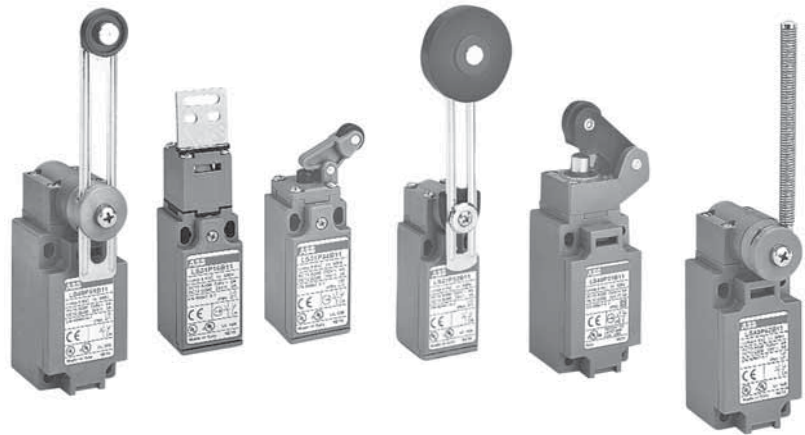


Plastic Limit switches



Limit Switches

Plastic casing, 30mm & 40mm
Assembled
Components



Description

Limit switches are made of reinforced UL-V0 thermoplastic fiberglass, offer double insulation \square and a degree of protection of IP 65 and UL Type 4.

Casings come in 2 dimensions:

- 30mm width
 - LS35P
- 40mm width
 - LS45P

Applications

Easy to use, electromechanical limit switches offer specific qualities:

- Visible operation
- Electrically separated contacts
- Precise operating points (consistency)
- Immune to electromagnetic disturbances

Limit switches used for these mechanical applications:

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

UL Listed file #E191693

Selection guide

30mm & 40mm, IP65, UL Type 4

30mm width — LS35P



CENELEC conformity

—

EN 50 047

EN 50 047

EN 50 047

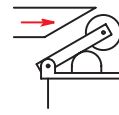
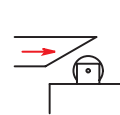
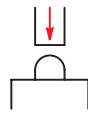
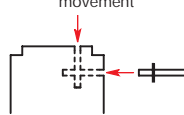
Actuating device and actuation type

Key translation movement

Plain plunger

Roller plunger

Roller lever



Positive contact opening



40mm width — LS45P



CENELEC conformity

EN 50 041

EN 50 041

—

EN 50 041

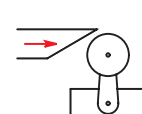
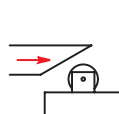
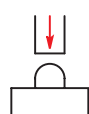
Actuating device and actuation type

Plain plunger

Roller plunger

Roller lever

Roller lever








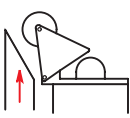
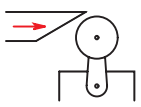
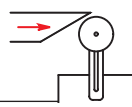
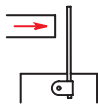
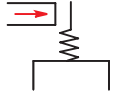


Positive contact opening






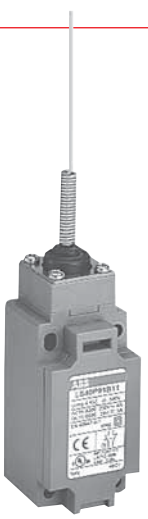
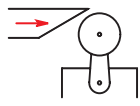
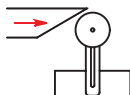
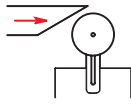
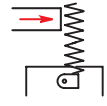
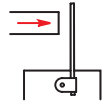
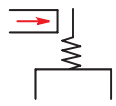


Selection guide

30mm & 40mm, IP65, UL Type 4

Plastic
Limit switches

				
LS35P32	LS35P41	LS35P51	LS35P71	LS35P91
—	EN 50 047	—	—	—
Roller lever	Roller lever	Adjustable roller lever	Adjustable rod lever	Flexible rod
				
		—	—	—

					
LS45P44	LS45P51	LS45P54	LS45P61	LS45P72	LS45P91
—	—	—	—	EN 50 041	—
Roller lever	Adjustable roller levers		Adjustable flexible and rigid rod levers		Flexible rod
					
—	—	—	—	—	—

General information

30mm & 40mm, IP65, UL Type 4

Applications

Easy to use, electromechanical limit switches offer specific qualities:

- Visible operation
- Able to switch strong currents (10 A conventional thermal current)
- Electrically separated contacts
- Precise operating points (consistency)
- Immune to electromagnetic disturbances

Limit switches used for these mechanical applications:

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

Description

Limit switches, which are made of reinforced UL-V0 thermoplastic fiberglass, offer double insulation  and a degree of protection of IP 65 and UL type 4.

Casings come in 2 dimensions:

- 30mm width
 - LS35P
- 40mm width
 - LS45P

9

30 or 40mm width casings with standardized dimensions corresponding to:

- EN 50047 for 30mm width
- EN 50041 for 40mm width

Mounting the casing:

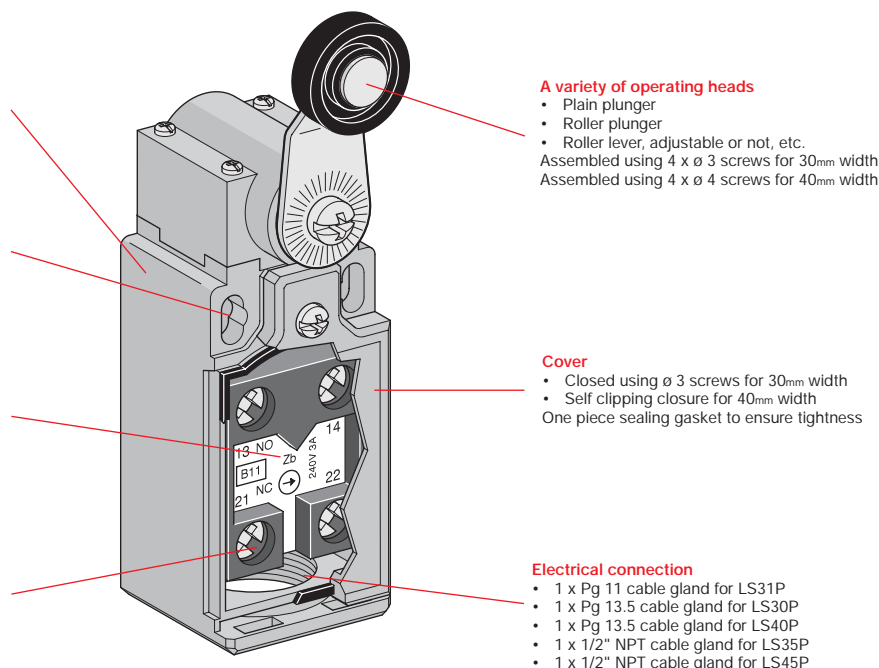
- 2 x M4 screws on top part for 30mm width
- 2 or 4 x M5 screws for 40mm width

Block of 2 contacts:

- Contact configuration: N.O. + N.C., 2 N.O., 2 N.C.
- Positive opening operation
- Snap action or slow action
- Zb shape: the 2 contacts are electrically separated

Connecting terminals:

- M3.5 (+,-) pozidriv 2 screw
- Screw head with captive cable clamp
- Markings conform with IEC 947—1, IEC 947—5—1, EN 50005 and 50013 standards



A variety of operating heads

- Plain plunger
 - Roller plunger
 - Roller lever, adjustable or not, etc.
- Assembled using 4 x ø 3 screws for 30mm width
Assembled using 4 x ø 4 screws for 40mm width

Cover

- Closed using ø 3 screws for 30mm width
 - Self clipping closure for 40mm width
- One piece sealing gasket to ensure tightness

Electrical connection

- 1 x Pg 11 cable gland for LS31P
- 1 x Pg 13.5 cable gland for LS30P
- 1 x Pg 13.5 cable gland for LS40P
- 1 x 1/2" NPT cable gland for LS35P
- 1 x 1/2" NPT cable gland for LS45P

Catalog number explanation

Limit switch

Casing width

- 30 = 30mm width+1 cable inlet for Pg 13.5 cable gland
- 31 = 30mm width+1 cable inlet for Pg 11 cable gland
- 35 = 30mm width+1 cable inlet for 1/2" NPT cable gland
- 40 = 40mm width+1 cable inlet for Pg 13.5 cable gland
- 45 = 40mm width+1 cable inlet for 1/2" NPT cable gland

Plastic casing

Operating heads: codes 10 – 93

LS 35 P 41 B 11

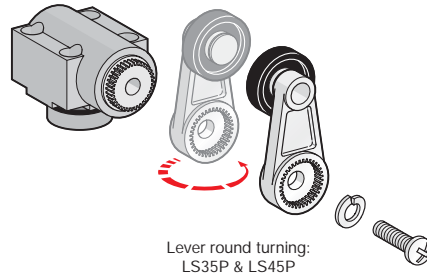
Contact block

- 11: 1 N.O. contact + 1 N.C. contact
- 20: 2 N.O. contacts
- 02: 2 N.C. contacts

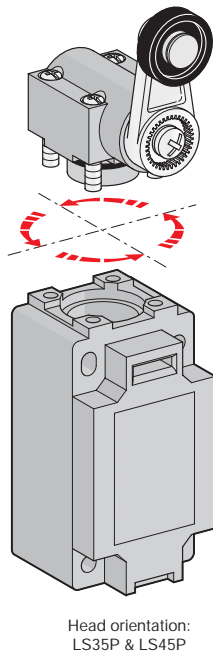
- B: Zb Snap action
- L: Zb Slow action (contact dependent)
- D: Zb Slow action non-overlapping late make
- C: Zb Slow action overlapping early make

General information
Implementation
 30mm & 40mm, IP65, UL Type 4

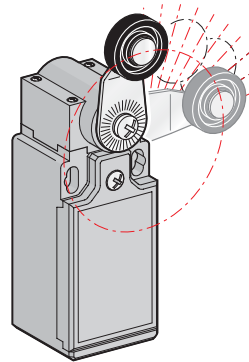
Plastic
 Limit switches



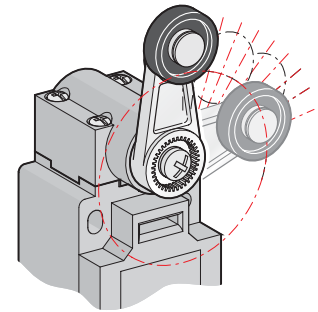
Lever round turning:
 LS35P & LS45P



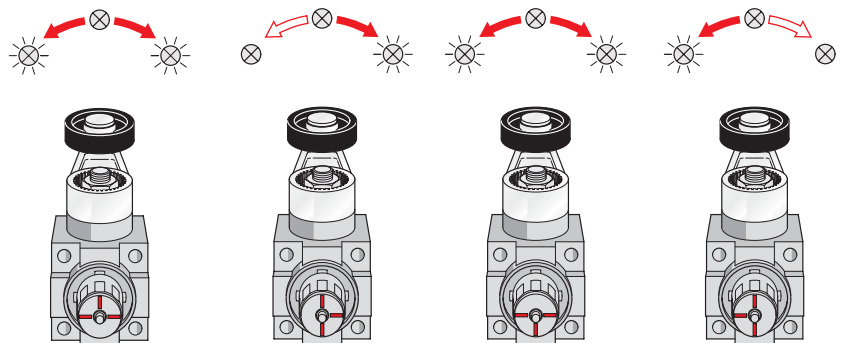
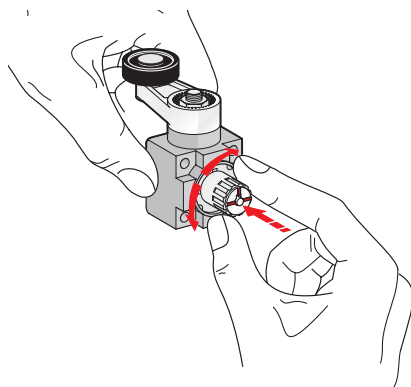
Head orientation:
 LS35P & LS45P



Free position adjustment
 10 in 10° of lever:
 LS35P



Free position adjustment
 9 in 9° of lever:
 LS45P



Operating mode selection only, LS45P

Assembled 30mm, IP 65, UL Type 4

Movement to be detected

Key translation, on end or lateral

On end



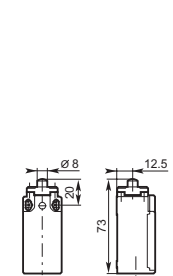
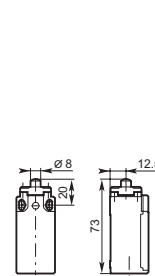
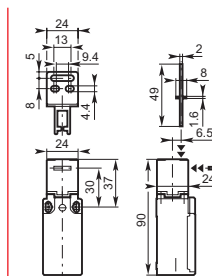
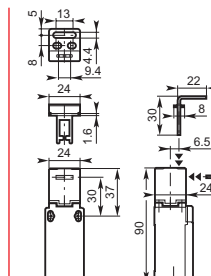
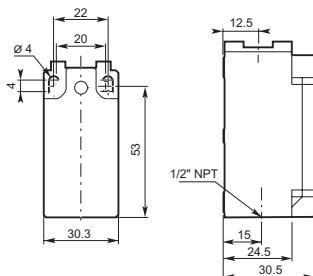
Operating head type

	Right angle key	Straight key	Plain thermoplastic plunger	Plain steel plunger
Conformity / (N.C. contact with positive opening operation)			EN 50 047	EN 50 047
Maximum actuation speed m/s	0.5	0.5	0.5	0.5
Min. force: - actuation N	18	18	9	9
- positive opening operation N	60	60	44	44

9

Snap action contacts	Catalog number	LS35P15B11	LS35P16B11	LS35P10B11	LS35P11B11
List price		\$ 31	\$ 33	\$ 22	\$ 22
Operation diagram					
Non-overlapping Slow action contacts	Catalog number	LS35P15D11	LS35P16D11	LS35P10D11	LS35P11D11
List price		33	35	23	23
Operation diagram					
Overlapping Slow action contacts	Catalog number	LS35P15C11	LS35P16C11	LS35P10C11	LS35P11C11
List price		34	36	24	24
Operation diagram					
Slow action contacts	Catalog number	LS35P15L02	LS35P16L02	LS35P10L02	LS35P11L02
List price		34	36	24	24
Operation diagram					
Slow action contacts	Catalog number	LS35P15L20	LS35P16L20	LS35P10L20	LS35P11L20
List price		34	36	24	24
Operation diagram					
Snap action contacts	Catalog number	LS35P15B02	LS35P16B02	LS35P10B02	LS35P11B02
List price		34	36	24	24
Operation diagram					
Weight (packing per unit)	kg	0.085	0.085	0.065	0.070

Approximate dimensions (mm)



Assembled 30mm, IP 65, UL Type 4

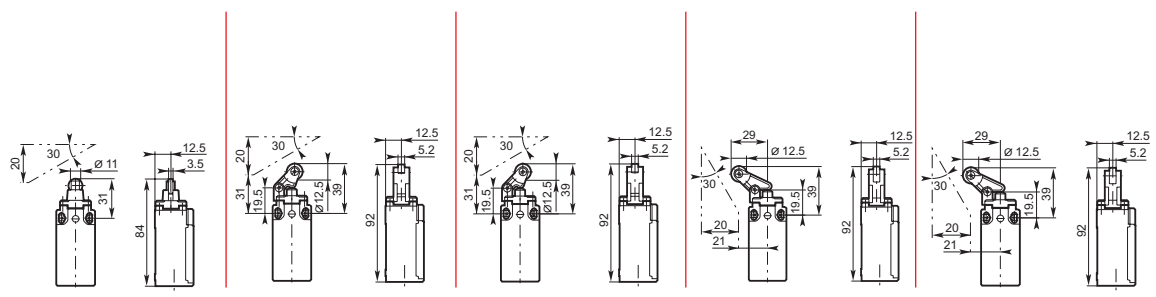


30° Cam Translat. 30° Unidirectional Cam Translation Movement



Plastic roller plunger	Plastic roller lever on plastic plunger	Plastic roller lever on steel plunger	Plastic roller lever on steel plunger	Plastic roller lever on plastic plunger
EN 50 047	EN 50 047	EN 50 047		
0.3	1	1	1	1
12	7	7	3	3
41	24	24	24	24

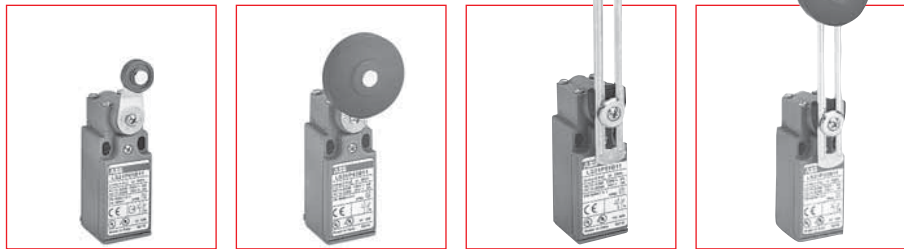
LS35P13B11 \$ 25 0 1.4 3.3 7.8 11.2 mm 	LS35P30B11 \$ 24 0 3.0 7.1 16.9 24.4 mm 	LS35P31B11 \$ 25 0 3.0 7.1 16.9 24.4 mm 	LS35P32B11 \$ 24 0 2.6 6.2 14.7 21.3 mm 	LS35P34B11 \$ 25 0 2.6 6.2 14.7 21.3 mm
LS35P13D11 26 0 2.6 5.1 11.4 mm 4.7 	LS35P30D11 25 0 5.6 10.9 24.4 mm 10.1 	LS35P31D11 26 0 5.6 10.9 24.4 mm 10.1 	LS35P32D11 25 0 4.9 9.4 21.1 mm 8.8 	LS35P34D11 26 0 4.9 9.4 21.1 mm 8.8
LS35P13C11 27 0 4.6 7.0 11.4 mm 2.6 	LS35P30C11 26 0 9.8 15.0 24.4 mm 5.6 	LS35P31C11 27 0 9.8 15.0 24.4 mm 5.6 	LS35P32C11 26 0 8.5 13.0 21.1 mm 4.9 	LS35P34C11 27 0 8.5 13.0 21.1 mm 4.9
LS35P13L02 27 0 2.3 4.7 11.4 mm 	LS35P30L02 26 0 4.9 10.1 24.4 mm 	LS35P31L02 27 0 4.9 10.1 24.4 mm 	LS35P32L02 26 0 4.2 8.8 21.1 mm 	LS35P34L02 27 0 4.2 8.8 21.1 mm
LS35P13L20 27 0 2.3 11.4 mm 	LS35P30L20 26 0 4.9 24.4 mm 	LS35P31L20 27 0 4.9 24.4 mm 	LS35P32L20 26 0 4.2 21.1 mm 	LS35P34L20 27 0 4.2 21.1 mm
LS35P13B02 27 0 1.4 3.3 7.8 11.2 mm 	LS35P30B02 26 0 3.0 7.1 16.9 24.4 mm 	LS35P31B02 27 0 3.0 7.1 16.9 24.4 mm 	LS35P32B02 26 0 2.6 6.2 14.7 21.3 mm 	LS35P34B02 27 0 2.6 6.2 14.7 21.3 mm
0.070	0.065	0.070	0.075	0.070



Assembled 30mm, IP 65, UL Type 4

Movement to be detected

30° Cam translation movement



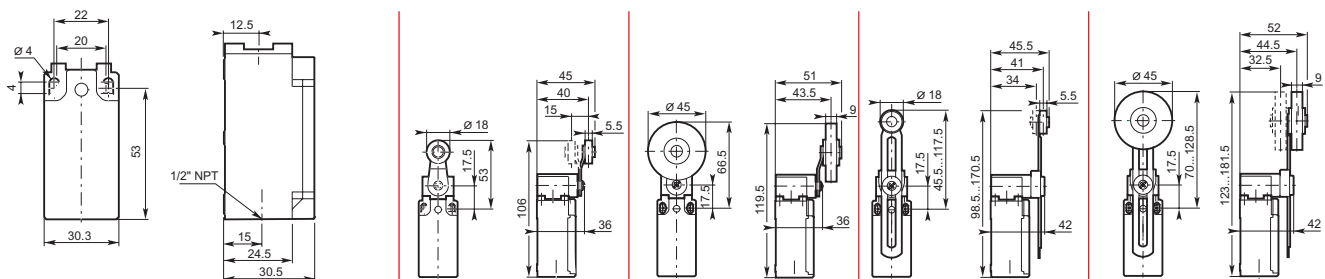
Operating head type

	Ø 18 Polyamide roller lever	Ø 45 Rubber roller lever	Adjustable Ø 18 polyamide roller lever	Adjustable Ø 45 rubber roller lever
Conformity / (N.C. contact with positive opening operation)	EN 50 047			
Maximum actuation speed	m/s 1.5	1.5	1.5	1.5
Min. torque: - actuation	N.m 0.10	0.10	0.10	0.10
- positive opening operation	N.m 0.32	—	—	—

9 Additional technical data

	Catalog number	LS35P41B11	LS35P42B11	LS35P51B11	LS35P52B11
Snap action contacts	List price	\$ 26	\$ 27	\$ 27	\$ 28
	Operation diagram				
Non-overlapping slow action contacts	Catalog number	LS35P41D11	LS35P42D11	LS35P51D11	LS35P52D11
List price		27	29	28	30
	Operation diagram				
Overlapping slow action contacts	Catalog number	LS35P41C11	LS35P42C11	LS35P51C11	LS35P52C11
List price		28	30	29	30
	Operation diagram				
Slow action contacts	Catalog number	LS35P41L02	LS35P42L02	LS35P51L02	LS35P52L02
List price		28	30	29	30
	Operation diagram				
Slow action contacts	Catalog number	LS35P41L20	LS35P42L20	LS35P51L20	LS35P52L20
List price		28	30	29	30
	Operation diagram				
Snap action contacts	Catalog number	LS35P41B02	LS35P42B02	LS35P51B02	LS35P52B02
List price		28	30	29	30
	Operation diagram				
Weight (packing per unit)	kg	0.090	0.120	0.100	0.130

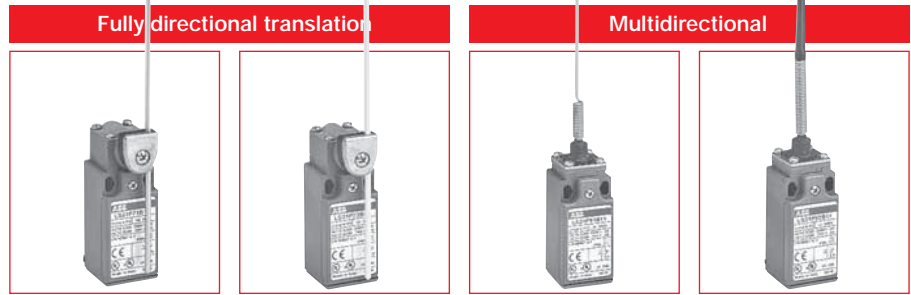
Dimensions (mm)



Assembled 30mm, IP 65, UL Type 4

Plastic
Limit switches

Movement to be detected



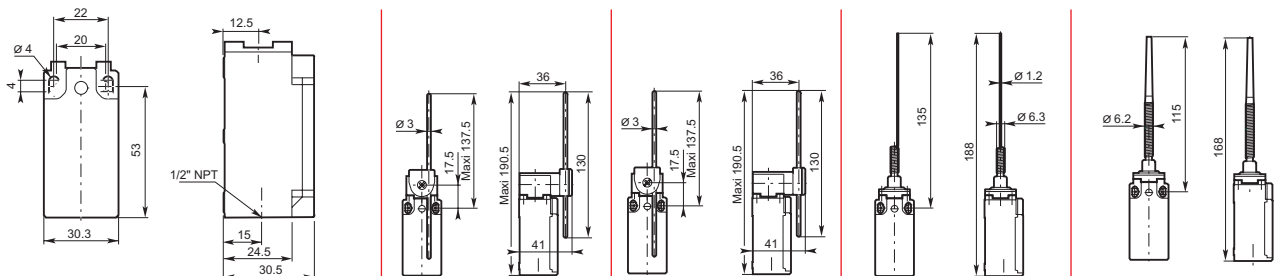
Operating head type

	Adjustable $\varnothing 3$ stainless steel rod lever	Adjustable $\varnothing 3$ fiber-glass rod lever	Spring rod	Flexible rod with insulated end
Conformity / N.C. (N.C. contact with positive opening operation)				
Maximum actuation speed	m/s 1.5	m/s 1.5	m/s 1	m/s 1
Min. torque: - actuation	N.m 0.10	N.m 0.10	N.m 0.12	N.m 0.12
- positive opening operation	N.m —	N.m —	N.m —	N.m —

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	Catalog number	LS35P71B11	LS35P72B11	LS35P91B11	LS35P92B11
Snap action contacts	List price	\$ 27	\$ 27	\$ 25	\$ 25
	Operation diagram				
Non-overlapping Slow action contacts	Catalog number	LS35P71D11	LS35P72D11	LS35P91D11	LS35P92D11
	List price	28	28	27	27
	Operation diagram				
Overlapping Slow action contacts	Catalog number	LS35P71C11	LS35P72C11	LS35P91C11	LS35P92C11
	List price	29	29	27	27
	Operation diagram				
Slow action contacts	Catalog number	LS35P71L02	LS35P72L02	LS35P91L02	LS35P92L02
	List price	29	29	27	27
	Operation diagram				
Slow action contacts	Catalog number	LS35P71L20	LS35P72L20	LS35P91L20	LS35P92L20
	List price	29	29	27	27
	Operation diagram				
Snap action contacts	Catalog number	LS35P71B02	LS35P72B02	LS35P91B02	LS35P92B02
	List price	29	29	27	27
	Operation diagram				
Weight (packing per unit)	kg	0.100	0.100	0.080	0.080

Dimensions (mm)



Components

30mm, IP 65, UL Type 4



LS35P40B11



LSA30X41



LSC30XD11

Casings with contact block and angular motion head (without actuator)

	LS	35	P	40	B11	
Limit Switch.....	LS					
Casing width 30 mm		3				
Cable inlet						
1 cable inlet for Pg 13.5 cable gland		0				
1 cable inlet for Pg 11 cable gland		1				
1 cable inlet M16 x 1.5 for ISO 16 cable gland		2				
1 cable inlet M20 x 1.5 for ISO 20 cable gland		3				
1 cable inlet by 1/2" NPT plastic adaptor		5				
Plastic casing			P			
Operating heads (without actuator)						
With angular movement for non-adjustable roller levers				40		
With angular movement for adjustable roller or rod levers				50		
						Contacts
						11
						02
						20
						1 N.O. + 1 N.C. contacts
						2 N.C. contacts
						2 N.O. contacts
						Snap action
						B
						Zb Snap
						Dependent (slow) action
						L
						Zb Slow / Simultaneous
						D
						Zb Non-overlapping late make
						C
						Zb Overlapping early make

Separate actuators (lever, key)

	LS	A	30	X	41	
Limit Switch.....	LS					
Actuator (lever, key)		A				
Casing width: 30 mm			30			
						Reference of actuators
						05, 06
						key
						41, 42
						non-adjustable roller lever
						51, 52
						adjustable roller lever
						71, 72, 73, 74
						adjustable rod lever
						For casing
						M
						Metal
						P
						Plastic
						X
						Plastic or metal

Separate contact blocks

	LS	C	30	X	D	11	
Limit Switch.....	LS						
Contact blocks		C					
Casing width: 30 mm			30				
							Contacts
							11
							02
							20
							1 N.O. + 1 N.C. contacts
							2 N.C. contacts
							2 N.O. contacts
							Snap action
							B
							Zb Snap
							Dependent (slow) action
							L
							Zb Slow / Simultaneous
							D
							Zb Non-overlapping late make
							C
							Zb Overlapping early make

Components

30mm, IP 65, UL Type 4

Plastic
Limit switches

- Casings equipped with angular motion head (without actuator)
- Separate actuators
- Separate contact blocks



LSA30X42



LSA30X41 (A Shape)

Roller levers (non-adjustable)



LSA30X52



LSA30X51

Adjustable roller levers



LSA30X71

LSA30X72

Adjustable rod levers



LSA30X73



LSA30X74



LS35P40 casings equipped with angular motion head for roller levers (non-adjustable)

- ⊕ LS35P40B11, LS35P40D11, LS35P40C11, LS35P40L02, LS35P40B02
- ⊗ LS35P40L20



LS30P50 ... LS35P50 casings equipped with angular motion head for adjustable roller or rod levers

- ⊗ LS35P50B11, LS35P50D11, LS35P50C11, LS35P50L02, LS35P50L20, LS35P50B02



Contact blocks

- ⊕ LSC30XB11, LSC30XD11, LSC30XC11, LSC30XL02, LSC30XB02
- ⊗ LSC30XL20

⊕ 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.

Components

30mm, IP 65, UL Type 4

Casings with angular motion head for non-adjustable roller levers, delivered without actuator

⊕ "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.



LS35P40B11

Contact blocks						Positive opening operation	Actuation speed max. m/s	Unit weight kg (1 pc)	Catalog number	List price
B11	D11	C11	L02	L20	B02					
1						⊕	1.5	0.092	LS35P40B11	\$ 23
	1					⊕	1.5	0.092	LS35P40D11	24
		1				⊕	1.5	0.092	LS35P40C11	25
			1			⊕	1.5	0.092	LS35P40L02	25
				1		⊗	1.5	0.092	LS35P40L20	25
					1	⊕	1.5	0.092	LS35P40B02	25

Components

30mm, IP 65, UL Type 4



⊕ "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.



LS35P50B11



LSA30X41



LSA30X42



LSA30X51



LSA30X71



LSA30P05



LSA30P06



LSC30XD11



LSR1305

Casings with angular motion head for adjustable rod or roller levers, delivered without actuator

Contact blocks						Positive opening operation	Actuation speed max. m/s	Unit weight kg (1 pc)	Catalog number	List price
B11	D11	C11	L02	L20	B02					
1						⊗	1.5	0.092	LS35P50B11	\$ 23
	1					⊗	1.5	0.092	LS35P50D11	24
		1				⊗	1.5	0.092	LS35P50C11	25
			1			⊗	1.5	0.092	LS35P50L02	25
				1		⊗	1.5	0.092	LS35P50L20	25
					1	⊗	1.5	0.092	LS35P50B02	25

Actuators for LS35P40 (delivered with M3.5 screw)

To be actuated by 30° cam

- ⊕ ø 18mm polyamide roller lever ①
- ⊗ ø 45mm rubber roller lever ①

Actuators for LS35P50 (delivered with M3.5 screw and adaptation parts)

To be actuated by 30° cam

- ⊗ ø 18mm adjustable polyamide roller lever ①
- ⊗ ø 45mm adjustable rubber roller lever ①

To be actuated by fully directional translation movement

- ⊗ ø 3mm adjustable inox rod lever, 170mm ①
- ⊗ ø 3mm adjustable fiberglass rod lever, 170mm ①
- ⊗ ø 6mm adjustable polyamide rod lever, 195mm ①
- ⊗ ø 6mm adjustable fiberglass rod lever, 195mm ①

Right angle key for LS35P15

- ⊕ Right angle key (mounting 13mm)

Straight key for LS35P16

- ⊕ Straight key (mounting 13mm)

Separate contact blocks

- ⊕ 1 NC & 1 NO 2-pole snap action
- ⊕ 1 NC & 1 NO 2-pole non-overlapping slow action
- ⊕ 1 NO & 1 NC 2-pole non-overlapping slow action
- ⊕ 2 NC 2-pole simultaneous slow action
- ⊗ 2 NO 2-pole simultaneous slow action
- ⊕ 2 NC 2-pole snap action

1/2" NPT plastic adaptors

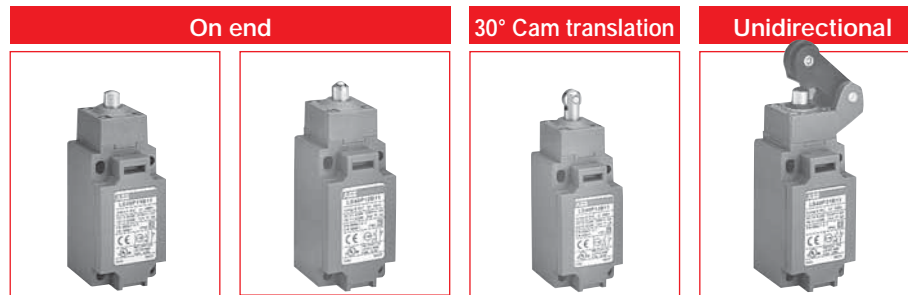
- 1 piece

① Free position adjustment of lever 10° by 10° over 360°.

9

Assembled 40mm, IP 65, UL Type 4

Movement to be detected



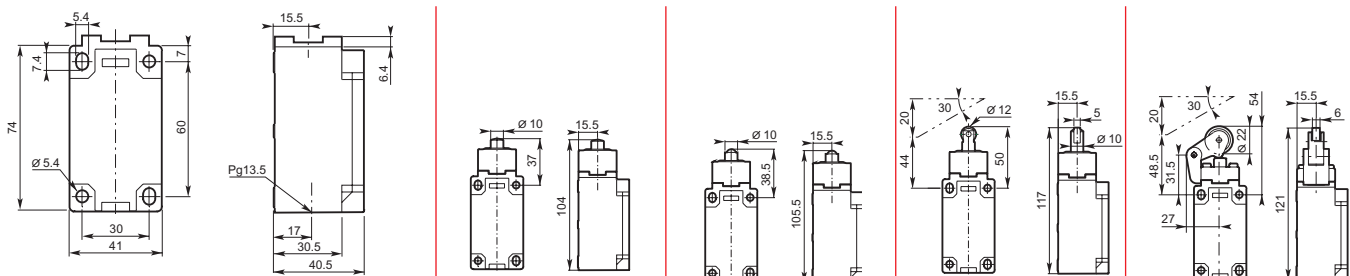
Operating head type

	Steel plain plunger	Steel ball plunger	Steel roller plunger	Polyamide roller lever
Conformity / (N.C. contact with positive opening operation)	EN 50 041	EN 50 041	EN 50 041	
Maximum actuation speed m/s	0.5	0.5	0.5	1
Min. force/torque:				
- actuation	22 N	22 N	16 N	12 N
- positive opening operation	66 N	66 N	48 N	40 N

9

	Catalog number List price	LS45P11B11 \$ 30	LS45P12B11 \$ 32	LS45P13B11 \$ 37	LS45P31B11 \$ 34
Snap action contacts 	Operation diagram				
Non-overlapping Slow action contacts 	Catalog number List price	LS45P11D11 32	LS45P12D11 34	LS45P13D11 39	LS45P31D11 36
Operation diagram					
Overlapping Slow action contacts 	Catalog number List price	LS45P11C11 33	LS45P12C11 35	LS45P13C11 40	LS45P31C11 37
Operation diagram					
Slow action contacts 	Catalog number List price	LS45P11L02 33	LS45P12L02 35	LS45P13L02 40	LS45P31L02 37
Operation diagram					
Slow action contacts 	Catalog number List price	LS45P11L20 33	LS45P12L20 35	LS45P13L20 40	LS45P31L20 37
Operation diagram					
Snap action contacts 	Catalog number List price	LS45P11B02 33	LS45P12B02 35	LS45P13B02 40	LS45P31B02 37
Operation diagram					
Weight (packing per unit)	kg	0.140	0.140	0.145	0.175

Dimensions (mm)











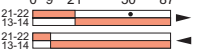

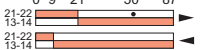
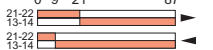
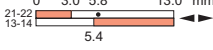
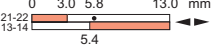
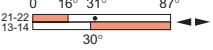
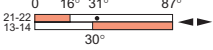
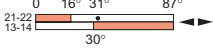
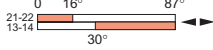
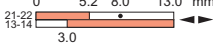
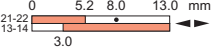
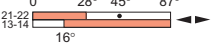
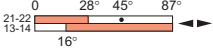
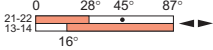
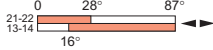
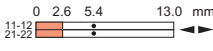
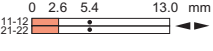
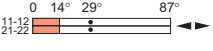
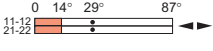
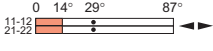
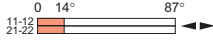
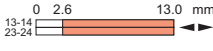
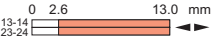
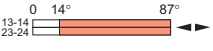
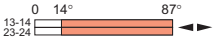
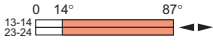
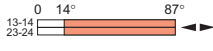
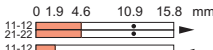
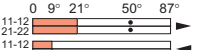
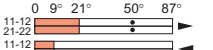
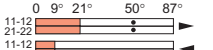
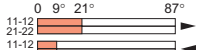
Assembled 40mm, IP 65, UL Type 4

Plastic
Limit switches

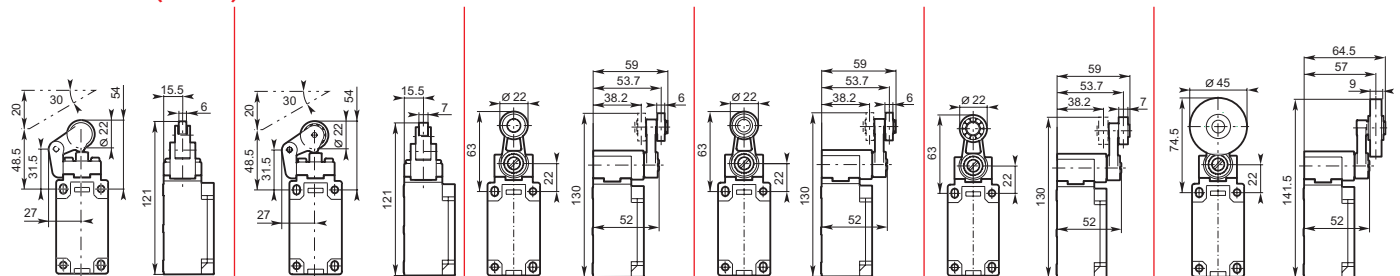
30° Cam transl.

30° Cam translation movement

					
Stainless steel roller lever	Ball-bearing roller lever	Ø 22 Polyamide roller lever	Ø 22 Stainless steel roller lever	Ø 22 Ball-bearing roller lever	Ø 45 Rubber roller lever
1	1	EN 50 041	EN 50 041	EN 50 041	
12 N	12 N	1.5	1.5	1.5	1.5
40 N	40 N	0.15 N.m	0.15 N.m	0.15 N.m	0.15 N.m
		0.44 N.m	0.44 N.m	0.44 N.m	-

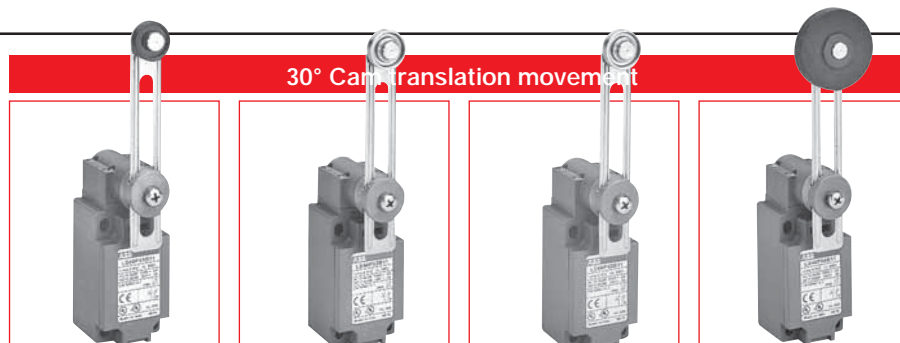
LS45P32B11 \$ 39 	LS45P33B11 \$ 36 	LS45P41B11 \$ 39 	LS45P42B11 \$ 47 	LS45P43B11 \$ 42 	LS45P44B11 \$ 41 
LS45P32D11 42 	LS45P33D11 38 	LS45P41D11 42 	LS45P42D11 50 	LS45P43D11 45 	LS45P44D11 44 
LS45P32C11 43 	LS45P33C11 39 	LS45P41C11 43 	LS45P42C11 52 	LS45P43C11 47 	LS45P44C11 45 
LS45P32L02 43 	LS45P33L02 39 	LS45P41L02 43 	LS45P42L02 52 	LS45P43L02 47 	LS45P44L02 45 
LS45P32L20 43 	LS45P33L20 39 	LS45P41L20 43 	LS45P42L20 52 	LS45P43L20 47 	LS45P44L20 45 
LS45P32B02 43 	LS45P33B02 39 	LS45P41B02 43 	LS45P42B02 52 	LS45P43B02 47 	LS45P44B02 45 
0.185	0.185	0.185	0.195	0.195	0.205

Dimensions (in mm)



Assembled 40mm, IP 65, UL Type 4

Movement to be detected



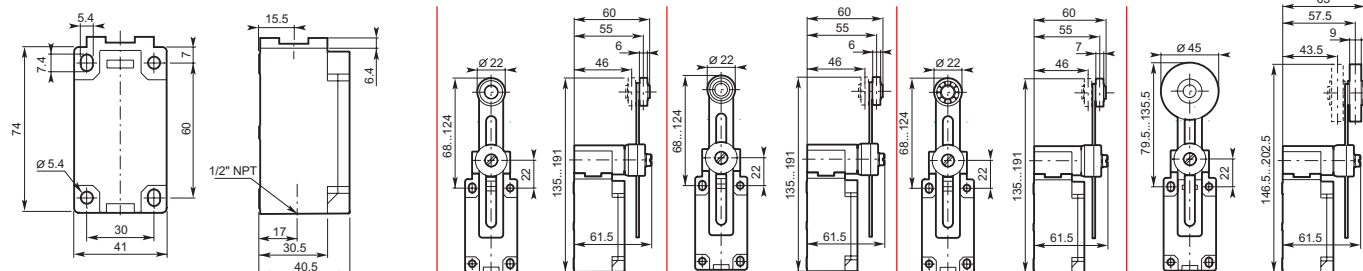
Operating head Catalog number

	Adjustable Ø 22 polyamide roller lever	Adjustable Ø 22 stainless steel roller lever	Adjustable Ø 22 stainless steel ball-bearing roller lever	Adjustable Ø 45 rubber roller lever
Conformity / (N.C. contact with positive opening operation)				
Maximum actuation speed	m/s 1.5	m/s 1.5	m/s 1.5	m/s 1.5
Min. torque: - actuation	N.m 0.15	N.m 0.15	N.m 0.15	N.m 0.15
- positive opening operation	N.m —	N.m —	N.m —	N.m —

9

Snap action contacts	Catalog number	LS45P51B11	LS45P52B11	LS45P53B11	LS45P54B11
Zb	List price	\$ 39	\$ 47	\$ 43	\$ 41
Operation diagram					
Non-overlapping Slow action contacts	Catalog number	LS45P51D11	LS45P52D11	LS45P53D11	LS45P54D11
Zb	List price	42	50	46	44
Operation diagram					
Overlapping Slow action contacts	Catalog number	LS45P51C11	LS45P52C11	LS45P53C11	LS45P54C11
Zb	List price	43	52	47	45
Operation diagram					
Slow action contacts	Catalog number	LS45P51L02	LS45P52L02	LS45P53L02	LS45P54L02
Zb	List price	43	52	47	45
Operation diagram					
Slow action contacts	Catalog number	LS45P51L20	LS45P52L20	LS45P53L20	LS45P54L20
Zb	List price	43	52	47	45
Operation diagram					
Snap action contacts	Catalog number	LS45P51B02	LS45P52B02	LS45P53B02	LS45P54B02
Zb	List price	43	52	47	45
Operation diagram					
Weight (packing per unit)	kg	0.190	0.200	0.200	0.200

Dimensions (in mm)

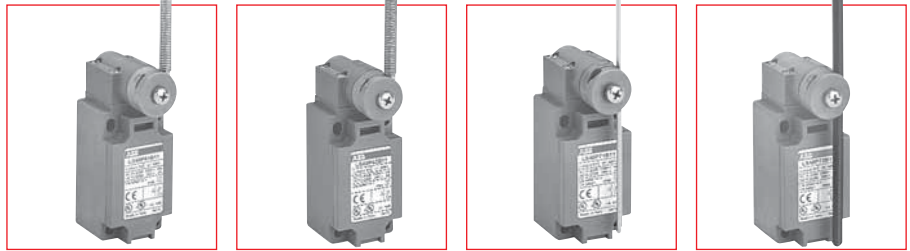


Assembled 40mm, IP 65, UL Type 4

Plastic
Limit switches

Movement to be detected

Fully directional translation movement

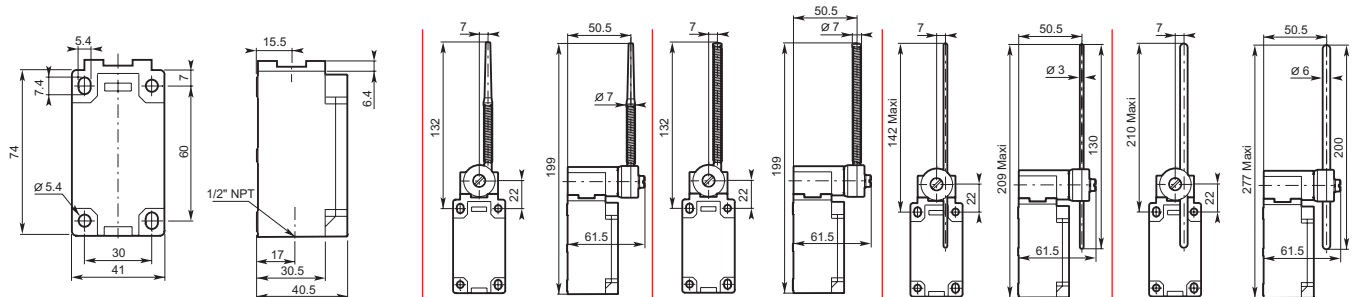


Operating head type

	Flexible lever with insulated end	Coil spring lever	Adjustable Ø 3 stainless steel rod lever	Adjustable ø 6 polyamide rod lever
Conformity / (N.C. contact with positive opening operation)			EN 50 041	EN 50 041
Maximum actuation speed	m/s 1.5	1.5	1.5	1.5
Min. torque: - actuation	N.m 0.15	0.15	0.15	0.15
- positive opening operation	N.m -	-	-	-

Snap action contacts	Catalog number	LS45P61B11	LS45P62B11	LS45P71B11	LS45P72B11
	List price	\$ 41	\$ 41	\$ 38	\$ 38
	Operation diagram				
Non-overlapping Slow action contacts	Catalog number	LS45P61D11	LS45P62D11	LS45P71D11	LS45P72D11
	List price	44	44	41	41
	Operation diagram				
Overlapping Slow action contacts	Catalog number	LS45P61C11	LS45P62C11	LS45P71C11	LS45P72C11
	List price	46	45	43	42
	Operation diagram				
Slow action contacts	Catalog number	LS45P61L02	LS45P62L02	LS45P71L02	LS45P72L02
	List price	46	45	43	42
	Operation diagram				
Slow action contacts	Catalog number	LS45P61L20	LS45P62L20	LS45P71L20	LS45P72L20
	List price	46	45	43	42
	Operation diagram				
Snap action contacts	Catalog number	LS45P61B02	LS45P62B02	LS45P71B02	LS45P72B02
	List price	46	45	43	42
	Operation diagram				
Weight (packing per unit)	kg	0.190	0.190	0.185	0.185

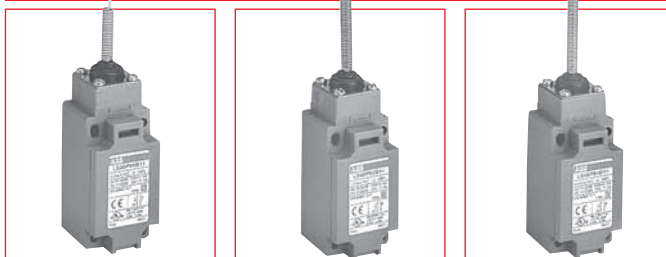
Dimensions (in mm)



Assembled 40mm, IP 65, UL Type 4

Movement to be detected

Multidirectional



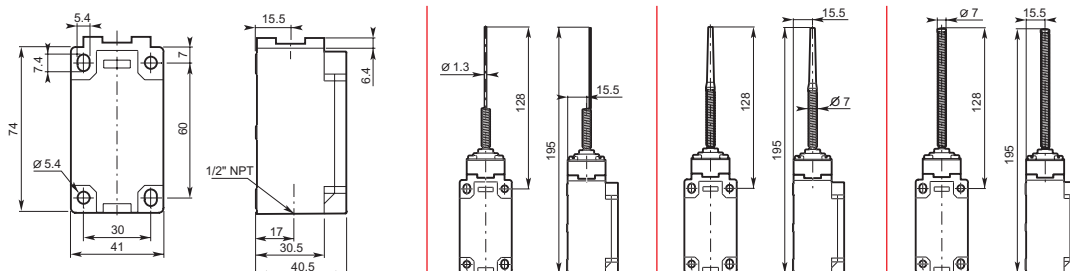
Operating head type

	Spring rod	Flexible rod with insulated end	Coil spring rod
Conformity / (N.C. contact with positive opening operation)			
Maximum actuation speed	1 m/s	1 m/s	1 m/s
Min. torque: - actuation	0.18 N.m	0.18 N.m	0.18 N.m
- positive opening operation	- N.m	- N.m	- N.m

9

	Catalog number	LS45P91B11	LS45P92B11	LS45P93B11
Snap action contacts	List price	\$ 32	\$ 35	\$ 33
	Operation diagram			
Non-overlapping Slow action contacts	Catalog number	LS45P91D11	LS45P92D11	LS45P93D11
List price	34	37	35	
	Operation diagram			
Overlapping Slow action contacts	Catalog number	LS45P91C11	LS45P92C11	LS45P93C11
List price	35	38	37	
	Operation diagram			
Slow action contacts	Catalog number	LS45P91L02	LS45P92L02	LS45P93L02
List price	35	38	37	
	Operation diagram			
Slow action contacts	Catalog number	LS45P91L20	LS45P92L20	LS45P93L20
List price	35	38	37	
	Operation diagram			
Snap action contacts	Catalog number	LS45P91B02	LS45P92B02	c
List price	35	38	37	
	Operation diagram			
Weight (packing per unit)	kg	0.135	0.140	0.145

Dimensions (in mm)



Components

40mm, IP 65, UL Type 4



LS45P00B11

Bodies with contact block for rectilinear or angular motion heads

LS 45 P 00 B 11

Limit Switch.....	LS				
Casing width 40 mm		3			
Cable inlet					
1 cable inlet for Pg 13.5 cable gland			0		
1 cable inlet M20 x 1.5 for ISO 20 cable gland			3		
1 cable inlet for 1/2" NPT			5		
Plastic casing				P	
Without operating head					00

Contacts

11	1 N.O. + 1 N.C. contacts
02	2 N.C. contacts
20	2 N.O. contacts

Snap action

B	Zb Snap
---------	---------

Dependent (slow) action

L	Zb Slow / Simultaneous
D	Zb Non-overlapping late make
C	Zb Overlapping early make



LSTH41

Operating heads

LS T H 41

Limit Switch.....	LS		
Operating head		T	
For plastic casing 40 mm width			40

References of heads

11 ... 14, 19	with rectilinear movement (plain plunger, steel ball plunger or roller plunger)
31 ... 37	with rectilinear movement (roller lever on steel plunger)
40	with angular movement (without actuator) actuator to be ordered separately
41 ... 44	with angular movement (roller lever)
50	with angular movement (without actuator) actuator to be ordered separately
51 ... 54	with angular movement (adjustable roller lever)
61, 62	flexible lever (spring)
71, 72, 73	adjustable lever (rod)
91 ... 93	multidirectional angular movement (spring rod)



LSA40X51

Separate actuators (roller lever, adjustable roller or rod levers, etc.)

LS A 40 X 51

Limit Switch.....	LS		
Actuator (roller)		A	
Casing width: 40 mm			40

Reference of actuators

41 ... 44	non-adjustable roller lever
51 ... 54	adjustable roller lever
61, 62	flexible lever (spring)
71, 72, 73	adjustable lever (rod)

For casing

M	Metal
P	Plastic
X	Plastic or metal



LSC40XC11

Separate contact blocks

LS C 40 X C 11

Limit Switch.....	LS			
Contact blocks		C		
Casing width: 40 mm			40	
For casing				
Metal				M
Plastic				P
Plastic or metal				X

Contacts

11	1 N.O. + 1 N.C. contacts
02	2 N.C. contacts
20	2 N.O. contacts

Snap action:

B	Zb Snap
---------	---------

Dependent (slow) action:

L	Zb Slow / Simultaneous
D	Zb Non-overlapping late make
C	Zb Overlapping early make

Components

40mm, IP 65, UL Type 4

- Bodies with contact block
- Operating heads with actuator



LSTH37 ⊕



LSTH33 ⊕



LSTH36 ⊕



LSTH12 ⊕
(B Shape)



LSTH32 ⊕



LSTH44 ⊗



LSTH43 ⊕
(A Shape)



LSTH35 ⊕



LSTH42 ⊕
(A Shape)



LSTH19 ⊕
(C Shape)



LSTH14 ⊕
(B Shape)



LSTH31 ⊕



LSTH41 ⊕
(A Shape)



LSTH13 ⊕
(C Shape)



LSTH11 ⊕
(B Shape)



LSTH54 ⊗



LSTH53 ⊗



LSTH52 ⊗



LSTH51 ⊗



LSTH93 ⊗



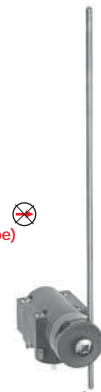
LSTH92 ⊗



LSTH91 ⊗



LSTH72 ⊗
(D Shape)



LSTH71 ⊗
(D Shape)



LSTH62 ⊗



LSTH61 ⊗

Rectilinear motion

Angular motion

LSTH... rectilinear motion heads

- To be actuated from end.
With plunger (plain or with ball): LSTH11, LSTH12 and LSTH14.
- To be actuated by 30° cam translation.
With roller plunger: LSTH13, LSTH19.
- To be actuated unidirectionally by 30° cam translation.
With roller lever on steel plunger: LSTH31 ... LSTH37.

LSTH... angular motion heads

- To be actuated by 30° cam translation.
With roller lever: LSTH41 ... LSTH54.
- To be actuated by fully directional translation movement.
With rod or spring lever: LSTH61 ... LSTH72.
- To be actuated multidirectionally.
With spring rod: LSTH91 ... LSTH93.



Bodies with contact block

⊕ LS45P00B11, LS45P00D11, LS45P00C11, LS45P00L02, LS45P00B02

⊗ LS45P00L20

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

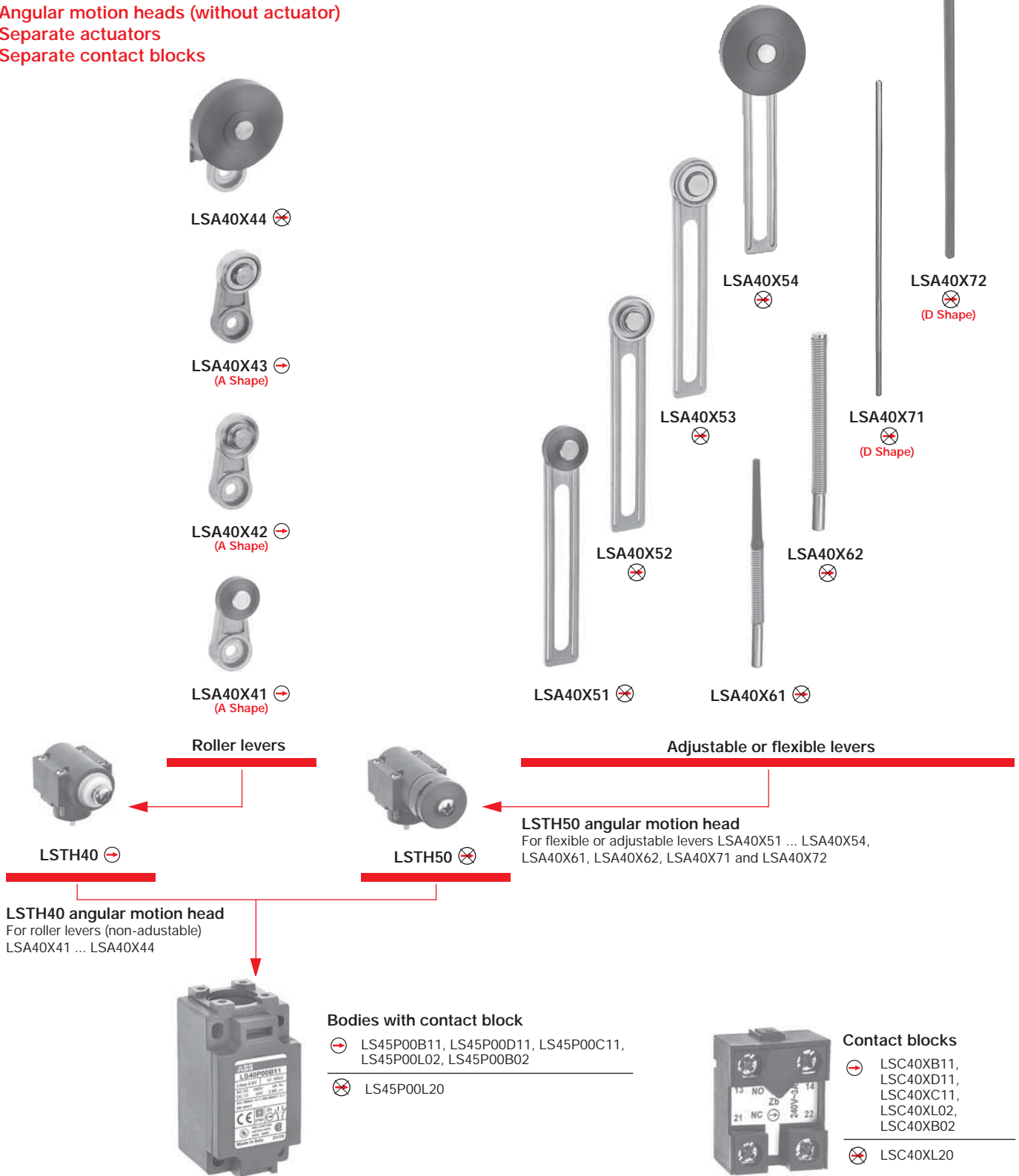
Warning! The positive opening operation of limit switch is only guaranteed if the elements noted with ⊕ are fitted.

Components

40mm, IP 65, UL Type 4

Plastic
Limit switches

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



9

⊕ : 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.

Components

40mm, IP 65, UL Type 4

⊕ "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.



LS45P00B11



LSTH11



LSTH19



LSTH31



LSTH37

Bodies with contact block for rectilinear or angular motion heads

Contact blocks

	Zb	Zb	Zb	Zb	Za	Zb
	B11	D11	C11	L02	L20	B02
1						
	1					
		1				
			1			
				1		
					1	

Positive opening operation

Actuation speed max. m/s

Unit weight kg (1 pc)

Catalog number

List price

	Positive opening operation	Actuation speed max. m/s	Unit weight kg (1 pc)	Catalog number	List price
⊕	—	0.108	LS45P00B11	\$ 23	
⊕	—	0.108	LS45P00D11	24	
⊕	—	0.108	LS45P00C11	25	
⊕	—	0.108	LS45P00L02	25	
⊗	—	0.108	LS45P00L20	25	
⊕	—	0.108	LS45P00B02	25	

Rectilinear motion heads with actuator

To be actuated by end

Steel plain plunger (zinc-plated)

⊕

0.5

0.042

LSTH11

9

Steel plain plunger (zinc-plated) and dust protection cup

⊕

0.5

0.043

LSTH14

12

Steel ball plunger

⊕

0.5

0.042

LSTH12

11

To be actuated by 30° cam

Steel roller plunger (zinc-plated)

⊕

0.5

0.048

LSTH13

16

Steel roller plunger (zinc-plated) and dust protection cup

⊕

0.5

0.048

LSTH19

19

To be actuated unidirectionally by 30° cam

ø 22mm polyamide roller lever on steel plunger (zinc-plated)

⊕

1.5

0.046

LSTH31

15

ø 22mm polyamide roller lever on steel plunger (zinc-plated) & dust protection cup

⊕

1.5

0.049

LSTH35

18

ø 22mm stainless steel roller lever on steel plunger (zinc-plated)

⊕

1.5

0.055

LSTH32

20

ø 22mm stainless steel roller lever on steel plunger (zinc-plated) & dust protection cup

⊕

1.5

0.058

LSTH36

23

ø 22mm steel ball-bearing roller lever on steel plunger (zinc-plated)

⊕

1.5

0.057

LSTH33

17

ø 22mm steel ball-bearing roller lever on steel plunger (zinc-plated) & dust protection cup

⊕

1.5

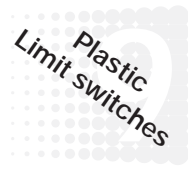
0.060

LSTH37

20

Components

40mm, IP 65, UL Type 4



⊕ "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.



Bodies with contact block for rectilinear or angular motion heads

Contact blocks	Positive opening operation	Actuation speed max. m/s	Unit weight kg (1 pc)	Catalog number	List price
Angular motion heads with actuator					
To be actuated by 30° cam					
⊕ 22mm polyamide roller lever ①	⊕	1.5	0.082	LSTH41	\$ 20
⊕ 22mm stainless steel roller lever ①	⊕	1.5	0.091	LSTH42	28
⊕ 22mm steel ball-bearing roller lever ①	⊕	1.5	0.093	LSTH43	23
⊕ 45mm rubber roller lever ①	⊗	1.5	0.098	LSTH44	22
⊕ 22mm adjustable polyamide roller lever ①	⊗	1.5	0.088	LSTH51	20
⊕ 22mm adjustable stainless steel roller lever ①	⊗	1.5	0.098	LSTH52	28
⊕ 22mm adjustable steel ball-bearing roller lever ①	⊗	1.5	0.100	LSTH53	24
⊕ 45mm adjustable rubber roller lever ①	⊗	1.5	0.105	LSTH54	22
To be actuated by fully directional translation movement					
⊕ Stainless steel flexible lever with insulated end ①	⊗	1	0.083	LSTH61	22
⊕ Stainless steel coil spring lever ①	⊗	1	0.089	LSTH62	22
⊕ 3mm adjustable stainless steel rod lever, 195mm ①	⊗	1	0.087	LSTH71	19
⊕ 6mm adjustable polyamide rod lever, 195mm ①	⊗	1	0.083	LSTH72	19
⊕ 6mm adjustable fiberglass rod lever, 195mm ①	⊗	1	0.087	LSTH73	20
Multidirectional angular motion heads (to be actuated by fully directional translation movement)					
⊗ Stainless steel spring rod	⊗	1	0.046	LSTH91	13
⊗ Stainless steel flexible rod with insulated end	⊗	1	0.049	LSTH92	16
⊗ Stainless steel coil spring rod	⊗	1	0.055	LSTH93	14
Angular motion head without actuator for non-adjustable roller levers (delivered with M5 screw and washer)					
⊕	⊕	1.5	0.050	LSTH40	14
Actuators for angular motion head LSTH40					
⊕ 22mm polyamide roller lever ①	⊕	—	0.032	LSA40X41	6
⊕ 22mm stainless steel roller lever ①	⊕	—	0.042	LSA40X42	14
⊕ 22mm steel ball-bearing roller lever ①	⊕	—	0.044	LSA40X43	9
⊕ 45mm rubber roller lever ①	⊗	—	0.050	LSA40X44	8

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

Components

40mm, IP 65, UL Type 4

⊕ "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.



LSTH50



LSA40X72



LSA40X51



LSC40XB11

	Positive opening operation	Actuation speed max. m/s	Unit weight kg (1 pc)	Catalog number	List price
Angular motion head without actuator, for flexible or adjustable levers (delivered with M5 screw, washer & adaptation parts)					
	⊗	—	0.058	LSTH50	\$ 15
Actuators for angular motion head LSTH50					
∅ 22mm adjustable polyamide roller lever ①	⊗	—	0.023	LSA40X51	5
∅ 22mm adjustable stainless steel roller lever ①	⊗	—	0.032	LSA40X52	13
∅ 22mm adjustable steel ball-bearing roller lever ①	⊗	—	0.034	LSA40X53	9
∅ 45mm adjustable rubber roller lever ①	⊗	—	0.039	LSA40X54	7
Stainless steel flexible lever with insulated end ①	⊗	—	0.017	LSA40X61	7
Stainless steel coil spring lever ①	⊗	—	0.023	LSA40X62	7
∅ 3mm adjustable stainless steel rod lever, 195mm ①	⊗	—	0.014	LSA40X71	4
∅ 6mm adjustable polyamide rod lever, 195mm ①	⊗	—	0.010	LSA40X72	4
∅ 6mm adjustable fiberglass rod lever, 195mm ①	⊗	—	0.014	LSA40X73	5
Contact blocks (with adaptor)					
1 NC & 1 NO 2-pole snap action	⊕	—	0.032	LSC40XB11	15
1 NC & 1 NO 2-pole non-overlapping slow action	⊕	—	0.032	LSC40XD11	15
1 NO & 1 NC 2-pole overlapping slow action	⊕	—	0.032	LSC40XC11	17
2 NC 2-pole simultaneous slow action	⊕	—	0.032	LSC40XL02	17
2 NO 2-pole simultaneous slow action	⊕	—	0.032	LSC40XL20	17
2 NC 2-pole snap action	⊕	—	0.032	LSC40XB02	17

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

Technical data

IP 65, UL Type 4



General technical data

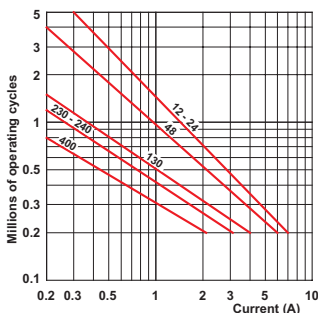
Standards	Devices conform with international IEC 947-5-1 and European EN 60 947-5-1 standards	
Certifications - Approvals	UL & CSA	
Air temperature near the device (IEC)	°C	- 25 ... + 70
- during operation		- 30 ... + 80
- for storage	°C	
Climatic withstand	According to IEC 68-2-3 and salty mist according to IEC 68-2-11	
Mounting positions	All positions are authorized	
Shock withstand (according to IEC 68-2-27 and EN 60 068-2-27)	50g ^① (1/2 sinusoidal shock for 11 ms) no change in contact position	
Resistance to vibrations (acc. to IEC 68-2-6 and EN 60 068-2-6)	25g (10 – 500 Hz) no change in position of contacts greater than 100 μs	
Protection against electrical shocks (acc. to IEC 536)	Class II	
Degree of protection	UL Type 4 & IP 65	
Consistency (measured over 1 million operations)	0.1 mm (upon closing point)	
Minimum actuation speed	m/s	Slow action contacts 0.060 / Snap action contacts 0.001

Electrical Data

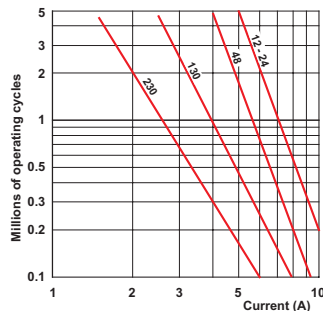
Rated insulation voltage U_i - according to IEC 947-1 and EN 60-947-1 - according to UL 508 and CSA C22-2 n° 14	500 V (degree of pollution 3) A 600, Q 600	
Rated impulse withstand voltage U_{imp} (according to IEC 947-1 and EN 60 947-1)	kV	6
Conventional free air thermal current I_{th} (according to IEC 947-5-1) $q \leq 40$ °C	A	10
Short-circuit protection $U_o \leq 500$ V a.c. - gG (gI) type fuses	A	10
Rated operational current I_e / AC-15 (according to IEC 947-5-1)	24 V - 50/60 Hz A 130 V - 50/60 Hz A 230 V - 50/60 Hz A 240 V - 50/60 Hz A 400 V - 50/60 Hz A	10 5.5 3.1 3 1.8
I_e / DC-13 (according to IEC 947-5-1)	24 V - d.c. A 110 V - d.c. A 250 V - d.c. A	2.8 0.6 0.27
Switching frequency	Cycles/h	3600
Load factor		0.5
Resistance between contacts	mW	25
Connecting terminals	M3.5 (+, -) pozidriv 2 screw with cable clamp	
Terminal for protective conductor	- M3.5 (+, -) pozidriv 2 screw with cable clamp	
Connecting capacity	1 or 2 x mm ²	0.5 ... 2.5
Terminal marking	According to EN 50 013	
Mechanical durability	Millions of operations	15 } 10 } LS 5 } 30 > 1 } 31 P 40 } 10 - 12; 30 - 34 13; 41 - 44; 51 - 54; 61 - 72 91 - 93 15; 16
Electrical durability (according to IEC 947-5-1)	Utilization categories AC-15 and DC-13 (Load factor of 0.5 according to curves below)	

9

AC-15 — Snap action



AC-15 — Slow action



DC-13	Snap action	Slow action
Power breaking for a durability of 5 million operating cycles		
Voltage	24 V	12 W
Voltage	48 V	9 W
Voltage	110 V	6 W

① except for LS30/31/35 (P42): 25g

Double insulation


Class II materials, according to IEC 536, are designed with double insulation. This measure consists in doubling the functional insulation with an additional layer of insulation so as to eliminate the risk of electric shock and thus not having to protect elsewhere. No conductive part of "double insulated" material should be connected to a protective conductor.

Positive opening operation

A control switch, with one or more break-contact elements, has a positive opening operation when the switch actuator ensures full contact opening of the break-contact. For the part of travel that separates the contacts, there must be a positive drive, with no resilient member (e.g. springs), between the moving contacts and the point of the actuator to which the actuating force is applied.

The positive opening operation does not deal with N.O. contacts.

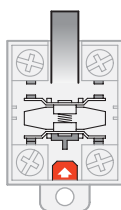
Control switches with positive opening operation may be provided with either snap action or slow action contact elements. To use several contacts on the same control switch with positive opening operation, they must be electrically separated from each other, if not, only one may be used.

Every control switch with positive opening operation must be indelibly marked on the outside with the symbol: .

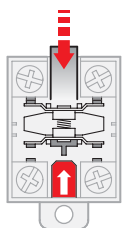
Snap action

Snap action contacts are characterized by a release position that is distinct from the operating position (differential travel). Snap breaking of moving contacts is independent of the switch actuator's speed and contributes to regular electric performance even for slow switch actuator speeds.

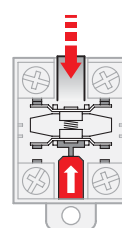
9



State of rest



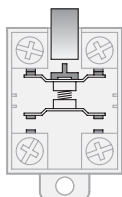
Contact change



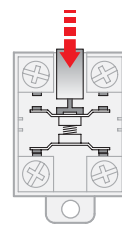
Positive opening

Slow action

Slow action contacts are characterized by a release position that is the same as the operating position. The switch actuator's speed directly conditions the travel speed of contacts.



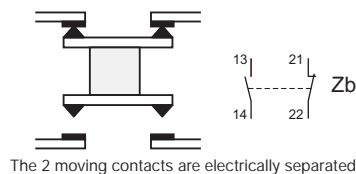
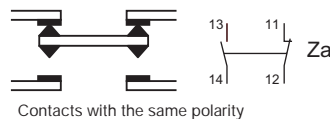
State of rest



Completely closed

Contact shape according to IEC 947-5-1.

Change-over contact elements with 4 terminals must be indelibly marked with the corresponding **Za** or **Zb** symbol as in the diagrams below.



Utilization category

AC-15: switching of electromagnetic loads of electromagnets using an alternating current (>72 VA).

DC-13: switching of electromagnets using a direct current.

Terminals

Limit switches with metal casings must have a terminal, for a protective conductor, that is placed inside the casing very close to the cable inlet and must be indelibly marked.

Minimum actuation force/torque

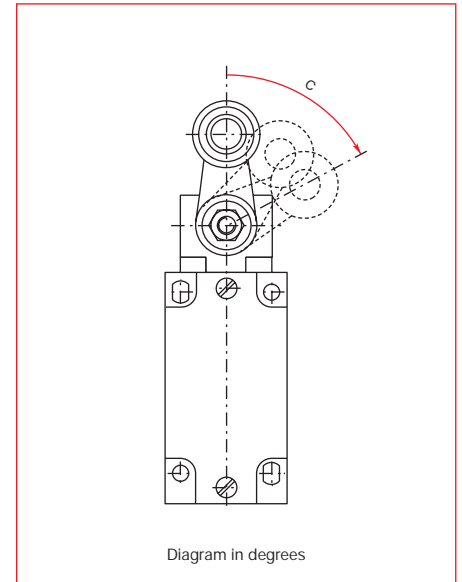
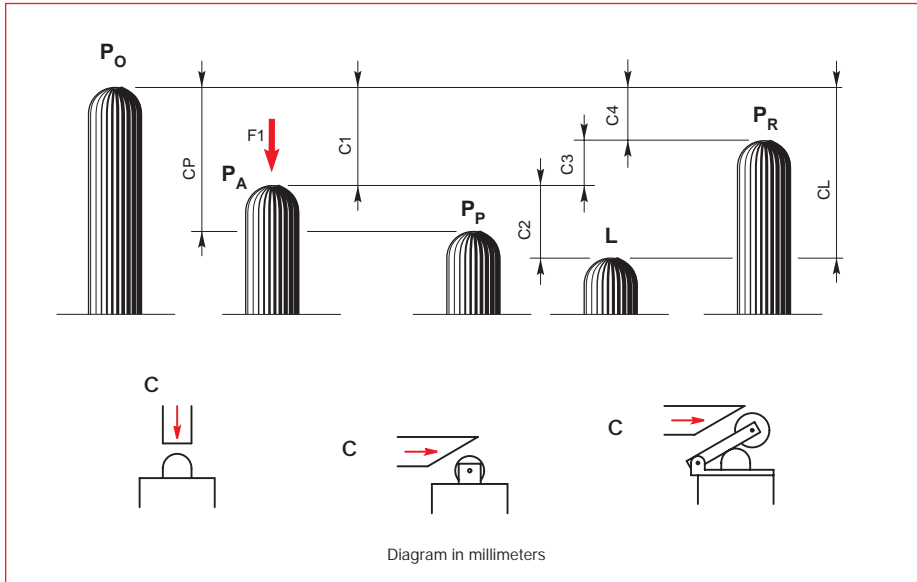
The minimum amount of force/torque that is to be applied to the switch actuator to produce a change in contact position.

Minimum force/torque to achieve positive opening operation

The minimum amount of force/torque that is to be applied to the switch actuator to ensure positive opening operation of the N.C. contact.

Technical data

Travel and operation diagrams



P₀ Free position

Position of the switch actuator when no external force is exerted on it.

P_A Operating position

Position of the switch actuator, under the effect of force F₁, when the contacts leave their initial free position.

P_P Positive opening position

Position of the switch actuator from which positive opening is ensured.

L Max. travel position

Maximum acceptable travel position of the switch actuator under the effect of a force F₁.

P_R Release position

Position of the switch actuator when the contacts return to their initial free position.

C₁ Pre-travel

Distance between the free position P₀ and the operating position P_A.

C_p Positive opening travel

Minimum travel of the switch actuator, from the free position, to ensure positive opening operation of the normally closed contact.

C₂ Over-travel

Distance between the operating position P_A and the max. travel position L.

C_L Max. travel

Distance between the free position P₀ and the max. travel position L.

C₃ Differential travel (C₁-C₄)

Travel difference of the switch actuator between the operating position P_A and the release position P_R.

C₄ Release travel

Distance between the release position P_R and the free position P₀.

Diagram for snap action contacts:

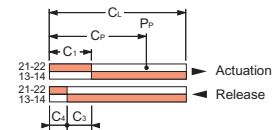
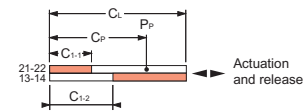


Diagram for non-overlapping slow action contacts:



Note: for slow action contacts, C₃ = 0, C₁₋₁ = pre-travel of contact 21-22, C₁₋₂ = pre-travel of contact 13-14.

Examples:

LS45M13B11
(snap action contacts)

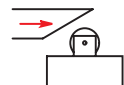
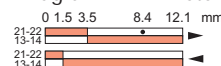


Diagram in millimeters/cam travel



LS45M41B11
(snap action contacts)

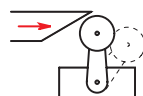
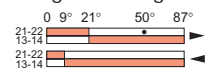


Diagram in degrees/lever rotation



LS45M11D11
(non-overlapping slow action contacts)

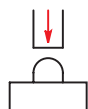
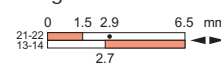
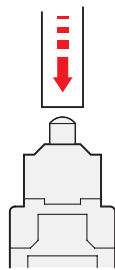


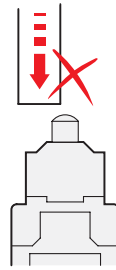
Diagram in millimeters/plunger travel



Plain plunger

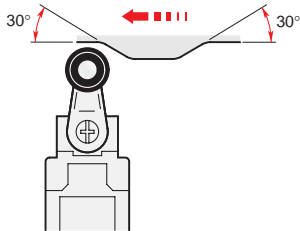


Correct

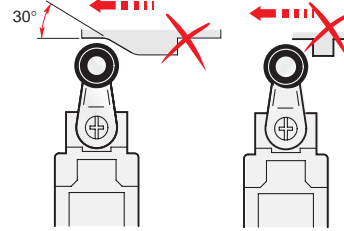


Incorrect

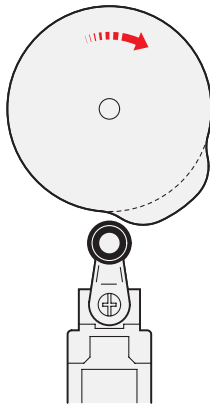
Roller plunger or roller lever



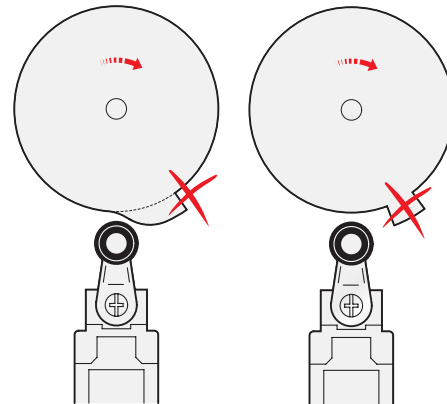
Correct



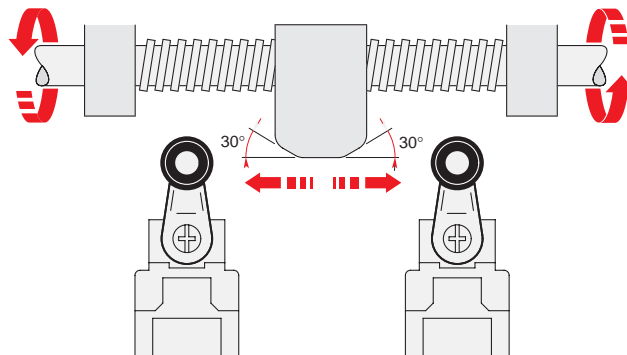
Incorrect



Correct



Incorrect



For a relatively slow movement of the switch actuator, a limit switch with a snap action contact block is preferred.

Technical data EN 50047 standard

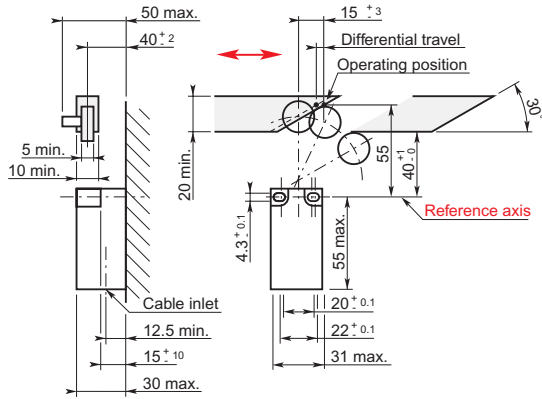


The European Committee for Electrotechnical Standardization (CENELEC), which groups together 18 European countries, publishes EN standards.

The present standard defines dimensions and mechanical data for limit switches (30 x 55mm).

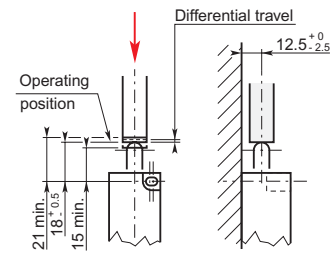
A Shape

Roller lever operating heads



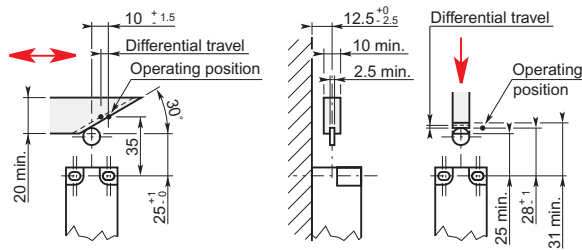
B Shape

Rounded plunger operating heads



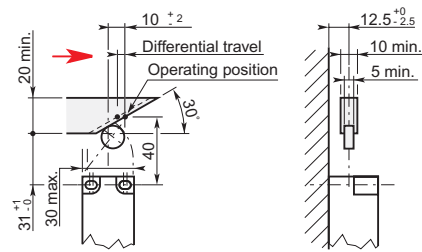
C Shape

Roller plunger operating heads



E Shape

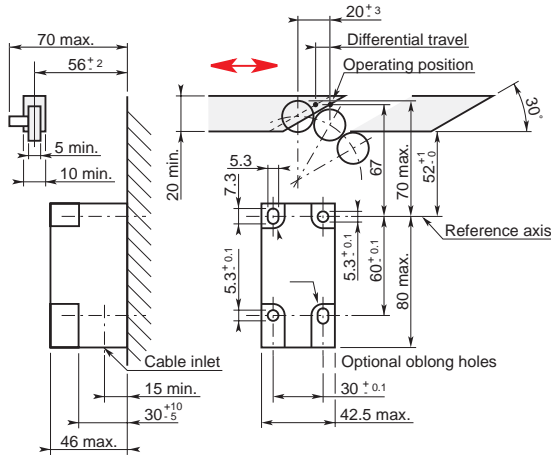
Roller lever operating heads



The European Committee for Electrotechnical Standardization (CENELEC), which groups together 18 European countries, publishes EN standards.

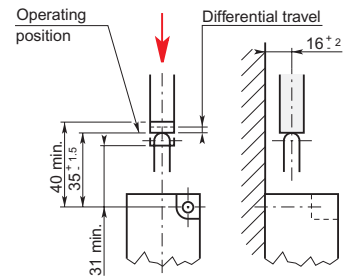
A Shape

Roller lever operating heads



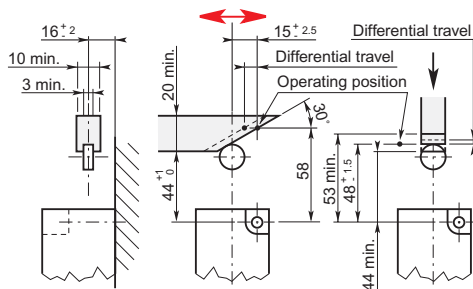
B Shape

Rounded plunger operating heads



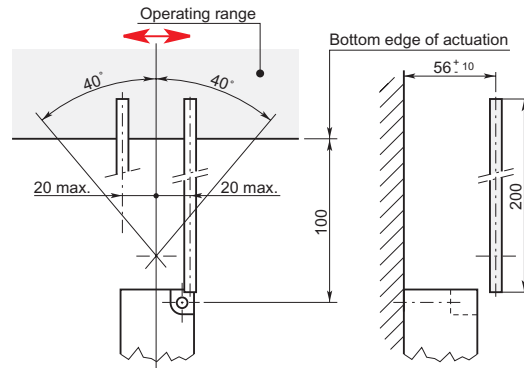
C Shape

Roller plunger operating heads



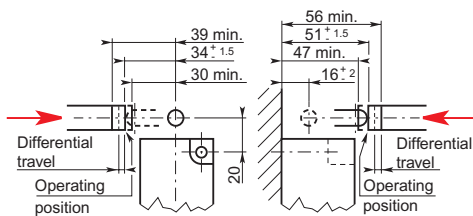
D Shape

Rod operating heads



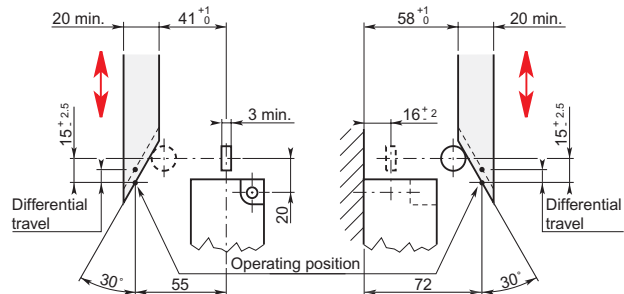
F Shape

Rounded lateral plunger operating heads



G Shape

Lateral roller plunger operating heads - Lateral actuation



Lateral roller plunger operating heads - Front actuation

