

Lever Switch S51

GESSMANN®

The S51 lever switch series, specially developed for the rail sector, offers a high degree of robustness as well as a long service life. Typically, this high-quality product is found in driver's cab consoles of rail traction units.

All current standards (EN 50155, UIC 612, EN 45545 ...) were observed in the course of development.

Technical data

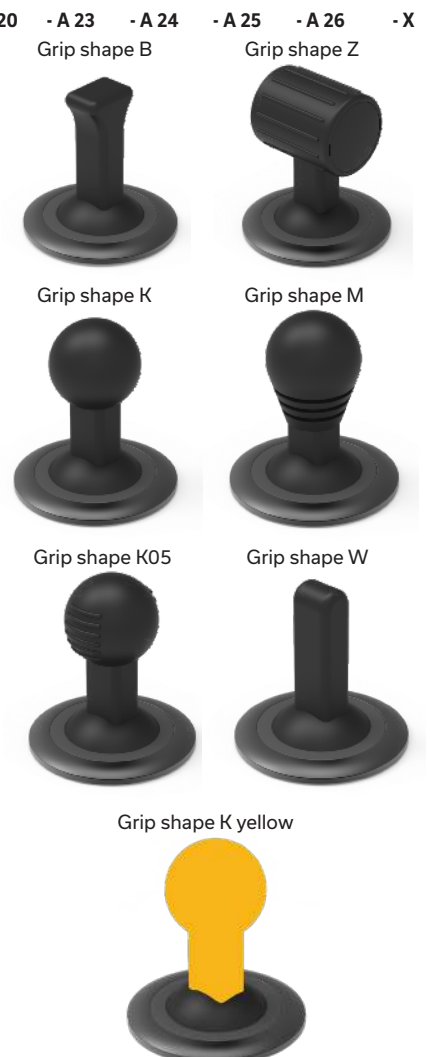
Deflection angle	Total: $\pm 34^\circ$ (-34° / -17° / 0° / $+17^\circ$ / $+34^\circ$)
Mechanical life	5 million operating cycles
Ambient temperature range	-40°C til $+70^\circ\text{C}$ (OT3 acc. to EN50155)
Degree of protection	IP54 (above the mounting plate) IP20 (below the mounting plate)
Supply voltages	24 VDC, 72 VDC, 110 VDC with fluctuations acc. to EN 50155

Reference to relevant standards

Fire protection	EN 45545 part 2
Driver-machine interfaces for EMU/DMU, locomotives and control cars	UIC 612
Protection by housing	EN 60529
Railroad applications - Electronic equipment on railroad vehicles	EN 50155
Vibration and shock tests	EN 61373
Climatic tests	EN 60068

		S51	- 1	- 2	- 4G	- MS20
Basic unit						
S 51	Lever switch S51					
S 51A	Lever switch S51 with rotation prevention					
Montagering						
1	Nature eloxed					
2	Black eloxed					
3	Stainless steel (Siemens Sirius Act Design)					
Grip shape						
1	Grip shape B					
2	Grip shape W					
3	Grip shape K					
4	Grip shape K05					
5	Grip shape M					
6	Grip shape Z					
7	Grip shape K yellow					
Contacts						
1	1 contact					
2	2 contacts					
3	3 contacts					
4	4 contacts					
5	5 contacts					
6	6 contacts					
ZS	Positively driven NC silver contacts (standard)					
ZG	Positively driven NC gold contacts					

Example



S51 - 1 - 2 - 4G - MS20 - A 23 - A 24 - A 25 - A 26 - X

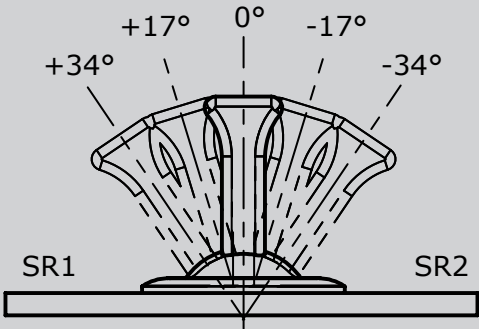
Detent

MS..

Detent	Switching direction 1 (SR1)		Centre	Switching direction 2 (SR2)	
	2 34°	1 17°		1 -17°	2 -34°
MS01	Notched		Center position		Notched
MS02	Blocked	Blocked			Notched
MS03	Notched			Blocked	Blocked
MS04	Notched	Notched		Notched	Notched
MS05	Blocked	Blocked		Notched	Notched
MS06	Notched	Notched		Blocked	Blocked
MS07	Spring return				Spring return
MS08	Blocked	Blocked			Spring return
MS09	Spring return			Blocked	Blocked
MS10	Blocked	Blocked		Spring return	Spring return
MS11	Spring return	Spring return		Blocked	Blocked
MS12	Notched				Spring return
MS13	Spring return				Notched
MS14	Notched	Spring return		Spring return	Notched
MS15	Blocked	Blocked		Spring return	Notched
MS16	Notched	Spring return		Blocked	Blocked
MS17	Blocked	Notched		Notched	Notched
MS18	Notched	Spring return		Spring return	Blocked
MS19	Blocked	Spring return		Spring return	Notched
MS20	Spring return	Spring return		Spring return	Spring return
MS21	Blocked	Notched	without	Notched	Blocked
MS22	Notched			Spring return	Notched
MS23	Notched		without		Notched
MS24	Blocked	Spring return	Center position		Blocked
MS25	Notched	Notched			Spring return
MS26	Spring return	Spring return			Notched
MS27	Notched	Spring return			Spring return
MS28	Spring return	Notched			Notched
MS29	Spring return				Notched
MS30	Notched	Spring return			Spring return
MS31	Blocked	Spring return			Notched
MS32	Notched				Notched
MS33	Blocked	Notched			Blocked
MS34	Notched	Spring return*			Spring return
MS35	Notched	Notched			Spring return
MS36	Notched	Notched			Blocked
MS37	Blocked	Notched			Spring return
MS38	Blocked	Notched			Spring return
MS39	Notched	Spring return			Notched
MS40	Notched	Notched			Spring return
MS41	Blocked	Spring return			Spring return
MS42	Spring return	Spring return			Spring return
MS43	Spring return	Notched			Notched
MS44	Spring return				Notched

*harder transition

Switching function:



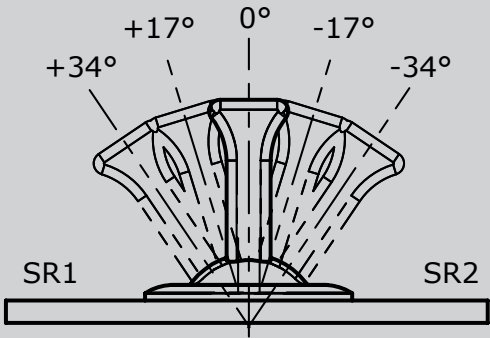
S51 - 1 - 2 - 4G - MS20 - A 23 - A 24 - A 25 - A 26 - X

Contacts programming

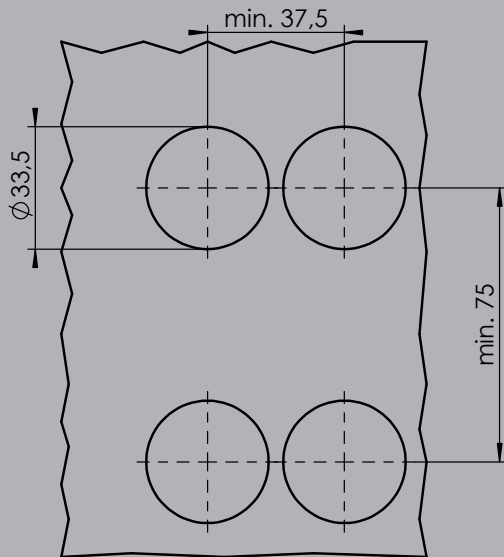
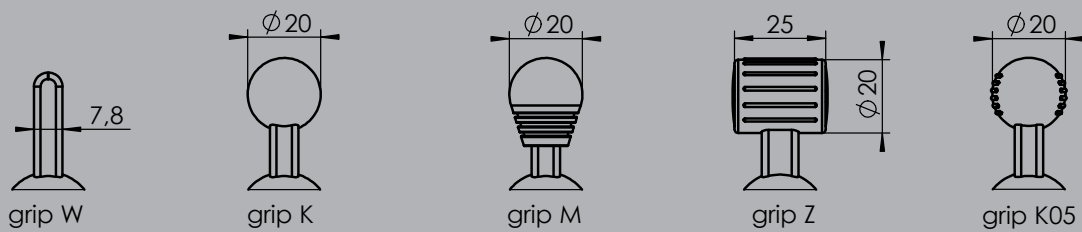
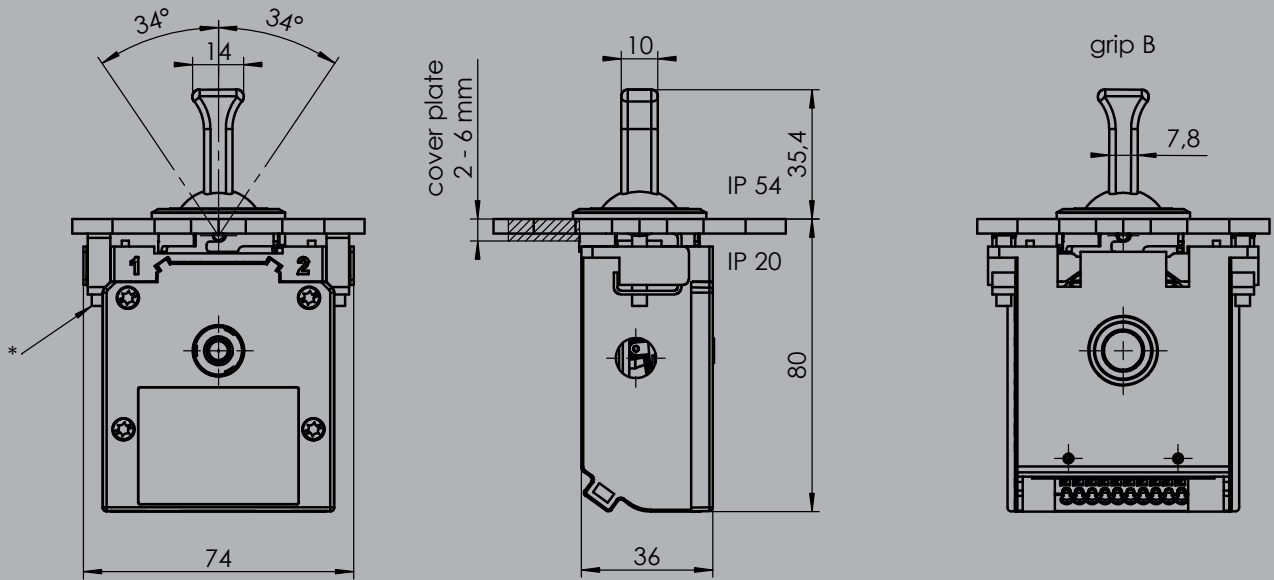
A..

Programmnummer	Control-handle position				
	Switching direction 1 (SR1)		Centre	Switching direction 2 (SR2)	
	2 -34°	1 -17°		1 17°	2 34°
A01	locked			X	X
A02			X		
A03					X
A04				X	
A05			X		X
A06			X	X	
A07	X	X		locked	
A08			X		
A09	X				
A10		X			
A11	X		X		
A12		X	X		
A13	X	X		X	X
A14			X		
A15			X	X	X
A16	X	X	X		
A17				X	X
A18	X	X			
A19	X				X
A20		X		X	
A21	X		X		X
A22		X	X	X	

Programmnummer	Control-handle position				
	Switching direction 1 (SR1)		Centre	Switching direction 2 (SR2)	
	2 -34°	1 -17°		1 17°	2 34°
A23					X
A24	X				
A25				X	
A26		X			
A27			X		X
A28	X		X		
A29			X	X	
A30		X	X		
A31		X			X
A32	X			X	
A33		X		X	X
A34	X	X		X	
A35		X	X		X
A36	X		X	X	
A37		X	X	X	X
A38	X	X	X	X	
A39	X			X	X
A40	X	X			X
A41	X		X	X	X
A42	X	X	X		X
A43	X	X		X	X

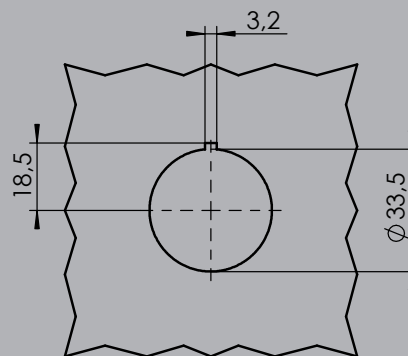


X	=	Contact closed
X—X	=	Contact continuously closed
X X	=	Contact not continuously closed



hole pattern
without anti twist

- * clamping screw M4
- * tightend allover with a torque of **0,3 Nm**



hole pattern
with anti-twist