

OUR COMMITMENT MAKES THE DIFFERENCE ► **BACO®**

► E-STOPS

Baco offers the largest selection of E-STOP devices in the industry. Available in 30mm & 22mm switch sizes in plastic construction, these E-STOPS meet applicable ISO 13850 and IEC standards. Selection includes push-pull/turn to release, illuminated, or key-operated devices. A wide variety of E-STOP legends, guards, and locking attachments is also available.



Mushroom head
ISO 13850
illuminated



IP 66 to IP 69K
IK 05
Head with
anti-rotation tab



: Ø 22,3 mm cut-out

► EMERGENCY STOP ACTUATORS - ISO 13850:

According to IEC 60947-5-5, the emergency stop function can be provided by an ISO 13850 mushroom head combined with a "positive opening" NC contact block.

The mechanism of our ISO 13850 mushroom heads is so designed that a "push" action of sufficient force to open the contact systematically triggers an irreversible locking of this opening. This generates an "emergency stop" signal which can be cancelled only by deliberate manual resetting of the mushroom head (pull and turn or unlocking by key).

This function allows to generate an "emergency stop" signal for any equipment subject to directive 98/37CE (machinery safety) completed by the IEC 60204-1 standard.

The ISO 13850 mushroom heads also comply with the safety requirements detailed in standard ISO 13850.

► ADVANTAGES

We're full of innovative ideas from listening to your needs, and watching you work

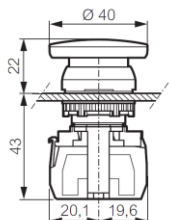
- On all heads, rotation is prevented by a tab which retracts when not required
- Insulating material ensures electrical safety
- Design and shape help avoid build-up of dirt and make the switch easy to clean
- ISO 13850 illuminated mushroom head with yellow collar for side-on visual indication
- Optimised ergonomic design
- Innovative functions: illuminated emergency stop mushroom head, etc
- Optimised dimensions: low-profile heads

► Complete Units: Mushroom heads Ø 22

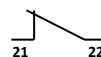
Ø40 MUSHROOM – SPRING RETURN

Push

Cat. No.



• NC

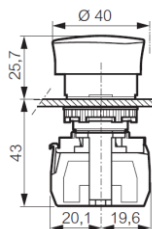


L21AD01C

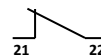
Ø40 MUSHROOM – STAY PUT

Push-Turn to reset

Cat. No.



• NC

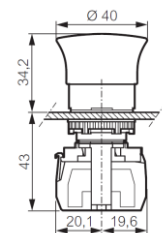


L22ED01D

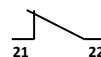
Ø40 MUSHROOM – STAY PUT

Push-Pull to reset

Cat. No.



• NC

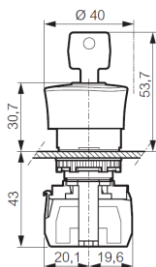


L22DD01A

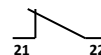
Ø40 MUSHROOM – STAY PUT

Key to reset

Cat. No.



• NC



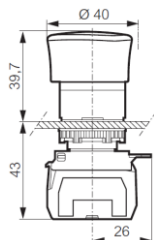
L22GM01E

► ISO 13850 EMERGENCY STOP

Ø40 ISO13850 – STAY PUT

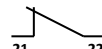
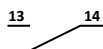
Push-Turn to reset

Cat. No.



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

● NO+NC

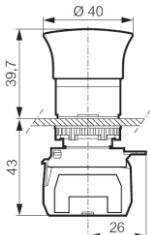


L22ER01D

Ø40 ISO13850 – STAY PUT

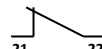
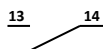
Push-Pull to reset

Cat. No.



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

● NO+NC

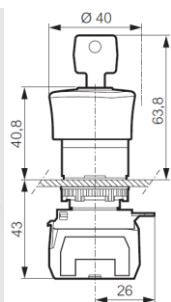


L22DR01B

Ø40 ISO13850 – STAY PUT

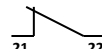
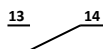
Key to reset

Cat. No.



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

● NO+NC

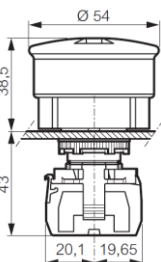


L22GR01B

Ø54 ISO13850 – STAY PUT

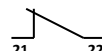
Push-pull to reset with flag indicator

Cat. No.



Head position visible from the side with yellow collar
Compliant with the requirements of emergency stop:
IEC 60947-5-5/ISO 13850
Flag Indicator : Engraving STOP and I

● NC



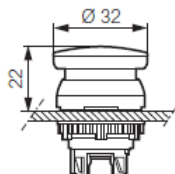
L22DU01G

► Separate Units Ø22: Heads Non Illuminated

Ø32 MUSHROOM – SPRING RETURN

Push

Cat. No.



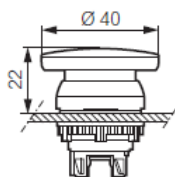
- Red
- Green
- Black
- Yellow

L21AC01
L21AC02
L21AC03
L21AC04

Ø40 MUSHROOM – SPRING RETURN

Push

Cat. No.



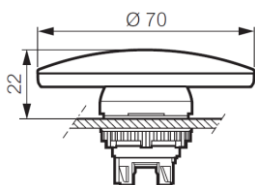
- Red
- Green
- Black
- Yellow
- Blue

L21AD01
L21AD02
L21AD03
L21AD04
L21AD06

Ø70 MUSHROOM – SPRING RETURN

Push

Cat. No.



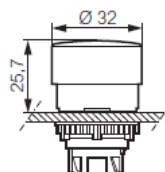
- Red
- Black

L21AE01
L21AE03

Ø32 MUSHROOM – STAY-PUT

Push-Turn to reset

Cat. No.



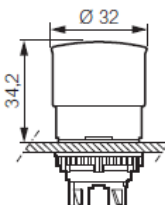
- Red
- Green
- Black
- Yellow

L22EC01
L22EC02
L22EC03
L22EC04

Ø32 MUSHROOM – STAY-PUT

Push-Pull to reset

Cat. No.



- Red

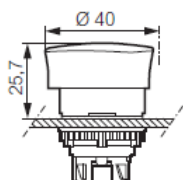
L22DC01

► Separate Units Ø22: Heads Non Illuminated

Ø40 MUSHROOM – STAY-PUT

Push-Turn to reset

Cat. No.



Without engraving

- Red
- Green
- Black
- Yellow

L22ED01
L22ED02
L22ED03
L22ED04

With engraving

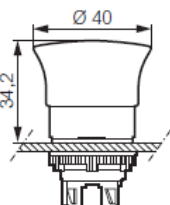
- Red- engraving STOP-STOP-STOP

L22ED01B

Ø40 MUSHROOM – STAY-PUT

Push-Pull to reset

Cat. No.



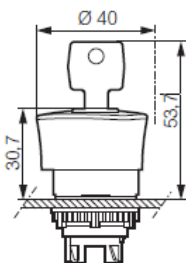
- Red
- Black

L22DD01
L22DD03

Ø40 MUSHROOM – STAY-PUT

Key to reset

Cat. No.



Supplied with 2 keys profile N°455

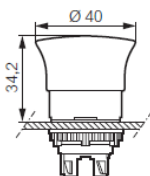
- Red

L22GM01

Ø40 MUSHROOM – STAY-PUT

Push-pull to reset

Cat. No.



- With Text STOP STOP STOP

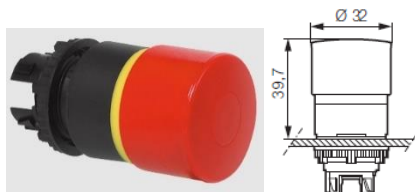
L22DD01S

► Separate Units Ø22: ISO 13850 EMERGENCY STOP – Non Illuminated

Ø32 ISO 13850 – STAY-PUT

Push-Pull to reset

Cat. No.



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

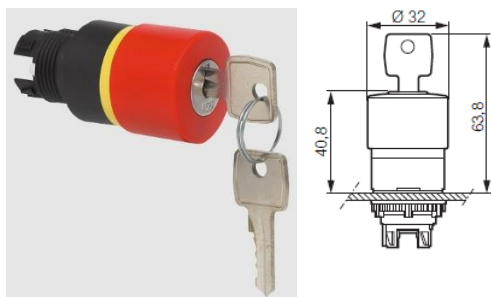
● Red

L22DQ01

Ø32 ISO 13850 – STAY-PUT

Key to reset

Cat. No.



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

● Red

L22GQ01

Ø40 ISO 13850 – STAY-PUT

Push-pull to reset

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

L22DR01

Ø40 ISO 13850 – STAY-PUT

Push-Turn to reset

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

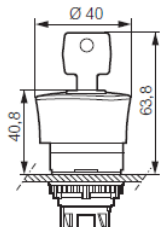
L22ER01

► Separate Units Ø22: ISO 13850 EMERGENCY STOP – Non Illuminated

Ø40 ISO 13850 – STAY-PUT

Key to reset

Cat. No.



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

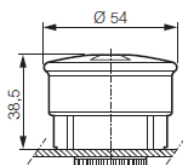
● Red

L22GR01

Ø54 ISO 13850 – STAY-PUT

Push-pull to reset with flag indicator

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 – engraving 0-I

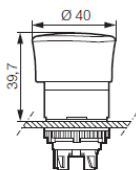
L22DU01A

● Red – engraving STOP -I

L22DU01

Ø40 ISO 13850 – STAY-PUT

Cat. No.

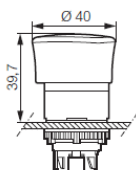


Head position visible from the side view with yellow collar. Compliant with the requirements of emergency stop ISO13850



Red with symbol IEC 60417-5638/ ISO 13850

L22ER01K



● Red – Engraving Text « EMO »

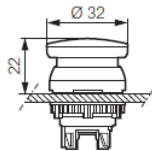
L22ER01F

► Separate Units Ø22: Heads Illuminated

Ø32 MUSHROOM – SPRING RETURN

Push

Cat. No.



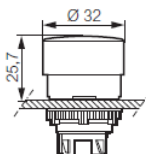
- Red
- Green
- Yellow
- White

L21AL10
L21AL20
L21AL40
L21AL50

Ø32 MUSHROOM – STAY-PUT

Push-turn to reset

Cat. No.



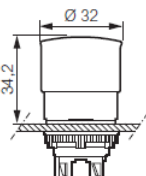
- Red

L22EL10

Ø32 MUSHROOM – STAY-PUT

Push-pull to reset

Cat. No.



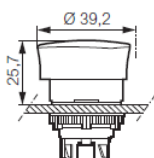
- Red

L22DL10

Ø40 MUSHROOM – STAY-PUT

Push-Turn to reset

Cat. No.



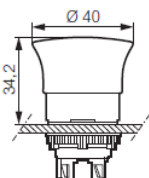
- Red
- Green
- Yellow

L22EM10
L22EM20
L22EM40

Ø40 MUSHROOM – STAY-PUT

Push-pull to reset

Cat. No.



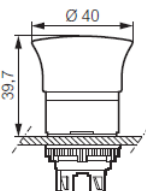
- Red
- Green
- Yellow
- White

L22DM10
L22DM20
L22DM40
L22DM50

Ø40 ISO 13850 – STAY-PUT

Push-pull to reset

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

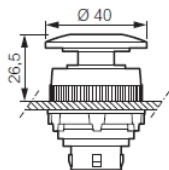
L22DN10

► Separate Units Ø30: Heads Non Illuminated

Ø40 MUSHROOM – SPRING RETURN

Push

Cat. No.



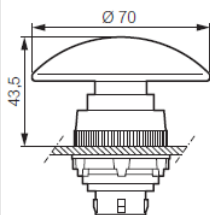
- Red
- Green
- Black
- Yellow

T16AD01
T16AD02
T16AD03
T16AD04

Ø70 MUSHROOM – SPRING RETURN

Push

Cat. No.



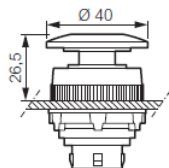
- Red
- Black

T16AE01
T16AE03

Ø40 MUSHROOM – STAY-PUT

Push-Pull to reset

Cat. No.



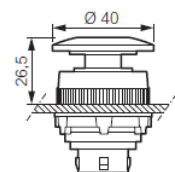
- Red
- Green
- Black
- Yellow

T16DD01
T16DD02
T16DD03
T16DD04

Ø40 MUSHROOM – STAY-PUT

Push-turn to reset

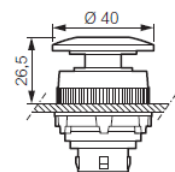
Cat. No.



Stay-put

- Red
- Green
- Black
- Yellow

T16ED01
T16ED02
T16ED03
T16ED04



Manual Locking

- Red
- Green
- Black
- Yellow

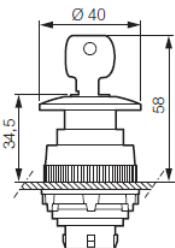
T16FD01
T16FD02
T16FD03
T16FD04

► Separate Units Ø30: Heads Non Illuminated

Ø40 MUSHROOM – STAY-PUT

Key to reset

Cat. No.



Supplied with 2 keys profile N°455

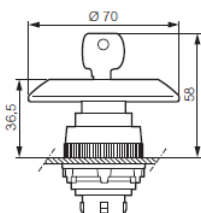
● Red

T16GM01

Ø70 MUSHROOM – STAY-PUT

Key to reset

Cat. No.



Supplied with 2 keys profile N°455

● Red

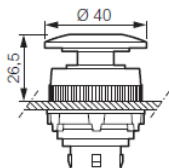
T16GP01

► Separate Unit Ø30: Head Illuminated

Ø40 MUSHROOM – SPRING RETURN

Push

Cat. No.



● Red
● Green
● Yellow
○ Opal

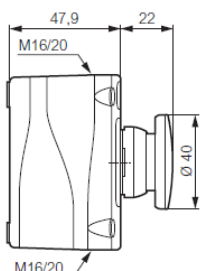
T16AM10
T16AM20
T16AM40
T16AM50

► Control stations with 1 button – Non Illuminated

MUSHROOM HEAD Ø40 – SPRING RETURN

Push

Cat. No.



● NC



Marking

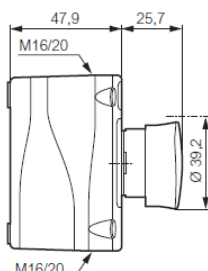


LBX10210

MUSHROOM HEAD Ø40 – STAY-PUT

Push-turn to reset

Cat. No.



● NC



● NC



● NC



Marking

ARRET D'URGENCE **LBX10310**

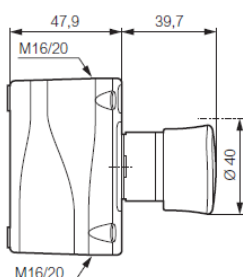
NOT AUS **LBX10410**

EMERGENCY STOP **LBX10510**

MUSHROOM HEAD Ø40 – ISO 13850- STAY-PUT

Push-turn to reset

Cat. No.



Compliant with the requirements of emergency stop:
IEC 60947-5-5/ISO 13850

● NC



● 2NC



● NC



● 2NC



● NC



● 2NC



Marking

ARRET D'URGENCE +  **LBX17101**

ARRET D'URGENCE +  **LBX17102**

NOT HALT +  **LBX17201**

NOT HALT +  **LBX17202**

EMERGENCY STOP +  **LBX17301**

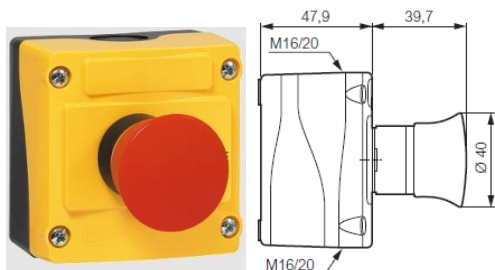
EMERGENCY STOP +  **LBX17302**

► Control stations with 1 button – Non Illuminated

MUSHROOM HEAD Ø40 – ISO 13850- STAY-PUT

Push-pull to reset

Cat. No.



Compliant with the requirements of emergency stop:
IEC 60947-5-5/ISO 13850

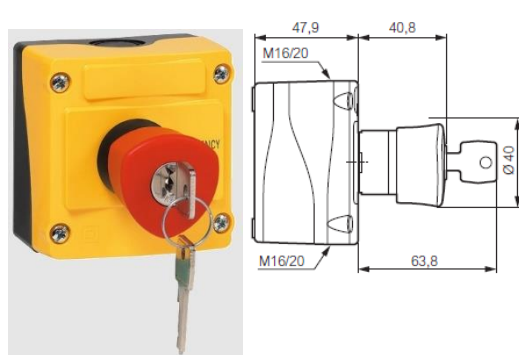
Marking

● NC		ARRET D'URGENCE +	LBX15101
● 2NC		ARRET D'URGENCE +	LBX15102
● NC		NOT HALT +	LBX15201
● 2NC		NOT HALT +	LBX15202
● NC		EMERGENCY STOP +	LBX15301
● 2NC		EMERGENCY STOP +	LBX15302

MUSHROOM HEAD Ø40 – ISO 13850- STAY-PUT

Key to reset

Cat. No.



Compliant with the requirements of emergency stop:
IEC 60947-5-5/ISO 13850

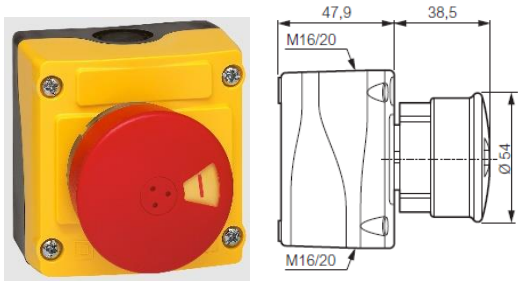
Marking

● NC		ARRET D'URGENCE +	LBX11101
● 2NC		ARRET D'URGENCE +	LBX11102
● NC		NOT HALT +	LBX11201
● 2NC		NOT HALT +	LBX11202
● NC		EMERGENCY STOP +	LBX11301
● 2NC		EMERGENCY STOP +	LBX11302

MUSHROOM HEAD Ø40 – ISO 13850- STAY-PUT

Push-pull to reset with flag indicator

Cat. No.



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

Marking

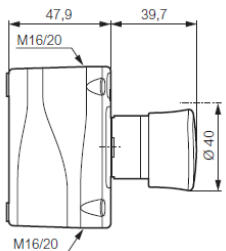
● NC		STOP-	LBX14201
● 2NC		STOP-	LBX14202

► Control stations with 1 button – Non Illuminated

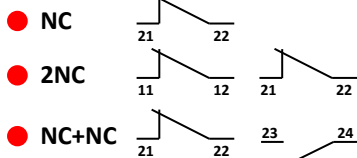
MUSHROOM HEAD Ø40 – ISO 13850- STAY-PUT

Push-turn to reset

Cat. No.



With symbol IEC 60417-5638/ ISO 13850 on the button head



LBX130065

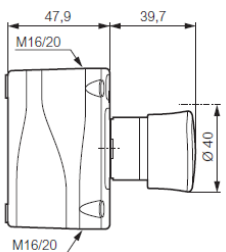
LBX130066

LBX130057

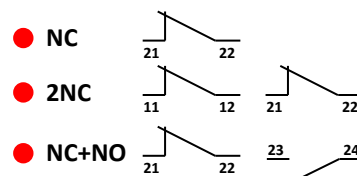
MUSHROOM HEAD Ø40 – ISO 13850- STAY-PUT

Push-turn to reset

Cat. No.



With EMO Text on button Head



LBX130067

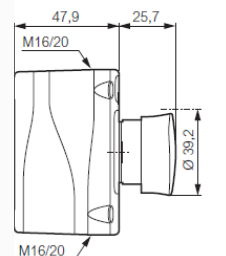
LBX130069

LBX130068

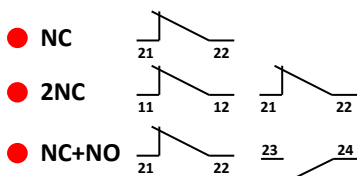
MUSHROOM HEAD Ø40 - STAY-PUT

Push-turn to reset

Cat. No.



With STOP STOP STOP Text on button Head



LBX130008

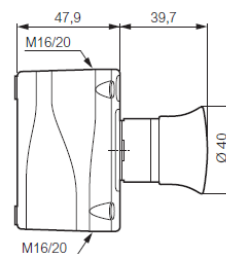
LBX130009

LBX130010

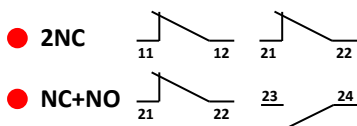
MUSHROOM HEAD Ø40 - STAY-PUT

Push-pull to reset

Cat. No.



With STOP STOP STOP Text on button Head

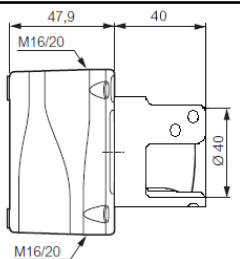


LBX130075

LBX130074

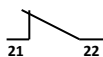
► Control stations with 1 button – Non Illuminated

MUSHROOM HEAD Ø40 + PADLOCKABLE GUARD- MAINTAINED Push-pull to reset Cat. No.



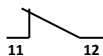
Contacts blocks attached to operator

● NC



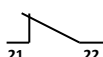
LBX130091

● 2NC

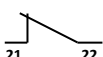
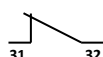
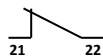


LBX130092

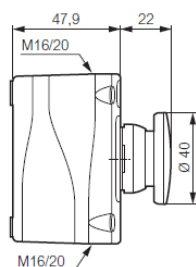
● 3NC



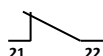
LBX130093



MUSHROOM HEAD Ø40 – SPRING RETURN Push Cat. No.



● NC



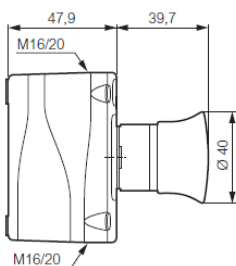
Marking



LBX130047

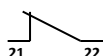
► Control stations with 1 button – Illuminated

MUSHROOM HEAD Ø40 – ISO 13850- STAY-PUT Push-pull to reset Cat. No.



Compliant with the requirements of emergency stop:
IEC 60947-5-5/ISO 13850
Supplied with 230V Red led, 33SARH

● NC

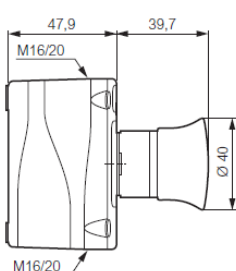


Marking



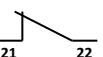
LBX130179

MUSHROOM HEAD Ø40 - STAY-PUT Push-pull to reset Cat. No.



Supplied with 230V Red led, 33SARH

● NC



Marking

EMERGENCY STOP LBX130049

► Control stations with 1 button – Non Illuminated

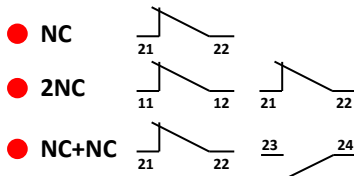
MUSHROOM HEAD Ø40 – ISO 13850- STAY-PUT with padlockable guard

Push-pull to reset

Cat. No.



Compliant with the requirements of emergency stop:
IEC 60947-5-5/ISO 13850



LBPA2011100

LBPA2011500

LBPA2011300

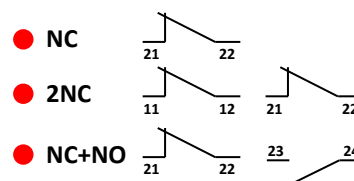
MUSHROOM HEAD Ø40 – ISO 13850- STAY-PUT with 180° half guard Bezel

Push-pull to reset

Cat. No.



Compliant with the requirements of emergency stop:
IEC 60947-5-5/ISO 13850



LBPA2011200

LBPA2011600

LBPA2011400

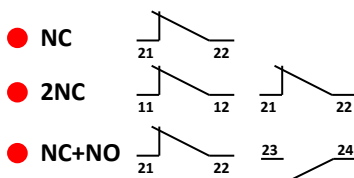
MUSHROOM HEAD Ø40 – ISO 13850- STAY-PUT with padlockable guard

Push-turn to reset

Cat. No.



Compliant with the requirements of emergency stop:
IEC 60947-5-5/ISO 13850



LBPA2011700

LBPA2012100

LBPA2011900

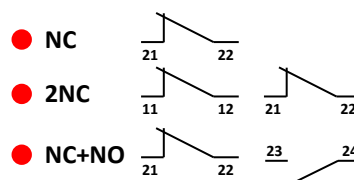
MUSHROOM HEAD Ø40 – ISO 13850- STAY-PUT with 180° half guard Bezel

Push-turn to reset

Cat. No.



Compliant with the requirements of emergency stop:
IEC 60947-5-5/ISO 13850



LBPA2011800

LBPA2012200

LBPA2012000

► Control stations with 1 button – Non Illuminated

MUSHROOM HEAD Ø40 – ISO 13850- STAY-PUT with padlockable guard Key to reset Cat. No.



Compliant with the requirements of emergency stop:
IEC 60947-5-5/ISO 13850

● NC		LBPA2012300
● 2NC		LBPA2012700
● NC+NC		LBPA2012500

MUSHROOM HEAD Ø40 – ISO 13850- STAY-PUT with 180° half guard Bezel Key to reset Cat. No.



Compliant with the requirements of emergency stop:
IEC 60947-5-5/ISO 13850

● NC		LBPA2012400
● 2NC		LBPA2012800
● NC+NO		LBPA2012600

► Control stations Ø22

1 HOLE ENCLOSURE

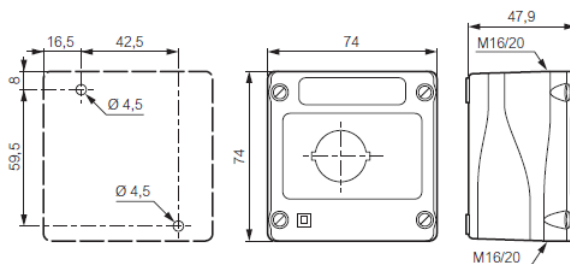
Cat. No.



Black base

Yellow cover

LBX0100J



1 HOLE ENCLOSURE

Cat. No.

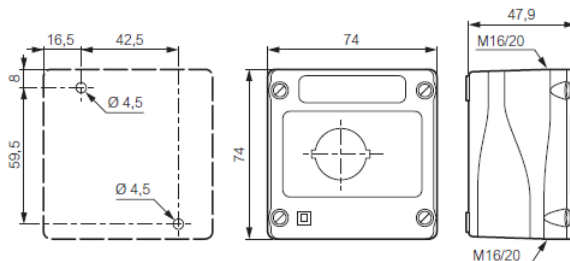


Black base

Yellow cover

Marking

LBX130046



1 HOLE ENCLOSURE

Cat. No.



Black base

Yellow cover

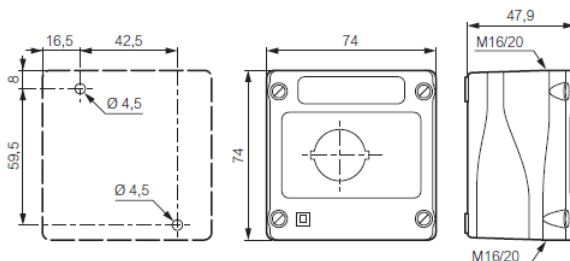
Yellow cover with symbol IEC
60417-5438/ISO 13850

Marking

EMERGENCY STOP

LBX0100JB

LBX130167



► Control stations Ø22 and Ø30

LBPA and LBPP ENCLOSURE



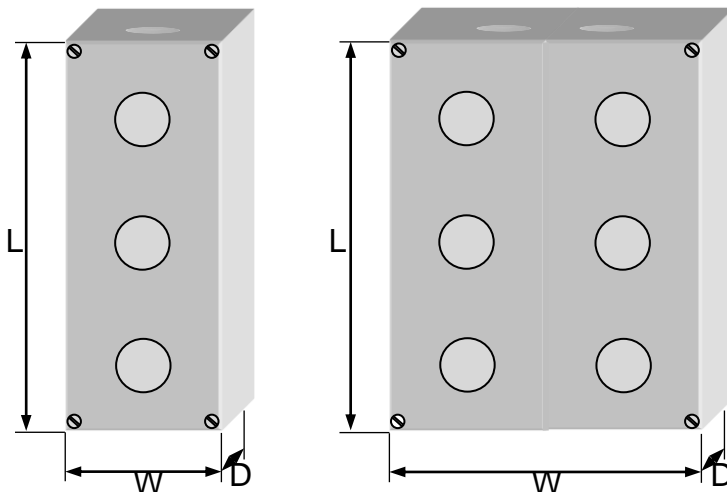
Technical characteristics:

- RAL:7035
- Can be combined with 1, 3 or 5 positions clips, LED blocks and contact blocks
- Can be marked by silk screening process, two ink color available, Black and Yellow
- Recommended to be used with LWA0242 Yellow guard ring for emergency stop button, 1, 2 or 3 holes for both version LBPA or LBPP enclosures
- Protecting rating: IEC 60529: IP65
IEC 62262: IK07

Materials: ABS

Dimensions

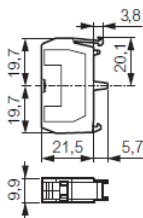
BACO Part Number	Nb of holes	Dimensions		
		Length L (mm)	Width W (mm)	Depth D (mm)
LBPA201	1	82	80	57
LBPA202	2	120	80	57
LBPA203	3	160	80	57
LBPP201	1	82	80	85
LBPP202	2	120	80	85
LBPP203	3	160	80	85
LBPP204	4	122	120	85
LBPP206	6	160	120	90
LBPP208	8	200	120	90
LBPP210	10	240	120	100



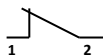
► Separate units

CONTACT BLOCKS – SCREW TERMINALS

Cat. No.

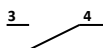


NC



33E01

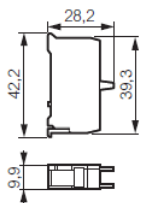
NO



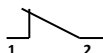
33E10

CONTACT BLOCKS FOR CONTROL STATIONS SCREW TERMINALS

Cat. No.

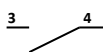


NC



33S01

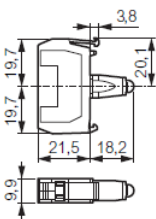
NO



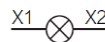
33S10

LED BLOCKS – SCREW TERMINALS

Cat. No.



LED



● RED 24V

33EARL

● RED 48V

33EARL4

● RED 130V

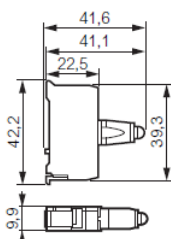
33EARM

● RED 230V

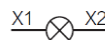
33EARH

LED BLOCKS FOR CONTROL STATIONS – SCREW TERMINALS

Cat. No.



LED



● RED 24V

33SARL

● RED 130V

33SARM

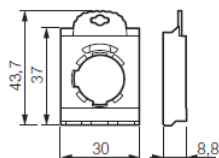
● RED 230V

33SARH

► Separate units

CLIP

Cat. No.




3 positions

333E

ROUND LEGEND PLATE FOR MUSHROOM HEAD

Cat. No.



According to ISO 13850 Text + Symbol 


Ø60

ARRET D'URGENCE + 

LWE16100

NOT-HALT + 

LWE16232

EMERGENCY STOP + 

LWE16300


Ø80

ARRET D'URGENCE + 

LWE00100

NOT-HALT + 

LWE00232

EMERGENCY STOP + 

LWE00300



Ø60 Without symbol, text only

ARRET D'URGENCE

LWE16152

NOT AUS

LWE16200

EMERGENCY STOP

LWE16352

Ø80 Without symbol, text only

ARRET D'URGENCE

LWE00152

NOT AUS

LWE00200

EMERGENCY STOP

LWE00352

FIXING TOOL

Cat. No.



Fixing tool for locking ring

LWA0234

Method for tightening the locking ring:

Tightening torque: 3 Nm or tightened with fixing tool to hand tight after pressure point plus another half turn.

► Separate units

PADLOCKABLE GUARD

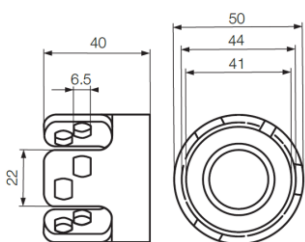
Cat. No.



For stay –put mushroom head

● Yellow

LWA0240



YELLOW GUARD RING

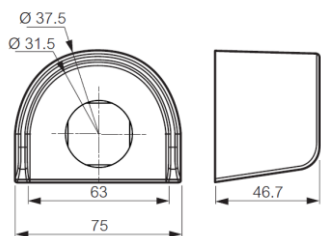
Cat. No.



For stay –put mushroom head

● Yellow

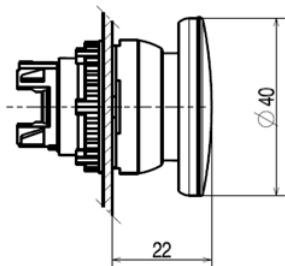
LWA0242



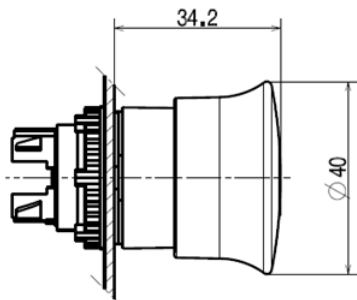
► Technical characteristics

MEASUREMENT

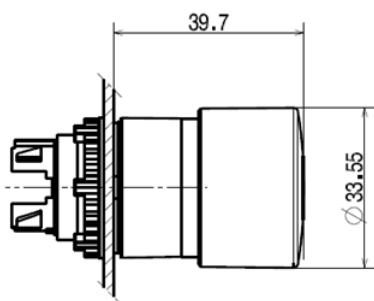
Spring return Mushroom head



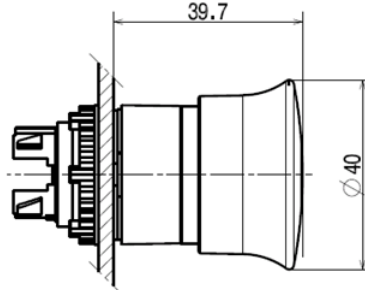
Mushroom head Ø 40 Push-pull Stay -put



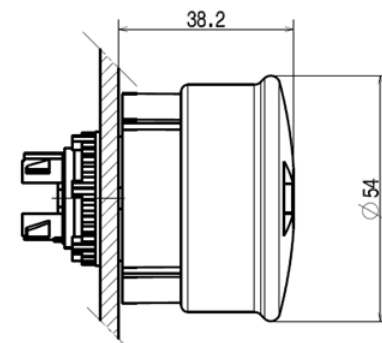
Mushroom head ISO 13850 Ø 32 push-pull stay-put



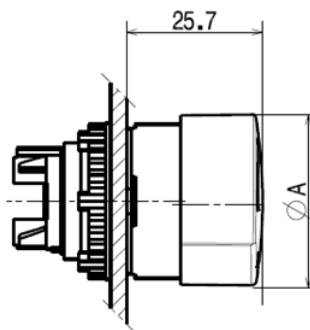
Mushroom head Ø 40, ISO 13850 Push-pull Stay-put



Mushroom head Ø 54, ISO 13850 Push-pull Stay-put



Mushroom head Push-turn Stay-put



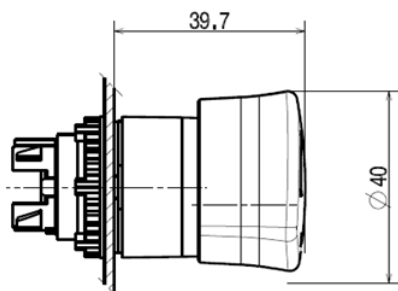
Ref L22EC01/03 ØA = 32 mm

Ref L22ED01/03/01B ØA = 40 mm

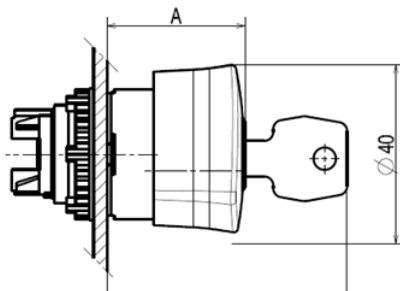
► Technical characteristics

MEASUREMENT

Mushroom head
ISO 13850 Push-turn Stay-put



Mushroom head Stay-put Key to reset



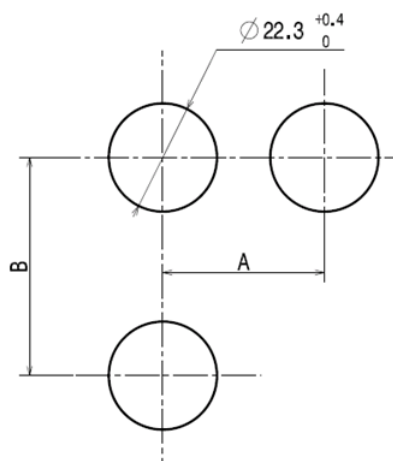
Ref	A (mm)	B (mm)
L22GM01	30.7	53.7
L22GR01	40.8	63.8

INSTALLATION

Drilling:

Standard drilling (products fitted with screw and plug-in connection).

Panel thickness: 1 to 6 mm



		Dimension (mm)	
A	=	30	With or without legend (usual case)
	=	33	For silicon shroud IP67
	=	40	With large legend plate
	>	40	For Mushroom head Ø 40
	>	45	For selector switch with long handle
	=	38	For super flush button
	=	50	With 5 position clip
B	=	45	With or without legend (usual case)
	=	54	With double touch
	=	77	With double touch + legend plate

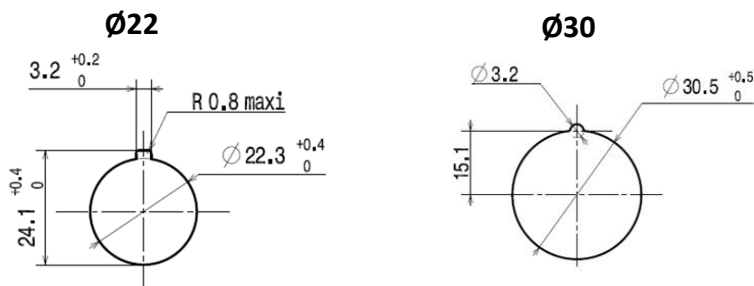
Method for tightening the locking ring:

Tightening torque: 3 Nm or tightened with fixing tool (LWA0234) to hand tight after pressure point plus another half turn.

► Technical characteristics

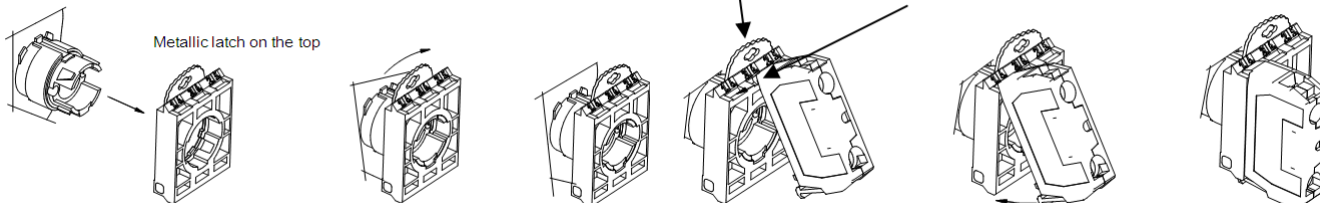
INSTALLATION

Drilling when using the anti rotation tab:

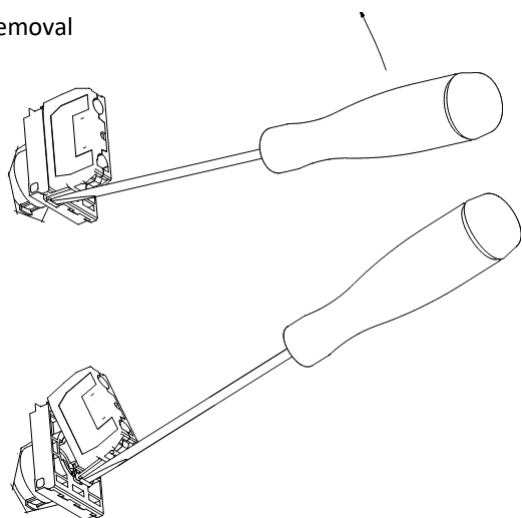


MOUNTING

Head foolproof on the top



removal



Technical characteristics

Protection index :

- . IP 66 and NEMA 4x,12,13 for standard heads
- . IP 67 with silicon shroud
- . IP 20 at the back of panel for the one piece pilot lights

Protection against mechanical impact:

- . IK 05 for heads



► Technical characteristics

Characteristics	Data	Standards
► Storage temperature	- 40 °C to + 70 °C	
► Operating temperature	- 25 °C to + 70 °C	
► Climatic resistance	Constant humid heat	IEC 60068-2-3
	Cyclic damp heat	IEC 60068-2-30
	Resistance to sea air	IEC 60068-2-52
► Degree of protection	IP 66 for standard heads	IEC 60529
	IP 66 for equipped control stations	IEC 60529
	IP 69 and IP69K for push buttons	IEC 60529 – ISO 20653
	IP 69 and IP69K for emergency stops	IEC 60529 – ISO 20653
	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	NEMA standard
► Protection against mechanical impacts	IK 05 illuminated and non illuminated heads	IEC 62262
	IK 07 empty control station	
► 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 or tightened with the fixing tool to hand tight after pressure point plus another half turn	
	Terminals: max. 1.2 N.m	
► Approvals	UL United states and Canada	UL 508, CSA 22.2
	BV Bureau Véritas	Marine rules
	Certification OC/CB 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

Characteristics	Data	Standards
► Mechanical endurance (in million cycles)	Spring return: 5 Mushroom head maintained function ISO 13850: 0,10 Mushroom head maintained function: 0,15	
► Activation force in N	Spring return + NO: 6,5 Spring return + NC: 4,5 Additional NO contact: 4,5 Additional NC contact: 3,0 Push-pull mushroom head + NO + NC: 27 Push-turn mushroom head + NO + NC: 22 Push-pull mushroom head ISO 13850 + NO + NC: 37 Push-turn mushroom head ISO 13850 + NO + NC: 60	

► Contact blocks Technical characteristics

Screw and plug-in connection characteristics		Data	Standards
► Rated insulation voltage		690 V AC 600 V AC	IEC 60947-1 UL 508
► NC contacts		Positive opening	IEC 60947-5-1
► Rated impulse voltage U _{imp}		6kV	
Pollution degree		3	
► Conventional thermal current in free air conditions		AC15:10 A DC13: 2,5 A	IEC 60947-5
► Electrical ratings	Alternating current AC15 - A 600 U _e = 120 V, I _e = 6 A U _e = 240 V, I _e = 3 A U _e = 380 V, I _e = 1,9 A U _e = 480 V, I _e = 1,5 A U _e = 500V, I _e = 1,4 A U _e = 600 V, I _e = 1,2 A Minimum operating current - standard blocks U _e = 24 V DC and I _e = 5 mA Failure rate < 10 ⁻⁸	Direct current DC13 - Q 600 U _e = 125 V, I _e = 0,55 A U _e = 250 V, I _e = 0,27 A U _e = 400 V, I _e = 0,15 A U _e = 500 V, I _e = 0,13 A U _e = 600V, I _e = 0,1 A - golden contacts U _e = 5 V DC and I _e = 1 mA Failure rate < 10 ⁻⁸	IEC 60947-5-1
► Electrical operating life	1 million cycles for: - AC15 - B 300 U _e = 120 V, I _e = 3 A U _e = 240 V, I _e = 1,5 A	- DC13 - R 300 U _e = 125 V, I _e = 0,22 A U _e = 250 V, I _e = 0,1 A	
► Applicable wire sizes	Rigid or flexible wire without ferrule: 0,5 mm ² to 2 x 2,5 mm ² Rigid or flexible wire with ferrule: 0,5 mm ² to 2 x 1,5 mm ²		

► Led block Technical characteristics

Characteristics	Data	Standards
➤ Rated insulation voltage	300 V	IEC 60947-5-1
➤ Rated impulse voltage Uimp	4 kV (with filter block see p. 64)	IEC 60947-1
➤ Operating voltage	Pollution degree 3 12 to 24 V AC/DC 48 V AC/DC (for LED block) 130 V AC 230 V AC	
➤ Frequency	50 or 60 Hz	
➤ Lifetime at rated supply voltage	Red and yellow: 100 000 hours at 25 °C Other colours: 50 000 hours at 25 °C	
➤ Consumption of LED blocks	Voltage: - 24 V: 25 mA ± 20% - 48 V: 15 mA ± 5% - 130 V: 20 mA ± 10% - 230V: 16mA ± 30%	

► Technical characteristics Ø30

Characteristics	Data	Standards
➤ Storage temperature for illuminated or non illuminated button	- 40°C to + 70°C	
➤ Operating temperature	Non illuminated buttons: - 25°C to + 70°C Illuminated buttons: - 25°C to + 60°C	
➤ Degree of protection	IP 65 for standard heads IP 67 for shrouded heads	IEC 60947-1
➤ Mechanical life	Spring return push button: 3 x 10 ⁶ operating cycles	IEC 60947-5-1

The blocks used for diameter 30 are the same as for diameter 22.



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► Notes

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