

Limit Switches



Evolve with Change

The new identity of ESBEE is based on the strong fundamentals of **Sustainability, Growth and Commitment towards the environment and the society...**



Our new personality,

Gives the impression of an 'Arrow' indicating speed and direction. ESBEE written in white reflects Purity, Ethics and Perfection. The Light Green background represents safety, a prominent feature in all our products. Dark green colour means ability to surge ahead and our logo symbolizes the same. The subtle line in yellow represents the youthfulness & intellectual energy of our company.



Salient Features



Limit switches

It is easier and quicker to detect the position of moving parts and safely install machinery due to new concepts represented by the.

ESBEE SL series limit switches.

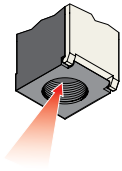
- Dimensions to EN 50047 standard (SL PB -SL MB types).
- Dimension compatible to EN 50047 standards (SL PS types).
- SL PB - SL PS plastic and SL MB metal types.
- Bayonet fixing mechanism.
- Modularity of Common parts.
- Quick installation.
- Adjustment ease.

Bottom entry - Plastic SL PB type and Metal SL MB type



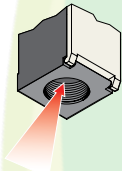
Bottom Entry		Top push Rod Plunger	Top roller push plunger		Roller centre push lever		Roller side lever	
		Order Code	Order Code		Order Code		Order Code	
Contacts	Body	Metal Plunger	Ø11x4mm Plastic Roller	Ø11x4mm Metal Roller	Ø11 x 4mm Plastic Roller	Ø11 x 4mm Metal Roller	Ø14 x 5mm Plastic Roller	Ø11x4mm Metal Roller
INO+ INC Snap action ①	Plastic Metal	SL PB S3 A1 SL MB S3 A1	SL PB S3 B1 SL MB S3 B1	SL PB S3 B2 SL MB S3 B2	SL PB S3 C1 SL MB S3 C1	SL PB S3 C2 SL MB S3 C2	SL PB S3 D1 SL MB S3 D1	SL PB S3 D2 SL MB S3 D2
INO+ INC Slow break ①	Plastic Metal	SL PB L3 A1 SL MB L3 A1	SL PB L3 B1 SL MB L3 B1	SL PB L3 B2 SL MB L3 B2	SL PB L3 C1 SL MB L3 C1	SL PB L3 C2 SL MB L3 C2	SL PB L3 D1 SL MB L3 D1	SL PB L3 D2 SL MB L3 D2
2NC Slow break ①	Plastic Metal	SL PB L5 A1 SL MB L5 A1	SL PB L5 B1 SL MB L5 B1	SL PB L5 B2 SL MB L5 B2	SL PB L5 C1 SL MB L5 C1	SL PB L5 C2 SL MB L5 C2	SL PB L5 D1 SL MB L5 D1	SL PB L5 D2 SL MB L5 D2
2NO+ INC Slow break ①	Plastic Metal	SL PB L7 A1 SL MB L7 A1	SL PB L7 B1 SL MB L7 B1	SL PB L7 B2 SL MB L7 B2	SL PB L7 C1 SL MB L7 C1	SL PB L7 C2 SL MB L7 C2	SL PB L7 D1 SL MB L7 D1	SL PB L7 D2 SL MB L7 D2

① Direct opening operation ⊖ ; safety function according to IEC/EN 60947-5-1



Bottom Entry		Roller lever plunger			Adjustable roller lever			
		Order Code			Order Code			
Contacts	Body	Plastic Roller ②	Metal Roller ②	Rubber Roller ③	Plastic Roller ②	Metal Roller ②	Rubber Roller ③	Rubber Roller ④
INO+ INC Snap action ①	Plastic Metal	SL PB S3 E1 SL MB S3 E1	SL PB S3 E2 SL MB S3 E2	SL PB S3 E3 SL MB S3 E3	SL PB S3 F1 SL MB S3 F1	SL PB S3 F2 SL MB S3 F2	SL PB S3 F3 SL MB S3 F3	SL PB S3 F4 SL MB S3 F4
INO+ INC Slow break ①	Plastic Metal	SL PB L3 E1 SL MB L3 E1	SL PB L3 E2 SL MB L3 E2	SL PB L3 E3 SL MB L3 E3	SL PB L3 F1 SL MB L3 F1	SL PB L3 F2 SL MB L3 F2	SL PB L3 F3 SL MB L3 F3	SL PB L3 F4 SL MB L3 F4
2NC Slow break ①	Plastic Metal	SL PB L5 E1 SL MB L5 E1	SL PB L5 E2 SL MB L5 E2	SL PB L5 E3 SL MB L5 E3	SL PB L5 F1 SL MB L5 F1	SL PB L5 F2 SL MB L5 F2	SL PB L5 F3 SL MB L5 F3	SL PB L5 F4 SL MB L5 F4
2NO+ INC Slow break ①	Plastic Metal	SL PB L7 E1 SL MB L7 E1	SL PB L7 E2 SL MB L7 E2	SL PB L7 E3 SL MB L7 E3	SL PB L7 F1 SL MB L7 F1	SL PB L7 F2 SL MB L7 F2	SL PB L7 F3 SL MB L7 F3	SL PB L7 F4 SL MB L7 F4

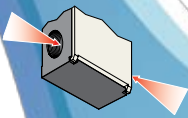
① Direct opening operation ⊖; safety function according to IEC/EN 60947-5-1 ② Ø19x5mm ③ Ø50x10mm ④ Ø50x10mm, offset alignment



Bottom Entry		Ceramic rod lever	Adjustable rod lever		Omnidirectional wobble stick		
		Order Code		Order Code		Order Code	
Contacts	Body	Ceramic Rod	Plastic Rod	Metal Rod	Flexible Rod	Semi-rigid Rod	
INO + INC Snap action ①	Plastic Metal	SL PB S3 H1 SL MB S3 H1	SL PB S3 L1 SL MB S3 L1	SL PB S3 L2 SL MB S3 L2	SL PB S3 M1 SL MB S3 M1	SL PB S3 M2 SL MB S3 M2	
INO + INC Slow break ①	Plastic Metal	SL PB L3 H1 SL MB L3 H1	SL PB L3 L1 SL MB L3 L1	SL PB L3 L2 SL MB L3 L2	SL PB L3 M1 SL MB L3 M1	SL PB L3 M2 SL MB L3 M2	
2NC Slow break ①	Plastic Metal	SL PB L5 H1 SL MB L5 H1	SL PB L5 L1 SL MB L5 L1	SL PB L5 L2 SL MB L5 L2	SL PB L5 M1 SL MB L5 M1	SL PB L5 M2 SL MB L5 M2	
2NO + INC Slow break ①	Plastic Metal	SL PB L7 H1 SL MB L7 H1	SL PB L7 L1 SL MB L7 L1	SL PB L7 L2 SL MB L7 L2	SL PB L7 M1 SL MB L7 M1	SL PB L7 M2 SL MB L7 M2	

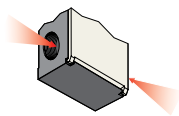
① Direct opening operation ⊖; safety function according to IEC/EN 60947-5-1

Side entry - Plastic SL PS type



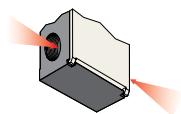
Side Entry		Top push rod plunger	Top Roller push plunger		Roller Centre push lever		Roller side push lever		
Quantity per package: 5		Order Code		Order Code		Order Code		Order Code	
Contacts	Body	Metal Plunger	Ø11x4mm Plastic Roller	Ø11x4mm Metal Roller	Ø11 x 4mm Plastic Roller	Ø11 x 4mm Metal Roller	Ø14 x 5mm Plastic Roller	Ø11x4mm Metal Roller	
INO+ INC Snap action ①	Plastic	SL PS S3 A1	SL PS S3 B1	SL PS S3 B2	SL PS S3 C1	SL PS S3 C2	SL PS S3 D1	SL PB S3 D2	
INO+ INC Slow break ①	Plastic	SL PS L3 A1	SL PS L3 B1	SL PS L3 B2	SL PS L3 C1	SL PS L3 C2	SL PS L3 D1	SL PB L3 D2	
2NC Slow break ①	Plastic	SL PS L5 A1	SL PS L5 B1	SL PS L5 B2	SL PS L5 C1	SL PS L5 C2	SL PS L5 D1	SL PB L5 D2	

① Direct opening operation ⊖; safety function according to IEC/EN 60947-5-1



Bottom Entry		Roller lever plunger			Adjustable roller lever			
		Order Code			Order Code			
Contacts	Body	Plastic Roller ②	Metal Roller ②	Rubber Roller ③	Plastic Roller ②	Metal Roller ②	Rubber Roller ③	Rubber Roller ④
INO+INC Snap action ①	Plastic	SL PS S3 E1	SL PS S3 E2	SL PS S3 E3	SL PS S3 F1	SL PS S3 F2	SL PS S3 F3	SL PS S3 F4
INO+INC Slow break ①	Plastic	SL PS L3 E1	SL PS L3 E2	SL PS L3 E3	SL PS L3 F1	SL PS L3 F2	SL PS L3 F3	SL PS L3 F4
2NC Slow break ①	Plastic	SL PS L5 E1	SL PS L5 E2	SL PS L5 E3	SL PS L5 F1	SL PS L5 F2	SL PS L5 F3	SL PS L5 F4

① Direct opening operation ⊖; safety function according to IEC/EN 60947-5-1 ② Ø19x5mm ③ Ø50x10mm ④ Ø50x10mm, offset alignment



Bottom Entry		Ceramic rod lever	Adjustable roller lever		Omnidirectional wobble stick	
		Order Code	Order Code		Order Code	
Contacts	Body	Ceramic Rod	Plastic Rod	Metal Rod	Flexible Rod	Semi - Rigid Rod
INO+INC Snap action ①	Plastic	SL PS S3 H1	SL PS S3 L1	SL PS S3 L2	SL PS S3 M1	SL PS S3 M2
INO+INC Slow break ①	Plastic	SL PS L3 H1	SL PS L3 L1	SL PS L3 L2	SL PS L3 M1	SL PS L3 M2
2NC Slow break ①	Plastic	SL PS L5 L1	SL PS L5 L1	SL PS L5 L2	SL PS L5 M1	SL PS L5 M2

① Direct opening operation ⊖; safety function according to IEC/EN 60947-5-1

Accessories and spare parts



Bottom and side entry housings with auxiliary contacts without operating heads

		Order Code		
Contacts	Body	Bottom Entry	Bottom Entry	
INO+INC Snap action ①	Plastic Metal	SL PB S3 00 SL MB S3 00	SL PS S3 00	-
INO+INC Slow break ①	Plastic Metal	SL PB L3 00 SL MB L3 00	SL PS L3 00	-
2NC Slow break ①	Plastic Metal	SL PB L5 00 SL MB L5 00	SL PS L5 00	-
2NO+INC Slow break ①	Plastic Metal	SL PB L7 00 SL MB L7 00	-	-

① Direct opening operation ⊖; safety function according to IEC/EN 60947-5-1



only for
SL PB and SL MB
types

Auxiliary contact blocks

		Order Code
Contacts		Bottom Entry
1NO+1NC	Snap action ①	SL C S3
1NO+1NC	Slow break ①	SL C L3
2NC	Slow break ①	SL C L5
2NO+1NC	Slow break ① ②	SL C L7

① Direct opening operation ⊖; safety function according to IEC/EN 60947-5-1 ② Only for SL PB and SL MB types



Operating heads

		Order Code
Contacts		Bottom Entry
Top push rod plunger		SL T A1
Plastic top roller push plunger		SL T B1
Metal top roller push plunger		SL T B2
Plastic roller centre push lever		SL T C1
Metal roller centre push lever		SL T C2
Plastic roller side push lever		SL T D1
Metal roller side push lever		SL T D2
Plastic roller lever plunger		SL T E1
Metal roller lever plunger		SL T E2
Rubber Ø50X10mm roller lever plunger roller lever plunger		SL T E3
Adjustable plastic roller lever Ø19X15mm		SL T F1
Adjustable metal roller lever Ø19X15mm		SL T F2
Adjustable rubber Ø50X10mm roller lever		SL T F3
Adjustable offset rubber Ø50X10mm roller lever		SL T F4
Ceramic rod lever		SL T H1
Adjustable plastic rod lever		SL T L1
Adjustable metal rod lever		SL T L2
Flexible wobble stick		SL T M1
Semirigid wobble stick		SL T M2

Technical characteristics

SLPB, SLMB, SLPS types

Operational Characteristics

- Maximum operating rate: 3600 cycles/h.
- Mechanical life : > 10million cycles.
- Operating temperature:-25...+70°C.
- Storage temperature:-40...+70°C.
- Pollution degree: 3 (suitable for dirty ambient).

Contacts

- Conventional Thermal current I_{th} : 10A.
- IEC/EN 60947-5-1 designation:
A600 Q600 for SL PB and SL PS types.
A300 Q300 for SL MB types.
- Rated insulation voltage U_i :
690VAC for SL PB and SL PS types.
440VAC for SL MB types.
- Rated impulse withstand voltage U_{imp} :
6kV SL PB and SL PS types.
4kV for SL MB types.
- Contact resistance: < 10mW.

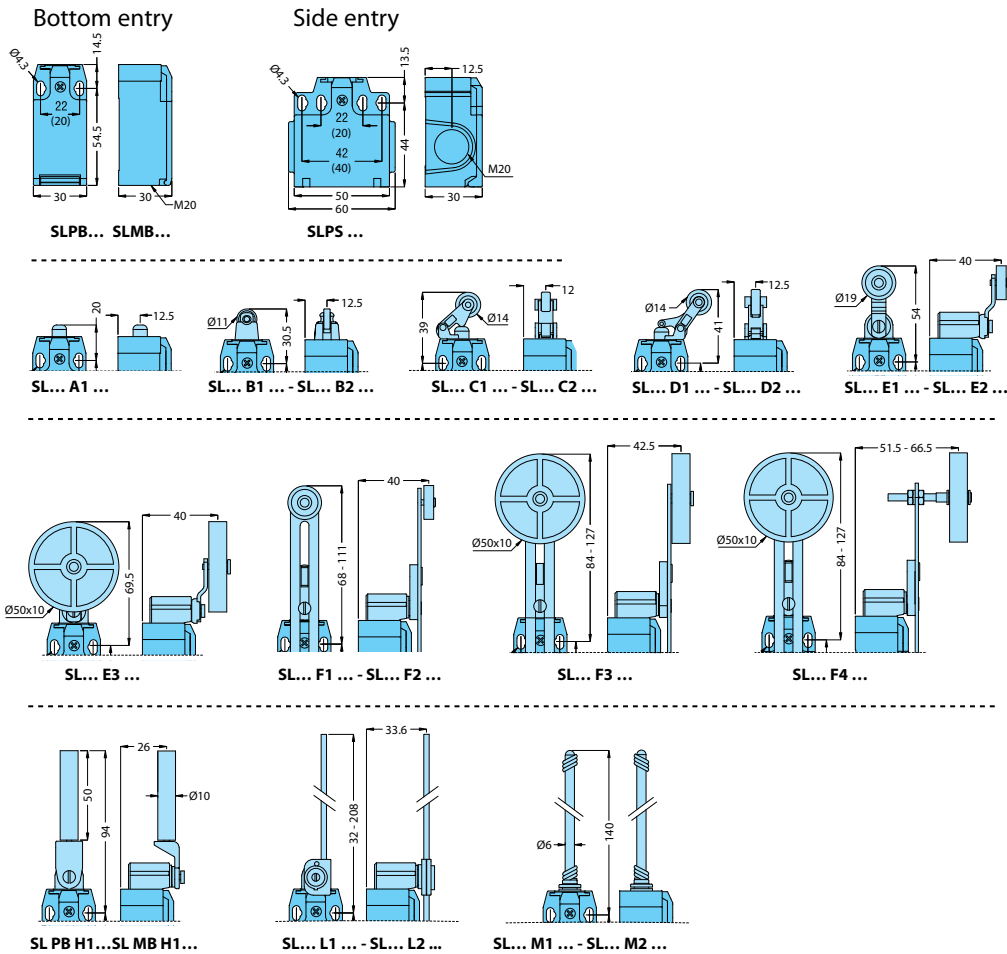
Body housing

- Degree of Protection: IP65.
- SL PB and SL PS types: self-extinguishing double insulation polymer thermoplastic.
- SL MB types: aluminum - Zinc alloy (zama).
- Body fixing tightening torque: 2.5Nm.
- Cable entry
M 20 standard supply; PG 13.5 available (on request).

Certification and Compliance

Certifications obtained : cULus, **CE**
Compliant with standards: EN50047.
IEC/EN60947-1 IEC/EN 60947 - 5-1.
IEC/EN60204-1, EN 81 - 1.

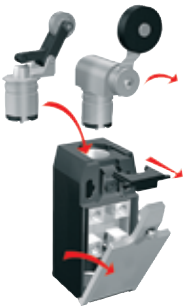
Dimension Guidelines



Limit switches: Fundamentals

All metal self-contained interchangeable heads.

The operating heads are extremely robust metal parts. Mounting both on metal or plastic bodies for all cable entry types. Separate component supply for flexible stock management.



360° lever adjustment

The rotating lever position is fully adjustable at 15° angles.



Maximum installation speed

The bayonet fixing mechanism provides quick positioning of the operating head on the body with no special tools.



Removable auxiliary contacts

The switch body can contain all the types of auxiliary contacts. Combinations of two (all series) or three (for SL PB and SL MB types only) contacts are possible with snap action or slow break function.



45° axial rotation of operating head

The head has axial rotation of 45° angles.



Maximum cabling ease

The complete removal of the body cover and of the auxiliary contacts, supplies with open terminal screws, simplify electric cabling and reduce installation time.





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