

LS40M ... LS45M and LS60M ... LS65M

Limit Switches

Description of Complete Device

Applications

Easy to use, electromechanical limit switches offer specific qualities:

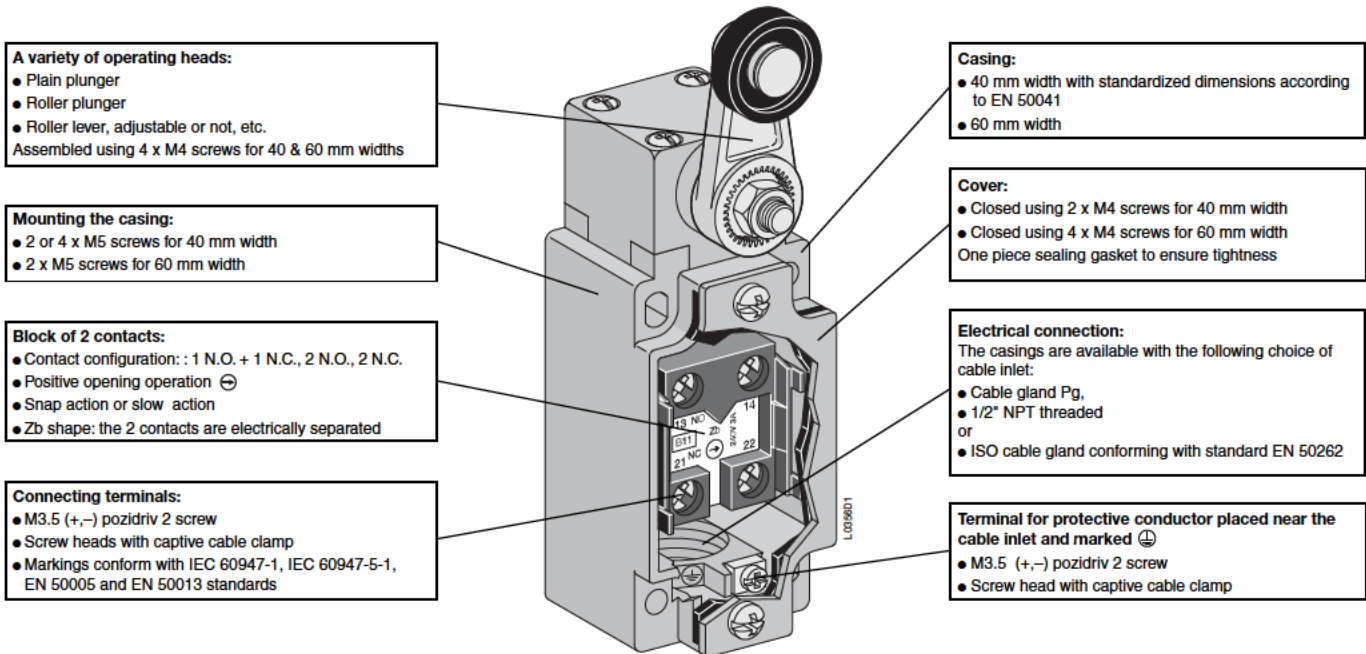
- Visible operation.
- Able to switch strong currents (10 A conventional thermal current).
- Contact blocks with positive opening operation of the "N.C." normally closed contact(s) (symbol ⊖).
- Electrically separated contacts (Zb shape).
- Precise operating points (consistency).
- Immune to electromagnetic disturbances.

They are purpose-built detection devices thanks to these characteristics:

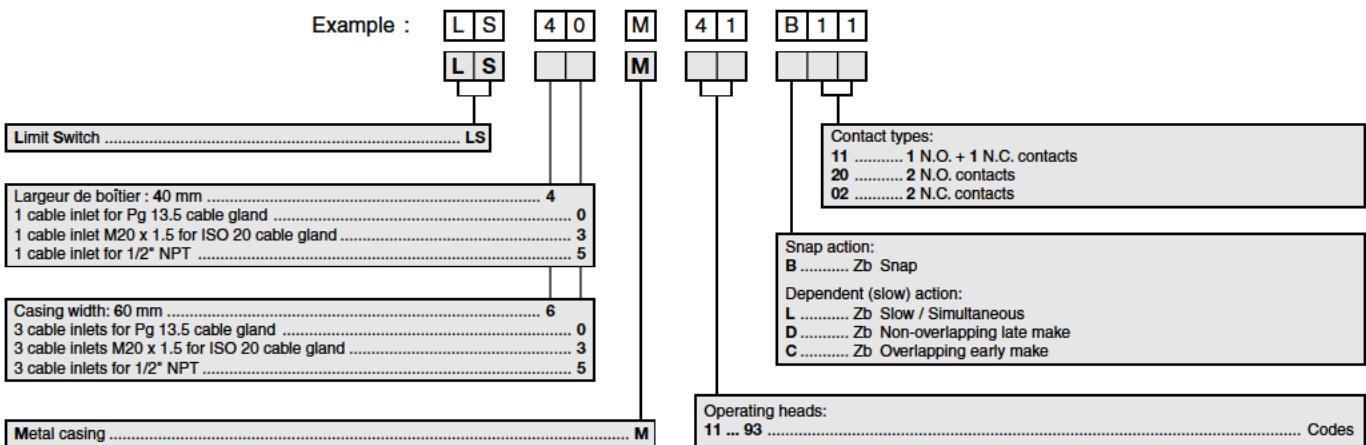
- Presence/absence.
- Positioning and travel limit.
- Objects passing/counting.

Description

Limit switches, which are made of aluminium alloy, have an IP66 degree of protection.

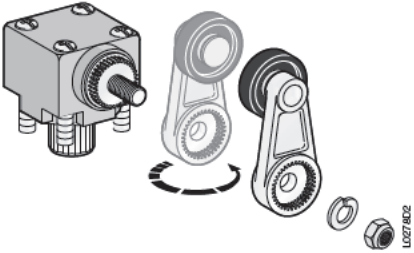


Type

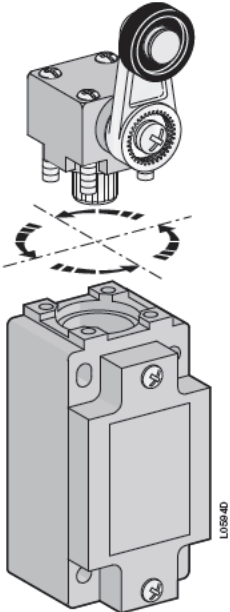


>> Type of Separate Elements pages 26, 35	>> Operation Diagrams pages 32, 41
>> Ordering Details for Separate Elements pages 29, 38	>> Dimensions of Complete Device pages 33, 42

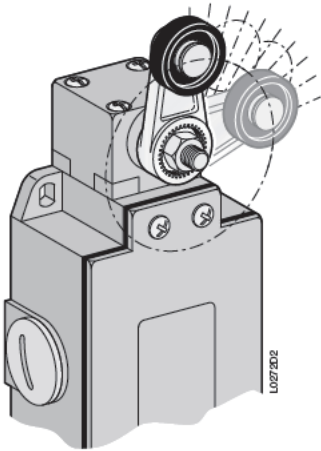
LS40M ... LS45M and LS60M ... LS65M Limit Switches Implementation



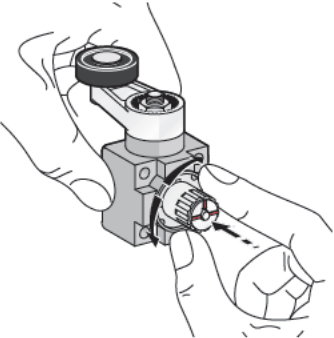
Lever round turning



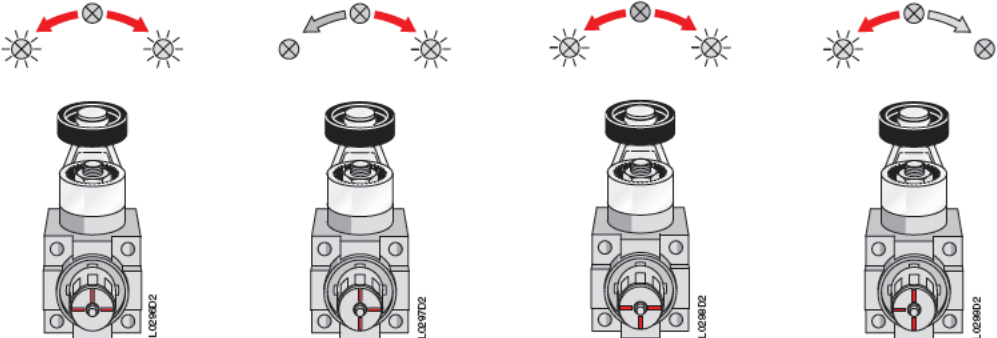
Head orientation



Free position adjustment 9 in 9° of lever



Operating mode selection



LS40M ... LS45M Limit Switches

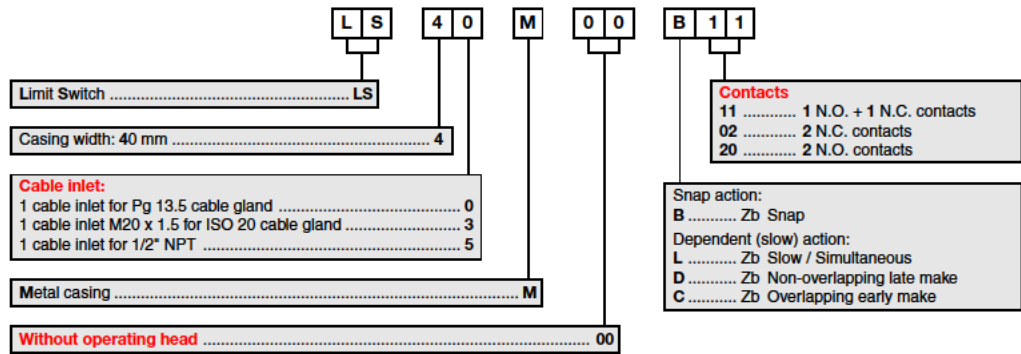
Metal Casing IP66 - 40 mm Width

Type of Separate Elements



LS40M00B11

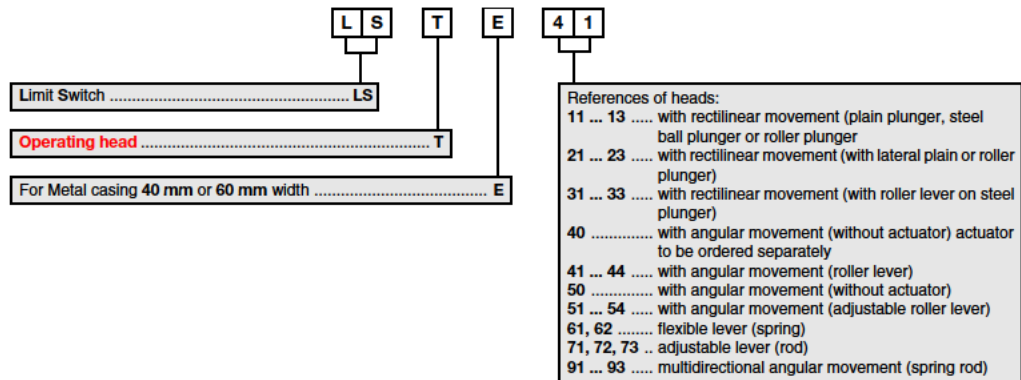
Bodies with Contact Block for Rectilinear or Angular Motion Heads



Operating Heads



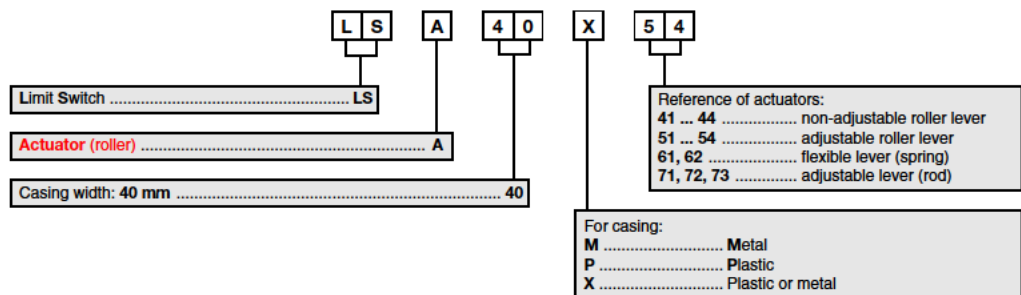
LSTE41



Separate Actuators (Roller Lever, Adjustable Roller or Rod Levers, etc.)



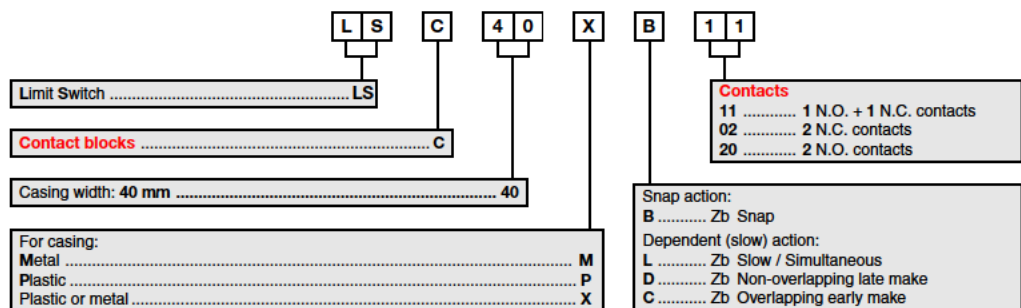
LSA40X54



Separate Contact Blocks



LSC40XB11



>> Implementation page 25
 >> Ordering Details for Separate Elements page 29

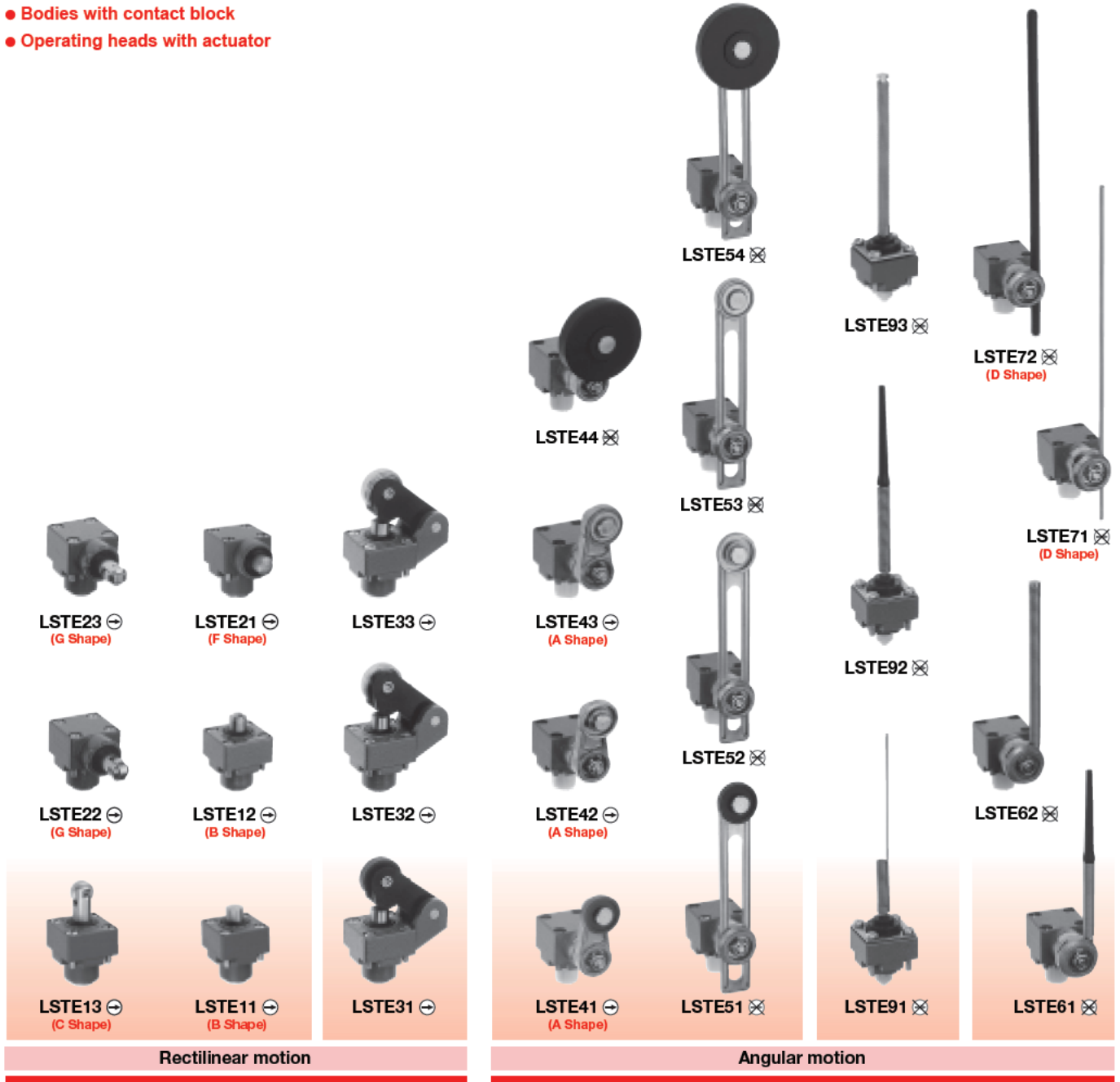
>> Operation Diagrams page 32
 >> Dimensions of Complete Device page 33

LS40M ... LS45M Limit Switches

Metal Casing IP66 - 40 mm Width

Synoptic of Separate Elements

- Bodies with contact block
- Operating heads with actuator



LSTE... rectilinear motion heads

- To be actuated from end. With plunger (plain, lateral plain or ball): LSTE11, LSTE12 and LSTE21.
- To be actuated by 30° cam translation. With roller plunger: LSTE13, LSTE22 and LSTE23.
- To be actuated unidirectionally by 30° cam translation. With roller lever on stainless steel plunger: LSTE31 ... LSTE33.

LSTE... angular motion heads

- To be actuated by 30° cam translation. With roller lever: LSTE41 ... LSTE54.
- To be actuated by fully directional translation movement. With rod or spring lever: LSTE61 ... LSTE72.
- To be actuated multidirectionally. With spring rod: LSTE91 ... LSTE93.



Bodies with contact block

- ⊖ LS40M00B11, LS40M00D11, LS40M00C11, LS40M00L02, LS40M00B02
- LS43M00B11, LS43M00D11, LS43M00C11, LS43M00L02, LS43M00B02
- LS45M00B11, LS45M00D11, LS45M00C11, LS45M00L02, LS45M00B02

- ⊗ LS40M00L20, LS43M00L20, LS45M00L20

⊖ : Suitable for positive opening operation (IEC 60947-5-1 and EN 50041).

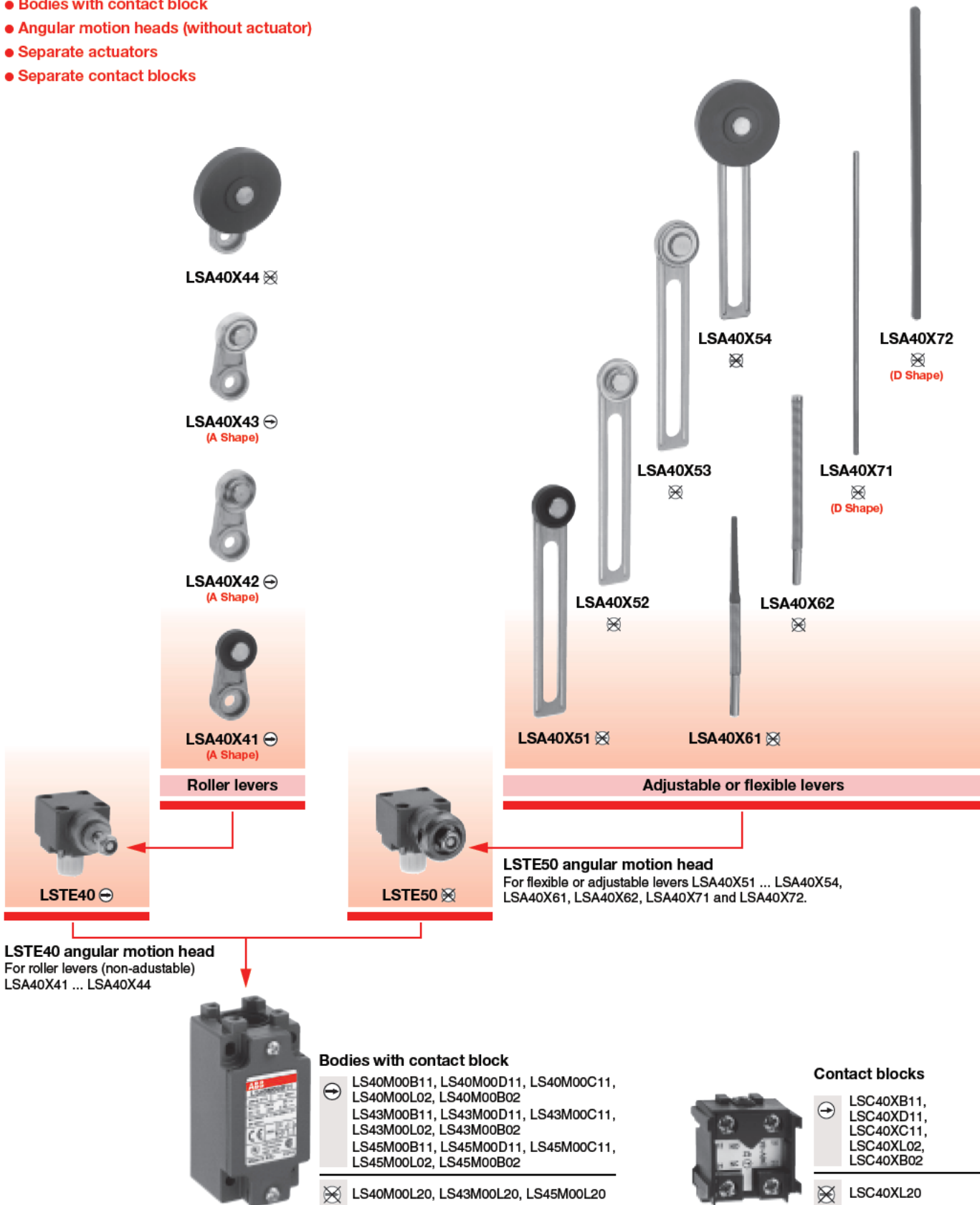
Warning! The positive opening operation of limit switch is only guaranteed if the elements noted with ⊖ are fitted.

LS40M ... LS45M Limit Switches

Metal Casing IP66 - 40 mm Width

Synoptic of Separate Elements (continued)

- Bodies with contact block
- Angular motion heads (without actuator)
- Separate actuators
- Separate contact blocks



⊕ : Suitable for positive opening operation (IEC 60947-5-1 and EN 50041)
 Warning! The positive opening operation of limit switch is only guaranteed if the elements noted with ⊕ are fitted.

LS40M ... LS45M Limit Switches

Metal Casing IP66 - 40 mm Width

Separate Elements

⊖ "N.C." contact with positive opening operation or element (subassembly, head, lever) suitable for positive opening operation.

Warning! The positive opening operation of limit switch is only guaranteed if the elements noted with ⊖ are fitted.



LS40M00B11



LSTE11



LSTE21



LSTE13



LSTE22



LSTE32

LS40M with 1 cable inlet for Pg 13.5 cable gland.
 LS43M with 1 cable inlet M20 x 1.5 for ISO 20 cable gland.
 LS45M with 1 cable inlet for 1/2" NPT.

Ordering Details

Contact blocks						Positive opening operation	Actuation speed max. m/s	Type	Order code	Unit weight kg	Packing 1 piece
Zb	Zb	Zb	Zb	Zb	Zb						
B11	D11	C11	L02	L20	B02	⊖					

Bodies with contact block for rectilinear or angular motion heads

1	1	1	1	1	1	⊖				
						⊖	LS40M00B11	1SBV 01 1100 R1211	0.168	
	1					⊖	LS40M00D11	1SBV 01 1100 R1411	0.168	
		1				⊖	LS40M00C11	1SBV 01 1100 R1511	0.168	
			1			⊖	LS40M00L02	1SBV 01 1100 R1302	0.168	
				1		⊗	LS40M00L20	1SBV 01 1100 R1320	0.168	
					1	⊖	LS40M00B02	1SBV 01 1100 R1202	0.168	
1						⊖	LS43M00B11	1SBV 01 1600 R1211	0.168	
	1					⊖	LS43M00D11	1SBV 01 1600 R1411	0.168	
		1				⊖	LS43M00C11	1SBV 01 1600 R1511	0.168	
			1			⊖	LS43M00L02	1SBV 01 1600 R1302	0.168	
				1		⊗	LS43M00L20	1SBV 01 1600 R1320	0.168	
					1	⊖	LS43M00B02	1SBV 01 1600 R1202	0.168	
1						⊖	LS45M00B11	1SBV 01 3100 R1211	0.168	
	1					⊖	LS45M00D11	1SBV 01 3100 R1411	0.168	
		1				⊖	LS45M00C11	1SBV 01 3100 R1511	0.168	
			1			⊖	LS45M00L02	1SBV 01 3100 R1302	0.168	
				1		⊗	LS45M00L20	1SBV 01 3100 R1320	0.168	
					1	⊖	LS45M00B02	1SBV 01 3100 R1202	0.168	

Rectilinear motion heads with actuator

To be actuated from end

	⊖				
Stainless steel plain plunger	⊖	0.5	LSTE11	1SBV 04 9311 R1000	0.077
Stainless steel ball plunger	⊖	0.5	LSTE12	1SBV 04 9312 R1000	0.076
Stainless steel lateral plain plunger	⊖	0.5	LSTE21	1SBV 04 9321 R1000	0.093

To be actuated by 30° cam

	⊖				
Stainless steel roller plunger	⊖	0.5	LSTE13	1SBV 04 9313 R1000	0.084
Stainless steel lateral plunger with vertical roller	⊖	0.5	LSTE22	1SBV 04 9322 R1000	0.098
Stainless steel lateral plunger with horizontal roller	⊖	0.5	LSTE23	1SBV 04 9323 R1000	0.098

To be actuated unidirectionally by 30° cam

	⊖				
ø 22 mm polyamide roller lever on stainless steel plunger	⊖	1.5	LSTE31	1SBV 04 9331 R1000	0.111
ø 22 mm stainless steel roller lever on stainless steel plunger	⊖	1.5	LSTE32	1SBV 04 9332 R1000	0.121
ø 22 mm steel ball-bearing roller lever on stainless steel plunger	⊖	1.5	LSTE33	1SBV 04 9333 R1000	0.122

LS40M ... LS45M Limit Switches

Metal Casing IP66 - 40 mm Width

Separate Elements

⊖ "N.C." contact with positive opening operation or element (subassembly, head, lever) suitable for positive opening operation.

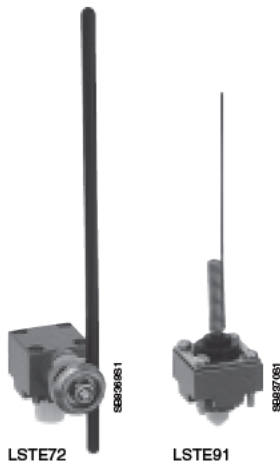
Warning! The positive opening operation of limit switch is only guaranteed if the elements noted with ⊖ are fitted.



LSTE41



LSTE52



LSTE72

LSTE91



LSTE40



LSA40X41

LS40M with 1 cable inlet for Pg 13.5 cable gland.
 LS43M with 1 cable inlet M20 x 1.5 for ISO 20 cable gland.
 LS45M with 1 cable inlet for 1/2" NPT.

Ordering Details

Contact blocks	Positive opening operation	Actuation speed max. m/s	Type	Order code	Unit weight kg	Packing 1 piece
B11						
D11						
C11						
L02						
L20						
B02						

Angular motion heads with actuator

To be actuated by 30° cam

∅ 22 mm polyamide roller lever (1)	⊖	1.5	LSTE41	1SBV 04 9341 R1000	0.134
∅ 22 mm stainless steel roller lever (1)	⊖	1.5	LSTE42	1SBV 04 9342 R1000	0.142
∅ 22 mm steel ball-bearing roller lever (1)	⊖	1.5	LSTE43	1SBV 04 9343 R1000	0.145
∅ 45 mm rubber roller lever (1)	⊗	1.5	LSTE44	1SBV 04 9344 R1000	0.162
Adjustable ∅ 22 mm polyamide roller lever (1)	⊗	1.5	LSTE51	1SBV 04 9351 R1000	0.152
Adjustable ∅ 22 mm stainless steel roller lever (1)	⊗	1.5	LSTE52	1SBV 04 9352 R1000	0.161
Adjustable ∅ 22 mm steel ball-bearing roller lever (1)	⊗	1.5	LSTE53	1SBV 04 9353 R1000	0.163
Adjustable ∅ 45 mm rubber roller lever (1)	⊗	1.5	LSTE54	1SBV 04 9354 R1000	0.168

To be actuated by fully directional translation movement

Stainless steel flexible lever with insulated end (1)	⊗	1	LSTE61	1SBV 04 9361 R1000	0.145
Stainless steel coil spring lever (1)	⊗	1	LSTE62	1SBV 04 9362 R1000	0.152
Adjustable ∅ 3 mm stainless steel rod lever, 195 mm length (1)	⊗	1	LSTE71	1SBV 04 9371 R1000	0.150
Adjustable ∅ 6 mm polyamide rod lever, 195 mm length (1)	⊗	1	LSTE72	1SBV 04 9372 R1000	0.145
Adjustable ∅ 6 mm fibre-glass rod lever, 195 mm length (1)	⊗	1	LSTE73	1SBV 04 9373 R1000	0.149

Multidirectional angular motion heads (to be actuated by fully directional translation movement)

Stainless steel spring rod	⊗	1	LSTE91	1SBV 04 9391 R1000	0.066
Stainless steel flexible rod with insulated end	⊗	1	LSTE92	1SBV 04 9392 R1000	0.068
Stainless steel coil spring rod	⊗	1	LSTE93	1SBV 04 9393 R1000	0.075

Angular motion head without actuator, for non-adjustable roller levers (delivered with M5 nylop nut)

	⊖	1.5	LSTE40	1SBV 04 9340 R1000	0.102
--	---	-----	--------	--------------------	-------

Actuators for angular motion head LSTE40

∅ 22 mm polyamide roller lever (1)	⊖	–	LSA40X41	1SBV 04 8841 R1000	0.032
∅ 22 mm stainless steel roller lever (1)	⊖	–	LSA40X42	1SBV 04 8842 R1000	0.042
∅ 22 mm steel ball-bearing roller lever (1)	⊖	–	LSA40X43	1SBV 04 8843 R1000	0.044
∅ 45 mm rubber roller lever (1)	⊗	–	LSA40X44	1SBV 04 8844 R1000	0.050

(1) Free position adjustment of lever 9° by 9° over 360°.

>> Synoptic of Separate Elements page 27

>> Implementation page 25

LS40M ... LS45M Limit Switches

Metal Casing IP66 - 40 mm Width

Separate Elements

⊖ "N.C." contact with positive opening operation or element (subassembly, head, lever) suitable for positive opening operation.

Warning! The positive opening operation of limit switch is only guaranteed if the elements noted with ⊖ are fitted.



LSTE50



LSA40X52



LSA40X71



LSA40X61



LSC40XB11

LS40M with 1 cable inlet for Pg 13.5 cable gland.
 LS43M with 1 cable inlet M20 x 1.5 for ISO 20 cable gland.
 LS45M with 1 cable inlet for 1/2" NPT.

Ordering Details

Contact blocks	Positive opening operation	Actuation speed max. m/s	Type	Order code	Unit weight kg	Packing 1 piece
	⊖					

Angular motion head without actuator, for flexible or adjustable levers (delivered with M5 nylostop nut and adaptation parts)

⊖	1 to 1.5 acc. to lever	LSTE50	1SBV 04 9350 R1000	0.121
---	------------------------	--------	--------------------	-------

Actuators for angular motion head LSTE50

Adjustable ø 22 mm polyamide roller lever (1)	⊖	–	LSA40X51	1SBV 04 8851 R1000	0.023
Adjustable ø 22 mm stainless steel roller lever (1)	⊖	–	LSA40X52	1SBV 04 8852 R1000	0.032
Adjustable ø 22 mm steel ball-bearing roller lever (1)	⊖	–	LSA40X53	1SBV 04 8853 R1000	0.034
Adjustable ø 45 mm rubber roller lever (1)	⊖	–	LSA40X54	1SBV 04 8854 R1000	0.039
Stainless steel flexible lever with insulated end (1)	⊖	–	LSA40X61	1SBV 04 8861 R1000	0.017
Stainless steel coil spring lever (1)	⊖	–	LSA40X62	1SBV 04 8862 R1000	0.023
Adjustable ø 3 mm stainless steel rod lever, 195 mm length (1)	⊖	–	LSA40X71	1SBV 04 8871 R1000	0.014
Adjustable ø 6 mm polyamide rod lever, 195 mm length (1)	⊖	–	LSA40X72	1SBV 04 8872 R1000	0.010
Adjustable ø 6 mm fibre-glass rod lever, 195 mm length (1)	⊖	–	LSA40X73	1SBV 04 8873 R1000	0.014

Contact blocks (with adaptor)

1 N.C. + 1 N.O. 2-pole snap action	⊖	–	LSC40XB11	1SBV 04 9600 R1211	0.032
1 N.C. + 1 N.O. 2-pole non-overlapping slow action	⊕	–	LSC40XD11	1SBV 04 9600 R1411	0.032
1 N.O. + 1 N.C. 2-pole overlapping slow action	⊕	–	LSC40XC11	1SBV 04 9600 R1511	0.032
2 N.C. 2-pole simultaneous slow action	⊖	–	LSC40XL02	1SBV 04 9600 R1302	0.032
2 N.O. 2-pole simultaneous slow action	⊖	–	LSC40XL20	1SBV 04 9600 R1320	0.032
Bipolaire 2 N.C. 2-pole snap action	⊕	–	LSC40XB02	1SBV 04 9600 R1202	0.032







(1) Free position adjustment of lever 9° by 9° over 360°.

>> Synoptic of Separate Elements page 27 >> Implementation page 25

LS40M ... LS45M Limit Switches

Metal Casing IP66 - 40 mm Width

Operation Diagrams (Body and Attached Head)

Contact blocks					
Snap action B11 	Non-overlapping slow action D11 	Overlapping slow action C11 	Simultaneous slow action L02 	Simultaneous slow action L20 	Snap action B02 
⊕	⊕	⊕	⊕	⊗	⊕

Bodies with contact block

LS40M00B11 LS43M00B11 LS45M00B11	LS40M00D11 LS43M00D11 LS45M00D11	LS40M00C11 LS43M00C11 LS45M00C11	LS40M00L02 LS43M00L02 LS45M00L02	LS40M00L20 LS43M00L20 LS45M00L20	LS40M00B02 LS43M00B02 LS45M00B02
----------------------------------------	----------------------------------------	----------------------------------------	----------------------------------------	----------------------------------------	----------------------------------------

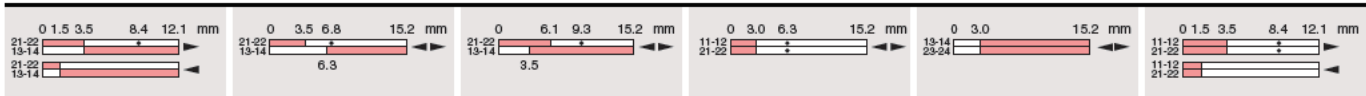
Rectilinear motion heads LSTE11, LSTE12. ⊕



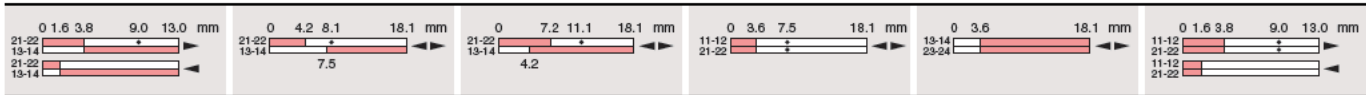
Rectilinear motion head LSTE21. ⊕



Rectilinear motion head LSTE13. ⊕



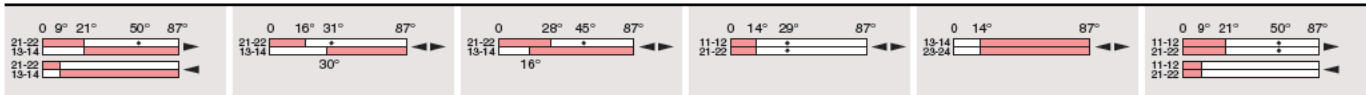
Rectilinear motion heads LSTE22, LSTE23. ⊕



Rectilinear motion heads LSTE31, LSTE32, LSTE33. ⊕



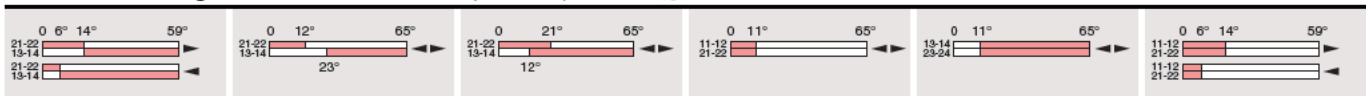
Angular motion heads LSTE40, LSTE41, LSTE42, LSTE43. ⊕




Angular motion heads LSTE44, LSTE50, LSTE51, LSTE52, LSTE53, LSTE54, LSTE61, LSTE62, LSTE71, LSTE72, LSTE73. ⊗



Multidirectional angular motion heads LSTE91, LSTE92, LSTE93. ⊗



Note: Contacts position 

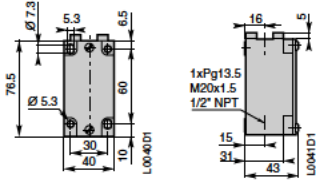
 **Warning!** The positive opening operation of limit switch is only guaranteed if the elements noted with ⊕ are fitted.

LS40M ... LS45M Limit Switches

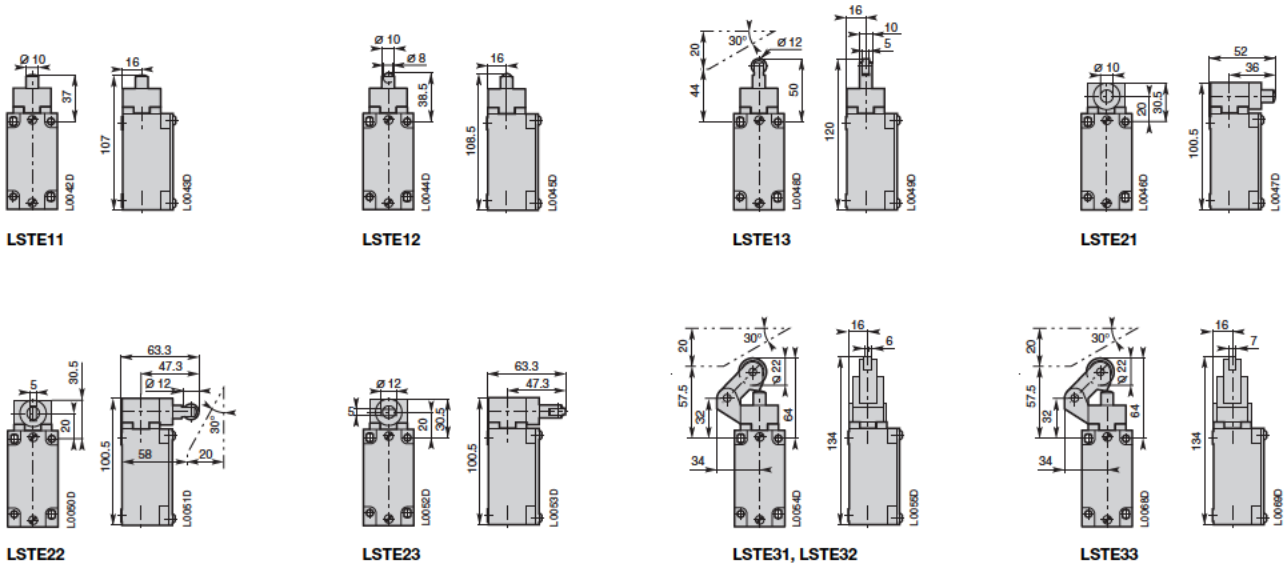
Metal Casing IP66 - 40 mm Width

Dimensions (in mm) - Complete Device

Bodies with contact block LS40M00..., LS43M00... or LS45M00



Body and fitted rectilinear motion head LSTE...



Note: The reference LSTE... under each picture, corresponds to the head only. The pictures show the complete device.

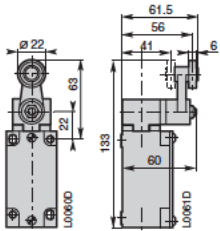
>> Description of Complete Device page 24 >> Implementation page 25

LS40M ... LS45M Limit Switches

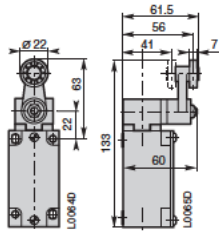
Metal Casing IP66 - 40 mm Width

Dimensions (in mm) - Complete Device

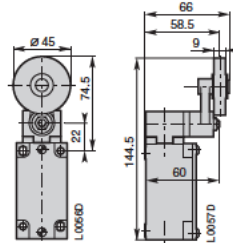
Body and fitted angular motion head LSTE...



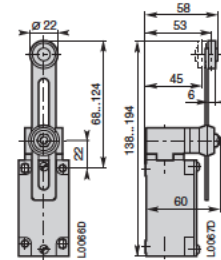
LSTE41, LSTE42



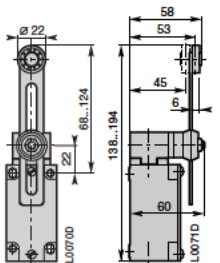
LSTE43



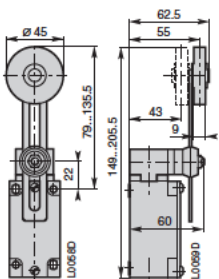
LSTE44



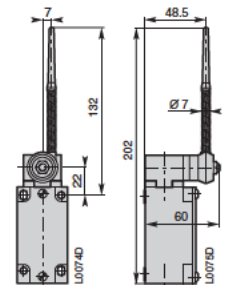
LSTE51, LSTE52



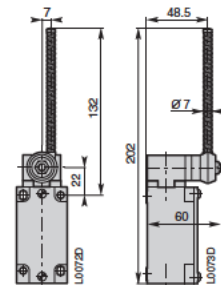
LSTE53



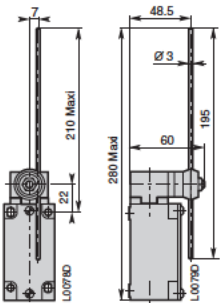
LSTE54



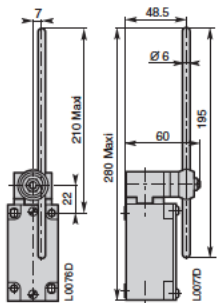
LSTE61



LSTE62

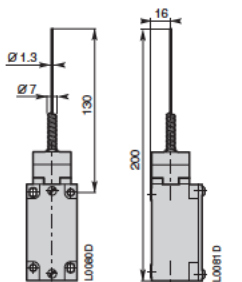


LSTE71

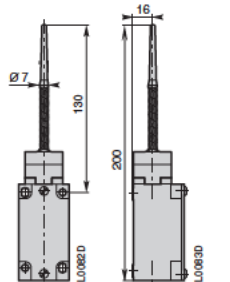


LSTE72, LSTE73

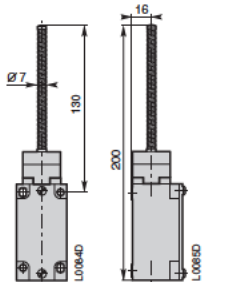
Body and fitted multidirectional angular motion head LSTE...



LSTE91



LSTE92



LSTE93

Note: The reference LSTE... under each picture, corresponds to the head only. The pictures show the complete device.