LS-Titan Miniature DIN Switches

### **Product Selection**

### LS-Titan Plastic Safety Switches

Plastic Safety Switch Bodies	Plastic Safety Switches Switch Body Catalog Number Output Function Terminal Connection Contact Sequence	LS-S02 2NC with Positive Opening Contacts Screw Terminal ① $- \frac{11}{12} \frac{21}{12}$ $1 - \frac{11}{12} \frac{21}{12}$ $1 - \frac{11}{12} \frac{3.0}{12} \frac{6.1}{NC}$ $2 - \frac{3.0}{2} \frac{6.1}{NC}$	LS-S20A 2NO with Slow Make/Break Screw Terminal ① $-\frac{113}{123}$ $-\frac{113}{14}$ 23 2 13 13 23 2 13 123 0 2.1 6.1 NO NO NO NO ZW = 4.5 mm	LS-S11S 1NO and 1NC with Positive Opening Contact Screw Terminal $\textcircled{O}$ $\swarrow - \swarrow 12$ $14 \ 22$ Snap-Action Contact $0 \ 3.0 \ 6.1$ 21-22 $13-14 \ 21-22$ $13-14 \ 1.6$ Zw = 5.5  mm
•	Operating Head Type <sup>®</sup> Heads Only Catalog Number	Assembled Switches Catalog Numbers		
Top Push Roller Plunger	LS-XP	LS-S02-P	LS-S20A-P	LS-S11S-P
Long Roller Lever	LS-XL	LS-S02-L	LS-S20A-L	LS-S11S-L
Short Roller Lever	LS-XLS	LS-S02-LS	LS-S20A-LS	LS-S11S-LS
Large Roller Lever	LS-XLB	LS-S02-LB	LS-S20A-LB	LS-S11S-LB
Angled Roller	LS-XLA	LS-S02-LA	LS-S20A-LA	LS-S11S-LA
Rotary Lever	LS-XRL	LS-S02-RL	LS-S20A-RL	LS-S11S-RL
	Notes ① Cage Clamp versions available. Cont	tact Application Engineering		

① Cage Clamp versions available. Contact Application Engineering.

<sup>(2)</sup> For operating head dimensions, see **Page 21**.

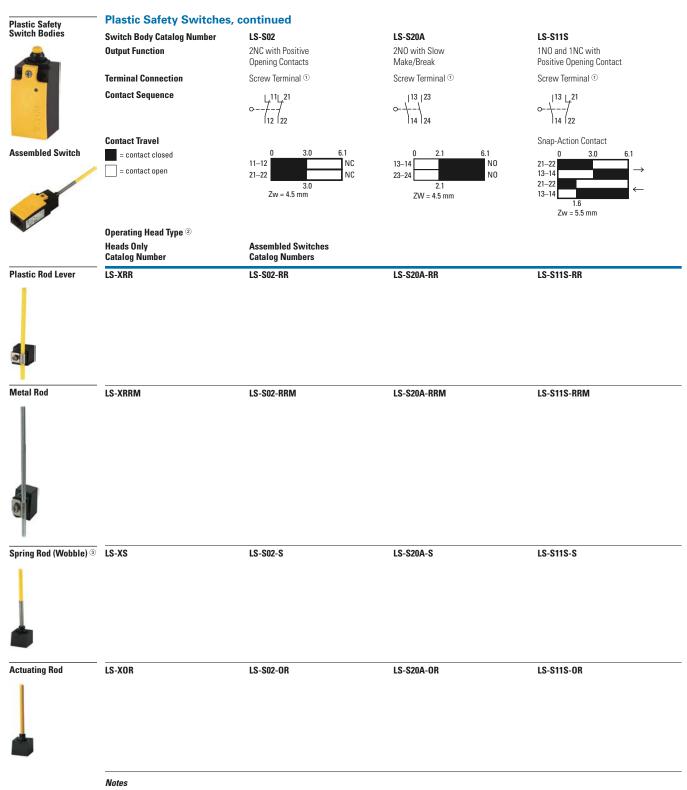
### LS-Titan Miniature DIN Switches

lastic Safety	Plastic Safety Switches	oonanaoa		
witch Bodies	Switch Body Catalog Number	LS-S02	LS-S20A	LS-S11S
	Output Function	2NC with Positive Opening Contacts	2NO with Slow Make/Break	1NO and 1NC with Positive Opening Contact
	Terminal Connection	Screw Terminal ①	Screw Terminal 1	Screw Terminal <sup>①</sup>
	Contact Sequence			
E C	oonaat ocquence	L_11L_21 0	13  23 0	$\sim \frac{ 13 L^{21}}{ 14  22}$
18 10		12 22	14 24	14 22
	Contact Travel			Snap-Action Contact
Assembled Switch	= contact closed	0 3.0 6.1	0 2.1 6.1	0 3.0 6.1
/	= contact open	11–12 NC 21–22 NC	13–14 NO 23–24 NO	21–22 13–14 →
		3.0 Zw = 4.5 mm	2.1 ZW = 4.5 mm	21–22 13–14 ←
		2W - 4.3 mm	2.vv = 4.5 mm	1.6
				Zw = 5.5 mm
•	Operating Head Type <sup>(2)</sup>	Assemble 1 Conitations		
	Heads Only Catalog Number	Assembled Switches Catalog Numbers		
Adjustable	LS-XRLA	LS-S02-RLA	LS-S20A-RLA	LS-S11S-RLA
Roller Lever (with 18 mm Roller)				
2				
Ndiustabla	LS-XRLA30	LS-S02-RLA30	LS-S20A-RLA30	LS-S11S-RLA30
Adjustable Roller Lever	L9-XKLAJU	r9-905-Krain	L9-920A-KLA30	r9-9119-kra30
with 30 mm Roller)				
()				
4				
9				
Ndivetable.		LC C02 DI A/C		LC C11C DI 640
Adjustable Roller Lever	LS-XRLA40	LS-S02-RLA40	LS-S20A-RLA40	LS-S11S-RLA40
with 40 mm Roller)				
6				
(O)				
2				
Adjustable Roller	LS-XRLA40R	LS-S02-RLA40R	LS-S20A-RLA40R	LS-S11S-RLA40R
ever (with 40 mm ubber Roller)				
TI				
9				
	Notes			

Notes

- Cage Clamp versions available. Contact Application Engineering.
   For operating head dimensions, see Page 21.

LS-Titan Miniature DIN Switches



① Cage Clamp versions available. Contact Application Engineering.

<sup>(2)</sup> For operating head dimensions, see Page 21.

③ Not to be used as a safety position switch. Use only in conjunction with snap-action contact.

#### LS-Titan Plastic Electronic Safety Position Switches

afety Position witch Bodies	Switch Body Catalog Number Output Function Terminal Connections Safety Functions and Approvals		LSE-02 2NC Cage Clamp ①	<b>LSE-AI</b> Analog 4–20 mA Cage Clamp ①	<b>LSE-AU</b> Analog 0–10V
Contraction of the second seco	Output Function Terminal Connections Safety Functions	1NO and 1 NC Cage Clamp These models may be used in si LED indication is comparable to	2NC Cage Clamp 1	Analog 4–20 mA	Analog 0–10V
· Intra	Safety Functions	These models may be used in sa LED indication is comparable to		Cage Clamp 1	
		LED indication is comparable to	afety-oriented circuits Vieual status		Cage Clamp ①
		people or processes.	positive opening contacts. Certified device. Suitable for protection of	Additional diagnostic output the of a fault. Self-test function co overloads, short circuits to 0V	hat registers a OV signal in the event intinuously tests both outputs for and short circuits to $+U_g$ . Certified b r 4. Suitable for protection of people
sembled Switch		TÜV Rheinland		TÜV Rheinland	
X	Contact Sequence	+Ue $\begin{array}{c} & & \\ &$	+Ue diectron 0V	Analog 4–20 mA	Analog 0–10V
	Contact Travel	0 0.5 5.5 6.1		▲I [mA] 20	<b>↑</b> U [V]
	= contact closed	Q1	Q1	20	10
	= contact open	Q2 default=3.0	Q2 default=3.0	4 S [%]	0 100 S [%]
	Operating Head Type <sup>②</sup> Heads Only Catalog Number	Assembled Switches Catalog Numbers			
op Push Roller unger	LS-XP	LSE-11-P	LSE-02-P	LSE-AI-P	LSE-AU-P
ng Roller Lever	LS-XL	LSE-11-L	LSE-02-L	LSE-AI-L	LSE-AU-L
ort Roller Lever	LS-XLS	LSE-11-LS	LSE-02-LS	LSE-AI-LS	LSE-AU-LS
2					
rge Roller Lever	LS-XLB	LSE-11-LB	LSE-02-LB	LSE-AI-LB	LSE-AU-LB
C					
igled Roller	LS-XLA	LSE-11-LA	LSE-02-LA	LSE-AI-LA	LSE-AU-LA
	Notes	np tool is available as an accesso			

<sup>(2)</sup> For operating head dimensions, see **Page 21**.

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# Limit Switches

LS-Titan Miniature DIN Switches

Plastic Electronic	Plastic Electronic Safety Position Switches, continued					
Safety Position Switch Bodies	Switch Body	105.44	105.00			
	Catalog Number Output Function	LSE-11 1NO and 1NC	LSE-02 2NC	<b>LSE-AI</b> Analog 4–20 mA	<b>LSE-AU</b> Analog 0–10V	
	Terminal Connections	Cage Clamp <sup>①</sup>	Cage Clamp 1	Cage Clamp 1	Cage Clamp 1	
• Insta	Safety Functions and Approvals		ety-oriented circuits. Visual status iositive opening contacts. Certified device. Suitable for protection of	of a fault. Self-test function cont overloads, short circuits to OV an	registers a OV signal in the event inuously tests both outputs for d short circuits to $+U_{e}$ . Certified by . Suitable for protection of people	
Assembled Switch		TÜV Rheinland		TÜV Rheinland		
X	Contact Sequence	+Ue //electron.) Q1 Q2 0V	+Ue //electron./ 01 02 0V	Analog 4–20 mA	Analog 0–10V	
	Contact Travel	0 0.5 5.5 6.1	0 0.5 5.5 6.1	20	. <b>↑</b> U [V]	
	= contact closed	Q1	Q1	20	10	
	= contact open	Q2 default=3.0	Q2 default=3.0	4 [5 [%] 0 100	0 100 S [%]	
	Operating Head Type $^{\textcircled{2}}$					
	Heads Only Catalog Number	Assembled Switches Catalog Numbers				
Rotary Lever	LS-XRL	LSE-11-RL	LSE-02-RL	LSE-AI-RL	LSE-AU-RL	
0						
Adjustable Roller Lever (with 18 mm Roller)	LS-XRLA	LSE-11-RLA	LSE-02-RLA	LSE-AI-RLA	LSE-AU-RLA	
Adjustable Roller Lever (With 30 mm Roller)	LS-XRLA30	LSE-11-RLA30	LSE-02-RLA30	LSE-AI-RLA30	LSE-AU-RLA30	

#### Notes

① A compatible Cage Clamp tool is available as an accessory on Page 14.
② For operating head dimensions, see Page 21.

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### LS-Titan Miniature DIN Switches

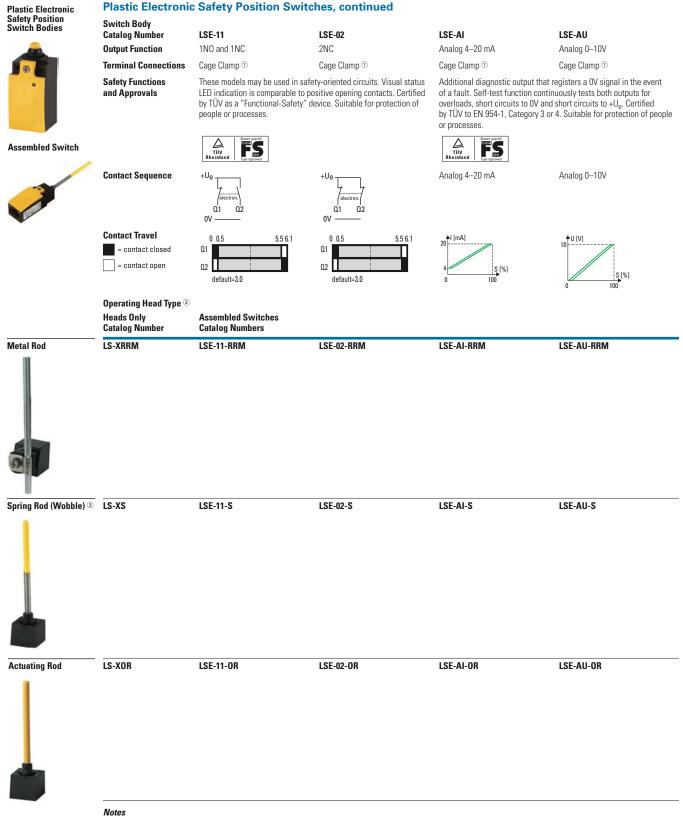
witch Bodies	Switch Body				
WITCH BOULES	Catalog Number	LSE-11	LSE-02	LSE-AI	LSE-AU
	Output Function	1NO and 1NC	2NC	Analog 4–20 mA	Analog 0–10V
0	Terminal Connections	Cage Clamp ①	Cage Clamp ①	Cage Clamp 1	Cage Clamp ①
	Safety Functions and Approvals	LED indication is comparable	safety-oriented circuits. Visual status to positive opening contacts. Certified ty" device. Suitable for protection of	of a fault. Self-test function of overloads, short circuits to 0	that registers a 0V signal in the event continuously tests both outputs for $V$ and short circuits to $+U_e$ . Certified by or 4. Suitable for protection of people
sembled Switch		TÜV         Bauart geprüft           Rheinland         Type approved		TÜV Rheinland	
X	Contact Sequence	+Ue dectron 0V 	+Ue /electron 01 02 0V	Analog 4–20 mA	Analog 0–10V
	Contact Travel	0_0.5 5.5 6	6.1 0 <u>0.5 5.56</u> .1	20 <sup>♠</sup> I [mA]	. <b>↑</b> U [V]
	= contact closed	01 02 default=3.0	Q1 Q2 default=3.0	20 4 0 100	10 <u><u><u></u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>
	Operating Head Type ② Heads Only Catalog Number	Assembled Switches Catalog Numbers			0 100
djustable bller Lever Vith 40 mm Roller)	LS-XRLA40	LSE-11-RLA40	LSE-02-RLA40	LSE-AI-RLA40	LSE-AU-RLA40
ljustable Iler Lever /ith 40 mm Roller)	LS-XRLA40R	LSE-11-RLA40R	LSE-02-RLA40R	LSE-AI-RLA40R	LSE-AU-RLA40R
astic Rod Lever	LS-XRR	LSE-11-RR	LSE-02-RR	LSE-AI-RR	LSE-AU-RR

① A compatible Cage Clamp tool is available as an accessory on Page 14.
 ② For operating head dimensions, see Page 21.

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### Limit Switches

LS-Titan Miniature DIN Switches



<sup>①</sup> A compatible Cage Clamp tool is available as an accessory on Page 14.

<sup>(2)</sup> For operating head dimensions, see Page 21.

<sup>③</sup> Not to be used as a safety position switch. Use only in conjunction with snap-action contact.

### LS-Titan Metal Safety Switches

Metal Safety Switch Bodies	Metal Safety Switches			
Switch Bodies	Switch Body Catalog Number	LSM-02	LSM-20A	LSM-11S
	Output Function	2NC with Positive Opening Contacts	2NO with Slow Make/Break	1NO and 1NC with Positive Opening Contact
	Terminal Connection	Cage Clamp	Cage Clamp	Cage Clamp
	Contact Sequence	L11L21	13  23	, 13 L <sub>2</sub> 1
		↓11↓21 ○	0	0/ 14 22
P	Contact Travel	1.2	114 124	Snap-Action Contact
	= contact closed	0 3.0 6.1	0 <u>2.1</u> 6.1	0 3.0 6.1
Assembled Switch	= contact open	11–12 NC 21–22 NC	13–14 NO 23–24 NO	$\begin{array}{c} 21-22 \\ 13-14 \end{array} \longrightarrow$
		3.0 Zw = 4.5 mm	2.1 ZW = 4.5 mm	21–22 13–14 ←
			2	1.6 Zw = 5.5 mm
	Operating Head Type $^{\bigcirc}$			
	Heads Only	Assembled Switches		
	Catalog Number	Catalog Numbers		
Top Push Roller Plunger	LSM-XP	LSM-02-P	LSM-20A-P	LSM-11S-P
Long Roller Lever	LSM-XL	LSM-02-L	LSM-20A-L	LSM-11S-L
C				
Angled Roller	LSM-XLA	LSM-02-LA	LSM-20A-LA	LSM-11S-LA
Rotary Lever	LSM-XRL	LSM-02-RL	LSM-20A-RL	LSM-11S-RL
Adjustable Roller Lever	LSM-XRLA	LSM-02-RLA	LSM-20A-RLA	LSM-11S-RLA
	Note	Dama 21		

1 For operating head dimensions, see Page 21.

LS-Titan Miniature DIN Switches

Metal Safety Switches	continued		
		I SM-20A	LSM-11S
Output Function	2NC with Positive	2NO with Slow	1NO and 1NC with
Terminal Connection			Positive Opening Contact Cage Clamp
·	o	0	0
	112   22	14  24	
	0 20 61	0 21 61	Snap-Action Contact 0 3.0 6.1
	11–12 NC	13–14 NO	21–22
	3.0	2.1	21–22
	Zw = 4.5 mm	2VV = 4.5 mm	1.6
Onersting Used Tune ①			Zw = 5.5 mm
	Assembled Switches		
Catalog Number	Catalog Numbers		
LSM-XRR	LSM-02-RR	LSM-20A-RR	LSM-11S-RR
LSM-XRRM	LSM-02-RRM	LSM-20A-RRM	LSM-11S-RRM
LSM-XS	LSM-02-S	LSM-20A-S	LSM-11S-S
	Switch Body Catalog Number Output Function Terminal Connection Contact Sequence Contact Travel = contact closed = contact open Operating Head Type Heads Only Catalog Number	Output Function       2NC with Positive Opening Contacts         Terminal Connection       Cage Clamp         Contact Sequence $-\frac{11}{12}$ $\frac{1}{12}$ $22$ Contact Travel $\frac{11}{12}$ $=$ contact closed $11-12$ $=$ contact open $11-12$ $2xw = 4.5 \text{ mm}$ NC         Operating Head Type ①       Assembled Switches Catalog Numbers         LSM-XRR       LSM-02-RR	Switch Body Catalog Number Output FunctionLSM-02 NC with Positive Opening ContactsLSM-20A 2NO with Slow Make/BreakTerminal Connection Contact SequenceCage Clamp $-\frac{1}{-1}\frac{1}{1}\frac{21}{22}$ Cage Clamp $-\frac{1}{-1}\frac{1}{1}\frac{21}{22}$ Cage Clamp $-\frac{1}{-1}\frac{1}{1}\frac{1}{2}\frac{21}{2}$ Contact Travel $=$ = contact open $11-12$ $21-22$ $3.0$ $Zw = 4.5 mm$ $13-14$ $NC$ $NC$ $Zw = 4.5 mm$ $13-14$ $2.1$ $ZW = 4.5 mm$ Operating Head Type © Heads Only Catalog NumberAssembled Switches Catalog Numbers $ZM - 20A - RR$ LSM-XRRLSM-02-RRLSM-20A - RR

Note

1 For operating head dimensions, see Page 21.