Page 7-4 to 7 and 11
7-28 to 30 and 33

**BUTTON ACTUATORS Ø22mm**
- Spring return flush, extended and shrouded
- Push-push flush and extended
- Mushroom-head
- Mechanical reset
- Illuminated.

Page 7-8 and 12
7-31 and 34

**DOUBLE AND TRIPLE TOUCH ACTUATORS Ø22mm**
- Double touch with or without indicator
- Triple touch.

Page 7-9 and 12
7-32 and 35

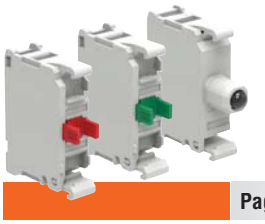
**SELECTOR SWITCHES Ø22mm**
- Short lever
- Long lever
- Key
- Knob
- Illuminated.

Page 7-13 to 15

**PILOT LIGHTS Ø22mm**
- Monoblock LED.

**MONOBLOCK BUZZERS Ø22mm**
- Continuous or pulse tone.

**COMMUNICATION INTERFACES Ø22mm**
- USB
- RJ45.



Page 7-16 to 24
7-38 to 43

**ADD-ON ELEMENTS, ACCESSORIES AND SPARE PARTS FOR PUSHBUTTONS AND SELECTOR SWITCHES**
- Mounting adapter
- Contact elements
- LED integrated elements
- Lamp holders
- Labelling and label holders
- Bulbs.

Page 7-25

**CONTROL STATIONS**
- 1 to 6 holes option without actuators
- Complete units with 1 button.

Page 7-14
7-36

**POTENTIOMETERS Ø22mm**
- Potentiometer included in the product with graduated scale.
- Metal potentiometer drives with:
  – graduated scale
  – variable index.

Page 7-37

**METAL JOYSTICKS Ø22mm**
- 2 directions
- 4 directions
- 2 directions with mechanical interlock
- 4 directions with mechanical interlock
- Complete with contact elements.

# PUSHBUTTONS AND SELECTOR SWITCHES

- Simple and snap on installation
- Highly conductive contacts
- Robust for severe ambient conditions
- Contact operation: double breaking action, direct opening operation and self cleaning.


SEC. - PAGE

**PLatinum Ø22mm series**

Pushbutton actuators, spring return ..... 7 - 4
Push-push button actuators ..... 7 - 4
Mechanical reset button, spring return ..... 7 - 5
Pushbutton actuators with symbol, spring return ..... 7 - 5
Mushroom-head pushbutton actuators ..... 7 - 7
Double and triple-touch button actuators, spring return ..... 7 - 8
Selector switch actuators ..... 7 - 9
Selector switch actuator knobs ..... 7 - 10
Illuminated button actuators, spring return ..... 7 - 11
Illuminated push-push button actuators ..... 7 - 11
Illuminated mushroom-head actuators ..... 7 - 11
Double-touch button actuators, spring return, with indicator ..... 7 - 12
Illuminated selector actuators ..... 7 - 12
Pilot light heads ..... 7 - 13
Monoblock LED pilot lights, steady light ..... 7 - 13
Monoblock potentiometers ..... 7 - 14
Monoblock buzzers ..... 7 - 15
USB-RJ45 communication interfaces ..... 7 - 15
Accessories, spare parts and labels ..... 7 - 16
Mounting adapter and contact, LED, test elements ..... 7 - 20

**PLatinum series control stations ..... 7 - 25**

**8 LM Ø22mm metal series**

Pushbutton actuators, spring return ..... 7 - 28
Push-push button actuators ..... 7 - 28
Mechanical reset button, spring return ..... 7 - 29
Pushbutton actuators with symbol, spring return ..... 7 - 29
Mushroom-head pushbutton actuators ..... 7 - 30
Double and triple-touch button actuators, spring return ..... 7 - 31
Selector switch actuators ..... 7 - 32
Illuminated button actuators, spring return ..... 7 - 33
Illuminated push-push actuators ..... 7 - 33
Illuminated mushroom-head actuators ..... 7 - 34
Double-touch button actuators, spring return, with indicator ..... 7 - 34
Illuminated selector actuators ..... 7 - 35
Pilot light heads ..... 7 - 36
Potentiometer drives ..... 7 - 36
Joysticks ..... 7 - 37
Accessories, spare parts and labels ..... 7 - 38
Mounting adapter and contact - lamp holder - test elements ..... 7 - 41

**Dimensions ..... 7 - 46**
**Wiring diagrams ..... 7 - 51**




Lovato electric

# QUALITY TOUCH!

## LOW ACTUATOR PROFILE

The external actuator bezel has a low profile and reduced front thickness.

## CUSTOMISING CAPABILITY

To simplify stock management, the series includes actuators without cap or lens and separate caps and lenses for quick installation or replacement on spring return and push-push types; all these are sold as accessories.

## HIGH DEGREE OF PROTECTION IP66, IP67 and IP69K

The actuators have been tested to guarantee a degree of protection per IEC/EN IP66, IP67, IP69K and UL Type 4X, appropriate for use even in extreme ambient conditions.

## ELEGANT STYLE AND ERGONOMIC DESIGN

All the series elements have an ergonomic design and, at the same time, particular care has been given to minimum detail aesthetics.

## LONG ACTUATOR MECHANICAL LIFE

High performance characteristics assure 5,000,000 cycle mechanical life for spring-return actuators, 1,000,000 for double and triple touch units and 300,000 for emergency-stop types.

## MATERIALS RESISTANT TO OILS, SOLVENTS AND HYDROCARBONS

## USAGE AT EXTREME TEMPERATURE CONDITIONS

Operation temperature range between -25° and +70°C.

## cULus, EAC, RINA and CCC CERTIFICATIONS.

### QUICK AND EASY ACTUATOR INSTALLATION

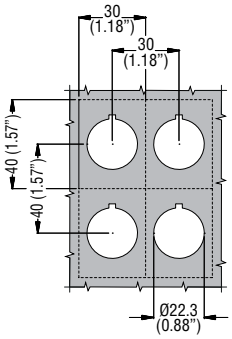
- Actuator fixing on the mounting surface, through a Ø22mm/0.87" drilled hole, is obtained using its **threaded ring**, easily rotated by hand or by socket spanner/wrench.

- There is an **anti-rotation fastener**, duly sized to avoid actuator rotation on the mounting surface and to give an orientation reference point for users during panel installation and during contact fitting on the actuator.
- This anti-rotation fastener collapses inside the gasket to allow fitting also when drilled holes are round without reference index.
- The sealing gasket for the actuator mounting surface has a gripping action (suction effect) offering additional adhesion properties.

- The mounting adapter and the actuators each have **clearly visible reference** indications making the snap-on fitting between the two easy and intuitive.

- Electrical contact and LED elements are **snapped onto** the mounting adapter.
- **The activation of the middle contacts is standard supplied** on all non-illuminated spring return and push-push button or selector switch actuators.

### REDUCED DIMENSIONS AND INTERAXIS




Minimum pitch:
- 30x40mm/1.18x1.57" between drillings for two actuators on a mounting surface
- 30x55mm/1.18x2.16" between drillings for two double and triple-touch actuators or when spring clamp contacts are used.

- Total depth, from the external mounting surface to the end of the first contact element is just 43mm/1.69".

### CONTACT ELEMENTS

- Miniaturised size
- High electric conductivity - 5V 1mA
- Up to 9 contact elements can be installed
- Available versions: Front and base mount with screw terminals while front-mount only with faston and spring-clamp terminals
- Contact operation: double breaking action, direct (positive) action operation and wiping effect.

### HIGH-LUMINOSITY LED ELEMENTS

- Miniaturised size
- Long electrical life: 100,000h
- Versions for base mounting and with screw or spring-clamp terminals
- Overvoltage protection
- Withstand vibrations
- Protection against stray currents in wiring
- Flickering phenomenon reduction
- Steady and flashing light versions
- Supply voltages:
  - 12...30VAC/DC
  - 85...140VAC
  - 185...265VAC
- Test elements installed beside and connected with the relative LED element allow checking if all LED elements of the installation are working properly.

## DOUBLE AND TRIPLE TOUCH ACTUATORS

- IEC **IP66, IP67, IP69K** and **UL Type 4X** degree of protection
- Double touch button actuators, with 2 flush or 1 flush and 1 extended buttons
- Triple touch button actuators with 2 flush and middle extended butons
- Versions with or without indicator.

## MECHANICAL RESET BUTTONS

- Rod adjustment directly on acutator front (1...4mm/0.04...0.16").

- Up to 6 contact elements can be mounted

## ADAPTER FOR DIN RAIL MOUNTING

- Permits the fitting of the Platinum and 8 LM2T series buttons on DIN rail, in panels and modular boxes. Only 35mm/1.38" wide (2 modules).

## EMERGENCY STOP ACTUATORS

- Actuator structure suitable to warrant direct opening operation with mechanical latching for emergency stopping per **ISO 13850** and **IEC/EN 60947-5-5**.
- Auto-monitor contact elements are available with functions to:
  - Constantly control the correct installation (mounting adapter and NC contact with the actuator) and proper operation of the NC contact
  - Open the circuit in the case of malfunctions (e.g. the contact detaches from the mounting adapter due to strong vibrations or shock).

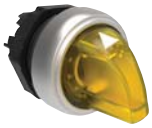
- There is a green line around the actuator body to spot when the emergency stop is at rest or activated.
- Use of **Ronis keys**
- Various accessories available (e.g. yellow E-stop disks, padlockable protection and rubber actuator boots).

## SHROUD

- Suitable for all Platinum and 8 LM2T mushroom-head latch buttons, guarantees protection against accidental on-board machinery contact.

## SELECTOR SWITCH ACTUATORS

- Lever design assures excellent grip



- **High visibility** on front or side and actuator inscription shows exact switch position

- Use of **Ronis keys**

- **Activation of the middle contacts is standard supplied** on 2 and 3 position selector switches.

## MONOBLOCK POTENTIOMETERS

- Potentiometer included in the product.
- Protection rating IP66, IP67 and IP69K and UL Type 4X.
- Resistance values from 1 to 500kΩ.

## PILOT LIGHTS

- Protection rating IP66, IP67, IP69K and UL Type 4X for LED monoblock pilot lights and pilot light heads.
- Long life and low consumption.

## MONOBLOCK BUZZERS

- Continuous or pulse-tone monoblock buzzers in a single product.
- IP40 version (90dB/10cm) and IP66, IP67, IP69K and UL Type 4X, version (80dB/10cm) available.

## COMMUNICATION INTERFACES

- Protection rating IP65, UL Type 4X.
- USB and RJ45 for Ethernet types with data transmission in both directions.
- USB type 3.0 (backward compatible with USB 2.0).

## PLASTIC CONTROL STATIONS

- IP66, IP67, IP69K and UL Type 4X protection degrees.
- Empty pushbutton stations with 1 to 6 way option and complete control stations with various mushroom-head stop buttons
- Quick installation and wiring ease with the relative base-mount contact and LED elements, snap in place on the base
- Installation of screw and spring-clamp terminal contact and LED elements also on the internal cover surface.

## Pushbutton actuators, spring return

LPC B10…

LPC B20…

LPC B30…

| Order code | Colour | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| Flush (without mounting adapter). Spring return. | | | |
| **LPC B102** | Black | 10 | 0.025 |
| **LPC B103** | Green | 10 | 0.025 |
| **LPC B104** | Red | 10 | 0.025 |
| **LPC B105** | Yellow | 10 | 0.025 |
| **LPC B106** | Blue | 10 | 0.025 |
| **LPC B108** | White | 10 | 0.025 |
| Extended (without mounting adapter). Spring return. | | | |
| **LPC B202** | Black | 10 | 0.027 |
| **LPC B203** | Green | 10 | 0.027 |
| **LPC B204** | Red | 10 | 0.027 |
| **LPC B205** | Yellow | 1 | 0.027 |
| **LPC B206** | Blue | 1 | 0.027 |
| **LPC B208** | White | 1 | 0.027 |
| Shrouded (without mounting adapter). Spring return. | | | |
| **LPC B302** | Black | 10 | 0.027 |
| **LPC B303** | Green | 10 | 0.027 |
| **LPC B304** | Red | 10 | 0.027 |
| **LPC B305** | Yellow | 1 | 0.027 |
| **LPC B306** | Blue | 1 | 0.027 |
| **LPC B308** | White | 1 | 0.027 |

## Push-push button actuators

LPC Q10…

LPC Q20…

| Order code | Colour | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| Flush (without mounting adapter). Push on-push off. | | | |
| **LPC Q102❶** | Black | 10 | 0.025 |
| **LPC Q103❶** | Green | 10 | 0.025 |
| **LPC Q104❶** | Red | 10 | 0.025 |
| **LPC Q105❶** | Yellow | 1 | 0.025 |
| **LPC Q106❶** | Blue | 1 | 0.025 |
| **LPC Q108❶** | White | 1 | 0.025 |
| Extended (without mounting adapter). Push on-push off. | | | |
| **LPC Q202❶** | Black | 10 | 0.027 |
| **LPC Q203❶** | Green | 10 | 0.027 |
| **LPC Q204❶** | Red | 10 | 0.027 |
| **LPC Q205❶** | Yellow | 1 | 0.027 |
| **LPC Q206❶** | Blue | 1 | 0.027 |
| **LPC Q208❶** | White | 1 | 0.027 |

❶ **Use contact elements LPX C10A (EM) and LPXC01 (NC) only.**
Contact elements LPX C10 (NO) and LPX C01D (LB) cannot be fitted on these actuators.
For the number of contacts that can be fitted, see the indication here to the side.

**Operational characteristics**
- Any mounting position allowed
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+85°C
- Degree of protection:
  - Per IEC/EN: IP66, IP67 and IP69K
  - Per UL/CSA: Type 1, 2, 3R, 4, 4X, 12, 12K.

**Materials**
Polyamide.

**Mechanical endurance**
Operating force: <0.5kg/1.1lb (actuator).
Mechanical life:
- Spring return actuators: 5,000,000 cycles
- Push-push actuators: 500,000 cycles.

**Mounting adapter**
See page 7-20.
Type: LPX AU120.
Actuators are installed through a Ø22mm/Ø0.87" drilling with a threaded fixing ring (Tmax = 2.3Nm/1.69lbft) also on the cover of LPZ control stations.
The mounting adapter directly snaps onto the actuator.

**Contact elements for spring-return button actuators**
See page 7-20, 7-23 or 7-24.

| Type | | Termination |
|---|---|---|
| Front-mount types snap onto LPX AU120 mounting adapter (to purchase separately).<br>Up to 9 contacts can be fitted: 3 each on the left, middle and right, one behind the other.<br>They can also be fitted internally on the cover surface of LPZ control stations, up to 3 elements per actuator. | | |
| 1NO | LPX C10 | Screw |
| | LPX CF10 | Faston |
| | LPXCS10 | Spring clamp |
| 1EM | LPX C10A | Screw |
| 1NC | LPX C01 | Screw |
| | LPX CF01 | Faston |
| | LPX CS01 | Spring clamp |
| 1LB | LPX C01D | Screw |
| Base mount types snap into LPZ control station base.<br>See example on page 7-27.<br><br>Up to 3 contacts can be fitted per control station actuator. | | |
| 1NO | LPX CB10 | Screw |
| 1NC | LPX CB01 | Screw |

**Contact elements for push-push button actuators**
See page 7-20.
Type: LPX C10A (1EM)
LPX C01 (1NC)
Contacts snap onto the adapter and also internally on the cover surface of LPZ control stations.
Up to 6 contacts can be fitted: 2 each on the left, middle and right, one behind of the other; up to 3 elements per control station actuator.

All these actuators are standard supplied with action plug for middle contacts.

**Certifications and compliance**
Certifications obtained: UL Listed for USA and Canada, (cULus - File E93601), as Auxiliary Devices; EAC, CCC, RINA.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

## Mechanical reset buttons, complete unit, spring return

LPC R1196

| Order code | Colour | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| Flush (5.2mm/0.2" stroke). Adjustable length 0-150mm/5.9". Complete with shaft (without mounting adapter). Spring return. | | | |
| **LPC R1002** | Black | 10 | 0.038 |
| **LPC R1003** | Green | 10 | 0.038 |
| **LPC R1004** | Red | 10 | 0.038 |
| **LPC R1006** | Blue | 10 | 0.038 |
| **LPC R1196❶** | Blue (RESET) | 10 | 0.038 |
| Extended (5.2mm/0.2" stroke). Adjustable length 0-150mm/5.9". Complete with shaft (without mounting adapter). Spring return. | | | |
| **LPC R2004** | Red | 1 | 0.040 |

❶ With "RESET" caption on actuator.
**E.g. Not suitable for LPZ control stations.**

## Pushbutton actuators, spring return, with symbol

LPC B11…

LPC B21…

| Order code | Symbol | Colour | Qty per pkg | Wt |
|---|---|---|---|---|
| | | | n° | [kg] |
| Flush (without mounting adapter). Spring return. | | | | |
| **LPC B1102** | O | Black | 10 | 0.025 |
| **LPC B1104** | | Red | 10 | 0.025 |
| **LPC B1113** | I | Green | 10 | 0.025 |
| **LPC B1118** | | White | 10 | 0.025 |
| **LPC B1123** | II | Green | 1 | 0.025 |
| **LPC B1128** | | White | 1 | 0.025 |
| **LPC B1132** | STOP | Black | 1 | 0.025 |
| **LPC B1134** | | Red | 10 | 0.025 |
| **LPC B1142** | ←❶ | Black | 10 | 0.025 |
| **LPC B1148** | | White | 10 | 0.025 |
| **LPC B1152** | ↑❷ | Black | 10 | 0.025 |
| **LPC B1158** | | White | 10 | 0.025 |
| **LPC B1163** | START | Green | 10 | 0.025 |
| **LPC B1168** | | White | 1 | 0.025 |
| **LPC B1176** | R | Blue | 1 | 0.025 |
| **LPC B1178** | | White | 1 | 0.025 |
| **LPC B1196** | RESET | Blue | 10 | 0.025 |
| **LPC B1502** | ◄\|► | Black | 10 | 0.025 |
| **LPC B1512** | ►\|◄ | Black | 10 | 0.025 |
| Extended (without mounting adapter). Spring return. | | | | |
| **LPC B2102** | O | Black | 10 | 0.027 |
| **LPC B2104** | | Red | 10 | 0.027 |
| **LPC B2132** | STOP | Black | 1 | 0.027 |
| **LPC B2134** | | Red | 10 | 0.027 |

❶ Arrow symbol can be used to indicate right or left.
❷ Arrow symbol can be used to indicate up or down.

**Operational characteristics**
- Any mounting position allowed
- Fine rod adjustment (1-4mm/0.04-0.16") on front with screwdriver by removing actuator cap for mechanical reset buttons
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+85°C
- Degree of protection:
  - Per IEC/EN: IP66, IP67 and IP69K
  - Per UL: Type 1, 2, 3R, 4, 4X, 12, 12K.

**Mechanical endurance**
Operating force: <0.5kg/1.1lb (actuator).
Mechanical life: 5,000,000 cycles.

**Mounting adapter**
See page 7-20.
Type: LPX AU120.
Actuators are installed through a Ø22mm/Ø0.87" drilling with a threaded fixing ring (Tmax = 2.3Nm/1.69lbft) also on the cover of LPZ control stations except for LPC R… types.
The mounting adapter directly snaps onto the actuator.

**Contact elements for mechanical reset buttons**
See page 7-20 or 7-23.

| Type | | Termination |
|---|---|---|
| Front mount types snap onto LPX AU120 mounting adapter (to purchase separately), if any contacts are needed. Up to 6 contacts can be fitted: 3 each on the left and right, one behind the other. | | |
| 1NO | LPX C10 | Screw |
| | LPX CF10 | Faston |
| | LPX CS10 | Spring clamp |
| 1EM | LPX C10A | Screw |
| 1NC | LPX C01 | Screw |
| | LPX CF01 | Faston |
| | LPX CS01 | Spring clamp |
| 1LB | LPX C01D | Screw |

**Contact elements for spring-return button actuators**
See pages 7-20, 7-23 or 7-24.

| Type | | Termination |
|---|---|---|
| Front-mount types snap onto LPX AU120 mounting adapter (to purchase separately). Up to 9 contacts can be fitted: 3 each on the left, middle and right; one behind the other. They can also be fitted internally on the cover surface of control stations LPZ, up to 3 elements per actuator. | | |
| 1NO | LPX C10 | Screw |
| | LPX CF10 | Faston |
| | LPX CS10 | Spring clamp |
| 1EM | LPX C10A | Screw |
| 1NC | LPX C01 | Screw |
| | LPX CF01 | Faston |
| | LPX CS01 | Spring clamp |
| 1LB | LPX C01D | Screw |

Base-mount types snap into LPZ control station base.
See example on page 7-27.

Up to 3 contacts can be fitted per control station actuator.

| | | |
|---|---|---|
| 1NO | LPX CB10 | Screw |
| 1NC | LPX CB01 | Screw |

The LPC B… actuators are standard supplied with action plug for middle contacts.

**Certifications and compliance**
Certifications obtained: UL Listed for USA and Canada, (cULus - File E93601), as Auxiliary Devices; EAC, CCC, RINA.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

## Pushbutton actuators, spring return, with symbol

LPC B1253

| Order code ❹❺ | Symbol | Colour | Qty per pkg | Wt |
|---|---|---|---|---|
| | | | n° | [kg] |
| Spring return (without mounting adapter). | | | | |
| LPCB❶❷18❸ | ϟ❻ | ❸ | 50 | 0.027 |
| LPCB❶❷20❸ | OPEN | ❸ | 50 | 0.027 |
| LPCB❶❷21❸ | CLOSED | ❸ | 50 | 0.027 |
| LPCB❶❷22❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷23❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷25❸ | + | ❸ | 50 | 0.027 |
| LPCB❶❷26❸ | – | ❸ | 50 | 0.027 |
| LPCB❶❷27❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷28❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷29❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷30❸ | ALTO | ❸ | 50 | 0.027 |
| LPCB❶❷31❸ | BASSO | ❸ | 50 | 0.027 |
| LPCB❶❷32❸ | SX | ❸ | 50 | 0.027 |
| LPCB❶❷33❸ | DX | ❸ | 50 | 0.027 |
| LPCB❶❷34❸ | MAN | ❸ | 50 | 0.027 |
| LPCB❶❷35❸ | AUTO | ❸ | 50 | 0.027 |
| LPCB❶❷38❸ | TRIP | ❸ | 50 | 0.027 |
| LPCB❶❷39❸ | TEST | ❸ | 50 | 0.027 |
| LPCB❶❷40❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷41❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷42❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷43❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷44❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷45❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷46❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷47❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷48❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷49❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷52❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷53❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷54❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷55❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷56❸ | START STOP | ❸ | 50 | 0.027 |
| LPCB❶❷57❸ | III | ❸ | 50 | 0.027 |
| LPCB❶❷58❸ | IV | ❸ | 50 | 0.027 |
| LPCB❶❷59❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷60❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷61❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷62❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷63❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷64❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷65❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷66❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷67❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷68❸ | | ❸ | 50 | 0.027 |
| LPCB❶❷69❸ | | ❸ | 50 | 0.027 |

❶ Add letter "L" if illuminated type is required.
❷ For the type of actuator, add: 1 for flush or 2 for extended.
❸ Add the actuator colour: 2 black only for non-illuminated type; 3 green, 4 red, 5 yellow, 6 blue, 8 white or 7 transparent for illuminated version.
❹ Products available on specific request for a minimum multiple quantity of 50 pieces per type.
❺ Consult Customer Service for assistance; see contact details or inside front cover.
❻ Symbol indicating dangerous voltage (IEC 60417 5036-a).

Examples of complete order codes:
LPC B2 25 8 – extended non-illuminated white pushbutton with + symbol
LPC BL1 68 5 – flush illuminated yellow pushbutton actuator with ⚠ symbol.

**Operational characteristics**
- Any mounting position allowed
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+85°C
- Degree of protection:
  - Per IEC/EN: IP66, IP67 and IP69K
  - Per UL/CSA: Type 1, 2, 3R, 4, 4X, 12, 12K.

**Materials**
Polyamide.

**Mechanical endurance**
Operating force: <0.5kg/1.1lb (actuator).
Mechanical life: 5,000,000 cycles.

**Mounting adapter**
See page 7-20.
Type: LPX AU120.
Actuators are installed through a Ø22mm/Ø0.87" drilling with a threaded fixing ring (Tmax = 2.3Nm/1.69lbft) also on the cover of LPZ control stations.
The mounting adapter directly snaps onto the actuator.

**Contact elements**
See page 7-20, 7-23 or 7-24

| Type | | Termination |
|---|---|---|
| Front-mount types snap onto LPX AU120 mounting adapter (to purchase separately). Up to 9 contacts can be fitted: 3 each on the left, middle and right, one behind the other. They can also be fitted internally on the cover surface of LPZ control stations, up to 3 elements per actuator. | | |
| 1NO | LPX C10 | Screw |
| | LPX CF10 | Faston |
| | LPX CS10 | Spring clamp |
| 1EM | LPX C10A | Screw |
| 1NC | LPX C01 | Screw |
| | LPX CF01 | Faston |
| | LPX CS01 | Spring clamp |
| 1LB | LPX C01D | Screw |

Base-mount types snap into LPZ control station base.
See example on page 7-27.

Up to 3 contacts can be fitted per control station actuator.

| | | |
|---|---|---|
| 1NO | LPX CB10 | Screw |
| 1NC | LPX CB01 | Screw |

All these actuators are standard supplied with action plug for middle contacts.

**Certifications and compliance**
Certifications obtained: UL Listed for USA and Canada, (cULus - File E93601), as Auxiliary Devices; EAC, CCC, RINA.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14

## Mushroom head pushbutton actuators

LPC B614...

LPC B674...

LPC B6344

LPC B6634

LPC B6644

LPC B684...

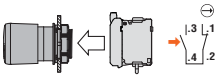
| Order code | Colour | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| SPRING RETURN.<br>Ø40mm/1.6" (without mounting adapter). | | | |
| **LPC B6142** | Black | 10 | 0.033 |
| **LPC B6143** | Green | 10 | 0.033 |
| **LPC B6144** | Red | 10 | 0.033 |
| **LPC B6145** | Yellow | 10 | 0.033 |
| **LPC B6146** | Blue | 10 | 0.033 |
| Ø60mm/2.4" (without mounting adapter). | | | |
| **LPC B6162** | Black | 10 | 0.038 |
| **LPC B6163** | Green | 10 | 0.038 |
| **LPC B6164** | Red | 10 | 0.038 |
| **LPC B6165** | Yellow | 10 | 0.038 |
| **LPC B6166** | Blue | 10 | 0.038 |
| LATCH, PULL TO RELEASE<br>Ø40mm/1.6" (without mounting adapter).<br>For normal stopping. | | | |
| **LPC B6742** | Black | 10 | 0.097 |
| For emergency stopping, ISO 13850 compliant. | | | |
| **LPC B6744** | Red | 10 | 0.097 |
| LATCH, TURN TO RELEASE<br>Ø40mm/1.6" (without mounting adapter).<br>For normal stopping. | | | |
| **LPC B6342** | Black | 10 | 0.046 |
| **LPC B6344** | Red | 10 | 0.046 |
| Ø30mm/1.2" (without mounting adapter).<br>For emergency stopping, ISO 13850 compliant. | | | |
| **LPC B6634** | Red | 10 | 0.079 |
| Ø40mm/1.6" (without mounting adapter).<br>For emergency stopping, ISO 13850 compliant. | | | |
| **LPC B6644** | Red | 10 | 0.079 |
| LATCH, TURN KEY TO RELEASE<br>Ø40mm/1.6" (without mounting adapter). Key code n° 455.<br>For normal stopping. | | | |
| **LPC B6842** | Black | 10 | 0.083 |
| **LPC B6842R❶** | Black | 1 | 0.083 |
| For emergency stopping, ISO 13850 compliant. | | | |
| **LPC B6844** | Red | 10 | 0.083 |
| **LPC B6844R❶** | Red | 1 | 0.083 |

❶ Versions with different key codes.
Complete with the numeric code of the key.
The following versions are available: 421E, 458A, 520E, 3131A, 3433E.
Example of complete code: LPC B6844R 421E.

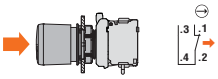
**Normal operation of auto-monitor contact mounted on surface or on cover of control stations**

**In case of detachment of only the contact element and/or of the mounting adapter with contact element**

With contact type LPX C01SM

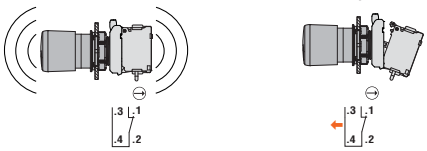


**Contact .3-.4 closes** when the LPX AU120 mounting adapter and LPX...SM contact are fitted correctly on the mushroom-head latch actuator.
**Contact .1-.2 in series does not change state.**

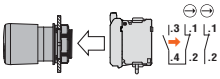


When the button is **fully pressed, contact .1-.2 opens** and remains in this state until the button is released.
**Contact .3-.4 in series does not change state.**

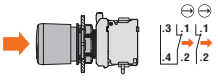
If the contact LPX C01SM detaches from the actuator due to **strong vibrations or shock,** the equipment can be restored to operating state only when proper mounting of the contact with the actuator is re-established resulting in **contact .3-.4 closing.**



With contact type LPX C02SM

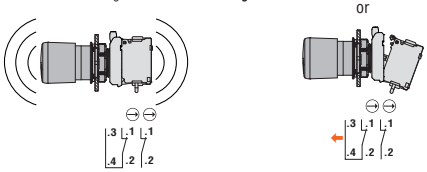


**Contact .3-.4 closes** when the LPX AU120 mounting adapter and LPX...SM contact are fitted correctly on the mushroom-head latch actuator.
**Both contacts .1-.2 in series do not change state.**



When the button is **fully pressed, both contacts .1-.2 open** and remain in this state until the button is released.
**Contact .3-.4 in series does not change state.**

If the contact LPX C02SM detaches from the actuator due to **strong vibrations or shock,** the equipment can be restored to operating state only when proper mounting of the contact with the actuator is re-established resulting in **contact .3-.4 closing.**



**Operational characteristics**
- Any mounting position allowed
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+85°C
- Degree of protection:
  - Per IEC/EN: IP66, IP67 and IP69K
  - Per UL: Type 1, 2, 3R, 4, 4X, 12, 12K.

**Materials**
Polyamide.

**Mechanical endurance**
Operating force: <0.5kg/1.1lb (actuator).
Mechanical life:
- Mushroom head spring return buttons: 5,000,000 cycles
- Mushroom head latch buttons: 300,000 cycles.

**Mounting adapter**
See page 7-20.
Type: LPX AU120.
Actuators are installed through a Ø22mm/Ø0.87" drilling with a threaded fixing ring (Tmax = 2.3Nm/1.69lbft) also on the cover of LPZ control stations.
The mounting adapter directly snaps onto the actuator.

**Contact elements**
See page 7-20, 7-23 or 7-24.

| Type | | Termination |
|---|---|---|
| Front-mount types snap onto LPX AU120 mounting adapter (to purchase separately). For SPRING-RETURN types, up to 9 contacts can be fitted: 3 each on the left, middle and right, one behind the other.<br>For LATCH types, up to 4 contacts can be fitted.<br>They can also be fitted internally on the cover surface of LPZ control stations, up to 3 elements per actuator. | | |
| 1NO | LPX C10 | Screw |
| | LPX CF10 | Faston |
| | LPXCS10 | Spring clamp |
| 1EM | LPX C10A | Screw |
| 1NC | LPX C01 | Screw |
| | LPX CF01 | Faston |
| | LPX CS01 | Spring clamp |
| 1LB | LPX C01D | Screw |
| Base-mount types snap into LPZ control station base.<br>See example on page 7-27.<br>Up to 3 contacts can be fitted per control station actuator. | | |
| 1NO | LPX CB10 | Screw |
| 1NC | LPX CB01 | Screw |
| AUTO-MONITOR CONTACT with MUSHROOM-HEAD LATCH TYPES only: 2 elements max of this type can be mounted.<br>Extra two contacts can be fitted on the right.<br>Two elements per actuator can be fixed internally on the cover surface of LPZ control stations of which one auto-monitor type. No LED element can be installed. | | |
| Auto-monitor 1NC | LPX C01SM | Screw (2 stacked in the middle - LPX AU120 pos.1/3-4/6) |
| 1NO | LPX C10 | Screw (2 stacked on the right) |
| | LPX CF10 | Faston (2 stacked on the right) |
| 1NC | LPX C01 | Screw (2 stacked on the right) |
| | LPX CF01 | Faston (2 stacked on the right) |
| AUTO-MONITOR CONTACT with MUSHROOM-HEAD LATCH TYPES only: 2 elements max of this type can be mounted.<br>Only one of this type per actuator can be fixed internally on the cover surface of LPZ control stations. No LED element can be installed. | | |
| Auto-monitor 2NC | LPX C02SM | Screw (2 stacked ) |

All these actuators are standard-supplied with action plug for middle contacts.

**Certifications and compliance**
Certifications obtained: UL Listed for USA and Canada, (cULus - File E93601), as Auxiliary Devices; EAC, CCC, RINA.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

## Double-touch actuators, spring return

LPC B71...

LPC B72...

| Order code | Colour | Symbols | Qty per pkg | Wt |
|---|---|---|---|---|
| | | | n° | [kg] |
| Two flush pushbuttons (without mounting adapter). Both spring return. | | | | |
| **LPC B7112** | Black/Red | — | 5 | 0.030 |
| **LPC B7113** | Green/Red | — | 5 | 0.030 |
| **LPC B7114** | White/Black | — | 5 | 0.030 |
| **LPC B7122** | Black/Red | I-O | 5 | 0.030 |
| **LPC B7123** | Green/Red | I-O | 5 | 0.030 |
| **LPC B7124** | White/Black | I-O | 5 | 0.030 |
| **LPC B7133** | Green/Red | Start/Stop | 5 | 0.030 |
| One extended and one flush pushbuttons (without mounting adapter). Both spring return. | | | | |
| **LPC B7212** | Black/Red | — | 1 | 0.030 |
| **LPC B7213** | Green/Red | — | 5 | 0.030 |
| **LPC B7214** | White/Black | — | 1 | 0.030 |
| **LPC B7222** | Black/Red | I-O | 5 | 0.030 |
| **LPC B7223** | Green/Red | I-O | 5 | 0.030 |
| **LPC B7224** | White/Black | I-O | 1 | 0.030 |
| **LPC B7233** | Green/Red | Start/Stop | 5 | 0.030 |

## Triple-touch actuators, spring return

LPC B73...

| Order code | Symbols | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| One middle extended buttons (without mounting adapter). Spring return. | | | |
| **LPC B7345** | STOP | 5 | 0.030 |
| **LPC B7355** | STOP | 5 | 0.030 |
| **LPC B7365** | STOP | 5 | 0.030 |
| **LPC B7375** | STOP | 5 | 0.030 |

**Operational characteristics**
- Any mounting position allowed
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+85°C
- Degree of protection:
  - Per IEC/EN: IP66, IP67 and IP69K
  - Per UL: Type 1, 2, 3R, 4, 4X, 12, 12K.

**Materials**
Polyamide.

**Mechanical endurance**
Operating force: <0.5kg/1.1lb (actuator).
Mechanical life: 1,000,000 cycles.

**Mounting adapter**
See page 7-20.
Type: LPX AU120.
Actuators are installed through a Ø22mm/Ø0.87" drilling with a threaded fixing ring (Tmax = 2.3Nm/1.69lbft) also on the cover of LPZ control stations.
The mounting adapter directly snaps onto the actuator.

**Contact elements**
See page 7-20, 7-23 or 7-24.

| Type | | Termination |
|---|---|---|
| Front-mount types snap onto LPX AU120 mounting adapter (to purchase separately).<br>For DOUBLE-TOUCH actuators, up to 6 contacts can be fitted: 3 on the left, 3 on the right.<br>For TRIPLE-TOUCH actuators, up to 9 contacts can be fitted: 3 each on the left, middle and right, one behind the other. They can also be fitted internally on the cover surface of LPZ control stations: 2 for double-touch and 3 elements for triple-touch. | | |
| 1NO | LPX C10 | Screw |
| | LPX CF10 | Faston |
| | LPXCS10 | Spring clamp |
| 1EM | LPX C10A | Screw |
| 1NC | LPX C01 | Screw |
| | LPX CF01 | Faston |
| | LPX CS01 | Spring clamp |
| 1LB | LPX C01D | Screw |
| Base-mount types snap into LPZ control station base. See example on page 7-27.<br>For DOUBLE-TOUCH actuators, 2 contacts need to be fitted, one on the left and one on the right.<br>For TRIPLE-TOUCH actuators, 3 contacts need to be fitted: one each on the left, middle and right. | | |
| 1NO | LPX CB10 | Screw |
| 1NC | LPX CB01 | Screw |

**Certifications and compliance**
Certifications obtained: UL Listed for USA and Canada, (cULus - File E93601), as Auxiliary Devices; EAC, CCC, RINA.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

## Selector switch actuators lever

LPC S1...

| Order code | Type of positions | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| 2 position (without mounting adapter). | | | |
| **LPC S120** | | 10 | 0.037 |
| **LPC S121** | | 10 | 0.037 |
| 3 position (without mounting adapter). | | | |
| **LPC S130** | | 10 | 0.037 |
| **LPC S131** | | 10 | 0.037 |
| **LPC S132** | | 10 | 0.037 |
| **LPC S133** | | 10 | 0.037 |

## Selector switch actuators long lever

LPC S2...

| Order code | Type of positions | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| 2 position (without mounting adapter). | | | |
| **LPC S220** | | 10 | 0.040 |
| **LPC S221** | | 10 | 0.040 |
| 3 position (without mounting adapter). | | | |
| **LPC S230** | | 10 | 0.040 |
| **LPC S231** | | 10 | 0.040 |
| **LPC S232** | | 10 | 0.040 |
| **LPC S233** | | 10 | 0.040 |

## Selector switch actuators key

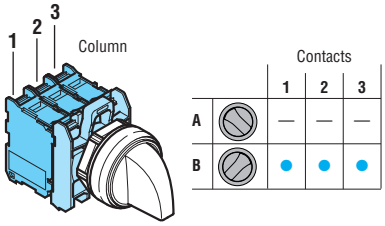
LPC S3...

| Order code | Type of position | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| 2 position (without mounting adapter). | | | |
| **LPC S320** | | 10 | 0.060 |
| **LPC S320R❶** | | 1 | 0.060 |
| **LPC S321** | | 10 | 0.060 |
| **LPC S321R❶** | | 1 | 0.060 |
| **LPC S340** | | 10 | 0.060 |
| **LPC S340R❶** | | 1 | 0.060 |
| 3 position (without mounting adapter). | | | |
| **LPC S330** | | 10 | 0.060 |
| **LPC S330R❶** | | 1 | 0.060 |
| **LPC S331** | | 10 | 0.060 |
| **LPC S331R❶** | | 1 | 0.060 |
| **LPC S332❷** | | 10 | 0.060 |
| **LPC S332R❶❷** | | 1 | 0.060 |
| **LPC S333❷** | | 10 | 0.060 |
| **LPC S333R❶❷** | | 1 | 0.060 |
| **LPC S350** | | 10 | 0.060 |
| **LPC S350R❶** | | 1 | 0.060 |
| **LPC S360** | | 10 | 0.060 |
| **LPC S360R❶** | | 1 | 0.060 |
| **LPC S370❷** | | 10 | 0.060 |
| **LPC S370R❶❷** | | 1 | 0.060 |
| **LPC S380❷** | | 10 | 0.060 |
| **LPC S380R❶❷** | | 1 | 0.060 |
| **LPC S390❷** | | 10 | 0.060 |
| **LPC S390R❶❷** | | 1 | 0.060 |

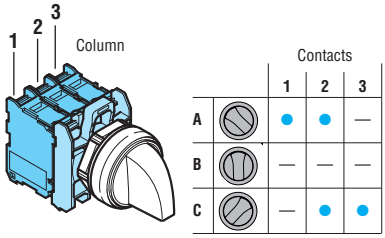
❶ Versions with different key codes.
Complete with the numeric code of the key.
The following versions are available: 421E, 458A, 520E, 3131A, 3433E.
Example of complete code: LPC S320 R421E.

❷ Available only on specific request

Contact activation of 2-position selector switch




Contact activiation of 3-position selector switch




**Operational characteristics**
- Any mounting position allowed
- Standard key types supplied with key code n° 455
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+85°C
- Degree of protection:
  - Per IEC/EN: IP66, IP67 and IP69K
  - Per UL: Type 1, 2, 3R, 4, 4X, 12, 12K.

**Materials**
Polyamide.

**Mechanical endurance**
Mechanical life: 1,000,000 cycles.

**Mounting adapter**
See page 7-20.
Type: LPX AU120.
Actuators are installed through a Ø22mm/Ø0.87" drilling with a threaded fixing ring (Tmax = 2.3Nm/1.69lbft) also on the cover of LPZ control stations.
The mounting adapter directly snaps onto the actuator.

**Contact elements**
See page 7-20, 7-23 or 7-24.

| Type | | Termination |
|---|---|---|
| Front-mount types snap onto LPX AU120 mounting adapter (to purchase separately). Up to 6 contacts can be fitted: 2 each on the left, middle and right or 3 each on the left and right, one behind the other. They can also be fitted internally on the cover surface of LPZ control stations, up to 3 elements per actuator. | | |
| 1NO | LPX C10 | Screw |
| | LPX CF10 | Faston |
| | LPXCS10 | Spring clamp |
| 1EM | LPX C10A | Screw |
| 1NC | LPX C01 | Screw |
| | LPX CF01 | Faston |
| | LPX CS01 | Spring clamp |
| 1LB | LPX C01D | Screw |

Base-mount types snap into LPZ control station base.
See example on page 7-27.

Up to 3 contacts can be fitted per control station actuator.

| | | |
|---|---|---|
| 1NO | LPX CB10 | Screw |
| 1NC | LPX CB01 | Screw |

Activation of the middle contacts is coupled to the side contacts; the relative mechanism pins are standard supplied.

The middle contact activation, with respect to the right and left side contact, can be changed by the user, if required, by removing one or both mechanism pins.
Consult the relative instructions available online in the Downloads section at www.LovatoElectric.com.

**Type of position**
- Maintained position.
- Spring return position.
- • Key extraction position.

**Rotation angles**
2 position

3 position

**Special versions**
Versions with coloured keys are available upon request.
Consult Customer Service; see contact details on inside front cover.

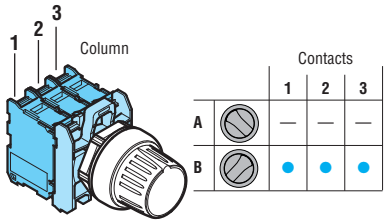
**Certifications and compliance**
Certifications obtained: UL Listed for USA and Canada, (cULus - File E93601), as Auxiliary Devices; EAC, CCC, RINA.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

## Selector switch actuators knob

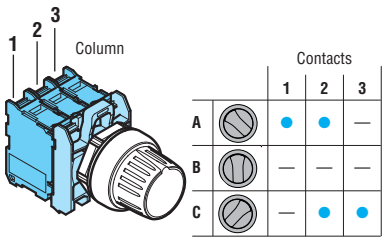
LPC S4...

| Order code | Type of positions | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| 2 position (without mounting adapter) | | | |
| **LPC S420** | | 10 | 0.037 |
| **LPC S421** | | 10 | 0.037 |
| 3 position (without mounting adapter). | | | |
| **LPC S430** | | 10 | 0.037 |
| **LPC S431** | | 10 | 0.037 |
| **LPC S432** | | 10 | 0.037 |
| **LPC S433** | | 10 | 0.037 |

Contact activation of 2-position selector switch




Contact activation of 3-position selector switch




**Operational characteristics**
- Any mounting position allowed
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+85°C
- Degree of protection:
  - Per IEC/EN: IP66, IP67 and IP69K
  - Per UL: Type 1, 2, 3R, 4, 4X, 12, 12K.

**Materials**
Polyamide.

**Mechanical endurance**
Mechanical life: 1,000,000 cycles.

**Mounting adapter**
See page 7-20.
Type: LPX AU120.
Actuators are installed through a Ø22mm/Ø0.87" drilling with a threaded fixing ring (Tmax = 2.3Nm/1.69lbft) also on the cover of LPZ control stations.
The mounting adapter directly snaps onto the actuator.

**Contact elements**
See page 7-20, 7-23 or 7-24.

| Type | | Termination |
|---|---|---|

Front-mount types snap onto LPX AU120 mounting adapter (to purchase separately). Up to 6 contacts can be fitted: 2 each on the left, middle and right or 3 each on the left and right, one behind the other.
They can also be fitted internally on the cover surface of LPZ control stations, up to 3 elements per actuator.

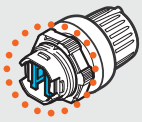
| | | |
|---|---|---|
| 1NO | LPX C10 | Screw |
| | LPX CF10 | Faston |
| | LPXCS10 | Spring clamp |
| 1EM | LPX C10A | Screw |
| 1NC | LPX C01 | Screw |
| | LPX CF01 | Faston |
| | LPX CS01 | Spring clamp |
| 1LB | LPX C01D | Screw |

Base-mount types snap into LPZ control station base.
See example on page 7-27.

Up to 3 contacts can be fitted per control station actuator.

| | | |
|---|---|---|
| 1NO | LPX CB10 | Screw |
| 1NC | LPX CB01 | Screw |

Activation of the middle contacts is coupled to the side contacts; the relative mechanism pins are standard supplied.



The middle contact activation, with respect to the right and left side contact, can be changed by the user, if required, by removing one or both mechanism pins. Consult the relative instructions available online in the Downloads section at www.LovatoElectric.com.

**Type of position**
Maintained position.
Spring return position.

**Rotation angles**
2 position

3 position

**Certifications and compliance**
Certifications obtained:UL Listed for USA and Canada, (cULus - File E93601), as Auxiliary Devices; EAC, CCC (pending), RINA (pending).
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

## Illuminated button actuators, spring return

LPC BL10…

LPC BL20…

| Order code | Colour | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| Flush (without mounting adapter). Spring return. | | | |
| **LPC BL103** | Green | 10 | 0.025 |
| **LPC BL104** | Red | 10 | 0.025 |
| **LPC BL105** | Yellow | 10 | 0.025 |
| **LPC BL106** | Blue | 10 | 0.025 |
| **LPC BL107** | Transparent | 10 | 0.025 |
| Extended (without mounting adapter). Spring return. | | | |
| **LPC BL203** | Green | 10 | 0.027 |
| **LPC BL204** | Red | 10 | 0.027 |
| **LPC BL205** | Yellow | 10 | 0.027 |
| **LPC BL206** | Blue | 10 | 0.027 |
| **LPC BL207** | Transparent | 10 | 0.027 |

## Illuminated push-push button actuators

LPC QL10…

LPC QL20…

| Order code | Colour | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| Flush (without mounting adapter). Push on-push off. | | | |
| **LPC QL103❶** | Green | 10 | 0.025 |
| **LPC QL104❶** | Red | 10 | 0.025 |
| **LPC QL105❶** | Yellow | 10 | 0.025 |
| **LPC QL106❶** | Blue | 10 | 0.025 |
| **LPC QL107❶** | Transparent | 10 | 0.025 |
| Extended (without mounting adapter). Push on-push off. | | | |
| **LPC QL203❶** | Green | 10 | 0.027 |
| **LPC QL204❶** | Red | 10 | 0.027 |
| **LPC QL205❶** | Yellow | 10 | 0.027 |
| **LPC QL206❶** | Blue | 10 | 0.027 |
| **LPC QL207❶** | Transparent | 10 | 0.027 |

❶ **Use contact elements LPX C10A (EM) and LPXC01 (NC) only.**
Contact elements LPX C10 (NO) and LPX C01D (LB) cannot be fitted on these actuators.

## Illuminated mushroom head button actuators

LPC BL614…

LPC BL664…

| Order code | Colour | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| SPRING RETURN. Ø40mm/1.6" (without mounting adapter). | | | |
| **LPC BL6143** | Green | 10 | 0.035 |
| **LPC BL6144** | Red | 10 | 0.035 |
| **LPC BL6145** | Yellow | 10 | 0.035 |
| **LPC BL6146** | Blue | 10 | 0.035 |
| **LPC BL6148** | White | 1 | 0.035 |
| LATCH, TURN TO RELEASE. Ø40mm/1.6" (without mounting adapter). For normal stopping. | | | |
| **LPC BL6643** | Green | 1 | 0.040 |
| **LPC BL6645** | Yellow | 1 | 0.040 |
| **LPC BL6646** | Blue | 1 | 0.040 |
| For emergency stopping, ISO 13850 compliant. | | | |
| **LPC BL6644** | Red | 10 | 0.040 |

**Operational characteristics**
- Any mounting position allowed
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+85°C
- Degree of protection:
  - Per IEC/EN: IP66, IP67 and IP69K
  - Per UL: Type 1, 2, 3R, 4, 4X, 12, 12K.

**Materials**
Polyamide.

**Mechanical endurance**
Operating force: <0.5kg/1.1lb (actuator).
Mechanical life:
- Spring-return actuators: 5,000,000 cycles
- Push-push actuators: 500,000 cycles
- Spring-return mushroom-head actuator: 5,000,000 cycles
- Latch mushroom-head actuators: 300,000 cycles.

**Mounting adapter**
See page 7-20.
Type: LPX AU120.
Actuators are installed through a Ø22mm/Ø0.87" drilling with a threaded fixing ring (Tmax = 2.3Nm/1.69lbft) also on the cover of LPZ control stations.
The mounting adapter directly snaps onto the actuator.

**Contact elements for illuminated spring-return and mushroom-head latch actuators**
See page 7-20, 7-23 or 7-24.

| Type | | Termination |
|---|---|---|
| Front-mount types snap onto LPX AU120 mounting adapter (to purchase separately). For TYPES LPC BL1/BL2/BL61…up to 6 contacts can be fitted: 3 each on the left and right, one behind the other. For TYPES LPC BL66…up to 4 contacts can be fitted: 2 each on the left and right, one behind the other. They can also be fitted internally on the cover surface of LPZ control stations, up to 2 elements per actuator in addition to the LED element in the middle position. | | |
| 1NO | LPX C10 | Screw |
| | LPX CF10 | Faston |
| | LPX CS10 | Spring clamp |
| 1EM | LPX C10A | Screw |
| 1NC | LPX C01 | Screw |
| | LPX CF01 | Faston |
| | LPX CS01 | Spring clamp |
| 1LB | LPX C01D | Screw |

Base-mount types snap into LPZ control station base.
See example on page 7-27.
Up to 2 contacts can be fitted per control station actuator in addition to the LED element in the middle position.

| | | |
|---|---|---|
| 1NO | LPX CB10 | Screw |
| 1NC | LPX CB01 | Screw |

**Contact elements for illuminated push-push button actuators**
See page 7-20.
Type: LPX C10A (1EM)
LPX C01 (1NC)
Contacts snap onto LPX AU120 adapter and also internally on the cover surface of LPZ control stations.
Up to 4 contacts can be fitted: 2 each on the left and right, one behind the other; up to 2 elements per control station actuator in addition to the LED element in the middle position.

**LED light elements**
See pages 7-22 to 24.

**Certifications and compliance**
Certifications obtained: UL Listed for USA and Canada, (cULus - File E93601), as Auxiliary Devices; EAC, CCC, RINA.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

## Double-touch actuators, spring return, white indicator

LPC BL71...

LPC BL72...

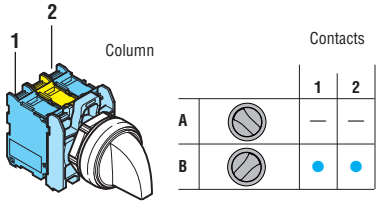
| Order code | Colour | Symbol | Qty per pkg | Wt |
|---|---|---|---|---|
| | | | n° | [kg] |
| Two flush pushbuttons (without mounting adapter). Both spring return. | | | | |
| **LPC BL7112** | Black/Red | — | 5 | 0.030 |
| **LPC BL7113** | Green/Red | — | 5 | 0.030 |
| **LPC BL7114** | White/Black | — | 1 | 0.030 |
| **LPC BL7122** | Black/Red | I-O | 5 | 0.030 |
| **LPC BL7123** | Green/Red | I-O | 5 | 0.030 |
| **LPC BL7124** | White/Black | I-O | 5 | 0.030 |
| **LPC BL7133** | Green/Red | Start/Stop | 5 | 0.030 |
| One extended and one flush pushbuttons (without mounting adapter). Both spring return. | | | | |
| **LPC BL7212** | Black/Red | — | 1 | 0.030 |
| **LPC BL7213** | Green/Red | — | 5 | 0.030 |
| **LPC BL7214** | White/Black | — | 1 | 0.030 |
| **LPC BL7222** | Black/Red | I-O | 1 | 0.030 |
| **LPC BL7223** | Green/Red | I-O | 5 | 0.030 |
| **LPC BL7224** | White/Black | I-O | 5 | 0.030 |
| **LPC BL7233** | Green/Red | Start/Stop | 5 | 0.030 |

## Illuminated selector switch actuators

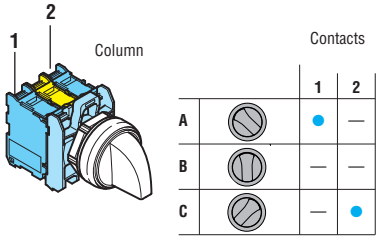
LPC SL1...

| Order code | Colour | Type of positions | Qty per pkg. | Wt |
|---|---|---|---|---|
| | | | n° | [kg] |
| 2 position (without mounting adapter). | | | | |
| **LPC SL1203** | Green | | 10 | 0.025 |
| **LPC SL1204** | Red | | 10 | 0.025 |
| **LPC SL1205** | Yellow | | 10 | 0.025 |
| **LPC SL1206** | Blue | | 10 | 0.025 |
| **LPC SL1208** | White | | 10 | 0.025 |
| **LPC SL1213** | Green | | 10 | 0.025 |
| **LPC SL1214** | Red | | 1 | 0.025 |
| **LPC SL1215** | Yellow | | 1 | 0.025 |
| **LPC SL1216** | Blue | | 1 | 0.025 |
| **LPC SL1218** | White | | 10 | 0.025 |
| 3 position (without mounting adapter). | | | | |
| **LPC SL1303** | Green | | 10 | 0.025 |
| **LPC SL1304** | Red | | 10 | 0.025 |
| **LPC SL1305** | Yellow | | 10 | 0.025 |
| **LPC SL1306** | Blue | | 10 | 0.025 |
| **LPC SL1308** | White | | 10 | 0.025 |
| **LPC SL1313** | Green | | 10 | 0.025 |
| **LPC SL1314** | Red | | 1 | 0.025 |
| **LPC SL1315** | Yellow | | 1 | 0.025 |
| **LPC SL1316** | Blue | | 1 | 0.025 |
| **LPC SL1318** | White | | 10 | 0.025 |
| **LPC SL1323** | Green | | 10 | 0.025 |
| **LPC SL1324** | Red | | 1 | 0.025 |
| **LPC SL1325** | Yellow | | 1 | 0.025 |
| **LPC SL1326** | Blue | | 1 | 0.025 |
| **LPC SL1328** | White | | 10 | 0.025 |
| **LPC SL1333** | Green | | 10 | 0.025 |
| **LPC SL1334** | Red | | 1 | 0.025 |
| **LPC SL1335** | Yellow | | 1 | 0.025 |
| **LPC SL1336** | Blue | | 1 | 0.025 |
| **LPC SL1338** | White | | 10 | 0.025 |

Contact activation of 2-position selector switch




Contact activation of 3-position selector switch




**Operational characteristics**
- Any mounting position allowed
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+85°C
- Degree of protection:
  - Per IEC/EN: IP66, IP67 and IP69K
  - Per UL: Type 1, 2, 3R, 4, 4X, 12, 12K.

**Materials**
Polyamide.

**Mechanical endurance**
Operating force: <0.5kg/1.1lb (actuator).
Mechanical life:
- Double-touch: 1,000,000 cycles.
- Selector switches: 1,000,000 cycles.

**Mounting adapter**
See page 7-20.
Type: LPX AU120.
Actuators are installed through a Ø22mm/Ø0.87" drilling with a threaded fixing ring (Tmax = 2.3Nm/1.69lbft) also on the cover of LPZ control stations.
The mounting adapter directly snaps onto the actuator.

**Contact elements**
See page 7-20, 7-23 or 7-24.

| Type | Termination |
|---|---|

Front-mount types snap onto LPX AU120 mounting adapter (to purchase separately).
For DOUBLE-TOUCH TYPES, up to 6 contacts can be fitted: 3 each on the left and right, one behind the other.
For SELECTOR SWITCHES, up to 4 contacts can be fitted: 2 each on the left and right, one behind the other.
They can also be fitted internally on the cover surface of LPZ control stations, up to 2 elements per actuator in addition to the LED element in the middle position.

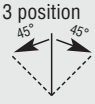
| | | |
|---|---|---|
| 1NO | LPX C10 | Screw |
| | LPX CF10 | Faston |
| | LPX CS10 | Spring clamp |
| 1EM | LPX C10A | Screw |
| 1NC | LPX C01 | Screw |
| | LPX CF01 | Faston |
| | LPX CS01 | Spring clamp |
| 1LB | LPX C01D | Screw |

Base-mount types snap into LPZ control station base.
See example on page 7-27.
Up to 2 contacts can be fitted per control station actuator in addition to the LED element in the middle position.

| | | |
|---|---|---|
| 1NO | LPX CB10 | Screw |
| 1NC | LPX CB01 | Screw |

**Selector switch type of positions**
Maintained position.
Spring return position.

**Selector switch rotation angles**
2 position

3 position



**LED light elements**
See pages 7-22 to 7-24.

**Certifications and compliance**
Certifications obtained: UL Listed for USA and Canada, (cULus - File E93601), as Auxiliary Devices; EAC, CCC, RINA.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

## Pilot light heads

LPL...

| Order code | Colour | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| Without mounting adapter. | | | |
| **LPL 3** | Green | 10 | 0.024 |
| **LPL 4** | Red | 10 | 0.024 |
| **LPL 5** | Yellow | 10 | 0.024 |
| **LPL 6** | Blue | 10 | 0.024 |
| **LPL 7** | Transparent | 10 | 0.024 |
| **LPL 1187** | Transparent ϟ ❶ | 10 | 0.024 |

❶ With symbol indicating dangerous voltage (IEC/EN 60417 5036-a).

**Operational characteristics**
- Any mounting position allowed
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+85°C
- Degree of protection:
  - Per IEC/EN: IP66, IP67 and IP69K
  - Per UL: Type 1, 2, 3R, 4, 4X, 12, 12K.

**Materials**
Polyamide.

**Mounting adapter**
See page 7-20.
Type: LPX AU120.
Pilot light heads are installed through a Ø22mm/Ø0.87" drilling with a threaded fixing ring (Tmax = 2.3Nm/1.69lbft) also on the cover of LPZ control stations, with LED element in central position.
The mounting adapter directly snaps onto the actuator.

**LED light elements**
See pages 7-20 to 7-24.

**Certifications and compliance**
Certifications obtained: UL Listed for USA and Canada, (cULus - File E93601), as Auxiliary Devices; EAC, CCC, RINA.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

## LED integrated monoblock pilot lights steady light

new

LPM...

| Order code | Rated auxiliary supply voltage | LED colour | Qty per pkg | Wt |
|---|---|---|---|---|
| | | | n° | [kg] |
| **LPM LA3** | 12VAC/DC | Green | 10 | 0.021 |
| **LPM LA4** | | Red | 10 | 0.021 |
| **LPM LA5** | | Yellow | 10 | 0.021 |
| **LPM LA6** | | Blue | 10 | 0.021 |
| **LPM LA7** | | Transparent | 10 | 0.021 |
| **LPM LB3** | 24VAC/DC | Green | 10 | 0.021 |
| **LPM LB4** | | Red | 10 | 0.021 |
| **LPM LB5** | | Yellow | 10 | 0.021 |
| **LPM LB6** | | Blue | 10 | 0.021 |
| **LPM LB7** | | Transparent | 10 | 0.021 |
| **LPM LD3** | 48VAC/DC | Green | 10 | 0.021 |
| **LPM LD4** | | Red | 10 | 0.021 |
| **LPM LD5** | | Yellow | 10 | 0.021 |
| **LPM LD6** | | Blue | 10 | 0.021 |
| **LPM LD7** | | Transparent | 10 | 0.021 |
| **LPM LE3** | 110VAC | Green | 10 | 0.024 |
| **LPM LE4** | | Red | 10 | 0.024 |
| **LPM LE5** | | Yellow | 10 | 0.024 |
| **LPM LE6** | | Blue | 10 | 0.024 |
| **LPM LE7** | | Transparent | 10 | 0.024 |
| **LPM LM3** | 230VAC | Green | 10 | 0.024 |
| **LPM LM4** | | Red | 10 | 0.024 |
| **LPM LM5** | | Yellow | 10 | 0.024 |
| **LPM LM6** | | Blue | 10 | 0.024 |
| **LPM LM7** | | Transparent | 10 | 0.024 |

**Operational characteristics**
- Nominal frequency: 50-60Hz
- Supply voltage: 12VAC/DC, 24VAC/DC, 48VAC/DC, 110VAC, 230VAC (-15%...+10% Ue)
- Consumption: ≤20mA
- Installed through a Ø22mm/Ø0.87" drilling with a threaded fixing ring (Tmax = 2.3Nm/1.69lbft) also on cover of LPZ control stations
- Electrical life: >30,000 hours
- Screw termination
- Side cable entry
- Maximum tightening torque: 0.8Nm
- Ambient conditions:
  - Operating temperature: -5...+70°C
- Degree of protection:
  - per IEC/EN: IP66, IP67 and IP69K on front; IP20 at rear
  - per UL: Type 1, 2, 3R, 4, 4X, 12, 12K on front.

**Materials**
Polyamide.

**Maximum conductor cross section**
1 or 21.5mm² or AWG16 cables.

**Wiring diagram**

**Certifications and compliance**
Certifications obtained: cULus (pending), EAC, CCC (pending).
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

## Monoblock potentiometers

LPC PA...

| Order code | Resistance value | Qty per pkg. | Wt |
|---|---|---|---|
| | | n° | [kg] |
| **LPC PA001** | 1kΩ | 10 | 0.040 |
| **LPC PA002** | 2.5kΩ | 10 | 0.040 |
| **LPC PA005** | 5kΩ | 10 | 0.040 |
| **LPC PA010** | 10kΩ | 10 | 0.040 |
| **LPC PA050** | 50kΩ | 10 | 0.040 |
| **LPC PA100** | 100kΩ | 10 | 0.040 |
| **LPC PA500** | 500kΩ | 10 | 0.040 |

**General characteristics**
Monoblock potentiometers are typically used for regulating the parameters of many devices (e.g. the speed of the electric motors through static converters).
The monoblock body design permits direct use of the potentiometer by panel fitting with fixing ring and subsequent tightening of cables into the built-in terminal block.
The potentiometer is made with Cermet technology, which ensures stable, constant resistance values over time. The, UL-certified, range is made for resistance values from 1 to 500kΩ. All potentiometers are IP66, IP67, IP69K and UL Type 4X, which means that they can be used in demanding ambient conditions.

**Operational characteristics**
- Rated insulation voltage Ui: 250VAC
- Impulse withstand voltage Uimp: 4kV
- Potentiometer included in the product
- Monoblock body with 1-turn graduated scale
- Any fitting position permitted
- Installed through a Ø22mm/Ø0.87" drilling with a threaded fixing ring (Tmax = 2.3Nm/1.69lbft) also on the cover of LPZ control stations
- Resistive material: cermet
- Operation: linear
- Resistance tolerance: ±10%
- Max. power: 1W (70°C)
- Mechanical endurance: 25,000 operations
- Mechanical travel: 290°
- Side cable entry
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+85°C
- Degree of protection:
  - Per IEC/EN: IP66, IP67 and IP69K on front
  - Per IEC/EN: IP20 at rear
  - Per UL: Type 1, 2, 3R, 4, 4X, 12, 12K on front.

**Materials**
Polyamide.

**Maximum conductor cross section**
Screw terminal connections with three separate connections:
- Min. cable 0.5mm² / AWG24
- Max. cable 2.5mm² / AWG14
- Maximum tightening torque: 0.5Nm/0.37lbft
- Flat-head screwdriver: 0.6x3.5mm/0.02x0.14".

**Certifications and compliance**
Certifications obtained: cULus, EAC, CCC (pending), RINA (pending).
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

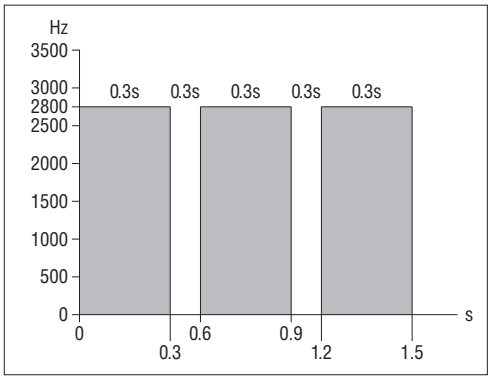
## Monoblock buzzers

LPC ZS...

LPC ZS...IP

| Order code | Voltage | Sound intensity at 2800Hz | Qty per pkg. | Wt |
|---|---|---|---|---|
| | [V] | [dB/10cm] | n° | [kg] |
| Continuous or pulse tone, IP40 version. | | | | |
| **LPC ZSA** | 9...15VAC/DC | 90 | 1 | 0.020 |
| **LPC ZSB** | 18...30VAC/DC | 90 | 1 | 0.020 |
| **LPC ZSE** | 85...140VAC/DC | 90 | 1 | 0.020 |
| **LPC ZSM** | 185...265VAC/DC | 90 | 1 | 0.020 |
| Continuous or pulse tone, IP66, IP67, IP69K, UL Type 4X version. | | | | |
| **LPC ZSAIP** | 9...15VAC/DC | 80 | 1 | 0.020 |
| **LPC ZSBIP** | 18...30VAC/DC | 80 | 1 | 0.020 |
| **LPC ZSEIP** | 85...140VAC/DC | 80 | 1 | 0.020 |
| **LPC ZSMIP** | 185...265VAC/DC | 80 | 1 | 0.020 |

**Pulse-tone sound graph**




**General characteristics**
Monoblock buzzers are used as sound indicators in automation systems and on-board machinery in the production processes.
Long life, low consumption values, compact size and the use of materials, in accordance with the North American market, are the main features of this product.

**Operational characteristics**
- Rated frequency: 50…60Hz
- Supply voltage: 9..15VAC/DC, 18..30VAC/DC, 85..140VAC/DC, 185..265VAC/DC
- Maximum absorption: 20mA-0.30W (type 9..15VAC/DC), 15mA-0.40W (type 18..30VAC/DC), 5.5mA-0.80W (type 85..140VAC/DC), 3.5mA-0.95W (type 185..265VAC/DC)
- Minimum activation voltage: >4V (type 9..15VAC/DC), >8V (type 18..30VAC/DC), >15V (type 85..140VAC/DC), >25V (type 185..265VAC/DC)
- Impulse withstand voltage Uimp: 4kV
- Installed through a Ø22mm/Ø0.87” drilling with a threaded fixing ring (Tmax = 2.3Nm/1.69lbft) also on the cover of LPZ control stations
- Service life: 30,000 hours (permanently powered)
- Side cable entry
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+85°C
- Degree of protection (type LPC ZS...IP):
  - per IEC/EN: IP66, IP67, IP69K on front and IP20 at rear
  - per UL: Type 1, 2, 3R, 4, 4X, 12, 12K on front.

**Materials**
Polyamide.

**Maximum conductor cross section**
Screw terminal connections with three separate connections:
- Min. cable 0.5mm² / AWG24
- Max. cable 2.5mm² / AWG14
- Maximum tightening torque: 0.5Nm/0.37lbft
- Flat-head screwdriver: 0.6x3.5mm/0.02x0.14”.

**Certifications and compliance**
Certifications obtained: cULus, EAC, CCC (pending), RINA (pending).
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

## USB and RJ45 communication interfaces

LPC D01

LPC D03

LPC D05

| Order code | Description | Qty per pkg. | Wt |
|---|---|---|---|
| | | n° | [kg] |
| **LPC D01** | USB interface, A/A female type connection | 1 | 0.018 |
| **LPC D03** | USB interface, A/B female type connection | 1 | 0.018 |
| **LPC D05** | USB interface, B/A female type connection | 1 | 0.018 |
| **LPC D06** | RJ45 interface, Ethernet connection type | 1 | 0.026 |

**General characteristics**
USB and RJ45 communication interface connectors are used in industrial environments, which in recent years have seen an increase in the number of connections between machines, production lines, equipment and measuring instruments. These interfaces provide the transmission of data in both directions between the various devices.

**Operational characteristics**
- Rated insulation voltage for LPCD01, LPCD03, LPCD05: 5VAC/DC
- Rated insulation voltage for LPCD06: 24VAC
- Interface mechanical endurance: ≥750 insertions
- Installed through a Ø22mm/Ø0.87” drilling with a threaded fixing ring (Tmax = 2.3Nm/1.69lbft) also on the cover of LPZ control stations
- Transmission characteristics for LPCD01, D03, D05: 5Gbps (625MB/sec)
- Transmission characteristics for LPCD06: 10 Gigabit Ethernet IEEE 802.3an-2006
- Rated current for LPCD01, LPCD03, LPCD05: 1.8A
- Rated current for LPCD06: 1.5A
- Insulation resistance: ≥100MOhm
- Contact resistance for LPCD01, LPCD03, LPCD05: ≤30mOhm
- Contact resistance for LPCD06: ≤40mOhm
- USB connector class: 3.0 (backward compatible with USB class 2.0)
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+85°C
- Degree of protection:
  - Per IEC/EN: IP65 on front (with cap mounted)
  - Per IEC/EN: IP20 at rear
  - Per UL: Type 1, 2, 3R, 4, 4X, 12, 12K on front (with cap mounted)

**Materials**
Polyamide.

**Certifications and compliance**
Certifications obtained: cULus, EAC, CCC (pending), RINA (pending).
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

## Accessories and spare parts

LPX A130

LPX A140

LPX AU00

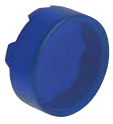
LPX P01

LPX B0

LPX B104

LPX B203

LPX BL105


LPX BL206

| Order code | Description | Qty per pkg. | Wt |
|---|---|---|---|
| | | n° | [kg] |
| **LPX A127** | Transparent diffuser for double-touch buttons | 10 | 0.001 |
| **LPX A130** | Threaded plug for unused drilled holes (grey) | 10 | 0.007 |
| **LPX A140** | Action plug for centre contact | 50 | 0.001 |
| **LPX A150** | Rod for mechanical reset button (l=150mm) | 10 | 0.006 |
| **LPX A170** | Spare standard key set for selector switches or mushroom-head buttons, key code n° 455 | 10 | 0.008 |
| **LPX A170R❶** | Spare key set for selector switches or mushroom head buttons, LPC...R type | 1 | 0.008 |
| **LPX AU00** | Threaded ring for actuator fixing | 20 | 0.002 |
| **LPX P01** | M20 cable gland with threaded ring for LPZ control stations | 50 | 0.012 |
| **LPX B0** | Flush-extended spring return actuator with no cap | 10 | 0.013 |
| **LPX B3** | Shrouded spring return actuator with no cap | 10 | 0.014 |
| **LPX Q0** | Flush-extended push-push actuator with no cap | 10 | 0.013 |
| **LPX QL0** | Illuminated flush-extended push-push actuator with no lens | 10 | 0.013 |
| Flush cap for spring-return actuators. | | | |
| **LPX B102** | Black | 10 | 0.002 |
| **LPX B103** | Green | 10 | 0.002 |
| **LPX B104** | Red | 10 | 0.002 |
| **LPX B105** | Yellow | 10 | 0.002 |
| **LPX B106** | Blue | 10 | 0.002 |
| **LPX B108** | White | 10 | 0.002 |
| Extended cap for spring-return actuators. | | | |
| **LPX B202** | Black | 10 | 0.003 |
| **LPX B203** | Green | 10 | 0.003 |
| **LPX B204** | Red | 10 | 0.003 |
| **LPX B205** | Yellow | 10 | 0.003 |
| **LPX B206** | Blue | 10 | 0.003 |
| **LPX B208** | White | 10 | 0.003 |
| Flush lens for illuminated spring-return actuators . | | | |
| **LPX BL103** | Green | 10 | 0.002 |
| **LPX BL104** | Red | 10 | 0.002 |
| **LPX BL105** | Yellow | 10 | 0.002 |
| **LPX BL106** | Blue | 10 | 0.002 |
| **LPX BL107** | Transparent | 10 | 0.002 |
| Extended lens for illuminated spring-return actuators. | | | |
| **LPX BL203** | Green | 10 | 0.003 |
| **LPX BL204** | Red | 10 | 0.003 |
| **LPX BL205** | Yellow | 10 | 0.003 |
| **LPX BL206** | Blue | 10 | 0.003 |
| **LPX BL207** | Transparent | 10 | 0.003 |

❶ Versions with different key code. Complete with the numeric code of the key. The following versions are available: 421E, 458A, 520E, 3131A, 3433E
Example of complete code: LPX A170R421E.

## Accessories and spare parts

LPX AU100

LPX AU105

LPX AU108
LPX AU109

LPX AU158

8 LM2T A185

LPX AU159

LPX DIN

| Order code | Description | Qty per pkg. | Wt |
|---|---|---|---|
| | | n° | [kg] |
| **LPX AU100** | Label holder for engraved plastic LPX AU109 label | 50 | 0.001 |
| **LPX AU109** | Engravable silver plastic label to use with LPX AU100 holder | 50 | 0.002 |
| **LPX AU105** | Label holder for engraved plastic LPX AU108 label | 50 | 0.003 |
| **LPX AU108** | Engravable silver plastic label to use with LPX AU105 holder | 50 | 0.002 |
| **LPX AU13❶❷** | Rubber boot for flush button LPC B1/BL1/R1... | 10 | 0.006 |
| **LPX AU14❶❷** | Rubber boot for buttons LPC B2/3..., LPC BL2... and LPC R2... | 10 | 0.009 |
| **LPX AU157** | Rubber boot for double and triple-touch buttons, transparent | 10 | 0.007 |
| **LPX AU167❷❸** | Rubber boot for mushroom head buttons, LPC B63/B66/B67/ BL66... transparent | 10 | 0.012 |
| **LPX AU158❷❹** | Padlockable protection, Ø5-8mm locks or buttons LPC B66/B67/ B68/BL664...; for LPC B634... Ø5-6mm/0.2-0.24" locks only. | 10 | 0.005 |
| new **LPX AU159❷❹** | Shroud for buttons LPC B63..., LPC B66/67/68/BL666... | 10 | 0.010 |
| new **LPX DIN** | Adapter for mounting LPC... buttons on DIN rail 35mm/1.38" wide (2 modules) | 10 | 0.008 |
| Other accessories | | | |
| **8 LM2T A161** | Ø30mm/1.2" hole size adapter set for 22mm/ 0.87" (use 2 per hole) | 10 | 0.002 |
| **8 LM2T A185** | Yellow selector protection shroud for knob type only | 10 | 0.004 |
| **8 LM2T A200** | Socket spanner/wrench for fixing ring fitting, metal | 1 | 0.184 |

❶ For flush and extended push buttons, complete the order code by adding the digit of the required colour:
2 (black); 3 (green); 4 (red); 5 (yellow); 6 (blue); 7 (transparent); 8 (white).
For illuminated push buttons, add only digit 7 (transparent).
❷ Cannot be used when LPX AU100 or LPX AU105 is fitted.
❸ Cannot be used when LPX AU158 is fitted.
❹ Cannot be used when LPX AU167 is fitted.

## Labels with text for LPX AU100 legend holder

8 LM2T AGB230

| Order code | Text | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| General use. | | | |
| **8 LM2T AU206** | Blank for writing | 50 | 0.001 |
| **8 LM2T AU207** | Sheet with 108 labels for laser printing❶ | 1❷ | 0.005 |
| **8 LM2T AU208❸** | Sheet with 108 customized text❶ | 1❷ | 0.005 |
| **8 LM2T AGB210** | LATCH | 50 | 0.001 |
| **8 LM2T AGB211** | OPEN | 50 | 0.001 |
| **8 LM2T AGB212** | STOP | 50 | 0.001 |
| **8 LM2T AGB213** | GENERAL STOP | 50 | 0.001 |
| **8 LM2T AGB214** | STOP RESET | 50 | 0.001 |
| **8 LM2T AGB215** | FORWARD | 50 | 0.001 |
| **8 LM2T AGB216** | CLOSE | 50 | 0.001 |
| **8 LM2T AGB217** | RIGHT | 50 | 0.001 |
| **8 LM2T AGB218** | LOWER | 50 | 0.001 |
| **8 LM2T AGB219** | DEACTIVATED | 50 | 0.001 |
| **8 LM2T AGB220** | EMERGENCY | 50 | 0.001 |
| **8 LM2T AGB221** | OFF | 50 | 0.001 |
| **8 LM2T AGB222** | REVERSE | 50 | 0.001 |
| **8 LM2T AGB223** | ON | 50 | 0.001 |
| **8 LM2T AGB237** | TRIP | 50 | 0.001 |
| **8 LM2T AGB224** | SLOW | 50 | 0.001 |
| **8 LM2T AGB225** | START | 50 | 0.001 |
| **8 LM2T AGB226** | RESET | 50 | 0.001 |
| **8 LM2T AGB226** | RESET | 50 | 0.001 |
| **8 LM2T AGB227** | RAISE | 50 | 0.001 |
| **8 LM2T AGB228** | LEFT | 50 | 0.001 |
| **8 LM2T AGB229** | POWER ON | 50 | 0.001 |
| **8 LM2T AGB225** | START | 50 | 0.001 |
| **8 LM2T AGB230** | STOP | 50 | 0.001 |
| **8 LM2T AGB214** | STOP-RESET | 50 | 0.001 |
| **8 LM2T AGB231** | FAST | 50 | 0.001 |
| For selector switches. | | | |
| **8 LM2T AI232** | ARR-MAR | 50 | 0.001 |
| **8 LM2T AI233** | AUTO-MAN | 50 | 0.001 |
| **8 LM2T AI234** | AUTO-O-MAN | 50 | 0.001 |
| **8 LM2T AI242** | MAN-O-AUTO | 50 | 0.001 |
| **8 LM2T AI235** | FWD-O-REV | 50 | 0.001 |
| **8 LM2T AI236** | ON - OFF. | 50 | 0.001 |
| **8 LM2T AI241** | MAN-AUTO | 50 | 0.001 |
| **8 LM2T AGB232** | STOP-START | 50 | 0.001 |
| **8 LM2T AGB236** | OFF-ON | 50 | 0.001 |
| International labels for push-buttons. | | | |
| **8 LM2T AU200** | O | 50 | 0.001 |
| **8 LM2T AU201** | I | 50 | 0.001 |
| **8 LM2T AU202** | II | 50 | 0.001 |
| International labels for selector switches. | | | |
| **8 LM2T AU203** | O-I | 50 | 0.001 |
| **8 LM2T AU204** | I-II | 50 | 0.001 |
| **8 LM2T AU205** | I-O-II | 50 | 0.001 |

❶ Recommended use with LPX AU109 label.
❷ Sheet with 108 adhesive labels.
❸ Complete code with required label text.

**General characteristics**
The labels have indelible scratch-proof black lettering on metalised grey polycarbonate background (adhesive).

**Special versions**
Labels in different languages are available.
Consult Customer Service; see contact details on inside front cover.

## Plastic disk for mushroom head pushbuttons

LPX AU113

LPX AU115

LPX AU110

| Order code | Text | Qty per pkg. | Wt |
|---|---|---|---|
| | | n° | [kg] |
| **LPX AU112** | EMERGENZA ARRESTO Ø90mm/3.5” | 10 | 0.005 |
| **LPX AU114** | EMERGENZA ARRESTO Ø60mm/2.4” | 10 | 0.003 |
| **LPX AU113** | EMERGENCY STOP Ø90mm/3.5” | 10 | 0.005 |
| **LPX AU115** | EMERGENCY STOP Ø60mm/2.4” | 10 | 0.003 |
| **LPX AU118** | ARRET D’URGENCE / NOT-AUS/ PARO EMERGENCIA Ø60mm/2.4” | 10 | 0.003 |
| **LPX AU110** | Adhesive label EMERGENCY STOP (34.5x65mm/1.36x2.56”) for LPC B63/663/664/ 67/68/BL66...buttons | 12 | 0.001 |

**General characteristics**
The disks are made of non-adhesive plastic.
Plastic disks cannot be used with LPX AU158 and LPX AU159 protection.



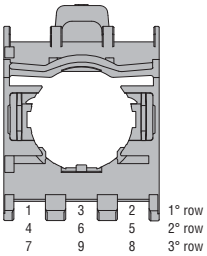
Dimensions
page 7-47

## Mounting adapter

LPX AU120

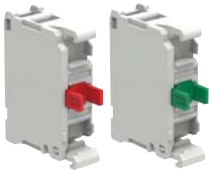
| Order code | Description | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| **LPX AU120** | Mounting adapter | 10 | 0.019 |

**Rear view**
(reference for element installation)




7

## Contact elements



LPX C...

| Order code | Function | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| Screw termination. Without mounting adapter. | | | |
| **LPX C10❶** | .3 .4 NO❶ | 10 | 0.011 |
| **LPX C10A** | .7 .8 EM❷ | 10 | 0.011 |
| **LPX C01** ⊖ | .1 .2 ⊖ NC❸ | 10 | 0.011 |
| **LPX C01D❶** ⊖ | .5 .6 ⊖ LB❶❹ | 10 | 0.011 |
| Screw termination. Without mounting adapter. Auto-monitor contact elements for non-illuminated latch mushroom-head pushbuttons. | | | |
| **LPX C01SM❶** ⊖ | ⊖ .3 .1 .4 .2 1NC❶❸ | 1 | 0.022 |
| **LPX C02SM❶** ⊖ | ⊖ ⊖ .3 .1 .1 .4 .2 .2 2NC❶❸ | 1 | 0.033 |
| Screw termination. With mounting adapter. | | | |
| **LPX E10❶** | .3 .4 NO❶ | 10 | 0.029 |
| **LPX E01** ⊖ | .1 .2 ⊖ NC❸ | 10 | 0.029 |
| Faston termination. Without mounting adapter. | | | |
| **LPX CF10❶** | .3 .4 NO❶ | 10 | 0.012 |
| **LPX CF01** ⊖ | .1 .2 ⊖ NC❸ | 10 | 0.012 |

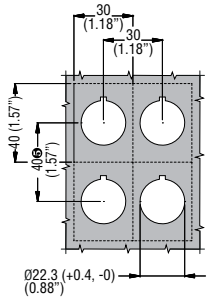
LPX C01SM LPX C02SM

LPX E...

LPX CF01 LPX CF10

❶ **Use LPX C10A (EM) or LPX C01 (NC) type only with push-push actuators.**
Not suitable for push-push actuators.
❷ **Normally open contact with early-make operation and suitable for push-push actuators.**
❸ Direct (positive) opening action ⊖ in accordance with IEC/EN 60947-5-1.
❹ Normally closed contact with late break operation.

Drillings - Minimum recommended distances




❺ When using Faston, pitch is 85mm/3.35" minimum.

**Operational characteristics**
- Any mounting position allowed.
- All LPX C… types snap onto LPX AU120 mounting adapter:
  - See the combinations given under "Contact elements" in the right-hand column for each type of pushbutton and selector switch.
  - A maximum of 3 contacts or 2 contacts and 1 LED element (LPX L… mounted in the middle position) can be fixed internally on the cover surface of LPZ control stations.
- A maximum of 2 LPX C…SM contacts can be installed on LPX AU120 adapter exclusively on non-illuminated mushroom-head latch actuators:
  - In pos. 1-3 (on the left side only of LPX AU120; refer to REAR VIEW drawing), one only LPX C01SM or LPX C02SM element can be fitted.
  - One extra LPX…SM can be installed in pos. 4-6 (stacked behind the LPX…SM on the LPX AU120)
  - With LPX C01SM, a maximum of two contacts LPX C0… or LPX C1… can be fitted on the right side in LPX AU120 pos. 2 and 5, one behind the other.
  - On the internal surface of LPZ control station covers, one only LPX C01SM or LPX C02SM contact can be mounted on LPX AU120 pos. 1 (on the left). With LPX C01SM, one extra element LPX C0… or LPX C1… can be fitted on the right (LPX AU120 pos. 2).
  - No LED element can be used with LPX C…SM types.
- Maximum tightening torque for screw terminals: 1Nm/0.74lbft
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+85°C
- Degree of protection:
  - IP20 for screw termination
  - IP00 for Faston termination.

**General characteristics of contact elements**
Wiping effect, dual scraping-oscillating action
IEC rated insulation voltage: 690V
IEC rated thermal current Ith: 10A
Conductivity: 5V 1mA
UL/CSA and IEC/EN 60947-5-1 designation: A600 Q600.

IEC/EN operational characteristics in AC15 category:

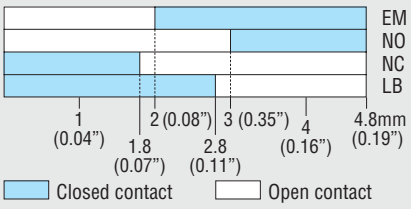
| [V] | 12 | 24 | 48 | 120 | 240 | 400 | 480 | 500 | 600 |
|---|---|---|---|---|---|---|---|---|---|
| [A] | 6 | 6 | 6 | 6 | 3 | 1.9 | 1.5 | 1.4 | 1.2 |

IEC/EN operational characteristics in DC13 category:

| [V] | 12 | 24 | 48 | 125 | 250 | 440 | 500 | 600 |
|---|---|---|---|---|---|---|---|---|
| [A] | 3 | 3 | 1.5 | 0.55 | 0.27 | 0.15 | 0.13 | 0.1 |

Short-circuit protection fuse: max calibre: 10A gG/SC.
Contact resistance: ≤20mΩ.
Terminals: Clamp screw with washer.
Faston 1x6.35mm(0.25") or 2x2.8mm(0.11").

**Stroke of contact elements**




**Maximum conductor cross section for screw terminals**
1 or 2 2.5mm² or AWG14 cables.

**Mechanical and electrical endurance**
Operating force: ≤0.5kg/1.1lb (auxiliary contacts).
Electrical life: 1,000,000 cycles for LPXC10/01/E10/01, LPX C01SM/02SM, LPXCF10/01; 600,000 cycles for LPXC10A/01D.

**Certifications and compliance**
Certifications obtained: UL Listed for USA and Canada, (cULus - File E93601), as Auxiliary Devices; EAC, CCC, RINA.
Compliant with standard: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

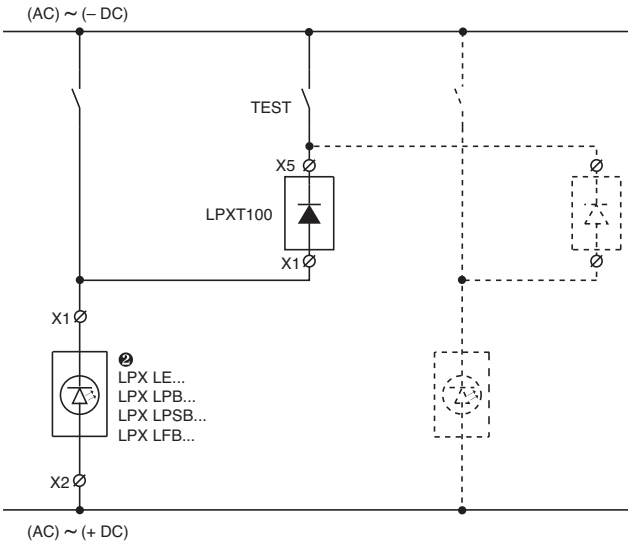
## Test elements for steady-light LED elements

LPX T...

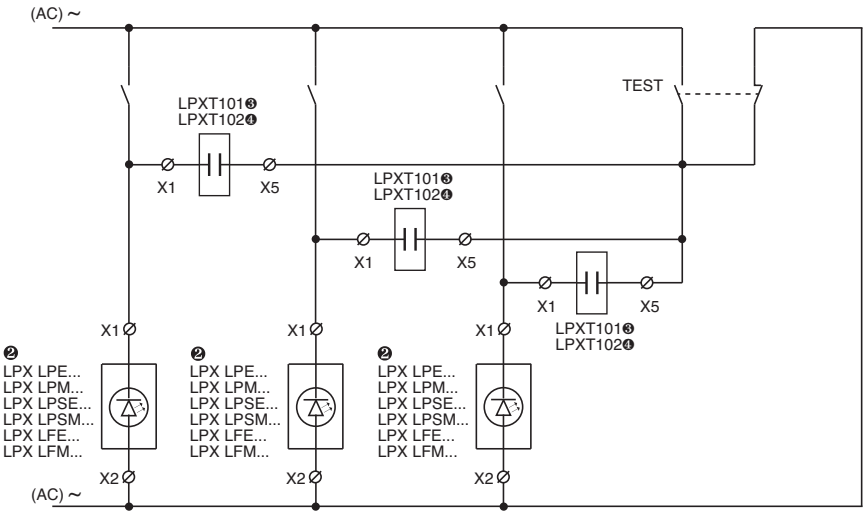
| Order code | Description | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| **LPX T100❶❷** | Use with LED elements in AC/DC, types LPX LE… (all), LPX LFB…, LPX LPB and LPX LPSB… | 10 | 0.011 |
| **LPX T101❷** | Use with LED elements at 85-140VAC for types LPX LFE… LPX LPE… and LPX LPSE… | 10 | 0.011 |
| **LPX T102❷** | Use with LED elements at 185-265VAC for types LPX LFM…, LPX LPM… and LPX LPSM… | 10 | 0.011 |

❶ Whenever test circuits include illuminated actuators connected with paralleled load, use two LPX T100 for each LED element.
Refer to the wiring diagram below or online in the Downloads section at www.LovatoElectric.com
❷ With DC supply only for LPX T100 type, the LED element works at full voltage and brightness while with AC supply for all LPX T… types, the LED element works at half voltage with reduced brightness level.

For LPX T100 test element




For LPX T101 and LPX T102 test elements




❸ Use with LPX LFE…, LPX LPE… or LPX LPSE… type.
❹ Use with LPX LFM…, LPX LPM… or LPX LPSM… type.

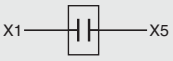
**Operational characteristics**
- Supply voltage:
  - LPX T100 test element:
    - 12...30VAC/DC for LPX LEB/LFB/LPB/LPSB...
    - 85...140VAC/DC for LPX LEE...
    - 185...265VAC/DC for LPX LEM...
  - LPX T101 test element: 85-140VAC
  - LPX T102 test element: 185-265VAC
- For use with LED elements LPX LPBB/LPBE/LPBM… types, consult Customer Service; see contact details on inside front cover
- Electrical life: 100,000 hours
- Any mounting position allowed
- Snap onto LPX AU120 mounting adapter beside the LED element or stacked behind contact elements; also internally on the LPZ control station cover
- Maximum tightening torque for screw terminals: 1Nm/0.74lbft
- Ambient conditions:
  - Operating temperature: -25…+70°C
  - Storage temperature: -40…+85°C
- Degree of protection: IP20.

**Mounting adapter**
Type: LPX AU120. See page 7-20.
The mounting adapter directly snaps onto the actuator fixed to the mounting surface.

**Maximum conductor cross section**
1 or 2 2.5mm² or AWG 12 cables.

**Wiring Diagram**
For LPX T100

For LPX T101 - LPX T102




**Certifications and compliance**
Certifications obtained: UL Listed for USA and Canada, (cULus - File E93601), as Auxiliary Devices; EAC, CCC, RINA.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

7

## LED elements steady light

LPX LP...

Total protection against overvoltages and stray currents in wiring, to reduce flickering phenomenon and withstand vibrations.

| Order code | Rated supply voltage | LED colour | Qty per pkg. | Wt |
|---|---|---|---|---|
| | [V] | | n° | [kg] |
| Steady light, screw termination. Supplied without mounting adapter. | | | | |
| **LPX LP B3** | 12...30V AC/DC | Green | 10 | 0.016 |
| **LPX LP B4** | | Red | 10 | 0.016 |
| **LPX LP B5** | | Yellow | 10 | 0.016 |
| **LPX LP B6** | | Blue | 10 | 0.016 |
| **LPX LP B8** | | White | 10 | 0.016 |
| **LPX LP E3** | 85...140V AC | Green | 10 | 0.016 |
| **LPX LP E4** | | Red | 10 | 0.016 |
| **LPX LP E5** | | Yellow | 10 | 0.016 |
| **LPX LP E6** | | Blue | 10 | 0.016 |
| **LPX LP E8** | | White | 10 | 0.016 |
| **LPX LP M3** | 185...265V AC | Green | 10 | 0.016 |
| **LPX LP M4** | | Red | 10 | 0.016 |
| **LPX LP M5** | | Yellow | 10 | 0.016 |
| **LPX LP M6** | | Blue | 10 | 0.016 |
| **LPX LP M8** | | White | 10 | 0.016 |

LPX LE...

Simple protection against overvoltages and to withstand vibrations.

| Order code | Rated supply voltage | LED colour | Qty per pkg. | Wt |
|---|---|---|---|---|
| | [V] | | n° | [kg] |
| Steady light, screw termination. Supplied without mounting adapter. | | | | |
| **LPX LE B3** | 12...30V AC/DC | Green | 10 | 0.016 |
| **LPX LE B4** | | Red | 10 | 0.016 |
| **LPX LE B5** | | Yellow | 10 | 0.016 |
| **LPX LE B6** | | Blue | 10 | 0.016 |
| **LPX LE B8** | | White | 10 | 0.016 |
| **LPX LE E3** | 85...140V AC/DC | Green | 10 | 0.016 |
| **LPX LE E4** | | Red | 10 | 0.016 |
| **LPX LE E5** | | Yellow | 10 | 0.016 |
| **LPX LE E6** | | Blue | 10 | 0.016 |
| **LPX LE E8** | | White | 10 | 0.016 |
| **LPX LE M3** | 185...265V AC/DC | Green | 10 | 0.016 |
| **LPX LE M4** | | Red | 10 | 0.016 |
| **LPX LE M5** | | Yellow | 10 | 0.016 |
| **LPX LE M6** | | Blue | 10 | 0.016 |
| **LPX LE M8** | | White | 10 | 0.016 |

## LED elements flashing light

LPX LF...

Total protection against overvoltages and stray currents in wiring, to reduce flickering phenomenon and withstand vibrations.

| Order code | Rated supply voltage | LED colour | Qty per pkg. | Wt |
|---|---|---|---|---|
| | [V] | | n° | [kg] |
| Flashing light, screw termination. Supplied without mounting adapter. | | | | |
| **LPX LF B3** | 18...30V AC/DC | Green | 10 | 0.016 |
| **LPX LF B4** | | Red | 10 | 0.016 |
| **LPX LF B5** | | Yellow | 10 | 0.016 |
| **LPX LF B6** | | Blue | 10 | 0.016 |
| **LPX LF B8** | | White | 10 | 0.016 |
| **LPX LF E3** | 85...140V AC | Green | 10 | 0.016 |
| **LPX LF E4** | | Red | 10 | 0.016 |
| **LPX LF E5** | | Yellow | 10 | 0.016 |
| **LPX LF E6** | | Blue | 10 | 0.016 |
| **LPX LF E8** | | White | 10 | 0.016 |
| **LPX LF M3** | 185...265V AC | Green | 10 | 0.016 |
| **LPX LF M4** | | Red | 10 | 0.016 |
| **LPX LF M5** | | Yellow | 10 | 0.016 |
| **LPX LF M6** | | Blue | 10 | 0.016 |
| **LPX LF M8** | | White | 10 | 0.016 |

**Operational characteristics**
- Rated frequency: 50-60Hz
- Auxiliary supply voltage:
  - LPX LP… with steady light: 12...30VAC/DC; 85...140VAC; 185...265VAC
  - LPX LE… with steady light: 12...30VAC/DC; 85...140VAC/DC; 185...265VAC/DC
  - LPX LF… flashing light: 18...30VAC/DC; 85...140VAC, 185...265VAC
- Maximum consumption for:
  - LPX LP… steady light and LPX LF… flashing light: 17mA-0.50W (12...30VAC/DC); 20mA-0.40W (85...140VAC); 18mA-0.55W (185...265VAC)
  - LPX LE… steady light: 11mA-0.33W (12...30VAC/DC); 5mA-0.72W (85...140VAC/DC); 3mA-0.67W (185...265VAC/DC)
- Total protection for LPX LP… and LPX LF… types:
  - Against overvoltages
  - Against stray currents in wiring
  - To reduce flickering phenomenon
  - To withstand vibrations
- Minimum activation voltage:
  - LPX LP... steady light: 4V-1mA (12...30VAC/DC); 30V-4mA (85...140VAC); 55V-4mA (185...265VAC)
  - LPX LE... steady light: 4V-0.5mA (12...30VAC/DC); 15V-0.4mA (85...140VAC/DC); 35V-0.3mA (185...265VAC/DC)
  - LPXLF... flashing light: 5V-1.5mA (18...30VAC/DC); 13V-1.5mA (85...140VAC); 25V-1.5mA (185...265VAC)
- Simple protection for LPX LE… types
  - Against overvoltages
  - To withstand vibrations
- Electrical life: 100,000 hours
- Snap onto LPX AU120 mounting adapter in the middle position for each illuminated actuator, also internally on the LPZ control station cover
- No other element can be stacked behind LED elements
- Any mounting position allowed
- Maximum tightening torque: 1Nm/0.74lbft
- Ambient conditions:
  - Operating temperature: -25...+70°C (-25...+60°C for LPX LE...)
  - Storage temperature: -40...+85°C
- Degree of protection: IP20.

**Mounting adapter**
See page 7-20. Type: LPX AU120.
The mounting adapter directly snaps onto the actuator fixed to the mounting surface.

**Maximum conductor cross section**
1 or 2 2.5mm² or AWG12 cables.

**Wiring diagram**

**Certifications and compliance**
Certifications obtained: UL Listed for USA and Canada, (cULus - File E93601), as Auxiliary Devices; EAC, CCC, RINA.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

## Contact elements with spring-clamp terminals

LPX CS01 LPX CS10

| Order code | Function | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| Spring-clamp termination. Without mounting adapter. | | | |
| **LPX CS10❶** | .3 .4 NO❶ | 10 | 0.010 |
| **LPX CS01** ⊖ | .1 .2 ⊖ NC❷ | 10 | 0.010 |

❶ **Not suitable for push-push actuators.**
❷ Direct (positive) opening action ⊖ in accordance with IEC/EN 60947-5-1

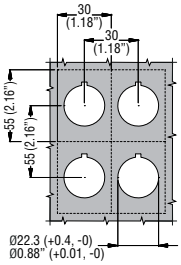
## LED elements steady light with spring-clamp terminals

LPX LPS…

| Order code | Rated supply voltage | LED colour | Qty per pkg | Wt |
|---|---|---|---|---|
| | [V] | | n° | [kg] |
| Steady light, with spring-clamp termination. Without mounting adapter. | | | | |
| **LPX LPS B3** | 12...30VAC/DC | Green | 10 | 0.015 |
| **LPX LPS B4** | | Red | 10 | 0.015 |
| **LPX LPS B5** | | Yellow | 10 | 0.015 |
| **LPX LPS B6** | | Blue | 10 | 0.015 |
| **LPX LPS B8** | | White | 10 | 0.015 |
| **LPX LPS E3** | 85...140VAC | Green | 10 | 0,015 |
| **LPX LPS E4** | | Red | 10 | 0.015 |
| **LPX LPS E5** | | Yellow | 10 | 0.015 |
| **LPX LPS E6** | | Blue | 10 | 0.015 |
| **LPX LPS E8** | | White | 10 | 0.015 |
| **LPX LPS M3** | 185...265VAC | Green | 10 | 0.015 |
| **LPX LPS M4** | | Red | 10 | 0.015 |
| **LPX LPS M5** | | Yellow | 10 | 0.015 |
| **LPX LPS M6** | | Blue | 10 | 0.015 |
| **LPX LPS M8** | | White | 10 | 0.015 |

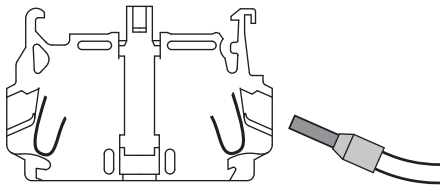
Total protection against overvoltages and stray currents in wiring, to reduce flickering phenomenon and withstand vibrations.

Drillings - Minimum recommended distances

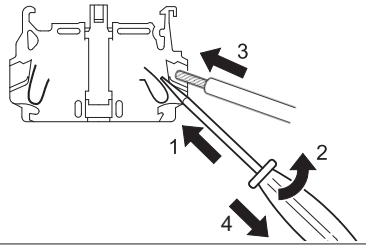



Push-in wiring technology for rigid cables or with ferrules only - no screwdriver needed
Cable retaining force guaranteed over time even in presence of vibrations and/or impacts

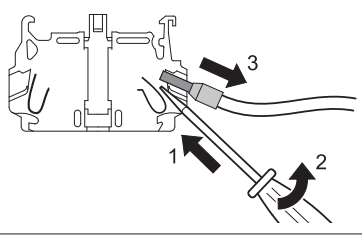
Push-in technology



Wiring with flat-blade screwdriver
(for flexible bare cable without terminal)




Cable removal
(always using flat-blade screwdriver)




**Operational characteristics**
- Any mounting position allowed
- Elements snap onto LPX AU120 adapter, also internally on LPZ control station cover with maximum of 3 LPX CS… contact or 2 LPX CS… contact and 1 LPX LPS… LED elements (in middle position) per actuator
- No other element can be stacked behind LED elements
- See the combinations given under "Contact elements" in the right-hand column for each type of pushbutton and selector switch
- Suitable for applications with vibration and/or impact work conditions; cable retaining force guaranteed over time in these conditions
- For use with the test elements, see page 7-20
- Wiring also possible after installation with stacked contacts
- Ambient conditions:
  - Operating temperature: -25…+70°C
  - Storage temperature: -40…+85°C
- Degree of protection: IP20.

**Mounting adapter**
See page 7-20.
Type : LPX AU120.
The mounting adapter directly snaps onto the actuator fixed to the mounting surface.

**General characteristics**
CONTACT ELEMENTS
Wiping action and dual scraping-oscillating effect
IEC rated insulation voltage: 690V
IEC rated thermal current Ith: 10A
Conductivity: 1mA 5V
UL/CSA and IEC/EN 60947-5-1 designation: A600 Q600.

IEC/EN operational characteristics in AC15 category:

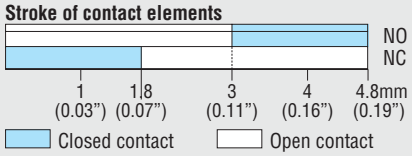
| [V] | 12 | 24 | 48 | 120 | 240 | 400 | 480 | 500 | 600 |
|---|---|---|---|---|---|---|---|---|---|
| [A] | 6 | 6 | 6 | 6 | 3 | 1.9 | 1.5 | 1.4 | 1.2 |

IEC/EN operational characteristics in DC13 category:

| [V] | 12 | 24 | 48 | 125 | 250 | 440 | 500 | 600 |
|---|---|---|---|---|---|---|---|---|
| [A] | 3 | 3 | 1.5 | 0.55 | 0.27 | 0.15 | 0.13 | 0.1 |

Short circuit protection fuse: max calibre: 10A gG/SC.
Contact resistance: ≤20mΩ.
Terminals: Spring clamps.

**Stroke of contact elements**




**Mechanical and electrical endurance of contact elements**
Opening force: ≤0,5kg/1.1lb
Electrical life: 1.000.000 cycles for LPX CS10 and LPX CS01.

LED ELEMENTS
- Rated frequency: 50-60Hz
- Supply voltage: 12...30VAC/DC; 85...140VAC; 185...265VAC
- Maximum consumption: 17mA-0.50W (12...30VAC/DC); 20mA-0.40W (85...140VAC); 18mA-0.55W (185...265VAC)
- Total protection:
  - Against overvoltages
  - Against stray currents in wiring
  - To reduce flickering phenomenon
  - To withstand vibrations
- Minimum activation voltage: 4V-1mA (12...30VAC/DC); 30V-4mA (85...140VAC); 55V-4mA (185...265VAC)
- Electrical life: 100,000 hours.

**Wiring diagram for LED elements**

**Maximum conductor cross section**
1 or 2 2.5mm² or AWG14 cables. For 2.5mm² section, use rounded cable terminal with metal end at least 10mm

**Certifications and compliance**
Certifications obtained: UL Listed for USA and Canada, (cULus - File E93601), as Auxiliary Devices; EAC, CCC, RINA.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

## Contact elements, base mount on LPZ control stations

LPX CB...

| Order code | Function | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| Screw termination. Direct snap-on mounting on LPZ... control station base. | | | |
| **LPX CB10❶** | .3 / .4 NO❶ | 10 | 0.012 |
| **LPX CB01** ⊖ | .1 / .2 ⊖ NC❷ | 10 | 0.012 |

❶ **Not suitable for push-push actuators.**
❷ Direct opening operation ⊖ in accordance with IEC/EN 60947-5-1.

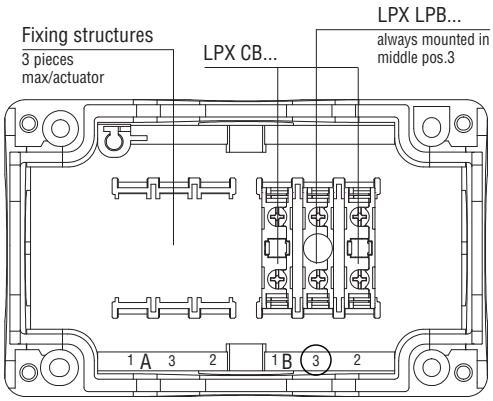
## LED elements, steady light base mount on LPZ control stations

LPX LPB...

| Order code | Rated supply voltage | LED color | Qty per pkg. | Wt |
|---|---|---|---|---|
| | [V] | | n° | [kg] |
| Screw termination. Steady light. Direct snap-on mounting on LPZ... control station base. | | | | |
| **LPX LPB B3** | 12...30V AC/DC | Green | 10 | 0.016 |
| **LPX LPB B4** | | Red | 10 | 0.016 |
| **LPX LPB B5** | | Yellow | 10 | 0.016 |
| **LPX LPB B6** | | Blue | 10 | 0.016 |
| **LPX LPB B8** | | White | 10 | 0.016 |
| **LPX LPB E3** | 85...140V AC | Green | 10 | 0.016 |
| **LPX LPB E4** | | Red | 10 | 0.016 |
| **LPX LPB E5** | | Yellow | 10 | 0.016 |
| **LPX LPB E6** | | Blue | 10 | 0.016 |
| **LPX LPB E8** | | White | 10 | 0.016 |
| **LPX LPB M3** | 185...265V AC | Green | 10 | 0.016 |
| **LPX LPB M4** | | Red | 10 | 0.016 |
| **LPX LPB M5** | | Yellow | 10 | 0.016 |
| **LPX LPB M6** | | Blue | 10 | 0.016 |
| **LPX LPB M8** | | White | 10 | 0.016 |

Total protection against overvoltages and stray currents in wiring, to reduce flickering phenomenon and withstand vibrations.

Mounting position on the LPZ control station base




**Operational characteristics**
- Any mounting position allowed
- Snap-on mounting into fixing structures of LPZ control station base
- Maximum of 3 LPX CB... contact or 2 LPX CB... contact and 1 LPX LPB... LED elements (in middle pos. 3) for each actuator of LPZ control stations
- See the combinations given under "Contact elements" in the right-hand column for each type of pushbutton and selector switch
- For use with test elements, consult Customer Service; see contact details on inside front cover
- Maximum tightening torque for screw terminals: 1Nm
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+85°C
- Degree of protection: IP20.

**General characteristics**

CONTACT ELEMENTS
Wiping action and dual scraping-oscillating effect
IEC rated insulation voltage: 690V
IEC rated thermal current Ith: 10A
Conductivity: 5V 1mA
UL/CSA and IEC/EN 60947-5-1 designation: A600 Q600.

IEC/EN operational characteristics in AC15 category:

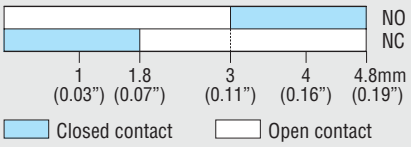
| [V] | 12 | 24 | 48 | 120 | 240 | 400 | 480 | 500 | 600 |
|---|---|---|---|---|---|---|---|---|---|
| [A] | 6 | 6 | 6 | 6 | 3 | 1.9 | 1.5 | 1.4 | 1.2 |

IEC/EN operational characteristics in DC13 category:

| [V] | 12 | 24 | 48 | 125 | 250 | 440 | 500 | 600 |
|---|---|---|---|---|---|---|---|---|
| [A] | 3 | 3 | 1.5 | 0.55 | 0.27 | 0.15 | 0.13 | 0.1 |

Short circuit protection fuse: max calibre: 10A gG/SC
Contact resistance: ≤20mΩ
Terminals: Clamp screw and washer.

**Stroke of contact elements**




**Mechanical and electrical endurance of contact elements**
Opening force: ≤0,5kg/1.1lb
Electrical life: 1,000,000 cycles for LPX CB10 and LPX CB01.

LED ELEMENTS
- Rated frequency: 50...60Hz
- Supply voltage: 12...30VAC/DC; 85...140VAC; 185...265VAC
- Maximum consumption: 17mA-0.50W (12...30VAC/DC); 20mA-0.40W (85...140VAC); 18mA-0.55W (185...265VAC)
- Total protection:
  - Against overvoltages
  - Against stray currents in wiring
  - To reduce flickering phenomenon
  - To withstand vibrations
- Minimum activation voltage:
  - steady light LPX LPB.....: 4V-1mA (12...30VAC/DC); 30V-4mA (85...140VAC); 55V-4mA (185...265VAC)
- Electrical life: 100,000 hours.

**Wiring diagram for LED elements**

**Maximum conductor cross section**
1 or 2 2.5mm² or AWG14 cables.

**Certifications and compliance**
Certifications obtained: UL Listed for USA and Canada, (cULus - File E93601), as Auxiliary Devices; EAC, CCC, RINA.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

## Without actuators

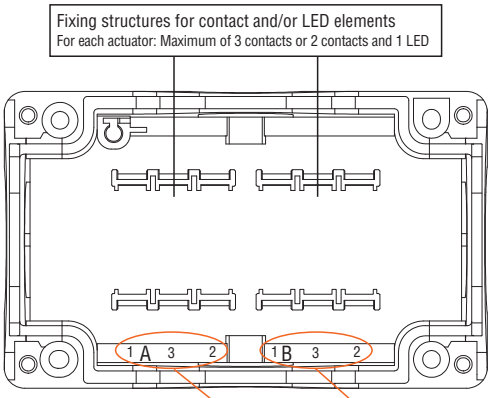
LPZ P1 A5

LPZ P2 A5

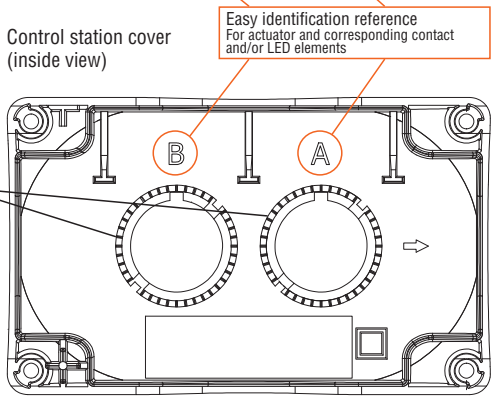
LPZ P3 A8

| Order code | Description | Cover colour | Qty per pkg | Wt |
|---|---|---|---|---|
| | | | n° | [kg] |
| **LPZ P1 A5** | For 1 actuator | Yellow | 1 | 0.107 |
| **LPZ P1 A8** | For 1 actuator | Grey | 1 | 0.107 |
| **LPZ P2 A5** | For 2 actuators | Yellow | 1 | 0.152 |
| **LPZ P2 A8** | For 2 actuators | Grey | 1 | 0.152 |
| **LPZ P3 A8** | For 3 actuators | Grey | 1 | 0.187 |
| **LPZ P4 A8** | For 4 actuators | Grey | 1 | 0.200 |
| **LPZ P5 A8** | For 5 actuators | Grey | 1 | 0.240 |
| **LPZ P6 A8** | For 6 actuators | Grey | 1 | 0.290 |

Control station base




Control station cover (inside view)




## With one actuator

LPZ P1 B8 02

LPZ P1 B5 03

| Order code | Control station description | Actuator description | Qty per pkg | Wt |
|---|---|---|---|---|
| | | | n° | [kg] |
| **LPZ P1 B8 01** | Grey, 1 way LPZ P1 A8 | Mushroom-head button LPC B6744 with STOP legend | 1 | 0.150 |
| **LPZ P1 B8 02** | Grey, 1 way LPZ P1 A8 | Mushroom-head button LPC B6344 with STOP legend | 1 | 0.135 |
| **LPZ P1 B5 02** | Yellow, 1 way LPZ P1 A5 | Mushroom-head button LPC B6344 | 1 | 0.135 |
| **LPZ P1 B5 03❶** | Yellow, 1 way LPZ P1 A5 | Mushroom-head button LPC B6644 | 1 | 0.150 |

❶ Version with red emergency stop, turn to release and yellow cover compliant with ISO 13850.

### General characteristics

CONTROL STATIONS WITHOUT ACTUATOR
- 1 to 6 holes
- Compact dimensions
- Easy wiring for base-mount contact and LED elements; possible use of screw and spring-clamp terminal contact or LED elements on the inside surface of the cover using LPX AU120 mounting adapter
- Numerous cable entries.

CONTROL STATIONS WITH ACTUATOR
Standard supplied with actuator, label holder and STOP legend label excluding types with yellow cover, and one base-mount NC contact.

### Operational characteristics

- Cable entry:
  - LPZ P1… knockouts:
    - M16/PG11 (1 at rear and 1 on left side)
    - M20/M25/PG13.5/PG16 (1 each on top and bottom)
  - LPZ P2... knockouts:
    - M16/PG11 (2 at rear)
    - M20/PG13.5 (1 on each side)
    - M20/M25/PG13.5/PG16 (1 each on top and bottom)
  - LPZ P3/P4/P5/P6 A8 knockouts:
    - M16/PG11 (2 at rea)
    - M20/PG13.5 (2 on each side)
    - M20/M25/PG13.5/PG16 (1 each on top and bottom)
- Any mounting position allowed
- Tightening torque of cover screws Tmax: 1.8Nm/16lbin
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+85°C
- Degree of protection:
  - Per IEC/EN: IP66, IP67 and IP69K
  - Per UL: Type 1, 2, 3R, 4,4X, 12K.

### Materials

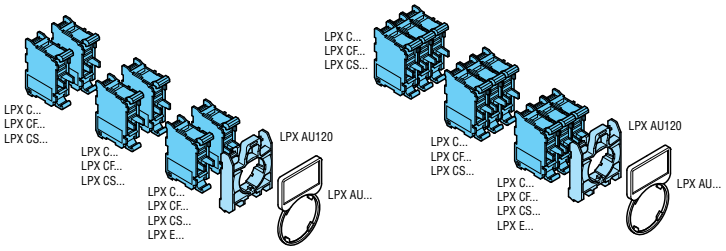
Polycarbonate.

### Certifications and compliance

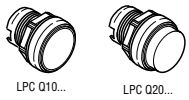
Certifications obtained: UL Listed for USA and Canada, (cULus - File E93601), as Auxiliary Devices; EAC, CCC, RINA.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508A for types without actuators / UL508 for types complete with actuator, CSA C22.2 n° 14.

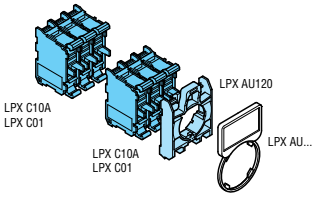
## COMBINATIONS FOR PUSHBUTTONS AND SELECTOR SWITCHES

### SPRING-RETURN BUTTONS

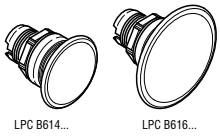


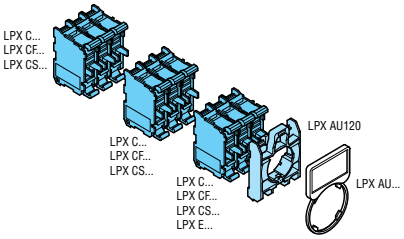

### PUSH-PUSH BUTTONS



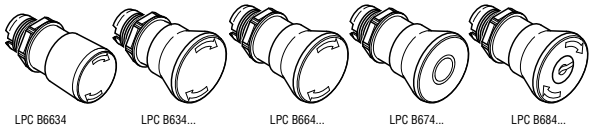



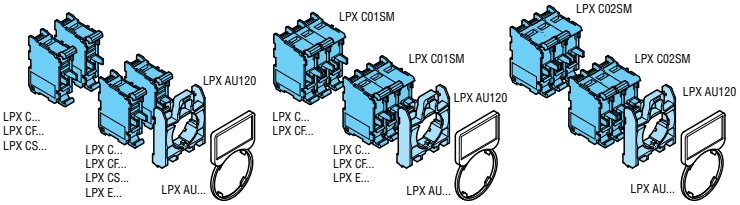

### MUSHROOM-HEAD SPRING-RETURN BUTTONS



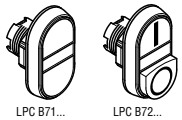



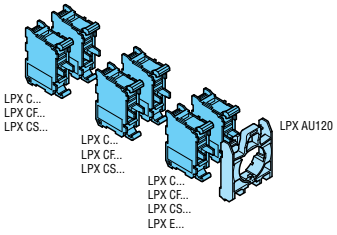

### MUSHROOM-HEAD LATCH BUTTONS



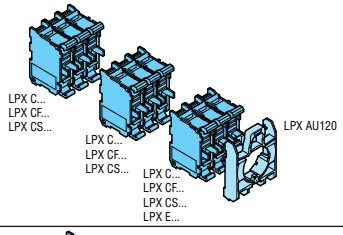




### DOUBLE-TOUCH BUTTONS

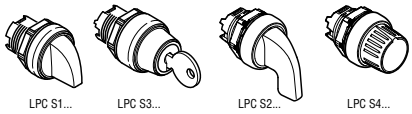


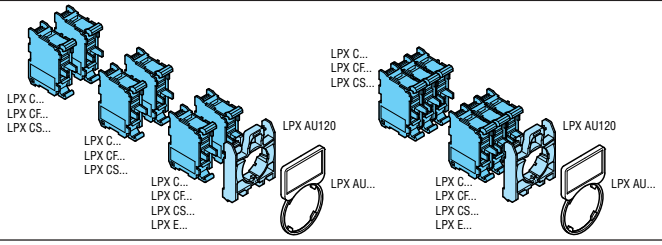




### TRIPLE-TOUCH BUTTONS

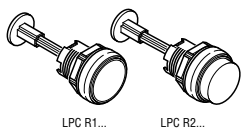


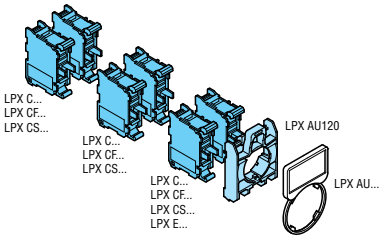

### SELECTOR SWITCHES



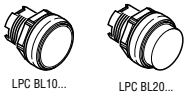

### MECHANICAL SPRING-RETURN RESET BUTTONS

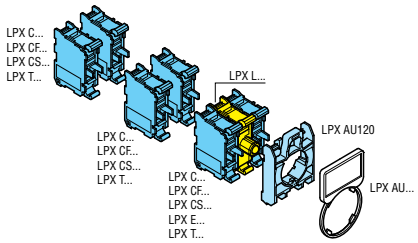


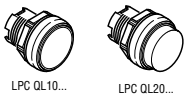
## COMBINATIONS FOR ILLUMINATED PUSHBUTTONS AND SELECTOR SWITCHES

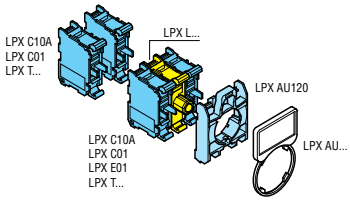
### SPRING-RETURN BUTTONS



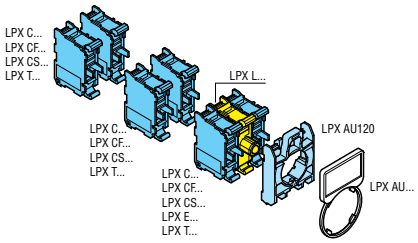




### PUSH-PUSH BUTTONS

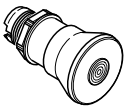


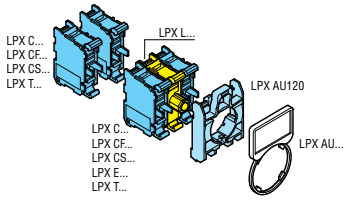




### MUSHROOM-HEAD SPRING-RETURN BUTTON

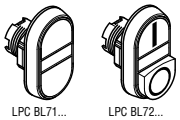


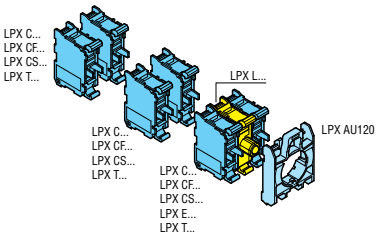

### MUSHROOM-HEAD LATCH BUTTON



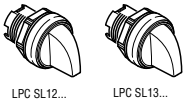



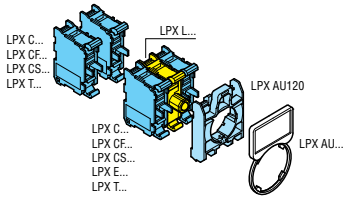

### DOUBLE-TOUCH BUTTONS



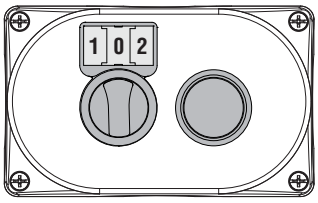

### 2 AND 3 POSITION SELECTOR SWITCHES

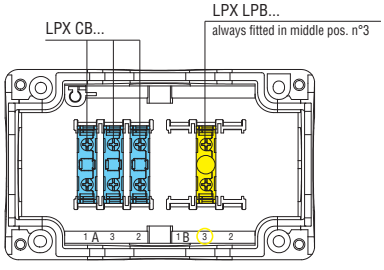



### CONTROL STATIONS

Example of 2 way control station equipped with selector switch, label holder and label along with pilot light



## Pushbutton actuators, spring return

8 LM2T B10…

8 LM2T B20…

8 LM2T B30…

| Order code | Colour | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| Flush (without mounting adapter). Spring return. | | | |
| **8 LM2T B102** | Black | 10 | 0.033 |
| **8 LM2T B103** | Green | 10 | 0.033 |
| **8 LM2T B104** | Red | 10 | 0.033 |
| **8 LM2T B105** | Yellow | 10 | 0.033 |
| **8 LM2T B106** | Blue | 10 | 0.033 |
| **8 LM2T B108** | White | 10 | 0.033 |
| Extended (without mounting adapter). Spring return. | | | |
| **8 LM2T B202** | Black | 10 | 0.035 |
| **8 LM2T B203** | Green | 10 | 0.035 |
| **8 LM2T B204** | Red | 10 | 0.035 |
| **8 LM2T B205** | Yellow | 10 | 0.035 |
| **8 LM2T B206** | Blue | 10 | 0.035 |
| **8 LM2T B208** | White | 10 | 0.035 |
| Shrouded (without mounting adapter). Spring return. | | | |
| **8 LM2T B302** | Black | 10 | 0.035 |
| **8 LM2T B303** | Green | 10 | 0.035 |
| **8 LM2T B304** | Red | 10 | 0.035 |
| **8 LM2T B305** | Yellow | 10 | 0.035 |
| **8 LM2T B306** | Blue | 10 | 0.035 |
| **8 LM2T B308** | White | 10 | 0.035 |

## Push-push button actuators

8 LM2T Q10…

8 LM2T Q20…

| Order code | Colour | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| Flush (without mounting adapter). Push on-push off. | | | |
| **8 LM2T Q102❶** | Black | 10 | 0.033 |
| **8 LM2T Q103❶** | Green | 10 | 0.033 |
| **8 LM2T Q104❶** | Red | 10 | 0.033 |
| **8 LM2T Q105❶** | Yellow | 10 | 0.033 |
| **8 LM2T Q106❶** | Blue | 10 | 0.033 |
| **8 LM2T Q108❶** | White | 10 | 0.033 |
| Extended (without mounting adapter). Push on-push off. | | | |
| **8 LM2T Q202❶** | Black | 10 | 0.035 |
| **8 LM2T Q203❶** | Green | 10 | 0.035 |
| **8 LM2T Q204❶** | Red | 10 | 0.035 |
| **8 LM2T Q205❶** | Yellow | 10 | 0.035 |
| **8 LM2T Q206❶** | Blue | 10 | 0.035 |
| **8 LM2T Q208❶** | White | 10 | 0.035 |

❶ **Use contact elements EM (8 LM2T C10A) and NC (8LM2T C01) only.** Contact elements NO (8LM2T C10) and LB (8LM2T C01D) cannot be fitted on these actuators. For the number of contact elements, refer to indications in the right-hand column.

**Operational characteristics**
- Any mounting position allowed
- Ambient conditions:
  - Operating temperature: -25...+60°C
  - Storage temperature: -40...+70°C
- Degree of protection:
  - Per IEC/EN: IP65
  - Per UL/CSA: Type 1, 2, 3R, 4, 4X, 12, 12K.

**Materials**
An aluminium and zinc alloy (zama) is used for the metal part whereas plastic parts are made of polyamide and polycarbonate.

**Mechanical endurance**
Operating force: 0.8kg/1.7lb (actuator).
Mechanical life:
- Spring-return actuators: 1,000,000 cycles
- Push-push actuators: 500,000 cycles.

**Mounting adapter**
See page 7-41.
Type: LM2T AU120.
The adapter is fixed to the mounting surface by means of incorporated screws (Tmax = 0.8Nm/0.59lbft).
Actuators latch onto the mounting adapter by simple rotation through a Ø22mm/Ø0.87" drilling also on the cover of LPZ control stations.

**Contact elements for spring-return actuators**
See page 7-41.
Type: LM2T C10 (1NO)
LM2T CF10 (1NO Faston)
LM2T C10A (1EM)
LM2T C01 (1NC)
LM2T CF01 (1NC Faston)
LM2T C01D (1LB)
Contact elements snap onto the mounting adapter.
Up to 6 contacts can be fitted: 2 each on the left, middle and right, one behind the other.
Up to 3 contacts per actuator can be internally fitted on the cover surface of LPZ control stations.
To use contact elements in the middle position, install the action plug LM2T A140 on the actuator; see page 7-38.

**Contact elements for push-push button actuators**
See page 7-41.
Type: LM2T C10A (1EM)
LM2T C01 (1NC)
Contact elements snap onto the mounting adapter.
Up to 2 contacts can be fitted: 1 each on the right and left.
Up to 2 contacts per actuator can be internally fitted on the cover surface of LPZ control stations (only one on the right and/or on the left).

**Certifications and compliance**
Certifications obtained: UL Listed for USA and Canada, (cULus - File E93601), as Auxiliary Devices; EAC, RINA, LROS, CCC.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14

## Mechanical reset button, complete unit, spring return

8 LM2T R1196

| Order code | Colour | Qty per pkg. | Wt |
|---|---|---|---|
| | | n° | [kg] |
| Flush (5.2mm/0.2" stroke). Adjustable length 0-140mm/5.5". Spring return (complete with shaft and mounting adapter)❷ | | | |
| **8 LM2T R1002** | Black | 10 | 0.065 |
| **8 LM2T R1003** | Green | 10 | 0.065 |
| **8 LM2T R1004** | Red | 10 | 0.065 |
| **8 LM2T R1006** | Blue | 10 | 0.065 |
| **8 LM2T R1196**❶ | Blue (RESET) | 10 | 0.065 |
| Extended (5.2mm/0.2" stroke). Adjustable length 0-140mm/5.5". Spring return (complete with shaft and mounting adapter)❷ | | | |
| **8 LM2T R2004** | Red | 10 | 0.067 |

❶ With "RESET"caption on actuator.
❷ No contact elements can be fitted.

## Pushbutton actuators, spring return, with symbol

8 LM2T B11...

8 LM2T B21...

| Order code | Symbol | Colour | Qty per pkg | Wt |
|---|---|---|---|---|
| | | | n° | [kg] |
| Flush (without mounting adapter). Spring return. | | | | |
| **8 LM2T B1102** | O | Black | 10 | 0.033 |
| **8 LM2T B1104** | | Red | 10 | 0.033 |
| **8 LM2T B1113** | I | Green | 10 | 0.033 |
| **8 LM2T B1118** | | White | 10 | 0.033 |
| **8 LM2T B1123** | II | Green | 10 | 0.033 |
| **8 LM2T B1128** | | White | 10 | 0.033 |
| **8 LM2T B1132** | STOP | Black | 10 | 0.033 |
| **8 LM2T B1134** | | Red | 10 | 0.033 |
| **8 LM2T B1142** | ←❶ | Black | 10 | 0.033 |
| **8 LM2T B1148** | | White | 10 | 0.033 |
| **8 LM2T B1152** | ↑❷ | Black | 10 | 0.033 |
| **8 LM2T B1158** | | White | 10 | 0.033 |
| **8 LM2T B1163** | START | Green | 10 | 0.033 |
| **8 LM2T B1168** | | White | 10 | 0.033 |
| **8 LM2T B1176** | R | Blue | 10 | 0.033 |
| **8 LM2T B1178** | | White | 10 | 0.033 |
| **8 LM2T B1196** | RESET | Blue | 10 | 0.033 |
| **8 LM2T B1502** | ◄\|► | Black | 10 | 0.033 |
| **8 LM2T B1512** | ►\|◄ | Black | 10 | 0.033 |
| Extended (without mounting adapter). Spring return. | | | | |
| **8 LM2T B2102** | O | Black | 10 | 0.035 |
| **8 LM2T B2104** | | Red | 10 | 0.035 |
| **8 LM2T B2132** | STOP | Black | 10 | 0.035 |
| **8 LM2T B2134** | | Red | 10 | 0.035 |

❶ Arrow symbol can be used to indicate right or left.
❷ Arrow symbol can be used to indicate up or down.

**Operational characteristics**
- Any mounting position allowed
- Ambient conditions:
  - Operating temperature: -25...+60°C
  - Storage temperature: -40...+70°C
- Degree of protection:
  - Per IEC/EN: IP65
  - Per UL/CSA: Type 1, 2, 3R, 4, 4X, 12, 12K.

**Materials**
An aluminium and zinc alloy (zama) is used for the metal part whereas plastic parts are made of polyamide and polycarbonate.

**Mechanical endurance**
Operating force: 0.8kg/1.7lb (actuator)
Mechanical life: 1,000,000 cycles.

**Mounting adapter**
See page 7-41.
Type: LM2T AU120.
The adapter is fixed to the mounting surface by means of incorporated screws (Tmax = 0.8Nm/0.59lbft).
Actuators latch onto the mounting adapter by simple rotation through a Ø22mm/Ø0.87" drilling also on the cover of LPZ control stations.

**Contact elements for spring-return actuators with symbols**
See page 7-41.
Type: LM2T C10 (1NO)
LM2T CF10 (1NO Faston)
LM2T C10A (1EM)
LM2T C01 (1NC)
LM2T CF01 (1NC Faston)
LM2T C01D (1LB)
Contact elements snap onto the mounting adapter.
Up to 6 contacts can be fitted: 2 each on the left, middle and right, one behind the other.
Up to 3 contacts per actuator can be internally fitted on the cover surface of LPZ control stations.
To use contact elements in the middle position, install the action plug LM2T A140 on the actuator; see page 7-38.

**Certifications and compliance**
Certifications obtained: UL Listed for USA and Canada, (cULus - File E93601), as Auxiliary Devices; EAC, RINA, LROS, CCC.
Compliant with standards: IIEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

7

## Mushroom head pushbutton actuators

8 LM2T B614…

8 LM2T B616…

8 LM2T B624…

8 LM2T B634…

8 LM2T B6644

8 LM2T B654…

| Order code | Colour | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| SPRING RETURN. Ø40mm/1.6” (without mounting adapter). | | | |
| **8 LM2T B6142** | Black | 10 | 0.037 |
| **8 LM2T B6143** | Green | 10 | 0.037 |
| **8 LM2T B6144** | Red | 10 | 0.037 |
| **8 LM2T B6145** | Yellow | 10 | 0.037 |
| **8 LM2T B6146** | Blue | 10 | 0.037 |
| Ø60mm/2.4” (without mounting adapter). | | | |
| **8 LM2T B6162** | Black | 10 | 0.043 |
| **8 LM2T B6163** | Green | 10 | 0.043 |
| **8 LM2T B6164** | Red | 10 | 0.043 |
| **8 LM2T B6165** | Yellow | 10 | 0.043 |
| **8 LM2T B6166** | Blue | 10 | 0.043 |
| LATCH, PULL TO RELEASE. Ø40mm/1.6” (without mounting adapter). For normal stopping. | | | |
| **8 LM2T B6242** | Black | 10 | 0.105 |
| **8 LM2T B6244** | Red | 10 | 0.105 |
| LATCH, TURN TO RELEASE. Ø40mm/1.6” (without mounting adapter). For normal stopping. | | | |
| **8 LM2T B6342** | Black | 10 | 0.054 |
| **8 LM2T B6344** | Red | 10 | 0.054 |
| Ø40mm/1.6” (without mounting adapter). For emergency stopping, ISO 13850 compliant. | | | |
| **8 LM2T B6644** | Red | 10 | 0.087 |
| LATCH, TURN KEY TO RELEASE. Ø40mm/1.6” (without mounting adapter). For normal stopping. | | | |
| **8 LM2T B6542** | Black | 10 | 0.091 |
| **8 LM2T B6542G❶** | | 1 | 0.091 |
| **8 LM2T B6544** | Red | 10 | 0.091 |
| **8 LM2T B6544G❶** | | 1 | 0.091 |

❶ Versions with different key codes.
Complete with the numeric code of the key. The following versions are available: 501, 502, 503, 504, 505, 506, 507, 508, 509, 510.
Example of complete code: 8 LM2T B6542G505.

**Operational characteristics**
– Any mounting position allowed
– Ambient conditions:
  • Operating temperature: -25...+60°C
  • Storage temperature: -40...+70°C
– Degree of protection:
  • Per IEC/EN: IP66 for mushroom buttons (IP65 for LM2T B654...)
  • Per UL: Type 1, 2, 3R, 4, 4X, 12, 12K except for 8 LM2T B616 which is Type 1, 2, 3R, 12, 12K.

**Materials**
An aluminium and zinc alloy (zama) is used for the metal part whereas plastic parts are made of polyamide and polycarbonate.

**Mechanical endurance**
Operating force: 0.8kg/1.7lb (actuator).
Mechanical life:
– Mushroom head spring return buttons: 1,000,000 cycles
– Mushroom head latch buttons: 300,000 cycles.

**Mounting adapter**
See page 7-41.
Type: LM2T AU120.
The adapter is fixed to the mounting surface by means of incorporated screws (Tmax = 0.8Nm).
Actuators latch onto the mounting adapter by simple rotation through a Ø22mm/Ø0.87” drilling also on the cover of LPZ control stations.

**Contact elements**
SPRING RETURN MUSHROOM - HEAD BUTTONS
See page 7-41.
Type: LM2T C10 (1NO)
LM2T CF10 (1NO Faston)
LM2T C10A (1EM)
LM2T C01 (1NC)
LM2T CF01 (1NC Faston)
LM2T C01D (1LB)

Contact elements snap onto the mounting adapter.

Up to 6 contacts can be fitted: 2 each on the left, middle and right, one behind the other.
Up to 3 contacts per actuator can be internally fitted the cover surface of LPZ control stations.
To use contact elements in the middle position, install on the action plug LM2T A140 on the actuator; see page 7-38.

LATCH MUSHROOM - HEAD BUTTONS
Up to 6 contacts can be fitted: 2 each on the left, middle and right, one behind the other. (for LM2T B624... and LM2T B6644 max 4 contacts).
Up to 3 contacts per actuator can be internally fitted the cover surface of LPZ control stations.

**Certifications and compliance**
Certifications obtained: UL Listed for USA and Canada, (cULus - File E93601), as Auxiliary Devices; EAC, RINA, LROS, CCC.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

## Double-touch actuators, spring return

8 LM2T B71…

8 LM2T B72…

| Order code | Colour | Symbols | Qty per pkg | Wt |
|---|---|---|---|---|
| | | | n° | [kg] |
| Two flush push-buttons (without mounting adapter). Both spring return. | | | | |
| **8 LM2T B7112** | Black/Red | none | 5 | 0.044 |
| **8 LM2T B7113** | Green/Red | none | 5 | 0.044 |
| **8 LM2T B7114** | White/Black | none | 5 | 0:044 |
| **8 LM2T B7122** | Black/Red | I-O | 5 | 0.044 |
| **8 LM2T B7123** | Green/Red | I-O | 5 | 0.044 |
| **8 LM2T B7124** | White/Black | I-O | 5 | 0.044 |
| **8 LM2T B7133** | Green/Red | Start/Stop | 5 | 0.044 |
| One extended and one flush push-button (without mounting adapter). Both spring return. | | | | |
| **8 LM2T B7212** | Black/Red | none | 5 | 0.044 |
| **8 LM2T B7213** | Green/Red | none | 5 | 0.044 |
| **8 LM2T B7214** | White/Black | none | 5 | 0.044 |
| **8 LM2T B7222** | Black/Red | I-O | 5 | 0.044 |
| **8 LM2T B7223** | Green/Red | I-O | 5 | 0.044 |
| **8 LM2T B7224** | White/Black | I-O | 5 | 0.044 |
| **8 LM2T B7233** | Green/Red | Start/Stop | 5 | 0.044 |

## Triple-touch actuators, spring return

8 LM2T B73…

| Order code | Symbols | Qty per pkg. | Wt |
|---|---|---|---|
| | | n° | [kg] |
| Triple-touch actuator (without mounting adapter). Spring return. | | | |
| **8 LM2T B7345** | STOP | 5 | 0.044 |
| **8 LM2T B7355** | STOP | 5 | 0.044 |
| **8 LM2T B7365** | STOP | 5 | 0.044 |
| **8 LM2T B7375** | STOP | 5 | 0.044 |

**Operational characteristics**
- Any mounting position allowed
- Ambient conditions:
  - Operating temperature: -25...+60°C
  - Storage temperature: -40...+70°C
- Degree of protection:
  - Per IEC/EN: IP40.
  - Per UL/CSA: Type 1.

**Materials**
An aluminium and zinc alloy (zama) is used for the metal part whereas plastic parts are made of polyamide and polycarbonate.

**Mechanical endurance**
Operating force: 0.8kg/1.7lb (actuator)
Mechanical life: 1,000,000 cycles.

**Mounting adapter**
See page 7-41.
Type: LM2T AU120.
The adapter is fixed to the mounting surface by means of incorporated screws (Tmax = 0.8Nm/0.59lbft).
Actuators latch onto the mounting adapter by simple rotation through a Ø22mm/Ø0.87" drilling also on the cover of LPZ control stations.

**Contact elements**
See page 7-41.
Type: LM2T C10 (1NO)
LM2T CF10 (1NO Faston)
LM2T C10A (EM)
LM2T C01 (1NC)
LM2T CF01 (1NC Faston)
LM2T C01D (LB)
Contact elements snap onto the mounting adapter.

FOR DOUBLE-TOUCH BUTTONS
Up to 4 contacts can be fitted: 2 each on the left and right, one behind the other.
Up to 2 contacts per actuator can be internally fitted on the cover surface of LPZ control stations, 1 on the left and right.

FOR TRIPLE-TOUCH BUTTONS
Up to 6 contacts can be fitted: 2 each on the left, middle and right, one behind the other.
Up to 3 contacts per actuator can be internally fitted on the cover surface of LPZ control stations.

**Certifications and compliance**
Certifications obtained: UL Listed for USA and Canada, (cULus - File E93601), as Auxiliary Devices; EAC, RINA, LROS, CCC.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

## Selector switch actuators short lever

8 LM2T S1...

| Order code | Type of position | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| 2 position (without mounting adapter). | | | |
| **8 LM2T S120** | | 10 | 0.049 |
| **8 LM2T S121** | | 10 | 0.049 |
| 3 position (without mounting adapter). | | | |
| **8 LM2T S130** | | 10 | 0.049 |
| **8 LM2T S131** | | 10 | 0.049 |
| **8 LM2T S132** | | 10 | 0.049 |
| **8 LM2T S133** | | 10 | 0.049 |

## Selector switch actuators long lever

8 LM2T S2...

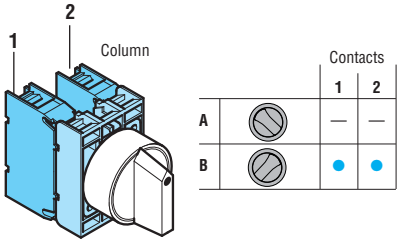
| Order code | Type of position | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| 2 position (without mounting adapter). | | | |
| **8 LM2T S220** | | 10 | 0.050 |
| **8 LM2T S221** | | 10 | 0.050 |
| 3 position (without mounting adapter). | | | |
| **8 LM2T S230** | | 10 | 0.050 |
| **8 LM2T S231** | | 10 | 0.050 |
| **8 LM2T S232** | | 10 | 0.050 |
| **8 LM2T S233** | | 10 | 0.050 |

## Selector switch actuators key

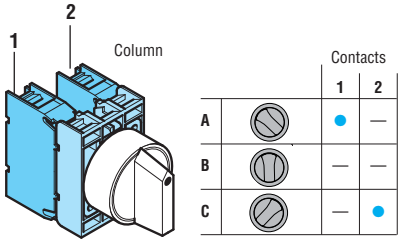
8 LM2T S3...

| Order code | Type of position | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| 2 position (without mounting adapter). | | | |
| **8 LM2T S320** | | 10 | 0.079 |
| **8 LM2T S320G❶** | | 1 | 0.079 |
| **8 LM2T S321** | | 10 | 0.079 |
| **8 LM2T S321G❶** | | 1 | 0.079 |
| **8 LM2T S340** | | 10 | 0.079 |
| **8 LM2T S340G❶** | | 1 | 0.079 |
| 3 position (without mounting adapter). | | | |
| **8 LM2T S330** | | 10 | 0.080 |
| **8 LM2T S330G❶** | | 1 | 0.080 |
| **8 LM2T S331** | | 10 | 0.080 |
| **8 LM2T S331G❶** | | 1 | 0.080 |
| **8 LM2T S332❷** | | 10 | 0.080 |
| **8 LM2T S332G❶❷** | | 1 | 0.080 |
| **8 LM2T S333❷** | | 10 | 0.080 |
| **8 LM2T S333G❶❷** | | 1 | 0.080 |
| **8 LM2T S350** | | 10 | 0.080 |
| **8 LM2T S350G❶** | | 1 | 0.080 |
| **8 LM2T S360** | | 10 | 0.080 |
| **8 LM2T S360G❶** | | 1 | 0.080 |
| **8 LM2T S370❷** | | 10 | 0.080 |
| **8 LM2T S370G❶❷** | | 1 | 0.080 |
| **8 LM2T S380❷** | | 10 | 0.080 |
| **8 LM2T S380G❶❷** | | 1 | 0.080 |
| **8 LM2T S390❷** | | 10 | 0.080 |
| **8 LM2T S390G❶❷** | | 1 | 0.080 |

Contact activation for 2-position selector switch




Contact activation of 3-position selector switch




**Operational characteristics**
- Any mounting position allowed
- Ambient conditions:
  - Operating temperature: -25...+60°C
  - Storage temperature: -40...+70°C
- Degree of protection:
  - Per IEC/EN: IP65
  - Per UL/CSA: Type 1, 2, 3R, 4, 4X, 12, 12K.

**Materials**
An aluminium and zinc alloy (zama) is used for the metal part whereas plastic parts are made of polyamide and polycarbonate.

**Mechanical endurance**
Mechanical life: 300,000 cycles.

**Mounting adapter**
See page 7-41.
Type: LM2T AU120.
The adapter is fixed to the mounting surface by means of incorporated screws (Tmax = 0.8Nm/0.59").
Actuators latch onto the mounting adapter by simple rotation through a Ø22mm/Ø0.87" drilling also on the cover of LPZ control stations.

**Contact elements**
See page 7-41.
Type: LM2T C10 (1NO)
LM2T CF10 (1NO Faston)
LM2T C10A (1EM)
LM2T C01 (1NC)
LM2T CF01 (1NC Faston)
LM2T C01D (1LB)
Contact elements snap onto the mounting adapter.
Up to 4 contacts can be fitted: 2 each on the left and right, one behind the other.
Up to 2 contacts per actuator can be internally fitted on the cover surface of LPZ control stations, 1 on the left and right.
For combination with more than 4 contacts, consult Customer Service for advice; see contact details on inside front cover.

**Type of positions**
Maintained position.
Spring return position.
• Key extraction position.

**Rotation angles**
2 position

3 position

**Special versions**
Versions with coloured keys are available upon request. Consult our Customer Service; see contact details on inside front cover.

**Certifications and compliance**
Certifications obtained: UL Listed for USA and Canada, (cULus - File E93601), as Auxiliary Devices; EAC, RINA, LROS, CCC.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

❶ Versions with different key codes. Complete with the numeric code of the key. The following versions are available: 501; 502; 503; 504; 505; 506; 507; 508; 509; 510. Example of complete code: 8 LM2T S320G505.
❷ Available only on specific request.

## Illuminated button actuators, spring return

8 LM2T BL10…

8 LM2T BL20…

| Order code | Colour | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| Flush with side visibility (without mounting adapter). Spring return. | | | |
| **8 LM2T BL103** | Green | 10 | 0.033 |
| **8 LM2T BL104** | Red | 10 | 0.033 |
| **8 LM2T BL105** | Yellow | 10 | 0.033 |
| **8 LM2T BL106** | Blue | 10 | 0.033 |
| **8 LM2T BL107** | Transparent | 10 | 0.033 |
| Extended (without mounting adapter). Spring return. | | | |
| **8 LM2T BL203** | Green | 10 | 0.035 |
| **8 LM2T BL204** | Red | 10 | 0.035 |
| **8 LM2T BL205** | Yellow | 10 | 0.035 |
| **8 LM2T BL206** | Blue | 10 | 0.035 |
| **8 LM2T BL207** | Transparent | 10 | 0.035 |

## Illuminated button actuators push-push

8 LM2T QL10…

8 LM2T QL20…

| Order code | Colour | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| Flush with side visibility (without mounting adapter). Push on-push off. | | | |
| **8 LM2T QL103❶** | Green | 10 | 0.033 |
| **8 LM2T QL104❶** | Red | 10 | 0.033 |
| **8 LM2T QL105❶** | Yellow | 10 | 0.033 |
| **8 LM2T QL106❶** | Blue | 10 | 0.033 |
| **8 LM2T QL107❶** | Transparent | 10 | 0.033 |
| Extended (without mounting adapter). Push on-push off. | | | |
| **8 LM2T QL203❶** | Green | 10 | 0.035 |
| **8 LM2T QL204❶** | Red | 10 | 0.035 |
| **8 LM2T QL205❶** | Yellow | 10 | 0.035 |
| **8 LM2T QL206❶** | Blue | 10 | 0.035 |
| **8 LM2T QL207❶** | Transparent | 10 | 0.035 |

❶ **Use contact elements EM (8LM2T C10A early make) and NC (8LM2T C01) only.**
Contact elements NO (8LM2T C10) and LB (8LM2T C01D late break) cannot be used with these actuators. For the number of contact elements, refer to the right-hand column.

**Operational characteristics**
- Any mounting position allowed
- Ambient conditions:
  - Operating temperature: -25...+60°C
  - Storage temperature: -40...+70°C
- Degree of protection:
  - Per IEC/EN: IP65
  - Per UL: Type 1, 2, 3R, 4, 4X, 12, 12K.

**Materials**
An aluminium and zinc alloy (zama) is used for the metal part whereas plastic parts are made of polyamide and polycarbonate.

**Mechanical endurance**
Operating force: 0.8kg/1.7lb (actuator).
Mechanical life:
- Spring return buttons: 1,000,000 cycles
- Push-push buttons: 500,000 cycles.

**Mounting adapter**
See page 7-41.
Type: LM2T AU120.
The adapter is fixed to the mounting surface by means of incorporated screws (Tmax = 0.8Nm/0.59lbft).
Actuators latch onto the mounting adapter by simple rotation through a Ø22mm/Ø0.87" drilling also on the cover of LPZ control stations.

**Contact elements for illuminated spring-return buttons**
See page 7-41.
Type: LM2T C10 (1NO)
LM2T CF10 (1NO Faston)
LM2T C10A (EM)
LM2T C01 (1NC)
LM2T CF01 (1NC Faston)
LM2T C01D (LB)
Contact elements snap onto the mounting adapter.
Up to 4 contacts can be fitted, 2 each on the left and right one behind the other, when one of the lamp-holders type LM2T DL400, LM2T EL400, LM2T ZL230, LM2T L... or LM2T M… is used (see page 7-42 or 43).
On the cover of LPZ control stations, up to 2 contacts per actuator can be internally fitted, 1 each on the right and/or left, when one of the lamp-holders type LM2T DL400, LM2T EL400, LM2T ZL230, LM2T L... or LM2T M… is used in the middle position.
Instead when using lamp-holder LM2T YL... or LM2T GL..., up to 2 contacts only can be fitted one behind the other (see page 7-42).

**Contact elements for illuminated push-push buttons**
See page 7-41.
Type: LM2T C10A (EM)
LM2T C01 (1NC)
Contact elements snap onto the mounting adapter.
Up to 2 contact elements can be fitted with one of the lamp-holders type LM2T DL400, LM2T EL400, LM2T ZL230, LM2T L... or LM2T M… (see page 7-40 or 41).
On the cover of LPZ control stations, up to 2 contacts per actuator can be internally fitted, 1 each on the right and/or left, when one of the lamp-holders type LM2T DL400, LM2T EL400, LM2T ZL230, LM2T L... or LM2T M... is used in the middle position.
Only 1 contact can be fitted with lamp-golders LM2T YL..., LM2T GL... (see page 7-42).

**Lamp-holder elements**
See page 7-42 and 43.

**Lamps**
Maximum recommended power: 1.2W.
See page 7-38.

**Certifications and compliance**
Certifications obtained: UL Listed for USA and Canada, (cULus - File E93601), as Auxiliary Devices; EAC, RINA, LROS, CCC.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

## Illuminated mushroom head button actuators

8 LM2T BL614...

8 LM2T BL624...

| Order code | Colour | Quantity per pkg. | Wt |
|---|---|---|---|
| | | n° | [kg] |
| SPRING RETURN. Ø40mm/1.6" (without mounting adapter).. | | | |
| **8 LM2T BL6143** | Green | 10 | 0.043 |
| **8 LM2T BL6144** | Red | 10 | 0.043 |
| **8 LM2T BL6145** | Yellow | 10 | 0.043 |
| **8 LM2T BL6146** | Blue | 10 | 0.043 |
| **8 LM2T BL6148** | White | 10 | 0.043 |
| LATCH, PULL TO RELEASE. Ø40mm/1.6" (without mounting adapter). | | | |
| **8 LM2T BL6243** | Green | 10 | 0.105 |
| **8 LM2T BL6244** | Red | 10 | 0.105 |
| **8 LM2T BL6245** | Yellow | 10 | 0.105 |
| **8 LM2T BL6246** | Blue | 10 | 0.105 |
| **8 LM2T BL6248** | White | 10 | 0.105 |

## Double touch actuators, spring return, white indicator

8 LM2T BL71...

8 LM2T BL72...

| Order code | Colour | Symbol | Quantity per pkg. | Wt |
|---|---|---|---|---|
| | | | n° | [kg] |
| Two flush pushbuttons (without mounting adapter). Both spring return. | | | | |
| **8 LM2T BL7112** | Black/Red | none | 5 | 0.044 |
| **8 LM2T BL7113** | Green/Red | none | 5 | 0.044 |
| **8 LM2T BL7114** | White/Black | none | 5 | 0.044 |
| **8 LM2T BL7122** | Black/Red | I-O | 5 | 0.044 |
| **8 LM2T BL7123** | Green/Red | I-O | 5 | 0.044 |
| **8 LM2T BL7124** | White/Black | I-O | 5 | 0.044 |
| **8 LM2T BL7133** | Green/Red | Start/Stop | 5 | 0.044 |
| One extended and one flush pushbuttons (without mounting adapter). Both spring return. | | | | |
| **8 LM2T BL7212** | Black/Red | — | 5 | 0.044 |
| **8 LM2T BL7213** | Green/Red | — | 5 | 0.044 |
| **8 LM2T BL7214** | White/Black | — | 5 | 0.044 |
| **8 LM2T BL7222** | Black/Red | I-O | 5 | 0.044 |
| **8 LM2T BL7223** | Green/Red | I-O | 5 | 0.044 |
| **8 LM2T BL7224** | White/Black | I-O | 5 | 0.044 |
| **8 LM2T BL7233** | Green/Red | Start/Stop | 5 | 0.044 |

**Operational characteristics**
- Any mounting position allowed
- Ambient conditions:
  - Operating temperature: -25...+60°C
  - Storage temperature: -40...+70°C
- Degree of protection:
  - Per IEC/EN: IP65 for mushroom-head actuators; IP40 for double-touch actuators.
  - Per UL: Type 1, 2, 3R, 4, 4X, 12, 12K except for 8 LM2T BL71... and 8 LM2T BL72... which are Type 1.

**Materials**
An aluminium and zinc alloy (zama) is used for the metal part whereas plastic parts are made of polyamide and polycarbonate.

**Mechanical endurance**
Operating force: 0.8kg/1.7lb (actuator).
Mechanical life: 1,000,000 cycles.

**Mounting adapter**
See page 7-41.
Type: LM2T AU120.
The adapter is fixed to the mounting surface by means of incorporated screws (Tmax = 0.8Nm/0.59lbft).
Actuators latch onto the mounting adapter by simple rotation through a Ø22mm/Ø0.87" drilling also on the cover of LPZ control stations.

**Contact elements**
See page 7-41.
Type: LM2T C10 (1NO)
LM2T CF10 (1NO Faston)
LM2T C10A (1EM)
LM2T C01 (1NC)
LM2T CF01 (1NC Faston)
LM2T C01D (1LB)
Contact elements snap onto the mounting adapter.

MUSHROOM-HEAD BUTTONS
Can be mounted on the mounting adapter:
- Up to 4 contacts, 2 each on the left and right, one behind the other, when one of the lamp-holders: LM2T DL400, LM2T EL400, LM2T ZL230, LM2T L... is used or 2 contacts LM2T M... (see page 7-40 or 41).
- On the cover of LPZ control station, up to 2 contacts per actuator can be internally fitted, 1 each on the right and/or left, when one of the lamp-holders type LM2T DL400, LM2T EL400, LM2T ZL230, LM2T L... or LM2T M... is used in the middle position.
- Up to 2 contacts, one over the other, when one of the lamp-holders type: LM2T YL... or LM2T GL... is used (see page 7-40).

DOUBLE-TOUCH BUTTONS
Up to 4 contacts can be fitted: 2 each on the left and right.
Up to 2 contacts per actuator can be internally fitted on the cover of LPZ control stations, 1 each on the right and/or left when one of the lamp-holders type LM2T DL400, LM2T EL400, LM2T ZL230, LM2T L... or LM2T M... is used in the middle position.

**Lamp-holder elements**
See page 7-42 and 43.

**Lamps**
Maximum recommended power: 1.2W.
See page 7-38.

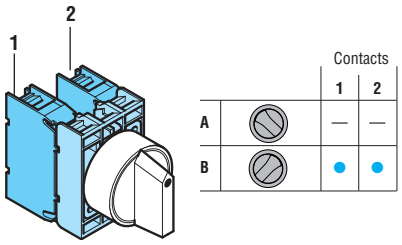
**Certifications and compliance**
Certifications obtained: UL Listed for USA and Canada, (cULus - File E93601), as Auxiliary Devices; EAC, RINA, LROS, CCC.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

## Illuminated selector switch actuators

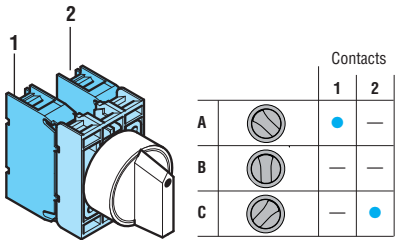
8 LM2T SL1...

| Order code | Colour | Type of positions | Qty per pkg | Wt |
|---|---|---|---|---|
| | | | n° | [kg] |
| 2 position (without mounting adapter). | | | | |
| **8 LM2T SL1203** | Green | | 10 | 0.025 |
| **8 LM2T SL1204** | Red | | 10 | 0.025 |
| **8 LM2T SL1205** | Yellow | | 10 | 0.025 |
| **8 LM2T SL1206** | Blue | | 10 | 0.025 |
| **8 LM2T SL1208** | White | | 10 | 0.025 |
| **8 LM2T SL1213** | Green | | 10 | 0.025 |
| **8 LM2T SL1214** | Red | | 10 | 0.025 |
| **8 LM2T SL1215** | Yellow | | 10 | 0.025 |
| **8 LM2T SL1216** | Blue | | 10 | 0.025 |
| **8 LM2T SL1218** | White | | 10 | 0.025 |
| 3 position (without mounting adapter). | | | | |
| **8 LM2T SL1303** | Green | | 10 | 0.025 |
| **8 LM2T SL1304** | Red | | 10 | 0.025 |
| **8 LM2T SL1305** | Yellow | | 10 | 0.025 |
| **8 LM2T SL1306** | Blue | | 10 | 0.025 |
| **8 LM2T SL1308** | White | | 10 | 0.025 |
| **8 LM2T SL1313** | Green | | 10 | 0.025 |
| **8 LM2T SL1314** | Red | | 10 | 0.025 |
| **8 LM2T SL1315** | Yellow | | 10 | 0.025 |
| **8 LM2T SL1316** | Blue | | 10 | 0.025 |
| **8 LM2T SL1318** | White | | 10 | 0.025 |
| **8 LM2T SL1323** | Green | | 10 | 0.025 |
| **8 LM2T SL1324** | Red | | 10 | 0.025 |
| **8 LM2T SL1325** | Yellow | | 10 | 0.025 |
| **8 LM2T SL1326** | Blue | | 10 | 0.025 |
| **8 LM2T SL1328** | White | | 10 | 0.025 |
| **8 LM2T SL1333** | Green | | 10 | 0.025 |
| **8 LM2T SL1334** | Red | | 10 | 0.025 |
| **8 LM2T SL1335** | Yellow | | 10 | 0.025 |
| **8 LM2T SL1336** | Blue | | 10 | 0.025 |
| **8 LM2T SL1338** | White | | 10 | 0.025 |

Contact activation of 2-position selector switch




Contact activation of 3-position selector switch




**Operational characteristics**
- Any mounting position allowed
- Ambient conditions:
  - Operating temperature: -25...+60°C
  - Storage temperature: -40...+70°C
- Degree of protection:
  - Per IEC/EN: IP65
    IP40 for actuators.
  - Per UL: Type 1, 2, 3R, 4, 4X, 12, 12K.

**Materials**
An aluminium and zinc alloy (zama) is used for the metal part whereas plastic parts are made of polyamide and polycarbonate.

**Mechanical endurance**
Operating force: 0.8kg/1.7lb (actuator).
Mechanical life: 300,000 cycles.

**Mounting adapter**
See page 7-41.
Type: LM2T AU120.
The adapter is fixed to the mounting surface by means of incorporated screws (Tmax = 0.8Nm/0.59lbft).
Actuators latch onto the mounting adapter by simple rotation through a Ø22mm/Ø0.87" drilling also on the cover of LPZ control stations.

**Contact elements**
See page 7-41.
Type: LM2T C10 (1NO)
LM2T CF10 (1NO Faston)
LM2T C10A (1EM)
LM2T C01 (1NC)
LM2T CF01 (1NC Faston)
LM2T C01D (1LB)
Contact elements snap onto the mounting adapter.
The following contacts can be fitted on the mounting adapter on 2-position illuminated buttons:
- Up to 4 contacts when one of the lamp-holders type LM2T DL400, LM2T EL400, LM2T ZL230, LM2T L... or LM2T M... is used (see page 7-40 or 41).
- On the cover of LPZ control station, up to 2 contacts per actuator can be internally fitted, 1 each on the right and/or left, when one of the lamp-holders type LM2T DL400, LM2T EL400, LM2T ZL230, LM2T L... or LM2T M... is used in the middle position.
- Up to 2 contacts when one of the lamp-holders type LM2T YL... or LM2T GL... is used (see page 7-40).

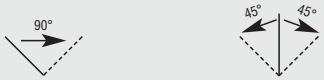
The following contacts can be fitted on the mounting adapter on 3-position illuminated buttons:
- Up to 4 contacts when one of the lamp-holders type LM2T DL400, LM2T EL400, LM2T ZL230, LM2T L... or LM2T M... is used (see page 7-40 or 41).
- On the cover of LPZ control station, up to 2 contacts per actuator can be internally fitted, 1 each on the right and/or left, when one of the lamp-holders type LM2T DL400, LM2T EL400, LM2T ZL230, LM2T L... or LM2T M... is used in the middle position.

NOTE: No lamp-holder type LM2T YL... or LM2T GL... can be used.

**Selector switch type of positions**

Maintained position.
Spring return position.

**Selector switch rotation angles**
2 position
3 position




**Lamp-holder elements**
See page 7-42 and 43.

**Lamps**
Maximum recommended power: 1.2W.
See page 7-38.

**Certifications and compliance**
Certifications obtained: UL Listed for USA and Canada, (cULus - File E93601), as Auxiliary Devices; EAC, RINA, LROS, CCC.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

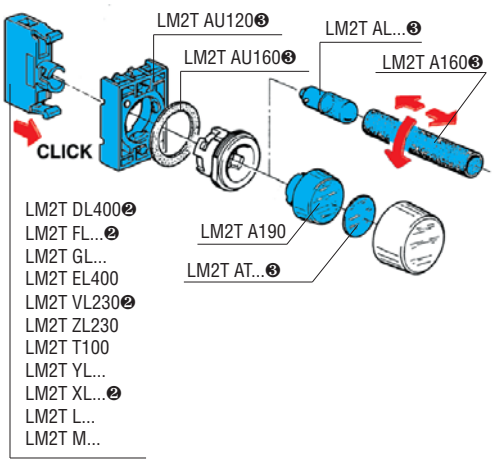
7

## Pilot light heads

8 LM2T IL10…

| Order code | Colour | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| Without mounting adapter. | | | |
| **8 LM2T IL103** | Green | 10 | 0.024 |
| **8 LM2T IL104** | Red | 10 | 0.024 |
| **8 LM2T IL105** | Yellow | 10 | 0.024 |
| **8 LM2T IL106** | Blue | 10 | 0.024 |
| **8 LM2T IL107** | Transparent | 10 | 0.024 |
| **8 LM2T IL1187** | Transparent ϟ ❶ | 10 | 0.024 |

❶ With symbol indicating dangerous voltage (IEC/EN 60417 5036-a).




❷ The mounting adapter is supplied with LM2T AU120.
❸ Can be purchased separately. Refer to page 7-38, 7-39 or 42.

**Operational characteristics**
- Any mounting position allowed
- Ambient conditions:
  - Operating temperature: -25...+60°C
  - Storage temperature: -40...+70°C
- Degree of protection:
  - Per IEC/EN: IP65
  - Per UL: Type 1, 2, 3R, 4, 4X, 12, 12K.

**Materials**
An aluminium and zinc alloy (zama) is used for the metal part whereas plastic parts are made of polyamide and polycarbonate.

**Mounting adapter**
See page 7-41.
Type: LM2T AU120.
The adapter is fixed to the mounting surface by means of incorporated screws (Tmax = 0.8Nm/0.59lbft).
Pilot light heads latch onto the mounting adapter by simple rotation through a Ø22mm/Ø0.87" drilling also on the cover of LPZ control stations and exclusively with one of the following lamp-holders, internally mounted in the middle position: LM2T DL400, LM2T EL400, LM2T ZL230, LM2T L... or LM2T M... for each light head.

**Lamp-holder elements**
See page 7-42 and 43.

**Lamps**
Maximum recommended power: 1.2W.
See page 7-38.

**Certifications and compliance**
Certifications obtained: RINA, LROS, EAC, CCC, UL Listed for USA and Canada (cULus - File E93601), as Auxiliary Devices.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

## Potentiometer drives

**8 LM2T P100**
(with mounting adapter)

**8 LM2T P110**
(with mounting adapter)

| Order code | Characteristics | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| Complete with mounting adapter. | | | |
| **8 LM2T P100❹** | With graduated scale | 10 | 0.070 |
| **8 LM2T P110❹** | With variable index | 10 | 0.070 |

❹ Potentiometer not included.

**Operational characteristics**
- Suitable for potentiometers with 6 and 6.3mm/0.24-0.25" diameter shaft and minimum 40mm/1.6" shaft length
- Ambient conditions:
  - Operating temperature: -25...+60°C
  - Storage temperature: -40...+70°C
- Any mounting position allowed
- Degree of protection: IP65 (warranted by potentiometers with a cylindrical shaft).

**Materials**
An aluminium and zinc alloy (zama) is used for the metal part whereas plastic parts are made of polyamide and polycarbonate.

**Mechanical endurance**
Mechanical life: 300,000 cycles.

**Mounting adapter**
Standard supply with actuator.
The adapter is fixed to the mounting surface by means of incorporated screws (Tmax = 0.8Nm/0.59lbft).
Operators will latch onto the mounting adapter with a simple twist; not suitable for LPZ control stations.

**Certifications and compliance**
Certifications obtained: EAC, CCC.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1.

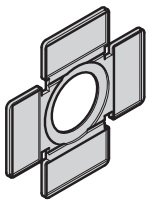
## Joysticks

**8 LM2T J...**
(without mechanical interlock)

**8 LM2T J...**
(with mechanical interlock)

| Order code | Type of positions | N° auxiliary elements | Qty per pkg | Wt |
|---|---|---|---|---|
| | | NO | n° | [kg |
| Without mechanical interlock. Complete with auxiliary contact. Label holder excluded. | | | | |
| **8 LM2T J200** | | 2 | 1 | 0.082 |
| **8 LM2T J201** | | 2 | 1 | 0.082 |
| **8 LM2T J400** | | 4 | 1 | 0.104 |
| **8 LM2T J401** | | 4 | 1 | 0.104 |
| With mechanical interlock in centre position. Complete with auxiliary contact. Label holder excluded. | | | | |
| **8 LM2T J210** | | 2 | 1 | 0.082 |
| **8 LM2T J211** | | 2 | 1 | 0.082 |
| **8 LM2T J410** | | 4 | 1 | 0.104 |
| **8 LM2T J411** | | 4 | 1 | 0.104 |

## Accessories



**8 LM2T AU101**

| Order code | Description | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| **8 LM2T AU101** | 2-4 directional holder for adhesive legends | 10 | 0.004 |

**Operational characteristics**
- Any mounting position allowed
- LM2T J2... types can be used with LPZ control stations
- Ambient conditions:
  - Operating temperature: -25...+60°C
  - Storage temperature: -40...+70°C
- Degree of protection:
  - Per IEC/EN: IP65
  - Per UL: Type 1, 2, 3R, 4, 4X, 12, 12K
  - IP20 for contact elements.

**Materials**
An aluminium and zinc alloy (zama) is used for the metal parts whereas plastic parts are made of polyamide and polycarbonate.
The sealing boot is made of NBR rubber.

**Mechanical endurance**
Mechanical life: 1,000,000 cycles.

**General characteristics of contact elements**
Wiping action and dual scraping-oscillating effect.
IEC rated insulation voltage: 690V
IEC rated thermal current Ith: 10A
UL/CSA and IEC/EN 60947-5-1 designation: A300 Q300.
IEC/EN operational characteristics in AC15 category:

| [V] | 12 | 24 | 48 | 120 | 240 |
|---|---|---|---|---|---|
| [A] | 6 | 6 | 6 | 6 | 3 |

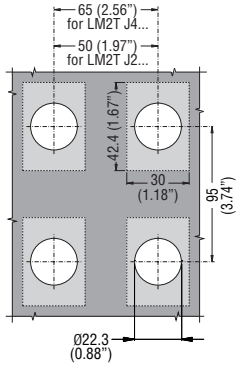
IEC/EN operational characteristics in DC13 category:

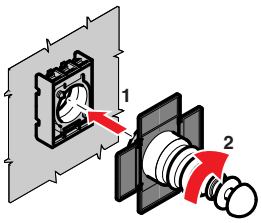
| [V] | 12 | 24 | 48 | 125 | 250 |
|---|---|---|---|---|---|
| [A] | 0.55 | 0.55 | 0.55 | 0.55 | 0.27 |

Short circuit protection fuse, max calibre: 10A gG/SC.
Contact resistance: ≤20mΩ.
Terminals: Clamp screw with washer
Maximum tightening torque: 1Nm/0.74lbft.

**Mounting adapter and contact elements**
The joystick is standard supplied with the mounting adapter and contact elements.
The adapter is fixed to the mounting surface by means of incorporated screws (Tmax = 0.8Nm/0.59lbft).
The joystick latches onto the mounting adapter by simple rotation.
Contact elements snap onto the mounting adapter.
Two LM2T CJ... contacts are mounted on joystick LM2T J2... type and 4 LM2T CJ... contacts on LM2T J4... type.
The mounting adapter and contact elements of LM2T J2... types can be internally mounted on LPZ control stations covers.

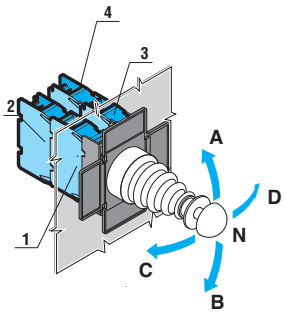
**Certifications and compliance**
Certifications obtained: CCC, EAC, UL Listed for USA and Canada (cULus - File E93601), as Auxiliary Devices.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.



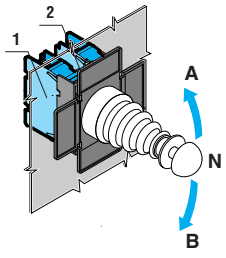




**Joystick positions and contact activation**

2 instable  2 stable
4 instable  4 stable

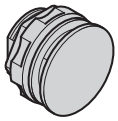



| | | A | B | C | D | N |
|---|---|---|---|---|---|---|
| LM2TCJ10 | 1 | ● | | | | |
| LM2TCJ01 | 2 | | ● | | | |
| LM2TCJ10 | 3 | | | | ● | |
| LM2TCJ01 | 4 | | | ● | | |

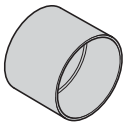


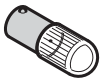

| | | A | B | N |
|---|---|---|---|---|
| LM2TCJ10 | 1 | ● | | |
| | 2 | | ● | |

## Accessories and spare parts


8 LM2T A130

8 LM2T A140


8 LM2T A185


8 LM2T AL...

| Order code | Description | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg |
| **8 LM2T A12...❶** | Coloured diffuser for double touch buttons | 10 | 0.001 |
| **8 LM2T A130** | Threaded plug for unused drilled holes (black) | 10 | 0.007 |
| **8 LM2T A140** | Action plug for centre contact | 50 | 0.001 |
| **8 LM2T A150** | Rod for mechanical reset button (l=140mm/5.5") | 10 | 0.006 |
| **8 LM2T A160** | BA9s bulb extractor | 10 | 0.004 |
| **8 LM2T A161** | Hole size adapter set for Ø30mm/1.2" to 22mm/0.87" (2 per hole) | 10 | 0.002 |
| **8 LM2T A170** | Spare key set for selector or mushroom head button | 1 | 0.008 |
| **8 LM2T A170G❷** | Spare key set for G series selector or mushroom-head button | 1 | 0.008 |
| **8 LM2T A185** | Selector switch protection shroud for short lever | 10 | 0.004 |
| **8 LM2T A190** | Diffuser for pilot light | 10 | 0.003 |
| **8 LM2T ALA024** | Filament bulb BA9s 24VAC/DC - 1.2W | 100 | 0.002 |
| **8 LM2T ALB024** | Filament bulb BA9s 24VAC/DC - 2W | 100 | 0.003 |
| **8 LM2T ALB048** | Filament bulb BA9s 48VAC/DC - 2W | 100 | 0.003 |
| **8 LM2T ALB130** | Filament bulb BA9s 130VAC/DC - 2W | 100 | 0.003 |
| **8 LM2T ALL006❸** | LED bulb BA9s 6VAC/DC | 10 | 0.003 |
| **8 LM2T ALL024❸** | LED bulb BA9s 24VAC/DC | 10 | 0.003 |
| **8 LM2T ALL048❸** | LED bulb BA9s 48VAC/DC | 10 | 0.003 |
| **8 LM2T ALN130❹** | Neon bulb ❺ BA9s 110...125VAC | 100 | 0.003 |
| **8 LM2T ALN250❹** | Neon bulb ❺ BA9s 220...250VAC | 100 | 0.003 |
| **8 LM2T ALP130❹** | Neon bulb ❻ BA9s 110...125VAC | 100 | 0.003 |
| **8 LM2T ALP250❹** | Neon bulb ❻ BA9s 220...250VAC | 100 | 0.003 |

❶ Complete the order code by adding the digit of the selected colour: 3 (green); 4 (red); 5 (yellow); 6 (blue); 7 (transparent); 8 (white).
❷ Versions with different key code. Complete with the numeric code of the key. The following versions are available: 501; 502; 503; 504; 505; 506; 507; 508; 509; 510. Example of complete code: 8 LM2T A170G505. Coloured key versions are available on request; consult Customer Service; see contact details on inside front cover.
❸ Add the digit of the selected colour: 3 (green); 4 (red); 5 (yellow). It is advisable to use the same colour of bulb as of the actuator to obtain adequate light emission.
❹ Neon bulbs emit an amber light and may not be suitable for use with green or blue pilot lights and illuminated actuators.
❺ Glass with diffuser lens.
❻ Plastic neon bulb.

## Accessories and spare parts

8 LM2T AT...

8 LM2T AU100

8 LM2T AU105

8 LM2T AU108
8 LM2T AU106

8 LM2T AU170

8 LM2T AU159

LPX DIN

| Order code | Description | Qty per pkg. | Wt |
|---|---|---|---|
| | | n° | [kg] |
| **8 LM2T AT...❶** | Printed label to be inserted in pilot lights and illuminated pushbuttons | 50 | 0.001 |
| **8 LM2T AU100❷** | Legend holder | 50 | 0.001 |
| **8 LM2T AU105❷** | Legend holder (for 8 LM2T AU106 paper or 8 LM2T AU108 plastic labels) | 50 | 0.003 |
| **8 LM2T AU106** | Blank paper label for writing (for LM2T AU105) | 50 | 0.002 |
| **8 LM2T AU107** | Transparent protection for LM2T AU106 label | 50 | 0.001 |
| **8 LM2T AU108** | Blank plastic label for engraving (for LM2T AU105) | 50 | 0.002 |
| **8 LM2T AU13❸** | IP66 boot for pushbuttons LM2T B1/R1... | 10 | 0.006 |
| **8 LM2T AU14❸** | IP66 boot for pushbuttons LM2T B2/B3//BL2/R2... | 10 | 0.009 |
| **8 LM2T AU157** | IP66 boot for double and triple buttons (transparent) | 10 | 0.007 |
| new **8 LM2T AU159** | Shroud for buttons 8 LM2T B62/63/65/66..., 8 LM2T BL62... | 10 | 0.010 |
| new **LPX DIN** | Adapter for mounting 8 LM2T... buttons on DIN rail 35mm/1.38" wide (2 modules) | 10 | 0.008 |
| **8 LM2T AU167** | IP66 protective boot for mushroom head buttons LM2T B62/B63... (transparent) | 10 | 0.012 |
| **8 LM2T AU170** | Actuator gasket | 10 | 0.006 |

❶ Available only on specific request, consult Customer Service; see contact details on inside front cover.
❷ To preserve actuators degree of protection (IP65) place their gasket between legend holder and mounting surface.
❸ For flush and extended push-buttons, complete the order code by adding the digit of the required colour: 2 (black); 3 (green); 4 (red); 5 (yellow); 6 (blue); 7 (transparent); 8 (white).
For illuminated push-buttons, add only digit 7 (transparent).



Dimensions page 7-50

## Labels with text for LM2T AU100 legend holder

8 LM2T AGB230

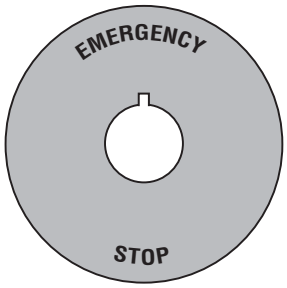
| Order code | Text | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| General use. | | | |
| **8 LM2T AU206** | Blank for writing | 50 | 0.001 |
| **8 LM2T AU207** | Sheet with 108 labels for laser printing❶ | 1❷ | 0.005 |
| **8 LM2T AU208❸** | Sheet with 108 laser-printed labels❶ | 1❷ | 0.005 |
| **8 LM2T AI210** | LATCH | 50 | 0.001 |
| **8 LM2T AI211** | OPEN | 50 | 0.001 |
| **8 LM2T AI212** | STOP | 50 | 0.001 |
| **8 LM2T AI213** | GENERAL STOP | 50 | 0.001 |
| **8 LM2T AI214** | STOP RESET | 50 | 0.001 |
| **8 LM2T AI215** | FORWARD | 50 | 0.001 |
| **8 LM2T AI216** | CLOSE | 50 | 0.001 |
| **8 LM2T AI217** | RIGHT | 50 | 0.001 |
| **8 LM2T AI218** | LOWER | 50 | 0.001 |
| **8 LM2T AI219** | OFF | 50 | 0.001 |
| **8 LM2T AI220** | EMERGENCY | 50 | 0.001 |
| **8 LM2T AI221** | OFF | 50 | 0.001 |
| **8 LM2T AI222** | REVERSE | 50 | 0.001 |
| **8 LM2T AI223** | ON | 50 | 0.001 |
| **8 LM2T AI237** | THERMAL TRIP | 50 | 0.001 |
| **8 LM2T AI224** | SLOW | 50 | 0.001 |
| **8 LM2T AI225** | RUNNING | 50 | 0.001 |
| **8 LM2T AGB226** | RESET | 50 | 0.001 |
| **8 LM2T AI226** | RESET | 50 | 0.001 |
| **8 LM2T AI227** | RAISE | 50 | 0.001 |
| **8 LM2T AI228** | LEFT | 50 | 0.001 |
| **8 LM2T AI229** | POWER ON | 50 | 0.001 |
| **8 LM2T AGB225** | START | 50 | 0.001 |
| **8 LM2T AGB230** | STOP | 50 | 0.001 |
| **8 LM2T AGB214** | STOP-RESET | 50 | 0.001 |
| **8 LM2T AI231** | FAST | 50 | 0.001 |
| For selector switches. | | | |
| **8 LM2T AI232** | STOP-START | 50 | 0.001 |
| **8 LM2T AI233** | AUTO-MAN | 50 | 0.001 |
| **8 LM2T AI234** | AUTO-O-MAN | 50 | 0.001 |
| **8 LM2T AI242** | MAN-O-AUTO | 50 | 0.001 |
| **8 LM2T AI235** | FWD-O-REV | 50 | 0.001 |
| **8 LM2T AI236** | ON - OFF | 50 | 0.001 |
| **8 LM2T AI241** | MAN-AUTO | 50 | 0.001 |
| **8 LM2T AGB232** | STOP-START | 50 | 0.001 |
| **8 LM2T AGB236** | OFF-ON | 50 | 0.001 |
| International labels for pushbuttons. | | | |
| **8 LM2T AU200** | O | 50 | 0.001 |
| **8 LM2T AU201** | I | 50 | 0.001 |
| **8 LM2T AU202** | II | 50 | 0.001 |
| International labels for selector switches. | | | |
| **8 LM2T AU203** | O-I | 50 | 0.001 |
| **8 LM2T AU204** | I-II | 50 | 0.001 |
| **8 LM2T AU205** | I-O-II | 50 | 0.001 |

❶ Recommended use with LM2T AU206 blank label.
❷ Sheet with 108 adhesive labels.
❸ Complete code with label text required.

**General characteristics**
The labels have indelible scratch-proof black lettering on metalised grey polycarbonate background (adhesive).

**Special versions**
Labels in different languages are available.
Consult Customer Service; see contact details on inside front cover.

## Plastic disk for mushroom head pushbuttons




| Ordering code | Text | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| **8 LM2T AU112** | EMERGENCY STOP Ø90mm/3.5” | 10 | 0.005 |
| **8 LM2T AU113** | EMERGENCY STOP Ø90mm/3.5” | 10 | 0.005 |
| **8 LM2T AU114** | EMERGENCY STOP Ø60mm/2.4” | 10 | 0.003 |
| **8 LM2T AU115** | EMERGENCY STOP Ø60mm/2.4” | 10 | 0.003 |
| **8 LM2T AU118** | ARRET D’URGENCE / NOT-AUS / PARO EMERGENCIA Ø60mm/2.4” | 10 | 0.003 |

**General characteristics**
The disks are made of non-adhesive plastic.
It is not possible use plastic disks with protection 8 LM2T AU159.

**Special versions**
The disk text in different languages is available.
Consult Customer Service; see contact details on inside front cover.

## Mounting adapter

8 LM2T AU120

| Order code | Description | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| Only for metal series LM2T actuators. | | | |
| **8 LM2T AU120** | Mounting adapter | 10 | 0.019 |

## Contact elements

8 LM2T C...

8 LM2T E...

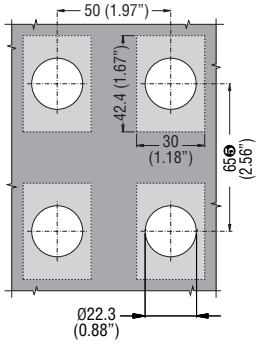
8 LM2T CF01

8 LM2T CF10

| Order code | Function | Qty per pkg | Wt |
|---|---|---|---|
| | | n° | [kg] |
| Screw termination. Without mounting adapter | | | |
| **8 LM2T C10❶** | NO❶ | 10 | 0.011 |
| **8 LM2T C10A** | EM❷ | 10 | 0.011 |
| **8 LM2T C01** ⊖ | NC❸ | 10 | 0.011 |
| **8 LM2T C01D❶** | LB❶❹ | 10 | 0.011 |
| Screw termination. With mounting adapter. | | | |
| **8 LM2T E10❶** | NO❶ | 10 | 0.029 |
| **8 LM2T E01** ⊖ | NC❸ | 10 | 0.029 |
| Faston termination Without mounting adapter | | | |
| **8 LM2T CF10❶** | NO❶ | 10 | 0.012 |
| **8 LM2T CF01** ⊖ | NC❸ | 10 | 0.012 |

❶ Use LM2T C10A (EM) or LM2T C01 (NC) type only with push-push actuators. **Not suitable for push-push actuators.**
❷ Normally open contact with early make operation.
❸ Direct (positive) opening action ⊖ in accordance with IEC/EN 60947-5-1.
❹ Normally closed contact with late break operation.

Drillings - Minimum recommended distances




❺ Using contacts with Faston elements, the minimum vertical pitch is 90mm/3.54".

**Operational characteristics**
- Any mounting position allowed
- The adapter is fixed to the mounting surface by means of incorporated screws (Tmax = 0.8Nm/0.59lbft) also internally on LPZ control stations covers
- Contact elements snap onto the adapter
- Maximum tightening torque for screw terminals: 1Nm
- Ambient conditions:
  - Operating temperature: -25...+60°C
  - Storage temperature: -40...+70°C
- Degree of protection:
  - IP20 for contacts elements with screw termination
  - IP00 for contact elements with Faston termination.

**General characteristics of contact elements**
Wiping action and dual scraping and oscillating effect,
IEC rated insulation voltage: 690V
IEC rated thermal current Ith: 10A
Conductivity: 5V 10mA.
UL/CSA and IEC/EN 60947-5-1 designation: A600 Q600.
IEC/EN operational characteristics in AC15 category:

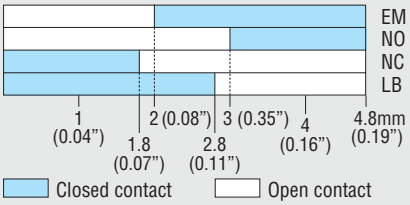
| [V] | 12 | 24 | 48 | 120 | 240 | 400 | 480 | 500 | 600 |
|---|---|---|---|---|---|---|---|---|---|
| [A] | 6 | 6 | 6 | 6 | 3 | 1.9 | 1.5 | 1.4 | 1.2 |

IEC/EN operational characteristics in DC13 category:

| [V] | 12 | 24 | 48 | 125 | 250 | 440 | 500 | 600 |
|---|---|---|---|---|---|---|---|---|
| [A] | 3 | 3 | 1.5 | 0.55 | 0.27 | 0.15 | 0.13 | 0.1 |

Short-circuit protection fuse: max. calibre 10A gG/SC
Contact resistance: ≤20mΩ
Terminals: Clamp screw with washer
Faston 1-6.35mm/0.25" or 2-2.8mm/0.11".

**Stroke of contact elements**




**Maximum conductor cross section for screw terminals**
1 or 2 2.5mm² or AWG12 cables.

**Mechanical and electric endurance**
Operating force: 0.5kg / 1.1lb (contact elements).
Electrical life:

| | |
|---|---|
| LM2T C10 | 1,000,000 cycles |
| LM2T CF10 | 1,000,000 cycles |
| LM2T C01 | 1,000,000 cycles |
| LM2T CF01 | 1,000,000 cycles |
| LM2T C10A | 600,000 cycles |
| LM2T C01D | 600,000 cycles. |

**Certifications and compliance**
Certifications obtained: RINA, LROS, EAC, CCC, UL Listed, for USA and Canada (cULus - File E93601), as Auxiliary Devices.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

## Lamp-holder elements without mounting adapter

8 LM2T EL400
8 LM2T ZL230

8 LM2T YL...
8 LM2T GL...

| Order code | Rated supply voltage | Type of bulb supplied | Qty per pkg | Wt |
|---|---|---|---|---|
| | [V] 50/60Hz | | n° | [kg] |
| Direct supply. | | | | |
| **8 LM2T EL400❶** | ≤415VAC/DC | No | 10 | 0.011 |
| With resistor and diode. | | | | |
| **8 LM2T ZL230❹** | 230VAC | Yes 130V (2W) | 10 | 0.015 |
| With transformer❽. | | | | |
| **8 LM2T YL110❷** | 110...120VAC | Yes 24V (1.2W) | 1 | 0.086 |
| **8 LM2T YL230❷** | 220...240VAC | Yes 24V (1.2W) | 1 | 0.084 |
| **8 LM2T YL400❷** | 380...415VAC | Yes 24V (1.2W) | 1 | 0.087 |
| Flashing❽. | | | | |
| **8 LM2T GL048❷❸** | 24...48VAC | No | 1 | 0.027 |
| **8 LM2T GL230❷❸** | 110...230VAC | No | 1 | 0.027 |

## Lamp-holder elements with mounting adapter

8 LM2T DL400

| Order code | Rated supply voltage | Type of bulb supplied | Qty per pkg. | Wt |
|---|---|---|---|---|
| | [V] 50/60Hz | | n° | [kg] |
| Direct supply. | | | | |
| **8 LM2T DL400❶** | ≤415VAC/DC | No | 10 | 0.029 |

## Test element for lamp-holders without mounting adapter

8 LM2T T100

| Order code | Description | Qty per pkg. | Wt |
|---|---|---|---|
| | | n° | [kg] |
| Test element for lamp-holders. | | | |
| **8 LM2T T100** | Test element ❺❻❼ | 10 | 0.011 |

❶ Filament bulb, BA9s U≤130VAC/DC max 2.6W (not supplied); maximum dimensions 11x28 mm.
For higher voltages, use neon bulbs.
❷ Not suitable for 3-position selectors.
❸ Filament bulb, BA9s (not supplied); maximum dimensions 11x28mm/0.4x1.1".
Use bulbs with rated voltage equal to that of the power supply.
Suitable for AC duty only.
E.g.: With 8 LM2T FL230, use 110VAC bulbs if power supply is 110VAC and 230VAC bulbs if power supply 230VAC. 2.6W max bulb rating.
❹ MultiLED bulbs must not be fitted.
❺ In case of test circuits for lamp-holders having load in parallel, two LM2T T100 elements are required for each bulb.
Refer to the wiring diagram attached to the product or consult Customer Service; see contact details on inside front cover.
❻ In case of neon bulbs, consult Customer Service; see contact details on inside front cover.
❼ Only use with lamp-holder elements:
• With direct supply
• With resistor and diode
❽ Not suitable for use with test element.

**Operational characteristics**
- Operating supply voltage limits for all types: -15…+10% Ue
- Any mounting position allowed
- The adapter is fixed to the mounting surface by means of incorporated screws (Tmax = 0.8Nm/0.59lbft) also internally on LPZ control stations covers
- Lamp-holder elements snap onto the adapter
- Only lamp-holder elements LM2T DL400, LM2T EL400, LM2T T100 and LM2T ZL230 can be used with LPZ control stations
- Maximum tightening torque: 1Nm/1.57lbft
- Ambient conditions:
  • Operating temperature: -25...+60°C
  • Storage temperature: -40...+70°C
- Degree of protection: IP20.

**Mounting adapter**
See page 7-41.
Type : LM2T AU120 for LM2T EL400, LM2T ZL230, LM2T YL..., LM2T GL... and/or LM2T T100.

**Maximum conductor cross section**
1 or 2 2.5mm² or AWG 12 cables.

**Wiring diagrams**
Direct supply
LM2T EL400
LM2T DL400

With resistor and diode
LM2T ZL230

With transformer
LM2T YL...

Flashing
LM2T GL...

Test element
LM2T T100

**Certifications and compliance**
Certifications obtained: RINA, LROS, GOST, CCC, UL Listed for USA and Canada (cULus - File E93601), as Auxiliary Devices.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.

## LED elements steady light

8 LM2T L...

| Order code | Supply voltage | LED colour | Qty per pkg. | Wt |
|---|---|---|---|---|
| | [V] | | n° | [kg] |
| Screw termination. Supplied without mounting adapter. | | | | |
| **8 LM2T LB3❶** | 12…30VAC/DC | Green | 10 | 0.016 |
| **8 LM2T LB4❶** | | Red | 10 | 0.016 |
| **8 LM2T LB5❶** | | Yellow | 10 | 0.016 |
| **8 LM2T LB6❶** | | Blue | 10 | 0.016 |
| **8 LM2T LB8❶** | | White | 10 | 0.016 |
| **8 LM2T LE3** | 85…140VAC | Green | 10 | 0.016 |
| **8 LM2T LE4** | | Red | 10 | 0.016 |
| **8 LM2T LE5** | | Yellow | 10 | 0.016 |
| **8 LM2T LE6** | | Blue | 10 | 0.016 |
| **8 LM2T LE8** | | White | 10 | 0.016 |
| **8 LM2T LM3** | 185…265VAC | Green | 10 | 0.016 |
| **8 LM2T LM4** | | Red | 10 | 0.016 |
| **8 LM2T LM5** | | Yellow | 10 | 0.016 |
| **8 LM2T LM6** | | Blue | 10 | 0.016 |
| **8 LM2T LM8** | | White | 10 | 0.016 |

❶ Only LM2T LB… type is suitable for use with LM2T T100 test element.

## LED elements flashing light

8 LM2T M...

| Order code | Supply voltage | LED colour | Qty per pkg. | Wt |
|---|---|---|---|---|
| | [V] | | n° | [kg] |
| Screw termination. Supplied without mounting adapter. | | | | |
| **8 LM2T MB3❷** | 18…30VAC/DC | Green | 10 | 0.016 |
| **8 LM2T MB4❷** | | Red | 10 | 0.016 |
| **8 LM2T MB5❷** | | Yellow | 10 | 0.016 |
| **8 LM2T MB6❷** | | Blue | 10 | 0.016 |
| **8 LM2T MB8❷** | | White | 10 | 0.016 |
| **8 LM2T ME3** | 85…140VAC | Green | 10 | 0.016 |
| **8 LM2T ME4** | | Red | 10 | 0.016 |
| **8 LM2T ME5** | | Yellow | 10 | 0.016 |
| **8 LM2T ME6** | | Blue | 10 | 0.016 |
| **8 LM2T ME8** | | White | 10 | 0.016 |
| **8 LM2T MM3** | 185…265VAC | Green | 10 | 0.016 |
| **8 LM2T MM4** | | Red | 10 | 0.016 |
| **8 LM2T MM5** | | Yellow | 10 | 0.016 |
| **8 LM2T MM6** | | Blue | 10 | 0.016 |
| **8 LM2T MM8** | | White | 10 | 0.016 |

❷ Only LM2T MB… type is suitable for use with LM2T T100 test element.

**Operational characteristics**
- Rated frequency: 50-60Hz
- Supply voltage:
  - Steady light: 12...30VAC/DC; 85...140VAC; 185...265VAC
  - Flashing light: 18...30VAC/DC; 85...140VAC, 185...265VAC
- Maximum consumption:
  - Steady and flashing light: 17mA-0.50W (12...30VAC/DC); 20mA-0.40W (85...140VAC); 18mA-0.55W (185...265VAC)
- Protection:
  - Against overvoltages
  - Against stray currents in wiring
  - To reduce flickering phenomenon
  - To withstand vibrations
- Minimum activation voltage:
  - Steady light: 4V-1mA (12...30VAC/DC); 30V-4mA (85...140VAC); 55V-4mA (185...265VAC)
  - Flashing light: 5V-1.5mA (18...30VAC/DC); 13V-1.5mA (85...140VAC); 25V-1.5mA (185...265VAC)
- Electrical life: 100,000 hours
- Snap onto 8 LM2T AU120 mounting adapter in the middle position for each illuminated actuator, also internally on the LPZ control station cover
- No other element can be stacked behind LED elements
- Any mounting position allowed
- Maximum tightening torque: 1Nm
- Ambient conditions:
  - Operating temperature: -25...+60°C
  - Storage temperature: -40...+85°C
- Degree of protection: IP20.

**Mounting adapter**
See page 7-39. Type: LM2T AU120.
The adapter is fixed on the mounting surface by means of incorporated screws (Tmax=0,8Nm/0.59lbft).

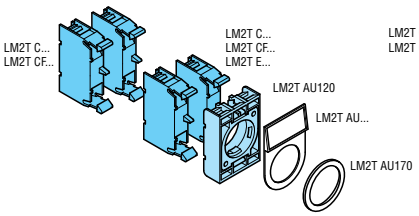
**Maximum conductor cross section**
1 or 2 2.5mm$^2$ or AWG12 cables.

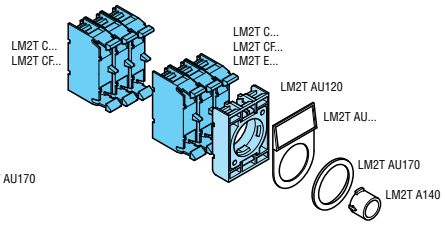
**Wiring diagram**

**Certifications and compliance**
Certifications obtained: EAC, CCC, UL Listed for USA and Canada (cULus - File E93601), as Auxiliary Devices.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14-95.

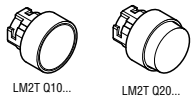
## COMBINATIONS FOR METAL SERIES PUSHBUTTONS AND SELECTOR SWITCHES

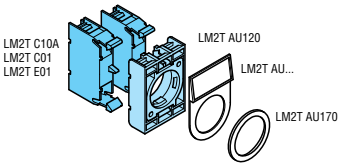
### SPRING-RETURN BUTTONS



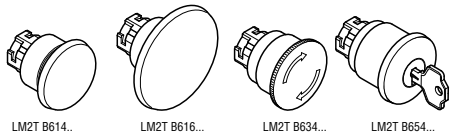



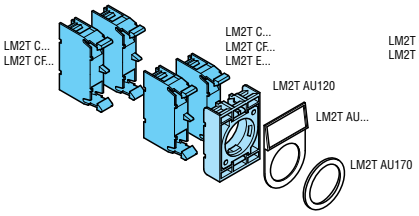

### PUSH-PUSH BUTTONS

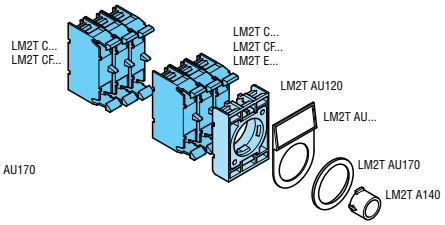


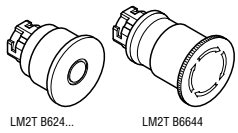

### NORMAL STOPPING MUSHROOM-HEAD BUTTONS

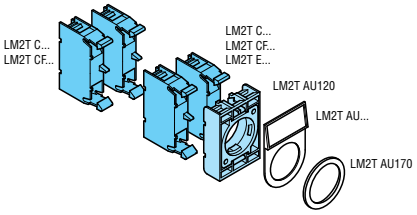


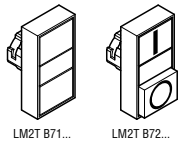



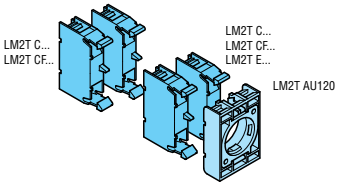

### MUSHROOM-HEAD LATCH BUTTONS



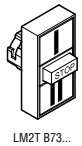



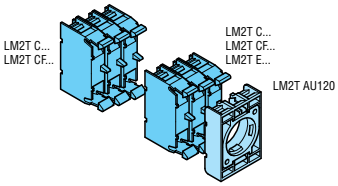

### DOUBLE-TOUCH BUTTONS



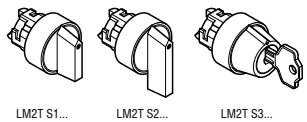



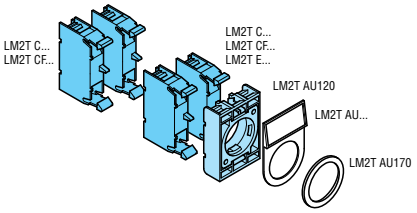

### TRIPLE-TOUCH BUTTONS



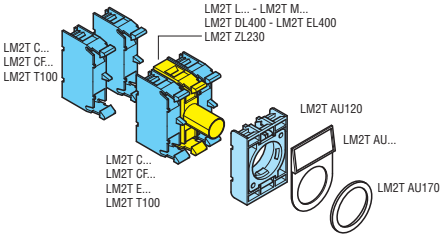

### SELECTOR SWITCHES

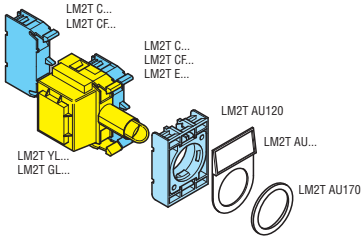


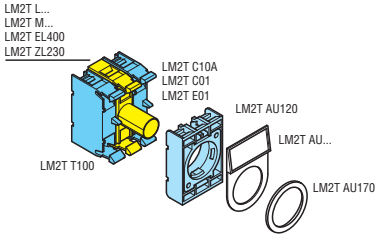
## COMBINATION FOR METAL SERIES ILLUMINATED PUSHBUTTONS AND SELECTOR SWITCHES

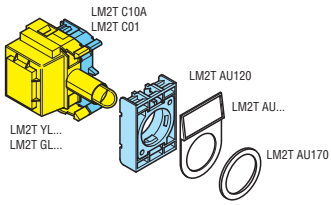
### SPRING-RETURN BUTTONS



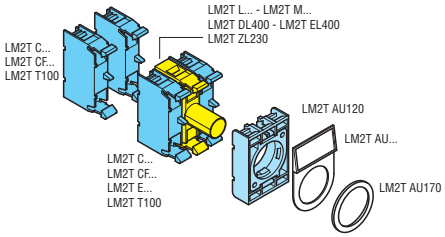



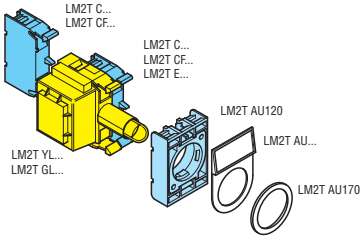

### PUSH-PUSH BUTTONS



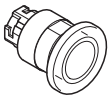



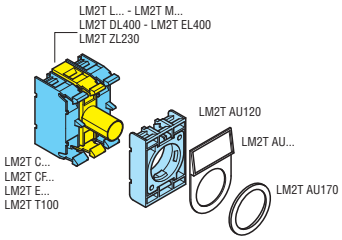

### MUSHROOM-HEAD SPRING-RETURN BUTTON

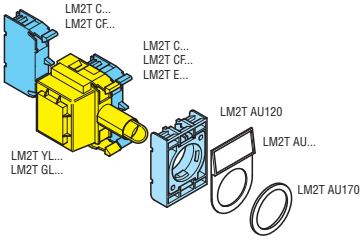


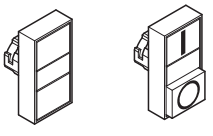

### MUSHROOM-HEAD LATCH BUTTON

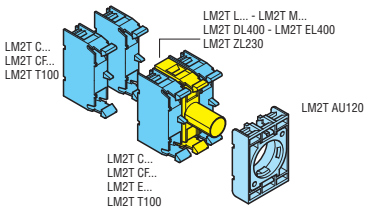


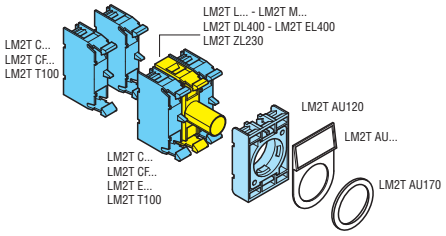



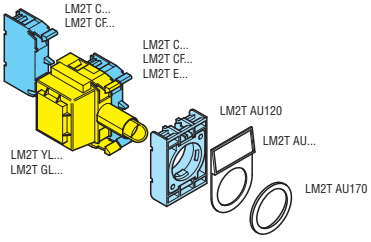

### DOUBLE-TOUCH BUTTONS



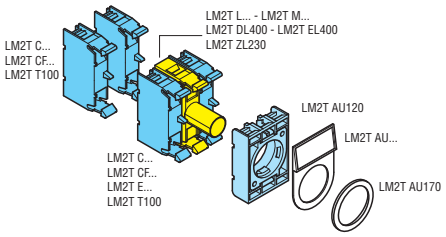




### 2-POSITION SELECTOR SWITCHES



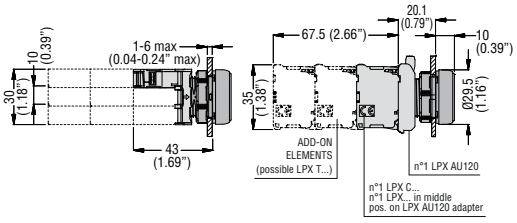




### 3-POSITION SELECTOR SWITCHES

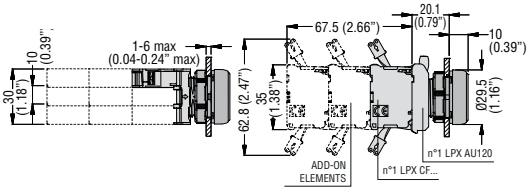


PLATINUM SERIES PUSHBUTTONS AND SELECTOR SWITCHES

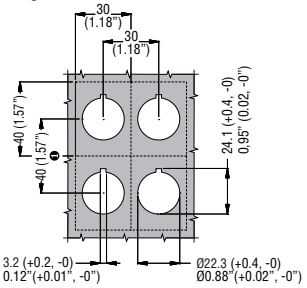
Flush pushbutton with screw terminal contact or LED or test elements




Flush pushbutton with Faston contact elements



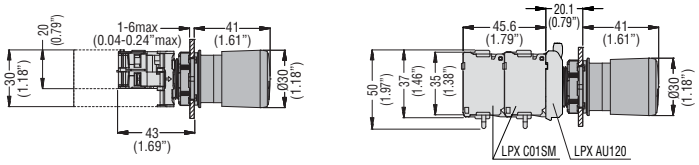

Drillings - Minimum recommended distances



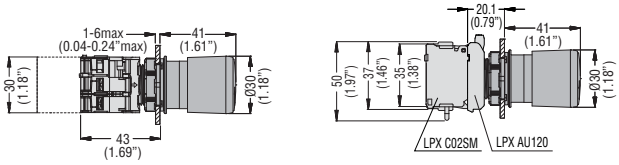

❶ When Faston contacts are used, the vertical pitch must be 85mm minimum.

Mushroom-head pushbutton with auto-monitor contacts

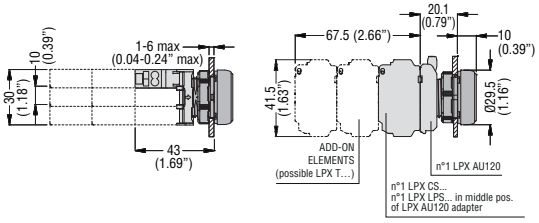
**LPX C01SM**



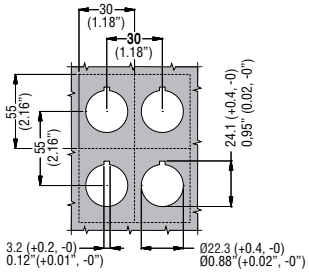

**LPX C02SM**



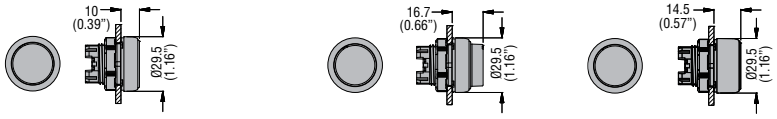

Flush pushbutton with test element and spring-clamp terminal contact or LED elements **LPX CS... - LPX LPS...**




Drillings – Minimum recommended distances with spring-clamp terminal contact or LED elements




Spring-return and push-push buttons




Flush
**LPC B1...**
Illuminated flush
**LPC BL1...**
**LPX B0❷**

Push-push
**LPC Q1...**
**LPX Q0❷**
Illuminated push-push
**LPC QL1...**

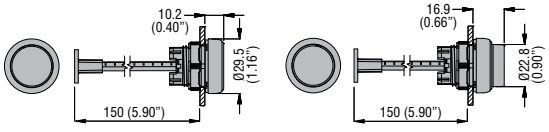
Extended
**LPC B2...**
Illuminated extended
**LPC BL2...**

Push-push
**LPC Q2...**
Illuminated push-push
**LPC QL2...**
**LPX QL0❷**

Shrouded
**LPC B30...**
**LPX B3❷**

❷ Complete with cap or lens.

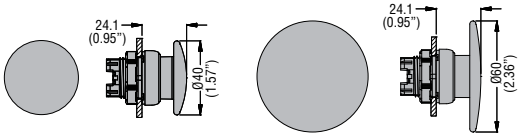
Mechanical buttons




Flush
**LPC R1...**

Extended
**LPC R2004**

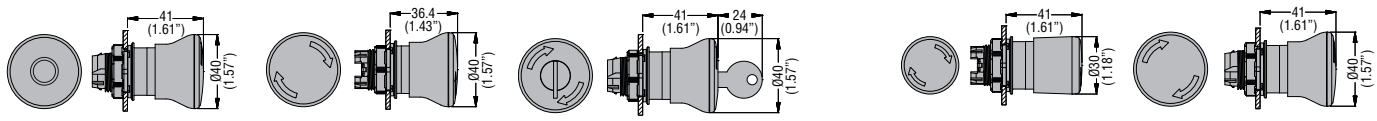
Mushroom-head button actuators




Spring return
**LPC B614...**
Illuminated spring return
**LPC BL614...**

Spring return
**LPC B616...**

Mushroom-head latch button actuators




Push-pull
**LPC B674...**

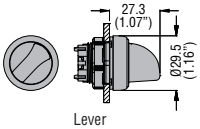
Turn to release
**LPC B634...**

Turn key to release
**LPC B684...**

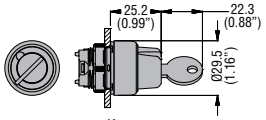
Turn to release
**LPC B6634**

Turn to release
**LPC B6644**
Illuminated turn to release
**LPC BL664...**

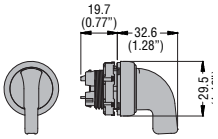
## Selector switch actuators



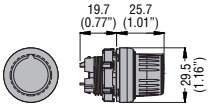

Lever
**LPC S1…**




Key
**LPC S3…**



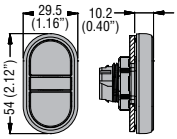

Long lever
**LPC S2…**




Knob
**LPC S4…**

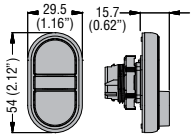
Illuminated lever
**LPC SL1…**

## Flush double-touch buttons with or without light indicator



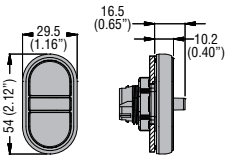

**LPC B71… -**
**LPC BL71…**

## Double-touch buttons with an extended button with or without light indicator



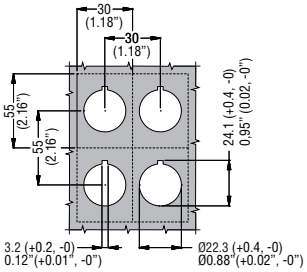

**LPC B72… -**
**LPC BL72…**

## Triple-touch button with middle extended button

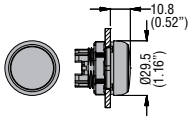



**LPC B73…**

## Drillings - Minimum recommended distances

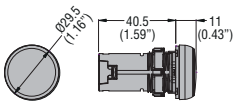



## Pilot light head



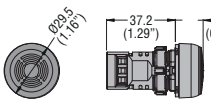

**LPL…**

## LED-integrated monoblock pilot lights



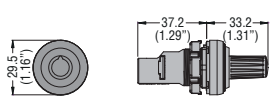

**LPM…**

## Monoblock buzzers



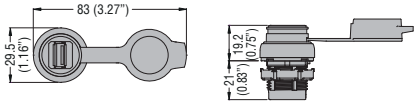

**LPC ZS…**

## Monoblock potentiometer

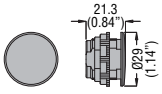



**LPC PA…**

## Communication interfaces LPC D…




## Threaded plug for unused drilled holes

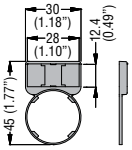



**LPX A130**

## Knob selector switch protection

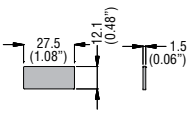
**LM2T AU185**

## Label holder



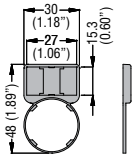

**LPX AU100**

## Label



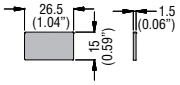

**LPX AU109**
**LM2T A…2…**

## Label holder



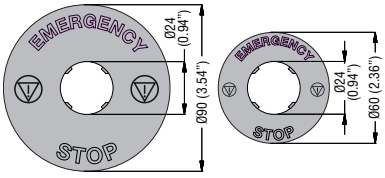

**LPX AU105**

## Label



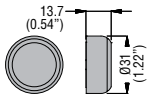

**LPX AU108**

## Plastick disk for mushroom-head pushbuttons



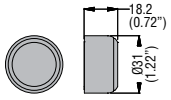

**LPX AU113**
**LPX AU115**
**LPX AU118**

## Rubber boot for flush buttons



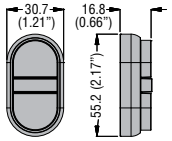

**LPX AU13…**

## Rubber boot for extended buttons



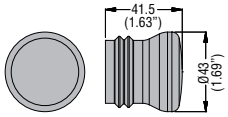

**LPX AU14…**

## Double/triple button boot



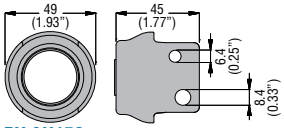

**LPX AU157**

## Rubber boot for mushroom-head buttons



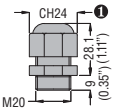

**LPX AU167**

## Padlockable protection for mushroom-head latch buttons



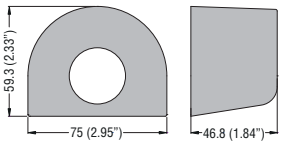

**LPX AU158**

## Cable gland



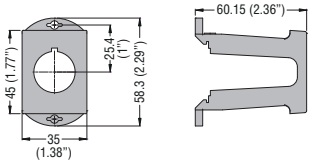

**LPX P01**

## Shroud for mushroom-head latch buttons




**LPX AU159**

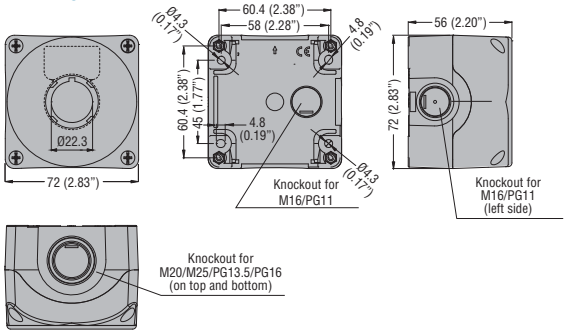
## DIN rail adapter



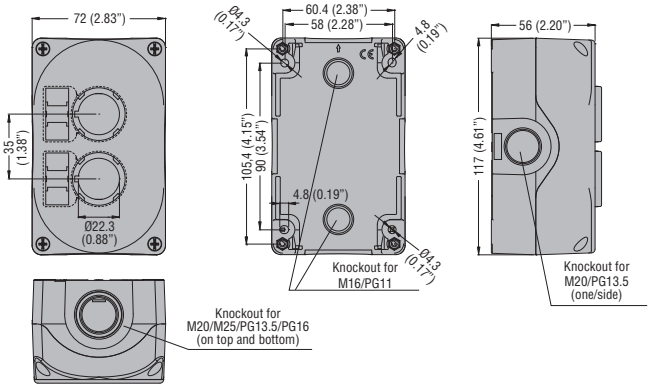

**LPX DIN**

## CONTROL STATIONS WITHOUT ACTUATORS

**LPZ P1 A5…**
**LPZ P1 A8…**

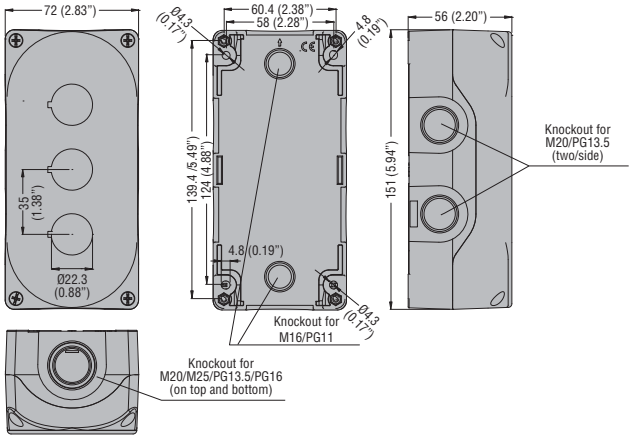



**LPZ P2 A5…**
**LPZ P2 A8…**

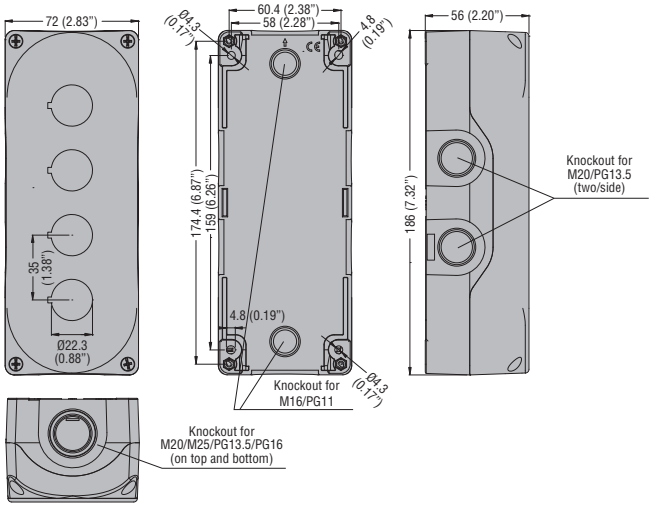


## CONTROL STATIONS WITHOUT ACTUATORS

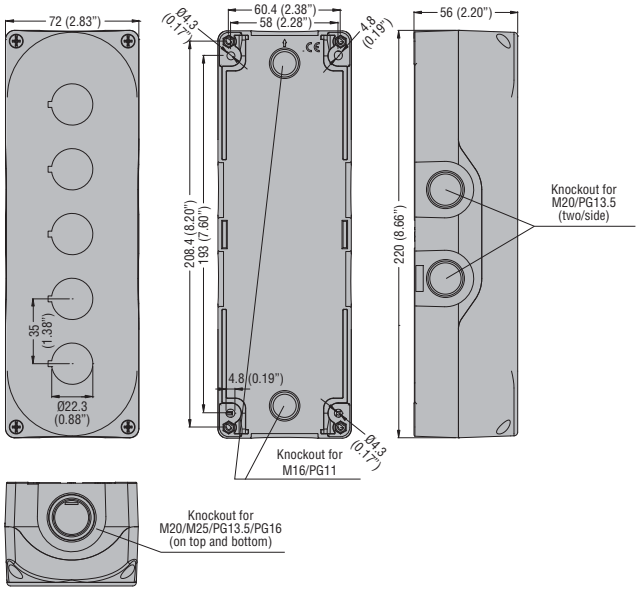
### LPZ P3 A8



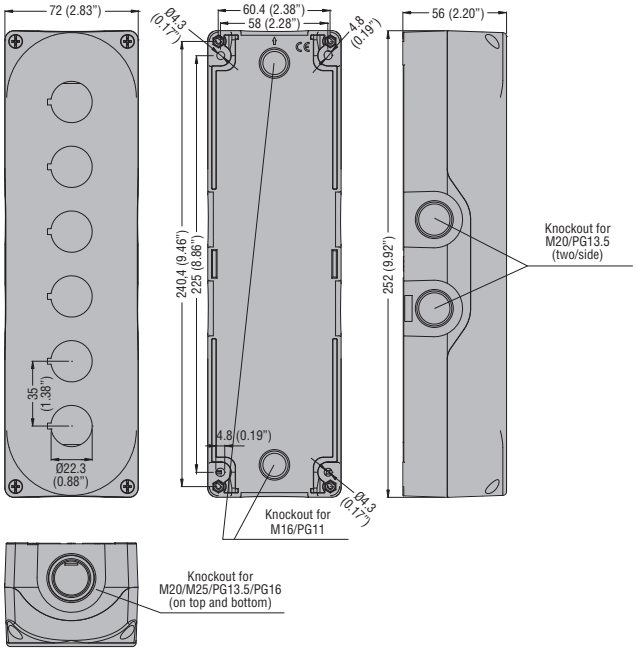

### LPZ P4 A8




### LPZ P5 A8

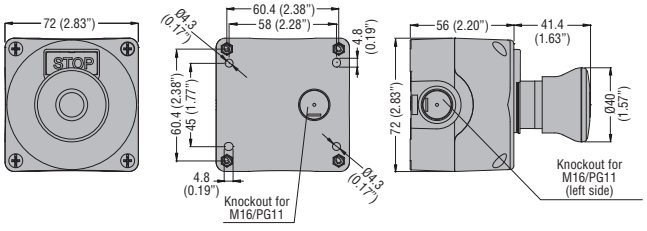



### LPZ P6 A8

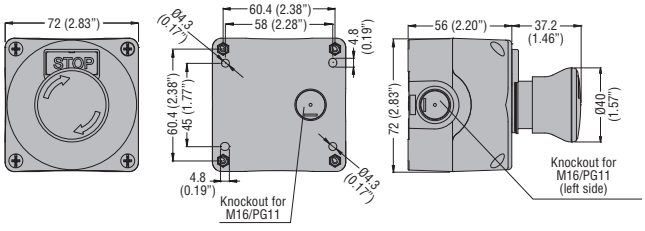



## CONTROL STATIONS WITH ONE ACTUATOR

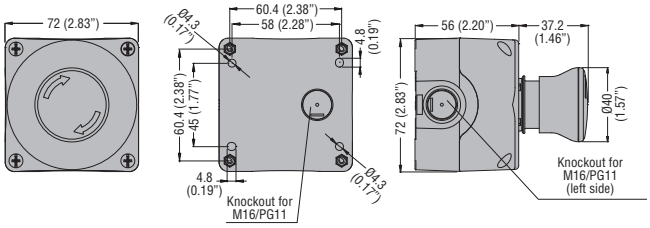
### LPZ P1 B8 01



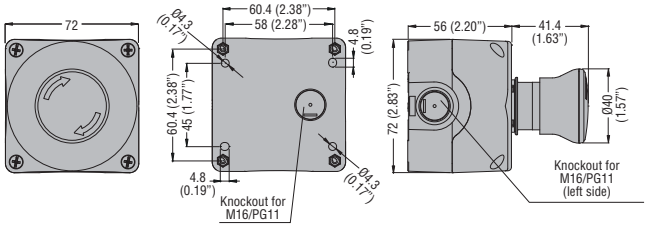

### LPZ P1 B8 02



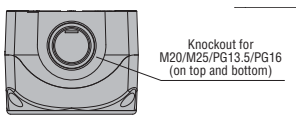

### LPZ P1 B5 02




### LPZ P1 B5 03

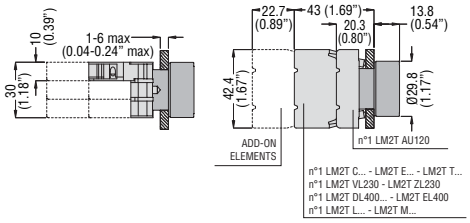



Top view for **LPZ P1...**

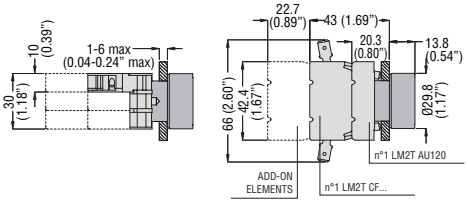


METAL PUSHBUTTONS AND SELECTOR SWITCHES 8 LM SERIES

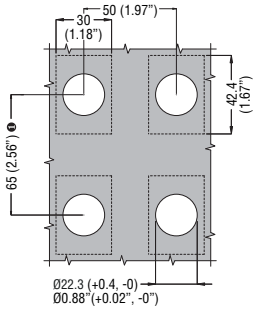
Flush pushbutton with contact or lamp-holder elements (direct or resistor-diode type) or test element




Flush pushbutton with Faston contact elements



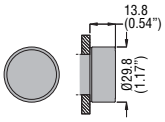

Drillings - Minimum recommended distances



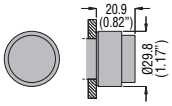

❶ When Faston contacts are used, the vertical pitch must be 90mm minimum.

7

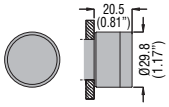
Pushbutton actuators




Flush
**LM2T B1...**
Push-push
**LM2T Q1...**

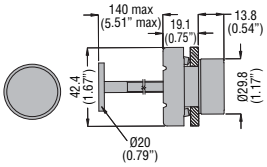



Extended
**LM2T B2...**
Push-push
**LM2T Q2...**
Illuminated extended
**LM2T BL2...**
Illuminated push-push
**LM2T QL2...**

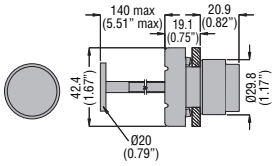



Shrouded
**LM2T B30...**
Illuminated flush
**LM2T BL1...**
Illuminated push-push
**LM2T QL1...**

Reset buttons (complete unit)

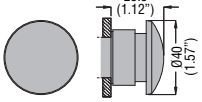



**LM2T R1...**

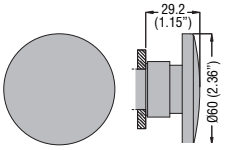



**LM2T R2004**

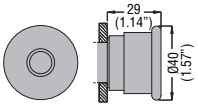
Mushroom-head button actuators



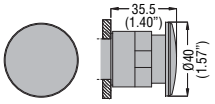

Spring return
**LM2T B614...**
Illuminated spring return
**LM2T BL614...**



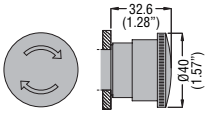

Spring return
**LM2T B616...**



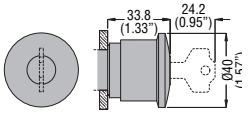

Push-pull
**LM2T B624...**



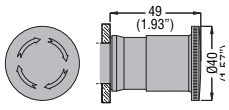

Illuminated push-pull
**LM2T BL624...**




Turn to release
**LM2T B634...**

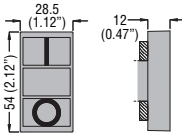



Turn key to release
**LM2T B654...**



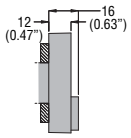

Turn to release
**LM2T B6644**

Double-touch actuators with or without indicator
2 flush buttons



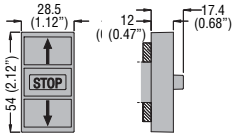

**LM2T B71...**
**LM2T BL71...**

Double-touch actuators with or without indicator
1 flush and 1 extended button



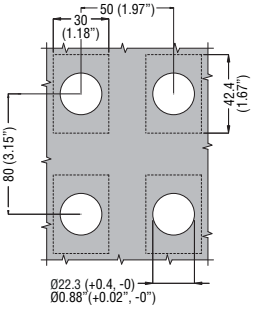

**LM2T B72... -**
**LM2T BL72...**

Triple-touch actuators with middle extended button

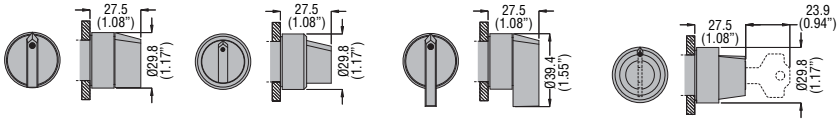



**LM2T B73...**

Drillings - Minimum recommended distances



Selector switch actuators



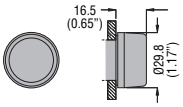

Knob
LM2T S1...

Illuminated knob
LM2T SL1...

Lever
LM2T S2...

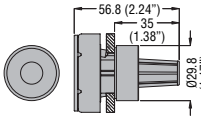
Key
LM2T S3...

Pilot light head



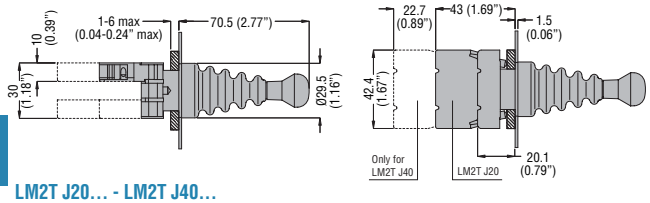

LM2T IL1...

Potentiometer drive



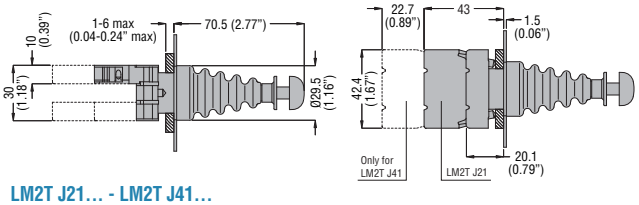

LM2T P100
LM2T P110

Joystick with free actuation lever



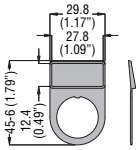

LM2T J20... - LM2T J40...

Joystick with mechanical latch lever



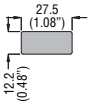

LM2T J21... - LM2T J41...

Label holder



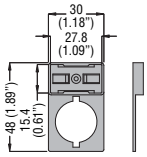

LM2T AU100

Label



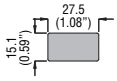

LM2T A...

Label holder



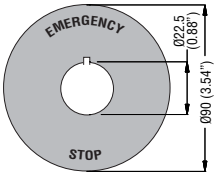

LM2T AU105

Label

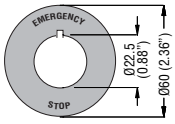



LM2T AU10...

Plastic disk for mushroom-head pushbuttons

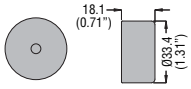



LM2T AU112
LM2T AU113



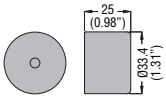

LM2T AU114
LM2T AU115
LM2T AU118

Rubber boot for flush buttons



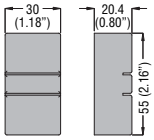

LM2T AU13...

Rubber boot for extended buttons



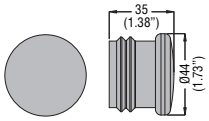

LM2T AU14...

Double/triple button boot



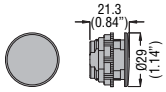

LM2T AU157

Rubber boot for mushroom-head buttons



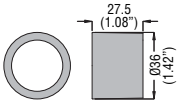

LM2T AU167

Threaded plug for unused drilled holes



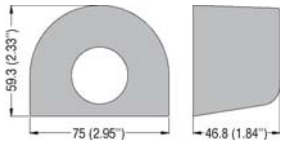

LM2T A130

Knob selector switch protection



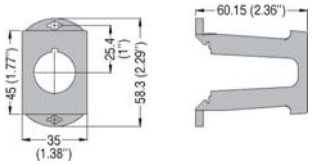

LM2T AU185

Shroud for mushroom-head latch buttons



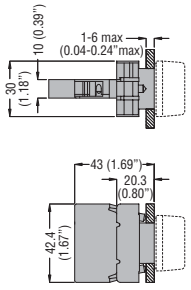

LM2T AU159

DIN rail adapter



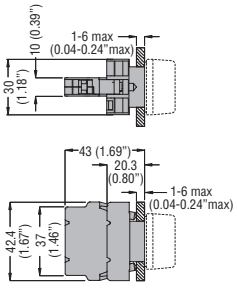

LPX DIN

Lamp-holder elements with direct supply or resistor and diode



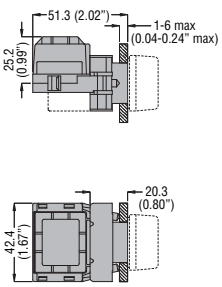

LM2T EL400
LM2T DL400
LM2T ZL230
LM2T VL230

LED steady or flashing light element




LM2T L... - LM2T M...

Transformer or flashing lamp holder element




LM2T YL... - LM2T GL...
LM2T XL... - LM2T FL...

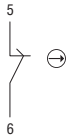
FOR PUSHBUTTONS AND SELECTOR SWITCHES

**LPX C10 - LPX E10 - LPX CF10**
**LPX CS10 - LPX CB10**
**LM2T C10 - LM2T E10**

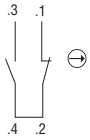
**LPX C10A**
**LM2T C10A**

**LPX C01 - LPX E01 - LPX CF01**
**LPX CS01 - LPX CB01**
**LPZ P1 B... - LM2T C01**

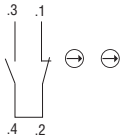
**LPX C01D**
**LM2T C01D**



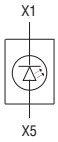

**LPX C01SM**



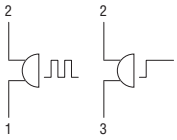

**LPX C02SM**




**LPM...**
**LPX L...**



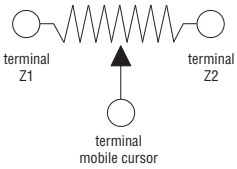

**LPC ZS...**




**LPX T100**

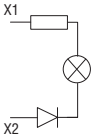
**LPX T101**
**LPX T102**

**LPC PA...**

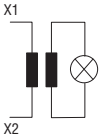



**LM2T EL400**
**LM2T DL400**

**LM2T ZL230**



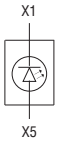

**LM2T YL...**



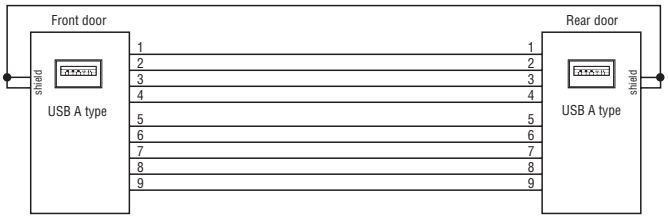

**LM2T GL...**

**LM2T T100**

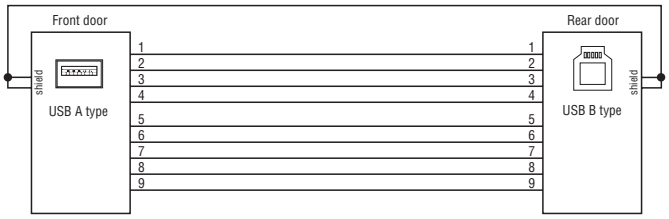
**LM2T L...**
**LM2T M...**



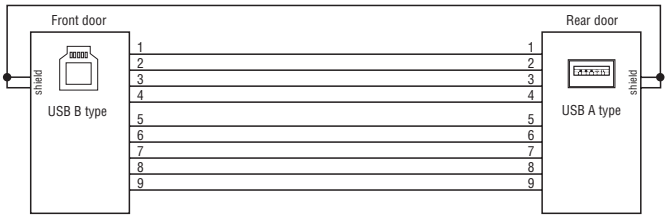

**LPC D01**

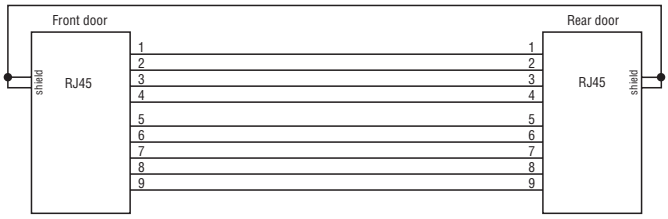



**LPC D03**




**LPC D05**




**LPC D06**