
Stay-put positions - 90°  ● Black	1 2	0	L21NLOO

Key free in position:

Key profile n° 1424 A and others (form p. 79)

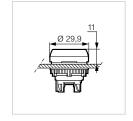
IP66 IP69K
To be combined with a clip and electrical blocks
Equipped with a locking ring
Plastic chrome bezel - Black bezel on request
Conform to IEC 60947-5-1, IEC 60529, ISO 20653



### ► PUSH-BUTTONS - ILLUMINATED

SPRING RETURN - FLUSH Cat. No.





Without engraving

● Red

GreenYellow

○ White

Blue

L21AH10 L21AH20 L21AH40 L21AH50

L21AH50 L21AH60

### On demand engraving

Symbol code to be added at the end of the catalogue number

RedGreenYellow

○ White ■ Blue L21AH31 LLLL L21AH32 LLLL

L21AH34 LLLL L21AH35 LLLL L21AH36 LLLL

. . . . . . . .

Without button plate

Button plates (see p.31)

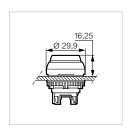
L21AH00

L21AH00

L21AA02

### **SPRING RETURN - PROJECTING**





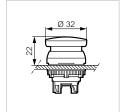
RedGreenYellowWhiteBlue

L21AK10 L21AK20 L21AK40 L21AK50 L21AK60

L21AK20

### SPRING RETURN - MUSHROOM HEAD Ø 32





RedGreenYellowWhite

Push

**L21AL10 L21AL20**L21AL40
L21AL50

L21AL10

IP66 IP69K
To be combined with a clip and electrical blocks
Equipped with a locking ring
Plastic chrome bezel - Black bezel on request
Conform to IEC 60947-5-1, IEC 60529, ISO 20653



### ► PUSH-BUTTONS - ILLUMINATED

STAY-PUT - FLUSH Réf.





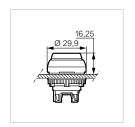
RedGreenYellowWhiteBlue

L21CH10 L21CH20 L21CH40 L21CH50 L21CH60

L21CH20

STAY-PUT - PROJECTING Réf.





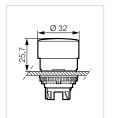
RedGreenYellowWhiteBlue

L21CK10 L21CK20 L21CK40 L21CK50 L21CK60

L21CK20

**Ø 32 - STAY-PUT** Push-turn to reset Cat. No.





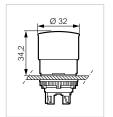
• Red

L22EL10

Ø 32 - STAY-PUT

### **Push-pull to reset**





● Red

L22DL10

L22DL10

IP66 IP69K
To be combined with a clip and electrical blocks
Equipped with a locking ring
Plastic chrome bezel - Black bezel on request
Conform to IEC 60947-5-1, IEC 60529, ISO 20653



### ► PUSH-BUTTONS - ILLUMINATED

Push-turn to reset

Cat. No.

Red
Green
Yellow

Cat. No.

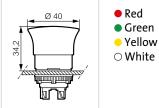
L22EM10

Ø 40 - STAY-PUT

L22DM10

### Push-turn to reset





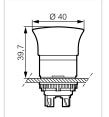
L22DM10 L22DM20 L22DM40 L22DM50

► ISO 13850 EMERGENCY STOP - ILLUMINATED

### Ø 40 ISO 13850- STAY-PUT

### Push-turn to reset





Black bezel Head position visible from the side with yellow collar Compliant with the requirements of emergency stop: IEC 60947-5-5 /ISO 13850

Red

L22DN10

L22DN10

IP66 IP69K
To be combined with a clip and electrical blocks
Equipped with a locking ring
Plastic chrome bezel - Black bezel on request
Conform to IEC 60947-5-1, IEC 60529, ISO 20653



### ► SELECTOR SWITCHES - ILLUMINATED

WITH HANDLE Cat. No. 2 positions Stay-put positions - 45° Red L21KG10 Green L21KG20 Black L21KG30 Spring return - 45° Red L21KH10 Green L21KH20 L21KJ30 Black L21KH30 Stay-put positions - 45° Red L21KJ10 Green L21KJ20 Black L21KJ30 Spring return - 45° Red L21KK10 Green L21KK20 Black L21KK30 Stay-put positions - 90° Red L21KL10 Green L21KL20 Black L21KL30 Stay-put positions - 90° Red L21KM10 Green L21KM20 Black L21KM30

IP66 IP69K To be combined with a clip and electrical blocks Equipped with a locking ring Plastic chrome bezel - Black bezel on request Conform to IEC 60947-5-1, IEC 60529, ISO 20653



L21ME10

L21ME20

L21ME30

L21MF10

L21MF20

L21MF30

### ► SELECTOR SWITCHES - ILLUMINATED

**WITH HANDLE** Cat. No. 3 positions





Stay-put positions - 45° Red Green Black Spring return from left to 0 - 45° Red Green Black

Spring return from right to 0 - 45° Red L21MG10 Green L21MG20 Black L21MG30 Spring return to 0 - 45° Red L21MH10 Green L21MH20 L21MH30 ■ Black

DIACK		LZIMH30
Stay-put positions - 90	)°	
<ul><li>Red</li><li>Green</li><li>Black</li></ul>	12	L21MJ10 L21MJ20 L21MJ30

IP66 IP69K
To be combined with a clip and electrical blocks
Equipped with a locking ring
Plastic chrome bezel - Black bezel on request
Conform to IEC 60947-5-1, IEC 60529, ISO 20653



### ► SELECTOR SWITCHES - ILLUMINATED

WITH LONG HANDLE	2 positions	Cat. No.
	Stay-put positions - 45°  ● Black	L21KV30
	Stay-put positions - 45°  ● Black	L21KX30
L21KV30	Spring return - 45°  ● Black	L21KY30
WITH LONG HANDLE	3 positions	
	Stay-put positions - 45°  ● Black  1 29,9 2	L21ML30
	Spring return from left to 0 - 45°  ● Black  0 1 2	L21MM30
L21ML30	Spring return from right to 0 - 45°  ● Black  1  1  2	L21MN30
	Spring return to 0 - 45°  ● Black	L21MP30

# Pilot lights Ø 22

IP66 IP69K
To be combined with a clip and electrical blocks
Equipped with a locking ring
Plastic chrome bezel - Black bezel on request
Conform to IEC 60947-5-1, IEC 60529, ISO 20653



### ► PILOT LIGHTS - SEPARATE UNITS

Cat. No.





To be combined with a clip and LED block

### Without engraving

Red
 Green
 Yellow
 White
 Blue
 L20SE10
 L20SE20
 L20SE40
 L20SE50
 L20SE60

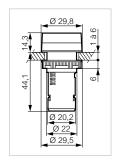
### On demand engraving

Symbol code to be added at the end of the catalogue number

● Red	L20SE31 LLL
<ul><li>Green</li></ul>	L20SE32 LLL
<ul><li>Yellow</li></ul>	L20SE34 ∟⊥⊥
○ White	L20SE35 LLL
<ul><li>Blue</li></ul>	L20SE36 ∟⊥⊥

### ▶ ONE-PIECE PILOT LIGHTS





To be used with BA9S bulbs (not supplied)

Direct supply

To be used without electrical block

### Without engraving

Ribbed lens

Reu	LZUJAIU
<ul><li>Green</li></ul>	L20SA20
○ Colourless	L20SA30
<ul><li>Yellow</li></ul>	L20SA40
○ White	L20SA50
<ul><li>Blue</li></ul>	L20SA60

### On demand engraving

Symbol code to be added at the end of the catalogue number

Smooth lens

<ul><li>Red</li></ul>	L20SA31 ∟⊥⊥
<ul><li>Green</li></ul>	L20SA32 LLL
○ Colourless	L20SA33 ∟⊥⊥
<ul><li>Yellow</li></ul>	L20SA34 ∟⊥⊥
○ White	L20SA35 LLL
<ul><li>Blue</li></ul>	L20SA36 ∟⊥⊥

# Pilot lights Ø 22

IP66 IP69K

To be combined with a clip and electrical blocks Equipped with a locking ring Plastic chrome bezel - Black bezel on request Conform to IEC 60947-5-1, IEC 60529, ISO 20653



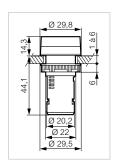
### ► ONE-PIECE PILOT LIGHTS

Cat. No.

120642144







Supplied with LED bulb-type BA9S Smooth lens

### 24V

### Without engraving

Red
 Green
 Yellow
 White
 Blue
 L20SA20L
 L20SA40L
 L20SA50L
 L20SA60L

### On demand engraving

Symbol code to be added at the end of the catalogue number

● Red L20SA31L ⊥⊥⊥

### 130V

### Without engraving

<ul><li>Red</li></ul>	L20SA10M
<ul><li>Green</li></ul>	L20SA20M
<ul><li>Yellow</li></ul>	L20SA40M
○ White	L20SA50M
<ul><li>Blue</li></ul>	L20SA60M

### On demand engraving

Symbol code to be added at the end of the catalogue number

● Kea	L2USA31M LLL
<ul><li>Green</li></ul>	L20SA32M∟⊥⊥
<ul><li>Yellow</li></ul>	L20SA34MLLL
○ Colourless	L20SA33MLLL
<ul><li>Blue</li></ul>	L20SA36MLLL

### 230V

### Without engraving

<ul><li>Red</li></ul>	L20SA10H
<ul><li>Green</li></ul>	L20SA20H
<ul><li>Yellow</li></ul>	L20SA40H
○ White	L20SA50H
<ul><li>Blue</li></ul>	L20SA60H

### On demand engraving

Symbol code to be added at the end of the catalogue number

• Red	L20SA31H ⊥⊥⊥
<ul><li>Green</li></ul>	L20SA32H ∟⊥⊥
<ul><li>Yellow</li></ul>	L20SA34H ∟⊥⊥
○ Colourless	L20SA33H ∟⊥⊥
<ul><li>Blue</li></ul>	L20SA36H ∟⊥⊥

IP67
To be combined with a clip and electrical blocks
Equipped with a locking ring
Plastic chrome bezel - Black bezel on request
Conform to IEC 60947-5-1, IEC 60529, ISO 20653



### ► PUSH-BUTTONS - NON ILLUMINATED

SPRING RETURN - FLUSH Cat. No.



L22AF01



Supplied with shroud

### Opaque

Red
 Green
 Black
 L22AF02
 L22AF03

### Transparent

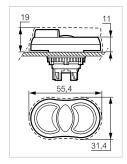
YellowWhiteBlue

L22AG04 L22AG05

L22AG06

### **SPRING RETURN - FLUSH-PROJECTING**





Supplied with transparent shroud

Green

O Red

L62QM21

**IP67** To be combined with a clip and electrical blocks Equipped with a locking ring Plastic chrome bezel - Black bezel on request Conform to IEC 60947-5-1, IEC 60529, ISO 20653



### ► PUSH-BUTTONS - ILLUMINATED

**SPRING RETURN - FLUSH** Cat. No.





Supplied with transparent shroud

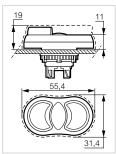
- Green
- Yellow  $\bigcirc$  White
- Blue

L22AP10 L22AP20 L22AP40 L22AP50 L22AP60

L22AP40

### **SPRING RETURN - FLUSH-PROJECTING**





Supplied with transparent shroud Central part illuminated

Green

Red

L62QN21

L62QN21

# Accessories ø 22

IP67

### ► SHROUDS - REINFORCED DEGREE OF PROTECTION: IP 67

### FOR PUSH-BUTTONS PROJECTING

Cat. No.



LWA0203

### For spring return or stay-put buttons

○ Transparent

LWA0228

### For non illuminated spring return buttons

- Red opaque
- Green opaque
- Black opaque

LWA0203 LWA0204

LWA0205

### FOR PUSH-BUTTONS FLUSH



LWA0253

### For spring return or stay-put buttons

 $\bigcirc$  Transparent

LWA0255

### For non illuminated spring return buttons

- Red opaque
- Green opaqueBlack opaque

- LWA0251 LWA0252
- LWA0253

### **DOUBLE TOUCH**



LWA0223

For double touch flush-projecting and triple touch  $\bigcirc$  Transparent

ent LWA0223

# Accessories ø 22

### ► BUTTON PLATES - FOR HEADS WITHOUT BUTTON PLATE

### FOR PUSH-BUTTONS PROJECTING

Cat. No.



LT05



LT21302

For use with spring return button cat. no. L21AAoo (p. 8)

### Without engraving

• Red	LT01
<ul><li>Green</li></ul>	LT02
● Black	LT03
<ul><li>Yellow</li></ul>	LT04
○ White	LT05
<ul><li>Blue</li></ul>	LT06

### On demand engraving

Symbol code to be added at the end of the catalogue number	
Red	LT21
Green	LT22
● Black	LT23
Yellow	LT24 ⊥⊥⊥
○ White	LT25
Blue	LT26 ⊥⊥⊥

### **ILLUMINATED**



LT20



LT34308

For use with spring return button cat. no. L21AHoo (p. 20)

### Without engraving

• Red	LT10
Green	LT20
<ul><li>Yellow</li></ul>	LT40
○ White	LT50
<ul><li>Blue</li></ul>	LT60

### On demand engraving

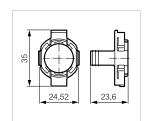
Symbol code to be added at the end of the catalogue number	
• Red	LT31
Green	LT32
<ul><li>Yellow</li></ul>	LT34 ∟⊥⊥⊥
○ White	LT35
• Blue	LT36

# Accessories ø 22

### ► CLIPS

SPRING RETURN - FLUSH Cat. No.

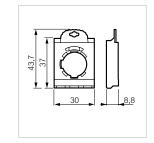




To be combined with blocks (P.33)

1 position

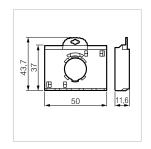
Ó



3 positions

333E





5 positions (only for ø 22 heads)

335E

331E

333E

### ► MISCELLANEOUS

FIXING TOOL Cat. No.



Fixing tool for locking ring

LWA0234

LWA0234

# **Separate units: Blocks**

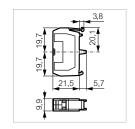
IP 20

To be combined with a 1, 3 or 5 position clip (P.32)

### **►** CONTACT BLOCKS

SCREW TERMINALS Cat. No.



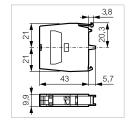


NO 3 4 33E10 NC 11 2 33E01

NO/NC 2 1 33E11

33E10

33E11



Golden contacts for low current

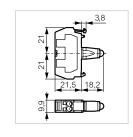
NO 3 4 33E10Y7

NC <u>11-2</u> 33E01Y7

► LED BLOCKS

PLUG-IN TERMINALS Cat. No.







24V	
○ White	33RAWL
● Red	33RARL
<ul><li>Green</li></ul>	33RAGL
<ul><li>Blue</li></ul>	33RABL
Yellow	33RAYL
130 V	
	22041444
○ White	33RAWM
● Red	33RARM
<ul><li>Green</li></ul>	33RAGM
<ul><li>Blue</li></ul>	33RABM
<ul><li>Yellow</li></ul>	33RAYM
V	
230 V	
○ White	33RAWH
● Red	33RARH
<ul><li>Green</li></ul>	33RAGH
Blue	33RABH
<ul><li>Yellow</li></ul>	33RAYH

# **BACO**

# **Technical characteristics**

aracteristics	Data	Standards
► Storage temperature	- 40 °C to + 70 °C	
► Operating temperature	- 25 °C to + 70 °C	
► Climatic resistance	Constant humid heat Cyclic damp heat Resistance to sea air	IEC 60068-2-3 IEC 60068-2-30 IEC 60068-2-52
► Degree of protection	IP 66 for standard heads IP 67 for shrouded heads IP 66 for equipped control stations IP 69 and IP69K for push buttons IP69 and IP69K for selector switches IP69 and IP69K for pilot devices IP69 and IP69K for emergency stops IP 20 at the rear of the panel for contact blocks and one piece pilot lights Type 1, 2, 3, 3R, 3S, 4, 4X, 12, and 13 for heads and control stations	IEC 60529 IEC 60529 IEC 60529 - ISO 2069 IEC 60529 - ISO 2069 IEC 60529 - ISO 2069 IEC 60529 - ISO 2069
► Protection against mechanical impacts	IK 05 illuminated and non illuminated heads IK 07 empty control station	IEC 62262
► Electrical insulation	Class II - heads and control station	IEC 60947-5-1
► Terminal marking		IEC 60947-1
► Tightening torques	Locking ring: recommended 3 N.m terminals: max. 1.2 N.m	
► Approvals	UL United states and Canada BV Bureau Véritas Certification OC/CB	UL 508, CSA 22.2 Marine rules IEC 60947-5-1 IEC 60947-5-5 IEC 60947-5-4
► Vibrations	withstand vibration Fc test: 2 to 25 Hz, 1.6 mm; 25-100 Hz, 4 g	IEC 60068-2-6



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