
MAIN CATALOG 2021

Limit switches



- Ready for anything
- Keep your installation running 24h a day
- Easy to use.



Limit switches

05	Overview
13	LS2 .. Compact prewired - Plastic and metal casing
33	LS3 .. Standard - Plastic and metal casing
51	LS4 .. Standard reinforced - Plastic and metal casing
67	Technical data
68	Cable glands - NCG series
69	Cable glands - BCG series
70	Travel and Operation Diagrams

Limit switches



ABB limit switches are the easiest reliable way to convert mechanical movements into electrical signals. Use our wide offer to match your application.



Reliable in extreme conditions

Ready for anything

Plastic or metal casing limit switches are designed to operate in the most difficult environments. A high degree of protection up to IP67 and the positive contact opening, guarantee reliable operation.



Continuous operation

Keep your installation running 24h a day

Limit switches secure your uptime. Their high mechanical durability can handle up to 30 million operations with contacts that are mechanically linked to actuators.



Easy to install

Easy to use

Limit switches are easy to install and to use thanks to their three different types of electrical connections and cable length, in order to satisfy every design specifications.

Limit Switches - Range overview

Product selection guide



Design	Compact, Pre-wired		Standard	
Material	Plastic	Metal	Plastic	Metal
Types	LS20P, LS21P	LS20M, LS21M	LS32P, LS33P, LS35P	LS32M, LS33M, LS35M
Dimensions (W x H x D)	30 x 49 x 16	30 x 49 x 16	30 x 53 x 30	30 x 55 x 33
Rounded values for body only. For precises dimensions with actuator, please refer to ordering details pages				
Degree of Protection	IP67	IP67	IP65	IP66
Double electrical insulation	yes	-	yes	-
Standards	IEC/EN 60947-1 IEC/EN60947-5-1 UL508 CSA C22-2 No. 14		IEC/EN 60947-1 IEC/EN60947-5-1 UL508 CSA C22-2 No. 14	
EN 50041	-		-	
EN 50047	-		Yes for Heads : 10, 11, 12, 13, 31 and 41 For shapes please see ordering details pages	
Contact block (1)	1 N.O. + 1 N.C.		1 N.O. + 1 N.C.	
Contact type (2)	Snap Action (Zb)		Snap Action (Zb)	
Cable entry / Cable type (3)	Bottom (LS21) or Side (LS20) entry		Bottom entry	
	UL 62 - PVC cable		1 x ISO M16x1.5	
	4 x AWG 18 4 x 0.75 < ... < 1 mm ²	5 x AWG 18 5 x 0.5 < ... < 1 mm ²	1 x ISO M20x1.5	
	Length : 1 m		1 x 1/2" NPT	
Orientable Head	Yes for Heads : 41, 42, 45, 46, 51 and 71		yes	
Increment	180 °		90 °	
Heads type (4)	Plain plungers	2	2	1
	Roller Plungers	5	5	2
	Roller lever plunger	-	-	2
	Roller lever	5	5	2
	Adjustable roller lever	2	2	2
	Rod lever	1	1	2
	Spring Lever	2	2	2
Minimum order quantity	1	1	1	1

(1) Other configuration (2 N.C.) available on request. Please consult your ABB local sales organization.

(2) Other configuration (Slow Action : Simultaneous, Overlapping or non-overlapping) available on request. Please consult your ABB local sales organization.

(3) Other configuration (LS2. : Cable length up to 10 m; LS3., LS4. : Pg11 and Pg13.5 gland thread) available on request. Please consult your ABB local sales organization.

(4) Other configuration (rotated head, special material, ...) available on request. Please consult your ABB local sales organization.

Note : Please note that extra Lead Time and Minimum Order Quantity may apply.



Standard reinforced

Plastic	Metal
LS43P, LS45P	LS43M, LS45M
41 x 74 x 41	40 x 77 x 43

IP65	IP66
yes	-

IEC/EN 60947-1
 IEC/EN60947-5-1
 UL508
 CSA C22-2 No. 14
 Yes for Heads : 11, 12, 13, 41, 42, 71 and 72
 For shapes please see ordering details pages
 -

1 N.O. + 1 N.C.
 Snap Action (Zb)
 Bottom entry

1 x ISO M20x1.5

1 x 1/2" NPT

yes
 90°

1	1
2	2
2	2
2	2
2	2
2	2
2	2
2	2
1	1



01 Elevators



02 Material handling and conveyors



03 Industrial process

Logistic center and conveyer



Electrical panel



Warehouse

Limit switches



LS2..

Compact

30 mm width - Prewired
 IP67 - Plastic casing - Double insulation
 IP67 - Metal casing

LS3..

Standard

30 mm width - Cable inlet
 IP65 - Plastic casing - Double insulation
 IP66 - Metal casing



LS4..

Standard reinforced

40 mm width - Cable inlet
 IP65 - Plastic casing - Double insulation
 IP66 - Metal casing



Limit switches

Limit switches are electromechanical devices. The contacts are mechanically linked to an actuator for visible operations. By combining different types of actuators and casings, our limit switches are perfectly suited to a large variety of applications.

Prewired LS2..

Limit Switch LS 20 P 24 B 11 - U 01

- Pre-wired limit switch casing width: 30 mm 2
- 1 cable output left / right 0
- 1 cable output bottom 1
- Cable length 01 = 1 m
- U = cable UL 62 - PVC
- Plastic casing
- Actuator 10 ... 92
- Snap action B = Zb Snap
- Contact blocks 11 = 1 N.O. + 1 N.C., up to 10 A

Cable inlet LS3.., LS4..

Limit Switch LS 32 M 41 B 11

- Casing width: 30 mm 3
- 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 delivered not mounted 5
- Casing width: 40 mm 4
- 1 cable inlet M20 x 1.5 for ISO 20 cable gland 3
- 1 cable inlet for 1/2" NPT cable gland 5
- Contact types 11 = 1 N.O. + 1 N.C. contacts
- Snap action B = Zb Snap
- Actuator 10 ... 92
- Metal casing

Double insulation

A **Class II** or **double insulated** electrical appliance does not require a safety connection to electrical earth (ground).

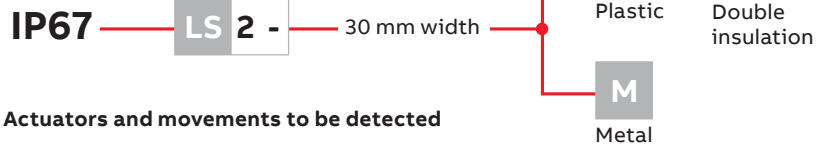
The degree of protection required for electrical equipment depends on the environmental characteristics.

Ingress Protection	First digit solids protection	Second digit liquids protection
IP 6	Dust Tight	5 Low pressure water jet
		6 Powerful water jets
		7 Temporary immersion (up to 1 m)

Actuators and movements to be detected

Actuator type	Symbol	Actuator number	Comments*
Plungers		10 11 21	Plastic or metal plunger
Roller plungers		12 13 14 15 22 24	Plastic or metal roller Roller or ball at the tip
Roller levers + plunger		31 32	For horizontal or vertical movement
Roller levers		41 42 45 46	Plastic, metal or rubber roller Different roller diameters Different lever sizes and shape
Adjustable roller levers		51 52	Plastic, metal or rubber roller Different roller diameters
Rod Levers		71 72	Metal, fiber glass or nylon rod Different rod diameters
Spring rod levers		91 92	Plain or insulated spring tip

* NOTE : a same number can be a slightly different actuator from one range to the other. For accurate description of the actuator, please refer to the ordering details pages.
Ex : actuator n°13 is a plastic roller plunger for LS20 and LS30 but a metal roller plunger for LS40 ranges.



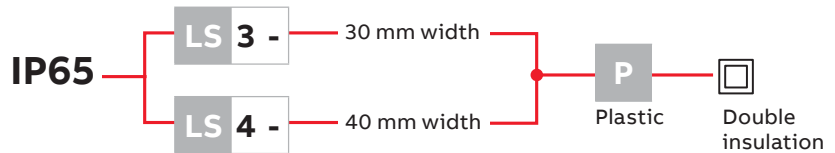
Actuators and movements to be detected

- 11 12 13 14 15 21 22 24 41
42 45 46 51 54 71 91 92



Actuators and movements to be detected

- 11 12 13 31 32 41 42
51 52 71 72 91 92



Actuators and movements to be detected

- 10 11 12 13 31 32 41
42 51 52 71 72 91 92



LS2.. Compact prewired limit switches

LS2..P compact prewired plastic casing - IP67

With actuators

14	Plain plunger - Steel
14	Roller plunger - Steel
15	Roller plunger - Plastic
15	90° Cross roller plunger - Steel
16	90° Cross roller plunger - Plastic
16	Plain plunger with M12 fixing nuts - Brass
17	Roller plunger with M12 fixing nuts - Steel
17	90° Cross roller plunger with M12 fixing nuts - Steel
18	Plastic roller lever Ø 14
18	Steel roller lever Ø 14
19	Plastic roller lever with bent lever Ø 18
19	Steel roller lever with bent lever Ø 18
20	Adjustable plastic roller lever Ø 18
20	Adjustable steel rod lever Ø 3
21	Spring rod
21	Spring rod with insulated tip


LS2..M compact prewired metal casing - IP67

With actuators

22	Plain plunger - Steel
22	Roller plunger - Steel
23	Roller plunger - Plastic
23	90° Cross roller plunger - Steel
24	90° Cross roller plunger - Plastic
24	Plain plunger with M12 fixing nuts - Brass
25	Roller plunger with M12 fixing nuts - Steel
25	90° Cross roller plunger with M12 fixing nuts - Steel
26	Plastic roller lever Ø 14
26	Steel roller lever Ø 14
27	Plastic roller lever with bent lever Ø 18
27	Steel roller lever with bent lever Ø 18
28	Adjustable plastic roller lever Ø 18
28	Adjustable steel rod lever Ø 3
29	Spring rod
29	Spring rod with insulated tip

30 Technical data

LS2..P – Compact, prewired – Plastic casing – IP67

Double insulation  – 30 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS2..P limit switches are used in applications where high degree of protection is needed along with limited mounting space.

The cable coming out of the side or the bottom makes it easier to align the actuator for the application without bending the cable.



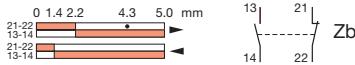


The 30 mm wide bodies are made of fiber-glass reinforced UL-V0 material, sealed with epoxy for double insulation and IP67 protection.



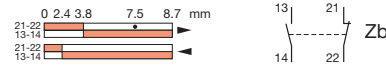




Actuator

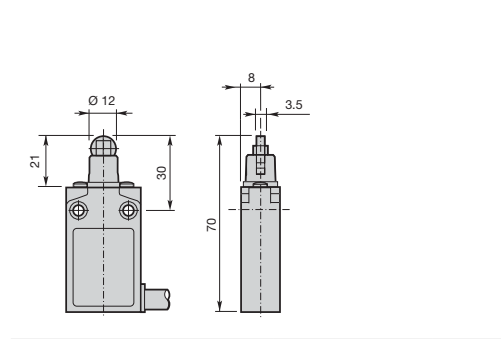
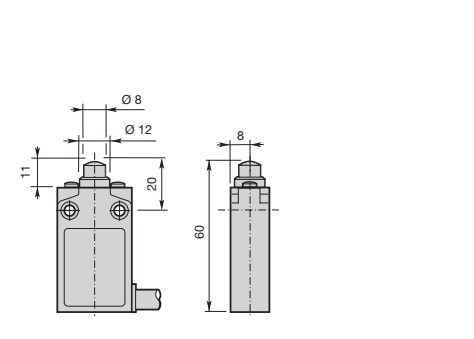
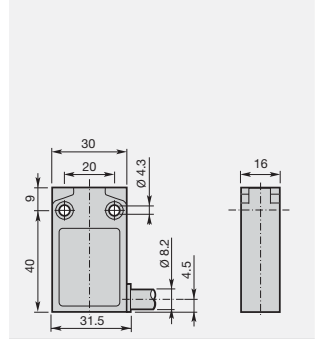
Plain plunger - Steel

Roller plunger - Steel

















Type	Order code	Weight (1 pce) kg	
Cable output left / right	LS20P11B11-U01	1SBV015911R3801	0.125
Cable output bottom	LS21P11B11-U01	1SBV016011R3801	0.125
 (N.C. contact with positive opening operation)			
Maximum actuation speed	0.5 m/s		
Min. force / torque actuation positive opening operation	15 N 30 N		
Operation Diagram			
 Closed contact /  Open contact			

Type	Order code	Weight (1 pce) kg	
Cable output left / right	LS20P12B11-U01	1SBV015912R3801	0.130
Cable output bottom	LS21P12B11-U01	1SBV016012R3801	0.130
 (N.C. contact with positive opening operation)			
Maximum actuation speed	0.1 m/s		
Min. force / torque actuation positive opening operation	10 N 30 N		
Operation Diagram			
 Closed contact /  Open contact			

Dimensions (mm)



Note : For other configuration 2 N.C. contacts, longer cable or type of connection, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply

 Plain plunger - Steel	 90° Cross roller plunger - Steel	 Roller plunger with M12 fixing nuts - Steel	 Steel roller lever Ø 14	 Adjustable plastic roller lever Ø 18	 Spring rod with insulated tip
 Roller plunger - Steel	 90° Cross roller plunger - Plastic	 90° Cross roller plunger with M12 fixing nuts - Steel	 Plastic roller lever with bent lever Ø 18	 Adjustable steel rod lever Ø 3	
 Roller plunger - Plastic	 Plain plunger with M12 fixing nuts - Brass	 Plastic roller lever Ø 14	 Steel roller lever with bent lever Ø 18	 Spring rod	

Here is the full range of actuator available for the LS2-P serie. In grey are the ones available in this page.

LS2..P – Compact, prewired – Plastic casing – IP67

Double insulation □ – 30 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS2..P limit switches are used in applications where high degree of protection is needed along with limited mounting space.

The cable coming out of the side or the bottom makes it easier to align the actuator for the application without bending the cable.

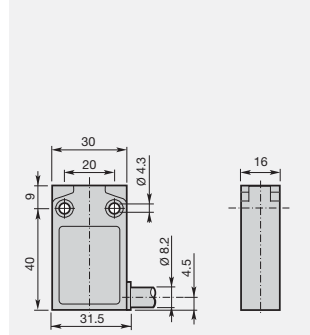
The 30 mm wide bodies are made of fiber-glass reinforced UL-V0 material, sealed with epoxy for double insulation and IP67 protection.



Actuator

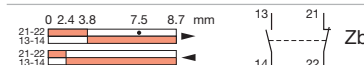
Cable output left / right
Cable output bottom
⊙ (N.C. contact with positive opening operation)
Maximum actuation speed
Min. force / torque actuation positive opening operation
Operation Diagram
■ Closed contact / □ Open contact

Dimensions (mm)



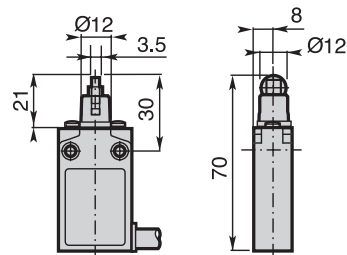
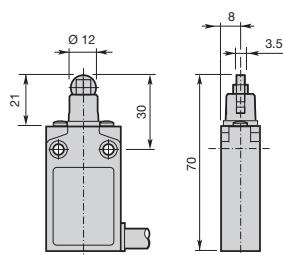
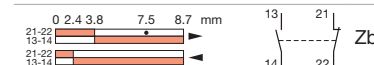
Roller plunger - Plastic

Type	Order code	Weight (1 pce) kg
LS20P13B11-U01	1SBV015913R3801	0.130
LS21P13B11-U01	1SBV016013R3801	0.130
⊙		
0.1 m/s		
10 N		
30 N		



90° Cross roller plunger - Steel

Type	Order code	Weight (1 pce) kg
LS20P14B11-U01	1SBV015914R3801	0.130
LS21P14B11-U01	1SBV016014R3801	0.130
⊙		
0.1 m/s		
10 N		
30 N		




Note : For other configuration 2 N.C. contacts, longer cable or type of connection, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply

Plain plunger - Steel 11	90° Cross roller plunger - Steel 14	Roller plunger with M12 fixing nuts - Steel 22	Steel roller lever Ø 14 42	Adjustable plastic roller lever Ø 18 51	Spring rod with insulated tip 92
Roller plunger - Steel 12	90° Cross roller plunger - Plastic 15	90° Cross roller plunger with M12 fixing nuts - Steel 24	Plastic roller lever with bent lever Ø 18 45	Adjustable steel rod lever Ø 3 71	
Roller plunger - Plastic 13	Plain plunger with M12 fixing nuts - Brass 21	Plastic roller lever Ø 14 41	Steel roller lever with bent lever Ø 18 46	Spring rod 91	

Here is the full range of actuator available for the LS2-P serie. In grey are the ones available in this page.

LS2..P – Compact, prewired – Plastic casing – IP67



Double insulation  – 30 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS2..P limit switches are used in applications where high degree of protection is needed along with limited mounting space.
The cable coming out of the side or the bottom makes it easier to align the actuator for the application without bending the cable.



The 30 mm wide bodies are made of fiber-glass reinforced UL-V0 material, sealed with epoxy for double insulation and IP67 protection.



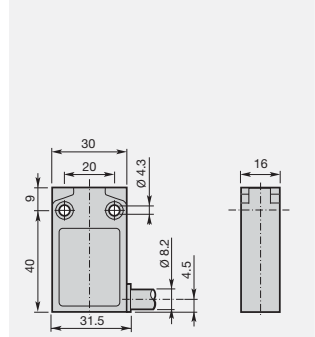
Actuator

Cable output left / right	LS20P15B11-U01	1SBV015915R3801	0.130
Cable output bottom	LS21P15B11-U01	1SBV016015R3801	0.130
 (N.C. contact with positive opening operation)			
Maximum actuation speed	0.1 m/s		
Min. force / torque actuation positive opening operation	10 N 30 N		

Operation Diagram



 Closed contact /  Open contact

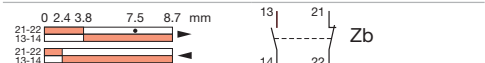
Dimensions (mm)



90° Cross roller plunger - Plastic



Type	Order code	Weight (1 pce) kg
LS20P15B11-U01	1SBV015915R3801	0.130
LS21P15B11-U01	1SBV016015R3801	0.130

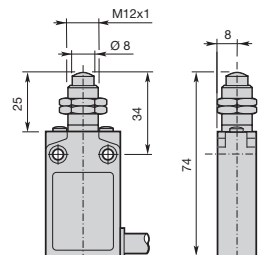
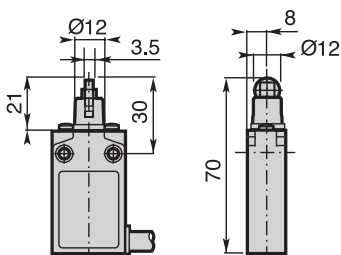
			
0.1 m/s			
10 N 30 N			



















Plain plunger with M12 fixing nuts - Brass

Type	Order code	Weight (1 pce) kg
LS20P21B11-U01	1SBV015921R3801	0.140
LS21P21B11-U01	1SBV016021R3801	0.140

			
0.5 m/s			
15 N 30 N			




Note : For other configuration 2 N.C. contacts, longer cable or type of connection, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply

 11 Plain plunger - Steel	 14 90° Cross roller plunger - Steel	 22 Roller plunger with M12 fixing nuts - Steel	 42 Steel roller lever Ø 14	 51 Adjustable plastic roller lever Ø 18	 92 Spring rod with insulated tip
 12 Roller plunger - Steel	 15 90° Cross roller plunger - Plastic	 24 90° Cross roller plunger with M12 fixing nuts - Steel	 45 Plastic roller lever with bent lever Ø 18	 71 Adjustable steel rod lever Ø 3	
 13 Roller plunger - Plastic	 21 Plain plunger with M12 fixing nuts - Brass	 41 Plastic roller lever Ø 14	 46 Steel roller lever with bent lever Ø 18	 91 Spring rod	

Here is the full range of actuator available for the LS2-P serie. In grey are the ones available in this page.

LS2..P – Compact, prewired – Plastic casing – IP67




Double insulation  – 30 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS2..P limit switches are used in applications where high degree of protection is needed along with limited mounting space. The cable coming out of the side or the bottom makes it easier to align the actuator for the application without bending the cable.

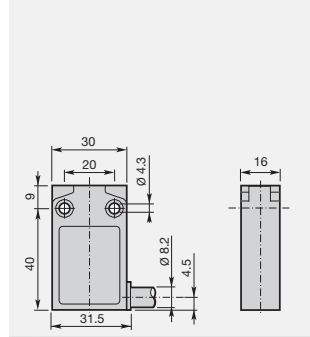
The 30 mm wide bodies are made of fiber-glass reinforced UL-V0 material, sealed with epoxy for double insulation and IP67 protection.



Actuator

Cable output left / right	
Cable output bottom	
 (N.C. contact with positive opening operation)	
Maximum actuation speed	
Min. force / torque actuation	
positive opening operation	
Operation Diagram	
 Closed contact /  Open contact	

Dimensions (mm)



Roller plunger with M12 fixing nuts - Steel

Type	Order code	Weight (1 pce) kg
LS20P22B11-U01	1SBV015922R3801	0.145
LS21P22B11-U01	1SBV016022R3801	0.145

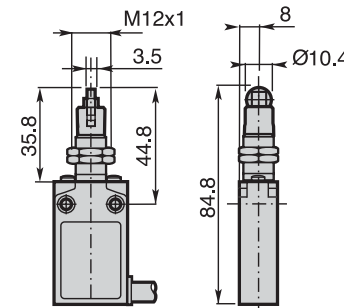
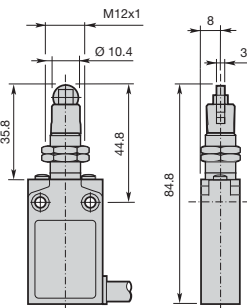
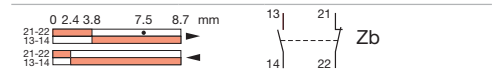
	0.1 m/s	10 N	30 N
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90° Cross roller plunger with M12 fixing nuts - Steel

Type	Order code	Weight (1 pce) Kg
LS20P24B11-U01	1SBV015924R3801	0.145
LS21P24B11-U01	1SBV016024R3801	0.145

	0.1 m/s	10 N	30 N
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Note : For other configuration 2 N.C. contacts, longer cable or type of connection, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply

 11 Plain plunger - Steel	 14 90° Cross roller plunger - Steel	 22 Roller plunger with M12 fixing nuts - Steel	 42 Steel roller lever Ø 14	 51 Adjustable plastic roller lever Ø 18	 92 Spring rod with insulated tip
 12 Roller plunger - Steel	 15 90° Cross roller plunger - Plastic	 24 90° Cross roller plunger with M12 fixing nuts - Steel	 45 Plastic roller lever with bent lever Ø 18	 71 Adjustable steel rod lever Ø 3	
 13 Roller plunger - Plastic	 21 Plain plunger with M12 fixing nuts - Brass	 41 Plastic roller lever Ø 14	 46 Steel roller lever with bent lever Ø 18	 91 Spring rod	

Here is the full range of actuator available for the LS2-P serie. In grey are the ones available in this page.

LS2..P – Compact, prewired – Plastic casing – IP67

Double insulation  – 30 mm width – 1 N.O. + 1 N.C. Snap Action contacts



LS2..P limit switches are used in applications where high degree of protection is needed along with limited mounting space.

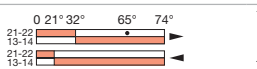


The cable coming out of the side or the bottom makes it easier to align the actuator for the application without bending the cable.

The 30 mm wide bodies are made of fiber-glass reinforced UL-V0 material, sealed with epoxy for double insulation and IP67 protection.

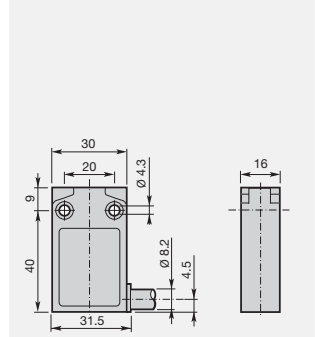


Actuator


Cable output left / right	LS20P41B11-U01	1SBV015941R3801	0.175
Cable output bottom	LS21P41B11-U01	1SBV016041R3801	0.175
 (N.C. contact with positive opening operation)			
Maximum actuation speed	1.5 m/s		
Min. force / torque actuation positive opening operation	0.08 N.m 0.28 N.m		

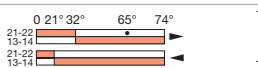


Operation Diagram	
 Closed contact /  Open contact	

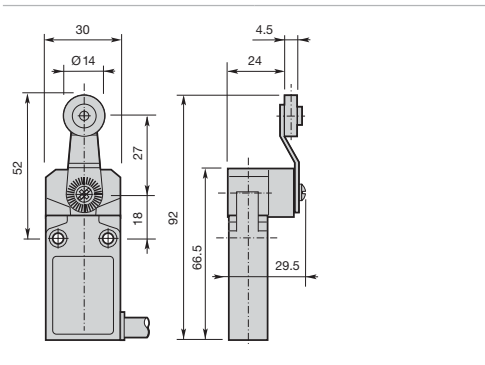
Dimensions (mm)




Plastic roller lever Ø 14

Type	Order code	Weight (1 pce) kg
LS20P41B11-U01	1SBV015941R3801	0.175
LS21P41B11-U01	1SBV016041R3801	0.175
		
1.5 m/s		
0.08 N.m 0.28 N.m		

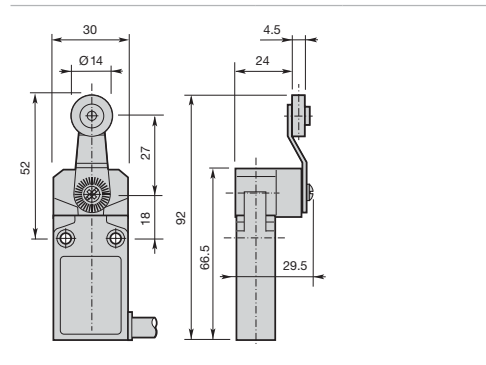
Operation Diagram	
 Closed contact /  Open contact	



















Steel roller lever Ø 14

Type	Order code	Weight (1 pce) kg
LS20P42B11-U01	1SBV015942R3801	0.175
LS21P42B11-U01	1SBV016042R3801	0.175
		
1.5 m/s		
0.08 N.m 0.28 N.m		

Operation Diagram	
 Closed contact /  Open contact	



Note : For other configuration 2 N.C. contacts, longer cable or type of connection, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply

 11 Plain plunger - Steel	 14 90° Cross roller plunger - Steel	 22 Roller plunger with M12 fixing nuts - Steel	 42 Steel roller lever Ø 14	 51 Adjustable plastic roller lever Ø 18	 92 Spring rod with insulated tip
 12 Roller plunger - Steel	 15 90° Cross roller plunger - Plastic	 24 90° Cross roller plunger with M12 fixing nuts - Steel	 45 Plastic roller lever with bent lever Ø 18	 71 Adjustable steel rod lever Ø 3	
 13 Roller plunger - Plastic	 21 Plain plunger with M12 fixing nuts - Brass	 41 Plastic roller lever Ø 14	 46 Steel roller lever with bent lever Ø 18	 91 Spring rod	

Here is the full range of actuator available for the LS2-P serie. In grey are the ones available in this page.

LS2..P – Compact, prewired – Plastic casing – IP67

Double insulation \square – 30 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS2..P limit switches are used in applications where high degree of protection is needed along with limited mounting space.

The cable coming out of the side or the bottom makes it easier to align the actuator for the application without bending the cable.

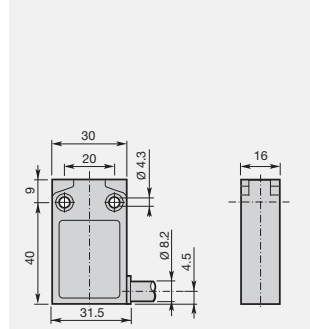
The 30 mm wide bodies are made of fiber-glass reinforced UL-V0 material, sealed with epoxy for double insulation and IP67 protection.



Actuator

- Cable output left / right
- Cable output bottom
- \odot (N.C. contact with positive opening operation)
- Maximum actuation speed
- Min. force / torque
actuation
- positive opening operation
- Operation Diagram
- Closed contact / □ Open contact

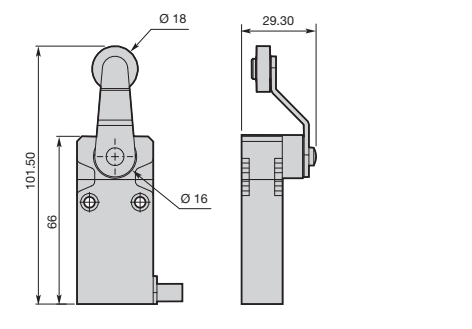
Dimensions (mm)



Plastic roller lever with bent lever Ø 18

Type	Order code	Weight (1 pce) kg
LS20P45B11-U01	1SBV015945R3801	0.180
LS21P45B11-U01	1SBV016045R3801	0.180

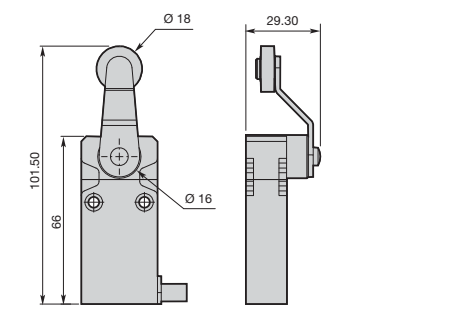
- \odot
- 1.5 m/s
- 0.08 N.m
- 0.28 N.m



Steel roller lever with bent lever Ø 18

Type	Order code	Weight (1 pce) kg
LS20P46B11-U01	1SBV015946R3801	0.180
LS21P46B11-U01	1SBV016046R3801	0.180

- \odot
- 1.5 m/s
- 0.08 N.m
- 0.28 N.m




Note : For other configuration 2 N.C. contacts, longer cable or type of connection, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply

Plain plunger - Steel 11	90° Cross roller plunger - Steel 14	Roller plunger with M12 fixing nuts - Steel 22	Steel roller lever Ø 14 42	Adjustable plastic roller lever Ø 18 51	Spring rod with insulated tip 92
Roller plunger - Steel 12	90° Cross roller plunger - Plastic 15	90° Cross roller plunger with M12 fixing nuts - Steel 24	Plastic roller lever with bent lever Ø 18 45	Adjustable steel rod lever Ø 3 71	
Roller plunger - Plastic 13	Plain plunger with M12 fixing nuts - Brass 21	Plastic roller lever Ø 14 41	Steel roller lever with bent lever Ø 18 46	Spring rod 91	

Here is the full range of actuator available for the LS2-P serie. In grey are the ones available in this page.

LS2..P – Compact, prewired – Plastic casing – IP67



Double insulation  – 30 mm width – 1 N.O. + 1 N.C. Snap Action contacts

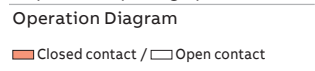
LS2..P limit switches are used in applications where high degree of protection is needed along with limited mounting space. The cable coming out of the side or the bottom makes it easier to align the actuator for the application without bending the cable.

The 30 mm wide bodies are made of fiber-glass reinforced UL-V0 material, sealed with epoxy for double insulation and IP67 protection.

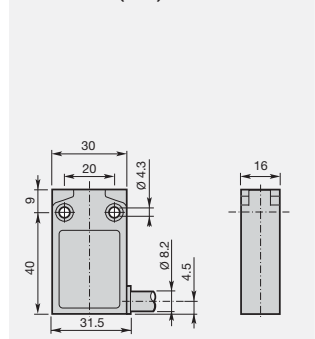


Actuator

Cable output left / right	LS20P51B11-U01	1SBV015951R3801	0.190
Cable output bottom	LS21P51B11-U01	1SBV016051R3801	0.190
 (N.C. contact with positive opening operation)			
Maximum actuation speed	1.5 m/s		
Min. force / torque actuation positive opening operation	0.08 N.m 0.28 N.m		



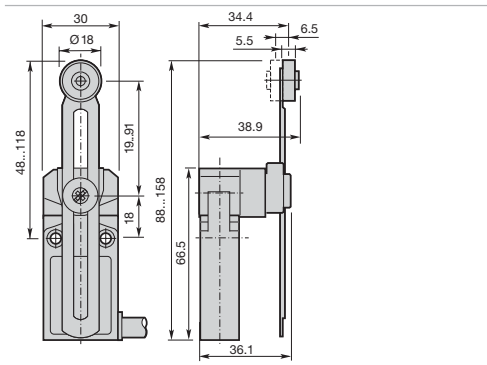
Dimensions (mm)



Adjustable plastic roller lever Ø 18

Type	Order code	Weight (1 pce) kg
LS20P51B11-U01	1SBV015951R3801	0.190
LS21P51B11-U01	1SBV016051R3801	0.190

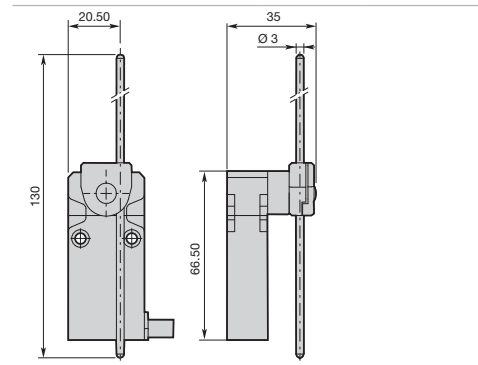
		
1.5 m/s		
0.08 N.m 0.28 N.m		



















Adjustable steel rod lever Ø 3

Type	Order code	Weight (1 pce) kg
LS20P71B11-U01	1SBV015971R3801	0.185
LS21P71B11-U01	1SBV016071R3801	0.185

		
1.5 m/s		
0.08 N.m 0.28 N.m		




Note : For other configuration 2 N.C. contacts, longer cable or type of connection, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply

 11 Plain plunger - Steel	 14 90° Cross roller plunger - Steel	 22 Roller plunger with M12 fixing nuts - Steel	 42 Steel roller lever Ø 14	 51 Adjustable plastic roller lever Ø 18	 92 Spring rod with insulated tip
 12 Roller plunger - Steel	 15 90° Cross roller plunger - Plastic	 24 90° Cross roller plunger with M12 fixing nuts - Steel	 45 Plastic roller lever with bent lever Ø 18	 71 Adjustable steel rod lever Ø 3	
 13 Roller plunger - Plastic	 21 Plain plunger with M12 fixing nuts - Brass	 41 Plastic roller lever Ø 14	 46 Steel roller lever with bent lever Ø 18	 91 Spring rod	

Here is the full range of actuator available for the LS2-P serie. In grey are the ones available in this page.

LS2..P – Compact, prewired – Plastic casing – IP67




Double insulation  – 30 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS2..P limit switches are used in applications where high degree of protection is needed along with limited mounting space. The cable coming out of the side or the bottom makes it easier to align the actuator for the application without bending the cable.

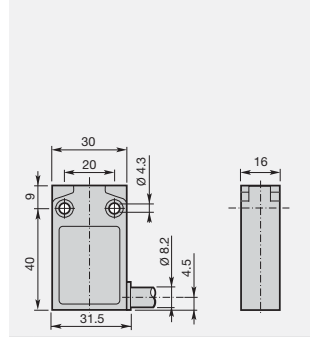
The 30 mm wide bodies are made of fiber-glass reinforced UL-V0 material, sealed with epoxy for double insulation and IP67 protection.



Actuator

Cable output left / right	
Cable output bottom	
 (N.C. contact with positive opening operation)	
Maximum actuation speed	1.0 m/s
Min. force / torque actuation	0.10 N.m
positive opening operation	
Operation Diagram	
 Closed contact /  Open contact	

Dimensions (mm)



Spring rod

Type	Order code	Weight (1 pce) kg
LS20P91B11-U01	1SBV015991R3801	0.190
LS21P91B11-U01	1SBV016091R3801	0.190

1.0 m/s

0.10 N.m

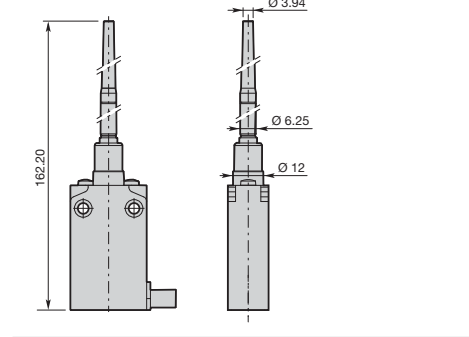
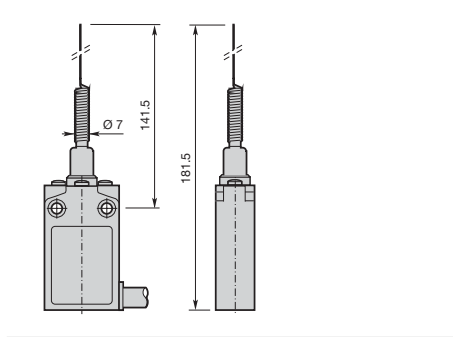


Spring rod with insulated tip

















Type	Order code	Weight (1 pce) kg
LS20P92B11-U01	1SBV015992R3801	0.195
LS21P92B11-U01	1SBV016092R3801	0.195

1.0 m/s

0.10 N.m



Note : For other configuration 2 N.C. contacts, longer cable or type of connection, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply

 11 Plain plunger - Steel	 14 90° Cross roller plunger - Steel	 22 Roller plunger with M12 fixing nuts - Steel	 42 Steel roller lever Ø 14	 51 Adjustable plastic roller lever Ø 18	 92 Spring rod with insulated tip
 12 Roller plunger - Steel	 15 90° Cross roller plunger - Plastic	 24 90° Cross roller plunger with M12 fixing nuts - Steel	 45 Plastic roller lever with bent lever Ø 18	 71 Adjustable steel rod lever Ø 3	
 13 Roller plunger - Plastic	 21 Plain plunger with M12 fixing nuts - Brass	 41 Plastic roller lever Ø 14	 46 Steel roller lever with bent lever Ø 18	 91 Spring rod	

Here is the full range of actuator available for the LS2-P serie. In grey are the ones available in this page.

LS2..M – Compact, prewired – Metal Casing – IP67

30 mm width – 1 N.O. + 1 N.C. Snap Action contacts 30 mm width

LS2..M limit switches are used in applications where high degree of protection is needed along with limited mounting space.

The cable coming out of the side or the bottom makes it easier to align the actuator for the application without bending the cable.

The 30 mm bodies are made of zinc alloy material (Zamak), sealed with epoxy resin for IP67 protection. The high degree of protection and the high resistance to corrosion allows them to be mounted outside.



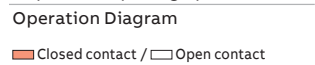
Actuator

Plain plunger - Steel

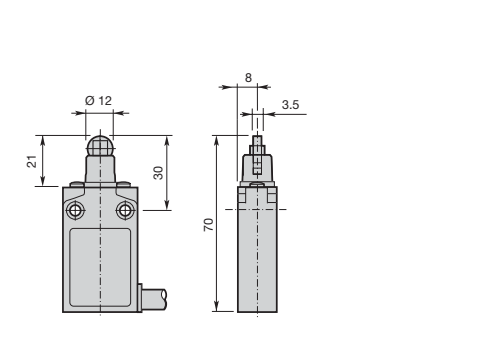
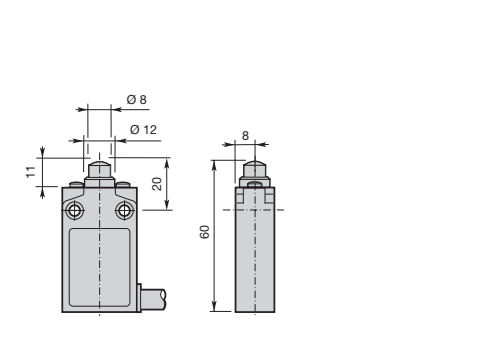
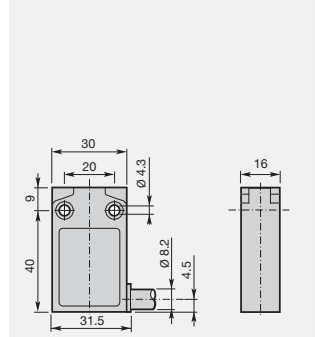
Roller plunger - Steel

Type	Order code	Weight (1 pce) kg	
Cable output left / right	LS20M11B11-U01	1SBV015511R2601	0.175
Cable output bottom	LS21M11B11-U01	1SBV015611R2601	0.175
(N.C. contact with positive opening operation)	-	⊖	
Maximum actuation speed	0.5 m/s		
Min. force / torque actuation positive opening operation	15 N 30 N		

Type	Order code	Weight (1 pce) kg	
Cable output left / right	LS20M12B11-U01	1SBV015512R2601	0.180
Cable output bottom	LS21M12B11-U01	1SBV015612R2601	0.180
(N.C. contact with positive opening operation)	-	⊖	
Maximum actuation speed	0.1 m/s		
Min. force / torque actuation positive opening operation	10 N 30 N		



Dimensions (mm)



Note : For other configuration 2 N.C. contacts, longer cable or type of connection, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

Plain plunger - Steel	90° Cross roller plunger - Steel	Roller plunger with M12 fixing nuts - Steel	Steel roller lever Ø 14	Adjustable Ø 18 plastic roller lever	Spring rod with insulated tip
Roller plunger - Steel	90° Cross roller plunger - Plastic	90° Cross roller plunger with M12 fixing nuts - Steel	Plastic roller lever with bent lever Ø 18	Adjustable steel rod lever Ø 3	
Roller plunger - Plastic	Plain plunger with M12 fixing nuts - Brass	Plastic roller lever Ø 14	Steel roller lever with bent lever Ø 18	Spring rod	

Here is the full range of actuator available for the LS2..M serie. In grey are the ones available in this page.

LS2..M – Compact, prewired – Metal Casing – IP67

30 mm width – 1 N.O. + 1 N.C. Snap Action contacts 30 mm width

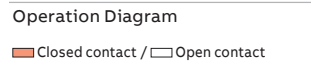
LS2..M limit switches are used in applications where high degree of protection is needed along with limited mounting space. The cable coming out of the side or the bottom makes it easier to align the actuator for the application without bending the cable.

The 30 mm bodies are made of zinc alloy material (Zamak), sealed with epoxy resin for IP67 protection. The high degree of protection and the high resistance to corrosion allows them to be mounted outside.

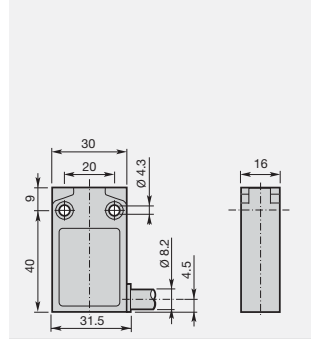


Actuator

Cable output left / right	→
Cable output bottom	⬇
(N.C. contact with positive opening operation)	⊖
Maximum actuation speed	0.1 m/s
Min. force / torque actuation positive opening operation	10 N 30 N



Dimensions (mm)



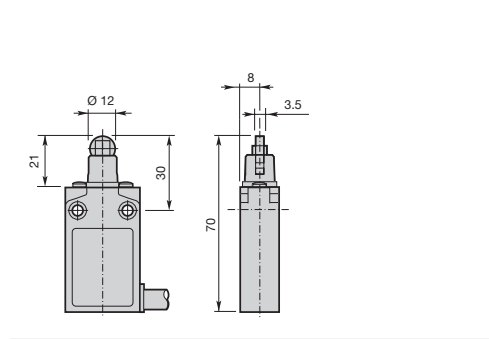
Roller plunger - Plastic

Type	Order code	Weight (1 pce) kg
LS20M13B11-U01	1SBV015513R2601	0.180
LS21M13B11-U01	1SBV015613R2601	0.180

(N.C. contact with positive opening operation)	⊖
Maximum actuation speed	0.1 m/s
Min. force / torque actuation positive opening operation	10 N 30 N



Dimensions (mm)



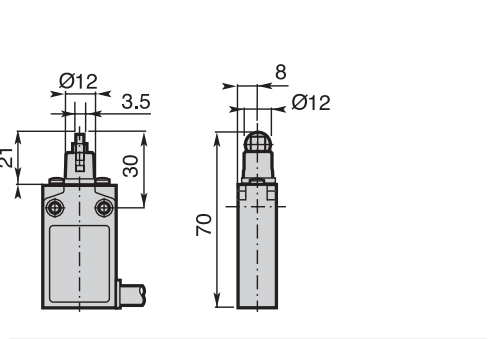
90° Cross roller plunger - Steel

Type	Order code	Weight (1 pce) kg
LS20M14B11-U01	1SBV015514R2601	0.180
LS21M14B11-U01	1SBV015614R2601	0.180

(N.C. contact with positive opening operation)	⊖
Maximum actuation speed	0.1 m/s
Min. force / torque actuation positive opening operation	10 N 30 N



Dimensions (mm)



Note : For other configuration 2 N.C. contacts, longer cable or type of connection, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

11 Plain plunger - Steel	14 90° Cross roller plunger - Steel	22 Roller plunger with M12 fixing nuts - Steel	42 Steel roller lever Ø 14	51 Adjustable Ø 18 plastic roller lever	92 Spring rod with insulated tip
12 Roller plunger - Steel	15 90° Cross roller plunger - Plastic	24 90° Cross roller plunger with M12 fixing nuts - Steel	45 Plastic roller lever with bent lever Ø 18	71 Adjustable steel rod lever Ø 3	
13 Roller plunger - Plastic	21 Plain plunger with M12 fixing nuts - Brass	41 Plastic roller lever Ø 14	46 Steel roller lever with bent lever Ø 18	91 Spring rod	

Here is the full range of actuator available for the LS2..M serie. In grey are the ones available in this page.

LS2..M – Compact, prewired – Metal Casing – IP67

30 mm width – 1 N.O. + 1 N.C. Snap Action contacts 30 mm width

LS2..M limit switches are used in applications where high degree of protection is needed along with limited mounting space. The cable coming out of the side or the bottom makes it easier to align the actuator for the application without bending the cable.

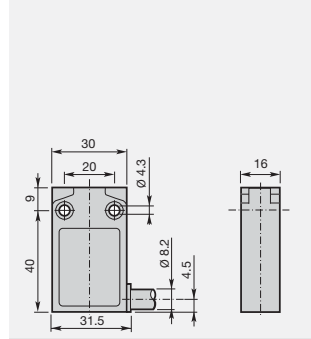
The 30 mm bodies are made of zinc alloy material (Zamak), sealed with epoxy resin for IP67 protection. The high degree of protection and the high resistance to corrosion allows them to be mounted outside.



Actuator

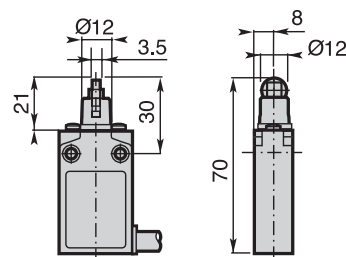
Cable output left / right	→
Cable output bottom	⬇
(⊖) (N.C. contact with positive opening operation)	⊖
Maximum actuation speed	0.1 m/s
Min. force / torque actuation	10 N
positive opening operation	30 N
Operation Diagram	
Legend	■ Closed contact / □ Open contact

Dimensions (mm)



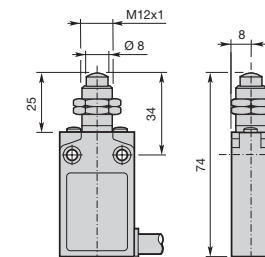
90° Cross roller plunger - Plastic

Type	Order code	Weight (1 pce) kg
LS20M15B11-U01	1SBV015515R2601	0.18
LS21M15B11-U01	1SBV015615R2601	0.18
(⊖)	⊖	
Maximum actuation speed	0.1 m/s	
Min. force / torque actuation	10 N	
positive opening operation	30 N	
Operation Diagram		
Dimensions (mm)		



Plain plunger with M12 fixing nuts - Brass

Type	Order code	Weight (1 pce) kg
LS20M21B11-U01	1SBV015521R2601	0.19
LS21M21B11-U01	1SBV015621R2601	0.19
(⊖)	⊖	
Maximum actuation speed	0.5 m/s	
Min. force / torque actuation	15 N	
positive opening operation	30 N	
Operation Diagram		
Dimensions (mm)		



Note : For other configuration 2 N.C. contacts, longer cable or type of connection, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

Plain plunger - Steel 11	90° Cross roller plunger - Steel 14	Roller plunger with M12 fixing nuts - Steel 22	Steel roller lever Ø 14 42	Adjustable Ø 18 plastic roller lever 51	Spring rod with insulated tip 92
Roller plunger - Steel 12	90° Cross roller plunger - Plastic 15	90° Cross roller plunger with M12 fixing nuts - Steel 24	Plastic roller lever with bent lever Ø 18 45	Adjustable steel rod lever Ø 3 71	
Roller plunger - Plastic 13	Plain plunger with M12 fixing nuts - Brass 21	Plastic roller lever Ø 14 41	Steel roller lever with bent lever Ø 18 46	Spring rod 91	

Here is the full range of actuator available for the LS2..M serie. In grey are the ones available in this page.

LS2..M – Compact, prewired – Metal Casing – IP67

30 mm width – 1 N.O. + 1 N.C. Snap Action contacts 30 mm width

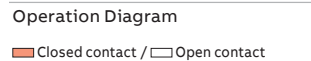
LS2..M limit switches are used in applications where high degree of protection is needed along with limited mounting space. The cable coming out of the side or the bottom makes it easier to align the actuator for the application without bending the cable.

The 30 mm bodies are made of zinc alloy material (Zamak), sealed with epoxy resin for IP67 protection. The high degree of protection and the high resistance to corrosion allows them to be mounted outside.

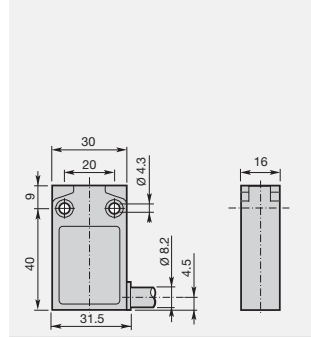


Actuator

Cable output left / right	→
Cable output bottom	⬇
(N.C. contact with positive opening operation)	⊖
Maximum actuation speed	0.1 m/s
Min. force / torque actuation positive opening operation	10 N 30 N



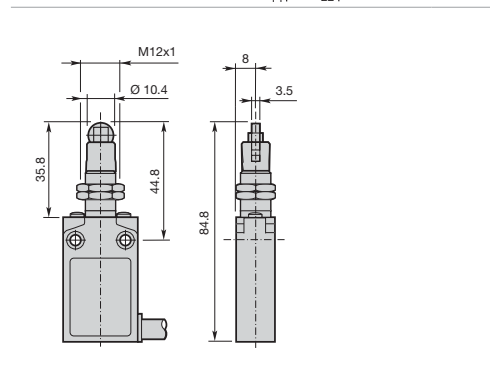
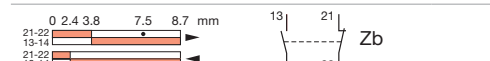
Dimensions (mm)



Roller plunger with M12 fixing nuts - Steel

Type	Order code	Weight (1 pce) kg
LS20M22B11-U01	1SBV015522R2601	0.195
LS21M22B11-U01	1SBV015622R2601	0.195

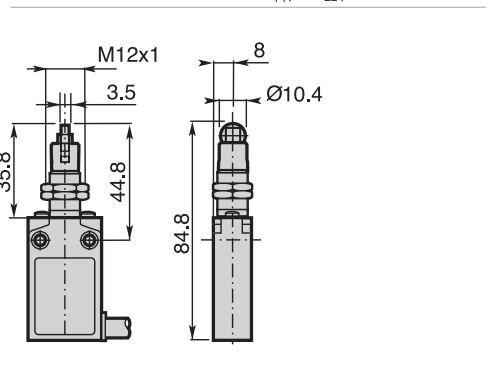
→	⊖
0.1 m/s	0.1 m/s
10 N	10 N
30 N	30 N



90° Cross roller plunger with M12 fixing nuts - Steel

Type	Order code	Weight (1 pce) kg
LS20M24B11-U01	1SBV015524R2601	0.195
LS21M24B11-U01	1SBV015624R2601	0.195

→	⊖
0.1 m/s	0.1 m/s
10 N	10 N
30 N	30 N



Note : For other configuration 2 N.C. contacts, longer cable or type of connection, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

11 Plain plunger - Steel	14 90° Cross roller plunger - Steel	22 Roller plunger with M12 fixing nuts - Steel	42 Steel roller lever Ø 14	51 Adjustable Ø 18 plastic roller lever	92 Spring rod with insulated tip
12 Roller plunger - Steel	15 90° Cross roller plunger - Plastic	24 90° Cross roller plunger with M12 fixing nuts - Steel	45 Plastic roller lever with bent lever Ø 18	71 Adjustable steel rod lever Ø 3	
13 Roller plunger - Plastic	21 Plain plunger with M12 fixing nuts - Brass	41 Plastic roller lever Ø 14	46 Steel roller lever with bent lever Ø 18	91 Spring rod	

Here is the full range of actuator available for the LS2..M serie. In grey are the ones available in this page.

LS2..M – Compact, prewired – Metal Casing – IP67

30 mm width – 1 N.O. + 1 N.C. Snap Action contacts 30 mm width

LS2..M limit switches are used in applications where high degree of protection is needed along with limited mounting space.

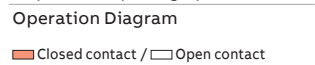
The cable coming out of the side or the bottom makes it easier to align the actuator for the application without bending the cable.

The 30 mm bodies are made of zinc alloy material (Zamak), sealed with epoxy resin for IP67 protection. The high degree of protection and the high resistance to corrosion allows them to be mounted outside.

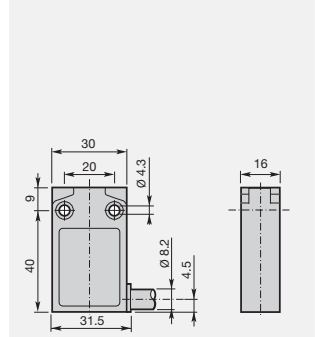


Actuator

Cable output left / right	→
Cable output bottom	⬇
(N.C. contact with positive opening operation)	⊖
Maximum actuation speed	1.5 m/s
Min. force / torque actuation	0.08 N.m
positive opening operation	0.28 N.m



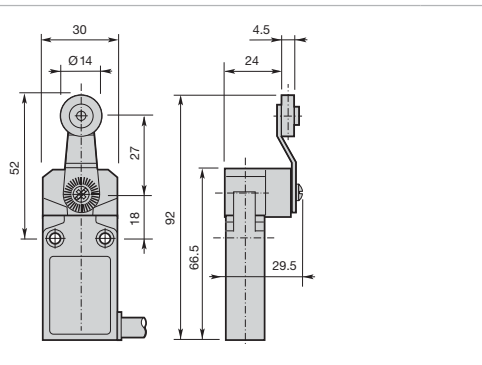
Dimensions (mm)



Plastic roller lever Ø 14

Type	Order code	Weight (1 pce) kg
LS20M41B11-U01	1SBV015541R2601	0.225
LS21M41B11-U01	1SBV015641R2601	0.225

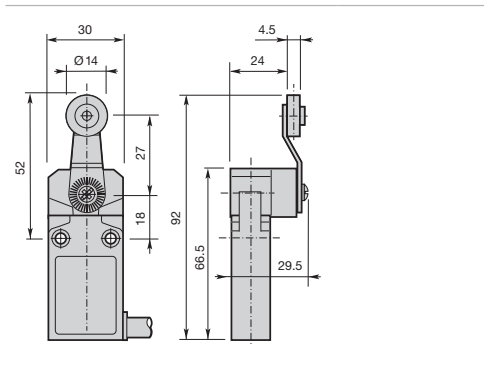
(N.C. contact with positive opening operation)	⊖
Maximum actuation speed	1.5 m/s
Min. force / torque actuation	0.08 N.m
positive opening operation	0.28 N.m



Steel roller lever Ø 14

Type	Order code	Weight (1 pce) kg
LS20M42B11-U01	1SBV015542R2601	0.225
LS21M42B11-U01	1SBV015642R2601	0.225

(N.C. contact with positive opening operation)	⊖
Maximum actuation speed	1.5 m/s
Min. force / torque actuation	0.08 N.m
positive opening operation	0.28 N.m



Note : For other configuration 2 N.C. contacts, longer cable or type of connection, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

Plain plunger - Steel 11	90° Cross roller plunger - Steel 14	Roller plunger with M12 fixing nuts - Steel 22	Steel roller lever Ø 14 42	Adjustable Ø 18 plastic roller lever 51	Spring rod with insulated tip 92
Roller plunger - Steel 12	90° Cross roller plunger - Plastic 15	90° Cross roller plunger with M12 fixing nuts - Steel 24	Plastic roller lever with bent lever Ø 18 45	Adjustable steel rod lever Ø 3 71	
Roller plunger - Plastic 13	Plain plunger with M12 fixing nuts - Brass 21	Plastic roller lever Ø 14 41	Steel roller lever with bent lever Ø 18 46	Spring rod 91	

Here is the full range of actuator available for the LS2..M serie. In grey are the ones available in this page.

LS2..M – Compact, prewired – Metal Casing – IP67

30 mm width – 1 N.O. + 1 N.C. Snap Action contacts 30 mm width

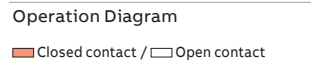
LS2..M limit switches are used in applications where high degree of protection is needed along with limited mounting space. The cable coming out of the side or the bottom makes it easier to align the actuator for the application without bending the cable.

The 30 mm bodies are made of zinc alloy material (Zamak), sealed with epoxy resin for IP67 protection. The high degree of protection and the high resistance to corrosion allows them to be mounted outside.

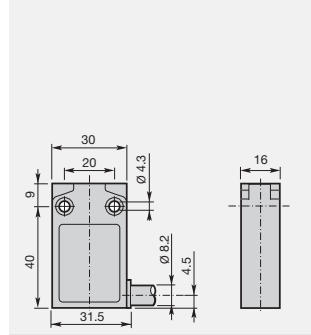


Actuator

Cable output left / right	LS20M45B11-U01
Cable output bottom	LS21M45B11-U01
(N.C. contact with positive opening operation)	-
Maximum actuation speed	1.5 m/s
Min. force / torque actuation positive opening operation	0.08 N.m 0.28 N.m

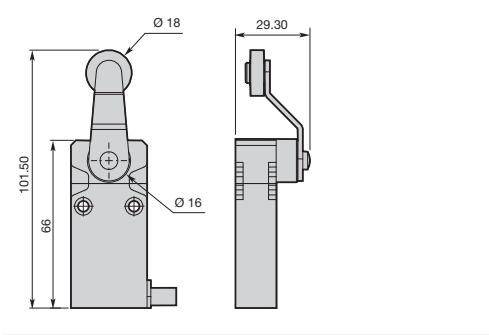


Dimensions (mm)



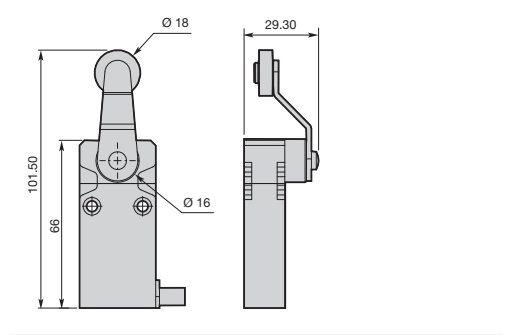
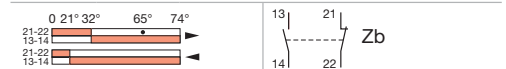
Plastic roller lever with bent lever Ø 18

Type	Order code	Weight (1 pce) kg
LS20M45B11-U01	1SBV015545R2601	0.23
LS21M45B11-U01	1SBV015645R2601	0.23
-	(N.C. contact with positive opening operation)	-
Maximum actuation speed	1.5 m/s	
Min. force / torque actuation positive opening operation	0.08 N.m 0.28 N.m	



Steel roller lever with bent lever Ø 18

Type	Order code	Weight (1 pce) kg
LS20M46B11-U01	1SBV015546R2601	0.23
LS21M46B11-U01	1SBV015646R2601	0.23
-	(N.C. contact with positive opening operation)	-
Maximum actuation speed	1.5 m/s	
Min. force / torque actuation positive opening operation	0.08 N.m 0.28 N.m	



Note : For other configuration 2 N.C. contacts, longer cable or type of connection, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

Plain plunger - Steel 11	90° Cross roller plunger - Steel 14	Roller plunger with M12 fixing nuts - Steel 22	Steel roller lever Ø 14 42	Adjustable Ø 18 plastic roller lever 51	Spring rod with insulated tip 92
Roller plunger - Steel 12	90° Cross roller plunger - Plastic 15	90° Cross roller plunger with M12 fixing nuts - Steel 24	Plastic roller lever with bent lever Ø 18 45	Adjustable steel rod lever Ø 3 71	
Roller plunger - Plastic 13	Plain plunger with M12 fixing nuts - Brass 21	Plastic roller lever Ø 14 41	Steel roller lever with bent lever Ø 18 46	Spring rod 91	

Here is the full range of actuator available for the LS2..M serie. In grey are the ones available in this page.

LS2..M – Compact, prewired – Metal Casing – IP67

30 mm width – 1 N.O. + 1 N.C. Snap Action contacts 30 mm width

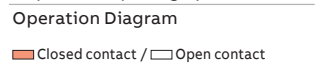
LS2..M limit switches are used in applications where high degree of protection is needed along with limited mounting space. The cable coming out of the side or the bottom makes it easier to align the actuator for the application without bending the cable.

The 30 mm bodies are made of zinc alloy material (Zamak), sealed with epoxy resin for IP67 protection. The high degree of protection and the high resistance to corrosion allows them to be mounted outside.

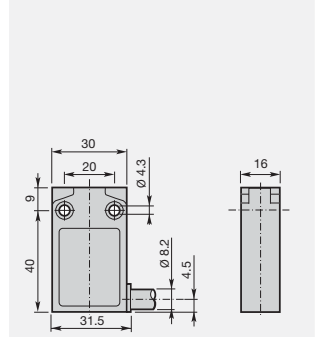


Actuator

Cable output left / right	↔
Cable output bottom	⬇
(↔) (N.C. contact with positive opening operation)	⬆
Maximum actuation speed	1.5 m/s
Min. force / torque actuation	0.08 N.m
positive opening operation	0.28 N.m



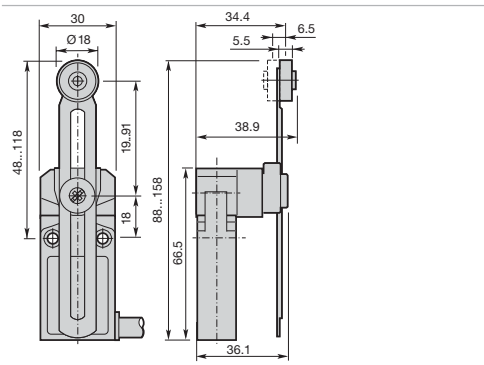
Dimensions (mm)



Adjustable plastic roller lever Ø 18

Type	Order code	Weight (1 pce) kg
LS20M51B11-U01	1SBV015551R2601	0.24
LS21M51B11-U01	1SBV015651R2601	0.24

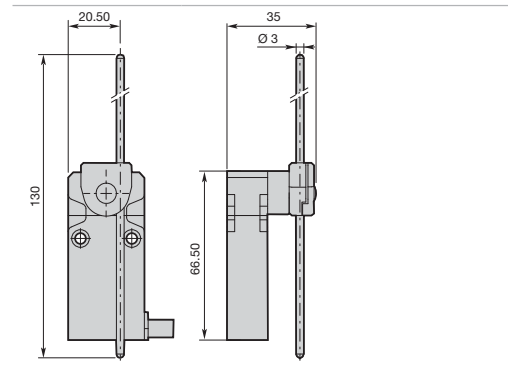
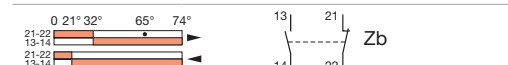
↔	⬆
1.5 m/s	1.5 m/s
0.08 N.m	0.08 N.m
0.28 N.m	0.28 N.m



Adjustable steel rod lever Ø 3

Type	Order code	Weight (1 pce) kg
LS20M71B11-U01	1SBV015571R2601	0.235
LS21M71B11-U01	1SBV015671R2601	0.235

↔	⬆
1.5 m/s	1.5 m/s
0.08 N.m	0.08 N.m
0.28 N.m	0.28 N.m



Note : For other configuration 2 N.C. contacts, longer cable or type of connection, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

Plain plunger - Steel 11	90° Cross roller plunger - Steel 14	Roller plunger with M12 fixing nuts - Steel 22	Steel roller lever Ø 14 42	Adjustable Ø 18 plastic roller lever 51	Spring rod with insulated tip 92
Roller plunger - Steel 12	90° Cross roller plunger - Plastic 15	90° Cross roller plunger with M12 fixing nuts - Steel 24	Plastic roller lever with bent lever Ø 18 45	Adjustable steel rod lever Ø 3 71	
Roller plunger - Plastic 13	Plain plunger with M12 fixing nuts - Brass 21	Plastic roller lever Ø 14 41	Steel roller lever with bent lever Ø 18 46	Spring rod 91	

Here is the full range of actuator available for the LS2..M serie. In grey are the ones available in this page.

LS2..M – Compact, prewired – Metal Casing – IP67

30 mm width – 1 N.O. + 1 N.C. Snap Action contacts 30 mm width

LS2..M limit switches are used in applications where high degree of protection is needed along with limited mounting space. The cable coming out of the side or the bottom makes it easier to align the actuator for the application without bending the cable.

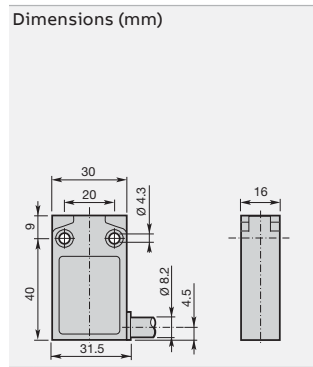
The 30 mm bodies are made of zinc alloy material (Zamak), sealed with epoxy resin for IP67 protection. The high degree of protection and the high resistance to corrosion allows them to be mounted outside.



Actuator

Cable output left / right	→
Cable output bottom	⬇
(N.C. contact with positive opening operation)	⊖
Maximum actuation speed	1.0 m/s
Min. force / torque actuation positive opening operation	0.10 N.m
Operation Diagram	

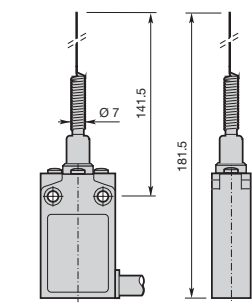
Legend: Closed contact / Open contact



Spring rod

Type	Order code	Weight (1 pce) kg
LS20M91B11-U01	1SBV015591R2601	0.245
LS21M91B11-U01	1SBV015691R2601	0.245

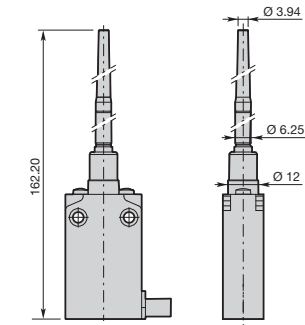
–	⊖	1.0 m/s	0.10 N.m	– N
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Spring rod steel with insulated tip

Type	Order code	Weight (1 pce) kg
LS20M92B11-U01	1SBV015592R2601	0.245
LS21M92B11-U01	1SBV015692R2601	0.245

–	⊖	1.0 m/s	0.10 N.m	– N
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Note : For other configuration 2 N.C. contacts, longer cable or type of connection, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

11 Plain plunger - Steel	14 90° Cross roller plunger - Steel	22 Roller plunger with M12 fixing nuts - Steel	42 Steel roller lever 014	51 Adjustable Ø 18 plastic roller lever	92 Spring rod with insulated tip
12 Roller plunger - Steel	15 90° Cross roller plunger - Plastic	24 90° Cross roller plunger with M12 fixing nuts - Steel	45 Plastic roller lever with bent lever Ø 18	71 Adjustable steel rod lever Ø 3	
13 Roller plunger - Plastic	21 Plain plunger with M12 fixing nuts - Brass	41 Plastic roller lever Ø 14	46 Steel roller lever with bent lever Ø 18	91 Spring rod	

Here is the full range of actuator available for the LS2..M serie. In grey are the ones available in this page.

LS2..P., LS2..M..

Technical data

General technical data

	Plastic casing	Metal casing
Standards	IEC 60947-1, IEC 60947-5-1, EN 60947-1, EN 60947-5-1, UL 508	
Certifications - Approvals	cULus-	
Air temperature near the device during operation	- 25 ... + 70 °C	
for storage	- 40 ... + 70 °C	
Mounting positions	All positions are authorized	
Protection against electrical shocks (acc. to IEC 61140)	Class II - double insulation	Class I
Degree of protection (acc. to IEC 60529 and EN 60529)	IP67	
Degree of protection (acc. to UL 50 and NEMA)	Type 1 Enclosure (indoor use)	Type 4 - 4x - 6 Enclosure (Outdoor use)
Minimum bending radius	49 mm	

Electrical data

Rated insulation voltage Ui	400 V (degree of pollution 3)	
Rated impulse withstand voltage Uimp (acc. to IEC 60947-1 and EN 60947-1)	4 kV	
Conventional enclosed thermal current Ith (acc. to IEC 60947-5-1 and EN 60947-5-1) $\theta < 40$ °C	10 A	
Short-circuit protection gG type fuses	10 A / 500 V	
Rated operational current		
Ie / AC-15 acc. to IEC 60947-5-1	24 V - 50/60 Hz	10 A
	120 V - 50/60 Hz	6 A
	240 V - 50/60 Hz	3 A
acc. to UL 508	B300	
Ie / DC-13 acc. to IEC 60947-5-1	24 V DC	2.8 A
	125 V DC	0.55 A
	250 V DC	0.27 A
acc. to UL 508	R 300	
Positivity	Contacts with positive opening operation as per IEC 60947-5-1 chapter 3 and EN 60947-5-1	
Resistance between contacts	m Ω	25
Pre-wired connection	mm ² / AWG	4 x 0.75 mm ² / AWG18
Terminal marking	N.C. : Black/Black - N.O. : Blue / brown	
Mechanical durability	10 millions of operations	
Electrical durability		
max. switching frequency	3600 cycles/h	
B10d	20 millions of operations	



LS3.. standard limit switches

LS3..P Standard plastic casing - IP65

With actuators

34	Plain plunger - Plastic
34	Plain plunger - Steel
35	Roller plunger - Steel
35	Roller plunger - Plastic
36	Roller lever + plunger - Horizontal
36	Roller lever + plunger - Vertical
37	Plastic roller lever Ø 18
37	Plastic rubber lever Ø 50
38	Adjustable plastic roller lever Ø 18
38	Adjustable rubber roller lever Ø 50
39	Adjustable steel rod lever Ø 3
39	Adjustable fiber glass rod lever Ø 3
40	Spring rod
40	Spring rod with insulated tip

LS3..M Standard metal casing - IP66

With actuators

42	Plain plunger - Steel
42	Roller plunger - Steel
43	Roller plunger - Plastic
43	Roller lever + plunger - Horizontal
44	Roller lever + plunger - Vertical
44	Plastic roller lever Ø 18
45	Plastic rubber lever Ø 50
45	Adjustable plastic roller lever Ø 18
46	Adjustable rubber roller lever Ø 50
46	Adjustable steel rod lever Ø 3
47	Adjustable fiber glass rod lever Ø 3
47	Spring rod
48	Spring rod with insulated tip

49 Technical data

LS3..P – Standard – Plastic Casing – IP65

Double insulation □ - 30 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS3..P limit switches are used in main applications for an easy and reliable movement detection. The cable inlet on the bottom is threaded to allow the use of a cable gland.

The 30 mm wide bodies are made of fiber-glass reinforced UL-V0 material for double insulation and IP65 protection.



Actuator

Plain plunger - Plastic

Plain plunger - Steel

Type	Order code	Weight (1 pce) kg	
Iso 16	LS32P10B11	LSBV010310R1211	0.07
Iso 20	LS33P10B11	LSBV012210R1211	0.07
1/2" NPT	LS35P10B11	LSBV012110R1211	0.08

EN 50047 (B shape)

0.5 m/s

15 N

30 N

Operation Diagram

Closed contact /
 Open contact

Type	Order code	Weight (1 pce) kg	
Iso 16	LS32P11B11	LSBV010311R1211	0.07
Iso 20	LS33P11B11	LSBV012211R1211	0.07
1/2" NPT	LS35P11B11	LSBV012111R1211	0.08

EN 50047 (B shape)

0.5 m/s

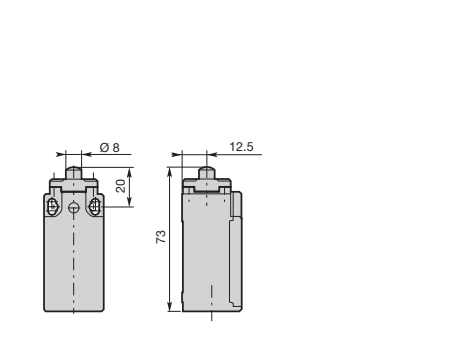
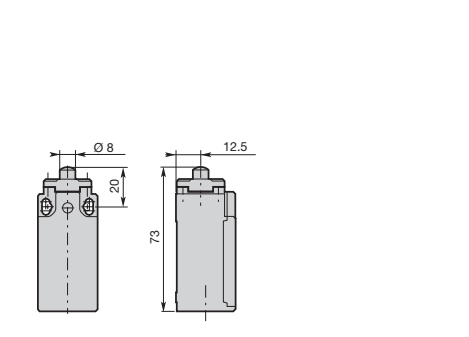
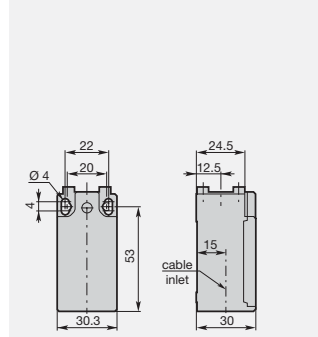
15 N

30 N

Operation Diagram

Closed contact /
 Open contact

Dimensions (mm, Inches)



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

Plain plunger - Plastic	Roller plunger - Steel	Roller lever + plunger Horizontal	Plastic roller lever Ø 18	Adjustable plastic roller lever Ø 18	Adjustable steel rod lever Ø 3	Spring rod
Plain plunger - Steel	Roller plunger - Plastic	Roller lever + plunger Vertical	Rubber roller lever Ø 50	Adjustable rubber roller lever Ø 50	Adjustable fiber glass rod lever Ø 3	Spring rod with insulated tip

Here is the full range of actuator available for the LS3..P serie. In grey are the ones available in this page.

LS3..P – Standard – Plastic Casing – IP65

Double insulation □ - 30 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS3..P limit switches are used in main applications for an easy and reliable movement detection. The cable inlet on the bottom is threaded to allow the use of a cable gland.

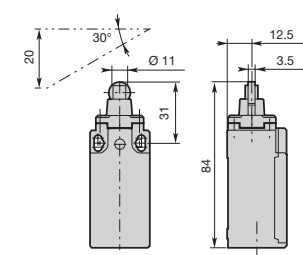
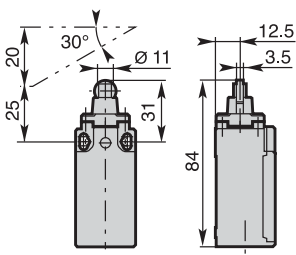
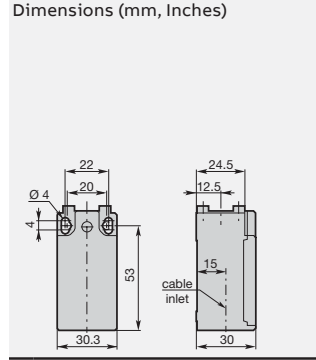
The 30 mm wide bodies are made of fiber-glass reinforced UL-V0 material for double insulation and IP65 protection.



Actuator	
Iso 16	
Iso 20	
1/2" NPT	
Conformity / (⊕) (N.C. contact with positive opening operation)	
Maximum actuation speed	0.3 m/s
Min. force / torque actuation positive opening operation	12 N 30 N
Operation Diagram	

Roller plunger - Steel		
Type	Order code	Weight (1 pce) kg
LS32P12B11	1SBV010312R1211	0.075
LS33P12B11	1SBV012212R1211	0.075
LS35P12B11	1SBV012112R1211	0.085
EN 50047 (C shape) (⊕)		
0.3 m/s		
12 N 30 N		

Roller plunger - Plastic		
Type	Order code	Weight (1 pce) kg
LS32P13B11	1SBV010313R1211	0.075
LS33P13B11	1SBV012213R1211	0.075
LS35P13B11	1SBV012113R1211	0.085
EN 50047 (C shape) (⊕)		
0.3 m/s		
12 N 30 N		



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

Plain plunger - Plastic	Roller plunger - Steel	Roller lever + plunger Horizontal	Plastic roller lever Ø 18	Adjustable plastic roller lever Ø 18	Adjustable steel rod lever Ø 3	Spring rod
Plain plunger - Steel	Roller plunger - Plastic	Roller lever + plunger Vertical	Rubber roller lever Ø 50	Adjustable rubber roller lever Ø 50	Adjustable fiber glass rod lever Ø 3	Spring rod with insulated tip

Here is the full range of actuator available for the LS3..P serie. In grey are the ones available in this page.

LS3..P – Standard – Plastic Casing – IP65

Double insulation □ - 30 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS3..P limit switches are used in main applications for an easy and reliable movement detection. The cable inlet on the bottom is threaded to allow the use of a cable gland.

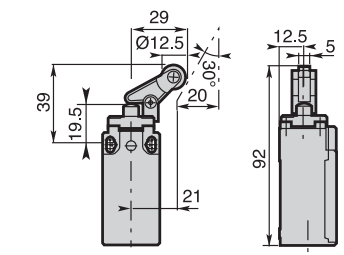
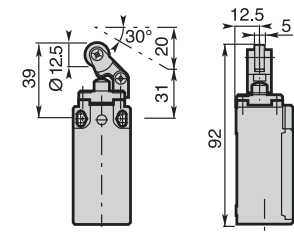
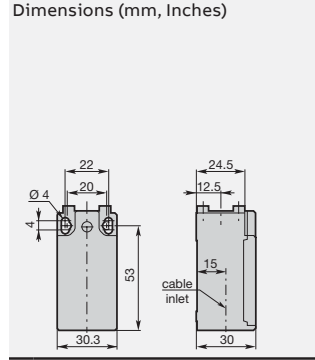
The 30 mm wide bodies are made of fiber-glass reinforced UL-V0 material for double insulation and IP65 protection.



Actuator	
Iso 16	LS32P31B11
Iso 20	LS33P31B11
1/2" NPT	LS35P31B11
Conformity / (N.C. contact with positive opening operation)	EN 50047 (E shape)
Maximum actuation speed	1 m/s
Min. force / torque actuation positive opening operation	7 N 24 N
Operation Diagram	
Legend	■ Closed contact / □ Open contact

Roller lever + plunger - Horizontal		
Type	Order code	Weight (1 pce) kg
LS32P31B11	1SBV010331R1211	0.075
LS33P31B11	1SBV012231R1211	0.075
LS35P31B11	1SBV012131R1211	0.085
EN 50047 (E shape)		
1 m/s		
7 N 24 N		

Roller lever + plunger - Vertical		
Type	Order	Weight (1 pce) kg
LS32P32B11	1SBV010332R1211	0.08
LS33P32B11	1SBV012232R1211	0.08
LS35P32B11	1SBV012132R1211	0.09
(N.C. contact with positive opening operation)		
1 m/s		
7 N 24 N		



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

Plain plunger - Plastic	Roller plunger - Steel	Roller lever + plunger Horizontal	Plastic roller lever Ø 18	Adjustable plastic roller lever Ø 18	Adjustable steel rod lever Ø 3	Spring rod
Plain plunger - Steel	Roller plunger - Plastic	Roller lever + plunger Vertical	Rubber roller lever Ø 50	Adjustable rubber roller lever Ø 50	Adjustable fiber glass rod lever Ø 3	Spring rod with insulated tip

Here is the full range of actuator available for the LS3..P serie. In grey are the ones available in this page.

LS3..P – Standard – Plastic Casing – IP65

Double insulation □ - 30 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS3..P limit switches are used in main applications for an easy and reliable movement detection. The cable inlet on the bottom is threaded to allow the use of a cable gland.

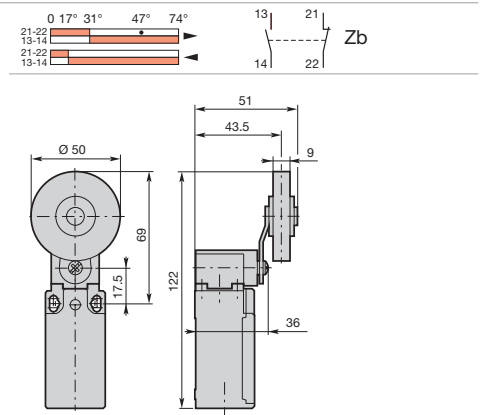
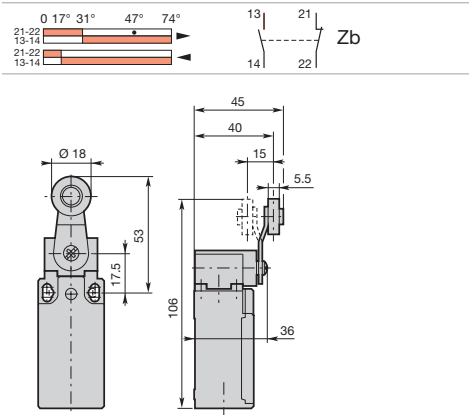
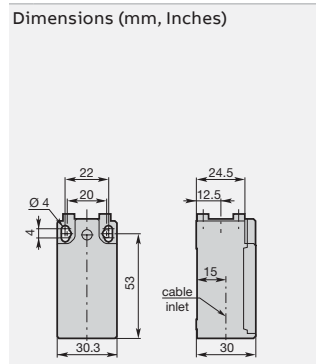
The 30 mm wide bodies are made of fiber-glass reinforced UL-V0 material for double insulation and IP65 protection.



Actuator	
Iso 16	1/2" NPT
Iso 20	1/2" NPT
Conformity / (N.C. contact with positive opening operation)	
Maximum actuation speed	
Min. force / torque actuation	
positive opening operation	
Operation Diagram	
Closed contact / Open contact	

Plastic roller lever Ø 18		
Type	Order code	Weight (1 pce) kg
LS32P41B11	1SBV010341R1211	0.095
LS33P41B11	1SBV012241R1211	0.095
LS35P41B11	1SBV012141R1211	0.105
EN 50047 (A shape)		
1.5 m/s		
0.1 N.m		
0.32 N.m		

Rubber roller lever Ø 50		
Type	Order code	Weight (1 pce) kg
LS32P42B11	1SBV010342R1211	0.115
LS33P42B11	1SBV012242R1211	0.115
LS35P42B11	1SBV012142R1211	0.125
(N.C. contact with positive opening operation)		
1.5 m/s		
0.1 N.m		
0.32 N.m		



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

10 Plain plunger - Plastic	12 Roller plunger - Steel	31 Roller lever + plunger Horizontal	41 Plastic roller lever Ø 18	51 Adjustable plastic roller lever Ø 18	71 Adjustable steel rod lever Ø 3	91 Spring rod
11 Plain plunger - Steel	13 Roller plunger - Plastic	32 Roller lever + plunger Vertical	42 Rubber roller lever Ø 50	52 Adjustable rubber roller lever Ø 50	72 Adjustable fiber glass rod lever Ø 3	92 Spring rod with insulated tip

Here is the full range of actuator available for the LS3..P serie. In grey are the ones available in this page.

LS3..P – Standard – Plastic Casing – IP65

Double insulation □ - 30 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS3..P limit switches are used in main applications for an easy and reliable movement detection. The cable inlet on the bottom is threaded to allow the use of a cable gland.

The 30 mm wide bodies are made of fiber-glass reinforced UL-V0 material for double insulation and IP65 protection.



Actuator

Iso 16	LS32P51B11	1SBV010351R1211	0.105
Iso 20	LS33P51B11	1SBV012251R1211	0.105
1/2" NPT	LS35P51B11	1SBV012151R1211	0.115

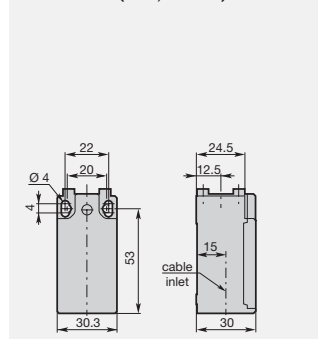
Conformity / (N.C. contact with positive opening operation)

Maximum actuation speed
Min. force / torque
actuation
positive opening operation

Operation Diagram

■ Closed contact / □ Open contact

Dimensions (mm, Inches)



Adjustable plastic roller lever Ø 18

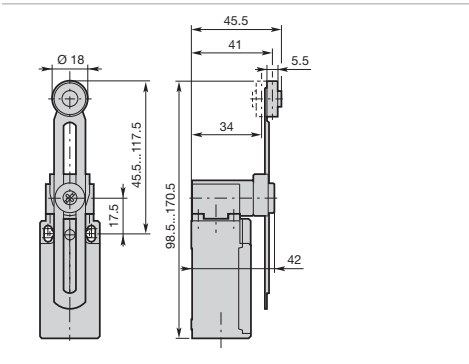
Type	Order code	Weight (1 pce) kg
LS32P51B11	1SBV010351R1211	0.105
LS33P51B11	1SBV012251R1211	0.105
LS35P51B11	1SBV012151R1211	0.115

Conformity / (N.C. contact with positive opening operation)

Maximum actuation speed
Min. force / torque
actuation
positive opening operation

Operation Diagram

■ Closed contact / □ Open contact



Adjustable rubber roller lever Ø 50

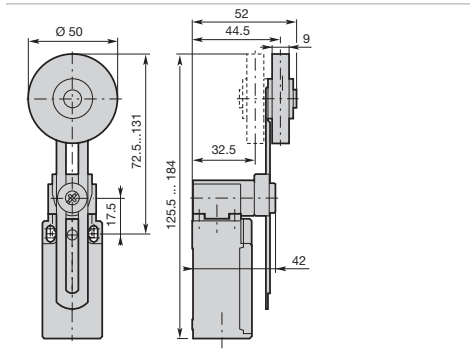
Type	Order code	Weight (1 pce) kg
LS32P52B11	1SBV010352R1211	0.125
LS33P52B11	1SBV012252R1211	0.125
LS35P52B11	1SBV012152R1211	0.135

Conformity / (N.C. contact with positive opening operation)

Maximum actuation speed
Min. force / torque
actuation
positive opening operation

Operation Diagram

■ Closed contact / □ Open contact



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

Plain plunger - Plastic	Roller plunger - Steel	Roller lever + plunger Horizontal	Plastic roller lever Ø 18	Adjustable plastic roller lever Ø 18	Adjustable steel rod lever Ø 3	Spring rod
Plain plunger - Steel	Roller plunger - Plastic	Roller lever + plunger Vertical	Rubber roller lever Ø 50	Adjustable rubber roller lever Ø 50	Adjustable fiber glass rod lever Ø 3	Spring rod with insulated tip

Here is the full range of actuator available for the LS3..P serie. In grey are the ones available in this page.

LS3..P – Standard – Plastic Casing – IP65

Double insulation - 30 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS3..P limit switches are used in main applications for an easy and reliable movement detection. The cable inlet on the bottom is threaded to allow the use of a cable gland.

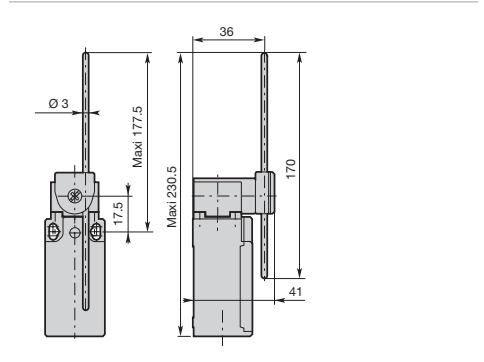
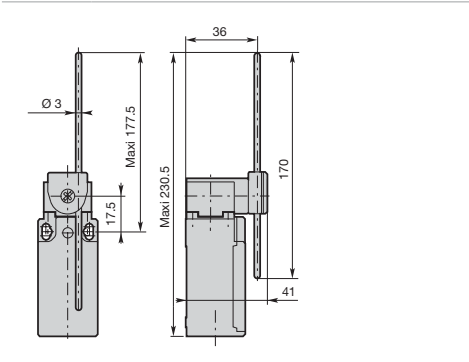
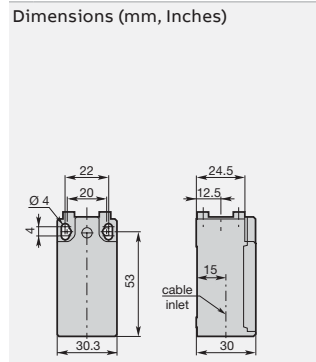
The 30 mm wide bodies are made of fiber-glass reinforced UL-V0 material for double insulation and IP65 protection.



Actuator	
Iso 16	Adjustable steel rod lever Ø 3
Iso 20	
1/2" NPT	
Conformity / (N.C. contact with positive opening operation)	
Maximum actuation speed	1.5 m/s
Min. force / torque actuation	0.1 N
positive opening operation	0.32 N.m
Operation Diagram	
Closed contact / Open contact	

Type	Order code	Weight (1 pce) kg
LS32P71B11	1SBV010371R1211	0.105
LS33P71B11	1SBV012271R1211	0.105
LS35P71B11	1SBV012171R1211	0.115
-		
1.5 m/s		
0.1 N		
0.32 N.m		

Type	Order code	Weight (1 pce) kg
LS32P72B11	1SBV010372R1211	0.105
LS33P72B11	1SBV012272R1211	0.105
LS35P72B11	1SBV012172R1211	0.115
-		
1.0 m/s		
0.1 N		
0.32 N.m		



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

10 Plain plunger - Plastic	12 Roller plunger - Steel	31 Roller lever + plunger Horizontal	41 Plastic roller lever Ø 18	51 Adjustable plastic roller lever Ø 18	71 Adjustable steel rod lever Ø 3	91 Spring rod
11 Plain plunger - Steel	13 Roller plunger - Plastic	32 Roller lever + plunger Vertical	42 Rubber roller lever Ø 50	52 Adjustable rubber roller lever Ø 50	72 Adjustable fiber glass rod lever Ø 3	92 Spring rod with insulated tip

Here is the full range of actuator available for the LS3..P serie. In grey are the ones available in this page.

LS3..P – Standard – Plastic Casing – IP65

Double insulation □ - 30 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS3..P limit switches are used in main applications for an easy and reliable movement detection. The cable inlet on the bottom is threaded to allow the use of a cable gland.

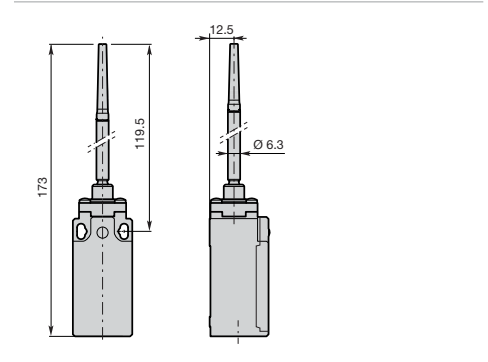
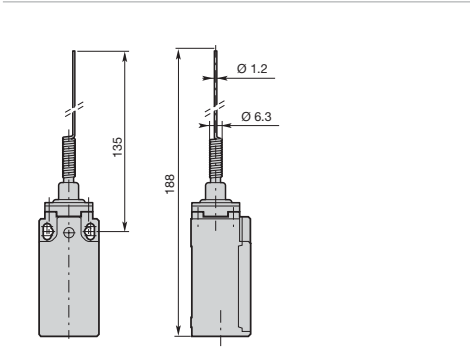
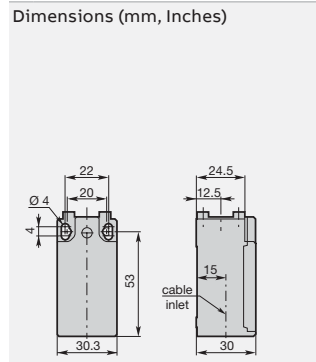
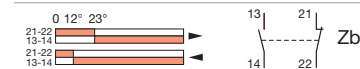
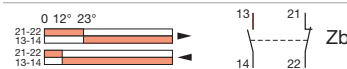
The 30 mm wide bodies are made of fiber-glass reinforced UL-V0 material for double insulation and IP65 protection.



Actuator	
Iso 16	Spring rod
Iso 20	Spring rod
1/2" NPT	Spring rod with insulated tip
Conformity / (N.C. contact with positive opening operation)	
Maximum actuation speed	1 m/s
Min. force / torque actuation positive opening operation	0.12 N.m
Operation Diagram	

Type	Order code	Weight (1 pce) kg
LS32P91B11	1SBV010391R1211	0.08
LS33P91B11	1SBV012291R1211	0.08
LS35P91B11	1SBV012191R1211	0.09
-		
1 m/s		
0.12 N.m		
- N.m		

Type	Order code	Weight (1 pce) kg
LS32P92B11	1SBV010392R1211	0.085
LS33P92B11	1SBV012292R1211	0.085
LS35P92B11	1SBV012192R1211	0.095
-		
1.0 m/s		
0.12 N.m		
- N.m		



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

Plain plunger - Plastic	Roller plunger - Steel	Roller lever + plunger Horizontal	Plastic roller lever Ø 18	Adjustable plastic roller lever Ø 18	Adjustable steel rod lever Ø 3	Spring rod
Plain plunger - Steel	Roller plunger - Plastic	Roller lever + plunger Vertical	Rubber roller lever Ø 50	Adjustable rubber roller lever Ø 50	Adjustable fiber glass rod lever Ø 3	Spring rod with insulated tip

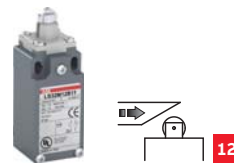
Here is the full range of actuator available for the LS3..P serie. In grey are the ones available in this page.

LS3..M – Standard – Metal Casing – IP66

30 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS3..M limit switches are used in main applications for an easy and reliable movement detection. The cable inlet on the bottom is threaded to allow the use of a cable gland.

The 30 mm wide bodies are made of zinc alloy material (Zamak) with IP66 protection.



Actuator

- Iso 16
- Iso 20
- 1/2" NPT

Conformity / (↔) (N.C. contact with positive opening operation)

Maximum actuation speed

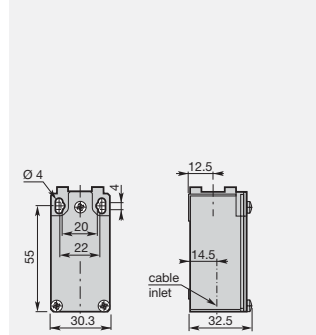
Min. force / torque actuation

positive opening operation

Operation Diagram

■ Closed contact / □ Open contact

Dimensions (mm, Inches)



Plain plunger - Steel

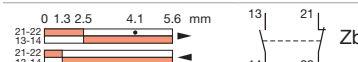
Type	Order code	Weight (1 pce) kg
LS32M11B11	1SBV011911R1211	0.18
LS33M11B11	1SBV013811R1211	0.18
LS35M11B11	1SBV013711R1211	0.18

EN 50047 (B shape) (↔)

0.5 m/s

15 N

30 N



Roller plunger - Steel

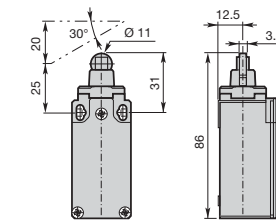
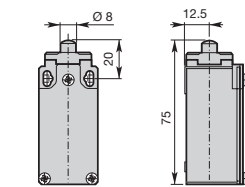
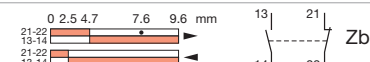
Type	Order code	Weight (1 pce) kg
LS32M12B11	1SBV011912R1211	0.19
LS33M12B11	1SBV013812R1211	0.19
LS35M12B11	1SBV013712R1211	0.19

EN 50047 (C shape) (↔)

0.3 m/s

12 N

30 N



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

Plain plunger - Steel	Roller plunger - Plastic	Roller lever + plunger Vertical	Rubber roller lever Ø 50	Adjustable rubber roller lever Ø 50	Adjustable fiber glass rod lever Ø 3	Spring rod with insulated tip
Roller plunger - Steel	Roller lever + plunger Horizontal	Plastic roller lever Ø 18	Adjustable plastic roller lever Ø 18	Adjustable steel rod lever Ø 3	Spring rod	

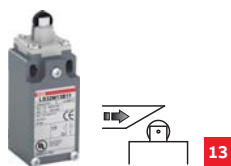
Here is the full range of actuator available for the LS3..M serie. In grey are the ones available in this page.

LS3..M – Standard – Metal Casing – IP66

30 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS3..M limit switches are used in main applications for an easy and reliable movement detection. The cable inlet on the bottom is threaded to allow the use of a cable gland.

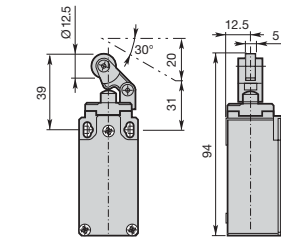
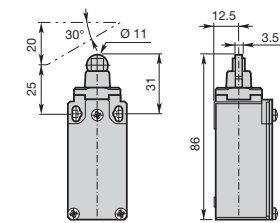
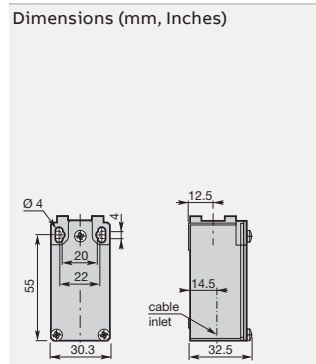
The 30 mm wide bodies are made of zinc alloy material (Zamak) with IP66 protection.



Actuator	
Iso 16	LS32M13B11
Iso 20	LS33M13B11
1/2" NPT	LS35M13B11
Conformity / (N.C. contact with positive opening operation)	EN 50047 (C shape)
Maximum actuation speed	0.3 m/s
Min. force / torque actuation positive opening operation	12 N 30 N
Operation Diagram	
Legend	■ Closed contact / □ Open contact

Roller plunger - Plastic		
Type	Order code	Weight (1 pce) kg
LS32M13B11	1SBV011913R1211	0.19
LS33M13B11	1SBV013813R1211	0.19
LS35M13B11	1SBV013713R1211	0.19
EN 50047 (C shape)		
0.3 m/s		
12 N 30 N		

Roller lever + plunger - Horizontal		
Type	Order code	Weight (1 pce) kg
LS32M31B11	1SBV011931R1211	0.175
LS33M31B11	1SBV013831R1211	0.175
LS35M31B11	1SBV013731R1211	0.175
EN 50047 (E shape)		
1 m/s		
7 N 24 N		



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

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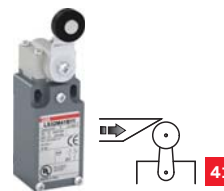
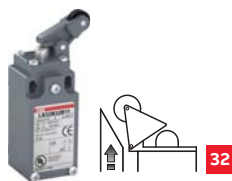
Here is the full range of actuator available for the LS3..M serie. In grey are the ones available in this page.

LS3..M – Standard – Metal Casing – IP66

30 mm width – 1 N.O. + 1 N.C. Snap Action contacts

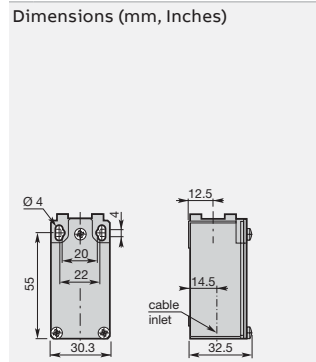
LS3..M limit switches are used in main applications for an easy and reliable movement detection. The cable inlet on the bottom is threaded to allow the use of a cable gland.

The 30 mm wide bodies are made of zinc alloy material (Zamak) with IP66 protection.



Actuator

iso 16	LS32M32B11	1SBV011932R1211	0.18
iso 20	LS33M32B11	1SBV013832R1211	0.18
1/2" NPT	LS35M32B11	1SBV013732R1211	0.18
Conformity / (↔) (N.C. contact with positive opening operation)	-		
Maximum actuation speed	1 m/s		
Min. force / torque actuation positive opening operation	7 N 24 N		
Operation Diagram			
Closed contact / Open contact			



Roller lever + plunger - Vertical

Type	Order code	Weight (1 pce) kg
LS32M32B11	1SBV011932R1211	0.18
LS33M32B11	1SBV013832R1211	0.18
LS35M32B11	1SBV013732R1211	0.18

(↔)

1 m/s

7 N
24 N

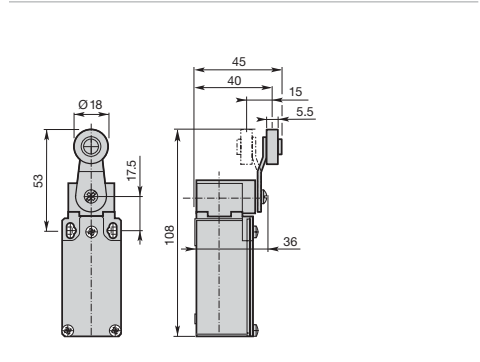
Plastic roller lever Ø 18

Type	Order code	Weight (1 pce) kg
LS32M41B11	1SBV011941R1211	0.235
LS33M41B11	1SBV013841R1211	0.235
LS35M41B11	1SBV013741R1211	0.235

EN 50047 (A shape) (↔)

1.5 m/s

0.1 N.m
0.32 N.m



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

Plain plunger - Steel 11	Roller plunger - Plastic 13	Roller lever + plunger - Vertical 32	Rubber roller lever Ø 50 42	Adjustable rubber roller lever Ø 50 52	Adjustable fiber glass rod lever Ø 3 72	Spring rod with insulated tip 92
Roller plunger - Steel 12	Roller lever + plunger - Horizontal 31	Plastic roller lever Ø 18 41	Adjustable plastic roller lever Ø 18 51	Adjustable steel rod lever Ø 3 71	Spring rod 91	

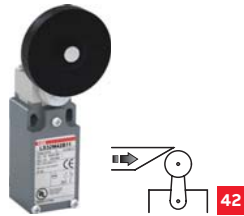
Here is the full range of actuator available for the LS3..M serie. In grey are the ones available in this page.

LS3..M – Standard – Metal Casing – IP66

30 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS3..M limit switches are used in main applications for an easy and reliable movement detection. The cable inlet on the bottom is threaded to allow the use of a cable gland.

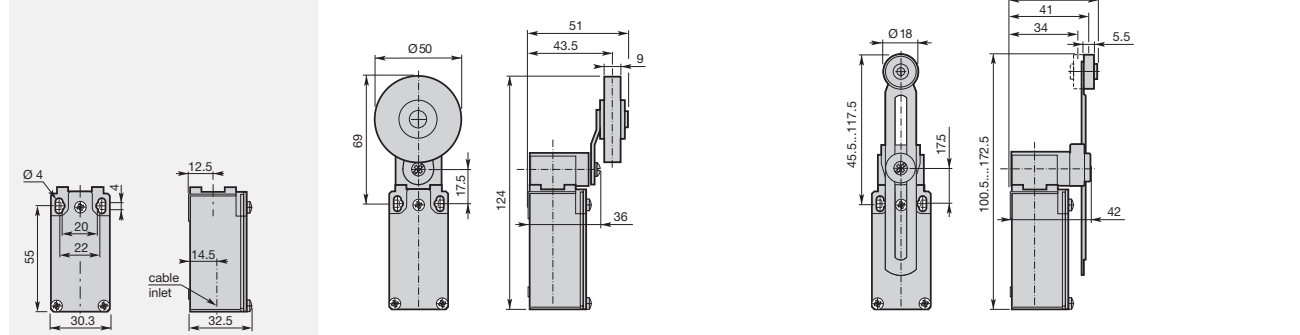
The 30 mm wide bodies are made of zinc alloy material (Zamak) with IP66 protection.



Actuator			Plastic rubber roller lever Ø 50		
Type	Order code	Weight (1 pce) kg	Type	Order code	Weight (1 pce) kg
Iso 16	LS32M42B11	1SBV011942R1211	0.255		
Iso 20	LS33M42B11	1SBV013842R1211	0.255		
1/2" NPT	LS35M42B11	1SBV013742R1211	0.255		
Conformity / (↻) (N.C. contact with positive opening operation)	-				
Maximum actuation speed	1.5 m/s				
Min. force / torque actuation positive opening operation	0.1 N.m 0.32 N.m				
Operation Diagram					
Closed contact / Open contact					

Actuator			Adjustable plastic roller lever Ø 18		
Type	Order code	Weight (1 pce) kg	Type	Order code	Weight (1 pce) kg
Iso 16	LS32M51B11	1SBV011951R1211	0.245		
Iso 20	LS33M51B11	1SBV013851R1211	0.245		
1/2" NPT	LS35M51B11	1SBV013751R1211	0.245		
Conformity / (↻) (N.C. contact with positive opening operation)	-				
Maximum actuation speed	1.5 m/s				
Min. force / torque actuation positive opening operation	0.1 N.m 0.32 N.m				
Operation Diagram					
Closed contact / Open contact					

Dimensions (mm, Inches)



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

Plain plunger - Steel	Roller plunger - Plastic	Roller lever + plunger Vertical	Rubber roller lever Ø 50	Adjustable rubber roller lever Ø 50	Adjustable fiber glass rod lever Ø 3	Spring rod with insulated tip
Roller plunger - Steel	Roller lever + plunger Horizontal	Plastic roller lever Ø 18	Adjustable plastic roller lever Ø 18	Adjustable steel rod lever Ø 3	Spring rod	

Here is the full range of actuator available for the LS3..M serie. In grey are the ones available in this page.

LS3..M – Standard – Metal Casing – IP66

30 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS3..M limit switches are used in main applications for an easy and reliable movement detection. The cable inlet on the bottom is threaded to allow the use of a cable gland.

The 30 mm wide bodies are made of zinc alloy material (Zamak) with IP66 protection.



Actuator

Iso 16	LS32M52B11	1SBV011952R1211	0.265
Iso 20	LS33M52B11	1SBV013852R1211	0.265
1/2" NPT	LS35M52B11	1SBV013752R1211	0.265

Conformity / (N.C. contact with positive opening operation)

Maximum actuation speed

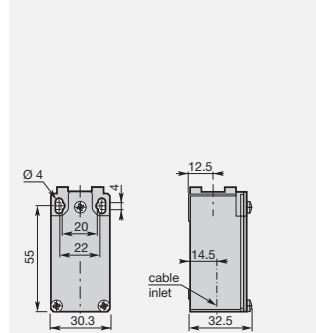
Min. force / torque actuation

positive opening operation

Operation Diagram

Closed contact / Open contact

Dimensions (mm, Inches)



Adjustable rubber roller lever Ø 50

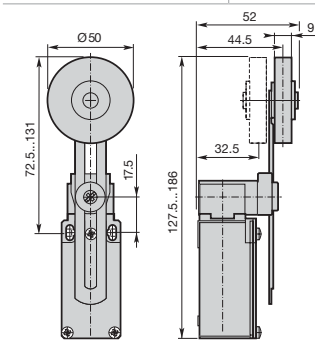
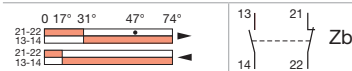
Type	Order code	Weight (1 pce) kg
LS32M52B11	1SBV011952R1211	0.265
LS33M52B11	1SBV013852R1211	0.265
LS35M52B11	1SBV013752R1211	0.265

–

1.5 m/s

0.1 N.m

0.32 N.m



Adjustable steel rod lever Ø 3

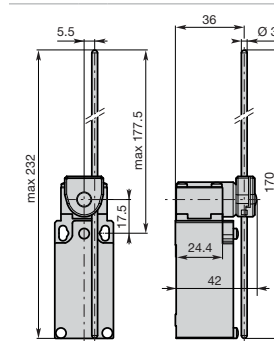
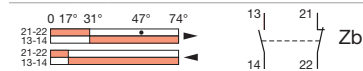
Type	Order code	Weight (1 pce) kg
LS32M71B11	1SBV011971R1211	0.245
LS33M71B11	1SBV013871R1211	0.245
LS35M71B11	1SBV013771R1211	0.245

–

1.5 m/s

0.1 N.m

0.32 N.m



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

Here is the full range of actuator available for the LS3..M serie. In grey are the ones available in this page.

LS3..M – Standard – Metal Casing – IP66

30 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS3..M limit switches are used in main applications for an easy and reliable movement detection. The cable inlet on the bottom is threaded to allow the use of a cable gland.

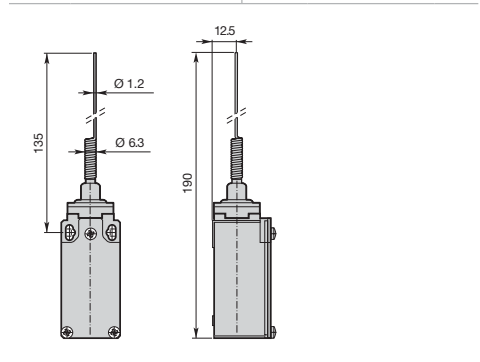
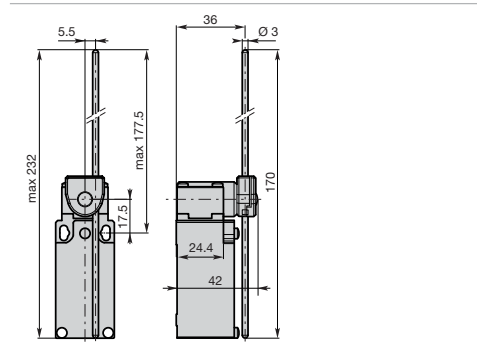
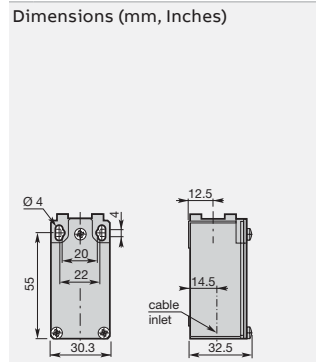
The 30 mm wide bodies are made of zinc alloy material (Zamak) with IP66 protection.



Actuator	
Iso 16	Adjustable fiber glass rod lever Ø 3
Iso 20	
1/2" NPT	
Conformity / (N.C. contact with positive opening operation)	
Maximum actuation speed	1.5 m/s
Min. force / torque actuation positive opening operation	0.1 N.m 0.32 N.m
Operation Diagram	

Type	Order code	Weight (1 pce) kg
LS32M72B11	1SBV011972R1211	0.245
LS33M72B11	1SBV013872R1211	0.245
LS35M72B11	1SBV013772R1211	0.245
- (N.C. contact with positive opening operation)		
1.5 m/s		
0.1 N.m 0.32 N.m		

Type	Order code	Weight (1 pce) kg
LS32M91B11	1SBV011991R1211	0.18
LS33M91B11	1SBV013891R1211	0.18
LS35M91B11	1SBV013791R1211	0.18
- (N.C. contact with positive opening operation)		
1 m/s		
0.12 N.m - N.m		



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

Here is the full range of actuator available for the LS3..M serie. In grey are the ones available in this page.

LS3..M – Standard – Metal Casing – IP66

30 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS3..M limit switches are used in main applications for an easy and reliable movement detection. The cable inlet on the bottom is threaded to allow the use of a cable gland.

The 30 mm wide bodies are made of zinc alloy material (Zamak) with IP66 protection.



Actuator

- Iso 16
- Iso 20
- 1/2" NPT

Conformity / \rightarrow (N.C. contact with positive opening operation)

Maximum actuation speed

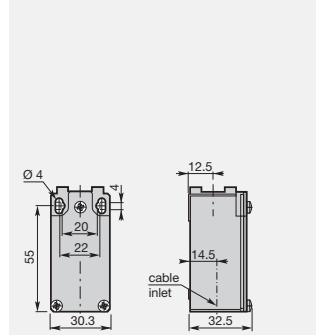
Min. force / torque actuation

positive opening operation

Operation Diagram

■ Closed contact / □ Open contact

Dimensions (mm, Inches)



Spring rod with insulated tip

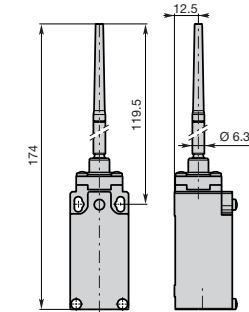
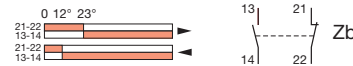
Type	Order code	Weight (1 pce) kg
LS32M92B11	1SBV011992R1211	0.185
LS33M92B11	1SBV013892R1211	0.185
LS35M92B11	1SBV013792R1211	0.185



1 m/s

0.12 N.m

– N.m



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

Plain plunger - Steel	Roller plunger - Plastic	Roller lever + plunger Vertical	Rubber roller lever Ø 50	Adjustable rubber roller lever Ø 50	Adjustable fiber glass rod lever Ø 3	Spring rod with insulated tip
Roller plunger - Steel	Roller lever + plunger Horizontal	Plastic roller lever Ø 18	Adjustable plastic roller lever Ø 18	Adjustable steel rod lever Ø 3	Spring rod	

Here is the full range of actuator available for the LS3..M serie. In grey are the ones available in this page.

LS3..P., LS3..M..

Technical data

General technical data

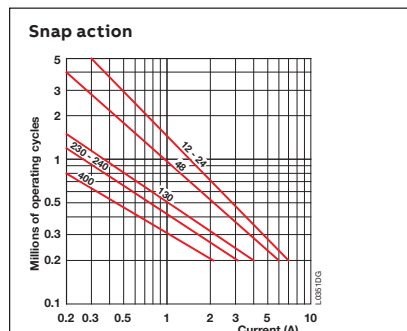
	Plastic casing	Metal casing
Standards	IEC 60947-1, IEC 60947-5-1, EN 60947-1, EN 60947-5-1, UL 508	
Certifications - Approvals	cULus-	
Air temperature near the device during operation	- 25 ... + 70 °C	
for storage	- 30 ... + 80 °C	
Mounting positions	All positions are authorized	
Protection against electrical shocks (acc. to IEC 536)	Class II - double insulation	Class I
Degree of protection (acc. to IEC 529 and EN 60529)	IP65	IP66 (1)

Electrical data

Rated insulation voltage Ui	500 V (degree of pollution 3)	
Rated impulse withstand voltage Uimp (acc. to IEC 60947-1 and EN 60947-1)	6 kV	
Conventional enclosed thermal current Ith acc. to IEC 60947-5-1 and EN 60947-5-1) $\theta < 40\text{ °C}$	10 A	
Short-circuit protection gG type fuses	10 A	
Rated operational current		
le / AC-15 acc. to IEC 60947-5-1	24 V	10 A
	120 V	6 A
	400 V	4 A
acc. to UL 508	A600	A300
le / DC-13 acc. to IEC 60947-5-1	24 V	6 A
	125 V	0.55 A
	250 V	0.4 A
acc. to UL 508	Q600	Q300
Positivity	Contacts with positive opening operation as per IEC 60947-5-1 chapter 3 and EN 60947-5-1	
Resistance between contacts	m Ω 25	
Mechanical durability millions of operations		
LS3...	15 : with actuators 10, 11, 12, 31, 32 10 : with actuators 13, 41, 42, 51, 52, 71, 72 > 5 : with actuators 91, 92	15 : with actuators 11, 12, 31, 32 10 : with actuators 13, 41, 42, 51, 52, 71, 72 > 5 : with actuators 91, 92
Electrical durability (acc. to IEC 60947-5-1 appendix C) max. switching frequency	3600 cycles/h	
Connecting data of contact blocks		
Connecting terminals	M3.5 (+,-) pozidriv 2 screw with cable clamp	
Connecting capacity	1 or 2 x mm ²	0.75 mm ² ... 2.5 mm ²
Terminal marking	According to IEC60947-5-1	
B10d	30 millions of operations	

(1) Except for LS3..M52, LS3..M92, the degree of protection is IP65.

Electrical durability for AC-15 utilization category



Electrical durability for DC-13 utilization category

Snap action	
Power breaking for a durability of 5 million operating cycles	
Voltage	24 V
	9.5 W
Voltage	48 V
	6.8 W
Voltage	110 V
	3.6 W



LS4.. Standard reinforced limit switches

LS4..P Standard reinforced plastic casing - IP65

With actuators

52	Plain plunger - Steel
52	Ball roller plunger - Steel
53	Roller plunger - Steel
53	Plastic roller lever + plunger - Horizontal
54	Steel roller lever + plunger - Horizontal
54	Plastic roller lever Ø 22
55	Steel roller lever Ø 22
55	Adjustable plastic roller lever Ø 22
56	Adjustable steel roller lever Ø 22
56	Adjustable steel rod lever Ø 3
57	Adjustable nylon rod lever Ø 6
57	Spring rod
58	Spring rod with insulated tip

LS4..M Standard reinforced metal casing - IP66

With actuators

60	Plain plunger - Steel
60	Ball roller plunger - Steel
61	Roller plunger - Steel
61	Plastic roller lever + plunger - Horizontal
62	Steel roller lever + plunger - Horizontal
62	Plastic roller lever Ø 22
63	Steel roller lever Ø 22
63	Adjustable plastic roller lever Ø 22
64	Adjustable steel roller lever Ø 22
64	Adjustable steel rod lever Ø 3
65	Adjustable nylon rod lever Ø 6
65	Spring rod
66	Spring rod with insulated tip

67 Technical data

LS4..P – Standard reinforced – Plastic Casing – IP65

Double insulation □ - 40 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS4..P limit switches are used in every applications especially when products will be mounted in harsh environment. The 4 mounting holes and the thick plastic body make it the more resistant of our range.

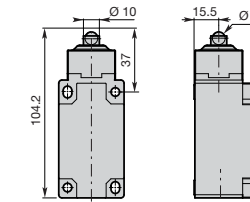
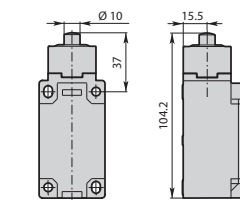
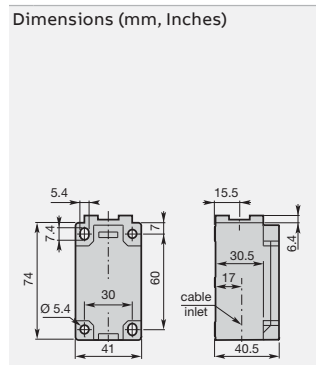
The cable inlet on the bottom is threaded to allow the use of a cable gland. The 40 mm wide bodies are made of fiber-glass reinforced UL-V0 material and offer double insulation and IP65 protection.



Actuator	
Iso 20	1/2" NPT
Conformity (EN 50041) / (N.C. contact with positive opening operation)	Maximum actuation speed
Min. force / torque actuation positive opening operation	Operation Diagram

Plain plunger - Steel		
Type	Order code	Weight (1 pce) kg
LS43P11B11	1SBV010711R1211	0.145
LS45P11B11	1SBV012411R1211	0.145
EN 50041 (B shape)	0.5 m/s	
14 N	40 N	

Ball roller plunger - Steel		
Type	Order code	Weight (1 pce) kg
LS43P12B11	1SVB010712R1211	#N/A
LS45P12B11	1SBV012412R1211	0.145
EN 50041 (B shape)	0.5 m/s	
14 N	40 N	



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

11 Plain plunger - Steel	13 Roller plunger - Steel	32 Steel roller lever + plunger - Horizontal	42 Steel roller lever Ø 22	52 Adjustable steel roller lever Ø 22	72 Adjustable nylon rod lever Ø 6	92 Spring rod with insulated tip
12 Ball roller plunger - Steel	31 Plastic roller lever + plunger - Horizontal	41 Plastic roller lever Ø 22	51 Adjustable plastic roller lever Ø 22	71 Adjustable steel rod lever Ø 3	91 Spring rod	

Here is the full range of actuator available for the LS4..P serie. In grey are the ones available in this page.

LS4..P – Standard reinforced – Plastic Casing – IP65

Double insulation □ - 40 mm width – 1 N.O. + 1 N.C. Snap Action contacts

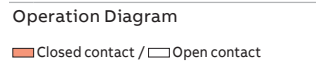
LS4..P limit switches are used in every applications especially when products will be mounted in harsh environment. The 4 mounting holes and the thick plastic body make it the more resistant of our range.

The cable inlet on the bottom is threaded to allow the use of a cable gland. The 40 mm wide bodies are made of fiber-glass reinforced UL-V0 material and offer double insulation and IP65 protection.

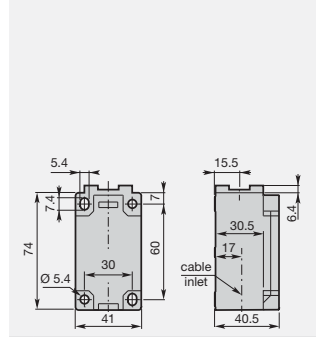


Actuator

Iso 20
1/2" NPT
Conformity (C) / (N.C. contact with positive opening operation)
Maximum actuation speed
Min. force / torque
actuation
positive opening operation



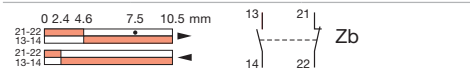
Dimensions (mm, Inches)



Roller plunger - Steel

Type	Order code	Weight (1 pce) kg
LS43P13B11	1SBV010713R1211	0.15
LS45P13B11	1SBV012413R1211	0.15

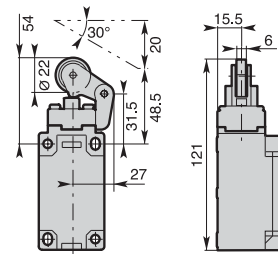
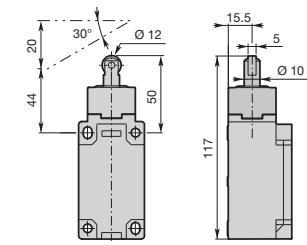
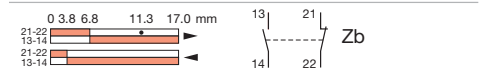
EN 50041 (C shape) (C)
0.5 m/s
14 N
40 N



Plastic roller lever + plunger - Horizontal

Type	Order code	Weight (1 pce) kg
LS43P31B11	1SBV010731R1211	0.185
LS45P31B11	1SBV012431R1211	0.185

- (C)
1 m/s
8 N
30 N



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

Plain plunger - Steel 11	Roller plunger - Steel 13	Steel roller lever + plunger - Horizontal 32	Steel roller lever Ø 22 42	Adjustable steel roller lever Ø 22 52	Adjustable nylon rod lever Ø 6 72	Spring rod with insulated tip 92
Ball roller plunger - Steel 12	Plastic roller lever + plunger - Horizontal 31	Plastic roller lever Ø 14 41	Adjustable plastic roller lever Ø 22 51	Adjustable steel rod lever Ø 3 71	Spring rod 91	

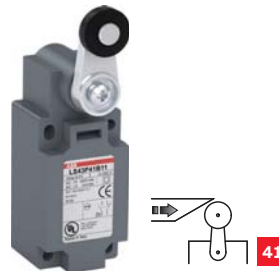
Here is the full range of actuator available for the LS4..P serie. In grey are the ones available in this page.

LS4..P – Standard reinforced – Plastic Casing – IP65

Double insulation □ - 40 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS4..P limit switches are used in every applications especially when products will be mounted in harsh environment. The 4 mounting holes and the thick plastic body make it the more resistant of our range.

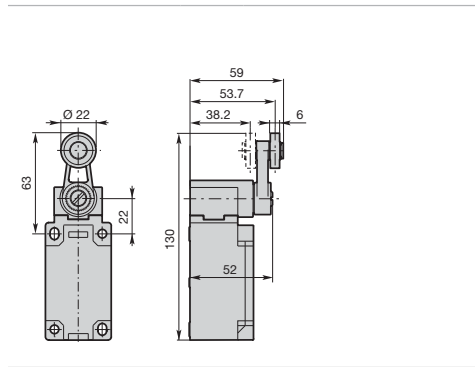
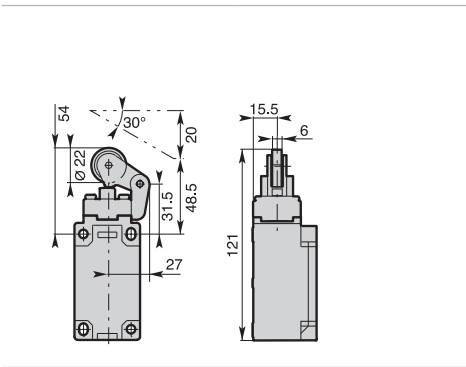
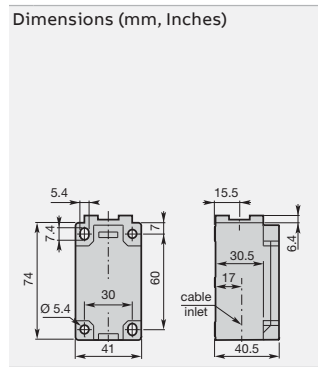
The cable inlet on the bottom is threaded to allow the use of a cable gland. The 40 mm wide bodies are made of fiber-glass reinforced UL-V0 material and offer double insulation and IP65 protection.



Actuator	
Iso 20	Steel roller lever + plunger - Horizontal
1/2" NPT	Plastic roller lever Ø 22
Conformity (⊕) / (N.C. contact with positive opening operation)	– (⊕)
Maximum actuation speed	1 m/s
Min. force / torque actuation positive opening operation	8 N 30 N
Operation Diagram	

Type	Order code	Weight (1 pce) kg
LS43P32B11	1SBV010732R1211	0.185
LS45P32B11	1SBV012432R1211	0.185

Type	Order code	Weight (1 pce) kg
LS43P41B11	1SBV010741R1211	0.2
LS45P41B11	1SBV012441R1211	0.2



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

Plain plunger - Steel 11	Roller plunger - Steel 13	Steel roller lever + plunger - Horizontal 32	Steel roller lever Ø 22 42	Adjustable steel roller lever Ø 22 52	Adjustable nylon rod lever Ø 6 72	Spring rod with insulated tip 92
Ball roller plunger - Steel 12	Plastic roller lever + plunger - Horizontal 31	Plastic roller lever Ø 22 41	Adjustable plastic roller lever Ø 22 51	Adjustable steel rod lever Ø 3 71	Spring rod 91	

Here is the full range of actuator available for the LS4..P serie. In grey are the ones available in this page.

LS4..P – Standard reinforced – Plastic Casing – IP65

Double insulation □ - 40 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS4..P limit switches are used in every applications especially when products will be mounted in harsh environment. The 4 mounting holes and the thick plastic body make it the more resistant of our range.

The cable inlet on the bottom is threaded to allow the use of a cable gland. The 40 mm wide bodies are made of fiber-glass reinforced UL-V0 material and offer double insulation and IP65 protection.

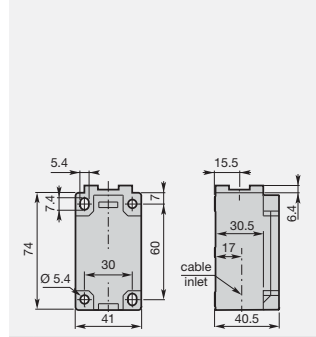


Actuator

Iso 20
1/2" NPT
Conformity (EN 50041) / (N.C. contact with positive opening operation)
Maximum actuation speed
Min. force / torque
actuation
positive opening operation

Operation Diagram
Closed contact / Open contact

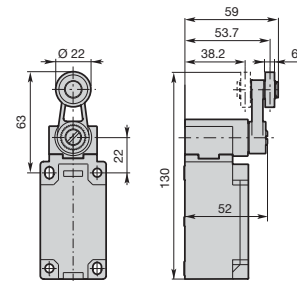
Dimensions (mm, Inches)



Steel roller lever Ø 22

Type	Order code	Weight (1 pce) kg
LS43P42B11	1SBV010742R1211	0.2
LS45P42B11	1SBV012442R1211	0.2

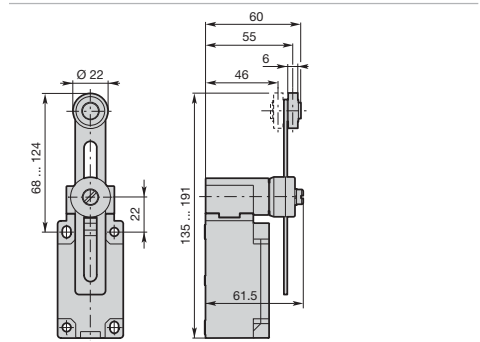
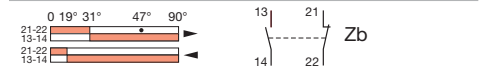
EN 50041 (A shape)
1.5 m/s
0.15 N.m
0.3 N.m



Adjustable plastic roller lever Ø 22

Type	Order code	Weight (1 pce) kg
LS43P51B11	1SBV010751R1211	0.195
LS45P51B11	1SBV012451R1211	0.195

1.5 m/s
0.15 N.m
0.3 N.m



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

Plain plunger - Steel 11	Roller plunger - Steel 13	Steel roller lever + plunger - Horizontal 32	Steel roller lever Ø 22 42	Adjustable steel roller lever Ø 22 52	Adjustable nylon rod lever Ø 6 72	Spring rod with insulated tip 92
Ball roller plunger - Steel 12	Plastic roller lever + plunger - Horizontal 31	Plastic roller lever Ø 22 41	Adjustable plastic roller lever Ø 22 51	Adjustable steel rod lever Ø 3 71	Spring rod 91	

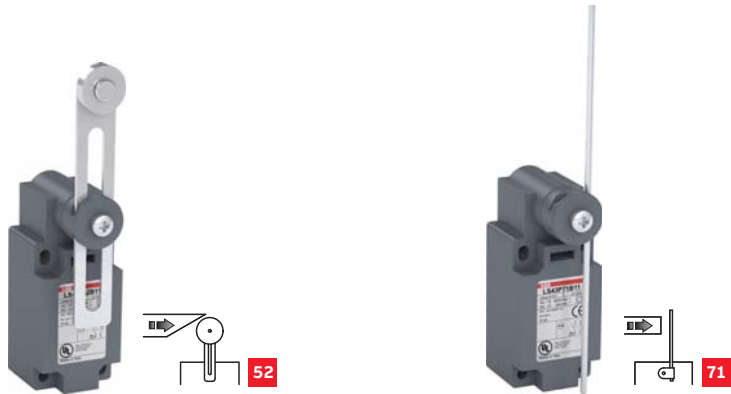
Here is the full range of actuator available for the LS4..P serie. In grey are the ones available in this page.

LS4..P – Standard reinforced – Plastic Casing – IP65

Double insulation □ - 40 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS4..P limit switches are used in every applications especially when products will be mounted in harsh environment. The 4 mounting holes and the thick plastic body make it the more resistant of our range.

The cable inlet on the bottom is threaded to allow the use of a cable gland. The 40 mm wide bodies are made of fiber-glass reinforced UL-V0 material and offer double insulation and IP65 protection.



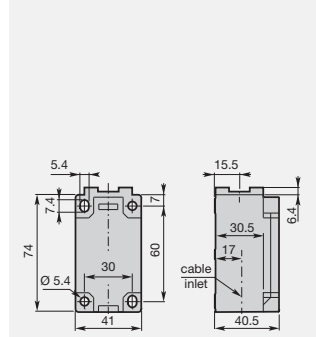
Actuator

Iso 20
1/2" NPT
Conformity (EN 50041) / (N.C. contact with positive opening operation)
Maximum actuation speed
Min. force / torque
actuation
positive opening operation

Operation Diagram

■ Closed contact / □ Open contact

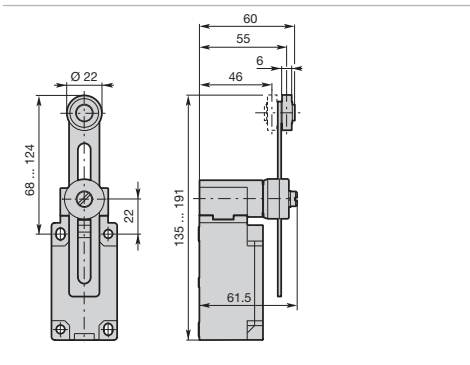
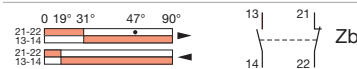
Dimensions (mm, Inches)



Adjustable steel roller lever Ø 22

Type	Order code	Weight (1 pce) kg
LS43P52B11	1SBV010752R1211	0.195
LS45P52B11	1SBV012452R1211	0.195

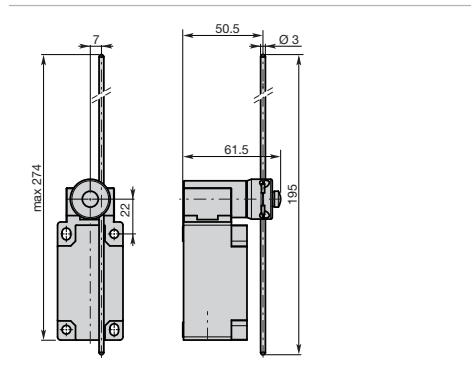
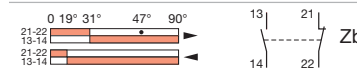
– (EN 50041 shape)
1.5 m/s
0.15 N.m
0.3 N.m



Adjustable steel rod lever Ø 3

Type	Order code	Weight (1 pce) kg
LS43P71B11	1SBV010771R1211	0.185
LS45P71B11	1SBV012471R1211	0.185

EN 50041 (D shape)
1.5 m/s
0.15 N.m
0.3 N.m



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

11 Plain plunger - Steel	13 Roller plunger - Steel	32 Steel roller lever + plunger - Horizontal	42 Steel roller lever Ø 22	52 Adjustable steel roller lever Ø 22	72 Adjustable nylon rod lever Ø 6	92 Spring rod with insulated tip
12 Ball roller plunger - Steel	31 Plastic roller lever + plunger - Horizontal	41 Plastic roller lever Ø 22	51 Adjustable plastic roller lever Ø 22	71 Adjustable steel rod lever Ø 3	91 Spring rod	

Here is the full range of actuator available for the LS4..P series. In grey are the ones available in this page.

LS4..P – Standard reinforced – Plastic Casing – IP65

Double insulation □ - 40 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS4..P limit switches are used in every applications especially when products will be mounted in harsh environment. The 4 mounting holes and the thick plastic body make it the more resistant of our range.

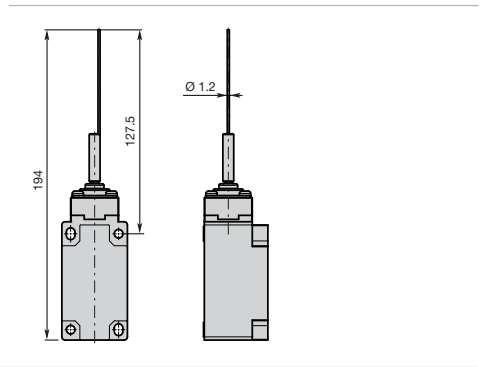
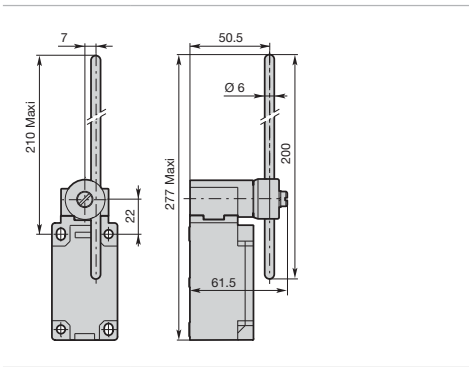
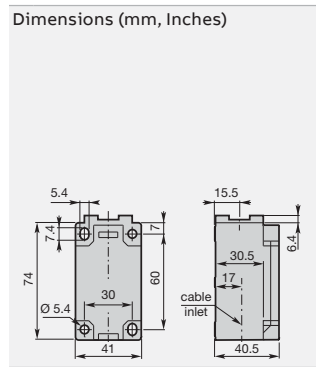
The cable inlet on the bottom is threaded to allow the use of a cable gland. The 40 mm wide bodies are made of fiber-glass reinforced UL-V0 material and offer double insulation and IP65 protection.



Actuator	
Iso 20	Adjustable nylon rod lever Ø 6
1/2" NPT	
Conformity (CE) / (N.C. contact with positive opening operation)	
Maximum actuation speed	1.5 m/s
Min. force / torque actuation positive opening operation	0.15 N.m 0.3 N.m
Operation Diagram	

Adjustable nylon rod lever Ø 6		
Type	Order code	Weight (1 pce) kg
LS43P72B11	1SBV010772R1211	0.185
LS45P72B11	1SBV012472R1211	0.185
EN 50041 (D shape) (CE)		
1.5 m/s		
0.15 N.m		
0.3 N.m		

Spring rod		
Type	Order code	Weight (1 pce) kg
LS43P91B11	1SBV010791R1211	0.15
LS45P91B11	1SBV012491R1211	0.15
-		
1 m/s		
0.18 N.m		
- N.m		




Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

11 Plain plunger - Steel	13 Roller plunger - Steel	32 Steel roller lever + plunger - Horizontal	42 Steel roller lever Ø 22	52 Adjustable steel roller lever Ø 22	72 Adjustable nylon rod lever Ø 6	92 Spring rod with insulated tip
12 Ball roller plunger - Steel	31 Plastic roller lever + plunger - Horizontal	41 Plastic roller lever Ø 22	51 Adjustable plastic roller lever Ø 22	71 Adjustable steel rod lever Ø 3	91 Spring rod	

Here is the full range of actuator available for the LS4..P serie. In grey are the ones available in this page.

LS4..P – Standard reinforced – Plastic Casing – IP65

Double insulation  - 40 mm width – 1 N.O. + 1 N.C Snap Action contacts


LS4..P limit switches are used in every applications especially when products will be mounted in harsh environment. The 4 mounting holes and the thick plastic body make it the more resistant of our range.

The cable inlet on the bottom is threaded to allow the use of a cable gland. The 40 mm wide bodies are made of fiber-glass reinforced UL-V0 material and offer double insulation and IP65 protection.



Actuator

Spring rod with insulated tip

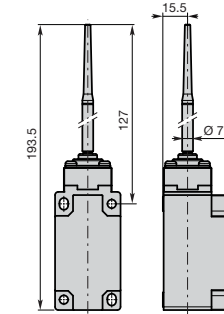
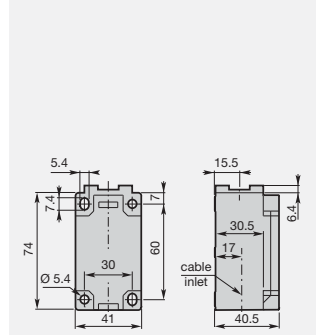
Type	Order code	Weight (1 pce) kg	
Iso 20	LS43P92B11	1SBV010792R1211	0.155
1/2" NPT	LS45P92B11	1SBV012492R1211	0.155
Conformity  / (N.C. contact with positive opening operation)	-		
Maximum actuation speed	1 m/s		
Min. force / torque actuation positive opening operation	0.18 N.m - N.m		

Operation Diagram














 Closed contact /  Open contact



Dimensions (mm, Inches)



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

 Plain plunger - Steel 11	 Roller plunger - Steel 13	 Steel roller lever + plunger - Horizontal 32	 Steel roller lever Ø 22 42	 Adjustable steel roller lever Ø 22 52	 Adjustable nylon rod lever Ø 6 72	 Spring rod with insulated tip 92
 Ball roller plunger - Steel 12	 Plastic roller lever + plunger - Horizontal 31	 Plastic roller lever Ø 22 41	 Adjustable plastic roller lever Ø 22 51	 Adjustable steel rod lever Ø 3 71	 Spring rod 91	

Here is the full range of actuator available for the LS4..P serie. In grey are the ones available in this page.

LS4..M – Standard reinforced – Metal Casing – IP66

40 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS4..M limit switches are used in every applications especially when products will be mounted in harsh environment. The 4 mounting holes and the thick metal body make it the more resistant of our range.

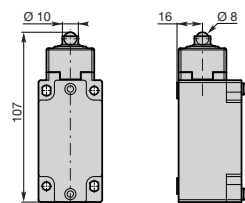
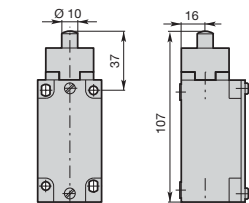
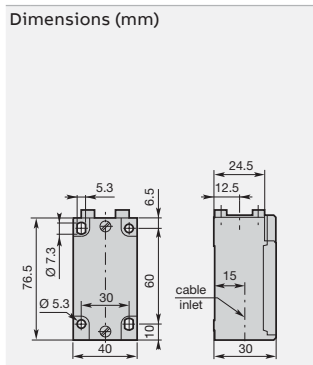
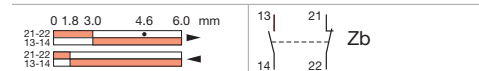
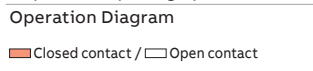
The cable inlet on the bottom is threaded to allow the use of a cable gland. The 40 mm wide bodies are made of zinc alloy material (Zamak) and offer a high degree of protection (IP66).



Actuator	
Iso 20	1/2" NPT
Conformity	EN 50041 (B shape)
Maximum actuation speed	0.5 m/s
Min. force / torque actuation	30 N
positive opening operation	45 N

Plain plunger - Steel		
Type	Order code	Weight (1 pce) kg
LS43M11B11	1SBV011611R1211	0.24
LS45M11B11	1SBV013111R1211	0.24

Ball plunger - Steel		
Type	Order code	Weight (1 pce) kg
LS43M12B11	1SBV011612R1211	0.24
LS45M12B11	1SBV013112R1211	0.24



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

11 Plain plunger - Steel	13 Roller plunger - Steel	32 Steel roller lever + plunger - Horizontal	42 Steel roller lever Ø 22	52 Adjustable steel roller lever Ø 22	72 Adjustable nylon rod lever Ø 3	92 Spring rod with insulated tip
12 Ball roller plunger - Steel	31 Plastic roller lever + plunger - Horizontal	41 Plastic roller lever Ø 14	51 Adjustable plastic roller lever Ø 22	71 Adjustable steel rod lever Ø 3	91 Spring rod	

Here is the full range of actuator available for the LS4..M serie. In grey are the ones available in this page.

LS4..M – Standard reinforced – Metal Casing – IP66

40 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS4..M limit switches are used in every applications especially when products will be mounted in harsh environment. The 4 mounting holes and the thick metal body make it the more resistant of our range.

The cable inlet on the bottom is threaded to allow the use of a cable gland.

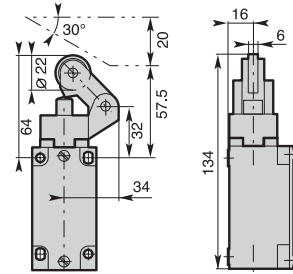
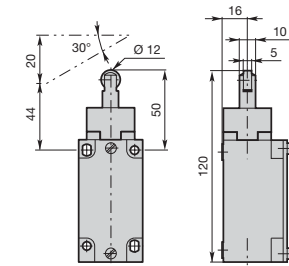
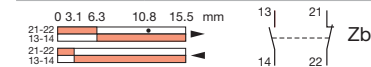
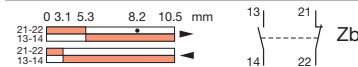
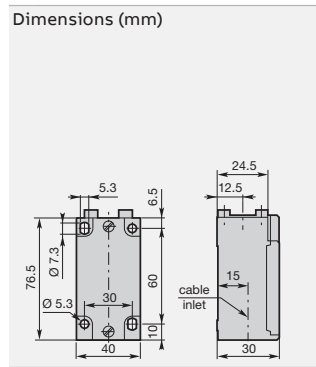
The 40 mm wide bodies are made of zinc alloy material (Zamak) and offer a high degree of protection (IP66).



Actuator	
Iso 20	
1/2" NPT	
Conformity (CE) / (N.C. contact with positive opening operation)	
Maximum actuation speed	
Min. force / torque actuation positive opening operation	
Operation Diagram	

Roller plunger - Steel		
Type	Order code	Weight (1 pce) kg
LS43M13B11	1SBV011613R1211	0.245
LS45M13B11	1SBV013113R1211	0.245
EN 50041 (C shape) (CE)		
0.5 m/s		
22 N		
40 N		

Plastic roller lever + plunger - Horizontal		
Type	Order code	Weight (1 pce) kg
LS43M31B11	1SBV011631R1211	0.28
LS45M31B11	1SBV013131R1211	0.28
(CE)		
1.5 m/s		
12 N		
40 N		



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

Plain plunger - Steel 11	Roller plunger - Steel 13	Steel roller lever + plunger - Horizontal 32	Steel roller lever Ø 22 42	Adjustable steel roller lever Ø 22 52	Adjustable nylon rod lever Ø 3 72	Spring rod with insulated tip 92
Ball roller plunger - Steel 12	Plastic roller lever + plunger - Horizontal 31	Plastic roller lever Ø 14 41	Adjustable plastic roller lever Ø 22 51	Adjustable steel rod lever Ø 3 71	Spring rod 91	

Here is the full range of actuator available for the LS4..M serie. In grey are the ones available in this page.

LS4..M – Standard reinforced – Metal Casing – IP66

40 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS4..M limit switches are used in every applications especially when products will be mounted in harsh environment. The 4 mounting holes and the thick metal body make it the more resistant of our range.

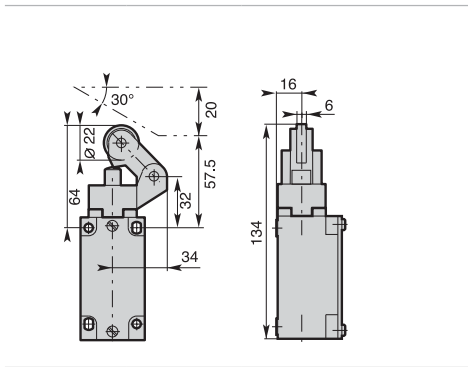
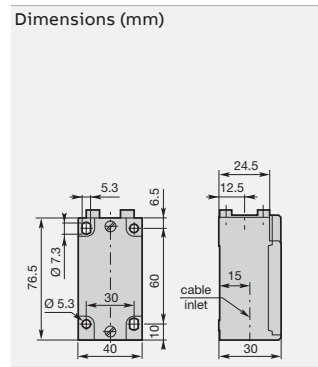
The cable inlet on the bottom is threaded to allow the use of a cable gland.

The 40 mm wide bodies are made of zinc alloy material (Zamak) and offer a high degree of protection (IP66).



Actuator		Steel roller lever + plunger - Horizontal		
Type	Order code	Weight (1 pce)		
Iso 20	LS43M32B11	0.28	☞	
1/2" NPT	LS45M32B11	0.28		
Conformity (☞) / (N.C. contact with positive opening operation)			☞	
Maximum actuation speed		1.5 m/s		
Min. force / torque actuation positive opening operation		12 N 40 N		
Operation Diagram				
Legend: Closed contact / Open contact				

Actuator		Plastic roller lever Ø 22		
Type	Order code	Weight (1 pce)		
Iso 20	LS43M41B11	0.3	☞	
1/2" NPT	LS45M41B11	0.3		
Conformity (☞) / (N.C. contact with positive opening operation)			EN 50041 (A shape) ☞	
Maximum actuation speed		1.5 m/s		
Min. force / torque actuation positive opening operation		0.15 N.m 0.3 N.m		
Operation Diagram				
Legend: Closed contact / Open contact				



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

11 Plain plunger - Steel	13 Roller plunger - Steel	32 Steel roller lever + plunger - Horizontal	42 Steel roller lever Ø 22	52 Adjustable steel roller lever Ø 22	72 Adjustable nylon rod lever Ø 3	92 Spring rod with insulated tip
12 Ball roller plunger - Steel	31 Plastic roller lever + plunger - Horizontal	41 Plastic roller lever Ø 14	51 Adjustable plastic roller lever Ø 22	71 Adjustable steel rod lever Ø 3	91 Spring rod	

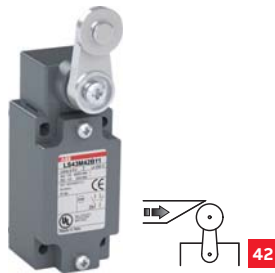
Here is the full range of actuator available for the LS4..M serie. In grey are the ones available in this page.

LS4..M – Standard reinforced – Metal Casing – IP66

40 mm width – 1 N.O. + 1 N.C. Snap Action contacts

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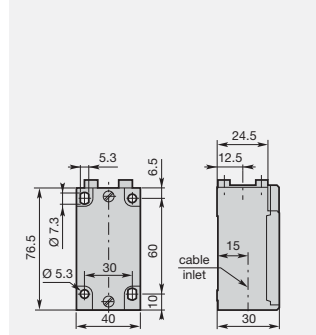
Actuator

Iso 20
1/2" NPT
Conformity (EN 50041) / (N.C. contact with positive opening operation)
Maximum actuation speed
Min. force / torque
actuation
positive opening operation

Operation Diagram

■ Closed contact / □ Open contact

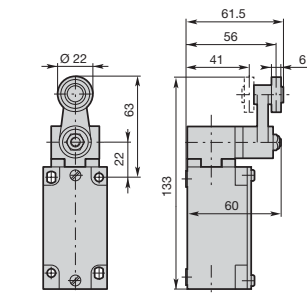
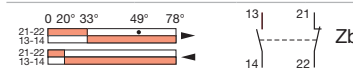
Dimensions (mm)



Steel roller lever Ø 22

Type	Order code	Weight (1 pce) kg
LS43M42B11	1SBV011642R1211	0.3
LS45M42B11	1SBV013142R1211	0.3

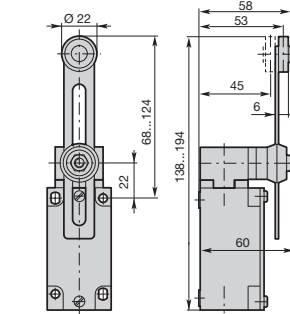
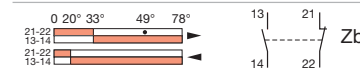
EN 50041 (A shape) (EN 50041 symbol)
1.5 m/s
0.15 N.m
0.3 N.m



Adjustable plastic roller lever Ø 22

Type	Order code	Weight (1 pce) kg
LS43M51B11	1SBV011651R1211	0.32
LS45M51B11	1SBV013151R1211	0.32

(EN 50041 symbol)
1.5 m/s
0.15 N.m
0.3 N.m



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

Plain plunger - Steel 11	Roller plunger - Steel 13	Steel roller lever + plunger - Horizontal 32	Steel roller lever Ø 22 42	Adjustable steel roller lever Ø 22 52	Adjustable nylon rod lever Ø 3 72	Spring rod with insulated tip 92
Ball roller plunger - Steel 12	Plastic roller lever + plunger - Horizontal 31	Plastic roller lever Ø 14 41	Adjustable plastic roller lever Ø 22 51	Adjustable steel rod lever Ø 3 71	Spring rod 91	

Here is the full range of actuator available for the LS4..M serie. In grey are the ones available in this page.

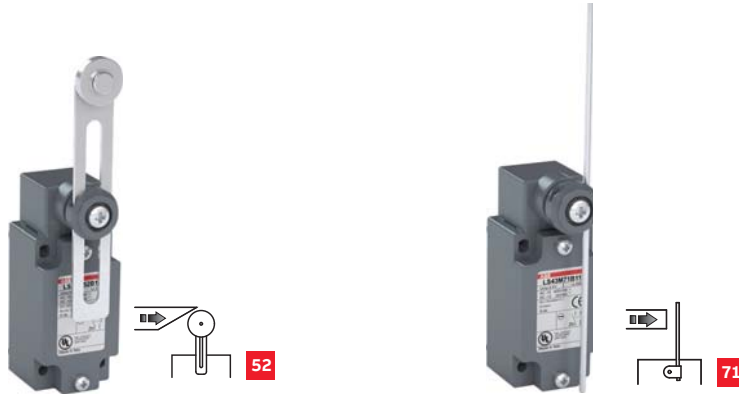
LS4..M – Standard reinforced – Metal Casing – IP66

40 mm width – 1 N.O. + 1 N.C. Snap Action contacts

LS4..M limit switches are used in every applications especially when products will be mounted in harsh environment. The 4 mounting holes and the thick metal body make it the more resistant of our range.

The cable inlet on the bottom is threaded to allow the use of a cable gland.

The 40 mm wide bodies are made of zinc alloy material (Zamak) and offer a high degree of protection (IP66).



Actuator			Adjustable steel roller lever Ø 22			Adjustable steel rod lever Ø 3		
	Type	Order code	Weight (1 pce) kg		Type	Order code	Weight (1 pce) kg	
Iso 20	LS43M52B11	1SBV011652R1211	0.32	☞	LS43M71B11	1SBV011671R1211	0.305	
1/2" NPT	LS45M52B11	1SBV013152R1211	0.32		LS45M71B11	1SBV013171R1211	0.305	
Conformity (☞) / (N.C. contact with positive opening operation)					EN 50041 (D shape) (☞)			
Maximum actuation speed	1.5 m/s				1.5 m/s			
Min. force / torque actuation	0.15 N.m				0.15 N.m			
positive opening operation	0.3 N.m				0.3 N.m			
Operation Diagram								
Dimensions (mm)								

Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

Plain plunger - Steel 11	Roller plunger - Steel 13	Steel roller lever + plunger - Horizontal 32	Steel roller lever Ø 22 42	Adjustable steel roller lever Ø 22 52	Adjustable nylon rod lever Ø 3 72	Spring rod with insulated tip 92
Ball roller plunger - Steel 12	Plastic roller lever + plunger - Horizontal 31	Plastic roller lever Ø 14 41	Adjustable plastic roller lever Ø 22 51	Adjustable steel rod lever Ø 3 71	Spring rod 91	

Here is the full range of actuator available for the LS4..M serie. In grey are the ones available in this page.

LS4..M – Standard reinforced – Metal Casing – IP66

40 mm width – 1 N.O. + 1 N.C. Snap action contacts

LS4..M limit switches are used in every applications especially when products will be mounted in harsh environment. The 4 mounting holes and the thick metal body make it the more resistant of our range.

The cable inlet on the bottom is threaded to allow the use of a cable gland.

The 40 mm wide bodies are made of zinc alloy material (Zamak) and offer a high degree of protection (IP66).



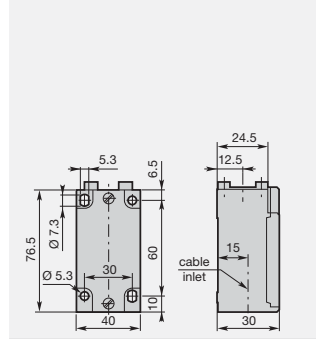
Actuator

Iso 20
1/2" NPT
Conformity (CE) / (N.C. contact with positive opening operation)
Maximum actuation speed
Min. force / torque
actuation
positive opening operation

Operation Diagram

■ Closed contact / □ Open contact

Dimensions (mm)



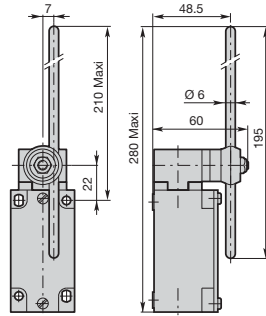
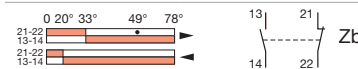
Adjustable nylon rod lever Ø 6

Type	Order code	Weight (1 pce) kg
LS43M72B11	1SBV011672R1211	0.305
LS45M72B11	1SBV013172R1211	0.305

EN 50041 (D shape) (CE)

1.5 m/s

0.15 N.m
0.3 N.m

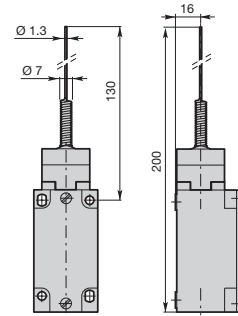
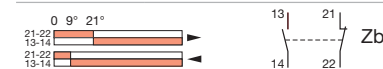


Spring rod

Type	Order code	Weight (1 pce) kg
LS43M91B11	1SBV011691R1211	0.23
LS45M91B11	1SBV013191R1211	0.23

1 m/s

0.18 N.m
- N.m



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

Here is the full range of actuator available for the LS4..M serie. In grey are the ones available in this page.

LS4..M – Standard reinforced – Metal Casing – IP66

40 mm width – 1 N.O. + 1 N.C. Snap Action contacts

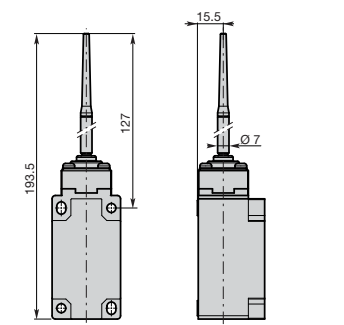
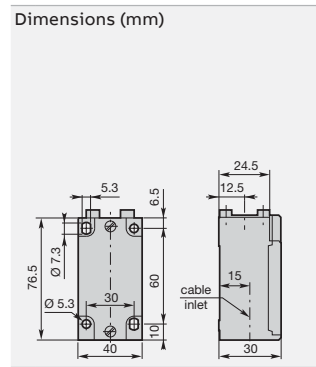
LS4..M limit switches are used in every applications especially when products will be mounted in harsh environment. The 4 mounting holes and the thick metal body make it the more resistant of our range.

The cable inlet on the bottom is threaded to allow the use of a cable gland.

The 40 mm wide bodies are made of zinc alloy material (Zamak) and offer a high degree of protection (IP66).



Actuator		Spring rod with insulated tip	
	Type	Order code	Weight (1 pce) kg
Iso 20	LS43M92B11	1SBV011692R1211	0.23
1/2" NPT	LS45M92B11	1SBV013192R1211	0.23
Conformity (⊕) / (N.C. contact with positive opening operation)	-		
Maximum actuation speed	1 m/s		
Min. force / torque actuation	0.18 N.m		
positive opening operation	- N.m		
Operation Diagram			



Note : For other configuration 2 N.C. contacts, Pg cable thread, please consult your ABB local sales organization. Please note that minimum ordering quantity and longer lead time might apply.

Plain plunger - Steel 11	Roller plunger - Steel 13	Steel roller lever + plunger - Horizontal 32	Steel roller lever Ø 22 42	Adjustable steel roller lever Ø 22 52	Adjustable nylon rod lever Ø 3 72	Spring rod with insulated tip 92
Ball roller plunger - Steel 12	Plastic roller lever + plunger - Horizontal 31	Plastic roller lever Ø 14 41	Adjustable plastic roller lever Ø 22 51	Adjustable steel rod lever Ø 3 71	Spring rod 91	

Here is the full range of actuator available for the LS4..M serie. In grey are the ones available in this page.

LS4..P., LS4..M..

Technical data

General technical data

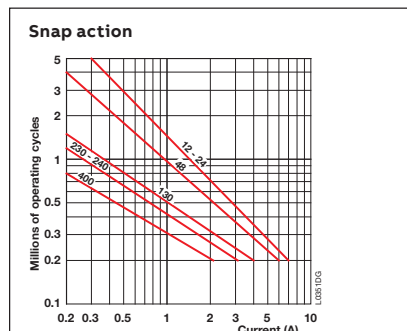
	Plastic casing	Metal casing
Standards	IEC 60947-1, IEC 60947-5-1, EN 60947-1, EN 60947-5-1, UL 508	
Certifications - Approvals	cULus-	
Air temperature near the device during operation	- 25 ... + 70 °C	
for storage	- 30 ... + 80 °C	
Mounting positions	All positions are authorized	
Protection against electrical shocks (acc. to IEC 536)	Class II - double insulation	Class I
Degree of protection (acc. to IEC 529 and EN 60529)	IP65	IP66 (1)

Electrical data

Rated insulation voltage Ui	500 V (degree of pollution 3)	
Rated impulse withstand voltage Uimp (acc. to IEC 60947-1 and EN 60947-1)	6 kV	
Conventional enclosed thermal current Ith acc. to IEC 60947-5-1 and EN 60947-5-1) $\theta < 40$ °C	10 A	
Short-circuit protection gG type fuses	10 A	
Rated operational current		
le / AC-15 acc. to IEC 60947-5-1	24 V - 50/60 Hz	10 A
	120 V - 50/60 Hz	6 A
	400 V - 50/60 Hz	4 A
acc. to UL 508	A600	A300
le / DC-13 acc. to IEC 60947-5-1	24 V DC	6 A
	125 V DC	0.55 A
	250 V DC	0.4 A
acc. to UL 508	Q600	Q300
Positivity	Contacts with positive opening operation as per IEC 60947-5-1 chapter 3 and EN 60947-5-1	
Resistance between contacts	m Ω	25
Mechanical durability	millions of operations	
	LS4...	15 : with actuators 11, 12, 31, 32 10 : with actuators 13, 41, 42, 51, 52, 71, 72 > 5 : with actuators 91, 92
		30 : with actuators 11, 12, 13, 31, 32 25 : with actuators 41, 42, 51, 52, 71, 72 10 : with actuators 91, 92
Electrical durability (acc. to IEC 60947-5-1 appendix C) max. switching frequency	3600 cycles/h	
Connecting data of contact blocks		
Connecting terminals	M3.5 (+,-) pozidriv 2 screw with cable clamp	
Connecting capacity	1 or 2 x mm ²	0.75 mm ² ... 2.5 mm ²
Terminal marking	According to IEC60947-5-1	
B10d	30 millions of operations	

(1) Except for LS3..M52, LS3..M92, LS4..M72 and LS4..M92 : the degree of protection is IP65.

Electrical durability for AC-15 utilization category



Electrical durability for DC-13 utilization category

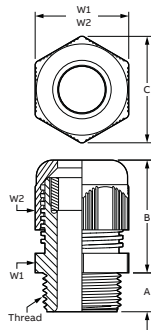
Snap action	
Power breaking for a durability of 5 million operating cycles	
Voltage	24 V
	9.5 W
Voltage	48 V
	6.8 W
Voltage	110 V
	3.6 W

Cable glands - NCG series

Nylon, general purpose



Nylon cable glands for general purpose use, OEM and industrial/commercial applications.



Certifications / Standards

(Refer to tables for certifications details)

Conform to

UL514B / CSA C222.2 No18.3
(see table for details)
EN 62444
RoHS (Restriction of Hazardous Substances Directive) 2011/65/EU Incorporating 2015/863 amendment to Annex II
WEEE (Waste Electrical Electronic Equipment Directive) 2002/96/EC
LVD (Low Voltage Directive) 2014/35/EU

Working temperature

Normal use: -20 to +100 °C (-4 to +21 °F)
Short term: -30 to +150 °C (-22 to +302 °C)

Chemical resistance guide

See publication TDS000081

Ingress protection

To ensure ingress protection, use suitable gasket and lock nut when inquired.

IP66

IP68 (5 bar, 30 mins)

NEMA 4

Material

Halogen free nylon (PA6) construction

Available in Black, Grey and light grey

Chloroprene seals

ISO Thread glands

Thread size	Cable Ø (mm)	Color	Compatibility	Type	Order code	A	B	C	W1	W2
M16x1.5	2 ... 6	Black	LS32...	NCG-M161B	7TCA303070R0036	8	26.5	21.9	19	19
M16x1.5	2 ... 6	Grey	LS32...	NCG-M161G	7TCA303070R0157	8	26.5	21.9	19	19
M16x1.5	2 ... 6	Light Grey	LS32...	NCG-M161LG	7TCA303070R0079	8	26.5	21.9	19	19
M16x1.5	4 ... 8	Black	LS32...	NCG-M162B	7TCA303070R0038	8	26.5	21.9	19	19
M16x1.5	4 ... 8	Grey	LS32...	NCG-M162G	7TCA303070R0159	8	26.5	21.9	19	19
M16x1.5	4 ... 8	Light Grey	LS32...	NCG-M162LG	7TCA303070R0081	8	26.5	21.9	19	19
M16x1.5	5 ... 10	Black	LS32...	NCG-M163B	7TCA303070R0040	10	30	25	22	22
M16x1.5	5 ... 10	Grey	LS32...	NCG-M163G	7TCA303070R0161	10	30	25	22	22
M16x1.5	5 ... 10	Light Grey	LS32...	NCG-M163LG	7TCA303070R0083	10	30	25	22	22
M20x1.5	5 ... 9	Black	LS33..., LS43...	NCG-M201B	7TCA303070R0042	10	30	27	24	24
M20x1.5	5 ... 9	Grey	LS33..., LS43...	NCG-M201G	7TCA303070R0163	10	30	27	24	24
M20x1.5	5 ... 9	Light Grey	LS33..., LS43...	NCG-M201LG	7TCA303070R0085	10	30	27	24	24
M20x1.5	6 ... 12	Black	LS33..., LS43...	NCG-M202B	7TCA303070R0044	10	30	27	24	24
M20x1.5	6 ... 12	Grey	LS33..., LS43...	NCG-M202G	7TCA303070R0165	10	30	27	24	24
M20x1.5	6 ... 12	Light Grey	LS33..., LS43...	NCG-M202LG	7TCA303070R0087	10	30	27	24	24
M20x1.5	10 ... 14	Black	LS33..., LS43...	NCG-M203B	7TCA303070R0046	10	33.5	31	27	27
M20x1.5	10 ... 14	Grey	LS33..., LS43...	NCG-M203G	7TCA303070R0167	10	33.5	31	27	27
M20x1.5	10 ... 14	Light Grey	LS33..., LS43...	NCG-M203LG	7TCA303070R0089	10	33.5	31	27	27

NPT Thread glands

Thread size	Cable Ø (mm)	Color	Compatibility	Type	Order code	A	B	C	W1	W2
1/2" NPT	5 ... 9	Black	LS35..., LS45...	NCG-0501B	7TCA303070R0055	15	30	27	24	24
1/2" NPT	5 ... 9	Grey	LS35..., LS45...	NCG-0501G	7TCA303070R0192	15	30	27	24	24
1/2" NPT	5 ... 9	Light Grey	LS35..., LS45...	NCG-0501LG	7TCA303070R0131	15	30	27	24	24
1/2" NPT	6 ... 12	Black	LS35..., LS45...	NCG-0502B	7TCA303070R0056	15	30	27	24	24
1/2" NPT	6 ... 12	Grey	LS35..., LS45...	NCG-0502G	7TCA303070R0193	15	30	27	24	24
1/2" NPT	6 ... 12	Light Grey	LS35..., LS45...	NCG-0502LG	7TCA303070R0132	15	30	27	24	24
1/2" NPT	10 ... 14	Black	LS35..., LS45...	NCG-0503B	7TCA303070R0057	15	33.5	30.9	27	27
1/2" NPT	10 ... 14	Grey	LS35..., LS45...	NCG-0503G	7TCA303070R0194	15	33.5	30.9	27	27
1/2" NPT	10 ... 14	Light Grey	LS35..., LS45...	NCG-0503LG	7TCA303070R0133	15	33.5	30.9	27	27

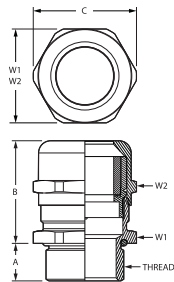
NOTE : For LS 35P and LS45P, the thread is 10 mm deep, the cable gland will not be completely screwed inside the thread.

Cable glands - BCG series

Brass, general purpose



Nylon cable glands for general purpose use, OEM and industrial/commercial applications.



Certifications / Standards



Conform to

UL / CSA C222.2 No18.3 (see table for details)
EN 62444

RoHS (Restriction of Hazardous Substances Directive) 2011/65/EU Incorporating 2015/863 amendment to Annex II

WEEE (Waste Electrical Electronic Equipment Directive) 2002/96/EC

LVD (Low Voltage Directive) 2014/35/EU

Working temperature

Normal use: -20 to +100 °C (-4 to +21 °F)

Short term: -30 to +150 °C (-22 to +302 °C)

Chemical resistance guide

See publication TDS000081

Ingress protection

To ensure ingress protection, use suitable gasket and lock nut when inquired.

IP66

IP68 (5 bar, 30 mins)

NEMA 4

Material

Nickel plated brass construction

Chloroprene seals

ISO Thread glands

Dimensions	Thread size	Cable Ø		Color	Compatibility	Type	Order code	A	B	C	W1	W2
		Thread size	(mm)									
	M16x1.5	2 ... 6	Brass	LS32...	BCG-M161	7TCA303030R0005	7	23	20	18	17	
	M16x1.5	4 ... 8	Brass	LS32...	BCG-M162	7TCA303030R0007	7	23	20	18	17	
	M16x1.5	5 ... 10	Brass	LS32...	BCG-M163	7TCA303030R0009	7	28.5	22	20	20	
	M20x1.5	5 ... 9	Brass	LS33..., LS43...	BCG-M201	7TCA303030R0010	8	26	24.5	22	22	
	M20x1.5	6 ... 12	Brass	LS33..., LS43...	BCG-M202	7TCA303030R0001	8	26	24.5	22	22	
	M20x1.5	10 ... 14	Brass	LS33..., LS43...	BCG-M203	7TCA303030R0013	8	28	26.8	24	24	

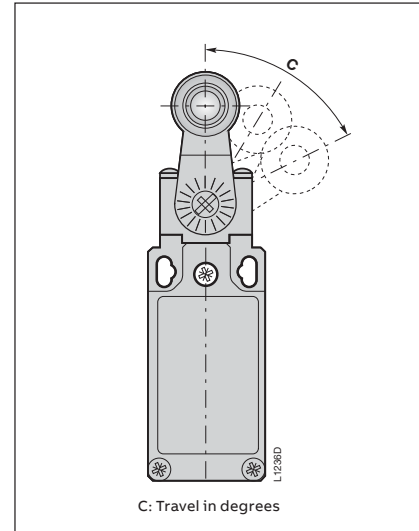
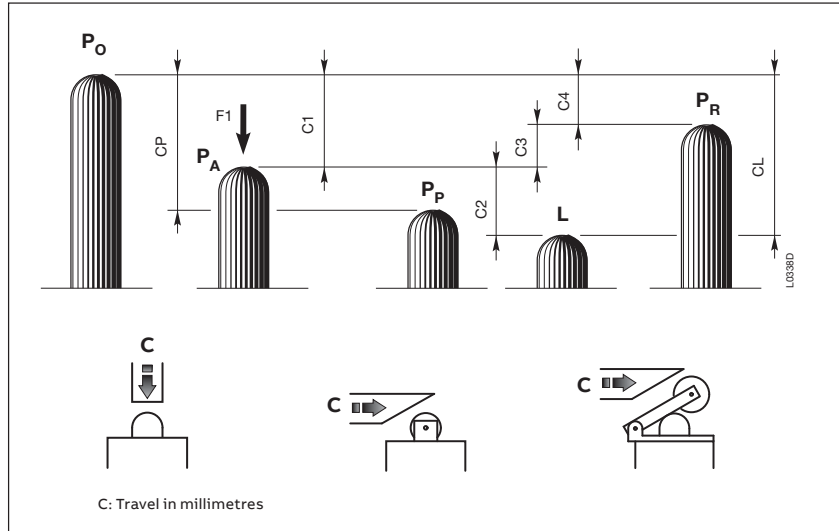
NPT Thread glands

Thread size	Cable Ø		Color	Compatibility	Type	Order code	A	B	C	W1	W2
	Thread size	(mm)									
1/2" NPT	5 ... 9	Brass	LS35..., LS45...	BCG-0501	7TCA303030R0056	13	25.5	24.5	22	22	
1/2" NPT	6 ... 12	Brass	LS35..., LS45...	BCG-0502	7TCA303030R0057	13	25.5	24.5	22	22	
1/2" NPT	10 ... 14	Brass	LS35..., LS45...	BCG-0503	7TCA303030R0058	13	28	26.8	24	24	

NOTE : For LS 35P and LS45P, the thread is 10 mm deep, the cable gland will not be completely screwed inside the thread.

Limit Switches Plastic or Metal Casing

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**.

C₁ Pre-travel (average 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 (N.C.).

C₂ Over-travel (average travel)

distance between the operating position **P_A** and the max. travel position **L**.

C_L Max. travel (maximum travel)

distance between the free position **P₀** and the max. travel position **L**.

C₃ Differential travel (C₁-C₄) (average travel)

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

C₄ Release travel (average travel)

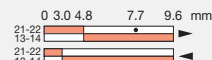
distance between the release position **P_R** and the free position **P₀**.

Examples

LS32M13B11
(snap action contacts)



Diagram in millimetres/cam travel



LS32M41B11
(snap action contacts)

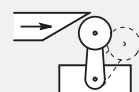
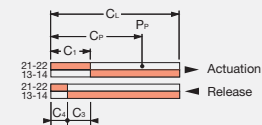


Diagram in degrees/lever rotation



Diagram for snap action contacts:



Contacts position

21-22 Contact closed

21-22 Contact open

13-14 Contact closed

13-14 Contact open

Contacts identification (example)



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ABB France
Electrification Business
Low Voltage Products and Systems
2 rue d'Arsonval
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