

## DATA LSG, LSH, LPH, LPS, LPV, SMS, PMS, MTG SWITCHES – MOMENTARY ACTION



## BENEFITS

- Simple assembly, long life time, short lead time
- Reliable tactile feedback
- Various designs with 1/4 and 1/2 inch are possible with different heights
- Variable colour design and lettering
- Available for through hole and SMD assembly
- Tested to degree of protection IP 40 and IP 67

	LSG//LSH/LPH LPS//LPV	SMS	PMS	MTG	
<b>Electrical data</b>					
Contact material				gold	silver
Switching voltage max. [V]	12 DC	30 AC / 42 DC	30 AC / 42 DC	max. 24 DC	max. 48 DC
Switching current max. [mA]	50	50	50	max. 50	max. 125
Rated breaking capacity [W]		0.12	0.12	0.48	2.40
Lifetime (at rated breaking capacity)	> 10 <sup>5</sup>	> 10 <sup>6</sup>	> 10 <sup>6</sup>	> 10 <sup>6</sup>	> 10 <sup>6</sup>
Initial contact resistance, new [mΩ]	max. 100	< 50	< 50	< 50	< 50
Initial contact resistance, after lifetime [mΩ]	max. 100	< 150	< 150	< 50	< 50
Insulation resistance [mΩ]		> 10 <sup>8</sup>	> 10 <sup>8</sup>	> 10 <sup>8</sup>	> 10 <sup>8</sup>
Contact bounce time [ms]	typ. 0.1	typ. 0.15	typ. 0.15	typ. 0.1	typ. 0.1
<b>Mechanical data</b>					
Actuating force IP 40 [N]	1.6 ± 0.5	1.6 ± 0.4	1.6 ± 0.4	2.5 ± 0.5	2.5 ± 0.5
IP 67 [N]		1.8 ± 0.4	1.8 ± 0.4		
Contact travel [mm]	0.25 + 0.2/-0.1	0.35 ± 0.1	0.35 ± 0.1	0.45 ± 0.1	0.45 ± 0.1
End stop strength [N]	50N/3s	> 100	> 100	> 50	> 50
Lifetime [operations]	> 10 <sup>5</sup>	> 10 <sup>6</sup>	> 10 <sup>6</sup>	> 10 <sup>6</sup>	> 10 <sup>6</sup>
<b>Other data</b>					
Degree of protection	IP 40	IP 40/IP 67	IP 40/IP 67	IP 40	IP 40
Soldering method	IR-Reflow	IR-Reflow	Wave	Wave	Wave
Soldering heat resistance (LSH/LSG) IR Reflow [°C/s]	240/20				
(LPV/LPS/LPH) [°C/s]	260/3				
Jedec J-STD-020C		245/5			
			248,5/1	248,5/1	248,5/1
Ambient temperature [°C]	-20 – +70	-40 – +85	-40 – +85	-25 – +85	-25 – +85
Storage temperature [°C]	-30 – +85	-40 – +85	-40 – +85	-25 – +85	-25 – +85
Cleaning agent proof		Zestron	Zestron		
Flux - proof		IP67	IP67		
<b>Materials</b>					
Sealing membrane IP 67		VMQ		VMQ	
Contact material gold		CuZn37 Ni + Au		CuZn -3µm Ni +2µm Au	
Contact material silver	*			CuZn -2.5µm Ag passivated	
Terminals	*	CuZn37 - Sn			
Socket	*	Thermoplast PA 4.6		Thermoplast PES	
Actuator	*	Thermoplast PPS		Thermoplast PC	
Cover plate	*	X 12CrNi177			

\* on request

OVERVIEW MTG SWITCHES – MOMENTARY ACTION



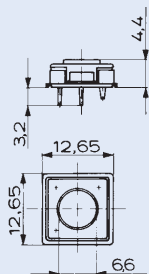
MTG

MTG

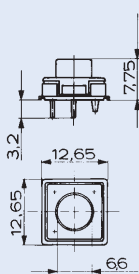
FEATURES

Contact material	Ag	Au
<b>PART NUMBER *</b>		
<b>Models</b>		
Short actuator	1241.1052	1241.1002
Long actuator	1241.1072	1241.1022
Height variable	1241.1082.xx	1241.1032.xx
<b>Overall height h (with key cap) / Colour</b>		
8.50 mm / yellow	1	1
9.25 mm / orange	2	2
10.00 mm / red	3	3
10.75 mm / blue	4	4
11.50 mm / green	5	5
12.25 mm / grey	6	6
13.00 mm / black	7	7
13.75 mm / white	8	8
<b>Additional key cap<sup>1</sup></b>		
<b>Overall height h / Colour</b>		
14.50 mm / yellow + black	11	11
15.25 mm / orange + black	21	21
16.00 mm / red + black	31	31
16.75 mm / blue + black	41	41
17.50 mm / green + black	51	51
18.25 mm / grey + black	61	61
19.00 mm / black + black	71	71
19.75 mm / white + black	81	81

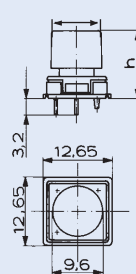
Dimensions short actuator:



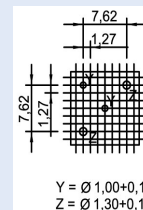
Dimensions long actuator:



Dimensions overall height:

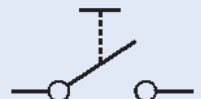


Drilling diagram:



Drilling for location pins  $\varnothing = \varnothing 1.0^{+0.1}_0$   
Drilling diagram  $\varnothing = \varnothing 1.3^{+0.1}_0$   
1/20° = 1.27 mm

Circuit diagram:



\* X in the Part No. must be replaced by the desired version  
<sup>1</sup> Starting with 14.50 mm the heights are achieved with an additional (second) key cap of black colour