With 3 actuators


LPZP3B8908


LPZP3B8909


LPZP3B8910


LPZP3B8911


LPZP3B8912

Order code	Description	Contacts config.	Qty per pkg	Wt
			n°	[kg]
Grey control station.				
LPZP3B8908	White spring return flush pushbutton with “right arrow” symbol	1NO	1	0.271
	Red spring return flush pushbutton with “0” symbol	1NC	1	
	Black spring return flush pushbutton with “left arrow” symbol	1NO	1	
LPZP3B8909	White spring return flush pushbutton with “right arrow” symbol	1NO	1	0.272
	Red spring return extended pushbutton with “0” symbol	1NC	1	
	Black spring return flush pushbutton with “left arrow” symbol	1NO	1	
LPZP3B8910	Green spring return flush pushbutton with “I” symbol	1NO	1	0.270
	Red spring return flush pushbutton with “0” symbol	1NC	1	
	Green steady pilot light 12...30VAC/DC	–		
LPZP3B8911	Green spring return flush pushbutton with “I” symbol	1NO	1	0.271
	Red spring return extended pushbutton with “0” symbol	1NC	1	
	Green steady pilot light 12...30VAC/DC	–		
LPZP3B8912	Green spring return flush pushbutton	1NO	1	0.278
	Red spring return flush pushbutton	1NC	1	
	Mushroom head spring return pushbutton	1NC	1	

General characteristics
- Compact dimensions
- Easy wiring
- Numerous cable entries
- Contact elements and LED elements, base-mount on control station.

Operational characteristics
- Cable entry knockouts:
  - M16/PG11 (2 at rear)
  - 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/16lb.in
- 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.

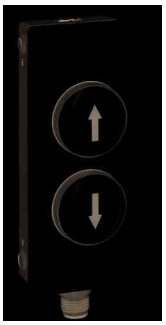
Materials
Polycarbonate.

Certifications and compliance
Certifications obtained: cULus, EAC, CCC, RINA.
Compliant with standards: IEC/EN/BS 60947-1, IEC/EN/BS 60947-5-1, UL508A, CSA C22.2 n° 14.

Type LP4...


LP4P1B5600


LP4P2B8902


LP4P2B8900

new


LP4P2B8100L

IO-Link

Order code	Description	Contacts config.	Qty per pkg	Wt
			n°	[kg]
LP4P1B5600	Mushroom head pushbutton, latch, turn to release for emergency stopping, ISO 13850 compliant	2NC	1	0.108
LP4P2B5900	Mushroom head pushbutton, latch, turn to release for emergency stopping, ISO 13850 compliant	2NC	1	0.116
	White flush illuminated pushbutton, spring return, 5...35VAC/DC	1NO		
LP4P2B8900	White flush pushbutton with “Up Arrow” symbol, spring return	1NO	1	0.105
	White flush pushbutton with “Down Arrow” symbol, spring return	1NO		
LP4P2B8901	White flush illuminated pushbutton, spring return, 5...35VAC/DC	1NO	1	0.106
	White flush illuminated pushbutton, spring return, 5...35VAC/DC	1NO		
LP4P2B8902	Red extended pushbutton with “O” symbol, spring return	1NC	1	0.105
	Green extended pushbutton with “I” symbol, spring return	1NO		
LP4P2B8903	Red extended illuminated pushbutton with “O” symbol, spring return, 5...35VAC/DC	1NC	1	0.105
	Green extended illuminated pushbutton with “I” symbol, spring return, 5...35VAC/DC	1NO		
Control stations with IO-Link interface.				
LP4P1B8100L	Flush illuminated pushbutton ❶ LED RGB	1NO	1	0.115
LP4P2B8100L	Flush illuminated pushbutton ❶ LED RGB	1NO	1	0.121
	Flush illuminated pushbutton ❶ LED RGB	1NO		

❶ The illumination colour can be selected from the RGB combination.

Accessories


LP4XBL103

new


LP4XBL104


LP4X159

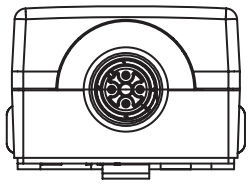
Order code	Description	Qty per pkg	Wt
		n°	[kg]
LP4XBL103	Set of 10 green lenses	1	0.020
LP4XBL104	Set of 10 red lenses	1	0.020
LP4XBL105	Set of 10 yellow lenses	1	0.020
LP4XBL106	Set of 10 blue lenses	1	0.020
LP4XBL100	Set of 4 lenses (1 green, 1 red, 1 yellow and 1 blue)	1	0.008
LP4XBL1163	Set of 5 green lenses with “START” symbol	1	0.010
LP4XBL1132	Set of 5 red lenses with “STOP” symbol	1	0.010
LP4XBL1107	Set of 5 transparent lenses with “O” symbol	1	0.010
LP4XBL1117	Set of 5 transparent lenses with “I” symbol	1	0.010
LP4XBL11507	Set of 5 transparent lenses with “Up Arrow” symbol	1	0.010
LP4XBL11517	Set of 5 transparent lenses with “Down Arrow” symbol	1	0.010
LP4X159	Metallic protection guard for LP4P...B5...	1	0.060

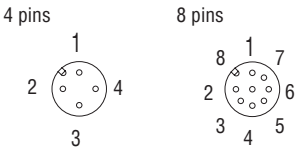
General characteristics
Control stations type LP4... have compact dimensions which make them suitable for installation on a 40mm profile rails. Installation is quick and easy thanks to the metal clip supplied as standard, which is inserted into the groove of the profile rail. The metal clip can also be screwed onto other surfaces.
LP4... control stations for profile rails are supplied complete with operators, contact elements and LED light elements and the wiring is via an integrated M12 connector.
IO-Link control stations type LP4...L are also available: they are an advanced and versatile solution for controlling and monitoring industrial devices. Using IO-Link technology, these control stations enable communication between field devices and the control system, thus offering smarter and more flexible management of industrial processes. They are designed to be integrated into modern industrial environments, offering reliable connectivity and optimal ease of use.

Operational characteristics
- Any mounting position allowed
- Fixing for 40mm profile rails
- Connection: 4 or 8-pin M12 connector
- Rated operating voltage: 5...35VAC/DC; 19.2...28.8V for LP4...L
- Rated operating current: 1...100mA
- Maximum consumption: 250mW
- Electrical life: 1,000,000 cycles (10mA 24VDC)
- B10d: 1,300,000 cycles
- Ambient conditions:
  - Operating temperature: -25...+70°C; -25...+60°C for LP4...L
  - Storage temperature: -40...+80°C
- Degree of protection:
  - Per IEC/EN: IP65
  - Per UL: Type 1.

Certifications and compliance
Certifications obtained: cURus.
Compliant with standards: IEC/EN/BS 60947-5-1, UL508A, UL 60947-1, UL 60947-5-1, CSA C22.2 No. 60947-1-13, CSA C22.2 No. 60947-5-1-14 and only for LP4...B5... UL 60947-5-5.

PIN layout





Order code	PIN	Actuator 1		Actuator 2	
		Contacts	LED	Contacts	LED
LP4P1B5600	4	2NC: 1-2/3-4	–	–	–
LP4P2B5900	8	2NC: 3-4/7-8	–	1NO: 1-2	5-6
LP4P2B8900	4	1NO: 3-4	–	1NO: 1-2	–
LP4P2B8901	8	1NO: 3-4	7-8	1NO: 1-2	5-6
LP4P2B8902	4	1NC: 3-4	–	1NO: 1-2	–
LP4P2B8903	8	1NC: 3-4	7-8	1NO: 1-2	5-6

Order code	PIN1	PIN2	PIN3	PIN4
LP4P...L	L+	–	L-	C/Q

Dimensions
page 8-70

Type LP9...



LP9S...R



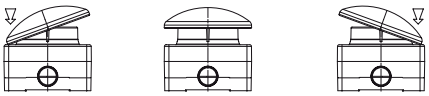
LP9S...B



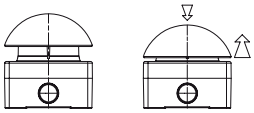
LP9P...R

Order code	Description	Qty per pkg	Wt
		n°	[kg]
LP9S01R	Momentary Ø90mm/3.54" red mushroom. Contacts: 1NC	1	0.210
LP9S11R	Momentary Ø90mm/3.54" red mushroom. Contacts: 1NO+1NC	1	0.220
LP9S10B	Momentary Ø90mm/3.54" black mushroom. Contacts: 1NO	1	0.210
LP9S11B	Momentary Ø90mm/3.54" black mushroom. Contacts: 1NO+1NC	1	0.220
LP9P02R	Emergency Ø90mm/3.54" red mushroom pull-to-release. Contacts: 2NC	1	0.290
LP9P11R	Emergency Ø90mm/3.54" red mushroom pull-to-release. Contacts: 1NO+1NC	1	0.300

Momentary mushroom



Emergency mushroom pull-to-release



Accessories



LP9XC...

Order code	Description	Qty per pkg	Wt
		n°	[kg]
LP9XC10❶	1NO contact	1	0.010
LP9XC01❶	1NC contact	1	0.010

❶ Maximum configuration: n°3 LP9XC... contact elements.

General characteristics
LOVATO Electric palm switches LP9... types are designed for machine stop and immediate service control applications. They are widely used in the most diverse applications, including emergency stop for escalators, gate openers, pedestrian crossing buttons for disabled users, etc...
The ergonomic design and large surface for an easy actuation with the hand, elbow or foot, ensures immediate actuation of machinery and equipment even if the actuator has their hands full.
This new range is split into two versions:
– Momentary mushroom (available in grey/black or grey/red);
– Emergency mushroom "pull-to-release" (available in yellow/red only).

Operational characteristics
– Cable entry (knockout version):
  • M20/PG13.5 (1 on each side)
  • M16/PG11 (2 on the cover bttom)
– Any mounting position allowed
– Tightening torque of cover screws Tmax = 0.8Nm/7lb.in
– Ambient conditions:
  • Operating temperature: -25...+75°C
  • Storage temperature: -40...+85°C
– IEC/EN degree of protection: IP65.

CONTACT ELEMENTS
– Rated insulation voltage: 690V
– Rated thermal current Ith: 10A
– Conductivity: 5V 10mA
– Tightening torque of contact screws: 0.5...0.8Nm
– Conductor cross section: 1 or 2 conductors - 0.5...2.5mm^2
– IEC/EN 60947-5-1 designation: A600 Q300.

Minimum operational characteristics in AC15:

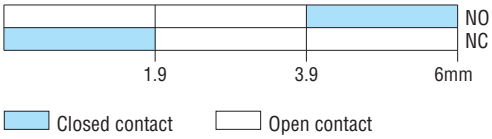
[V]	12	24	48	120	240	400	480	500	600
[A]	6	6	6	6	3	1.9	1.5	1.4	1.2

Minimum operational characteristics in DC13:

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

Operational characteristics in AC15: 24V 10A and 400V 4A
– Short-circuit protection fuse: max. calibre 10A gG/gL
– Contact resistance:: ≤25mΩ
– Operating force: ≤2.6N
– Mechanical life: 1,000,000 cycles.

Stroke of contact elements

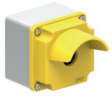


Material
PC-ABS for button and control station.
PA66 for plastic actuator frame (LP9S...).
Chrome-plated aluminium and zinc alloy (zama) for metal actuator frame (LP9P...).

Compliance
Compliant with standards: IEC60947-5-1.

Enclosures with cut-outs for Ø22mm units


LPZM1A5


LPZM1A5P


LPZM1A8


LPZM2A5


LPZM2A8


LPZM3A8


LPZM4A8

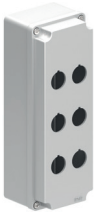

LPZM5A8


LPZM6A8

Order code	Description	Cover colour	Qty per pkg	Wt
			n°	[kg]
With holes.				
LPZM1A5	For 1 actuator	Yellow	1	0.343
LPZM1A5P❷	For 1 actuator with shroud	Yellow	1	0.382
LPZM1A8	For 1 actuator	Grey	1	0.349
LPZM2A5	For 2 actuators	Yellow	1	0.456
LPZM2A8	For 2 actuators	Grey	1	0.458
LPZM3A8	For 3 actuators	Grey	1	0.603
LPZM4A8	For 4 actuators	Grey	1	0.581
LPZM5A8	For 5 actuators	Grey	1	0.680
LPZM6A8	For 6 actuators	Grey	1	0.671
With multiholes.				
LPZM4CA8	For 4 actuators	Grey	1	0.570
LPZM6CA8	For 6 actuators	Grey	1	0.660
LPZM8CA8	For 8 actuators	Grey	1	1.060
LPZM12CA8	For 12 actuators	Grey	1	1.360
LPZM16CA8	For 16 actuators	Grey	1	1.650

❷ It is not possible to use plastic disks in combination with enclosure with protection.


LPZM4CA8


LPZM6CA8


LPZM8CA8


LPZM12CA8


LPZM16CA8

General characteristics
Enclosures made of aluminium alloy suitable for pushbuttons, selector switches and pilot lights Ø22mm/0.87" Platinum series.
Possible use of contact elements on the inside surface of the cover using the relevant mounting adapter.
The thickness of the enclosure is suitable for drilling.
Up to 6 contacts can be fitted; 2 each on the left, middle and right, one behind the other. For the possible combinations consult this chapter on the actuator pages.

Operational characteristics
- Cable entry❶: Ø21mm/0.83" (for M20 or PG13.5 cable gland)
- Degree of protection:
  - Per IEC/EN: IP66 and IP67
  - Per UL: Nema 4X
- Earth connection through threaded holes on the base and on the cover (screws supplied)
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+85°C.

Certifications and compliance
Certifications obtained: cULus.
Compliant with standards: IEC/EN/BS 60947-5-1.

❶ Not available for multiholes LPZM...C type.

Order code	Dimensions (X, Y, Z) [mm(in)]	n° of rows vertical	n° of rows horizontal
LPZM1A5/A8	80x80x73 (3.15x3.15x2.87")	1	1
LPZM1A5P	80x80x108 (3.15x3.15x4.25")	1	1
LPZM2A5/A8	80x130x73 (3.15x5.12x2.87")	1	2
LPZM3A8	80x170x73 (3.15x6.69x2.87")	1	3
LPZM4A8	80x170x73 (3.15x6.69x2.87")	1	4
LPZM5A8	80x230x73 (3.15x9.05x2.87")	1	5
LPZM6A8	80x230x73 (3.15x9.05x2.87")	1	6
LPZM4CA8	80x170x73 (3.15x6.69x2.87")	2	2
LPZM6CA8	80x230x73 (3.15x9.05x2.87")	2	3
LPZM8CA8	160x160x90 (6.30x6.30x3.54")	4	2
LPZM12CA8	170x190x90 (6.69x7.48x3.54")	4	3
LPZM16CA8	190x250x90 (7.48x9.84x3.54")	4	4

Enclosures


LPZM1E5


LPZM1E8


LPZM2E8


LPZM3E8


LPZM4E8


LPZM5E8


LPZM6E8


LPZM7E8

Order code	Dimensions (X, Y, Z)	Cover colour	Qty per pkg	Wt.
	[mm (in)]		n°	[kg]
LPZM1E5	80x80x73 (3.15x3.15x2.87")	Yellow	1	0.346
LPZM1E8	80x80x73 (3.15x3.15x2.87")	Grey	1	0.352
LPZM2E8	80x130x73 (3.15x5.12x2.87")	Grey	1	0.462
LPZM3E8	80x170x73 (3.15x6.69x2.87")	Grey	1	0.600
LPZM4E8	80x230x73 (3.15x9.05x2.87")	Grey	1	0.680
LPZM5E8	160x160x90 (6.30x6.30x3.54")	Grey	1	1.100
LPZM6E8	170x190x90 (6.69x7.48x3.54")	Grey	1	1.400
LPZM7E8	190x250x90 (7.48x9.84x3.54")	Grey	1	1.700

General characteristics
Enclosures made of aluminium alloy suitable for pushbuttons, selector switches and pilot lights Ø22mm/0.87" Platinum series.
Possible use of contact elements on the inside surface of the cover using the relevant mounting adapter.
The thickness of the enclosure is suitable for drilling.
Up to 6 contacts can be fitted; 2 each on the left, middle and right, one behind the other.
For the possible combinations consult this chapter on the actuator pages.

Operational characteristics
- Degree of protection:
  - Per IEC/EN: IP66 and IP67
  - Per UL: Nema 4X
- Earth connection through threaded holes on the base and on the cover (screws supplied)
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+85°C.

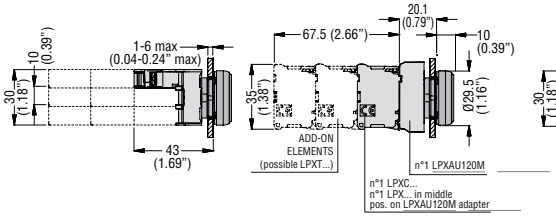
Certifications and compliance
Certifications obtained: cULus.
Compliant with standards: IEC/EN/BS 60947-5-1.

Order code	Max. actuator number	n° of rows vertical	n° of rows horizontal
LPZM1E5/E8	1	1	1
LPZM2E8	2	1	2
LPZM3E8	4	1	3
LPZM4E8	6	1	5
LPZM5E8	8	4	2
LPZM6E8	12	4	3
LPZM7E8	16	4	4

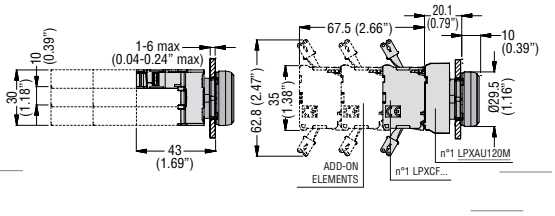
Dimensions
page 8-71 and 72

LPXAU120M WITH CONTACT ELEMENTS AND LPS

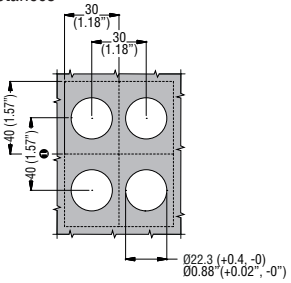
Flush pushbutton with screw terminal single contact or LED or test elements



Flush pushbutton with Faston contact elements



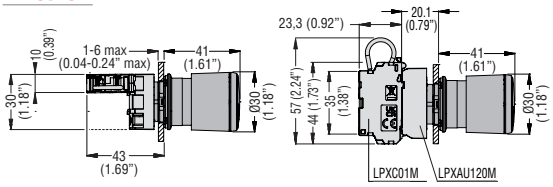
Drillings - Minimum recommended distances



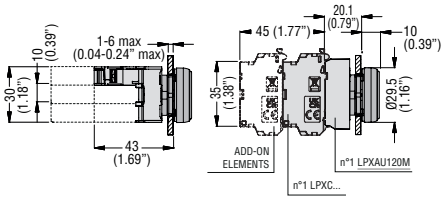
❶ When Faston contacts are used, the vertical pitch must be 85mm minimum.

Mushroom-head pushbutton with auto-monitor contacts

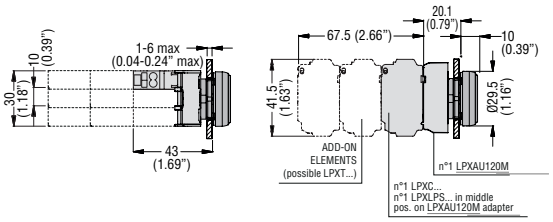
LPXC01SM



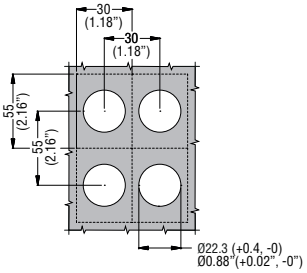
Flush pushbutton with screw terminal double contacts



Flush pushbutton with test element and spring-clamp terminal contact or LED elements **LPXCS... - LPXLPS...**

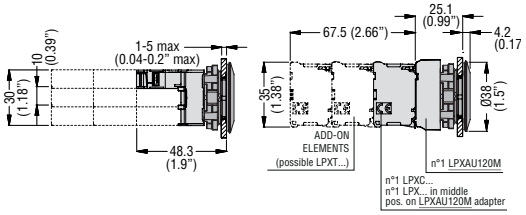


Drillings – Minimum recommended distances with spring-clamp terminal contact or LED elements

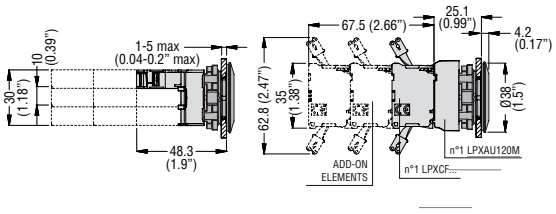


LPXAU120M WITH CONTACT ELEMENTS AND LPF ACTUATORS

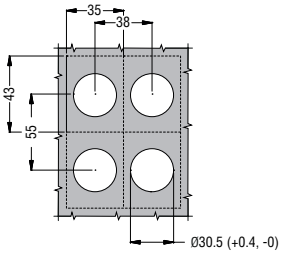
Flush pushbutton with screw terminal single contact or LED or test elements



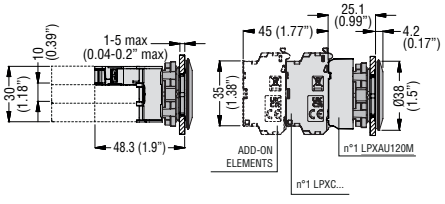
Flush pushbutton with Faston contact elements



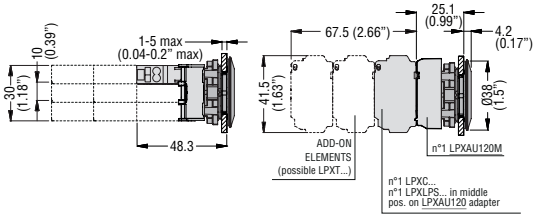
Drillings - Minimum recommended distances



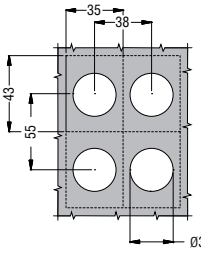
Flush pushbutton with screw terminal double contacts



Flush pushbutton with test element and spring-clamp terminal contact or LED elements **LPXCS... - LPXLPS...**

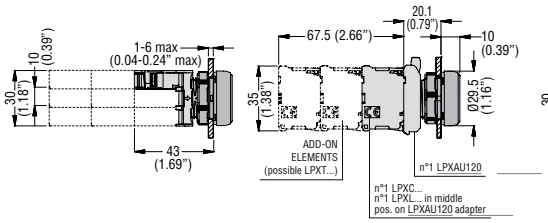


Drillings – Minimum recommended distances with spring-clamp terminal contact or LED elements

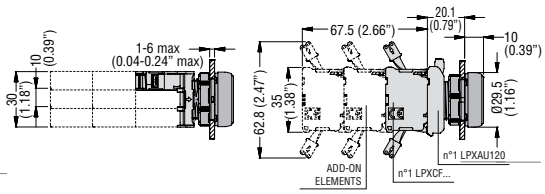


LPXAU120 WITH CONTACT ELEMENTS AND LPC ACTUATORS

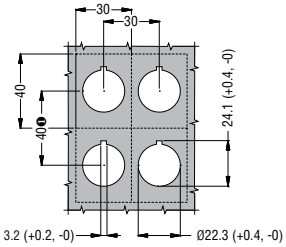
Flush pushbutton with screw terminal single contact or LED or test elements



Flush pushbutton with Faston contact elements

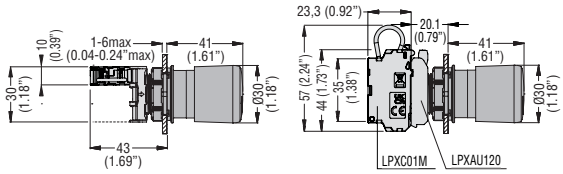


Drillings - Minimum recommended distances

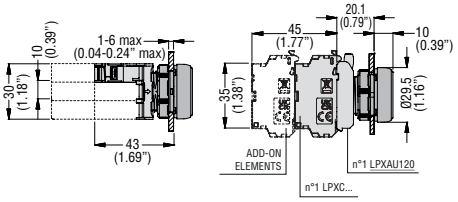


❶ When Faston contacts are used, the vertical pitch must be 85mm minimum.

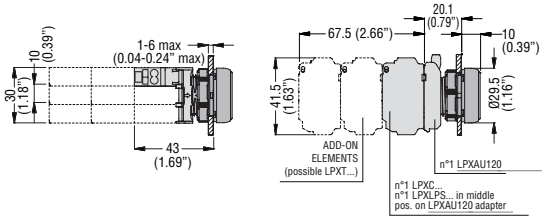
Mushroom-head pushbutton with auto-monitor contacts LPXC01M



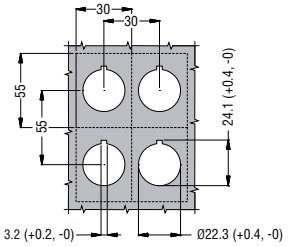
Flush pushbutton with screw terminal double contacts



Flush pushbutton with test element and spring-clamp terminal contact or LED elements LPXCS... - LPXLPS...

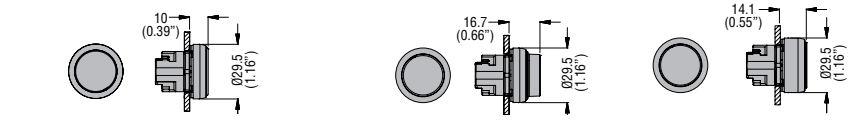


Drillings – Minimum recommended distances with spring-clamp terminal contact or LED elements



LPS TYPES

Spring-return and push-push buttons



Flush
LPSB1...
Illuminated flush
LPSBL1...
LPSXB0❶

Push-push
LPSQ1...
LPSXQ0❶
Illuminated push-push
LPSQL1...

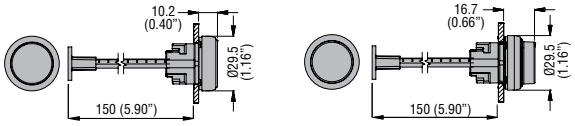
Extended
LPSB2...
Illuminated extended
LPSBL2...

Push-push
LPSQ2...
Illuminated push-push
LPSQL2...
LPSXQL0❶

Shrouded
LPSB30...
LPSXB3❶

❶ Complete with cap or lens.

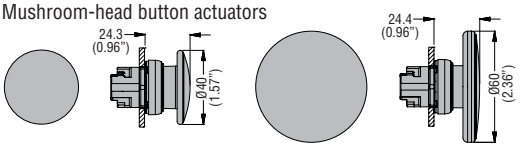
Mechanical buttons



Flush
LPSR1...

Extended
LPSR2004

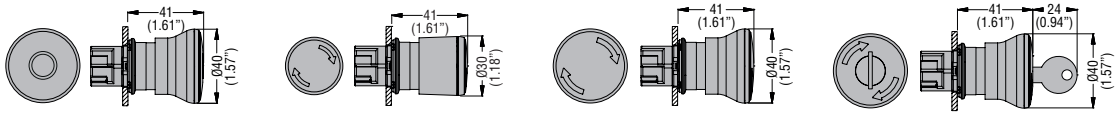
Mushroom-head button actuators



Spring return
LPSB614...
Illuminated spring return
LPSBL614...

Spring return
LPSB616...

Mushroom-head latch button actuators



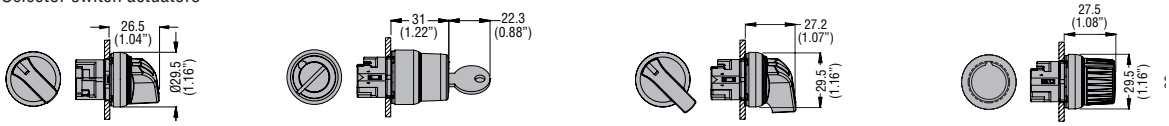
Push-pull
LPSB674...

Turn to release
LPSB6634

Turn to release
LPSB6644
Illuminated turn to release
LPSBL664...

Turn key to release
LPSB684...

Selector switch actuators



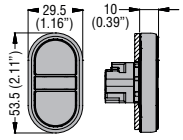
Lever
LPSS1...
Illuminated lever
LPSSL1...

Key
LPSS3...

Long lever
LPSS2...

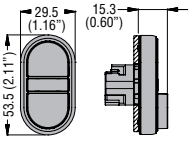
Knob
LPSS4...

Flush double-touch buttons with or without light indicator



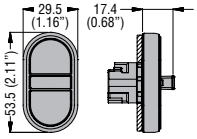
LPSB71... - LPSBL71...

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



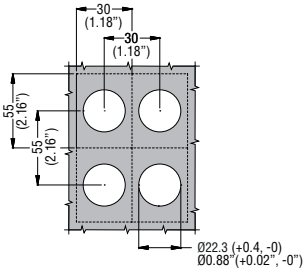
LPSB72... - LPSBL72...

Triple-touch button with middle extended button

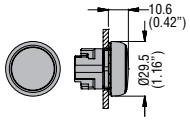


LPSB73...

Drillings - Minimum recommended distances

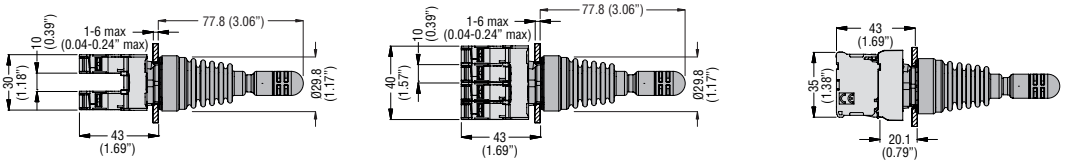


Pilot light head



LPSL...

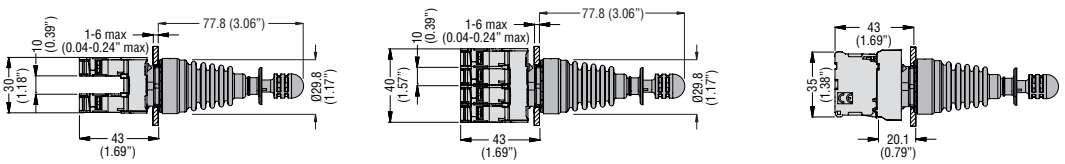
Joystick with free actuation lever



2 positions
LPSJ20...

4 positions
LPSJ40...

Joystick with mechanical latch lever

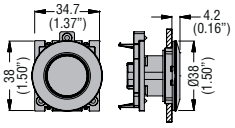


2 positions
LPSJ21...

4 positions
LPSJ41...

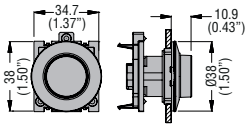
LPF TYPES

Spring-return and push-push buttons



Flush
LPFB1...
Illuminated flush
LPFBL1...
LPFXB0❶

Push-push
LPFQ1...
LPFXQ0❶
Illuminated push-push
LPFQL1...

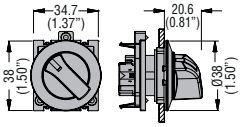


Extended
LPFB2...
Illuminated extended
LPFBL2...

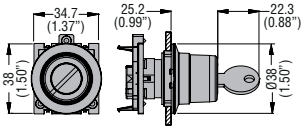
Push-push
LPFQ2...
Illuminated push-push
LPFQL2...
LPFXQL0❶

❶ Complete with cap or lens.

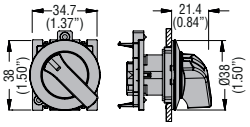
Selector switch actuators



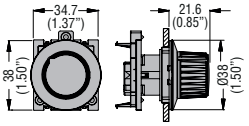
Lever
LPFS1...
Illuminated lever
LPFSL1...



Key
LPFS3...

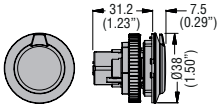


Long lever
LPFS2...

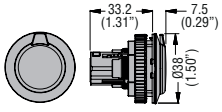


Knob
LPFS4...

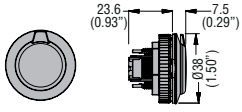
Communication interfaces **LPSD...**



LPFD01

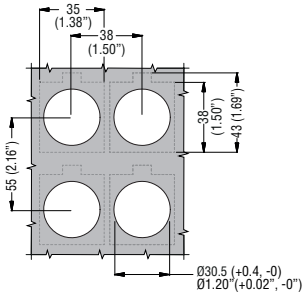


LPFD03 - LPFD05

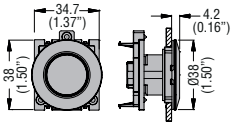


LPFD06

Drillings - Minimum recommended distances



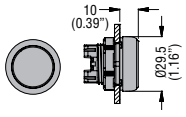
Pilot light head



LPFL...

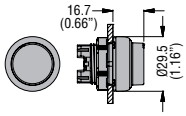
LPC TYPES

Spring-return and push-push buttons



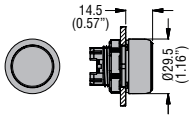
Flush
LPCB1...
Illuminated flush
LPCBL1...
LPXB0❶

Push-push
LPCQ1...
LPXQ0❶
Illuminated push-push
LPCQL1...



Extended
LPCB2...
Illuminated extended
LPCBL2...

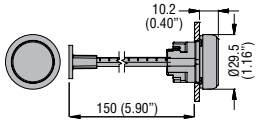
Push-push
LPCQ2...
Illuminated push-push
LPCQL2...
LPXQL0❶



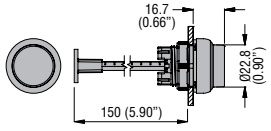
Shrouded
LPCB30...
LPXB3❷

❶ Complete with cap or lens.

Mechanical buttons

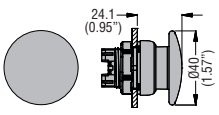


Flush
LPCR1...

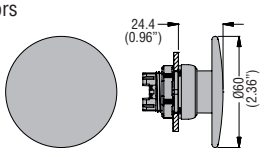


Extended
LPCR2004

Mushroom-head button actuators

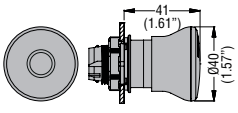


Spring return
LPCB614...
Illuminated spring return
LPCBL614...

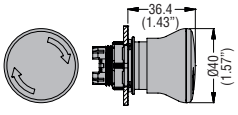


Spring return
LPCB616...

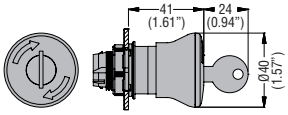
Mushroom-head latch button actuators



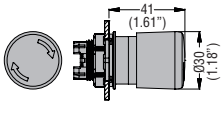
Push-pull
LPCB674...



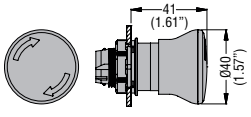
Turn to release
LPCB634...



Turn key to release
LPCB684...



Turn to release
LPCB6634

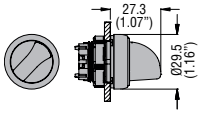


Turn to release
LPCB6644
Illuminated turn to release
LPCBL664...

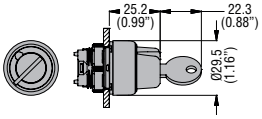
Pushbuttons and selector switches

PLatinum series dimensions [mm (in)]

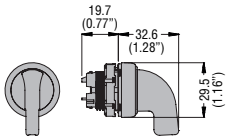
Selector switch actuators



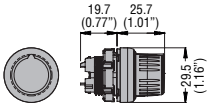
Lever
LPCS1...
Illuminated lever
LPCSL1...



Key
LPCS3...

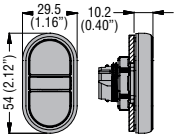


Long lever
LPCS2...



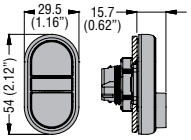
Knob
LPCS4...

Flush double-touch buttons with or without light indicator



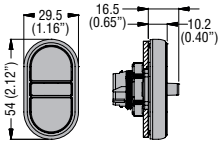
LPCB71... - LPCBL71...

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



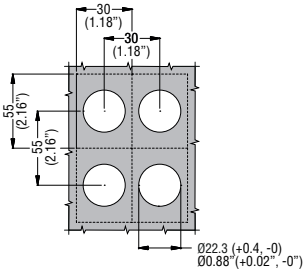
LPCB72... - LPCBL72...

Triple-touch button with middle extended button

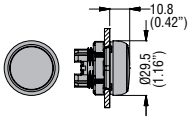


LPCB73...

Drillings - Minimum recommended distances

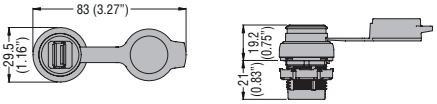


Pilot light head

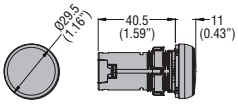


LPL...

Communication interfaces **LPCD...**

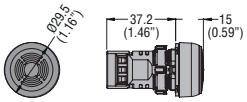


LED-integrated monoblock pilot lights



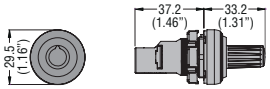
LPM...

Monoblock buzzers



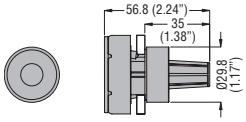
LPCZS...

Monoblock potentiometer



LPCPA...

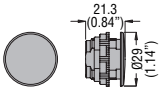
Potentiometer drive



LPXP100 - LPXP110

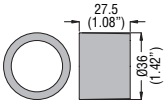
PLATINUM ACCESSORIES

Threaded plug for unused drilled holes



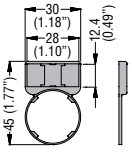
LPXA130

Knob selector switch protection



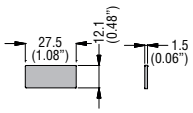
LM2TAU185

Label holder



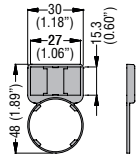
LPXAU100

Label



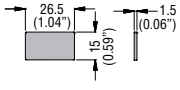
LPXAU109
LM2TA...2...

Label holder



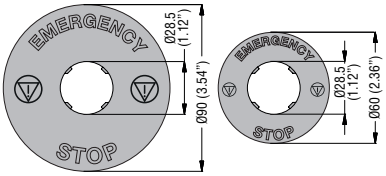
LPXAU105

Label



LPXAU108

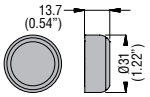
Plastic disk for mushroom-head pushbuttons



LPXAU112
LPXAU113
LPXAU124

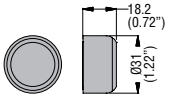
LPXAU111
LPXAU114
LPXAU115
LPXAU118
LPXAU123

Rubber boot for flushbuttons



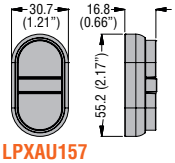
LPXAU13...

Rubber boot for extended buttons



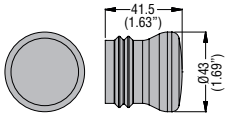
LPXAU14...

Double/triple button boot



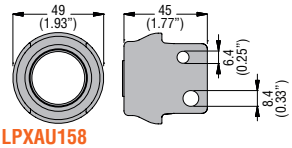
LPXAU157

Rubber boot for mushroom-head buttons



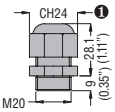
LPXAU167

Padlockable protection for mushroom-head latch buttons



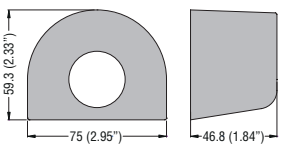
LPXAU158

Cable gland



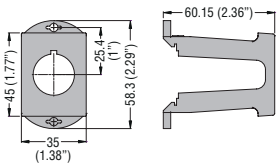
LPXP01

Shroud for mushroom-head latch buttons



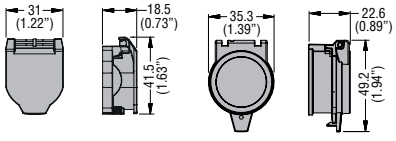
LPXAU159

DIN rail adapter



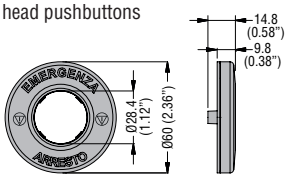
LPXDIN

Protection covers



LPXAU170
LPXAU171

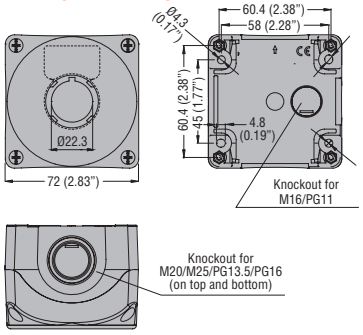
Illuminated disk for mushroom-head pushbuttons



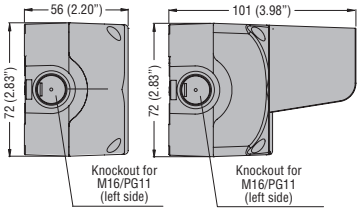
LPXDAU11...

PLASTIC CONTROL STATIONS

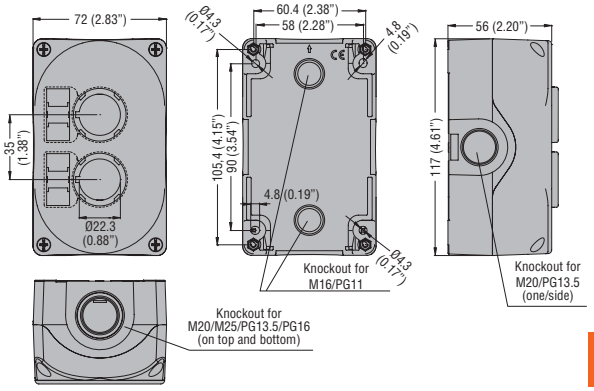
LPZP1A5 - LPZP1A5D - LPZP1A8
LPZP1B5... - LPZP1B8...



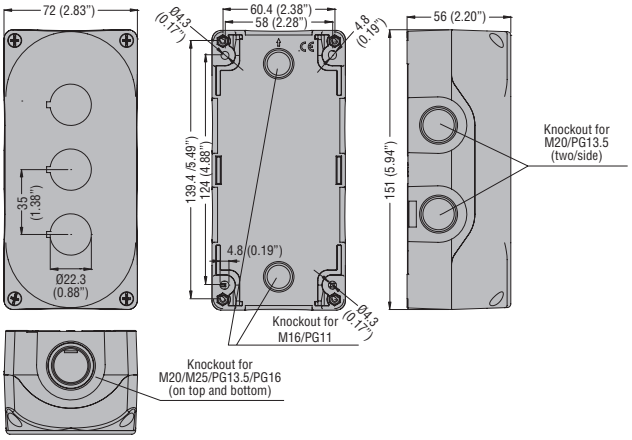
LPZP1A5P
LPZP1A8P



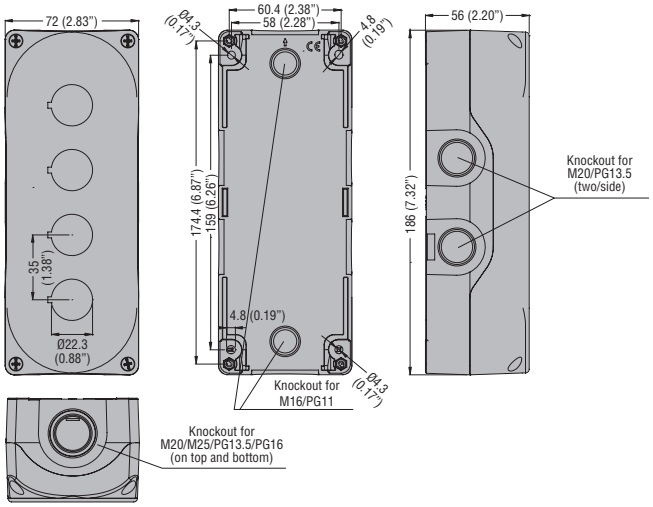
LPZP2A5 - LPZP2A8
LPZP2B5... - LPZP2B8...



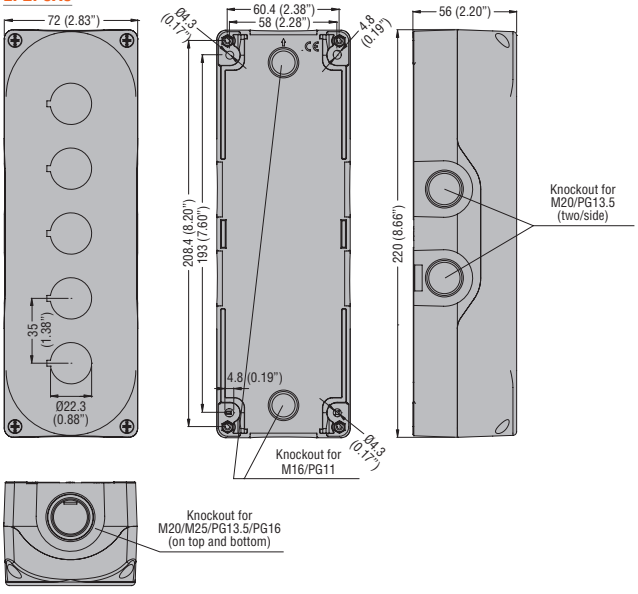
LPZP3A8
LPZP3B8...



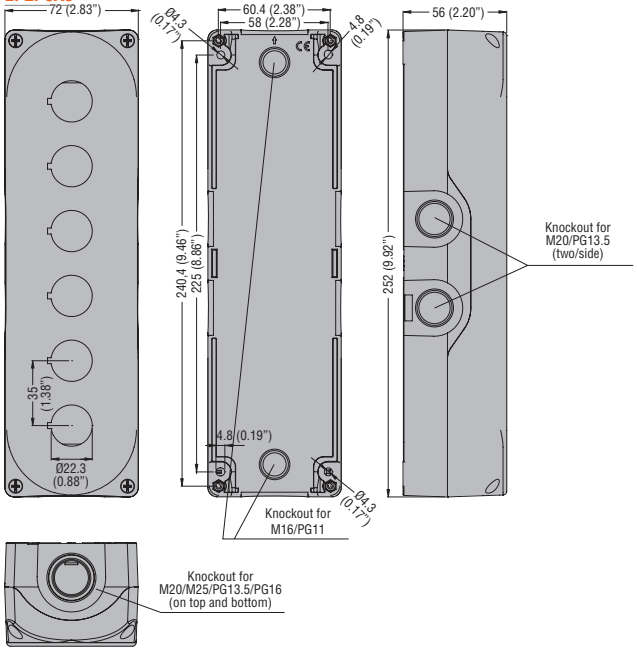
LPZP4A8



LPZP5A8

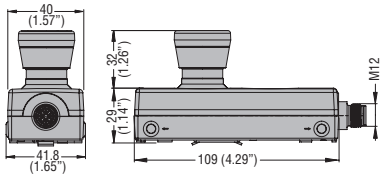


LPZP6A8

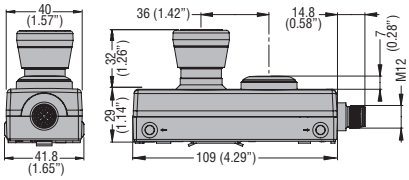


CONTROL STATIONS FOR PROFILE RAILS

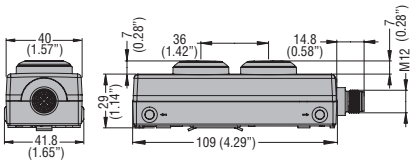
LP4P1B5600



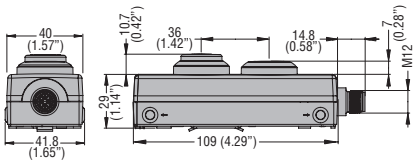
LP4P2B5900



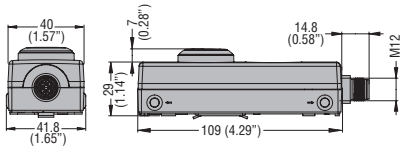
LP4P2B8900 - LP4P2B8901



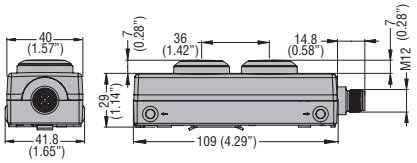
LP4P2B8902 - LP4P2B8903



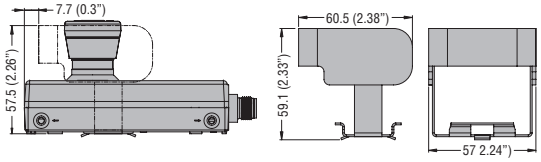
LP4P1B8100L



LP4P2B8100L

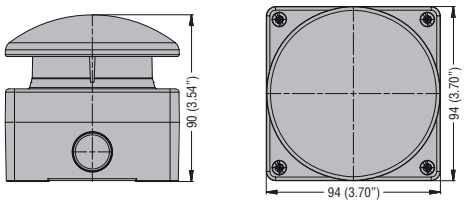


LP4X159



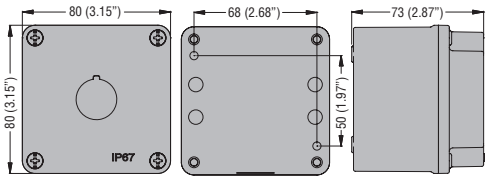
PALM SWITCHES

LP9...

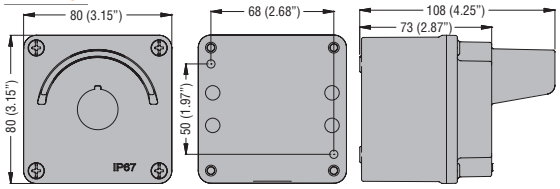


METAL CONTROL STATIONS

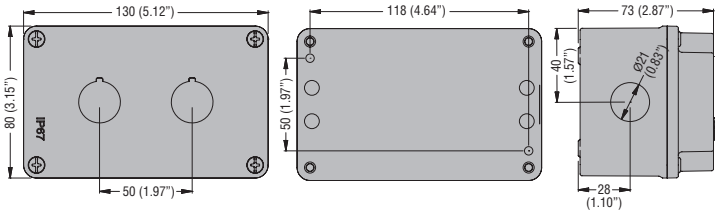
LPZM1A...



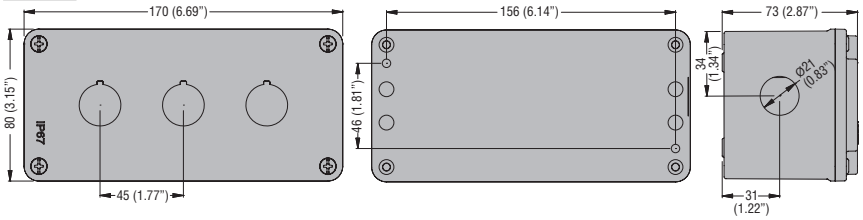
LPZM1A5P



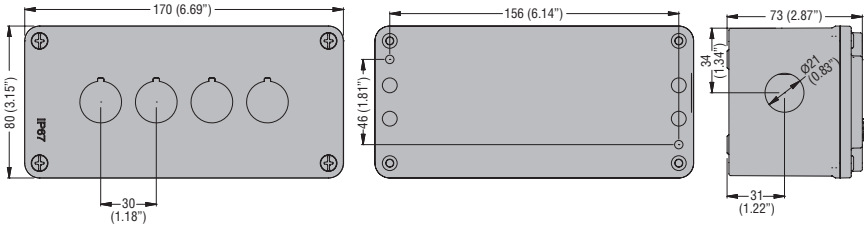
LPZM2A...



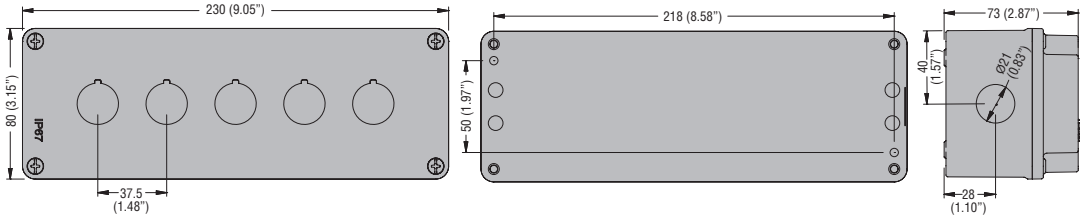
LPZM3A8



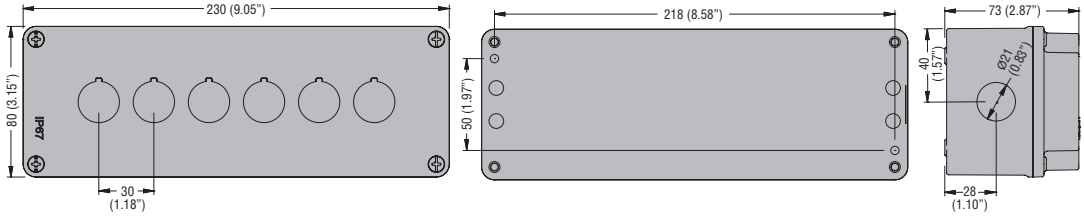
LPZM4A8



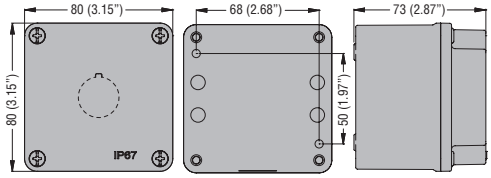
LPZM5A8



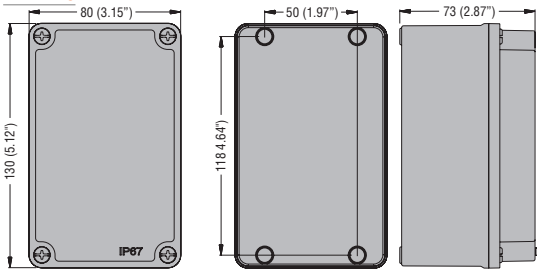
LPZM6A8



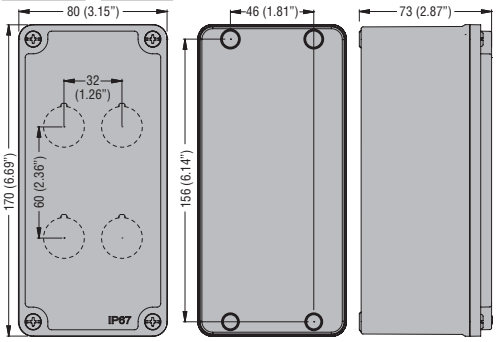
LPZM1E...



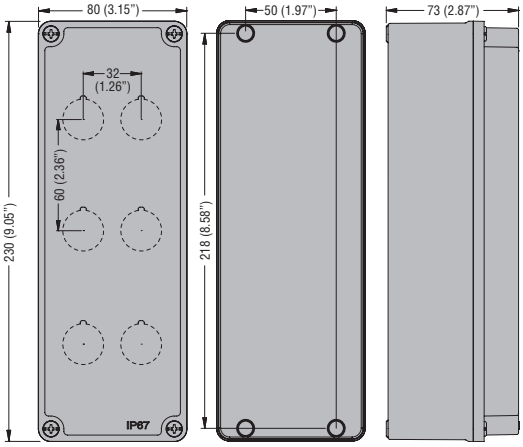
LPZM2E8



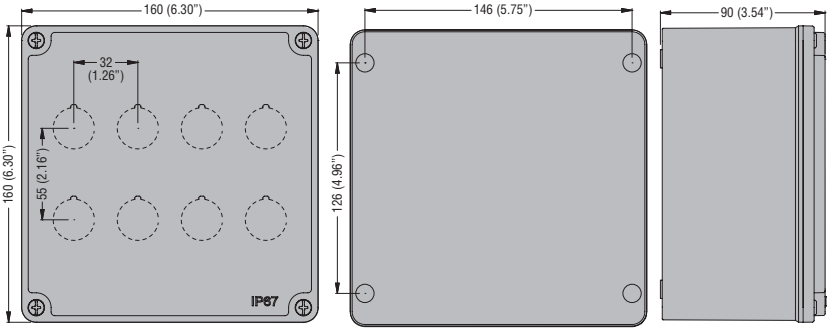
LPZM4CA8 - LPZM3E8



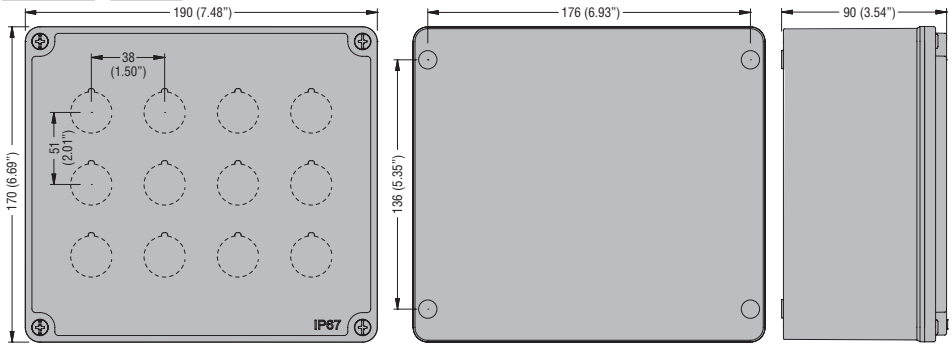
LPZM6CA8 - LPZM4E8



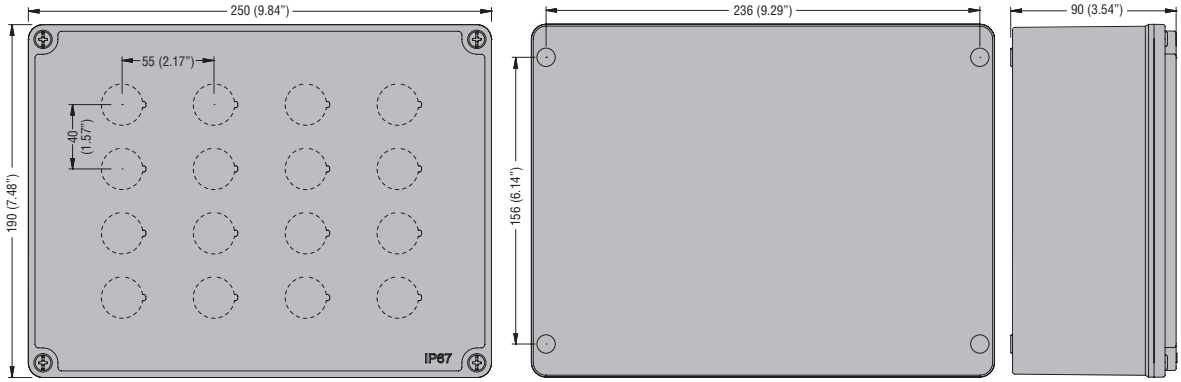
LPZM8CA8 - LPZM5E8



LPZM12CA8 - LPZM6E8



LPZM16CA8 - LPZM7E8



FOR PUSHBUTTONS AND SELECTOR SWITCHES

LPXC10 - LPXE10... - LPXCF10 - LPXCS10 - LPXCB10



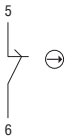
LPXC10A



LPXC01 - LPXE01... - LPXCF01 - LPXCS01 - LPXCB01 - LPZP1B...



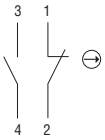
LPXC01D



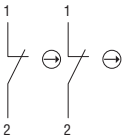
LPXC20



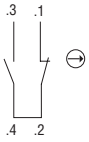
LPXC11



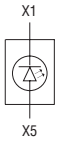
LPXC02



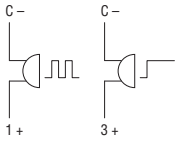
LPXC01M



LPM...
LPXL...



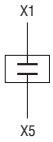
LPCZS...



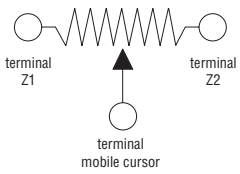
LPXT100



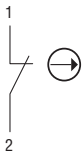
LPXT101
LPXT102



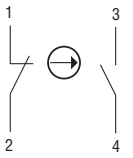
LPCPA...



LP9S01R



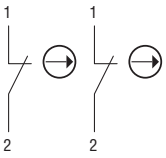
LP9S11B
LP9S11R
LP9P11R



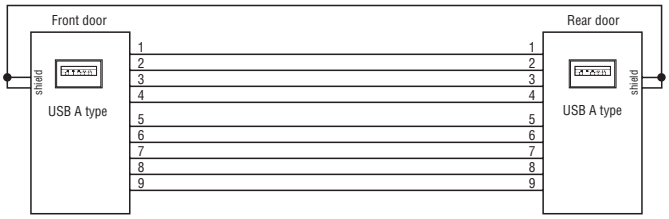
LP9S10B



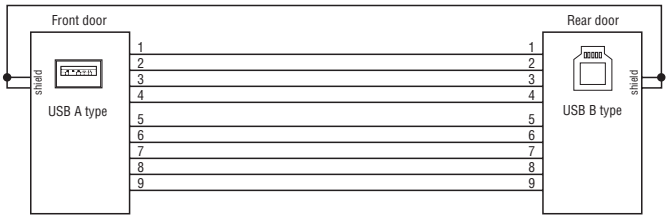
LP9P02R



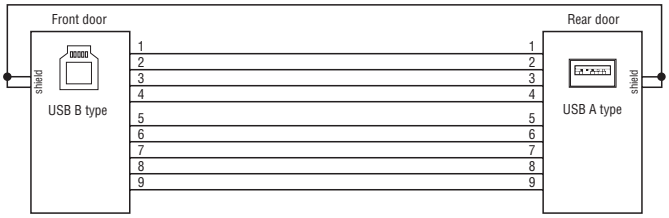
LPFD01 - LPCD01



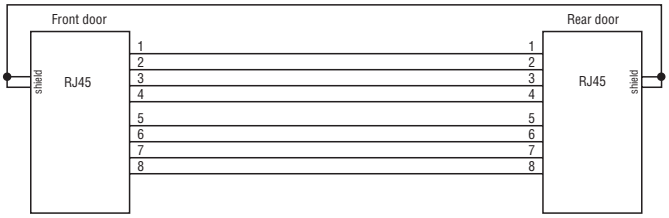
LPFD03 - LPCD03



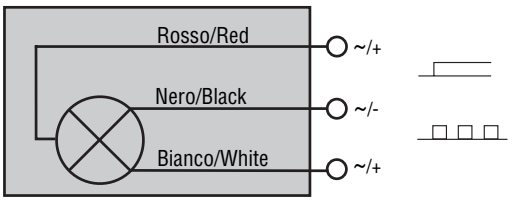
LPFD05 - LPCD05



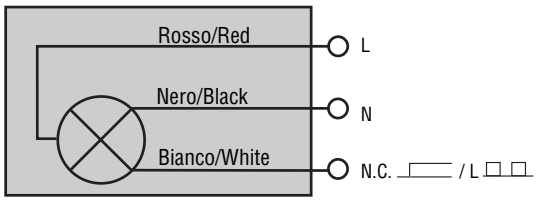
LPFD06 -LPCD06



LPXDAU...024



LPXDAU...110 - LPXDAU...230



Signal towers and beacons



- Signal towers ready assembled Ø45mm/1.77” 8LT4... series Steady light and pulsed or continuous sound modules
- Signal towers Ø50mm/1.97” and Ø70mm/2.75” LTN... series Modular and combinations up to 5 modules; steady or blinking light
- Multicoloured signal towers Ø70mm/2.75” 8LT73... type Modular and combinations up to 5 modules; steady light and pulsed or continuous sound modules
- Signal towers Ø70mm/2.75” 8LT7... series Modular and combinations up to 7 modules; steady or blinking light, pulsed or continuous sound modules
- Signal beacons Ø62mm/2.44” 8LB... series Steady or blinking light, pulsed or continuous sound modules.

Signal towers and beacons — SEC. - PAGE

Signal towers ready assembled Ø45mm/1.77” 8LT4... series ..... 9 - 2
Signal towers Ø50mm/1.97” LTN... series ..... 9 - 3
Signal towers Ø70mm/2.75” LTN... series ..... 9 - 4
Multicoloured signal towers Ø70mm/2.75” 8LT73... type ..... 9 - 5
Signal towers Ø70mm/2.75” 8LT7... series ..... 9 - 6
Signal beacons Ø62mm/2.44” 8LB... series ..... 9 - 8

Dimensions ..... **9 - 12**
Wiring diagrams ..... **9 - 17**

Visual code	Red	Yellow Orange	Blue	Green	White
Meaning	Danger. Emergency.	Warning and caution. Abnormal situation.	Mandatory command.	Normal situation. Regular operation.	No specific meaning.
Sound	Fast modulated repetition or high-pitch pulsing.	Continuous short sound.	Alternating sound at constant tone.	Constant and prolonged sound after an alarm.	Other sounds.
Correlated actions	Immediate intervention to deal with dangerous situation.	Control intervention required.	Intervention needed for mandatory action.	No specific action.	Depending on the situation.

Interpretation of light and sound signals for signal towers and beacons
Light and sound signals are a fundamental element for the safety of a system.
To avoid incorrect interpretations, a European standard has been introduced attributing an unambiguous meaning to visual or audible signals.
Each colour or sound alarm corresponds to a specific state of operation of the connected system and various levels of warning, as shown in the table above, according to EN 981-IEC/EN/BS 60073 standards.
The white module can be assigned a meaning as desired.



Page 9-2

SIGNAL TOWERS READY ASSEMBLED Ø45mm/1.77" 8LT4... SERIES

- Signal towers supplied already assembled Ø45mm/1.77"
- Steady light modules
- Pulsed or continuous sound modules
- Built-in LED circuit.



Page 9-3

SIGNAL TOWERS Ø50mm/1.97" LTN... SERIES

- Modular signal towers supplied Ø50mm/1.97"
- Steady light or blinking modules
- Continuous sound modules
- Built-in LED bulb.



Page 9-4

SIGNAL TOWERS Ø70mm/2.75" LTN... SERIES

- Modular signal towers supplied Ø70mm/2.75"
- Steady light or blinking modules
- Continuous sound modules
- Built-in LED bulb.



Page 9-5

MULTICOLOURED SIGNAL TOWERS Ø70mm/2.75" 8LT73... TYPE

- Modular signal towers Ø70mm/2.75"
- Steady light multicoloured modules
- Pulsed or continuous sound multicoloured modules
- Built-in LED circuit.



Page 9-6 and 7

SIGNAL TOWERS Ø70mm/2.75" 8LT7... SERIES

- Modular signal towers supplied Ø70mm/2.75"
- Steady light modules
- Pulsed or continuous sound modules
- Incandescent and LED bulbs.



Page 9-8

SIGNAL BEACONS Ø62mm/2.44"

- Modular signal beacons Ø62mm/2.44"
- Steady light or blinking modules
- Pulsed or continuous sound multicoloured modules
- Incandescent and LED bulbs.

Lovato electric

Signal towers ready assembled Ø45mm/1.77”, 8LT4... series



8LT4K02BG



8LT4K05BG



8LT4K09BG

Order	Description	Qty per pkg	Wt
		n°	[kg]
Steady light and pulsed or continuous sound light modules. Built-in LED circuit ❶.			
8LT4K02BG	Green, red, 24VDC	1	0.160
8LT4K03BG	Green, red with continuous or pulsed sound, 24VDC	1	0.240
8LT4K04BG	Green, orange, red, 24VDC	1	0.240
8LT4K05BG	Green, orange, red with continuous or pulsed sound, 24VDC	1	0.320
8LT4K06BG	Green, blue, orange, red, 24VDC	1	0.320
8LT4K07BG	Green, blue, orange, red, with continuous or pulsed sound, 24VDC	1	0.400
8LT4K08BG	White, green, blue, orange, red, 24VDC	1	0.400
8LT4K09BG	White, green, blue, orange, red, with continuous or pulsed sound, 24VDC	1	0.480

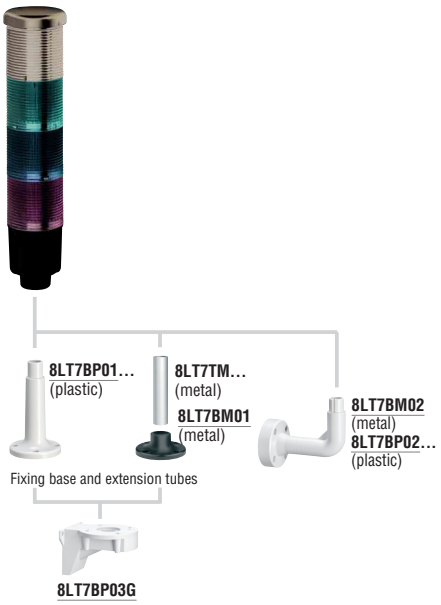
❶ For accessories and spare parts see page 9-9 and 10.

General characteristics
The Ø45mm/1.77” signal towers are supplied completely assembled with the possibility of up to 3 light modules with a sound module. The high-brightness LED circuit lighting ensures low consumption and long life.

Technical characteristics
- Supply voltage: 24VDC (±10%)
- Light module consumption: 37mA per module
- Sound module consumption: 15mA
- Sound intensity: 80dB/1m, pulsed or continuous sound
- Material: polycarbonate
- Connections: screw clamp terminals and maximum conductor section 1.5mm²/16AWG
- Tightening torque: 0.5Nm/4.5lb.in
- Operating temperature: -20...+50°C
- IEC degree of protection: IP54.

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

Combinations



For accessories and spare parts see page 9-9 and 10.

Signal towers Ø50mm/1.97” LTN... series


LTN50ML1


LTN50MSH


LTN50MSL


LTN50C


LTN50MW024


LTN50MWB024


LTN50BP1


LTN50BM1


LTN50BP2


LTN50BM2


LTN50BP3


LTN50BM3

LTN50P100


LTN50P050


LTN50P100T


LTN50P050T

Order code	Description	Qty per pkg	Wt.
		n°	[kg]
Blinking or steady light modules. Integrated LED lamp.			
LTN50ML1	Orange	1	0.037
LTN50ML3	Green	1	0.037
LTN50ML4	Red	1	0.037
LTN50ML6	Blue	1	0.037
LTN50ML8❶	White	1	0.037
Continuous sound modules❶.			
LTN50MSL	85dB/1m. IP65, Type 4	1	0.050
LTN50MSH	100dB/1m. IP20	1	0.048
Wiring modules.			
LTN50MW024	12...24VDC tube mounting	1	0.136
LTN50MW230	110...230VAC tube mounting	1	0.222
new LTN50MWB024	12...24VDC screw mounting	1	0,098
LTN50MWB230	110...230VAC screw mounting	1	0,237
Top cover.			
LTN50C	To be used only if sound module is not present	5	0.010
Fixing bases.			
LTN50BP1	Horizontal surface mounting, grey plastic	1	0.032
LTN50BP2❷	Wall mounting, grey plastic	1	0.046
LTN50BP3	Horizontal surface or wall mounting, grey plastic	1	0.076
LTN50BM1	Horizontal surface mounting, metal	1	0.072
LTN50BM2	Wall mounting, metal	1	0.088
LTN50BM3	Horizontal surface or wall mounting, metal	1	0.173
Extension tubes with threaded end.			
new LTN50P050T	50mm/1.97”, metal	5	0.014
LTN50P100T	100mm/3.94”, metal	5	0.027
LTN50P250T	250mm/9.84”, metal	5	0.066
LTN50P400T	400mm/15.75”, metal	5	0.108
Extension tubes for LTN50BP2.			
new LTN50P050	50mm/1.97”, metal	5	0.014
LTN50P100	100mm/3.94”, metal	5	0.028
LTN50P250	250mm/9.84”, metal	5	0.068
LTN50P400	400mm/15.75”, metal	5	0.109

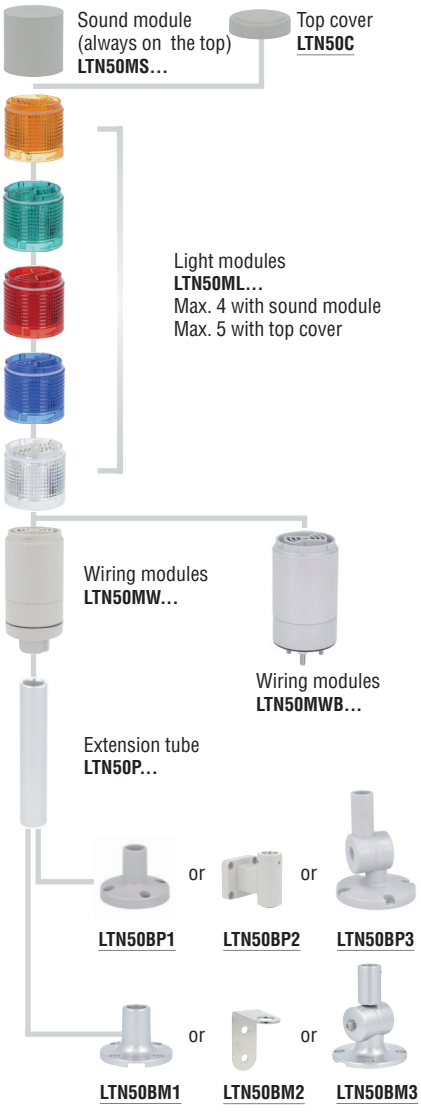
❶ For light towers including both white light module and sound modules please check the wiring diagram at page 9-17.
❷ For fixing base LTN50BP2 the extension tube LTNP... without threaded end has to be used.

General characteristics
Signal towers are fundamental elements in manufacturing processes for the visual and audible signaling of the system status.
The signal towers can be assembled by stacking up to 5 light modules or 4 light modules and 1 sound module.

Technical characteristics
- maximum operational voltage: 26.4VDC - 240VAC
- light, sound and wiring modules consumption:
  - light modules: 1.2VA
  - sound modules: 1.7VA
  - wiring modules: 1VA
- number of stackable modules: 5
- connections: screw clamp terminals and conductor section 0.25...1.5mm²/AWG16...24
- operating temperature: -30...+50°C
- IEC degree of protection: IP65 for wiring modules, light modules, top cover and sound module LTN50MSL.

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

Combinations



Signal towers Ø70mm/2.75” LTN... series



LTN70ML3



LTN70MSH



LTN70MSL



LTN70C



LTN70MW024



LTN70MWB024



LTN70BP1



LTN70BM1



LTN70BP2



LTN70BM2



LTN70BP3



LTN70BM3



LTN70P100



LTN70P050



LTN70P100T



LTN70P050T

Order code	Description	Qty per pkg	Wt.
		n°	[kg]
Blinking or steady light modules. Integrated LED lamp.			
LTN70ML1	Orange	1	0.066
LTN70ML3	Green	1	0.066
LTN70ML4	Red	1	0.066
LTN70ML6	Blue	1	0.066
LTN70ML8❶	White	1	0.066
Continuous sound modules❶.			
LTN70MSL	85dB/1m. IP65, Type 4	1	0.065
LTN70MSH	100dB/1m. IP20	1	0.062
Wiring modules.			
LTN70MW024	12...24VDC tube mounting	1	0.170
LTN70MW230	110...230VAC tube mounting	1	0.277
new **LTN70MWB024**	12...24VDC screw mounting	1	0.170
LTN70MWB230	110...230VAC screw mounting	1	0.277
Top cover.			
LTN70C	To be used only if sound module is not present	5	0.014
Fixing bases.			
LTN70BP1	Horizontal surface, mounting, grey plastic	1	0.040
LTN70BP2❷	Horizontal surface mounting, grey plastic	1	0.067
LTN70BP3	Horizontal surface or wall mounting, grey plastic	1	0.094
LTN70BM1	Horizontal surface mounting, metal	1	0.101
LTN70BM2	Wall mounting, metal	1	0.131
LTN70BM3	Horizontal surface or wall mounting, metal	1	0.242
Extension tubes with threaded end.			
new **LTN70P050T**	50mm/1.97”, metal	5	0.022
LTN70P100T	100mm/3.94”, metal	5	0.039
LTN70P250T	250mm/9.84, metal	5	0.100
LTN70P400T	400mm/15.75”, metal	5	0.163
Extension tubes for LTN70BP2.			
new **LTN70P050**	50mm/1.97”, metal	5	0.022
LTN70P100	100mm/3.94”, metal	5	0.043
LTN70P250	250mm/9.84, metal	5	0.105
LTN70P400	400mm/15.75”, metal	5	0.167

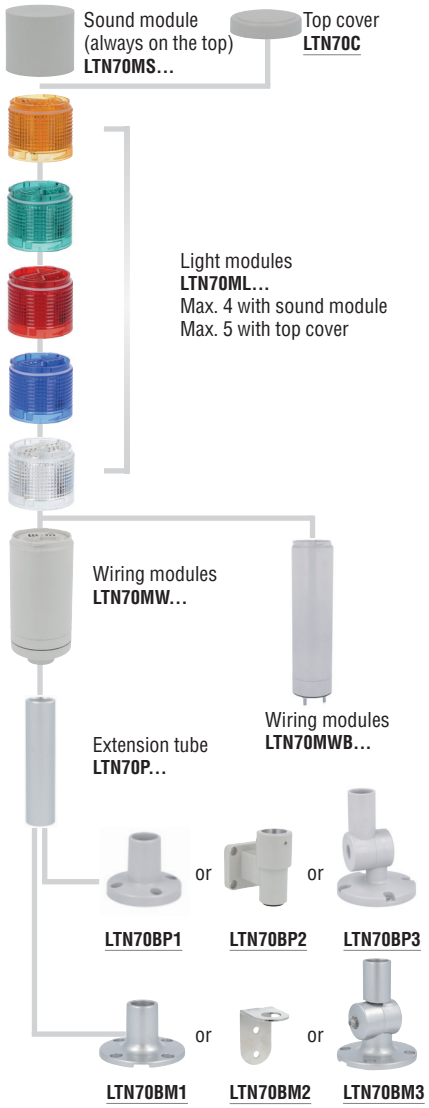
❶ For light towers including both white light module and sound modules please check the wiring diagram at page 9-17.
❷ For fixing base LTN70BP2 the extension tube LTNP... without threaded end has to be used.
❸ Extension tubes with threaded end LTNP...T have to be used for all the fixing bases except for LTN70BP2.

General characteristics
The signal towers can be assembled by stacking up to 5 light modules or 4 light modules and 1 sound module.

Technical characteristics
- maximum operational voltage: 26.4VDC - 240VAC
- light, sound and wiring modules consumption:
  - light modules: 1.2VA
  - sound modules: 1.7VA
  - wiring modules: 1VA
- number of stackable modules: 5
- connections: screw clamp terminals and conductor section 0.25...1,5mm²/AWG16...24
- operating temperature: -30...+50°C
- IEC degree of protection: IP65 for wiring modules, light modules, top cover and sound module LTN70MSL.

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

Combinations



Multicoloured signal towers Ø70mm/2.75” 8LT73... type



8LT73S...



8LT73B...

Order code	Description	Qty per pkg	Wt.
		n°	[kg]
Steady light and pulsed or continuous sound multicoloured light modules. Built-in LED circuit ❶.			
8LT73B9A	Green, orange, red, 24VDC	1	0.090
8LT73S2B9A	Green, orange, red, with continuous or pulsed sound 24VDC	1	0.200
8LT73B9B	Blue, orange, red, 24VDC	1	0.090
8LT73S2B9B	Blue, orange, red, with continuous or pulsed sound 24VDC	1	0.200

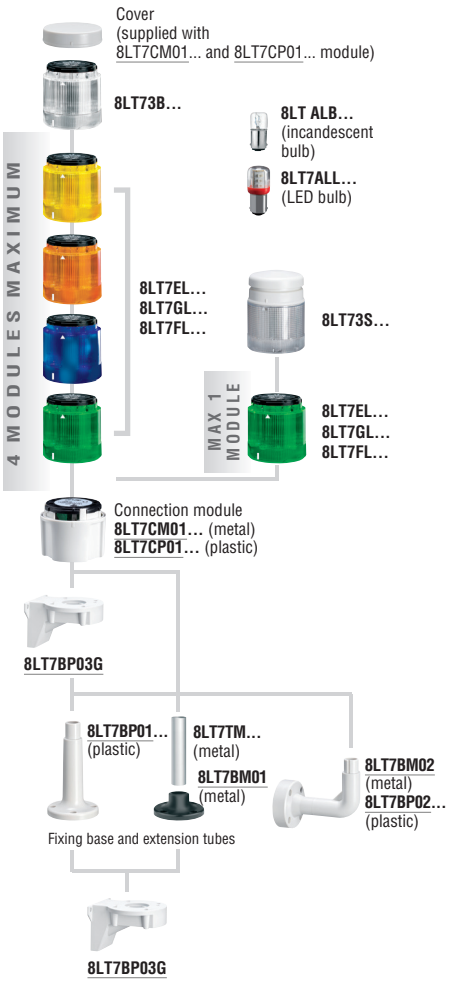
❶ For accessories and spare parts see page 9-9 and 10.

General characteristics
The multicoloured signal towers incorporate the possibility of up to 3 different colours in a single light module.
In the event of two or more alarms, the multicoloured module lights up in alternating colours corresponding to the event. The multicoloured module must always be placed last, at the top of the tower, should it be used together with light modules 8LT7EL... 8LT7GL... or 8LT7FL....

Technical characteristics
- Supply voltage: 24VDC (±10%)
- Light and sound module consumption: 90mA
- Sound intensity: 90dB/1m
- Material: polycarbonate
- Number of stackable elements: 4 with 8LT73B modules, 1 with 8LT73S modules
- Connections: screw clamp terminals and maximum conductor section 1.5mm²/16AWG
- Tightening torque: 0.5Nm/4.5lb.in
- Operating temperature: -20...+50 °C
- IEC degree of protection: IP65.

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

Combinations



For accessories and spare parts see page 9-9 and 10.

Signal towers Ø70mm/2.75", 8LT7... series








8LT7EL ...
8LT7GL ...
8LT7FL ...

Order code	Description	Qty per pkg	Wt.
		n°	[kg]
Steady light modules. BA15d fitting ❶. Bulb (8LT7ALB... and 8LT7ALL...) not included.			
8LT7EL1	Orange	1	0.082
8LT7EL3	Green	1	0.082
8LT7EL4	Red	1	0.082
8LT7EL5	Yellow	1	0.082
8LT7EL6	Blue	1	0.082
8LT7EL8	White	1	0.082
Blinking light modules. BA15d fitting ❶. Bulb (8LT7ALB... and 8LT7ALL...) not included.			
8LT7GLB1	Orange, 24VAC/DC	1	0.083
8LT7GLB3	Green, 24VAC/DC	1	0.083
8LT7GLB4	Red, 24VAC/DC	1	0.083
8LT7GLB5	Yellow, 24VAC/DC	1	0.083
8LT7GLB6	Blue, 24VAC/DC	1	0.083
8LT7GLB8	White, 24VAC/DC	1	0.083
8LT7GLE1	Orange, 110...120VAC	1	0.083
8LT7GLE3	Green, 110...120VAC	1	0.083
8LT7GLE4	Red, 110...120VAC	1	0.083
8LT7GLE5	Yellow, 110...120VAC	1	0.083
8LT7GLE6	Blue, 110...120VAC	1	0.083
8LT7GLE8	White, 110...120VAC	1	0.083
8LT7GLM1	Orange, 230...240VAC	1	0.083
8LT7GLM3	Green, 230...240VAC	1	0.083
8LT7GLM4	Red, 230...240VAC	1	0.083
8LT7GLM5	Yellow, 230...240VAC	1	0.083
8LT7GLM6	Blue, 230...240VAC	1	0.083
8LT7GLM8	White, 230...240VAC	1	0.083
Flash light modules. With 4-joule xenon bulb ❶.			
8LT7FLB1	Orange, 24VAC/DC	1	0.092
8LT7FLB3	Green, 24VAC/DC	1	0.092
8LT7FLB4	Red, 24VAC/DC	1	0.092
8LT7FLB5	Yellow, 24VAC/DC	1	0.092
8LT7FLB6	Blue, 24VAC/DC	1	0.092
8LT7FLB8	White, 24VAC/DC	1	0.092
8LT7FLE1	Orange, 110...120VAC	1	0.092
8LT7FLE3	Green, 110...120VAC	1	0.092
8LT7FLE4	Red, 110...120VAC	1	0.092
8LT7FLE5	Yellow, 110...120VAC	1	0.092
8LT7FLE6	Blue, 110...120VAC	1	0.092
8LT7FLE8	White, 110...120VAC	1	0.092
8LT7FLM1	Orange, 230...240VAC	1	0.092
8LT7FLM3	Green, 230...240VAC	1	0.092
8LT7FLM4	Red, 230...240VAC	1	0.092
8LT7FLM5	Yellow, 230...240VAC	1	0.092
8LT7FLM6	Blue, 230...240VAC	1	0.092
8LT7FLM8	White, 230...240VAC	1	0.092

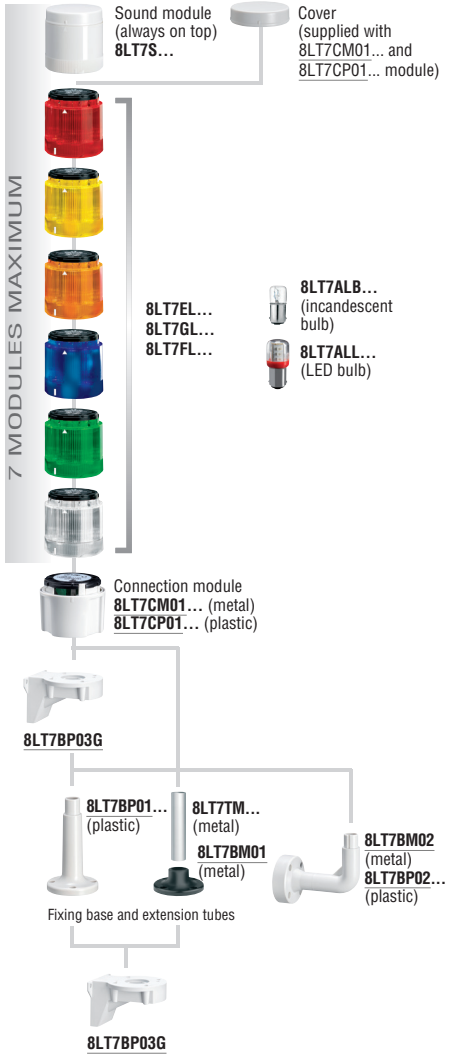
❶ For accessories and spare parts see page 9-9 and 10.

General characteristics
Signal towers are fundamental elements in manufacturing processes for the visual and audible signalling of the system status.
The signal towers can be assembled by stacking up to 7 modules, in the following sequence, starting from the top: red, yellow, orange, blue, green and white.

Technical characteristics
- Maximum operational voltage: 250VAC/DC
- Flash light and sound module consumption:
  - 8LT7FLB... in AC: 135mA
  - 8LT7FLB... in DC: 75mA
  - 8LT7FLE... 20mA
  - 8LT7FLM... 15mA
- Material: polycarbonate or anodised aluminium
- Number of stackable modules: 7
- Connections: screw clamp terminals and maximum conductor section 1.5mm²/16AWG
- Tightening torque: 0.5Nm/4.5lb.in
- Operating temperature: -20...+50°C (12VAC max. up to +40°C)
- IEC degree of protection: IP65.

Certifications and compliance
Certifications obtained: UL Listed, for USA and Canada (cULus - file E318016) as Power Circuit and motor-mounted Apparatus - Stackable tower lights, EAC.
Compliant with standards: IEC/EN/BS 60947-5-1, IEC/EN/BS 60947-1, UL508, CSA C22.2 n° 14.

Combinations



For accessories and spare parts see page 9-9 and 10.

Signal towers Ø70mm/2.75", 8LT7... series



8LT7S...G



8LT7S...



8LT7CM01G
8LT7CP01G



8LT7CM01
8LT7CP01

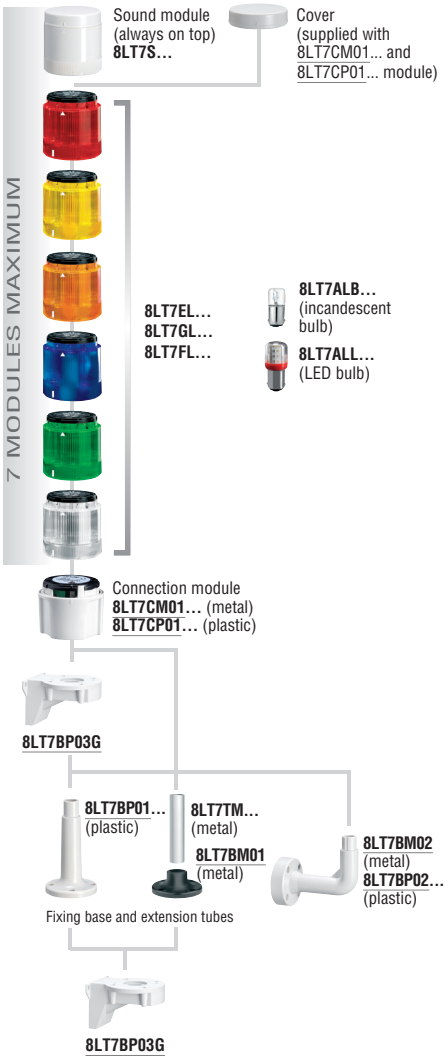
Order code	Description		Qty per pkg	Wt.
			n°	[kg]
Pulsed or continuous sound modules, grey colour ❶.				
8LT7S0BG	24VAC/DC, pulsed (90dB). IP54		1	0.240
8LT7S1BG	24AC/DC, 16 sounds select. (max. 90dB). IP65		1	0.240
8LT7S2BG	24VAC/DC	puls. sound (78dB)❷ or continuous (75dB)❸. IP65	1	0.240
8LT7S2EG	110...120VAC		1	0.240
8LT7S2MG	230...240VAC		1	0.240
Pulsed or continuous sound modules, black colour ❶.				
8LT7S0B	24VAC/DC, pulsed (90dB). IP54		1	0.240
8LT7S1B	24AC/DC, 16 sounds select. (max. 90dB). IP65		1	0.240
8LT7S2B	24VAC/DC	puls. sound (78dB)❷ or continuous (75dB)❸. IP65	1	0.240
8LT7S2E	110...120VAC		1	0.240
8LT7S2M	230...240VAC		1	0.240
Connection modules and cover (bottom entry).				
8LT7CP01G	For plastic tubes, grey colour		1	0.110
8LT7CM01G	For metal tubes, grey colour		1	0.120
8LT7CP01	For plastic tubes, black colour		1	0.110
8LT7CM01	For metal tubes, black colour		1	0.120

❶ For accessories and spare parts see page 9-9 and 10.
❷ For 8LT7S2B... = 84.5dB.
❸ For 8LT7S2B... = 82.6dB.

Technical characteristics
- The sound module must always be placed last, on the top of the tower (it cannot be fitted with an 8LT73... multicoloured module).
- Sound module consumption:
  - 8LT7S0B...: 25mA
  - 8LT7S1B...: 40mA
  - 8LT7S2B...: 200mA
  - 8LT7S2E...: 40mA
  - 8LT7S2M...: 30mA
- Material: polycarbonate
- Max. number of sound modules: 1 per tower
- Connections: screw clamp terminals and maximum conductor section 1.5mm²/16AWG
- Tightening torque: 0.5Nm/4.5lb.in
- Operating temperature: -20...+50°C (12VAC max. up to +40°C)
- IEC degree of protection: IP65 (IP54 if 8LT7S0B... sound module used).

Certifications and compliance
Certifications obtained: UL Listed, for USA and Canada (cULus - file E318016) as Power Circuit and motor-mounted Apparatus - Stackable tower lights, EAC.
Compliant with standards: IEC/EN/BS 60947-5-1, IEC/EN/BS 60947-1, UL508, CSA C22.2 n° 14.

Combinations



For accessories and spare parts see page 9-9 and 10.

Signal beacons Ø62mm/2.44”, 8LB... series













8LB6EL...
8LB6GL...
8LB6S2...

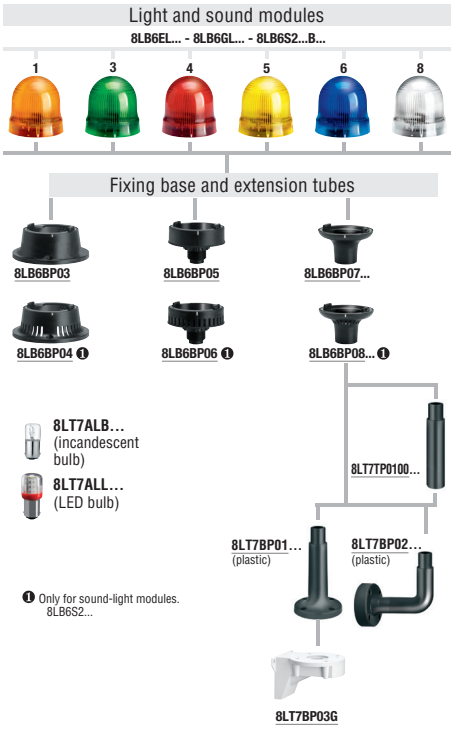
Order code	Description	Qty per pkg	Wt.
		n°	[kg]
Steady light modules. BA15d fitting. Bulb (8LT7ALB... and 8LT7ALL...) not included.			
8LB6EL1	Orange	1	0.060
8LB6EL3	Green	1	0.060
8LB6EL4	Red	1	0.060
8LB6EL5	Yellow	1	0.060
8LB6EL6	Blue	1	0.060
8LB6EL8	White	1	0.060
Blinking or steady light modules. BA15d fitting. Bulb (8LT7ALB... and 8LT7ALL...) not included.			
8LB6GLB1	Orange, 12...48VAC/DC	1	0.060
8LB6GLB3	Green, 12...48VAC/DC	1	0.060
8LB6GLB4	Red, 12...48VAC/DC	1	0.060
8LB6GLB5	Yellow, 12...48VAC/DC	1	0.060
8LB6GLB6	Blue, 12...48VAC/DC	1	0.060
8LB6GLB8	White, 12-48VAC/DC	1	0.060
8LB6GLM1	Orange, 24...230VAC	1	0.060
8LB6GLM3	Green, 24...230VAC	1	0.060
8LB6GLM4	Red, 24...230VAC	1	0.060
8LB6GLM5	Yellow, 24...230VAC	1	0.060
8LB6GLM6	Blue, 24...230VAC	1	0.060
8LB6GLM8	White, 24...230VAC	1	0.060
Light and sound pulsed or continuous sound modules. Bulb included.			
8LB6S2B1	Orange, 24VAC/DC (80dB)	1	0.060
8LB6S2B3	Green, 24VAC/DC (80dB)	1	0.060
8LB6S2B4	Red, 24VAC/DC (80dB)	1	0.060
8LB6S2B5	Yellow, 24VAC/DC (80dB)	1	0.060
8LB6S2B6	Blue, 24VAC/DC (80dB)	1	0.060
8LB6S2B8	White, 24VAC/DC (80dB)	1	0.060

General characteristics
Signal beacons are fundamental elements in manufacturing processes for the visual and audible signalling of the system status.

Technical characteristics
- Maximum operational voltage: 250VAC/DC
- Sound module consumption: 8LB6S2...:150mA
- Material: polycarbonate
- Connections: screw clamp terminals and maximum conductor section 1.5mm²/16AWG
- Tightening torque: 0.5Nm/4.5lb.in
- Operating temperature: -20...+50°C
- IEC degree of protection: IP54 (IP30 if used with bases 8LB6BP04, 8LB6BP06, 8LB6BP08...).

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

Combinations



Plastic fixing bases and extension tubes for 8LT... and 8LB... series



8LT7BP01G



8LT7BP01



8LT7BP02G



8LT7BP02



8LT7BP03G



8LT7TP0100G

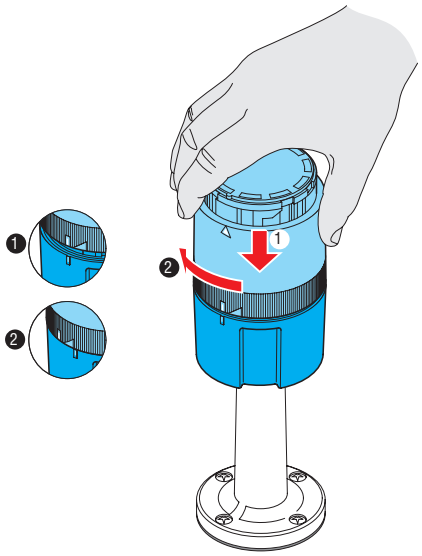


8LT7TP0100

Order code	Description	Qty per pkg	Wt.
		n°	[kg]
Plastic fixing bases.			
8LT7BP01G	Horizontal surface mount, plastic grey colour with 100mm/3.94" extension	1	0.045
8LT7BP02G	Vertical wall mount, plastic, grey colour	1	0.078
8LT7BP03G	90° vertical wall mount, grey colour	1	0.080
8LT7BP01	Horizontal surface mount, plastic, black colour with 100mm/3.94" extension	1	0.045
8LT7BP02	Vertical wall mount, plastic, black colour	1	0.078
Extension tubes for plastic bases.			
8LT7TP0100G	100mm/3.94", grey colour	1	0.029
8LT7TP0100	100mm/3.94", black colour	1	0.029

General characteristics

The assembly operation for the signal towers is simple and fast and does not require the use of any tools.
The bayonet fitting with slight pressure and simple circular movement makes it possible to mount each element on top of the previous one. There are specific white marks to indicate the correct alignment.



Dimensions
page 9-16

Bulbs for 8LT... and 8LB... series



8LT7ALB...



8LT7ALL...

Order code	Description	Qty per pkg	Wt.
		n°	[kg]
Incandescent bulbs, 5W, BA15d fitting.			
8LT7ALBA	12VAC/DC	10	0.006
8LT7ALBB	24VAC/DC	10	0.006
8LT7ALBE	130VAC/DC	10	0.006
8LT7ALBM	260VAC/DC	10	0.006
LED bulbs, BA15d fitting.			
8LT7ALLA4	Red, 12VAC/DC	10	0.010
8LT7ALLA8	White, 12VAC/DC	10	0.010
8LT7ALLB3	Green, 24VAC/DC	10	0.010
8LT7ALLB4	Red, 24VAC/DC	10	0.010
8LT7ALLB5❶	Yellow/Orange, 24VAC/DC	10	0.010
8LT7ALLB6	Blue, 24VAC/DC	10	0.010
8LT7ALLB8	White, 24VAC/DC	10	0.010
8LT7ALLE3	Green, 110...120VAC	10	0.010
8LT7ALLE4	Red, 110...120VAC	10	0.010
8LT7ALLE5❶	Yellow/Orange, 110...120VAC	10	0.010
8LT7ALLE6	Blue, 110...120VAC	10	0.010
8LT7ALLE8	White, 110...120VAC	10	0.010
8LT7ALLM3	Green, 230...240VAC	10	0.010
8LT7ALLM4	Red, 230...240VAC	10	0.010
8LT7ALLM5❶	Yellow/Orange, 230...240VAC	10	0.010
8LT7ALLM6	Blue, 230...240VAC	10	0.010
8LT7ALLM8	White, 230...240VAC	10	0.010

❶ Used with yellow or orange light modules.

Technical characteristics

– Consumption of bulb fitted on light modules:
- 8LT7ALBA: 420mA
- 8LT7ALBB: 210mA
- 8LT7ALBE: 43mA
- 8LT7ALBM: 22mA
- 8LT7ALLA...: <60mA
- 8LT7ALLB...: <30mA
- 8LT7ALLE...: <20mA
- 8LT7ALLM...: <20mA.

Compliance

Compliant with standards: IEC/EN/BS 60947-5-1, IEC/EN/BS 60947-1, UL508, CSA C22.2 n° 14.

Metal fixing bases and extension tube for multicoloured signal towers Ø70mm/2.75” and signal towers assembled Ø45mm/1.77”



8LT7BM01



8LT7BM02



8LT7TM

Order code	Description	Qty per pkg	Wt.
		n°	[kg]
Metal fixing bases.			
8LT7BM01	Horizontal surface mount, metal, black	1	0.099
8LT7BM02	Wall mount, metal	1	0.184
Extension tubes for metal bases, anodised aluminium.			
8LT7TM0100	120mm/4.72”	1	0.016
8LT7TM0200	220mm/8.66”	1	0.024
8LT7TM0300	320mm/12.60”	1	0.048
8LT7TM0400	420mm/16.53”	1	0.064
8LT7TM0500	520mm/20.74”	1	0.080
8LT7TM1000	1020mm/40.16”	1	0.160

Metal fixing bases for 8LB... series



8LB6BP07G



8LB6BP03



8LB6BP05



8LB6BP07



8LB6BP08G



8LB6BP04



8LB6BP06

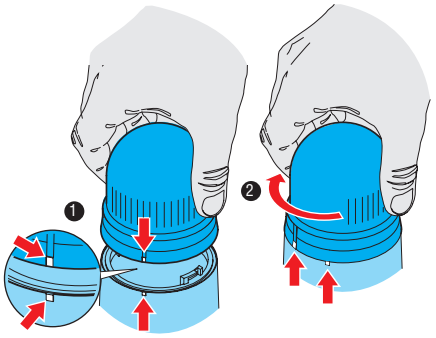


8LB6BP08

Order code	Description	Qty per pkg	Wt.
		n°	[kg]
Fixing bases for light modules.			
8LB6BP07G	For extension connection, plastic, grey. Use with fixing bases 8LT7BP01G and 8LT7BP02G	1	0.020
8LB6BP03	For horizontal mount, plastic, black	1	0.040
8LB6BP05	For hole Ø22mm/0.87", plastic, black	1	0.040
8LB6BP07	For extension connection, plastic, black. Use with fixing bases 8LT7BP01 and 8LT7BP02	1	0.020
Fixing bases for light and sound modules.			
8LB6BP08G	For extension connection, plastic, grey. Use with fixing bases 8LT7BP01G and 8LT7BP02G	1	0.020
8LB6BP04	For horizontal mount, plastic, black	1	0.040
8LB6BP06	For hole Ø22mm/0.87", plastic, black	1	0.040
8LB6BP08	For extension connection, plastic, black. Use with fixing bases 8LT7BP01 and 8LT7BP02	1	0.020

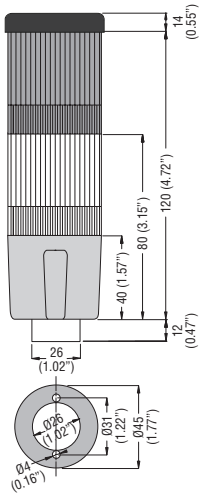
General characteristics

The assembly operation of the light and sound modules is simple and fast and does not require the use of any tools. There are specific white marks to indicate the correct alignment.

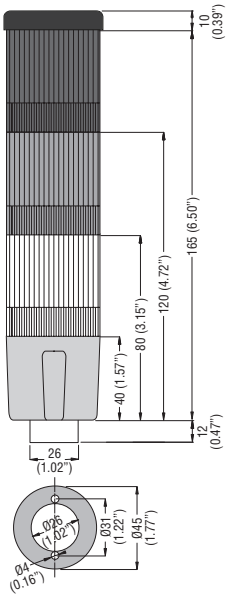


SIGNAL TOWERS READY ASSEMBLED Ø45mm/1.77”

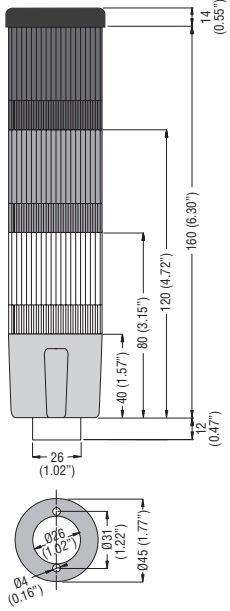
8LT4K02BG



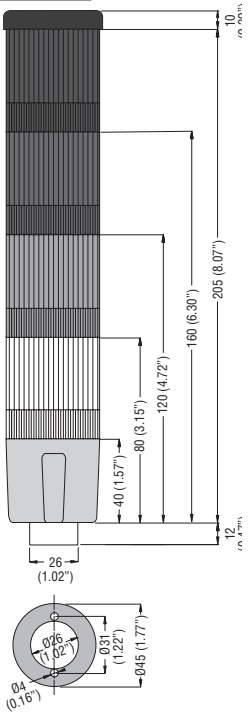
8LT4K03BG



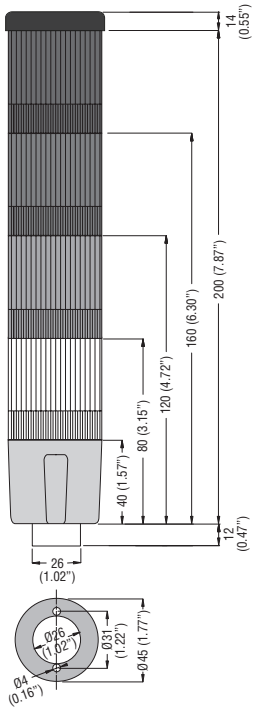
8LT4K04BG



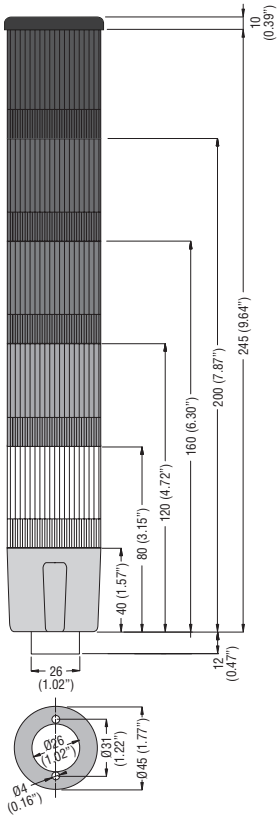
8LT4K05BG



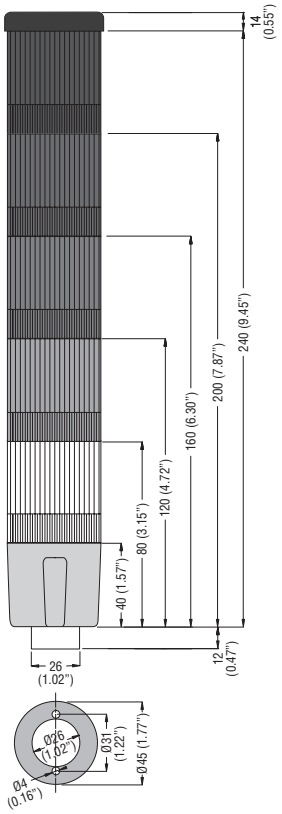
8LT4K06BG



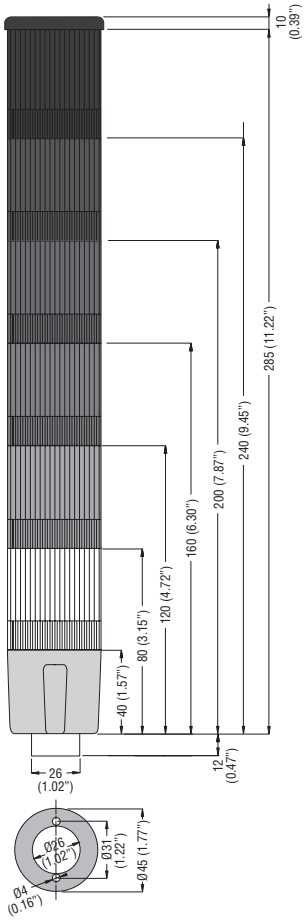
8LT4K07BG



8LT4K08BG

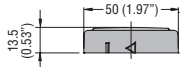


8LT4K09BG

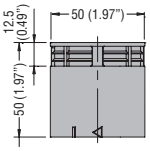


SIGNAL TOWERS Ø50mm/1.97”

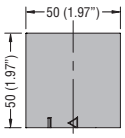
Top cover
LTN50C



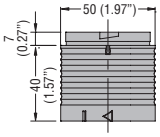
Sound modules
LTN50MSH

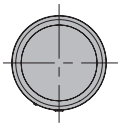


LTN50MSL

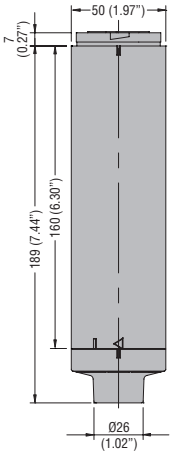


Light modules
LTN50ML

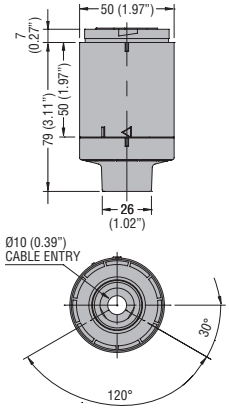




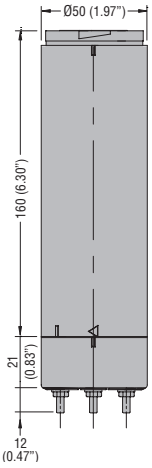
Wiring modules tube mounting
LTN50MW230



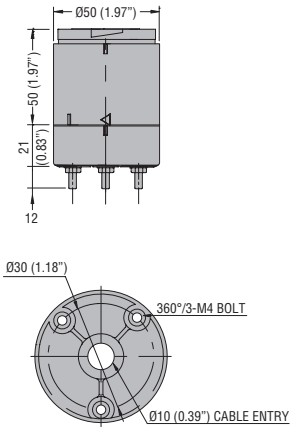
LTN50MW024



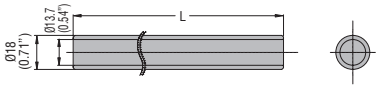
Wiring modules screw mounting
LTN50MWB230



LTN50MWB024

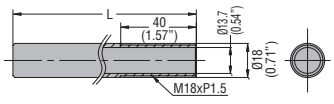


Extension tubes
LTN50P…



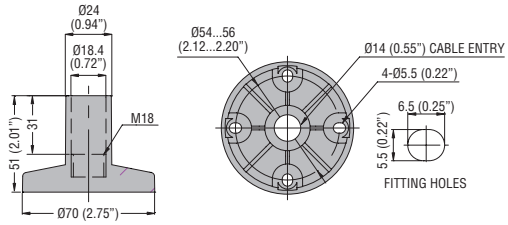
Type	L (mm/in)
LTP50P050	50 (1.97”)
LTP50P100	100 (3.94”)
LTP50P250	250 (9.84”)
LTP50P400	400 (15.75”)

LTN50P…T

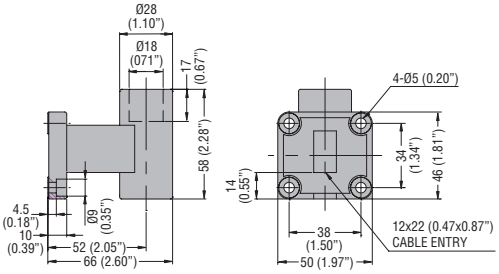


Type	L (mm/in)
LTP50P050T	50 (1.97”)
LTP50P100T	100 (3.94”)
LTP50P250T	250 (9.84”)
LTP50P400T	400 (15.75”)

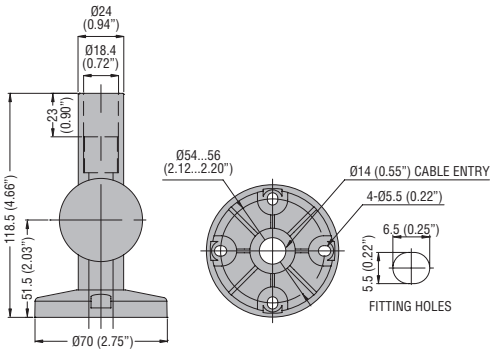
Fixing bases
LTN50BP1



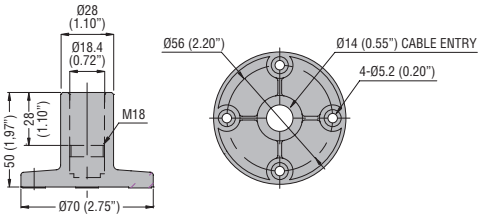
LTN50P2



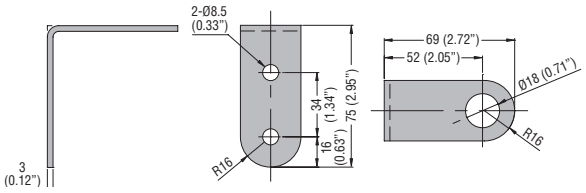
LTN50BP3



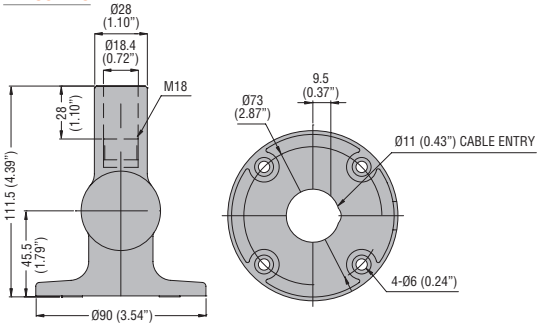
LTN50BM1



LTN50M2

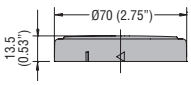


LTN50BM3

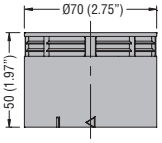


SIGNAL TOWERS Ø70mm/2.75”

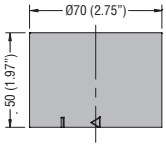
Top cover
LTN70C



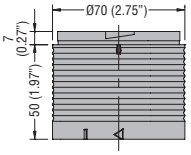
Sound modules
LTN70MSH

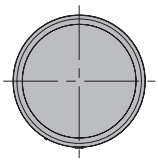


LTN70MSL

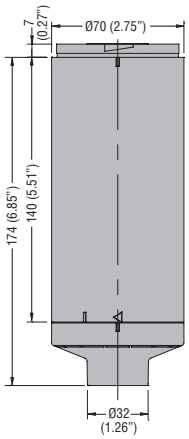


Light modules
LTN70ML

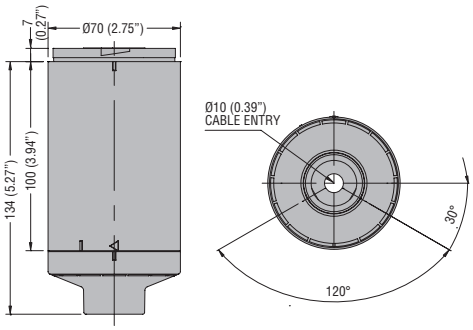




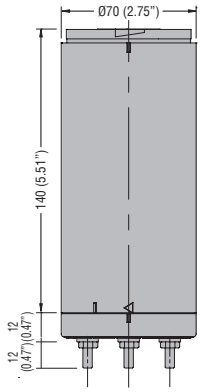
Wiring modules tube mounting
LTN70MW230



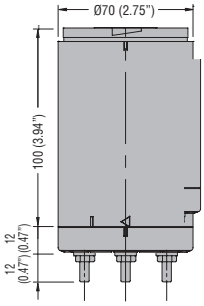
LTN70MW024

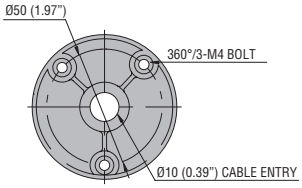


Wiring modules screw mounting
LTN70MWB230

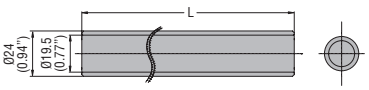


LTN70MWB024



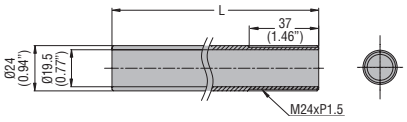


Extension tubes
LTN70P...



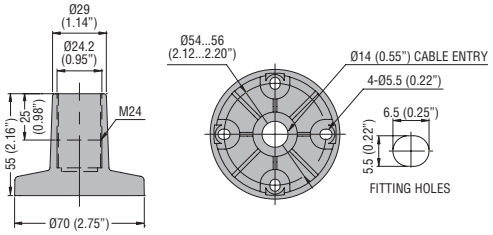
Type	L (mm/in)
LTP70P050	50 (1.97”)
LTP70P100	100 (3.94”)
LTP70P250	250 (9.84”)
LTP70P400	400 (15.75”)

LTN70P...T

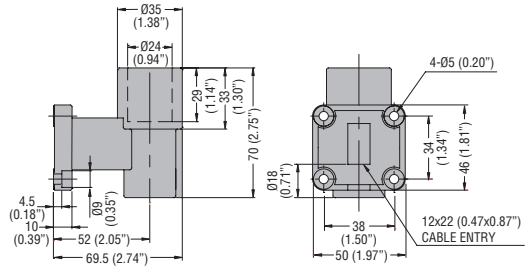


Type	L (mm/in)
LTP70P050T	50 (1.97”)
LTP70P100T	100 (3.94”)
LTP70P250T	250 (9.84”)
LTP70P400T	400 (15.75”)

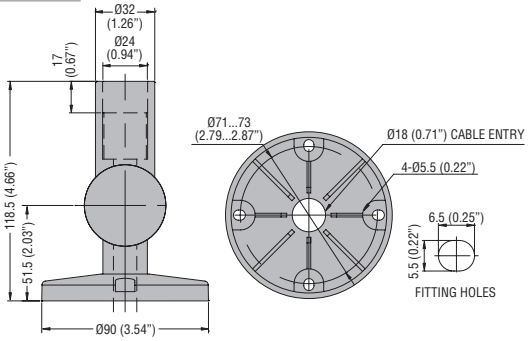
Fixing bases
LTN70BP1



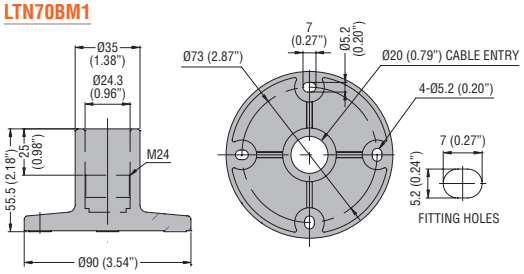
LTN70P2



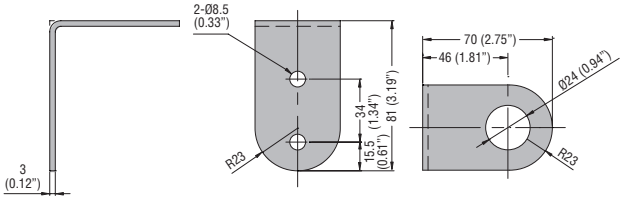
LTN70BP3



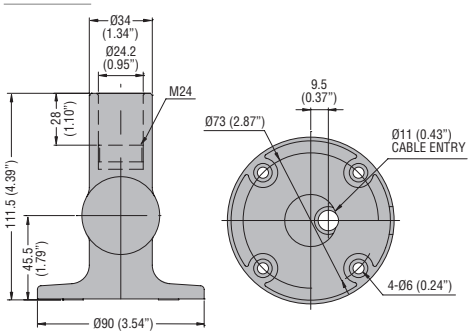
LTN70BM1



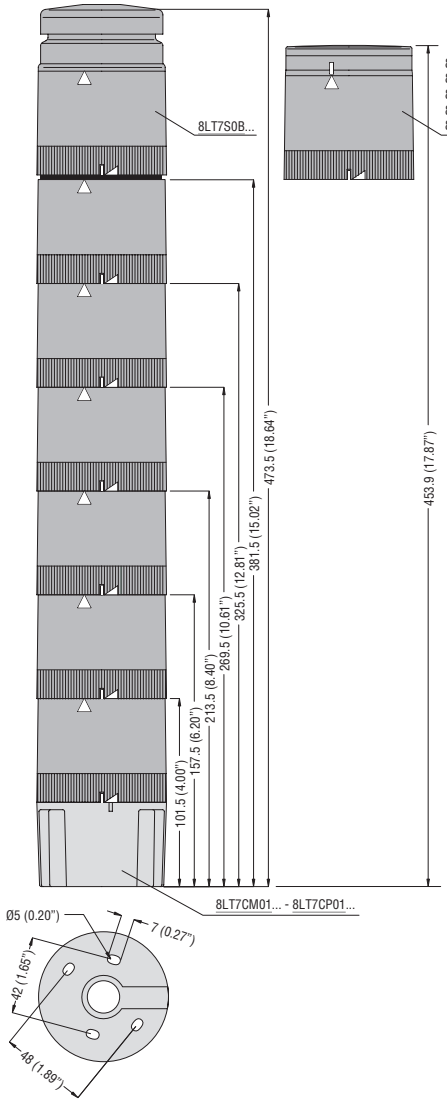
LTN70M2



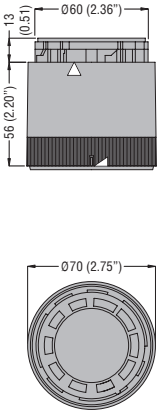
LTN70BM3



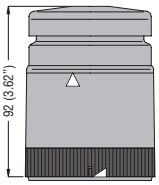
MULTICOLOURED SIGNAL TOWERS Ø70mm/2.75” AND SIGNAL TOWERS Ø70mm/2.75” 8LT... SERIES

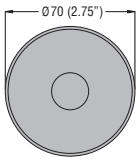


Light modules
8LT7EL...
8LT7GL...
8LT7FL...
8LT73B...

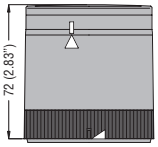


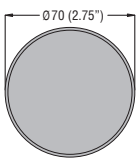
Sound modules
8LT7S0B...
8LT73S2...



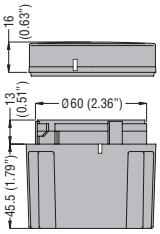


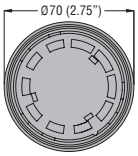
8LT7S1...
8LT7S2...





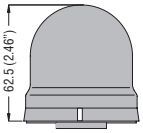
Bases
8LT7CM01...
8LT7CP01...

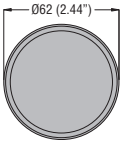




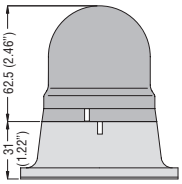
SIGNAL BEACONS Ø62mm/2.44”

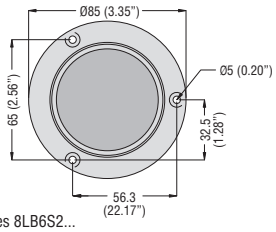
8LB6EL...
8LB6GL...
8LB6S2...



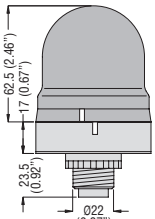


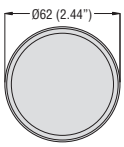
8LB6...
with base **8LB6BP03**
and **8LB6BP04** ❶



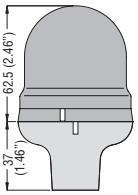


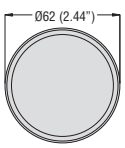
8LB6...
with base **8LB6BP05**
and **8LB6BP06** ❶

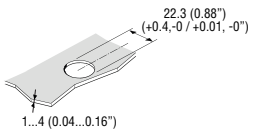




8LB6...
with base **8LB6BP07...**
and **8LB6BP08** ❶...



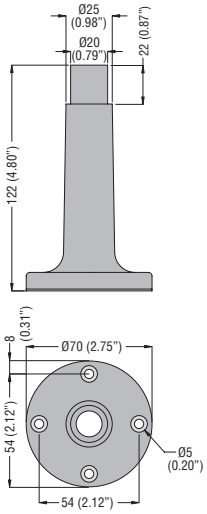




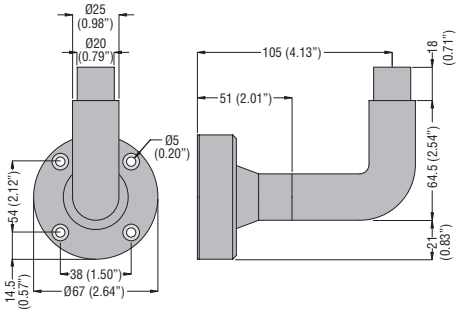
❶ With slits for light and sound modules 8LB6S2...

FIXING BASES AND EXTENSIONS FOR 8LT... SERIES

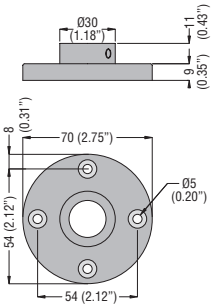
8LT7BP01...



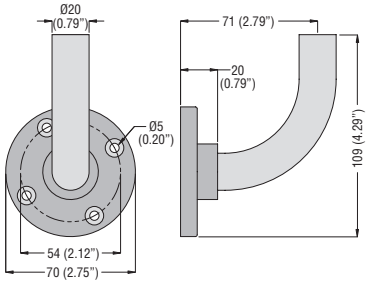
8LT7BP02...



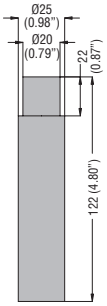
8LT7BM01



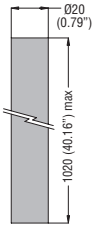
8LT7BM02



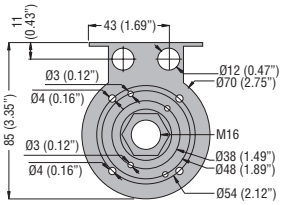
8LT7TP0100...

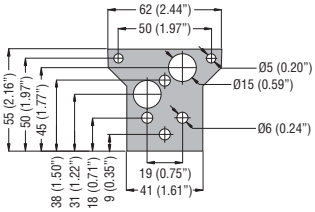


8LT7TM...

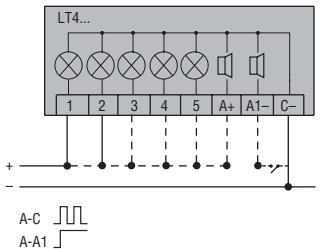


8LT7BP03G

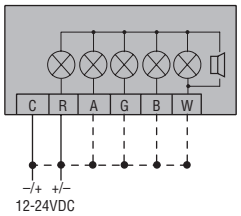


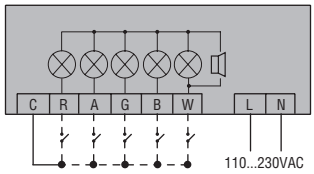


SIGNAL TOWERS ASSEMBLED Ø45mm/1.77”
8LT4...

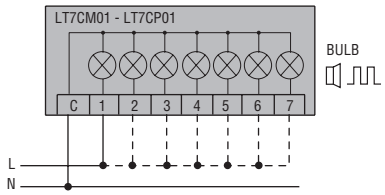


SIGNAL TOWERS Ø50mm/1.97” AND Ø70mm/2.75” LTN... SERIES



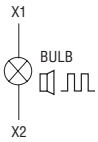


MULTICOLOURED SIGNAL TOWERS Ø70mm/2.75”
AND SIGNAL TOWERS Ø70mm/2.75”
8LT7...



Connect terminals C and 1 as indicated to power the first module.
If other modules are fitted, the respective terminals must be connected accordingly.

SIGNAL BEACONS Ø62mm/2.44”
8LB6...



Limit, micro and foot switches



- Dimensions compatible to EN/BS 50047
- Direct opening action of NC contacts
- Extensive range of operating heads
- Versions complete with interchangeable and rotatable heads
- Versions with removable and interchangeable auxiliary contact blocks.

SEC. - PAGE

Metal and plastic limit switches, K series (dimensions to/compatible to EN/BS 50047)
Top push rod plunger ..... 10 - 2
Top roller push plunger ..... 10 - 3
Roller centre push lever ..... 10 - 4
Roller side push lever ..... 10 - 5
Roller lever plunger ..... 10 - 6
Adjustable roller lever ..... 10 - 8
Ceramic rod lever ..... 10 - 10
Adjustable rod lever ..... 10 - 11
Wobble stick, omnidirectional ..... 10 - 12
Accessories and spare parts ..... 10 - 13

Prewired metal limit switches ..... 10 - 15

Metal limit switches, PL series
Top push rod plunger, top roller push plunger, roller centre push lever ..... 10 - 16
Latch and manual release..... 10 - 17
Manual reload and magnetic release ..... 10 - 17
Bi-directional ..... 10 - 17

Rope-pull lever limit switches for normal stopping ..... 10 - 18

Plastic micro switches ..... 10 - 20

Foot switches ..... 10 - 21

Dimensions ..... 10 - 22

Wiring diagrams ..... 10 - 27



Page 10-2

PLASTIC AND METAL LIMIT SWITCHES K SERIES

- Dimensions to EN/BS 50047 standards for KB and KM types
- Dimensions compatible to EN/BS 50047 for KC and KN types
- Self-extinguishing polymer thermoplastic housing (KB-KC types)
- Aluminium-zinc alloy housing (KM-KN types)
- Removable and interchangeable auxiliary contact blocks
- Bi-directional versions
- Unique fixing mechanism of operating head
- IEC degree of protection IP65
- M20 cable entry; PG13.5 or 1/2 NPT entry available.



Page 10-16

METAL LIMIT SWITCHES PL SERIES

- Aluminium-zinc alloy housing
- Maximum of 2 auxiliary contacts
- IEC degree of protection IP40 and IP65
- PG11 cable entry.



Page 10-20

PLASTIC MICRO SWITCHES

- Polymer thermoplastic housing
- Changeover contact switch
- IEC degree of protection IP00 or IP20.



Page 10-15

PREWIRED METAL LIMIT SWITCHES

- Dimensions to EN/BS 50047 standards
- 2 meter long cable
- IEC degree of protection IP67.



Page 10-18

ROPE-PULL LEVER LIMIT SWITCHES FOR NORMAL STOPPING

- Self-extinguishing polymer thermoplastic housing
- Aluminium-zinc alloy housing
- IEC degree of protection IP40, IP65
- PG11 cable entry.



Page 10-21

FOOT SWITCHES

- Versions with or without protection cover
- Self-extinguishing polymer thermoplastic housing
- Aluminium-zinc alloy housing
- IEC degree of protection IP20, IP54 and IP65
- M20 cable entry.

Top push rod plunger

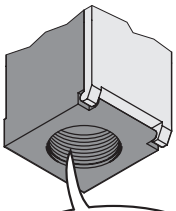


KBA... - KMA...





KCA... - KNA...



M20 CABLE ENTRY
For types with PG13.5 cable entry, add the letter P at the end of the order code while for ½ NPT, add N.
E.g. KBA1S11P - KBA1S11N

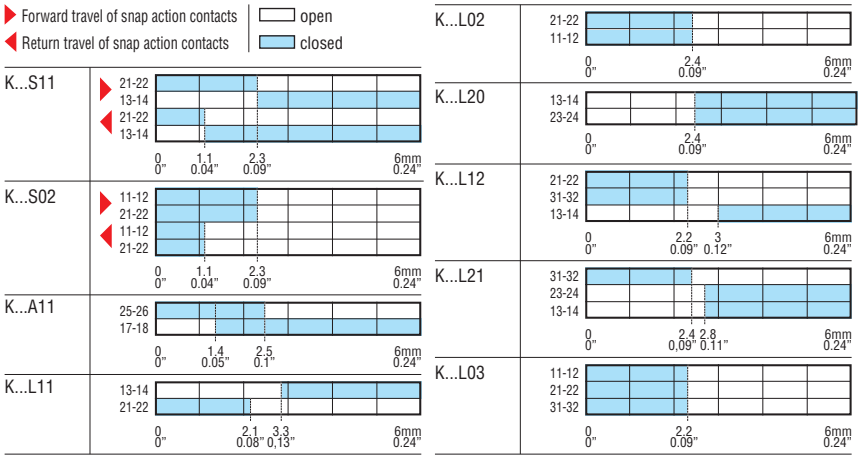
Order code Plastic body	Metal body	Contacts	Plunger material	Qty per pkg	Wt
				n°	[kg]
One bottom cable entry. Dimensions to EN/BS 50047.					
KBA1S11	KMA1S11	1NO+1NC Snap action❶	Metal	5	❷
KBA1S02	KMA1S02	2NC Snap action❶	Metal	5	❷
KBA1A11	KMA1A11	1NO+1NC Slow action make before break❶	Metal	5	❷
KBA1L11	KMA1L11	1NO+1NC Slow action❶	Metal	5	❷
KBA1L02	KMA1L02	2NC Slow action❶	Metal	5	❷
KBA1L20	KMA1L20	2NO Slow action	Metal	5	❷
KBA1L12	KMA1L12	1NO+2NC Slow action❶	Metal	5	❷
KBA1L21	KMA1L21	2NO+1NC Slow action❶	Metal	5	❷
KBA1L03	KMA1L03	3NC Slow action❶	Metal	5	❷
Two side cable entries. Dimensions compatible to EN/BS 50047.					
KCA1S11	KNA1S11	1NO+1NC Snap action❶	Metal	5	❷
KCA1S02	KNA1S02	2NC Snap action❶	Metal	5	❷
KCA1A11	KNA1A11	1NO+1NC Slow action make before break❶	Metal	5	❷
KCA1L11	KNA1L11	1NO+1NC Slow action❶	Metal	5	❷
KCA1L02	KNA1L02	2NC Slow action❶	Metal	5	❷
KCA1L20	KNA1L20	2NO Slow action	Metal	5	❷

❶ Direct (positive) opening action ⊖; safety function according to IEC/EN/BS 60947-5-1.
❷ Consult Technical support for information; see contact details on inside cover.

General characteristics
The LOVATO Electric limit switches have been designed to satisfy requirements comprising quick installation, easy wiring, simple setup, modularity, sturdiness and constant reliability.
The body cover is hinged at the bottom and removable.
The innovative locking bayonet mechanism permits to remove and reposition the operating head in the required configuration with no tools.
The auxiliary contact blocks are removable assuring remarkable wiring ease.

Operational characteristics
- Maximum operating rate: 3600 cycles/h
- Switching speed: 0.5...1.5m/s
- Mechanical life: >10 million cycles
- IEC conventional thermal current Ith: 10A
- UL/CSA and IEC/EN/BS 60947-5-1 designation:
  - A600 Q600 for KB...-KC... types
  - A300 Q300 for KM...-KN... types
- IEC rated insulation voltage Ui:
  - 690VAC for KB...-KC... types
  - 440VAC for KM...-KN... types
- IEC rated impulse withstand voltage Uimp:
  - 6kV for KB...-KC... types
  - 4kV for KM...-KN... types
- Class II insulation for KB...-KC... only
- Contact resistance: <10mΩ
- Short-circuit backup protection: 10A gG/SC quick fuse
- Operators of aluminium-zinc alloy
- Housing:
  - KB...-KC... types: self-extinguishing double-insulation polymer thermoplastic
  - KM...-KN... types: aluminium-zinc alloy
- Cable entry: M20 standard supplied; PG13.5 and ½ NPT available (see the side note for details)
- Operating head fixing: locking bayonet insert
- Operating force: 5N / 1.1lb
- Cable connection: self-releasing screw terminal
- Tightening torque:
  - Switch fixing: 2.5Nm / 22.1lb.in
  - Contact terminals: 0.8Nm / 7lb.in
  - Body lid screw fixing: 0.8Nm / 7lb.in
- Conductor section: 1 or 2 2.5mm² max / 16-14AWG
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+70°C
  - Pollution degree: 3
  - IEC degree of protection: IP20 for terminals
  - IEC degree of protection: IP65 for body housing.

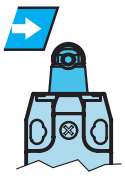
Certifications and compliance
Certifications obtained: UL Listed for USA and Canada (cULus - File E93601), as Auxiliary Devices - Limit switches; EAC, CCC.
Compliant with standards: EN/BS 50047, IEC/EN/BS 60947-1, IEC/EN/BS 60947-5-1, IEC/EN/BS 60204-1, UL508, CSA C22.2 n° 14.



Top roller push plunger

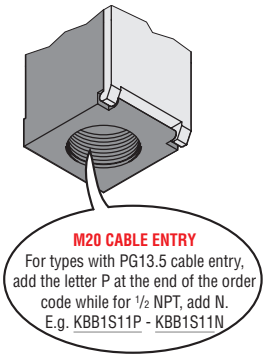


KBB... - KMB...





KCB... - KNB...



Order code Plastic body	Metal body	Contacts	Roller material	Qty per pkg	Wt
			Ø11x4	n°	[kg]
One bottom cable entry. Dimensions to EN/BS 50047.					
KBB1S11	KMB1S11	1NO+1NC Snap action❶	Plastic	5	❷
KBB2S11	KMB2S11		Metal	5	❷
KBB1S02	KMB1S02	2NC Snap action❶	Plastic	5	❷
KBB2S02	KMB2S02		Metal	5	❷
KBB1A11	KMB1A11	1NO+1NC Slow action make before break❶	Plastic	5	❷
KBB2A11	KMB2A11		Metal	5	❷
KBB1L11	KMB1L11	1NO+1NC	Plastic	5	❷
KBB2L11	KMB2L11		Metal	5	❷
KBB1L02	KMB1L02	2NC Slow action❶	Plastic	5	❷
KBB2L02	KMB2L02		Metal	5	❷
KBB1L20	KMB1L20	2NO Slow action❶	Plastic	5	❷
KBB2L20	KMB2L20		Metal	5	❷
KBB1L12	KMB1L12	1NO+2NC Slow action	Plastic	5	❷
KBB2L12	KMB2L12		Metal	5	❷
KBB1L21	KMB1L21	2NO+1NC Slow action❶	Plastic	5	❷
KBB2L21	KMB2L21		Metal	5	❷
KBB1L03	KMB1L03	3NC Slow action❶	Plastic	5	❷
KBB2L03	KMB2L03		Metal	5	❷
Two side cable entries. Dimensions compatible to EN/BS 50047.					
KCB1S11	KNB1S11	1NO+1NC Slow action❶	Plastic	5	❷
KCB2S11	KNB2S11		Metal	5	❷
KCB1S02	KNB1S02	2NC Slow action❶	Plastic	5	❷
KCB2S02	KNB2S02		Metal	5	❷
KCB1A11	KNB1A11	1NO+1NC Slow action make before break❶	Plastic	5	❷
KCB2A11	KNB2A11		Metal	5	❷
KCB1L11	KNB1L11	1NO+1NC Slow action❶	Plastic	5	❷
KCB2L11	KNB2L11		Metal	5	❷
KCB1L02	KNB1L02	2NC Slow action❶	Plastic	5	❷
KCB2L02	KNB2L02		Metal	5	❷
KCB1L20	KNB1L20	2NO Slow action	Plastic	5	❷
KCB2L20	KNB2L20		Metal	5	❷

❶ Direct (positive) opening action ⊖; safety function according to IEC/EN/BS 60947-5-1.
❷ Consult Technical support for information; see contact details on inside cover.

Ø11x4mm = Ø0.43x0.16".

General characteristics

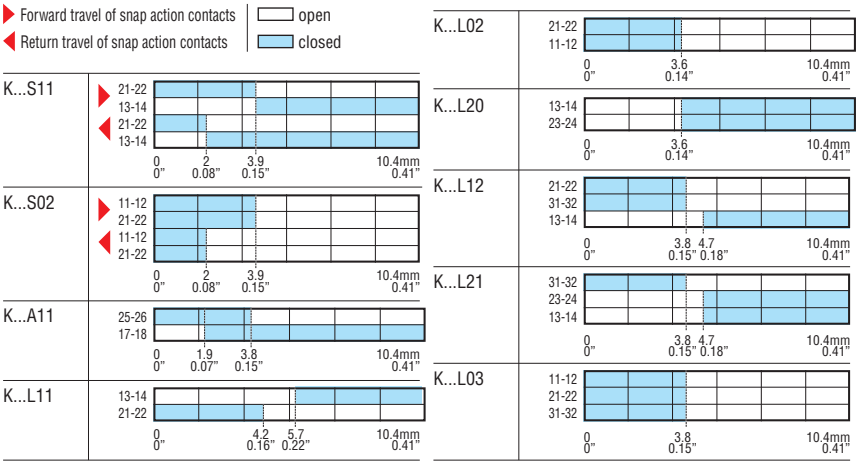
The LOVATO Electric limit switches have been designed to satisfy requirements comprising quick installation, easy wiring, simple setup, modularity, sturdiness and constant reliability.
The body cover is hinged at the bottom and removable.
The innovative locking bayonet mechanism permits to remove and reposition the operating head in the required configuration with no tools. The heads have axial rotation of 45° angles.
The auxiliary contact blocks are removable assuring remarkable wiring ease.

Operational characteristics

- Maximum operating rate: 3600 cycles/h
- Switching speed: 0.5...1.5m/s
- Mechanical life: >10 million cycles
- IEC conventional thermal current Ith: 10A
- UL/CSA and IEC/EN/BS 60947-5-1 designation:
  - A600 Q600 for KB...-KC... types
  - A300 Q300 for KM...-KN... types
- IEC rated insulation voltage Ui:
  - 690VAC for KB...-KC... types
  - 440VAC for KM...-KN... types
- IEC rated impulse withstand voltage Uimp:
  - 6kV for KB...-KC... types
  - 4kV for KM...-KN... types
- Class II insulation for KB...-KC... only
- Contact resistance: <10mΩ
- Short-circuit backup protection: 10A gG/SC quick fuse
- Operators of aluminium-zinc alloy
- Housing:
  - KB...-KC... types: self-extinguishing double-insulation polymer thermoplastic
  - KM...-KN... types: aluminium-zinc alloy
- Cable entry: M20 standard supplied; PG13.5 and 1/2 NPT available (see the side note for details)
- Operating head fixing: locking bayonet insert
- Operating force: 5N / 1.1lb
- Cable connection: self-releasing screw terminal
- Tightening torque:
  - Switch fixing: 2.5Nm / 22.1lb.in
  - Contact terminals: 0.8Nm / 7lb.in
  - Body lid screw fixing: 0.8Nm / 7lb.in
- Conductor section: 1 or 2 2.5mm² max / 16-14AWG
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+70°C
  - Pollution degree: 3
  - IEC degree of protection: IP20 for terminals
  - IEC degree of protection: IP65 for body housing.

Certifications and compliance

Certifications obtained: UL Listed for USA and Canada (cULus - File E93601), as Auxiliary Devices - Limit switches; EAC, CCC.
Compliant with standards: EN/BS 50047, IEC/EN/BS 60947-1, IEC/EN/BS 60947-5-1, IEC/EN/BS 60204-1, UL508, CSA C22.2 n° 14.



Roller centre push lever

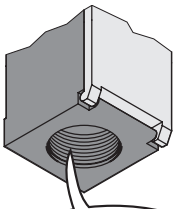


KBC... - KMC...





KCC... - KNC...



M20 CABLE ENTRY
For types with PG13.5 cable entry, add the letter P at the end of the order code while for ½ NPT, add N.
E.g. KBC1S11P - KBC1S11N

Order code Plastic body	Metal body	Contacts	Roller material	Qty per pkg	Wt
			Ø14x5	n°	[kg]
One bottom cable entry. Dimensions to EN/BS 50047.					
KBC1S11	**KMC1S11**	1NO+1NC Snap action❶	Plastic	5	❷
KBC2S11	**KMC2S11**		Metal	5	❷
KBC1S02	**KMC1S02**	2NC Snap action❶	Plastic	5	❷
KBC2S02	**KMC2S02**		Metal	5	❷
KBC1A11	**KMC1A11**	1NO+1NC Slow action make before break❶	Plastic	5	❷
KBC2A11	**KMC2A11**		Metal	5	❷
KBC1L11	**KMC1L11**	1NO+1NC Slow action❶	Plastic	5	❷
KBC2L11	**KMC2L11**		Metal	5	❷
KBC1L02	**KMC1L02**	2NC Slow action❶	Plastic	5	❷
KBC2L02	**KMC2L02**		Metal	5	❷
KBC1L20	**KMC1L20**	2NO Slow action	Plastic	5	❷
KBC2L20	**KMC2L20**		Metal	5	❷
KBC1L12	**KMC1L12**	1NO+2NC Slow action❶	Plastic	5	❷
KBC2L12	**KMC2L12**		Metal	5	❷
KBC1L21	**KMC1L21**	2NO+1NC Slow action❶	Plastic	5	❷
KBC2L21	**KMC2L21**		Metal	5	❷
KBC1L03	**KMC1L03**	3NC Slow action❶	Plastic	5	❷
KBC2L03	**KMC2L03**		Metal	5	❷
Two side cable entries. Dimensions compatible to EN/BS 50047.					
KCC1S11	**KNC1S11**	1NO+1NC Snap action❶	Plastic	5	❷
KCC2S11	**KNC2S11**		Metal	5	❷
KCC1S02	**KNC1S02**	2NC Snap action❶	Plastic	5	❷
KCC2S02	**KNC2S02**		Metal	5	❷
KCC1A11	**KNC1A11**	1NO+1NC Slow action make before break❶	Plastic	5	❷
KCC2A11	**KNC2A11**		Metal	5	❷
KCC1L11	**KNC1L11**	1NO+1NC Slow action❶	Plastic	5	❷
KCC2L11	**KNC2L11**		Metal	5	❷
KCC1L02	**KNC1L02**	2NC Slow action❶	Plastic	5	❷
KCC2L02	**KNC2L02**		Metal	5	❷
KCC1L20	**KNC1L20**	2NO Slow action	Plastic	5	❷
KCC2L20	**KNC2L20**		Metal	5	❷

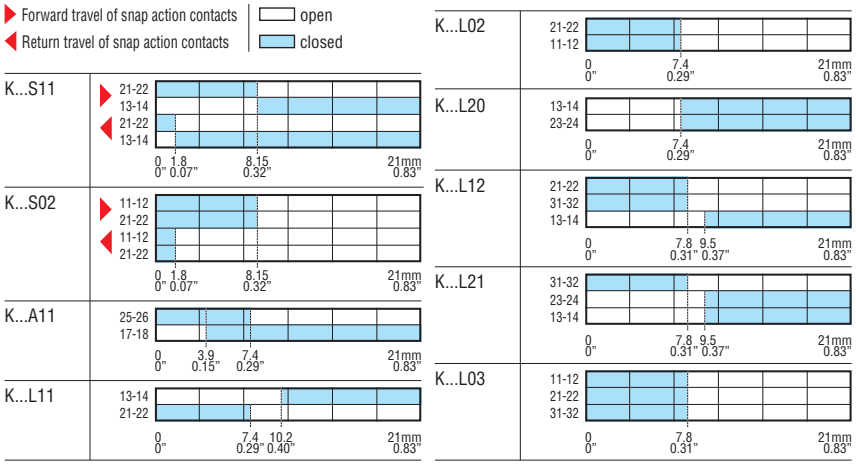
❶ Direct (positive) opening action ⊖; safety function according to IEC/EN/BS 60947-5-1.
❷ Consult Technical support for information; see contact details on inside cover.

Ø14x5mm = Ø0.55x0.2".

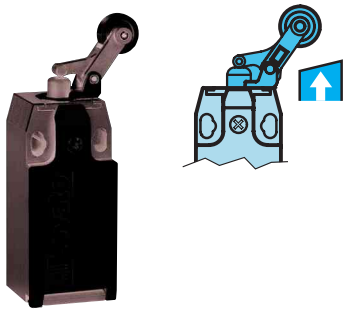
General characteristics
The LOVATO Electric limit switches have been designed to satisfy requirements comprising quick installation, easy wiring, simple setup, modularity, sturdiness and constant reliability.
The body cover is hinged at the bottom and removable.
The innovative locking bayonet mechanism permits to remove and reposition the operating head in the required configuration with no tools. The heads have axial rotation of 45° angles.
The auxiliary contact blocks are removable assuring remarkable wiring ease.

Operational characteristics
- Maximum operating rate: 3600 cycles/h
- Switching speed: 0.5...1.5m/s
- Mechanical life: >10 million cycles
- IEC conventional thermal current Ith: 10A
- UL/CSA and IEC/EN/BS 60947-5-1 designation:
  - A600 Q600 for KB...-KC... types
  - A300 Q300 for KM...-KN... types
- IEC rated insulation voltage Ui:
  - 690VAC for KB...-KC... types
  - 440VAC for KM...-KN... types
- IEC rated impulse withstand voltage Uimp:
  - 6kV for KB...-KC... types
  - 4kV for KM...-KN... types
- Class II insulation for KB...-KC... only
- Contact resistance: <10mΩ
- Short-circuit backup protection: 10A gG/SC quick fuse
- Operators of aluminium-zinc alloy
- Housing:
  - KB...-KC... types: self-extinguishing double-insulation polymer thermoplastic
  - KM...-KN... types: aluminium-zinc alloy
- Cable entry: M20 standard supplied; PG13.5 and ½ NPT available (see the side note for details)
- Operating head fixing: locking bayonet insert
- Operating force: 6N / 1.34lb
- Cable connection: self-releasing screw terminal
- Tightening torque:
  - Switch fixing: 2.5Nm / 22.1lb.in
  - Contact terminals: 0.8Nm / 7lb.in
  - Body lid screw fixing: 0.8Nm / 7lb.in
- Conductor section: 1 or 2 2.5mm² max / 16-14AWG
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+70°C
  - Pollution degree: 3
  - IEC degree of protection: IP20 for terminals
  - IEC degree of protection: IP65 for body housing.

Certifications and compliance
Certifications obtained: UL Listed for USA and Canada (cULus - File E93601), as Auxiliary Devices - Limit switches; EAC, CCC.
Compliant with standards: EN/BS 50047, IEC/EN/BS 60947-1, IEC/EN/BS 60947-5-1, IEC/EN/BS 60204-1, UL508, CSA C22.2 n° 14.



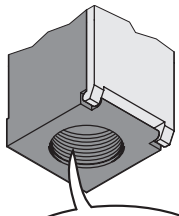
Roller side push lever



KBD... - KMD...



KCD... - KND...



M20 CABLE ENTRY
For types with PG13.5 cable entry, add the letter P at the end of the order code while for 1/2 NPT, add N.
E.g. KBD1S11P - KBD1S11N

Order code Plastic body	Metal body	Contacts	Roller material	Qty per pkg	Wt
			Ø14x5	n°	[kg]
One bottom cable entry. Dimensions to EN/BS 50047.					
KBD1S11	KMD1S11	1NO+1NC Snap action❶	Plastic	5	❷
KBD2S11	KMD2S11		Metal	5	❷
KBD1S02	KMD1S02	2NC Snap action❶	Plastic	5	❷
KBD2S02	KMD2S02		Metal	5	❷
KBD1A11	KMD1A11	1NO+1NC Slow action make before break❶	Plastic	5	❷
KBD2A11	KMD2A11		Metal	5	❷
KBD1L11	KMD1L11	1NO+1NC Slow action❶	Plastic	5	❷
KBD2L11	KMD2L11		Metal	5	❷
KBD1L02	KMD1L02	2NC Slow action❶	Plastic	5	❷
KBD2L02	KMD2L02		Metal	5	❷
KBD1L20	KMD1L20	2NO Slow action	Plastic	5	❷
KBD2L20	KMD2L20		Metal	5	❷
KBD1L12	KMD1L12	1NO+2NC Slow action❶	Plastic	5	❷
KBD2L12	KMD2L12		Metal	5	❷
KBD1L21	KMD1L21	2NO+1NC Slow action❶	Plastic	5	❷
KBD2L21	KMD2L21		Metal	5	❷
KBD1L03	KMD1L03	3NC Slow action❶	Plastic	5	❷
KBD2L03	KMD2L03		Metal	5	❷
Two side cable entries. Dimensions compatible to EN/BS 50047.					
KCD1S11	KND1S11	1NO+1NC Snap action❶	Plastic	5	❷
KCD2S11	KND2S11		Metal	5	❷
KCD1S02	KND1S02	2NC Snap action❶	Plastic	5	❷
KCD2S02	KND2S02		Metal	5	❷
KCD1A11	KND1A11	1NO+1NC Slow action make before break❶	Plastic	5	❷
KCD2A11	KND2A11		Metal	5	❷
KCD1L11	KND1L11	1NO+1NC Slow action❶	Plastic	5	❷
KCD2L11	KND2L11		Metal	5	❷
KCD1L02	KND1L02	2NC Slow action❶	Plastic	5	❷
KCD2L02	KND2L02		Metal	5	❷
KCD1L20	KND1L20	2NO Slow action	Plastic	5	❷
KCD2L20	KND2L20		Metal	5	❷

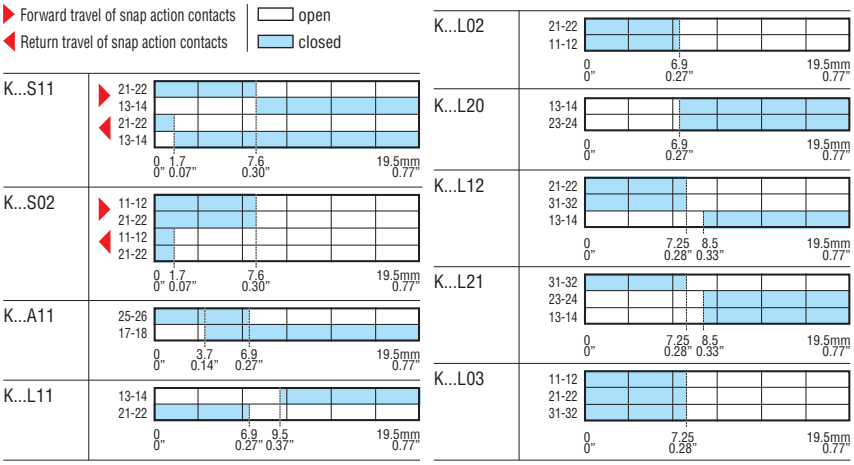
❶ Direct (positive) opening action ⊖; safety function according to IEC/EN/BS 60947-5-1.
❷ Consult Technical support for information; see contact details on inside cover.

Ø14x5mm = Ø0.55x0.2".

General characteristics
The LOVATO Electric limit switches have been designed to satisfy requirements comprising quick installation, easy wiring, simple setup, modularity, sturdiness and constant reliability.
The body cover is hinged at the bottom and removable.
The innovative locking bayonet mechanism permits to remove and reposition the operating head in the required configuration with no tools. The heads have axial rotation of 45° angles.
The auxiliary contact blocks are removable assuring remarkable wiring ease.

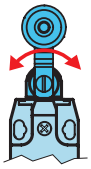
Operational characteristics
- Maximum operating rate: 3600 cycles/h
- Switching speed: 0.5...1.5m/s
- Mechanical life: >10 million cycles
- IEC conventional thermal current Ith: 10A
- UL/CSA and IEC/EN/BS 60947-5-1 designation:
  - A600 Q600 for KB...-KC... types
  - A300 Q300 for KM...-KN... types
- IEC rated insulation voltage Ui:
  - 690VAC for KB...-KC... types
  - 440VAC for KM...-KN... types
- IEC rated impulse withstand voltage Uimp:
  - 6kV for KB...-KC... types
  - 4kV for KM...-KN... types
- Class II insulation for KB...-KC... only
- Contact resistance: <10mΩ
- Short-circuit backup protection: 10A gG/SC quick fuse
- Operators of aluminium-zinc alloy
- Housing:
  - KB...-KC... types: self-extinguishing double-insulation polymer thermoplastic
  - KM...-KN... types: aluminium-zinc alloy
- Cable entry: M20 standard supplied; PG13.5 and 1/2 NPT available (see the side note for details)
- Operating head fixing: locking bayonet insert
- Operating force: 6N / 1.34lb
- Cable connection: self-releasing screw terminal
- Tightening torque:
  - Switch fixing: 2.5Nm / 22.1lb.in
  - Contact terminals: 0.8Nm / 7lb.in
  - Body lid screw fixing: 0.8Nm / 7lb.in
- Conductor section: 1 or 2 2.5mm² max / 16-14AWG
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+70°C
  - Pollution degree: 3
  - IEC degree of protection: IP20 for terminals
  - IEC degree of protection: IP65 for body housing.

Certifications and compliance
Certifications obtained: UL Listed for USA and Canada (cULus - File E93601), as Auxiliary Devices - Limit switches; EAC, CCC.
Compliant with standards: EN/BS 50047, IEC/EN/BS 60947-1, IEC/EN/BS 60947-5-1, IEC/EN/BS 60204-1, UL508, CSA C22.2 n° 14.



Roller lever plunger

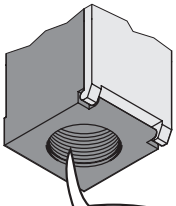




KBE1... - KBE2...
KME1... - KME2...



KBE3... - KME3...



M20 CABLE ENTRY
For types with PG13.5 cable entry, add the letter P at the end of the order code while for ½ NPT, add N.
E.g. KBE1S11P - KBE1S11N

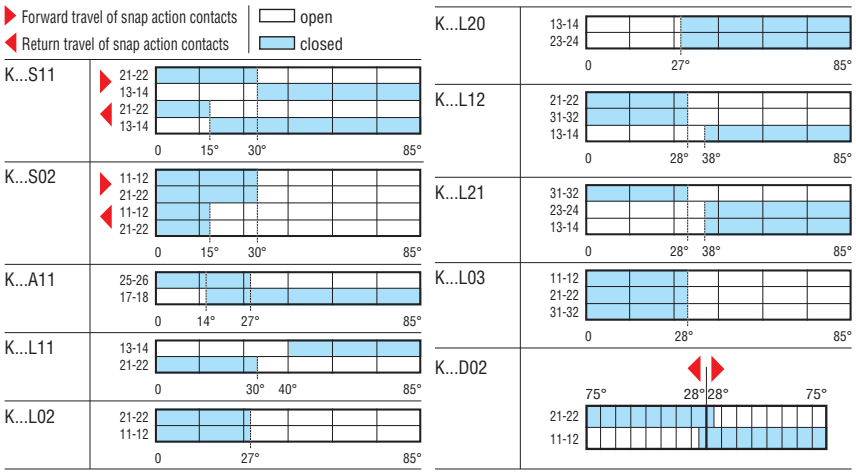
Order code Plastic body	Metal body	Contacts	Roller material	Qty per pkg	Wt
				n°	[kg]
One bottom cable entry. Dimensions to EN/BS 50047.					
KBE1S11	KME1S11	1NO+1NC Snap action❸	Plastic❶	5	❹
KBE2S11	KME2S11		Metal❶	5	❹
KBE3S11	KME3S11		Rubber❷	5	❹
KBE1S02	KME1S02	2NC Snap action❸	Plastic❶	5	❹
KBE2S02	KME2S02		Metal❶	5	❹
KBE3S02	KME3S02		Rubber❷	5	❹
KBE1A11	KME1A11	1NO+1NC Slow action make before break❶	Plastic❶	5	❹
KBE2A11	KME2A11		Metal❶	5	❹
KBE3A11	KME3A11		Rubber❷	5	❹
KBE1L11	KME1L11	1NO+1NC Slow action❸	Plastic❶	5	❹
KBE2L11	KME2L11		Metal❶	5	❹
KBE3L11	KME3L11		Rubber❷	5	❹
KBE1L02	KME1L02	2NC Slow action❸	Plastic❶	5	❹
KBE2L02	KME2L02		Metal❶	5	❹
KBE3L02	KME3L02		Rubber❷	5	❹
KBE1L20	KME1L20	2NO Slow action	Plastic❶	5	❹
KBE2L20	KME2L20		Metal❶	5	❹
KBE3L20	KME3L20		Rubber❷	5	❹
KBE1L12	KME1L12	1NO+2NC Slow action❸	Plastic❶	5	❹
KBE2L12	KME2L12		Metal❶	5	❹
KBE3L12	KME3L12		Rubber❷	5	❹
KBE1L21	KME1L21	2NO+1NC Slow action❸	Plastic❶	5	❹
KBE2L21	KME2L21		Metal❶	5	❹
KBE3L21	KME3L21		Rubber❷	5	❹
KBE1L03	KME1L03	3NC Slow action❸	Plastic❶	5	❹
KBE2L03	KME2L03		Metal❶	5	❹
KBE3L03	KME3L03		Rubber❷	5	❹
BI-DIRECTIONAL. One bottom cable entry. Dimensions to EN/BS 50047.					
KBE1D02	KME1D02	2NC❸ independent	Plastic❶	5	❹

❶ Ø19x5mm = Ø0.75x0,2".
❷ Ø50x10mm = Ø1.97"x0.39".
❸ Direct (positive) opening action ⊖; safety function according to IEC/EN/BS 60947-5-1.
❹ Consult Technical support for information; see contact details on inside cover.

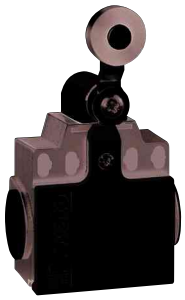
General characteristics
The LOVATO Electric limit switches have been designed to satisfy requirements comprising quick installation, easy wiring, simple setup, modularity, sturdiness and constant reliability.
The body cover is hinged at the bottom and removable.
The innovative locking bayonet mechanism permits to remove and reposition the operating head in the required configuration with no tools. The heads have axial rotation of 45° angles.
The auxiliary contact blocks are removable assuring remarkable wiring ease.

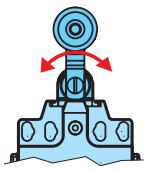
Operational characteristics
- Maximum operating rate: 3600 cycles/h
- Switching speed: 0.5...1.5m/s
- Mechanical life: >10 million cycles
- IEC conventional thermal current Ith: 10A
- UL/CSA and IEC/EN/BS 60947-5-1 designation:
  - A600 Q600 for KB... types
  - A300 Q300 for KM... types
- IEC rated insulation voltage Ui:
  - 690V for KB... types
  - 440V for KM... types
- IEC rated impulse withstand voltage Uimp:
  - 6kVAC for KB... types
  - 4kVAC for KM... types
- Class II insulation for KB only
- Contact resistance: <10mΩ
- Short-circuit backup protection: 10A gG/SC quick fuse
- Operators of aluminium-zinc alloy
- Housing:
  - KB... types: self-extinguishing double-insulation polymer thermoplastic
  - KM... types: aluminium-zinc alloy
- Cable entry: M20 standard supplied; PG13.5 and ½ NPT available (see the side note for details)
- Operating head fixing: locking bayonet insert
- Operating torque: 3Ncm / 4.25ozin
- Cable connection: self-releasing screw terminal
- Tightening torque:
  - Switch fixing: 2.5Nm / 22.1lb.in
  - Contact terminals: 0.8Nm / 7lb.in
  - Body lid screw fixing: 0.8Nm / 7lb.in
- Conductor section: 1 or 2 2.5mm² max / 16-14AWG
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+70°C
  - Pollution degree: 3
  - IEC degree of protection: IP20 for terminals
  - IEC degree of protection: IP65 for body housing.

Certifications and compliance
Certifications obtained: UL Listed for USA and Canada (cULus - File E93601), as Auxiliary Devices - Limit switches; EAC, CCC.
Compliant with standards: EN/BS 50047, IEC/EN/BS 60947-1, IEC/EN/BS 60947-5-1, IEC/EN/BS 60204-1, UL508, CSA C22.2 n° 14.



Roller lever plunger





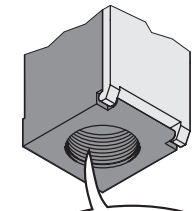
KCE1... - KCE2...
KNE1... - KNE2...



KCE3... - KNE3...

Order code Plastic body	Metal body	Contacts	Roller material	Qty per pkg	Wt
				n°	[kg]
Two side cable entries. Dimensions compatible to EN/BS 50047.					
KCE1S11	KNE1S11	1NO+1NC Snap action❸	Plastic❶	5	❹
KCE2S11	KNE2S11		Metal❶	5	❹
KCE3S11	KNE3S11		Rubber❷	5	❹
KCE1S02	KNE1S02	2NC Snap action❸	Plastic❶	5	❹
KCE2S02	KNE2S02		Metal❶	5	❹
KCE3S02	KNE3S02		Rubber❷	5	❹
KCE1A11	KNE1A11	1NO+1NC Slow action make before break❶	Plastic❶	5	❹
KCE2A11	KNE2A11		Metal❶	5	❹
KCE3A11	KNE3A11		Rubber❷	5	❹
KCE1L11	KNE1L11	1NO+1NC Slow action❸	Plastic❶	5	❹
KCE2L11	KNE2L11		Metal❶	5	❹
KCE3L11	KNE3L11		Rubber❷	5	❹
KCE1L02	KNE1L02	2NC Slow action❸	Plastic❶	5	❹
KCE2L02	KNE2L02		Metal❶	5	❹
KCE3L02	KNE3L02		Rubber❷	5	❹
KCE1L20	KNE1L20	2NO Slow action	Plastic❶	5	❹
KCE2L20	KNE2L20		Metal❶	5	❹
KCE3L20	KNE3L20		Rubber❷	5	❹
BI-DIRECTIONAL. Two side cable entries. Dimensions compatible to EN/BS 50047.					
KCE1D02	KNE1D02	2NC❸ independent	Plastic❶	5	❹

❶ Ø19x5mm = Ø0.75x0,2".
❷ Ø50x10mm = Ø1.97"x0.39".
❸ Direct (positive) opening action ⊖; safety function according to IEC/EN/BS 60947-5-1.
❹ Consult Technical support for information; see contact details on inside cover.

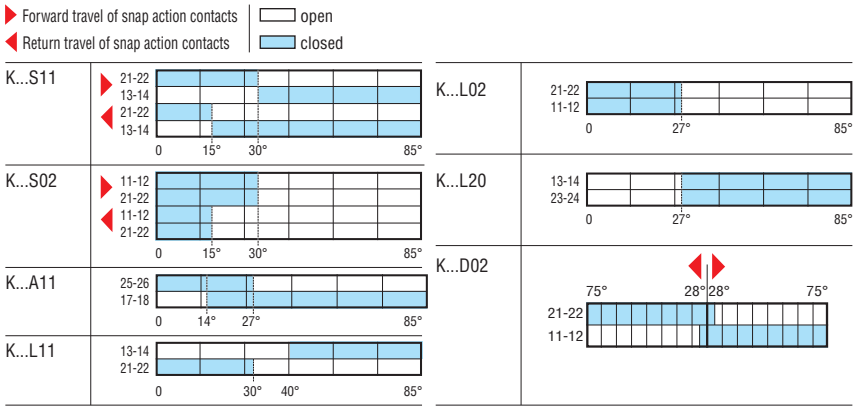


M20 CABLE ENTRY
For types with PG13.5 cable entry, add the letter P at the end of the order code while for 1/2 NPT, add N.
E.g. KCE1S11P - KCE1S11N

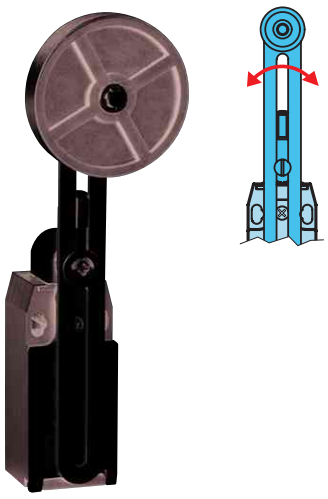
General characteristics
The LOVATO Electric limit switches have been designed to satisfy requirements comprising quick installation, easy wiring, simple setup, modularity, sturdiness and constant reliability.
The body cover is hinged at the bottom and removable.
The innovative locking bayonet mechanism permits to remove and reposition the operating head in the required configuration with no tools. The heads have axial rotation of 90° angles.
The auxiliary contact blocks are removable assuring remarkable wiring ease.

Operational characteristics
- Maximum operating rate: 3600 cycles/h
- Switching speed: 0.5...1.5m/s
- Mechanical life: >10 million cycles
- IEC conventional thermal current Ith: 10A
- UL/CSA and IEC/EN/BS 60947-5-1 designation:
  - A600 Q600 for KC... types
  - A300 Q300 for KN... types
- IEC rated insulation voltage Ui:
  - 690VAC for KC... types
  - 440VAC for KN... types
- IEC rated impulse withstand voltage Uimp:
  - 6kV for KC... types
  - 4kV for KN... types
- Class II insulation for KC only
- Contact resistance: <10mΩ
- Short-circuit backup protection: 10A gG/SC quick fuse
- Operators of aluminium-zinc alloy
- Housing:
  - KC... types: self-extinguishing double-insulation polymer thermoplastic
  - KN... types: aluminium-zinc alloy
- Cable entry: M20 standard supplied; PG13.5 and 1/2 NPT available (see the side note for details)
- Operating head fixing: locking bayonet insert
- Operating torque: 3Ncm/4.25ozin
- Cable connection: self-releasing screw terminal
- Tightening torque:
  - Switch fixing: 2.5Nm / 22.1lb.in
  - Contact terminals: 0.8Nm / 7lb.in
  - Body lid screw fixing: 0.8Nm / 7lb.in
- Conductor section: 1 or 2 2.5mm² max / 16-14AWG
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+70°C
  - Pollution degree: 3
  - IEC degree of protection: IP20 for terminals
  - IEC degree of protection: IP65 for body housing.

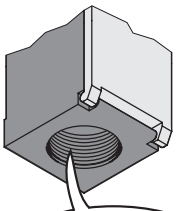
Certifications and compliance
Certifications obtained: UL Listed for USA and Canada (cULus - File E93601), as Auxiliary Devices - Limit switches; EAC, CCC.
Compliant with standards: IEC/EN/BS 60947-1, IEC/EN/BS 60947-5-1, IEC/EN/BS 60204-1, UL508, CSA C22.2 n° 14.



Adjustable roller lever



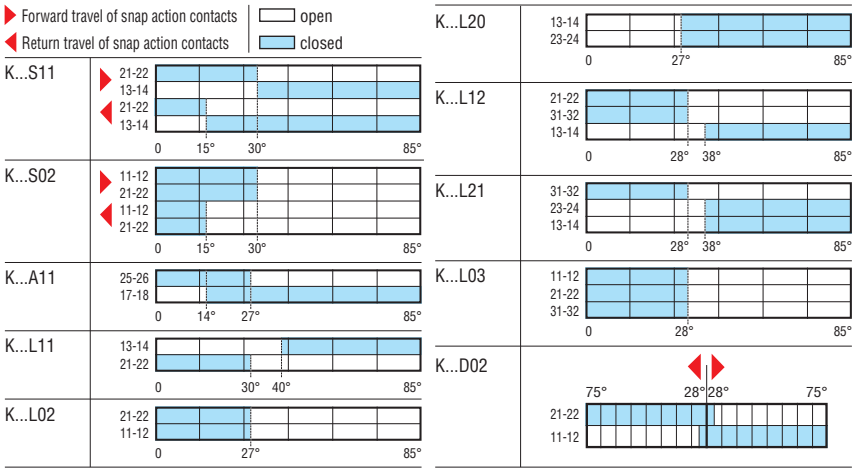
KBF... - KMF...



M20 CABLE ENTRY
For types with PG13.5 cable entry, add the letter P at the end of the order code while for ½ NPT, add N.
E.g. KBF1S11P - KBF1S11N

Order code Plastic body	Metal body	Contacts	Roller material	Qty per pkg	Wt
				n°	[kg]
One bottom cable entry. Dimensions to EN/BS 50047.					
KBF1S11	**KMF1S11**	1NO+1NC Snap action❹	Plastic❶	5	❺
KBF2S11	**KMF2S11**		Metal❶	5	❺
KBF3S11	**KMF3S11**		Rubber❷	5	❺
KBF4S11	**KMF4S11**		Rubber❸	5	❺
KBF1S02	**KMF1S02**	2NC Snap action❹	Plastic❶	5	❺
KBF2S02	**KMF2S02**		Metal❶	5	❺
KBF3S02	**KMF3S02**		Rubber❷	5	❺
KBF4S02	**KMF4S02**		Rubber❸	5	❺
KBF1A11	**KMF1A11**	1NO+1NC Slow action make before break❹	Plastic❶	5	❺
KBF2A11	**KMF2A11**		Metal❶	5	❺
KBF3A11	**KMF3A11**		Rubber❷	5	❺
KBF4A11	**KMF4A11**		Rubber❸	5	❺
KBF1L11	**KMF1L11**	1NO+1NC Slow action❹	Plastic❶	5	❺
KBF2L11	**KMF2L11**		Metal❶	5	❺
KBF3L11	**KMF3L11**		Rubber❷	5	❺
KBF4L11	**KMF4L11**		Rubber❸	5	❺
KBF1L02	**KMF1L02**	2NC Slow action❹	Plastic❶	5	❺
KBF2L02	**KMF2L02**		Metal❶	5	❺
KBF3L02	**KMF3L02**		Rubber❷	5	❺
KBF4L02	**KMF4L02**		Rubber❸	5	❺
KBF1L20	**KMF1L20**	2NO Slow action	Plastic❶	5	❺
KBF2L20	**KMF2L20**		Metal❶	5	❺
KBF3L20	**KMF3L20**		Rubber❷	5	❺
KBF4L20	**KMF4L20**		Rubber❸	5	❺
KBF1L12	**KMF1L12**	1NO+2NC Slow action❹	Plastic❶	5	❺
KBF2L12	**KMF2L12**		Metal❶	5	❺
KBF3L12	**KMF3L12**		Rubber❷	5	❺
KBF4L12	**KMF4L12**		Rubber❸	5	❺
KBF1L21	**KMF1L21**	2NO+1NC Slow action❹	Plastic❶	5	❺
KBF2L21	**KMF2L21**		Metal❶	5	❺
KBF3L21	**KMF3L21**		Rubber❷	5	❺
KBF4L21	**KMF4L21**		Rubber❸	5	❺
KBF1L03	**KMF1L03**	3NC Slow action❹	Plastic❶	5	❺
KBF2L03	**KMF2L03**		Metal❶	5	❺
KBF3L03	**KMF3L03**		Rubber❷	5	❺
KBF4L03	**KMF4L03**		Rubber❸	5	❺
BI-DIRECTIONAL. One bottom cable entry. Dimensions to EN/BS 50047.					
KBF1D02	**KMF1D02**	2NC❹ independent	Plastic❶	5	❺

❶ Ø19x5mm = Ø0.75x0.2".
❷ Ø50x10mm = Ø1.97x0.34".
❸ Ø50x10mm (Ø1.97x0.35") with offset alignment.
❹ Direct (positive) opening action ⊖; safety function according to IEC/EN/BS 60947-5-1.
❺ Consult Technical support for information; see contact details on inside cover.

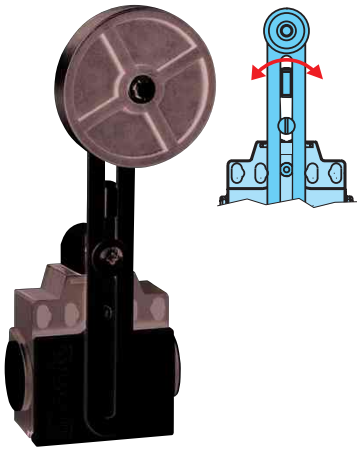


General characteristics
The LOVATO Electric limit switches have been designed to satisfy requirements comprising quick installation, easy wiring, simple setup, modularity, sturdiness and constant reliability.
The body cover is hinged at the bottom and removable.
The innovative locking bayonet mechanism permits to remove and reposition the operating head in the required configuration with no tools. The heads have axial rotation of 180° angles.
The auxiliary contact blocks are removable assuring remarkable wiring ease.

Operational characteristics
- Maximum operating rate: 3600 cycles/h
- Switching speed: 0.5...1.5m/s
- Mechanical life: >10 million cycles
- IEC conventional thermal current Ith: 10A
- UL/CSA and IEC/EN/BS 60947-5-1 designation:
  - A600 Q600 for KB... types
  - A300 Q300 for KM... types
- IEC rated insulation voltage Ui:
  - 690V for KB... types
  - 440V for KM... types
- IEC rated impulse withstand voltage Uimp:
  - 6kVAC for KB... types
  - 4kVAC for KM... types
- Class II insulation for KB only
- Contact resistance: <10mΩ
- Short-circuit backup protection: 10A gG/SC quick fuse
- Operators of aluminium-zinc alloy
- Housing:
  - KB... types: self-extinguishing double-insulation polymer thermoplastic
  - KM... types: aluminium-zinc alloy
- Cable entry: M20 standard supplied; PG13.5 and ½ NPT available (see the side note for details)
- Operating head fixing: locking bayonet insert
- Operating force: 3Ncm/4.25ozin
- Cable connection: self-releasing screw terminal
- Tightening torque:
  - Switch fixing: 2.5Nm / 22.1lb.in
  - Contact terminals: 0.8Nm / 7lb.in
  - Body lid screw fixing: 0.8Nm / 7lb.in
- Conductor section: 1 or 2 2.5mm² max / 16-14AWG
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+70°C
  - Pollution degree: 3
  - IEC degree of protection: IP20 for terminals
  - IEC degree of protection: IP65 for body housing.

Certifications and compliance
Certifications obtained: UL Listed for USA and Canada (cULus - File E93601), as Auxiliary Devices - Limit switches; EAC, CCC.
Compliant with standards: EN/BS 50047, IEC/EN/BS 60947-1, IEC/EN/BS 60947-5-1, IEC/EN/BS 60204-1, UL508, CSA C22.2 n° 14.

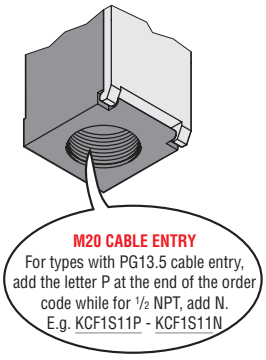
Adjustable roller lever



KCF... - KNF...

Order code Plastic body	Metal body	Contacts	Roller material	Qty per pkg	Wt
				n°	[kg]
Two side cable entries. Dimensions compatible to EN/BS 50047.					
KCF1S11	KNF1S11	1NO+1NC Snap action❸	Plastic❶	5	❹
KCF2S11	KNF2S11		Metal❶	5	❹
KCF3S11	KNF3S11		Rubber❷	5	❹
KCF4S11	KNF4S11		Rubber❷ offset align.	5	❹
KCF1S02	KNF1S02	2NC Snap action❸	Plastic❶	5	❹
KCF2S02	KNF2S02		Metal❶	5	❹
KCF3S02	KNF3S02		Rubber❷	5	❹
KCF4S02	KNF4S02		Rubber❷ offset align.	5	❹
KCF1A11	KNF1A11	1NO+1NC Slow action make before break❶	Plastic❶	5	❹
KCF2A11	KNF2A11		Metal❶	5	❹
KCF3A11	KNF3A11		Rubber❷	5	❹
KCF4A11	KNF4A11		Rubber❷ offset align.	5	❹
KCF1L11	KNF1L11	1NO+1NC Slow action❸	Plastic❶	5	❹
KCF2L11	KNF2L11		Metal❶	5	❹
KCF3L11	KNF3L11		Rubber❷	5	❹
KCF4L11	KNF4L11		Rubber❷ offset align.	5	❹
KCF1L02	KNF1L02	2NC Slow action❸	Plastic❶	5	❹
KCF2L02	KNF2L02		Metal❶	5	❹
KCF3L02	KNF3L02		Rubber❷	5	❹
KCF4L02	KNF4L02		Rubber❷ offset align.	5	❹
KCF1L20	KNF1L20	2NO Slow action	Plastic❶	5	❹
KCF2L20	KNF2L20		Metal❶	5	❹
KCF3L20	KNF3L20		Rubber❷	5	❹
KCF4L20	KNF4L20		Rubber❷ offset align.	5	❹

❶ Ø19x5mm = Ø0.75x0.2".
❷ Ø50x10mm = Ø1.97x0.34".
❸ Direct (positive) opening action ⊖; safety function according to IEC/EN/BS 60947-5-1.
❹ Consult Technical support for information; see contact details on inside cover.

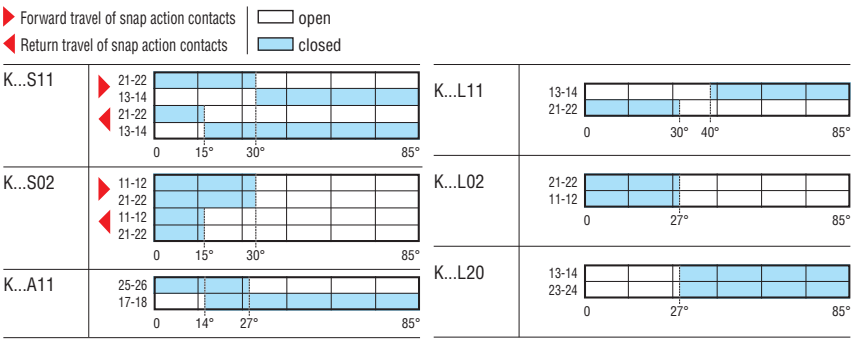


M20 CABLE ENTRY
For types with PG13.5 cable entry, add the letter P at the end of the order code while for 1/2 NPT, add N.
E.g. KCF1S11P - KCF1S11N

General characteristics
The LOVATO Electric limit switches have been designed to satisfy requirements comprising quick installation, easy wiring, simple setup, modularity, sturdiness and constant reliability.
The body cover is hinged at the bottom and removable.
The innovative locking bayonet mechanism permits to remove and reposition the operating head in the required configuration with no tools. The heads have axial rotation of 180° angles.
The auxiliary contact blocks are removable assuring remarkable wiring ease.

Operational characteristics
- Maximum operating rate: 3600 cycles/h
- Switching speed: 0.5...1.5m/s
- Mechanical life: >10 million cycles
- IEC conventional thermal current Ith: 10A
- UL/CSA and IEC/EN/BS 60947-5-1 designation:
  - A600 Q600 for KC... types
  - A300 Q300 for KN... types
- IEC rated insulation voltage Ui:
  - 690VAC for KC... types
  - 440VAC for KN... types
- IEC rated impulse withstand voltage Uimp:
  - 6kV for KC... types
  - 4kV for KN... types
- Class II insulation for KC only
- Contact resistance: <10mΩ
- Short-circuit backup protection: 10A gG/SC quick fuse
- Operators of aluminium-zinc alloy
- Housing:
  - KC... types: self-extinguishing double-insulation polymer thermoplastic
  - KN... types: aluminium-zinc alloy
- Cable entry: M20 standard supplied; PG13.5 and 1/2 NPT available (see the side note for details)
- Operating head fixing: locking bayonet insert
- Operating force: 3Ncm/4.25ozin
- Cable connection: self-releasing screw terminal
- Tightening torque:
  - Switch fixing: 2.5Nm / 22.1lb.in
  - Contact terminals: 0.8Nm / 7lb.in
  - Body lid screw fixing: 0.8Nm / 7lb.in
- Conductor section: 1 or 2 2.5mm² max / 16-14AWG
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+70°C
  - Pollution degree: 3
  - IEC degree of protection: IP20 for terminals
  - IEC degree of protection: IP65 for body housing.

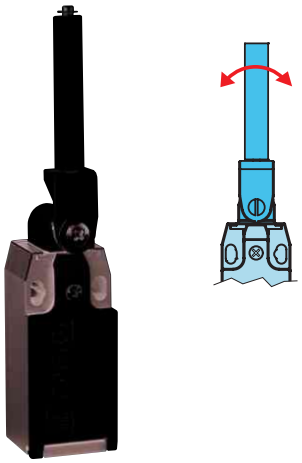
Certifications and compliance
Certifications obtained: UL Listed for USA and Canada (cULus - File E93601), as Auxiliary Devices - Limit switches; EAC, CCC.
Compliant with standards: EN/BS 50047, IEC/EN/BS 60947-1, IEC/EN/BS 60947-5-1, IEC/EN/BS 60204-1, UL508, CSA C22.2 n° 14.



Limit, micro and foot switches

Limit switches, K series. One bottom cable entry. Dimensions to EN/BS 50047
Two side cable entries. Dimensions compatible to EN/BS 50047

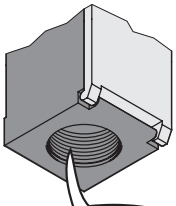
Ceramic rod lever



KBH... - KMH...



KCH... - KNH...



M20 CABLE ENTRY
For types with PG13.5 cable entry, add the letter P at the end of the order code while for 1/2 NPT, add N.
E.g. KBH1S11P - KBH1S11N

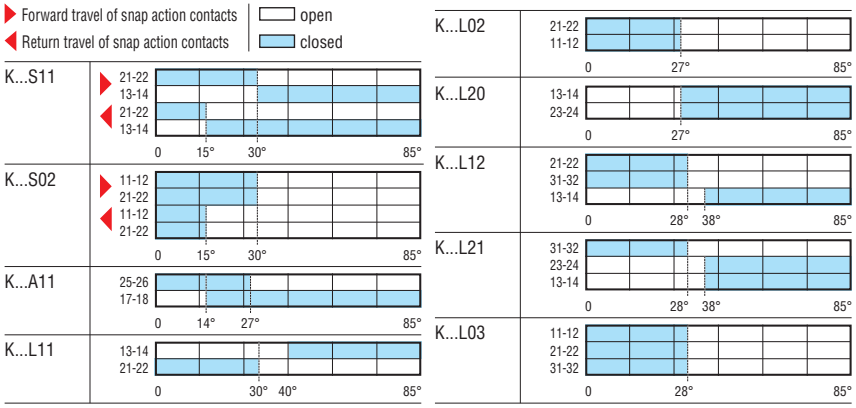
Order code Plastic body	Metal body	Contacts	Rod material	Qty per pkg	Wt
				n°	[kg]
One bottom cable entry. Dimensions to EN/BS 50047.					
KBH1S11	KMH1S11	1NO+1NC Snap action❶	Ceramic	5	❷
KBH1S02	KMH1S02	2NC Snap action❶	Ceramic	5	❷
KBH1A11	KMH1A11	1NO+1NC Slow action make before break❶	Ceramic	5	❷
KBH1L11	KMH1L11	1NO+1NC Slow action❶	Ceramic	5	❷
KBH1L02	KMH1L02	2NC Slow action❶	Ceramic	5	❷
KBH1L20	KMH1L20	2NO Slow action	Ceramic	5	❷
KBH1L12	KMH1L12	1NO+2NC Slow action❶	Ceramic	5	❷
KBH1L21	KMH1L21	2NO+1NC Slow action❶	Ceramic	5	❷
KBH1L03	KMH1L03	3NC Slow action❶	Ceramic	5	❷
Two side cable entries. Dimensions compatible to EN/BS 50047.					
KCH1S11	KNH1S11	1NO+1NC Snap action❶	Ceramic	5	❷
KCH1S02	KNH1S02	2NC Snap action❶	Ceramic	5	❷
KCH1A11	KNH1A11	1NO+1NC Slow action make before break❶	Ceramic	5	❷
KCH1L11	KNH1L11	1NO+1NC Slow action❶	Ceramic	5	❷
KCH1L02	KNH1L02	2NC Slow action❶	Ceramic	5	❷
KCH1L20	KNH1L20	2NO Slow action	Ceramic	5	❷

❶ Direct (positive) opening action ⊖; safety function according to IEC/EN/BS 60947-5-1.
❷ Consult Technical support for information; see contact details on inside cover.

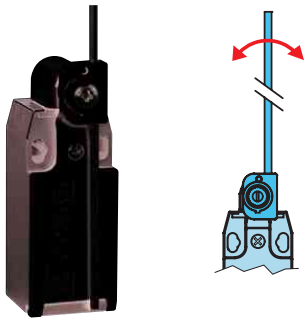
General characteristics
The LOVATO Electric limit switches have been designed to satisfy requirements comprising quick installation, easy wiring, simple setup, modularity, sturdiness and constant reliability.
The body cover is hinged at the bottom and removable.
The innovative locking bayonet mechanism permits to remove and reposition the operating head in the required configuration with no tools. The heads have axial rotation of 45° angles.
The auxiliary contact blocks are removable assuring remarkable wiring ease.

Operational characteristics
- Maximum operating rate: 3600 cycles/h
- Switching speed: 0.5...1.5m/s
- Mechanical life: >10 million cycles
- IEC conventional thermal current Ith: 10A
- UL/CSA and IEC/EN/BS 60947-5-1 designation:
  - A600 Q600 for KB...-KC... types
  - A300 Q300 for KM...-KN... types
- IEC rated insulation voltage Ui:
  - 690VAC for KB...-KC... types
  - 440VAC for KM...-KN... types
- IEC rated impulse withstand voltage Uimp:
  - 6kV for KB...-KC... types
  - 4kV for KM...-KN... types
- Class II insulation for KB...-KC... only
- Contact resistance: <10mΩ
- Short-circuit backup protection: 10A gG/SC quick fuse
- Operators of aluminium-zinc alloy
- Housing:
  - KB...-KC... types: self-extinguishing double-insulation polymer thermoplastic
  - KM...-KN... types: aluminium-zinc alloy
- Cable entry: M20 standard supplied; PG13.5 and 1/2 NPT available (see the side note for details)
- Operating head fixing: locking bayonet insert
- Operating torque: 3Ncm/4.25ozin
- Cable connection: self-releasing screw terminal
- Tightening torque:
  - Switch fixing: 2.5Nm / 22.1lb.in
  - Contact terminals: 0.8Nm / 7lb.in
  - Body lid screw fixing: 0.8Nm / 7lb.in
- Conductor section: 1 or 2 2.5mm² max / 16-14AWG
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+70°C
  - Pollution degree: 3
  - IEC degree of protection: IP20 for terminals
  - IEC degree of protection: IP65 for body housing.

Certifications and compliance
Certifications obtained: UL Listed for USA and Canada (cULus - File E93601), as Auxiliary Devices - Limit switches; EAC, CCC.
Compliant with standards: EN/BS 50047, IEC/EN/BS 60947-1, IEC/EN/BS 60947-5-1, IEC/EN/BS 60204-1, UL508, CSA C22.2 n° 14.



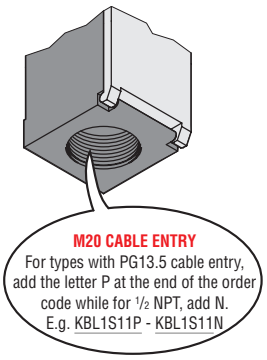
Adjustable rod lever



KBL... - KML...



KCL... - KNL...



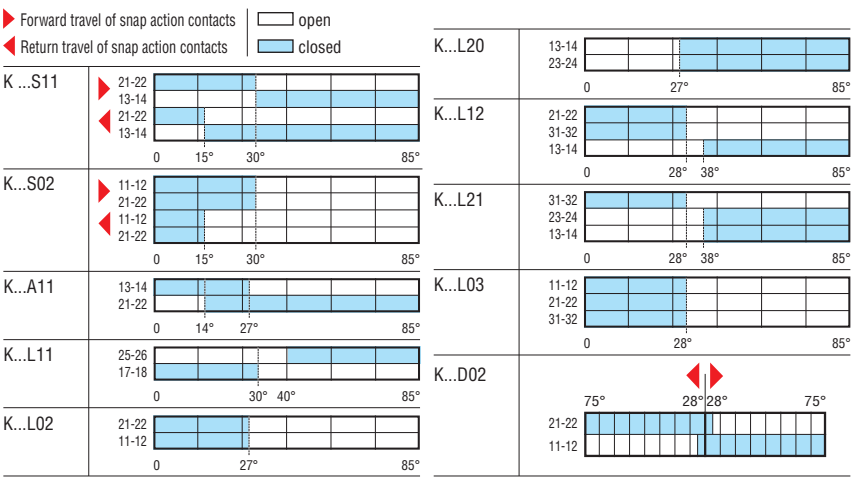
Order code Plastic body	Metal body	Contacts	Rod material	Qty per pkg	Wt
				n°	[kg]
One bottom cable entry. Dimensions to EN/BS 50047.					
KBL1S11	KML1S11	1NO+1NC Snap action❶	Plastic	5	❷
KBL2S11	KML2S11		Steel	5	❷
KBL1S02	KML1S02	2NC Snap action❶	Plastic	5	❷
KBL2S02	KML2S02		Steel	5	❷
KBL1A11	KML1A11	1NO+1NC Slow action make before break❶	Plastica	5	❷
KBL2A11	KML2A11		Steel	5	❷
KBL1L11	KML1L11	1NO+1NC Slow action❶	Plastic	5	❷
KBL2L11	KML2L11		Steel	5	❷
KBL1L02	KML1L02	2NC Slow action❶	Plastic	5	❷
KBL2L02	KML2L02		Steel	5	❷
KBL1L20	KML1L20	2NO Slow action	Plastic	5	❷
KBL2L20	KML2L20		Steel	5	❷
KBL1L12	KML1L12	1NO+2NC Slow action❶	Plastic	5	❷
KBL2L12	KML2L12		Steel	5	❷
KBL1L21	KML1L21	2NO+1NC Slow action❶	Plastic	5	❷
KBL2L21	KML2L21		Steel	5	❷
KBL1L03	KML1L03	3NC Slow action❶	Plastic	5	❷
KBL2L03	KML2L03		Steel	5	❷
Two side cable entries. Dimensions compatible to EN/BS 50047.					
KCL1S11	KNL1S11	1NO+1NC Snap action❶	Plastic	5	❷
KCL2S11	KNL2S11		Steel	5	❷
KCL1S02	KNL1S02	2NC Snap action❶	Plastic	5	❷
KCL2S02	KNL2S02		Steel	5	❷
KCL1A11	KNL1A11	1NO+1NC Slow action make before break❶	Plastic	5	❷
KCL2A11	KNL2A11		Steel	5	❷
KCL1L11	KNL1L11	1NO+1NC Slow action❶	Plastic	5	❷
KCL2L11	KNL2L11		Steel	5	❷
KCL1L02	KNL1L02	2NC Slow action❶	Plastic	5	❷
KCL2L02	KNL2L02		Steel	5	❷
KCL1L20	KNL1L20	2NO Slow action	Plastic	5	❷
KCL2L20	KNL2L20		Steel	5	❷
BI-DIRECTIONAL. One bottom cable entry. Dimensions to EN/BS 50047.					
KBL1D02	KML1D02	2NC❶ independent	Plastic	5	❷
KBL2D02	KML2D02	2NC❶ independent	Steel	5	❷

❶ Direct (positive) opening action ⊖; safety function according to IEC/EN/BS 60947-5-1.
❷ Consult Technical support for information; see contact details on inside cover.

General characteristics
The LOVATO Electric limit switches have been designed to satisfy requirements comprising quick installation, easy wiring, simple setup, modularity, sturdiness and constant reliability.
The body cover is hinged at the bottom and removable.
The innovative locking bayonet mechanism permits to remove and reposition the operating head in the required configuration with no tools. The heads have axial rotation of 90° angles (180° for KC... and KN... types).
The auxiliary contact blocks are removable assuring remarkable wiring ease.

Operational characteristics
- Maximum operating rate: 3600 cycles/h
- Switching speed: 0.5...1.5m/s
- Mechanical life: >10 million cycles
- IEC conventional thermal current Ith: 10A
- UL/CSA and IEC/EN/BS 60947-5-1 designation:
  - A600 Q600 for KB...-KC... types
  - A300 Q300 for KM...-KN... types
- IEC rated insulation voltage Ui:
  - 690VAC for KB...-KC... types
  - 440VAC for KM...-KN... types
- IEC rated impulse withstand voltage Uimp:
  - 6kV for KB...-KC... types
  - 4kV for KM...-KN... types
- Class II insulation for KB...-KC... only
- Contact resistance: <10mΩ
- Short-circuit backup protection: 10A gG/SC quick fuse
- Operators of aluminium-zinc alloy
- Housing:
  - KB...-KC... types: self-extinguishing double-insulation polymer thermoplastic
  - KM...-KN... types: aluminium-zinc alloy
- Cable entry: M20 standard supplied; PG13.5 and 1/2 NPT available (see the side note for details)
- Operating head fixing: locking bayonet insert
- Operating force: 3Ncm/4.25ozin
- Cable connection: self-releasing screw terminal
- Tightening torque:
  - Switch fixing: 2.5Nm / 22.1lb.in
  - Contact terminals: 0.8Nm / 7lb.in
  - Body lid screw fixing: 0.8Nm / 7lb.in
- Conductor section: 1 or 2 2.5mm² max / 16-14AWG
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+70°C
  - Pollution degree: 3
  - IEC degree of protection: IP20 for terminals
  - IEC degree of protection: IP65 for body housing.

Certifications and compliance
Certifications obtained: UL Listed for USA and Canada (cULus - File E93601), as Auxiliary Devices - Limit switches; EAC, CCC.
Compliant with standards: EN/BS 50047, IEC/EN/BS 60947-1, IEC/EN/BS 60947-5-1, IEC/EN/BS 60204-1, UL508, CSA C22.2 n° 14.

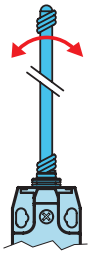


Limit, micro and foot switches

Limit switches, K series. One bottom cable entry. Dimensions to EN/BS 50047
Two side cable entries. Dimensions compatible to EN/BS 50047

Wobble stick, omnidirectional

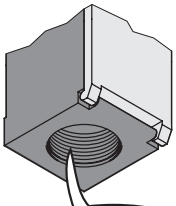




KBM1... - KMM1...



KCM2... - KNM2...



M20 CABLE ENTRY
For types with PG13.5 cable entry, add the letter P at the end of the order code while for 1/2 NPT, add N.
E.g. KBM1S11P - KBM1S11N

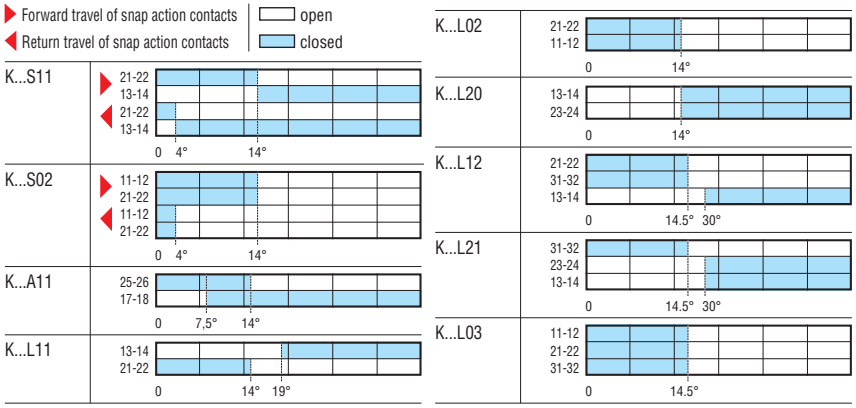
Order code Plastic body	Metal body	Contacts	Rod material	Qty per pkg	Wt
				n°	[kg]
One bottom cable entry. Dimensions to EN/BS 50047.					
KBM1S11	KMM1S11	1NO+1NC Snap action	Flexible	5	❶
KBM2S11	KMM2S11		Semirigid	5	❶
KBM1S02	KMM1S02	2NC Snap action	Flexible	5	❶
KBM2S02	KMM2S02		Semirigid	5	❶
KBM1A11	KMM1A11	1NO+1NC Slow action make before break	Flexible	5	❶
KBM2A11	KMM2A11		Semirigid	5	❶
KBM1L11	KMM1L11	1NO+1NC Slow action	Flexible	5	❶
KBM2L11	KMM2L11		Semirigid	5	❶
KBM1L02	KMM1L02	2NC Slow action	Flexible	5	❶
KBM2L02	KMM2L02		Semirigid	5	❶
KBM1L20	KMM1L20	2NO Slow action	Flexible	5	❶
KBM2L20	KMM2L20		Semirigid	5	❶
KBM1L12	KMM1L12	1NO+2NC Slow action	Flexible	5	❶
KBM2L12	KMM2L12		Semirigid	5	❶
KBM1L21	KMM1L21	2NO+1NC Slow action	Flexible	5	❶
KBM2L21	KMM2L21		Semirigid	5	❶
KBM1L03	KMM1L03	3NC Slow action	Flexible	5	❶
KBM2L03	KMM2L03		Semirigid	5	❶
Two side cable entries. Dimensions compatible to EN/BS 50047.					
KCM1S11	KNM1S11	1O+1NC Snap action	Flexible	5	❶
KCM2S11	KNM2S11		Semirigid	5	❶
KCM1S02	KNM1S02	2NC Snap action	Flexible	5	❶
KCM2S02	KNM2S02		Semirigid	5	❶
KCM1A11	KNM1A11	1NO+1NC Slow action make before break	Flexible	5	❶
KCM2A11	KNM2A11		Semirigid	5	❶
KCM1L11	KNM1L11	1NO+1NC Slow action	Flexible	5	❶
KCM2L11	KNM2L11		Semirigid	5	❶
KCM1L02	KNM1L02	2NC Slow action	Flexible	5	❶
KCM2L02	KNM2L02		Semirigid	5	❶
KCM1L20	KNM1L20	2NO Slow action	Flexible	5	❶
KCM2L20	KNM2L20		Semirigid	5	❶

❶ Consult Technical support for information; see contact details on inside cover.

General characteristics
The LOVATO Electric limit switches have been designed to satisfy requirements comprising quick installation, easy wiring, simple setup, modularity, sturdiness and constant reliability.
The body cover is hinged at the bottom and removable.
The innovative locking bayonet mechanism permits to remove and reposition the operating head in the required configuration with no tools.
The auxiliary contact blocks are removable assuring remarkable wiring ease.

Operational characteristics
- Maximum operating rate: 3600 cycles/h
- Switching speed: 0.5...1.5m/s
- Mechanical life: >10 million cycles
- IEC conventional thermal current Ith: 10A
- UL/CSA and IEC/EN/BS 60947-5-1 designation:
  - A600 Q600 for KB...-KC... types
  - A300 Q300 for KM...-KN... types
- IEC rated insulation voltage Ui:
  - 690VAC for KB...-KC... types
  - 440VAC for KM...-KN... types
- IEC rated impulse withstand voltage Uimp:
  - 6kV for KB...-KC... types
  - 4kV for KM...-KN... types
- Class II insulation for KB...-KC... only
- Contact resistance: <10mΩ
- Short-circuit backup protection: 10A gG/SC quick fuse
- Operators of aluminium-zinc alloy
- Housing:
  - KB...-KC... types: self-extinguishing double-insulation polymer thermoplastic
  - KM...-KN... types: aluminium-zinc alloy
- Cable entry: M20 standard supplied; PG13.5 and 1/2 NPT available (see the side note for details)
- Operating head fixing: locking bayonet insert
- Operating torque: 1Ncm/1.42ozin
- Cable connection: self-releasing screw terminal
- Tightening torque:
  - Switch fixing: 2.5Nm / 22.1lb.in
  - Contact terminals: 0.8Nm / 7lb.in
  - Body lid screw fixing: 0.8Nm / 7lb.in
- Conductor section: 1 or 2 2.5mm² max / 16-14AWG
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+70°C
  - Pollution degree: 3
  - IEC degree of protection: IP20 for terminals
  - IEC degree of protection: IP65 for body housing.

Certifications and compliance
Certifications obtained: UL Listed for USA and Canada (cULus - File E93601), as Auxiliary Devices - Limit switches; EAC, CCC.
Compliant with standards: EN/BS 50047, IEC/EN/BS 60947-1, IEC/EN/BS 60947-5-1, IEC/EN/BS 60204-1, UL508, CSA C22.2 n° 14.



Contact blocks





KXB...

Order code	Contacts	Qty per pkg	Wt
		n°	[kg]
KXBS11	1NO+1NC Snap action❶❷	5	0.022
KXBS02	2NC Snap action❶❷	5	0.022
KXBA11	1NO+1NC Slow action make before break❶❷	5	0.022
KXBL11	1NO+1NC Slow action❷	5	0.022
KXBL02	2NC Slow action❷	5	0.022
KXBL20	2NO Slow action	5	0.022
KXBL12	1NO+2NC Slow action❷❸	5	0.026
KXBL21	2NO+1NC Slow action❷❸	5	0.026
KXBL03	3NC Slow action❷❸	5	0.026

❶ Not suitable for key operated KBN / KCN, hinged operating KBP / KCP / KMP / KNP and slotted lever KBQ / KCQ / KMQ / KNQ types.
❷ Direct (positive) opening action ⊖, safety function according to IEC/EN/BS 60947-5-1.
❸ Not suitable for KC and KN types, KG and KR foot switches.

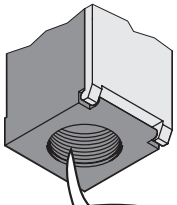
Body complete with contact block



KXCB... - KXCM...



KXCC... - KXCN...

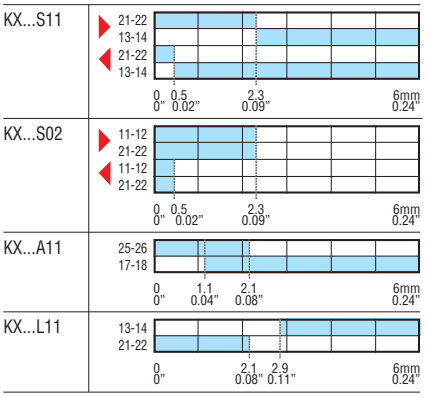


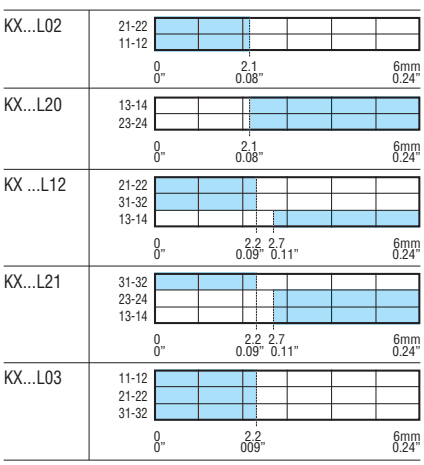
M20 CABLE ENTRY
For types with PG13.5 cable entry, add the letter P at the end of the order code while for ½ NPT, add N.
E.g. KXCCL11P - KXCCL11N

Order code Plastic body	Order code Metal body	Contacts	Qty per pkg	Wt
			n°	[kg]
One bottom cable entry. Dimensions to EN/BS 50047.				
KXCBS11	**KXCMS11**	1NO+1NC Snap action❶❷	5	❹
KXCBS02	**KXCMS02**	2NC Snap action❶❷	5	❹
KXCBA11	**KXCMA11**	1NO+1NC Slow action make before break❶❷	5	❹
KXCBL11	**KXCML11**	1NO+1NC Slow action❷	5	❹
KXCBL02	**KXCML02**	2NC Slow action❷	5	❹
KXCBL20	**KXCML20**	2NO Slow action	5	❹
KXCBL12	**KXCML12**	1NO+2NC Slow action❷❸	5	❹
KXCBL21	**KXCML21**	2NO+1NC Slow action❷❸	5	❹
KXCBL03	**KXCML03**	3NC Slow action❷❸	5	❹
Two side cable entries. Dimensions compatible to EN/BS 50047.				
KXCCS11	**KXCNS11**	1NO+1NC Snap action❶❷	5	❹
KXCCS02	**KXCNS02**	2NC Snap action❶❷	5	❹
KXCCA11	**KXCNA11**	1NO+1NC Slow action make before break❶❷	5	❹
KXCCL11	**KXCNL11**	1NO+1NC Slow action❷	5	❹
KXCCL02	**KXCNL02**	2NC Slow action❷	5	❹
KXCCL20	**KXCNL20**	2NO Slow action	5	❹

❶ Not suitable for key operated KBN / KCN, hinged operating KBP / KCP / KMP / KNP and slotted lever KBQ / KCQ / KMQ / KNQ types.
❷ Direct (positive) opening action ⊖, safety function according to IEC/EN/BS 60947-5-1.
❸ Not suitable for KC and KN types.
❹ Consult Technical support for information; see contact details on inside cover.

Forward travel of snap action contacts
Return travel of snap action contacts
open
closed





General characteristics

The KXB... contact blocks can be used with the K series of limit switches. Combinations of 2 contacts with slow or snap action and, for KB... and KM... types only, 3 slow action contacts are available.
The NC contacts have direct opening operation, a specific safety principle.
The particular four-point contacts warrant high conductivity in any sort of application. The removal of the contacts from the limit switch body provides remarkable wiring ease and reduces installation time as well.
The KXC... bodies, complete with auxiliary contacts, can be used as spare parts for the K series limit switches or coupled with the KXA... operating heads, to obtain complete limit switches in the required configurations.
The body cover is hinged at the bottom and removable to have the best access. Each body includes the innovative locking bayonet mechanism of the operating head. Plastic and metal types are available.

Operational characteristics

- Mechanical life: >10 million cycles
- IEC conventional thermal current Ith: 10A
- Conductivity: 10mA 5V
- UL/CSA and IEC/EN/BS 60947-5-1 designation:
  - A600 Q600 for KXCB...-KXCC... types
  - A300 Q300 for KXCM...-KXCN... types
- IEC rated insulation voltage Ui:
  - 690VAC for KXCB...-KXCC... types
  - 440VAC for KXCM...-KXCN... types
- IEC rated impulse withstand voltage Uimp:
  - 6kV for KXCB...-KXCC... types
  - 4kV for KXCM...-KXCN... types
- Class II insulation for KXCB...-KXCC... only
- Contact resistance: <10mΩ
- Short-circuit backup protection: 10A gG/SC quick fuse
- Housing:
  - KXCB...-KXCC... types: self-extinguishing double-insulation polymer thermoplastic
  - KXCM...-KXCN... types: aluminium-zinc alloy
- Cable entry: M20 standard supplied; PG13.5 and ½ NPT available (see the side note for details)
- Operating head fixing: locking bayonet insert
- Cable connection: self-releasing screw terminal
- Tightening torque:
  - Switch fixing: 2.5Nm / 22.1lb.in
  - Contact terminals: 0.8Nm / 7lb.in
  - Body lid screw fixing: 0.8Nm / 7lb.in
- Conductor section: 1 or 2 2.5mm² max / 16-14AWG
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+70°C
  - Pollution degree: 3
  - IEC degree of protection: IP20 for terminals
  - IEC degree of protection: IP65 for body housing.

Certifications and compliance

Certifications obtained: UL Listed for US and Canada (File E93601), as Auxiliary Devices for KX C... body types only. UL Recognized for USA and Canada (cURus - File E93601) as component - Auxiliary devices for contact blocks only; products having this type of marking are intended for use as components of complete workshop-assembled equipment; EAC for all.
Comply with standards: EN/BS50047, IEC/EN/BS 60947-1, IEC/EN/BS 60947-5-1, IEC/EN/BS 60204-1, UL508, CSA C22.2 n° 14.

Operating heads

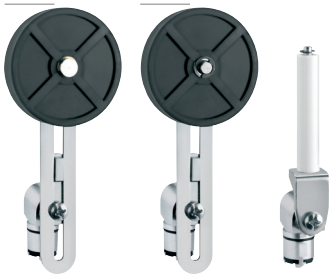

KXAA1 KXAB1 KXAB2


KXAC1 KXAC2


KXAD1 KXAD2


KXAE1 KXAE2 KXAE3


KXAF1 KXAF2


KXAF3 KXAF4 KXAH1


KXAL1 KXAL2


KXAM1 KXAM2

Order code	Description	Qty per pkg	Wt
		n°	[kg]
KXAA1	Top push rod plunger	5	0.013
KXAB1	Plastic top roller push plunger	5	0.019
KXAB2	Metal top roller push plunger	5	0.020
KXAC1	Plastic roller centre push lever	5	0.018
KXAC2	Metal roller centre push lever	5	0.022
KXAD1	Plastic roller side push lever	5	0.018
KXAD2	Metal roller side push lever	5	0.023
KXAE1	Plastic roller lever plunger	5	0.039
KXAE2	Metal roller lever plunger	5	0.048
KXAE3	Rubber Ø50x10mm❷ roller lever plunger	5	0.058
KXAF1	Adjustable plastic roller lever Ø19x5mm❶	5	0.055
KXAF2	Adjustable metal roller lever Ø19x5mm❶	5	0.065
KXAF3	Adjustable rubber Ø50x10mm❷ roller lever	5	0.072
KXAF4	Adjustable offset rubber Ø50x10mm❷ roller lever	5	0.081
KXAH1	Ceramic rod lever	5	0.056
KXAL1	Adjustable plastic rod lever	5	0.043
KXAL2	Adjustable stainless steel rod lever	5	0.051
KXAM1	Flexible wobble stick	5	0.032
KXAM2	Semirigid wobble stick	5	0.023

❶ Ø19x5mm = Ø0.75x0,2".
❷ Ø50x10mm = Ø1.97"x0.39".

General characteristics
The KXA... operating heads can be used as spare parts for the K series limit switches or coupled with the KXC... bodies to obtain complete limit switches in the required configurations.
The heads are made of metal and warrant sturdiness and operating reliability in all conditions.
The shape of the coupling section with the body of the K series switches permits to orient the head in any 45° angle position while the initial lever and rod position can be adjusted 360° at 15° angle positions.
The head fixing to the body is achieved by the innovative locking bayonet mechanism so there is no need of tools.
Tightening torque for eventual operating head actuator fixing is 0.8Nm/7lb.in.



Cable glands and cable conduit


KXP... KXP03

Order code	Description	Qty per pkg	Wt
		n°	[kg]
KXP01	M20 cable gland	50	0.009
KXP02	PG13.5 cable gland	50	0.009
KXP03	M20 rubber cable conduit	50	0.004

General characteristics
The cable glands are in plastic with either M20 or PG13.5 thread and provide to keep the cable in place and maintain the proper IP protection of the limit switch after installation.

Operational characteristics for cable gland
– Material: self-extinguishing polyamide
– IEC degree of protection: IP68
– Gland seal with cable diameter: 6...12mm/0.24...0.47".

Certifications and compliance
Certifications obtained: EAC.
Compliant with standards: EN/BS 50262, UL508.

Dimensions
pages 10-22 and 23


KPA1...


KPA2...


KPB1...


KPB2...


KPB3...


KPB4...


KPB5...


KPB6...


KPB7...


KPB8...


KPE1...


KPE2...


KPF1...


KPL2...

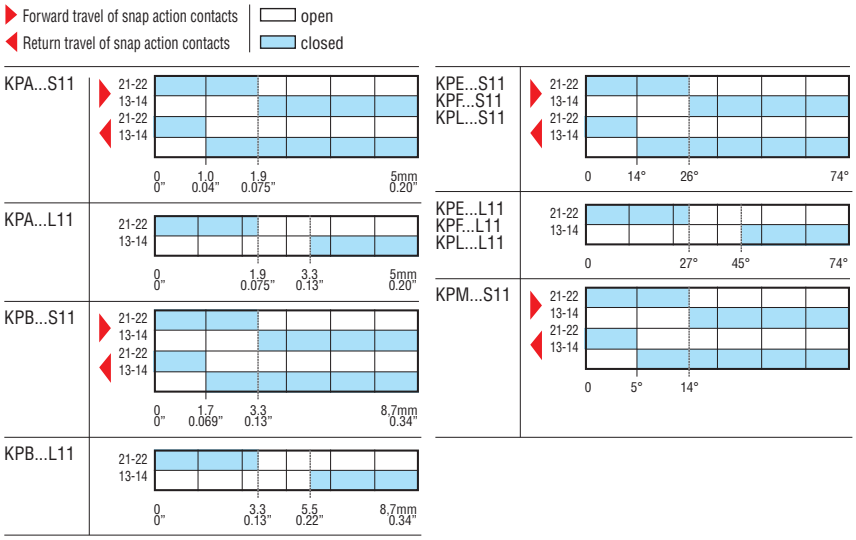

KPM2S11

Order code	Contacts 1NO+1NC	Head material	Cable length ❷	Qty per pkg	Wt
			m	n°	[kg]
TOP PUSH ROD PLUNGER.					
KPA1S11	Snap action❶	Metal	2	1	0.286
KPA1L11	Slow action❶	Metal	2	1	0.286
KPA2S11❸	Snap action❶	Metal	2	1	0.302
KPA2L11❸	Slow action❶	Metal	2	1	0.302
TOP ROLLER PUSH PLUNGER.					
KPB1S11	Snap action❶	Plastic	2	1	0.290
KPB1L11	Slow action❶	Plastic	2	1	0.290
KPB2S11	Snap action❶	Metal	2	1	0.290
KPB2L11	Slow action❶	Metal	2	1	0.290
KPB3S11❹	Snap action❶	Plastic	2	1	0.288
KPB3L11❹	Slow action❶	Plastic	2	1	0.288
KPB4S11❹	Snap action❶	Metal	2	1	0.296
KPB4L11❹	Slow action❶	Metal	2	1	0.296
M12 HEAD TOP ROLLER PUSH PLUNGER.					
KPB5S11	Snap action❶	Plastic	2	1	0.308
KPB5L11	Slow action❶	Plastic	2	1	0.308
KPB6S11	Snap action❶	Metal	2	1	0.310
KPB6L11	Slow action❶	Metal	2	1	0.310
KPB7S11❹	Snap action❶	Plastic	2	1	0.310
KPB7L11❹	Slow action❶	Plastic	2	1	0.310
KPB8S11❹	Snap action❶	Metal	2	1	0.310
KPB8L11❹	Slow action❶	Metal	2	1	0.310
ROLLER LEVER PLUNGER.					
KPE1S11	Snap action❶	Plastic	2	1	0.336
KPE1L11	Slow action❶	Plastic	2	1	0.336
KPE2S11	Snap action❶	Metal	2	1	0.336
KPE2L11	Slow action❶	Metal	2	1	0.336
ADJUSTABLE ROLLER LEVER.					
KPF1S11	Snap action❶	Plastic	2	1	0.344
KPF1L11	Slow action❶	Plastic	2	1	0.344
ADJUSTABLE ROD LEVER.					
KPL2S11	Snap action❶	Metal	2	1	0.342
KPL2L11	Slow action❶	Metal	2	1	0.342
OMNIDIRECTIONAL WOBBLE STICK.					
KPM2S11	Snap action❶	Metal	2	1	0.298

❶ Direct (positive) opening action ⊖, safety function according to IEC/EN/BS 60947-5-1.
❷ For prewired switches with 1m long cable only, add suffix 010 at the end of the order code.
Example: KPA1S11010 for prewired switch, top push metal rod plunger, with 1NO+1NC snap action contacts and 1m long cable.
❸ M12 head fixing.
❹ Roller operation perpendicular to switch body.

Operational characteristics
- 2 meters long cable❷ (5 core, each 0.75mm²/18 AWG)
- Maximum operating rate: 3600 cycles/h
- Mechanical life: >10 million cycles
- IEC conventional thermal current Ith: 10A
- conductivity: 10mA 5V
- UL/CSA and IEC/EN/BS 60947-5-1 designation: B300 R300
- IEC rated insulation voltage Ui: 400VAC
- IEC rated impulse withstand voltage Uimp: 4kV
- Class I insulation
- Contact resistance: <25mΩ
- Body housing: aluminium and zinc alloy
- Operating force/torque:
  - KPA types: 15N / 3.4lb
  - KPB types: 10N / 2.2lb
  - KPE, KPF and KPL types: 0.08Nm / 0.7lb.in
  - KPM types: 0.1Nm / 0.9lb.in
- Tightening torque for switch fixing: 2.5Nm / 22.1lb.in for body housing fixing possible: 0.8Nm / 7lb.in
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+70°C
  - Pollution degree: 3
  - IEC degree of protection: IP67 for body housing.

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



Dimensions page 10-23
Wiring diagrams page 10-27

Top push rod plunger



PLN...A...

Order code	Contacts	Degree of protection	Qty per pkg	Wt
			n°	[kg]
PLNA1A	1NC❶	IP40	1	0.240
PLNA1AW		IP65	1	0.240
PLNA2A	2NC❶	IP40	1	0.240
PLNA2AW		IP65	1	0.240
PLNC1A	1NO	IP40	1	0.240
PLNC1AW		IP65	1	0.240
PLNC2A	2NO	IP40	1	0.240
PLNC2AW		IP65	1	0.240
PLNU1A	1NO+1NC	IP40	1	0.240
PLNU1AW		IP65	1	0.240

❶ Direct (positive) opening action ⊖; safety function according to IEC/EN/BS 60947-5-1.

Top roller push plunger



PLN...R...

Order code	Contacts	Degree of protection	Qty per pkg	Wt
			n°	[kg]
PLNA1R	1NC❶	IP40	1	0.230
PLNA1RW		IP65	1	0.230
PLNA2R	2NC❶	IP40	1	0.230
PLNA2RW		IP65	1	0.230
PLNC1R	1NO	IP40	1	0.230
PLNC1RW		IP65	1	0.230
PLNC2R	2NO	IP40	1	0.230
PLNC2RW		IP65	1	0.230
PLNU1R	1NO+1NC	IP40	1	0.230
PLNU1RW		IP65	1	0.230

❶ Direct (positive) opening action ⊖; safety function according to IEC/EN/BS 60947-5-1.

Roller centre push lever



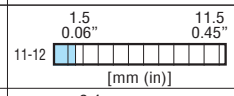
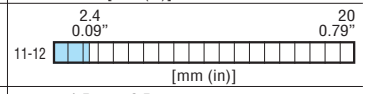
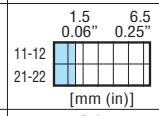
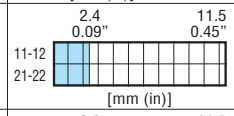
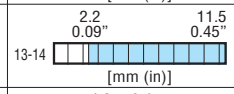
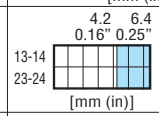
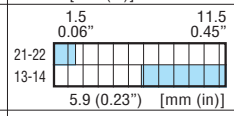
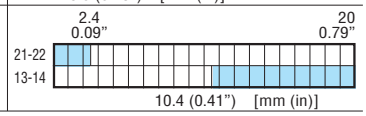
PLN...H



PLN...HSBW

Order code	Contacts	Degree of protection	Qty per pkg	Wt
			n°	[kg]
PLNA1H	1NC❶	IP40	1	0.270
PLNA1HW		IP65	1	0.270
PLNA2H	2NC❶	IP40	1	0.270
PLNA2HW		IP65	1	0.270
PLNU1H	1NO+1NC	IP40	1	0.270
PLNU1HW		IP65	1	0.270
With offset roller.				
PLNA1HSB	1NC❶	IP40	1	0.290
PLNA1HSBW		IP65	1	0.290
PLNA2HSB	2NC❶	IP40	1	0.290
PLNA2HSBW		IP65	1	0.290
PLNU1HSB	1NO+1NC	IP40	1	0.290
PLNU1HSBW		IP65	1	0.290

❶ Direct (positive) opening action ⊖; safety function according to IEC/EN/BS 60947-5-1.

Type	Travel [mm (in)] — open / closed
PLNA1A... PLNA1R...	
PLNA1H... PLNA1HSB...	
PLNA2A... PLNA2R...	
PLNA2H... PLNA2HSB...	
PLNC1A... PLNC1R...	
PLNC2A... PLNC2R...	
PLNU1A... PLNU1R...	
PLNU1H... PLNU1HSB...	

General characteristics

The PL types are for general purpose use. The extensive range of models with numerous actuators and multiple contact configurations is the optimal solution to the diverse installation requirements.
Overall simple design, oversize contacts and choice materials ensure durable and safe operation. The metal alloy housing and resistant thermoplastic actuators warrant reliable heavy-duty features for any sort of operating conditions.
The PL series limit switches are available with IEC IP40 or IP65 degree of protection; this characteristic is ensured by the use of appropriate sealing gasket.
The IEC IP65 version is easily identified by the “W” suffix of its order code and can be used in adverse ambient conditions.

Operational characteristics

- Maximum operating rate: 3600 cycles/h
- Mechanical life: >10 million cycles
- IEC utilisation category:
  - DC13 duty: 10A 24V
  - AC15 duty: 5A 250V, 3A 400V
- IEC conventional thermal current Ith: 10A
- IEC rated insulation voltage Ui: 400VAC
- Contact resistance: <10mΩ
- Short-circuit backup protection: 10A gG/SC quick fuse
- Housing cable entry: PG11 (PLN...W types only complete with cable gland)
- Cable connection: screw terminal with clamp suitable for cables up to 2.5mm² / 14 AWG
- Tightening torque:
  - Switch fixing: 2.5Nm / 22.1lb.in
  - Contact terminals: 0.8Nm / 7lb.in
  - Body lid screw fixing: 0.8Nm / 7lb.in
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+70°C
  - Pollution degree: 3
  - IEC degree of protection: IP40 / IP65 (see table indications).

Certifications and compliance

Certifications obtained: EAC.
Compliant with standards: IEC/EN/BS 60947-1, IEC/EN/BS 60947-5-1, EN/BS 81-1.

Latch and manual release

Order code	Contacts	Degree of protection	Qty pre pkg	Wt
		IEC	n°	[kg]
Top roller push plunger.				
PLNA1RAG	1NC ❶	IP40	1	0.220
PLNA1RAGW	1NC ❶	IP65	1	0.230

❶ Direct (positive) opening action ⊖; safety function according to IEC/EN/BS 60947-5-1.



PLNA1RAG

Manual reload and magnetic release

Order code	Contacts	Degree of protection	Qty pre pkg	Wt
		IEC	n°	[kg]
Top push rod plunger.				
PLA1AM	1NC ❶	IP40	1	0.245
PLA1AMW	1NC ❶	IP65	1	0.250
Top roller push plunger.				
PLA1RM	1NC ❶	IP40	1	0.250
PLA1RMW	1NC ❶	IP65	1	0.260

❶ Direct (positive) opening action ⊖; safety function according to IEC/EN/BS 60947-5-1.



PLA1AM



PLA1RMW

Bi-directional

Order code	Contacts	Degree of protection	Qty pre pkg	Wt
		IEC	n°	[kg]
Rod plunger.				
PLN978	2NC ❶ independent	IP65	1	0.265

❶ Direct (positive) opening action ⊖; safety function according to IEC/EN/BS 60947-5-1.



PLN978

Type	Travel [mm (in)] (The arrows indicate the direction of operation)	open / closed
PLNA1RAG PLNA1RAGW	1 (0.04") 7 (0.27") 21-22 [mm (in)]	
PLA1AM PLA1AMW PLA1RM PLA1RMW	0.5 (0.02") 8 (0.31") 21-22 [mm (in)]	
PLN978	8 (0.31") 0.5 (0.02") 0.5 (0.02") 8 (0.31") 11-12 21-22 [mm (in)]	

General characteristics
The PL limit switches were initially made specifically for hoisting or lifting duty and then used in other diverse applications. The type with latch and manual release as well as the one with manual reload and magnetic release are designed so the switch remains opened after the switching of the NC contact. In the first instance, the contact closing is made by pushing the release button. In the second case, the reloading is obtained by pushing the shaft end or else pulling it from the top for the IP65 types.
The limit switches with dual operation can be replaced by two standard switches, for the stop control of moving mechanisms with two directions of running (e.g. automatic doors). It is equipped with two opposed operating mechanisms and one NC contact for each mechanism (i.e. 2NC).
The simple constructive design, oversize contacts and careful material combinations warrant safe and constant operation. The metal-alloy housing and the thermoplastic mechanism material of first-rate mechanical features assure reliability and durability with any type of operating condition.

Operational characteristics
- Maximum operating rate: 3600 cycles/h
- Mechanical life: >10 million cycles
- IEC utilisation category:
  - DC13 duty: 10A 24V
  - AC15 duty: 5A 250V, 3A 400V
- IEC conventional thermal current Ith: 10A
- IEC rated insulation voltage: 400VAC
- Contact resistance: <10mΩ
- Short-circuit backup protection: 10A gG/SC quick fuse
- Housing cable entry: PG11 (PL...W and PLN978 types only complete with cable gland)
- Cable connection: screw terminal with clamp suitable for cables up to 2.5mm^2 / 14 AWG
- Tightening torque:
  - Switch fixing: 2.5Nm / 22.1lb.in
  - Contact terminals: 0.8Nm / 7lb.in
  - Body lid screw fixing: 0.8Nm / 7lb.in
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+70°C
  - Pollution degree: 3
  - IEC degree of protection: IP40 / IP65 (see table indications).

Certifications and compliance
Certifications obtained: EAC.
Compliant with standards: IEC/EN/BS 60947-5-1, IEC/EN/BS 60204-1, EN/BS 81-1.

Dimensions to EN/BS 50047



RS113... - RS213... - RS313...

Order code	Contacts	Ring material	Qty per pkg	Wt
			n°	[kg]
Without reset button.				
RS11310	1NO+1NC Snap action	Steel	1	0.090
RS21310	1NO+1NC Slow action	Steel	1	0.090
RS31310	2NO Slow action	Steel	1	0.090

Accessories and spare parts



P33032



P33033



P33034



P33035



P33036

Order code	Description	Qty per pkg	Wt
		n°	[kg]
Accessories.			
P33032	Rope terminal clamp, Ø5mm	10	0.023
P33033	Rope eye, Ø5mm	10	0.007
P33034	Turnbuckle M6x60	10	0.061
P33035	Eye bolt M8	10	0.030
P33036	Steel rope, Ø5mm❶	100[m]	4.900

❶ The P33036 rope is sold in 100m/109.4yd roll; Ø5mm = Ø0.2".

Type	Forward travel of snap action contacts / Return travel of snap action contacts	open / closed
RS113...	21-22, 13-14 / 21-22, 13-14	0 [mm (in)] 6 (0.24")
RS213...	21-22, 13-14	0 [mm (in)] 6 (0.24")
RS313...	21-22, 11-12	0 [mm (in)] 6 (0.24")

General characteristics
The RS series limit switches are designed and manufactured according to European standards for dimensions and operating characteristics.
The double-insulated housing of the limit switch is made of glass-reinforced self-extinguishing polyamide resin to protect internal circuits against shocks or impacts and in industrial environments, against accidental ingress of tools and accidental contact.
The contacts are dimensioned to ensure self cleaning of the silver-alloy contact surfaces.

Operational characteristics
- Maximum operating rate: 3600 cycles/h for RS...13
- Switching speed: 0.5...1.5m/s
- Mechanical life: >10 million cycles
- IEC utilisation category:
  - DC13 duty: 1.5A 24V
  - AC15 duty: 6A 250V
- IEC conventional thermal current Ith: 10A
- IEC rated insulation voltage Ui: 250VAC
- Contact resistance: <10mΩ
- Short-circuit backup protection: 10A gG/SC quick fuse
- Operating force: 25N/5.6lb
- Cable entry: PG11 (RS...13)
- Cable connection: self-releasing screw terminal
- Tightening torque:
  - Switch fixing: 2.5Nm / 22.1lb.in
  - Contact terminals: 0.8Nm / 7lb.in
  - Body lid screw fixing: 0.8Nm / 7lb.in
- Conductor section: 1 or 2 2.5mm² max / 16-14 AWG
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+70°C
  - Pollution degree: 3
  - IEC degree of protection: IP65 (RS...13).

Certifications and compliance
Certifications obtained: UL Listed for USA and Canada (cULus - File E93601), as Auxiliary Devices - Limit switches; EAC.
Compliant with standards: IEC/EN/BS 60947-1, IEC/EN/BS 60947-5-1, IEC/EN/BS 60204-1, EN/BS 81-1, EN/BS 50041, UL508, CSA C22.2 n° 14.

Limit, micro and foot switches

Rope-pull lever limit switches for normal stopping



PLN...AT...W

Order code	Contacts	Degree of protection	Operating force	Qty per pkg	Wt
		IEC	[N] / [lb]	n°	[kg]
Without reset button.					
PLNU1AT	1NO+1NC ❶	IP40	10 / 2.2	1	0.240
PLNU1ATW		IP65	10 / 2.2	1	0.240
PLNU1AT25	1NO+1NC ❶	IP40	25 / 5.6	1	0.240
PLNU1AT25W		IP65	25 / 5.6	1	0.240

❶ Direct (positive) opening action ⊖; safety function according to IEC/EN/BS 60947-5-1.



P2L...

Order code	Contacts	Degree of protection	Operating force	Qty per pkg	Wt
		IEC	[N] / [lb]	n°	[kg]
Without reset button.					
P2L81311	1NO+1NC ❶	IP65	40 / 9	1	0.459
P2L81312		IP65	120 / 27	1	0.459
P2L101311	2NO+2NC ❶	IP65	40 / 9	1	0.459
P2L101312		IP65	120 / 27	1	0.459

❶ Direct (positive) opening action ⊖; safety function according to IEC/EN/BS 60947-5-1.

Type	Travel [mm (in)]	open / closed
PLNU1AT...	1,5 0.06" … 11 0.43"; 13-14, 21-22; 6 [mm (in)] 0.24"	
P2L8...	11-12, 21-22; 0 [mm (in)] 10 0.39"	
P2L10...	31-32, 41-42, 13-14, 23-24; 0 [mm (in)] 10 0.39"	

General characteristics

The PLN and P2L types are limit switches for general use. The simple constructive design, oversize contacts and careful material combinations warrant safe and constant operation. The metal-alloy housing and the thermoplastic mechanism material of first-rate mechanical features assure reliability and durability with any type of operating condition.

Operational characteristics

- Maximum operating rate: 3600 cycles/h
- Mechanical life: >10 million cycles
- IEC utilisation category:
  - DC13 duty: 10A 24V
  - AC15 duty: 5A 250V; 3A 400V
- IEC conventional thermal current Ith: 10A for PLN types; 6A for P2L types
- IEC rated insulation voltage Ui: 400VAC
- Contact resistance: <10mΩ
- Short-circuit backup protection: 10A gG/SC quick fuse
- Cable entry: PG11 (PLN...W and P2L types only complete with cable gland)
- Cable connection: self-releasing screw terminal suitable for cables up to 2.5mm² / 14 AWG
- Tightening torque for switch fixing: 2.5Nm/2.21lb.in
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+70°C
  - Pollution degree: 3
  - IEC degree of protection: IP40 / IP65 (see order code table indications).

Certifications and compliance

Certifications obtained: EAC.
Compliant with standards: IEC/EN/BS 60947-1, IEC/EN/BS 60947-5-1, EN/BS 81-1.

Accessories and spare parts



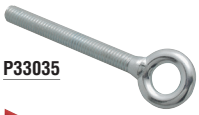
P33032



P33033



P33034



P33035



P33036

Order code	Description	Qty per pkg	Wt
		n°	[kg]
Accessories.			
P33032	Rope terminal clamp, Ø5mm	10	0.023
P33033	Rope eye, Ø5mm	10	0.007
P33034	Turnbuckle M6x60	10	0.061
P33035	Eye bolt M8	10	0.030
P33036	Steel rope, Ø5mm❶	100[m]	4.900

❶ The P33036 rope is sold in 100m/109.4yd roll; Ø5mm = Ø0.2".


KSA1...


KSA2...


KSA3...


KSA4...


KSA9...


KSB1...


KSB2...


KSC1...


KSC2...


KSC3...


KSC9...


KSL1...


KSL2...


KSL3...


KSSC01

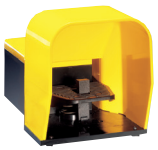

KSSCB2

Order code	Contacts	Terminals	Qty per pkg	Wt
			n°	[kg]
TOP PUSH ROD. METAL PLUNGER. Pin.				
KSA1S	1NO/NC	Solder	10	0.027
KSA1V	1NO/NC	Screw	10	0.027
KSA1F	1NO/NC	Faston	10	0.029
TOP PUSH ROD. METAL PLUNGER. High rod plunger.				
KSA2S	1NO/NC	Solder	10	0.029
KSA2V	1NO/NC	Screw	10	0.029
KSA2F	1NO/NC	Faston	10	0.031
TOP PUSH ROD. METAL PLUNGER. Low rod plunger.				
KSA3S	1NO/NC	Solder	10	0.029
KSA3V	1NO/NC	Screw	10	0.028
KSA3F	1NO/NC	Faston	10	0.030
TOP PUSH ROD. METAL PLUNGER. M12 fixing head.				
KSA4S	1NO/NC	Solder	10	0.048
KSA4V	1NO/NC	Screw	10	0.047
KSA4F	1NO/NC	Faston	10	0.049
PUSH BUTTON.				
KSA9S	1NO/NC	Solder	10	0.029
KSA9V	1NO/NC	Screw	10	0.028
KSA9F	1NO/NC	Faston	10	0.030
TOP ROLLER PUSH PLUNGER. M12 fixing head.				
KSB1S	1NO/NC	Solder	10	0.061
KSB1V	1NO/NC	Screw	10	0.060
KSB1F	1NO/NC	Faston	10	0.062
TOP ROLLER PUSH PLUNGER. M12 fixing head, 90° roller.				
KSB2S	1NO/NC	Solder	10	0.061
KSB2V	1NO/NC	Screw	10	0.060
KSB2F	1NO/NC	Faston	10	0.062
ROLLER CENTRE PUSH LEVER. 26.6mm/1.05" long lever.				
KSC1S	1NO/NC	Solder	10	0.032
KSC1V	1NO/NC	Screw	10	0.031
KSC1F	1NO/NC	Faston	10	0.033
ROLLER CENTRE PUSH LEVER. 48.5mm/1.91" long lever.				
KSC2S	1NO/NC	Solder	10	0.032
KSC2V	1NO/NC	Screw	10	0.031
KSC2F	1NO/NC	Faston	10	0.033
ROLLER CENTRE PUSH LEVER. 37mm/1.45" long lever.				
KSC3S	1NO/NC	Solder	10	0.032
KSC3V	1NO/NC	Screw	10	0.031
KSC3F	1NO/NC	Faston	10	0.033
ROLLER CENTRE PUSH LEVER. One-way roller lever.				
KSC9S	1NO/NC	Solder	10	0.034
KSC9V	1NO/NC	Screw	10	0.033
KSC9F	1NO/NC	Faston	10	0.035
METAL LEVER. 63mm/2.48" long flat lever.				
KSL1S	1NO/NC	Solder	10	0.032
KSL1V	1NO/NC	Screw	10	0.031
KSL1F	1NO/NC	Faston	10	0.033
METAL LEVER. 54mm/2.13" long flat lever.				
KSL2S	1NO/NC	Solder	10	0.032
KSL2V	1NO/NC	Screw	10	0.031
KSL2F	1NO/NC	Faston	10	0.033
METAL LEVER. 168.3mm/6.63" long flat cylindrical lever.				
KSL3S	1NO/NC	Solder	10	0.032
KSL3V	1NO/NC	Screw	10	0.031
KSL3F	1NO/NC	Faston	10	0.033
ACCESSORIES.❶				
KSSC01	Terminal shroud		10	0.006
KSSCB2	Terminal shroud with conduit		10	0.014

❶ Suitable only for KS...V.

Operational characteristics
- Maximum operating rate: 240 cycles/min
- Switching speed: 0.01...1m/s
- Operating speed: 0.05...1m/s
- Electrical life: 500,000 cycles
- Mechanical life: 20 million cycles
- IEC conventional thermal current Ith: 15A
- UL/CSA and IEC/EN/BS 60947-5-1 designation: A600 P300
- Conductivity: 10mA 5V
- IEC rating: AC15 240VAC 3A
- IEC rated insulation voltage Ui: 250VAC
- Contact resistance: <15mΩ
- Body housing: polymer thermoplastic
- Operating force:
  - KSA1-KSA4 and KSB types: 2.5N/9oz
  - KSA9 and KSC3 types: 1.5N/5.4oz
  - KSC1 types: 1N/3.6oz
  - KSC2 and KSL2: 1.3N/4.7oz
  - KSC9 types: 1.7N/6.1oz
  - KSL1 types: 6.4N/23oz
  - KSL3 types: 0.1N/0.36oz
- Tightening torque:
  - For M12 head fixing: 4.9...6.9Nm/43...61lb.in
  - For side screws: 0.6...1Nm/5.3...8.8lb.in
  - For terminal screws: 0.7...1Nm/6.2...8.8lb.in
- Ambient conditions:
  - Operating temperature: -25...+70°C
  - Storage temperature: -40...+70°C
  - Pollution degree: 3
  - IEC degree of protection: IP00 or IP20 with terminal shroud.

Certifications and compliance
Certifications obtained: UL Recognized for USA and Canada (File E172189) as Industrial Control Switches - Component; products having this type of marking are intended for use as components of complete workshop - assembled equipment; EAC.
Compliance with standards: IEC/EN/BS 60947-1, IEC/EN/BS 60947-5-1, IEC/EN/BS 61058-1, UL508, CSA C22.2 n° 14.



KG200 ...
KG220 ...



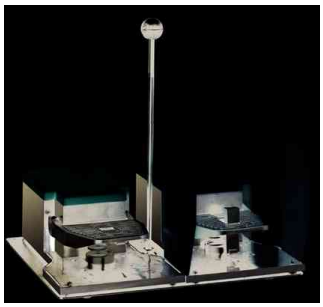
KR200 ...



KG110 ...



KR210 ...
KR211 ...



KGD003 - KGD004

Order code Plastic body	Order code Metal body	Model	Contacts	Qty per pkg	Wt
				n°	[kg]
ONE PEDAL FOOT SWITCHES. With free actuation.					
KG100S11 ❸	KR100S11 ❸	Open	1NO+1NC Snap action ❶	1	❷
KG100L11 ❸	KR100L11 ❸	Open	1NO+1NC Slow action ❶	1	❷
KG200S11 ❸	KR200S11 ❸	With cover	1NO+1NC Snap action ❶	1	❷
KG200L11 ❸	KR200L11 ❸	With cover	1NO+1NC Slow action ❶	1	❷
With safety lever.					
KG110S11 ❸	KR110S11 ❸	Open	1NO+1NC Snap action ❶	1	❷
KG110L11 ❸	KR110L11 ❸	Open	1NO+1NC Slow action ❶	1	❷
KG210S11 ❸	KR210S11 ❸	With cover	1NO+1NC Snap action ❶	1	❷
KG210S11 ❸	KR210S11 ❸	With cover	1NO+1NC Snap action ❶	1	❷
KG210S22	KR210S22	With cover	2NO+2NC Snap action ❶	1	❷
With pedal actuator lock.					
KG120S11 ❸	KR120S11 ❸	Open	1NO+1NC Snap action ❶	1	❷
KG120L11 ❸	KR120L11 ❸	Open	1NO+1NC Slow action ❶	1	❷
KG220S11 ❸	KR220S11 ❸	With cover	1NO+1NC Snap action ❶	1	❷
KG220L11 ❸	KR220L11 ❸	With cover	1NO+1NC Slow action ❶	1	❷
With two-stage safety lever.					
–	KR211S22	With cover	2NO+2NC 2-stage snap action ❶	1	❷

Order code Plastic body	Order code Metal body	Model	Contacts (for each pedal)	Qty per pkg	Wt
				n°	[kg]
TWO PEDAL FOOT SWITCHES. With safety lever on both pedals.					
KGD001 ❸	KRD001 ❸	Both w/cover	1NO+1NC Snap action ❶	1	❷
KGD002	KRD002	Both w/cover	2NO+2NC Snap action ❶	1	❷
Left pedal with free actuation and right pedal with safety lever.					
KGD003 ❸	KRD003 ❸	Left open	1NO+1NC Snap action ❶	1	❷
		Right w/cover			
KGD004	KRD004	Left open	1NO+1NC Snap action ❶	1	❷
		Right w/cover	2NO+2NC Snap action ❶		

❶ Direct (positive) opening action ⊖; safety function according to IEC/EN/BS 60947-5-1.
❷ Consult Technical support for information; see contact details on inside cover.
❸ A possible second contact block can be fitted; blocks with only 2 contacts in total can be used. See accessories below.

General characteristics
The KG... and KR... foot switches are used to control machinery and other equipment, leaving the operator's hands free to do other functions. The sturdiness of the metal and plastic body and the wide range of the available versions provide the proper solution for each control need.
Main features are:
– Thermoplastic or metal version.
The plastic or metal body gives adequate robustness to the foot switch, for installation in all ambient and application conditions.
– Versions complete with or without pedal protection cover.
The cover assures protection against accidental foot switch operation, due to sudden tool or heavy material dropping or other shock or vibration. The type without cover, open version, is instead immediately accessible and is preferred when the most important pedal operation is to stop a machine.
– Versions with safety lever.
The safety mechanism prevents unintentional foot switch activation and excludes the pedal pressing if the operator's foot is not completely in place.
– Stable pedal base.
The foot switch is equipped with rubber feet and metal-reinforced base for a firm and non-sliding position and a more reliable and safe activation.

Operational characteristics
– Mechanical life: >10 million cycles
– Conventional thermal current Ith: 10A
– Designation to IEC/EN/BS 60947-5-1:
• A600 Q600 for KG types
• A300 Q300 for KR types
– Tightening torque for contacts: 1Nm/8.8lb.in
– Rated insulation voltage Ui:
• 690VAC for KG types
• 440VAC for KR types
– Rated impulse withstand voltage Uimp:
• 6kV for KG types
• 4kV for KR types
– Class II insulation (KG types only)
– Contact resistance: <10mΩ
– Short-circuit backup protection: 10A gG fuse
– Cable connection: self-releasing screw terminal
– Housing:
• KG types: self-extinguishing double-insulation polymer thermoplastic
• KR types: aluminium-zinc alloy
– Cable entry: M20
– Ambient conditions:
• Operating temperature: -25...+70°C
• Storage temperature: -40...+70°C
• Pollution degree: 3
– IEC degree of protection:
• IP20 for terminals
• IP54 for body housing
• IP65 available on request (add the letter S at the end of the order code. E.g. KG100S11S).

Certifications and compliance
Certifications obtained: cURus for contacts only and EAC for foot switches.
Compliant with standards: IEC/EN/BS 60947-1, IEC/EN/BS 60947-5-1, IEC/EN/BS 60204-1, IEC/EN/BS 60447.

Accessories



KXP...

KXP03

❹ A possible second contact block can be fitted on the left-hand pedal; blocks with only 2 contacts in total can be used. See accessories below and contact blocks on page 10-14.

Order code	Description	Qty per pkg	Wt
		n°	[kg]
Accessories.			
KGX01	Kit of elements to activate 2nd contact block ❹	10	0.039
KGX02	Contact block mounting bracket	10	0.022
Cable glands and cable conduit.			
KXP01	M20 cable gland	50	0.009
KXP02	PG13.5 cable gland	50	0.009
KXP03	M20 rubber cable conduit	50	0.004

General characteristics
The cable glands are in plastic with either M20 or PG13.5 thread and provide to keep the cable in place and maintain the proper IP protection of the switch after installation.

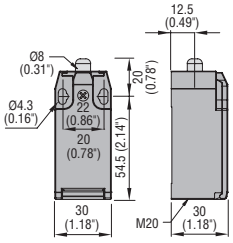
Operational characteristics for cable gland
– Material: self-extinguishing polyamide
– IEC degree of protection: IP68
– Gland seal with cable diameter: 6...12mm/0.24"...0.47".

Certifications and compliance
Certifications obtained: EAC.
Compliant with standards: EN/BS 50262, UL508.

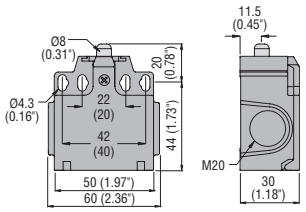
Dimensions
page 10-26

LIMIT SWITCHES K SERIES

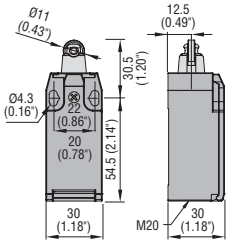
KBA1...
KMA1...



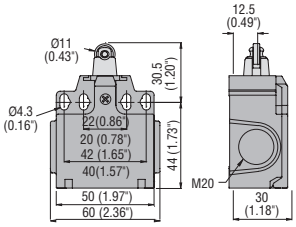
KCA1
KNA1



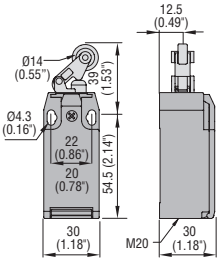
KBB1... - KBB2...
KMB1... - KMB2...



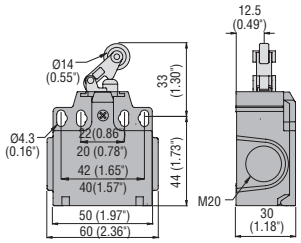
KCB1... - KCB2...
KNB1... - KNB2...



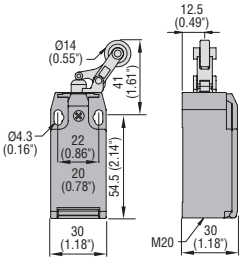
KBC1... - KBC2...
KMC1... - KMC2...



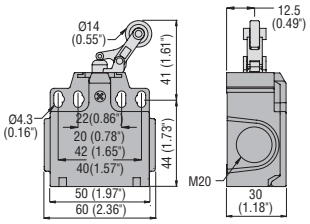
KCC1... - KCC2...
KNC1... - KNC2...



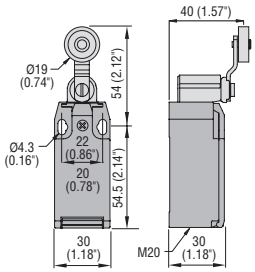
KBD1... - KBD2...
KMD1... - KMD2...



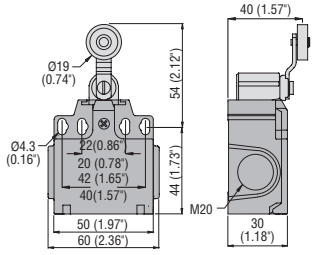
KCD1... - KCD2...
KND1... - KND2...



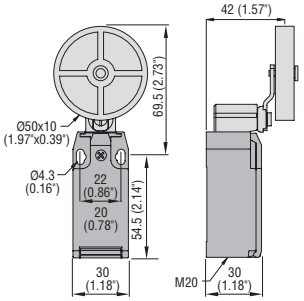
KBE1... - KBE2...
KME1... - KME2...



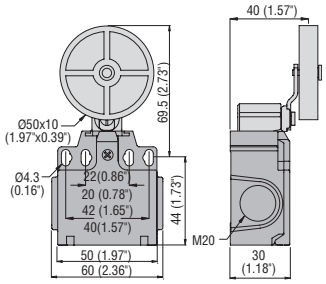
KCE1... - KCE2...
KNE1... - KNE2...



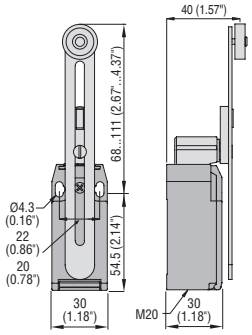
KBE3...
KME3...



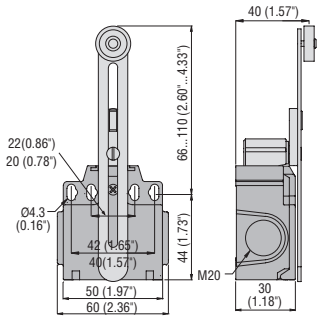
KCE3...
KNE3...



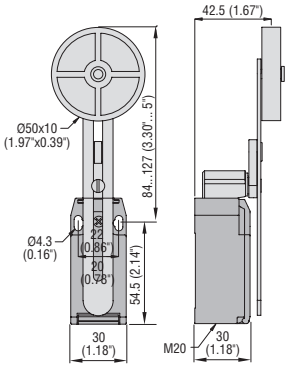
KBF1... - KBF2...
KMF1... - KMF2...



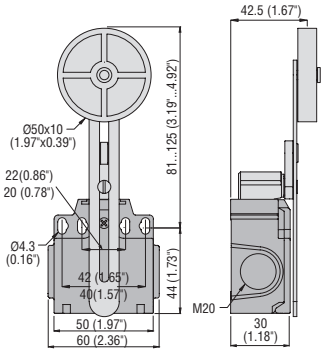
KCF1... - KCF2...
KNF1... - KNF2...



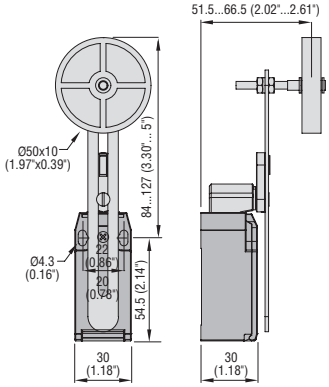
KBF3...
KMF3...



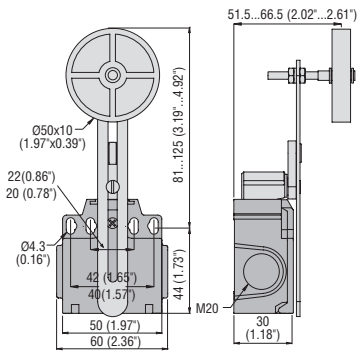
KCF3...
KNF3...



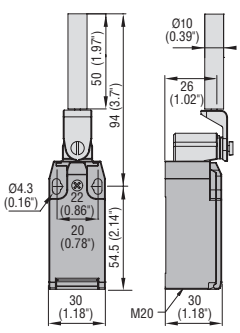
KBF4...
KMF4...



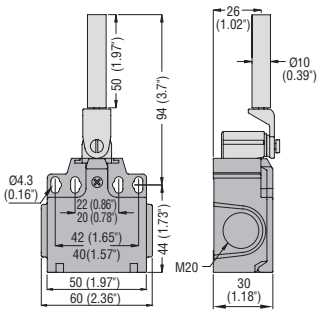
KCF4...
KNF4...



KBH1...
KMH1...

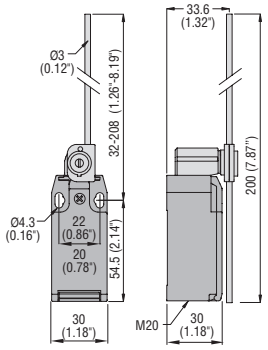


KCH1...
KNH1...

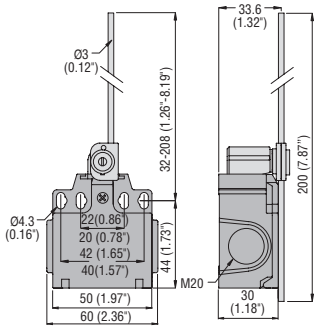


LIMIT SWITCHES K SERIES

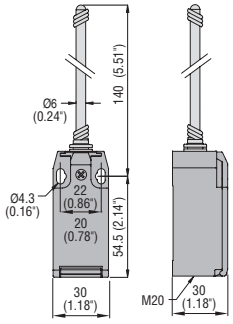
KBL1... - KBL2...
KML1... - KML2...



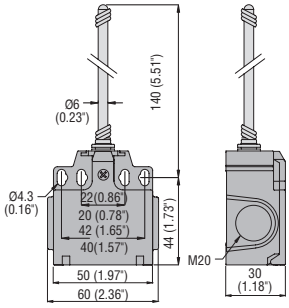
KCL1... - KCL2...
KNL1... - KNL2...



KBM1... - KBM2...
KMM1... - KMM2...

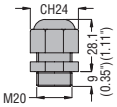


KCM1... - KCM2...
KNM1... - KNM2...



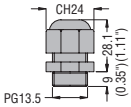
Cable glands

KXP01



CH = Spanner/Wrench

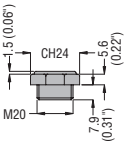
KXP02



CH = Spanner/Wrench

Cable conduit

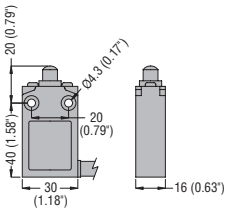
KXP03



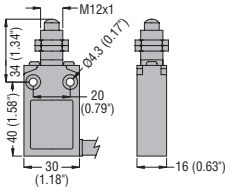
CH = Spanner/Wrench

PREWIRED METAL LIMIT SWITCHES

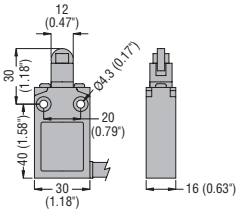
KPA1...



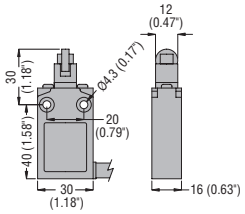
KPA2...



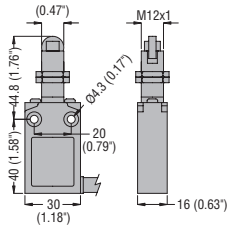
KPB1... - KPB2...



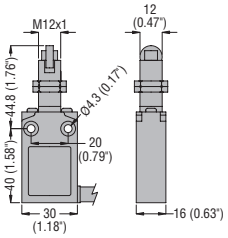
KPB3... - KPB4...



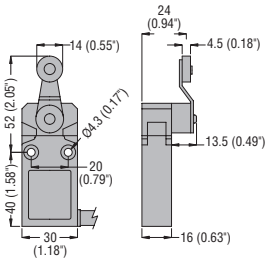
KPB5... - KPB6...



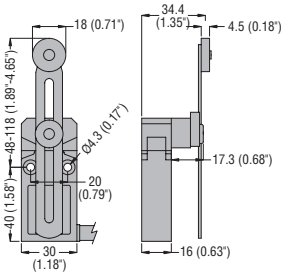
KPB7... - KPB8...



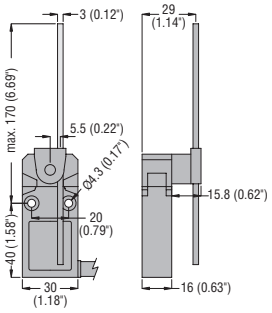
KPE1... - KPE2...



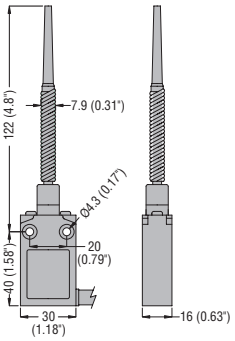
KPF1...



KPL2...

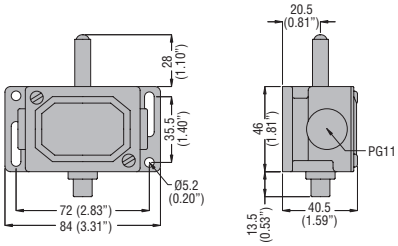


KPM2...

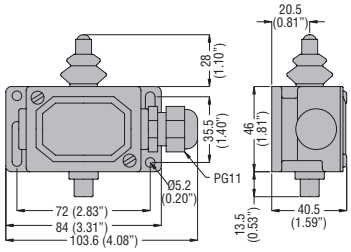


METAL LIMIT SWITCHES, PL SERIES

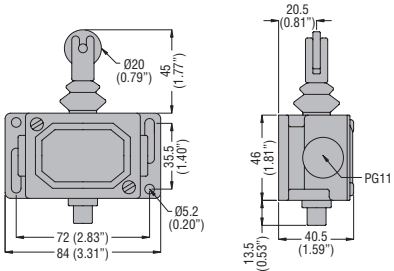
PLN...A



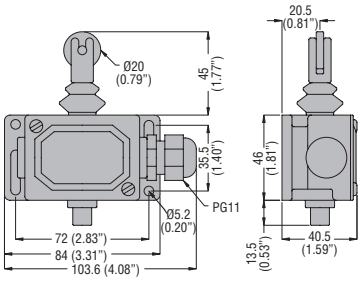
PLN...AW



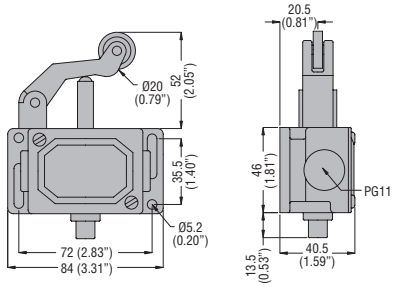
PLN...R



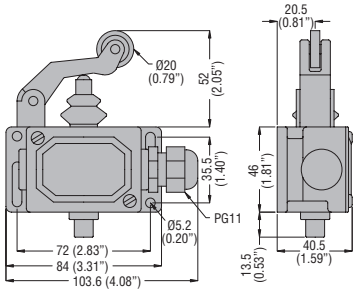
PLN...RW



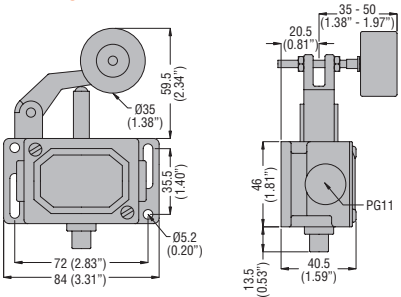
PLN...H



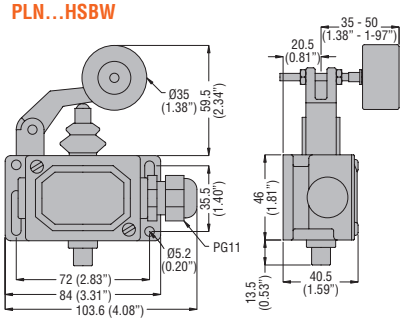
PLN...HW



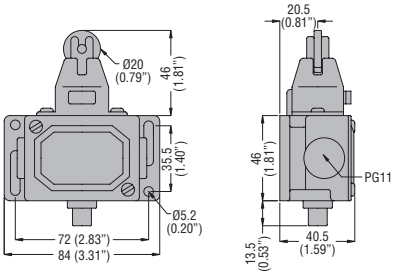
PLN...HSB



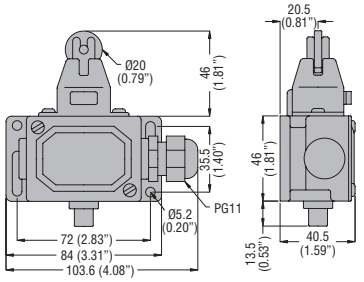
PLN...HSBW



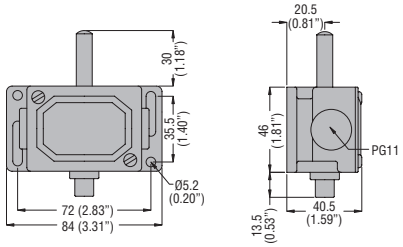
PLNA1RAG



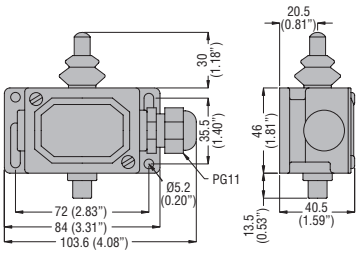
PLNA1RAGW



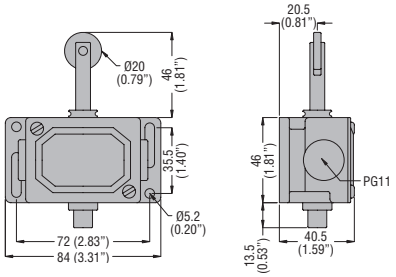
PLNA1AM



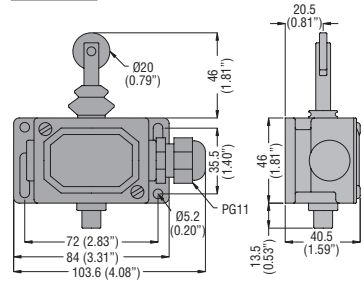
PLA1AMW



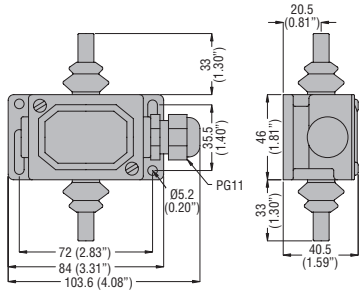
PLA1RM



PLA1RMW

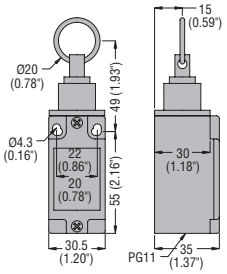


PLN978

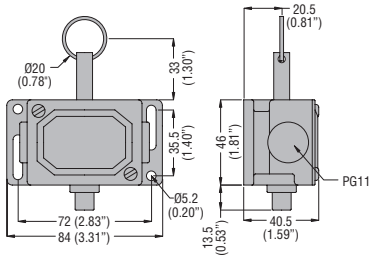


ROPE-PULL LEVER LIMIT SWITCHES FOR NORMAL STOPPING

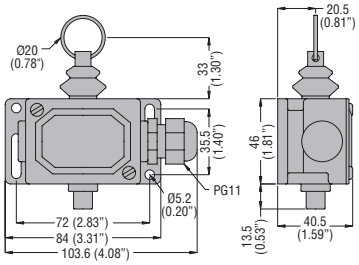
RS113... - RS313...



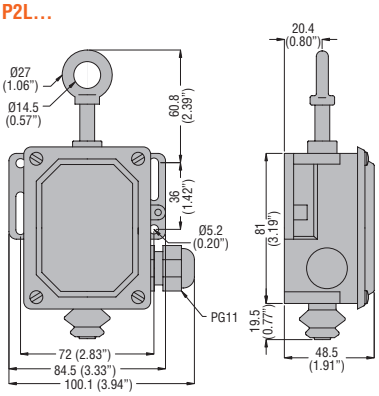
PLN...AT



PLN...ATW

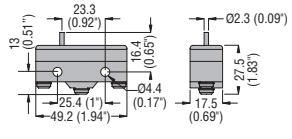


P2L...

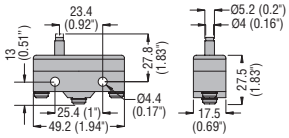


PLASTIC MICRO SWITCHES

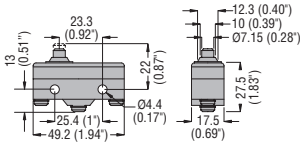
KSA1...



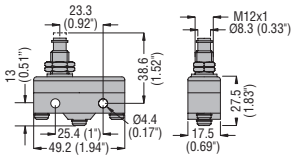
KSA2...



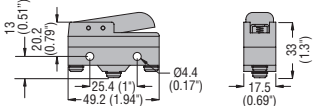
KSA3...



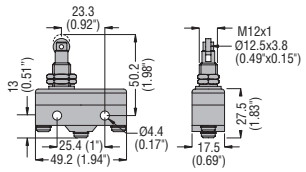
KSA4...



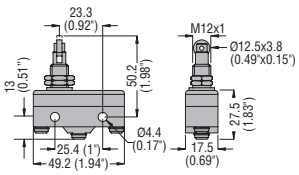
KSA9...



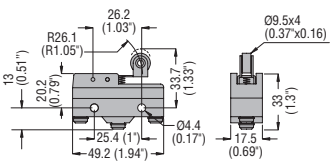
KSB1...



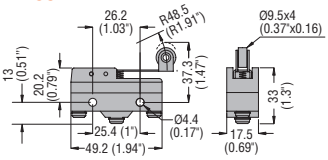
KSB2...



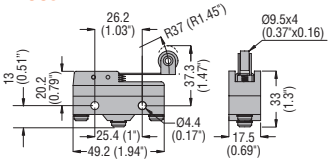
KSC1...



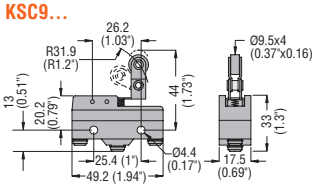
KSC2...



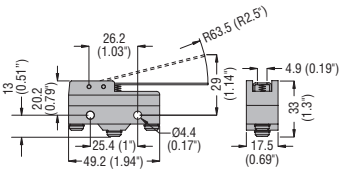
KSC3...



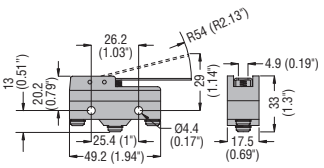
KSC9...



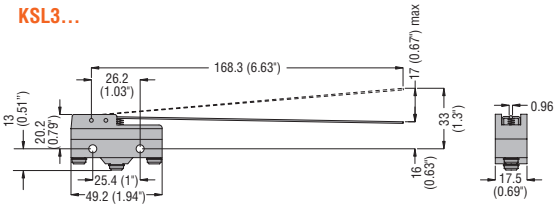
KSL1...



KSL2...

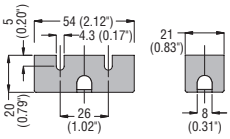


KSL3...

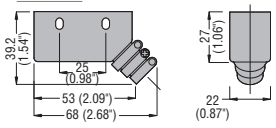


TERMINAL SHROUD

KSSC01

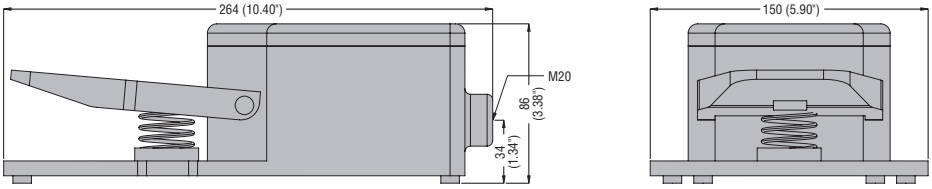


KSSCB2

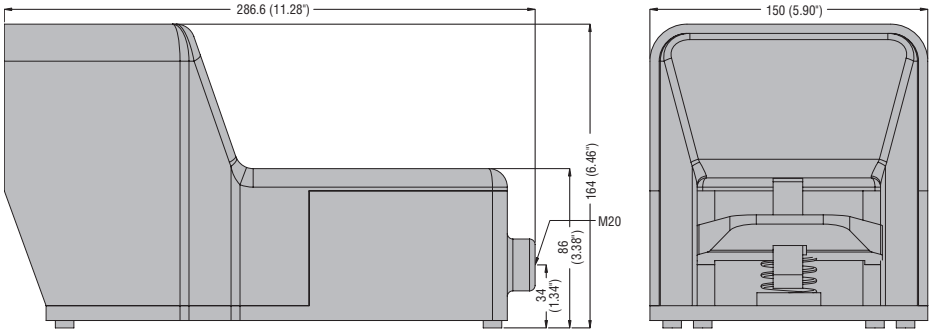


FOOT SWITCHES

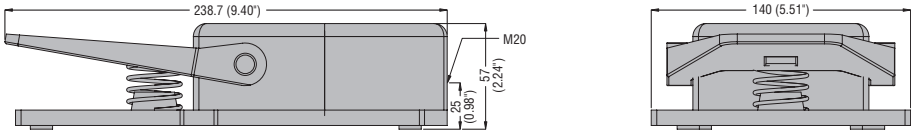
KG1



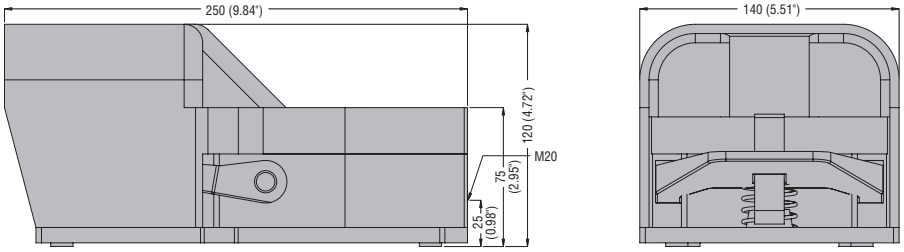
KG2



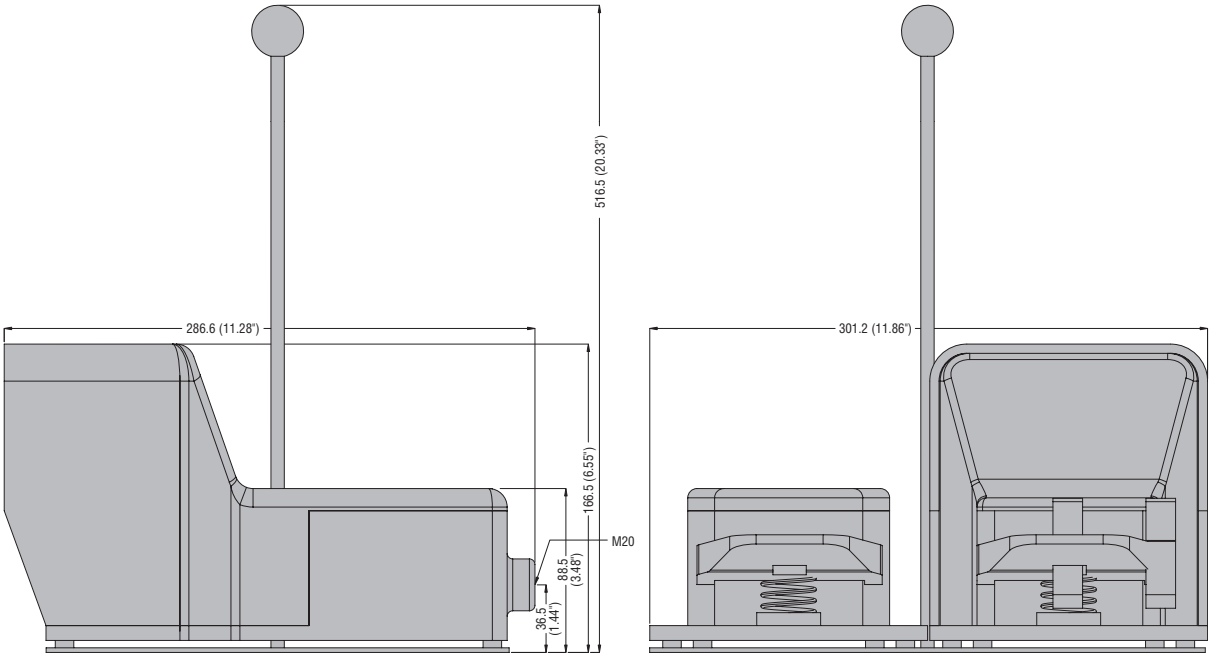
KR1



KR2

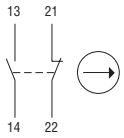


KGD



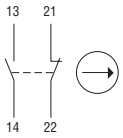
LIMIT SWITCHES, KB - KM - KC - KN TYPES

K...S11 — Snap action



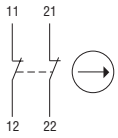
1NO + 1NC

K...L11 — Slow action



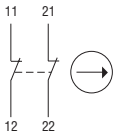
1NO + 1NC

K...L02 — Slow action



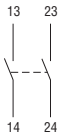
2NC

K...S02
K...D02 — Snap action



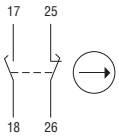
2NC

K...L20 — Slow action



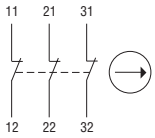
2NO

K...A11 — Slow action



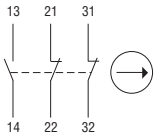
1NO + 1NC
make before break

K...L03 — Slow action



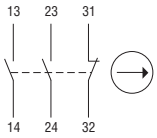
3NC

K...L12 — Slow action



1NO + 2NC

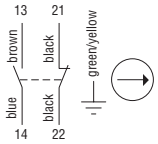
K...L21 — Slow action



2NO + 1NC

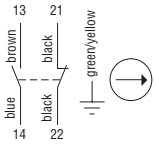
PREWIRED METAL LIMIT SWITCHES

KP...S11 — Snap action



1NO + 1NC

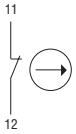
KP...L11 — Slow action



1NO + 1NC

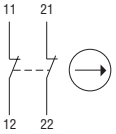
LIMIT SWITCHES, PL TYPE

PLNA1...



1NC

PLNA2...
PLN978



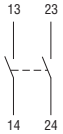
2NC

PLNC1...



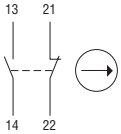
1NO

PLNC2....



2NO

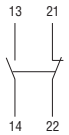
PLNU1...



1NO + 1NC

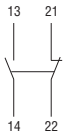
LIMIT SWITCHES FOR NORMAL STOPPING

RS1...
TS1... — Snap action



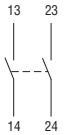
1NO + 1NC

RS2...
TL1... — Slow action



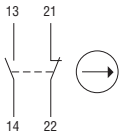
1NO + 1NC

RS3... — Slow action



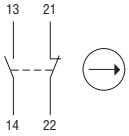
1NO + 1NC

PLNU1AT...



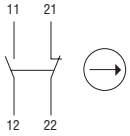
1NO + 1NC

PLNU1...



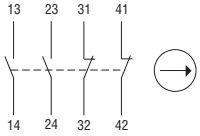
1NO + 1NC

P2L8...



1NO + 1NC

P2L10...



2NO + 2NC

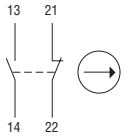
PLASTIC MICRO SWITCHES

KS...



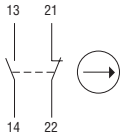
FOOT SWITCHES

K...S11 — Snap action



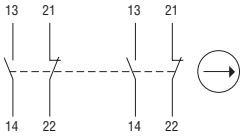
1NO + 1NC

K...L11 — Slow action



1NO + 1NC

K...S22 — Snap action



1NO + 1NC 1NO + 1NC