

# MANUALLY OPERATED SWITCHES SELECTION GUIDE

10/2017

		PUSHBUTTONS								TOGGLES			MULTIWAY BUTTONS	ROCKERS	TRIGGERS	THUMBWHEEL / SELECTOR SWITCHES	
		Sub-sub	Subminiature			Miniature				Subminiature		Miniature					
<b>SNAP-ACTION SWITCHES*</b>																	
Approx. body size (mm)		Ø 8x15	Ø12x20-Ø 14x28	18x14x13	min. 22x19x10	28x19x12	34x30x14	min. 40x23x15	min. 40x30x15	min. 14x14x8	min. 19x18x10	min. 46x38x28	Ø 16x18 - Ø 24x18	Depending on type	min 60x32x16	Depending on type	
<b>SERIES</b>		832295	83450/451 83453	834601	83540/541 83542/543 83547	83161L 83160L	83556	83507/553 83502	83533 83535	265264 265266	83544 83546	83515 83516 83517	83452	83454 834505/4507	83574	84210/211 84212/214	
<b>MOMENTARY ACTION</b>		✓	✓	✓	✓	✓	✓	✓	✓	3 positions - center off		3 positions - auto return to center (83515)	2 → 5 directions - auto return to center	Single or double rocker	1 or 2 steps Optional flap guard		
<b>MAINTAINED ACTION</b>								2 buttons-tandem action (83502**)	2 buttons-tandem action (83532/533**)	2 positions or 3 positions - center off	2 positions	3 positions (83516)		Various momentary and /or maintained configurations		10 or 16 positions	
<b>MOMENTARY + MAINTAINED ACTION</b>					Push Mom/ Push On/ Push Off (83540/541)			Push Mom/ Push On/ Push Off (83553**)		✓		✓ (83517)		3.4 or 5 positions			
<b>ELECTRICAL</b>	<b>Nb of poles</b>	1 pole	1 ; 2 poles	3 ; 4 poles	1 → 4 poles	1 pole	1 ; 2 poles (staggered contacts)	1 → 3 poles	1 → 3 poles	1 ; 2 poles	1 → 3 poles	2 x (1 ; 2 poles)	1 ; 2 poles	2 x (1 ; 2 poles)	1 ; 2 poles	According to nb of modules	
	<b>Circuit diagram Contact configuration (for 1 pole changeover/SPDT)</b>															According to codes : Decimal, BCD, BCD complement Hexadecimal, Changeover ±	
	<b>NC/NO versions</b>		✓		✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	
	<b>Electrical disconnection</b>	μ	μ	μ	μ	μ / Full	μ / Full	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ
	<b>Max. ratings</b>	@ 250 V ~ @ 24 V ~ @ 250 V ~	5 A 5 A 0.2 A	7,5 A	5 A	6 A 6 A 0,5 A	20 A 16 A 5 A	16 A 16 A 5 A	16 A 16 A 5 A	16 A 16 A 5 A	4 A	6 A 6 A 0.5 A	16 A 16 A 5 A	2 A	5 A	6 A	0.1 A (48 V ~) 0.1 A 0.1 A (48 V ~)
	<b>Dual-current version</b>	1 mA → 5 A	1 mA → 5 A	1 mA → 1 A	1 mA → 5 A	1 mA → 5 A	1 mA → 5 A	10 mA → 5 A	10 mA → 5 A	1 mA → 4 A	1 mA → 5 A	10 mA → 5 A	1 mA → 2 A	1 mA → 5 A	1 mA → 5 A	1 mA → 5 A	0.1 mA → 0.1 A
	<b>Insulation voltage</b>	Ui	250 V	30 V	30 V	250 V	400 V	250 V	250 V	30 V	48 V ; 250 V	250 V	30 V	30 V	30 V	30 V	48 V
<b>Protection against electric shock (for 250 V equipment)</b>		Class I			Class I	Class II	Class I	Class I	Class I		Class I	Class I					
<b>ENVIR.</b>	<b>Degree of protection (front side)</b>	IP40	IP40 IP52	IP40	IP40 IP50 with cap	IP40 IP50 with cap	IP40	IP40 IP50 with cap	IP40	IP40 IP52	IP40	IP40	IP40 IP52	IP40	IP40 IP52	IP40	
	<b>Operating temperature</b>	-55 °C +100 °C	-55 °C +85 °C	-40 °C +70 °C	-40 °C +125 °C	-60 °C +125 °C	-40 °C +125 °C	-40 °C +125 °C	-40 °C +85 °C	-40 °C +85 °C	-40 °C +125 °C	-40 °C +85 °C	-55 °C +85 °C	-55 °C +85 °C	-55 °C +85 °C	-25 °C +70 °C	
<b>MECHANICAL</b>	<b>Max Operating Force</b>	1.7 N	8 N ; 16 N	7 N ; 9 N	1.6 N ; 4.8 N	1 N ; 5 N	1 N ; 10 N	4 N → 25 N	4 N → 20 N	4 N ; 8 N	3 N → 7 N	8 N ; 10 N	3 N ; 6 N	4 N ; 25 N	12 N ; 40 N	5 N ; 7 N	
	<b>Total Travel</b>	1.8 mm	2 mm	1.3 mm	3,5 → 5 mm	6 mm	6 mm	2.2 mm ; 4 mm	2.2 mm ; 4 mm	10° ; 26°	30°	24° / direction	12° / direction	15° ; 23° / direction	9° ; 22°	2 mm ; 5 mm	
	<b>Mechanical life (cycles)</b>	2 M	0.3 M	0.6 M	1 M	10 M	0.1 M	1 M	1 M	0.15 M	0.1 M	0.1 M	0.5 M	0.4 M	0.1 M	1 M	
	<b>Operating device</b>	Material	Metal	Plastic	Plastic	Plastic	Plastic	Plastic	Plastic	Metal ; Plastic	Metal	Plastic	Plastic	Plastic	Plastic	Plastic	
		Color	Black	Black ; Red Grey ; White Blue	Black ; Red	Black ; Red	Black	Black	Black ; Red	Black ; Red	Black ; Grey Chrome	Nickel	Black	Black ; Grey ; Blue Extended range of shapes	Black	Black ; Red ; Grey	Wheel: Black ; Red Housing: Black ; Grey
	<b>Mounting bracket</b>		Metal	Plastic	Metal	Metal	Plastic	Metal	Metal	Metal	Metal	Metal	Metal	Plastic	Plastic	Plastic	Plastic
	<b>Fixing means</b>	Threaded barrel Tapped holes Others	M8 x 0.75		M12 x 1	M6/M12 x 0.75	M12 x 0.75	M10 x 0.75	M12 x 0.75	M12 x 0.75	Ø 6.3 ; Ø 12	M6/M12 x 0.75		2 x M3			
<b>Panel cut-out (mm)</b>	(mm)	Ø 8.2	Ø 12 ; Ø 14	Ø 12.5	Ø 6.2;Ø 12.2	Ø 12.5	Ø 10.5	Ø 12.5	Ø 12.5	Ø 6.5 ; Ø 12.5	Ø 6.2 ; Ø 12.2	14 x 10.5	Ø 16 ; Ø 24	Depending on type	17 x 43	Depending on type	
<b>Connections</b>	Fast-on Solder Printed board Screw	✓	✓	✓	✓ ✓ **	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓	✓	✓ ✓	✓ with connector (acc.)	
<b>Approvals</b>	NF/ENEC UL CCC EAC																



\*Models starting by 83... \*\* Consult us  
The features presented in this selection guide represent the extent of performance of each Manually operated switch 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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