

# MICROSWITCHES SELECTION GUIDE

SNAP-ACTION SWITCHES		SUB-SUBMINIATURE				SUBMINIATURE					MINIATURE <sup>#</sup>								SPECIAL							
		15x8x5	Ø 8x8	13x10x5	13x10x5 <sup>NEW</sup>	20x10x6	20x10x6	20x10x6	20x10x6	Ø 11x15	28x16x10	28x16x10	28x16x10	28x16x10	29x16x10	31x23x10	33x16x10	24x31x9	30x18x12	50x30x12	32x19x13	40x19x13	49x10x20	43x18x17		
SERIES		V5S 8320	83228 83229	83141	V5D 83194	V4 83170	V4D 8327	V4S 8318	83132 83133 83134	83151 83560	V3 83161	V3D 8326	83160	831607 832607	831606 SP3697	V3S 83169	V3DS 8329	83139	83137	PBX 8324	83106 83109 83111/112	83154	83123	83118 83119 83120		
TYPE		Sealed	Cylindric adjustable	High accuracy	Standard	Premium	Standard	Sealed	Double break	Hermetic Inox housing	Premium	Standard	Heavy duty	Positive break	High DC rating	Sealed	Sealed Compact	Sealed Double break	Ultra sensitive Rotary	Sealed Separated circuits	Double break	High DC rating	Sealed Rubber housing	High accuracy Sensitive		
ELECTRICAL	Max. ratings	@ 250 V ~ @ 24V ~ @ 250 V ~	4 A 4 A 0.2 A	5 A 5 A 0.2 A	5 A 5 A 0.15 A	5 A 5 A 0.15 A	12 A 10 A 0.3 A	12 A 10 A 0.2 A	10 A 10 A 0.3 A	6 A 6 A 0.5 A	5 A 7 A 0.3 A	20 A 16 A 0.8 A	25 A 16 A 0.2 A	16 A 16 A 0.8 A	6 A 6 A 0.5 A	16 A 16 A 5 A	8 A 8 A 0.3 A	10 A 10 A 0.5 A	6 A 6 A 0.5 A	6 A 6 A 0.4 A	10 A 10 A 0.8 A	16 A 16 A 0.6 A	16 A 16 A 5 A	10 A 10 A 0.3 A	10 A 10 A 0.3 A	
	Dual-current version		1 mA → 4 A**	1 mA → 5 A	1 mA → 1 A	1 mA → 5 A		1 mA → 6 A	1 mA → 5 A	1 mA → 1 A	1 mA → 5 A		**	10 mA → 6 A		1 mA → 5 A	1 mA → 5 A	1 mA → 5 A		1 mA → 10 A	10 mA → 5 A					
	Low current version		1 → 50 mA				1 → 20 mA						1 → 20 mA							1 → 100 mA						
	Circuit diagram																									
	Contact configuration (for 1 pole changeover/SPDT)		Form C	Form C	Form C	Form C	Form C	Form C	Form C	Form Za	Form C	Form C	Form C	Form C	Form C	Form C	Form C	Form C	Form C	Form C	Form C	Form Za	Form Za	Form C	Form C	
	SPST-NC / SPST-NO versions		✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Multipole version									2; 3 poles (8331**)	2 poles									2 poles	**	2 → 6 poles (8332)	2 → 6 poles (8332)			
	Bistable version (maintained action)									Push/Pull											**	Push/Pull	Push/Pull			
	Positive opening operation																									
	Electrical disconnection		μ	μ	μ	μ	μ	μ	μ	μ	μ	μ or Full	μ	μ or Full	μ	Full	μ	μ	μ	μ	μ	μ	μ	μ	μ	
Insulation voltage	Ui	250 V	250 V	250 V	250 V	250 V	250 V	250 V	250 V	250 V	400 V	250 V	400 V	250 V	250 V	250 V	250 V	250 V	250 V	250 V	400 V	250 V	250 V	250 V		
Protection against electric shock (without additional protection)		Class I	Class I	Class I	Class I	Class I	Class I	Class I	Class I	Class I	Class I	Class I	Class I	Class I	Class I	Class I	Class I	Class I	Class I	Class I	Class I	Class I	Class I	Class I		
ENVIRONMENT	Degree of protection	IP67 IP69	IP40	IP40	IP40	IP40	IP40	IP67 IP69	IP40	Hermetic Qk test 10-3 Pa.cm <sup>3</sup> /s	IP40	IP40	IP40	IP40	IP40	IP67 IP69	IP67	IP66 IP67	IP40	IP40	IP40	IP40	IP66 IP67 IP69	IP40		
	Operating temperature	-40 °C +90 °C	-55 °C +140 °C	-55 °C +150 °C	-40 °C +110 °C	-40 °C +150 °C	-25 °C +150 °C	-40 °C +125 °C	-40 °C +150 °C	-40 °C +150 °C	-55 °C +250 °C	-60 °C +150 °C	-50 °C +200 °C	-40 °C +150 °C	-40 °C +125 °C	-40 °C +125 °C	-40 °C +105 °C	-40 °C +85 °C	-40 °C +105 °C	-20 °C +125 °C	-50 °C +85 °C	-40 °C +125 °C	-40 °C +125 °C	-40 °C +85 °C	-40 °C +125 °C	
	Explosive atmospheres																									
	Irradiated environment																									
MECHANICAL	Max. Operating Force	1.5 N	1.7 N	2 N	1.4 N	0.6 → 2.2 N	1.5 N	2.5 N	1.6 N ; 2.6 N	5 → 47 N	0.15 → 5 N	0.25 → 4 N	1 → 5 N	4 N	5 N	4.5 N	0.5 → 4.5N	3 N	0.0012 Nm	4.5 N; 6.5 N	0.45 → 7.5 N	4 N	7.5 N	0.35 → 3 N		
	Min. Overtravel	2 mm	0.15; 1.5 mm	0.1 mm	0.25 mm	0.5 mm	0.5 mm	0.6 mm	0.27 mm	0.08 mm	1.2 mm	1.1 mm	1.3 mm	1.3 mm	1 mm	1 mm	1 mm	0.25 mm	12°	3 mm	0.7 mm	0.7 mm	0.25 mm	0.2 → 1.7 mm		
	Max. Differential Travel	0.06 → 0.20 mm	0.12 mm ; 0.19 mm	0.06 mm	0.13 mm	0.08 mm 0.15 mm	0.15 mm	0.10 mm ; 0.15 mm	0.45 mm	0.05 mm	0.35 mm ; 0.8 mm	0.4 mm	0.3 mm ; 0.7 mm	0.3 mm	0.3 mm	0.7 mm	0.07 mm ; 0.35 mm	0.5 mm	0.45 mm	14°	1.3 mm	0.7 mm	0.9 mm	0.2 mm	0.09 mm ; 0.7 mm	
	Mechanical life (cycles)	1 M	2 M	2 M	10 M	30 M	0.1 M	2 M	10 M	0.2 M	50 M	1 M	10 M	10 M	1 M	5 M	1 M	10 M	10 M	10 M	10 M	10 M	10 M	2 M	5 M	
	Min. actuating speed	0.001 mm/s	0.01 mm/s	0.01 mm/s	0.1 mm/s	0.001 mm/s	0.1 mm/s	0.01 mm/s	0.01 mm/s	0.01 mm/s	0.001 mm/s	0.1 → 3mm/s	0.1 mm/s	0.1 mm/s	0.1 mm/s	0.1 mm/s	0.001 mm/s	0.1 → 3mm/s	0.01 mm/s	1°/s	0.5 mm/s	0.01 mm/s	0.01 mm/s	0.03 mm/s	0.01 mm/s	
	Operating device	Plunger	Plunger	Plunger	Plunger	Plunger	Plunger	Plunger	Plunger	Plunger	Plunger	Plunger	Plunger	Plunger	Plunger	Plunger	Plunger	Plunger	Plunger	Inox wire	Plunger	Plunger	Plunger	Plunger	Plunger	
	Lateral actuation on plunger	✓	Ball (opt)			✓	✓	✓	Ball (opt)	✓	✓	✓	✓	✓	✓	✓	**	**			Ball (opt)	Ball (opt)	Ball (opt)			
	Auxiliary levers (flat, bended, roller...)	Hinged Flexible Adjustable	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Telescopic plunger (option)		✓			✓	✓		See 8354	See 8377	✓	**	✓	✓	✓	✓	(SP4978/4988)		(SP4257)		See 83513/522	See 83513/522	See 8373	✓		
	Fixing means	Plain holes Tapped holes Pins Threaded barrel Others	Ø 3 (opt)		Ø 2.1	Ø 2.25	Ø 2.2	Ø 2.2 ; 2.35	Ø 2.2	Ø 2.1	Ø 3.2	Ø 3.1	Ø 3.1	Ø 3.2	Ø 3.2	Ø 3.2	Ø 3.1	Ø 3.1	Ø 2.2 ; Ø 3.1	Ø 3.2	Ø 4.1 M3	Ø 2.6 M3	Ø 2.6	Ø 3.2	Ø 4.2	
Connections	Solder Quick-connect Printed board Screw Wires Cable	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Approvals	NF/ENEC UL CCC EAC	**	**	**	**				**							**										



\* Pending \*\* Consult us #Available 2018 Q1  
 The features presented in this selection guide represent the extent of performance of each Microswitch Series. Not all combinations of characteristics are feasible at an individual product. Please refer to relevant product sheet or consult our customer service. For more information see also the «Basic technical concepts».  
 Note: data contained in product sheets dated 2016 and before may differ from the features shown in this selection guide. Update is in progress. Please contact us for confirmation.

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