

2 POLE SWITCH

MOMENTARY AND LATCHING FUNCTION

ADJUSTABLE TO MULTIMEC®CAP RANGE



unimec™ product range has low and high temperature switches and square-shaped cap solutions.

unimec™ switches have 8 contact function options making it very flexible and suitable for any application.

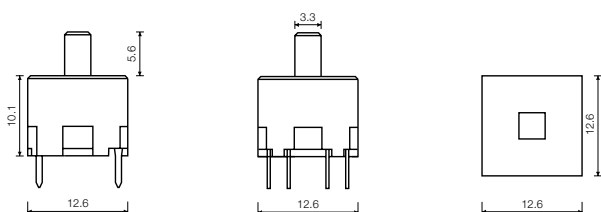
Redundancy coming from the number of poles makes it an excellent choice where safety is a concern.



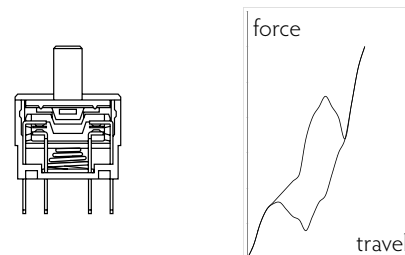
- Max. 250mA/120V/9W AC/6W DC
- 2 pole
- Momentary or latching
- 8 contact functions
- Temperature range:
Low temp: -40/+75°C
High temp: -40/+160°C
- Through-hole version (TH)

All dimensions in mm

DIMENSIONS THROUGH-HOLE

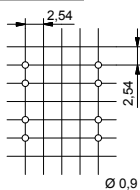


OPERATING FORCE (TYPICAL EXAMPLE)

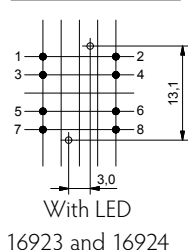


PCB MOUNTING HOLE DIMENSIONS

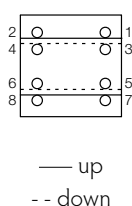
Basic switch



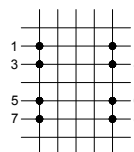
w/Extender 16250



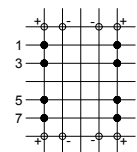
FUNCTIONAL DIAGRAM



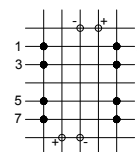
CIRCUIT DIAGRAM



Without LED



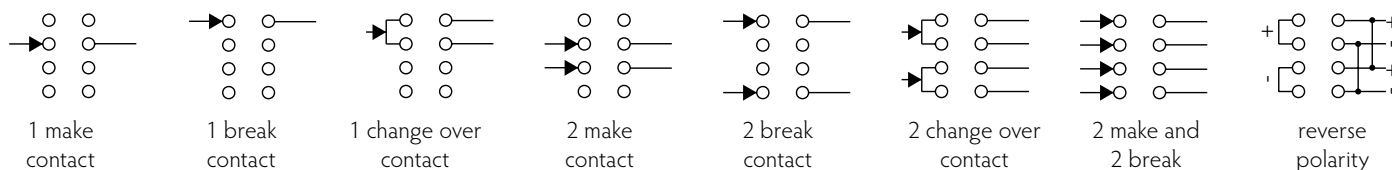
With round LED
16920 and 16921



With rect. LED
16922

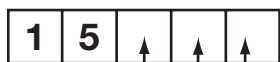
WIRING DIAGRAM

Select the contact function you require - and design your PC board accordingly



HOW TO ORDER

Part no:

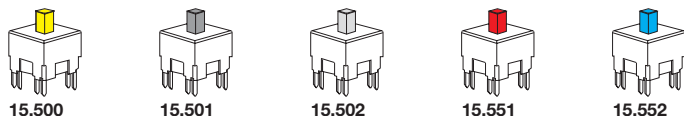


Temperature:
5: low temp.
4: high temp.

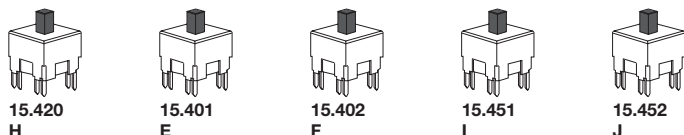
Switch function:
0: momentary
5: alternate

Terminal
1: silver
2: gold
0: quiet version.

Low temp.



High temp.



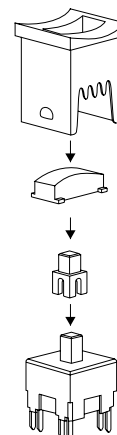
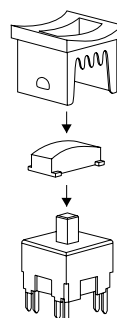
HOW TO ASSEMBLE

unimec™

15XXX+16300 +16310

unimec™

15XXX+16270
+16300 +16324



RoHS Compatible

		RB		RA	
		Low Temperature Versions		High Temperature Versions	
		Silver	Gold	Silver	Gold
Electrical Specifications					
Contact resistance		Max. 100 m Ω (initially)		Max. 100 m Ω (initially)	
Insulation resistance		>10 M Ω		>10 M Ω	
Recommended load		Min. 0.5 mA	Min. 0.5μ A	Min. 0.5 mA	Min. 0.5μ A
		Max. 250 mA – 120 V – 9W AC – 6W DC		Max. 250 mA – 120 V – 9W AC – 6W DC	
Max. Current in non switching state		0.5 A		0.5 A	
Contact bounce		Max. 10 ms		Max. 10 ms	
Dielectric strength between adjacent contacts		1000 V for 2 min.		1000 V for 2 min.	
Insulation resistance between adjacent contacts		5 X 10 ¹³ Ω		5 X 10 ¹³ Ω	
Capacitance between adjacent contacts		0.5 pF		0.5 pF	
Mechanical Specifications					
Standard actuation force (switch)		Typ 2.5N		Typ 2.5N	
Max. Actuation force without cap		100N for 10 sec.		100N for 10 sec.	
Key travel (switch)		1.8 mm		1.8 mm	
Lifetime	Momentary	1.500.000 cycles		>10.000.000 cycles	
	Latching	500.000 cycles		5.000.000 cycles	
Temperature range					
Working temperature		Min. -40°C Max. +75°C		Min. -40°C Max. +160°C	
Storage temperature		Min. -65°C Max. +85°C		Min. -65°C Max. +160°C	
Soldering IEC 68-2-20		Wave – max 260°C for max. 10 sec., please refer to usage guidelines			
		Soldering iron – max. 350°C for max. 3 sec. Flux tight.			
Environmental Endurance IEC 68-2-3					
Temperature		+40°C		+40°C	
Humidity		93% RH		93% RH	
Duration		56 days		56 days	
Sealing IEC 529		IP-54		IP-54	
Cleaning		Standard methods such as water and soap (not immersed)			
Material Specifications – Switches					
Housing and actuator		Glass fiber filled Polycarbonate UL94V1		LCP UL94V0	
Switch spring		Stainless steel		Stainless steel	
Key spring		Stainless steel		Stainless steel	
Latch pin		Stainless steel		Stainless steel	
Fixed contact		SnCu+2μNi+3μAg	SnCu+2μNi+3μAu	SnCu+2μNi+3μAg	SnCu+2μNi+3μAu
Moving contact		Stainless steel +3μAg	Stainless steel +3μAg+1μAu	Stainless steel +3μAg	Stainless steel +3μAg+1μAu
Terminals		SnCu+2μNi+3μSn100		SnCu+2μNi+3μSn100	
Contact lubricant		Special protective lubricant Klüber Barrierta I EL Fluid		Special protective lubricant Klüber Barrierta I EL Fluid	
Material Specifications – All Caps & Bezels					
Temperature limit		ABS (standard) UL94HB		ABS (standard) UL94HB	
		Max. +65°C		Max. +65°C	
Tampon Printing		According to ISO Class: 1/ASTM Class:4B		According to ISO Class: 1/ASTM Class:4B	

unimecTM LEDs

Part Nos.		16920/16921			16922			16923					16924		
Colour (G=green, Y=yellow, R=red)		G	Y	R	G	Y	R	B	G	Y	W	R	G	Y	R
Colour Codes		02	04	08	02	04	08	00	20	40	65	80	23	45	88
Absolute Maximum Ratings (Ta=25 ^o C)															
Power	mW	100	100	100	135	135	135	105	70	60	120	60	150	130	300
Current forward	mA	30	30	30	30	30	30	30	20	20	25	20	40	40	90
Forward peak current	mA	50	50	50	90	90	90	200	60**	60**	100	60**	500	500	1000
Voltage reverse	V	5	5	5	5	5	5	5	3	3	5	3	12	12	5
Operating temperature	°C	-25 - +100			-55 - +100			-25 - +85					-55 - +100		
Storage temperature	°C	-25 - +100			-55 - +100			-30 - +100					-55 - +100		
Soldering temperature	°C	+245 for max. 3 sec			+300 for max. 3 sec			+260 for max. 5 sec					+300 for max. 3 sec		
Electrical-Optical Characteristics (Ta=25 ^o C)															
Voltage forward	Typ. V	2.0	2.0	2.0	2.1	2.2	2.3	2.1	2.1	2.1	3.8	2.0	2.1*	2.3***	2.4***
	Max. V	3.0	3.0	3.0	3.0	3.0	3.0	2.8	3.0	3.0	4.3	3.0	2.5*	2.5***	3.8***
Current reverse	μA	100	100	100	100	100	100	2	10	10	50	10	10	10	10
Wave length	nm	560	590	660	565	585	635	460	563	585	NA	650	570	587	635
Spread	Ønm	10	10	10	10	10	10	40	40	40	NA	40	25	45	45
Spread angle	Degree	20	20	20	45	45	45	20	45	45	25	45	80	90	55
Luminous Intensity	Min. mcd	1	1	0.8	1.5	2.5	2.5	20	9.0	5.6	630	5.6	71****	71****	100****
	Typ. mcd	2	3	1.6	2.5	3.0	5.0	25	25	16	1000	16	112****	112****	160****
Orientation	The longer pin is the anode, the shorter is the cathode.														

*F=20mA, **Pulse width 1ms Duty cycle 1:5, ***F=50mA, ****Luminous Flux mlm