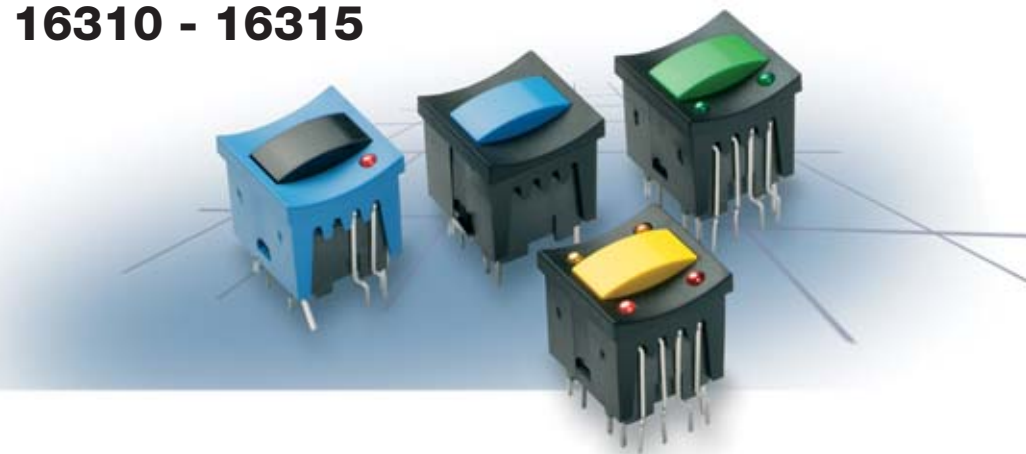


Technical Data

- Max. 250mA/120V/9W AC/6W DC
- 2 pole
- momentary or alternate
- 8 contact functions
- temperature range:
low temp: -40/+75°C
high temp: -40/+160°C
- through-hole version



Dimensions (through-hole)	Dimensions (w/LED)	Dimensions (w/LED)	Dimensions (w/4 LEDs)

How to order

 1 5 Switch 15501 mom. silver 15551 alt. silver 15502 mom. gold 15552 alt. gold 15500 silent silver 15401 mom. silver high temp. 15402 mom. gold high temp. 15420 silent gold high temp. 15451 alt. silver high temp.	+	1 6 3 0 0 Cap 00 blue 01 brown 02 green 03 grey 04 yellow 05 golden 06 white 07 orange 08 red 09 black	+	1 6 3 1 0 Bezel 00 blue 01 brown 02 green 03 grey 04 yellow 05 golden 06 white 07 orange 08 red 09 black	For 16300 and 16310 only 30 ultra blue 40 dusty blue 42 aqua blue 32 mint green 33 tele grey 34 melon 38 noble red 50 metal dark blue 53 metal light grey 57 metal dark grey 58 metal bordeaux
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	<table border="1"><tr><td>1</td><td>5</td><td></td><td></td></tr></table>	1	5			+	<table border="1"><tr><td>1</td><td>6</td><td>3</td><td>0</td><td>0</td><td></td><td></td></tr></table>	1	6	3	0	0			+	<table border="1"><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>								+	<table border="1"><tr><td>1</td><td>6</td><td>9</td><td>2</td><td>1</td><td></td><td></td></tr></table>	1	6	9	2	1		
1	5																															
1	6	3	0	0																												
1	6	9	2	1																												
Switch			Cap 		Bezel 16311 			LED 16921  02 green 04 yellow 08 red																								
					<table border="1"><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>								+	<table border="1"><tr><td>1</td><td>6</td><td>9</td><td>2</td><td>0</td><td></td><td></td></tr></table>	1	6	9	2	0													
1	6	9	2	0																												
					Bezel 16312 			LED 16920  02 green 04 yellow 08 red																								
					Bezel 16314 			LED 16920 1 required LED 16921 1 required																								
					Bezel 16315 			LED 16920 2 required LED 16921 2 required																								

Ordering example: 15501 + 1630003 + 1631408 + 1692008 + 1692108

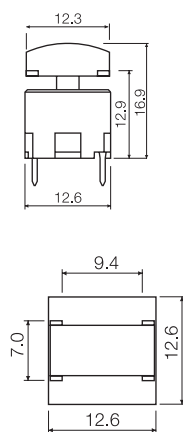
For updates of products and/or changes of specifications please see www.mec.dk

Technical Data

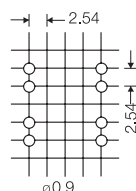
- Max. 250mA/120V/9W AC/6W DC
- 2 pole
- momentary or alternate
- 8 contact functions
- temperature range:
low temp: -40/+75°C
high temp: -40/+160°C
- through-hole version



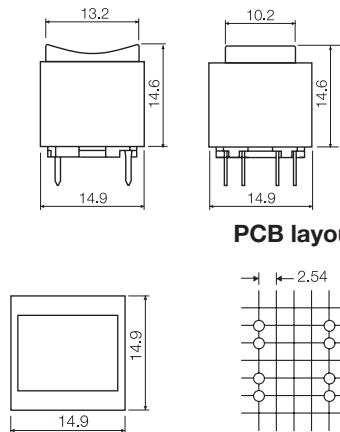
Dimensions 16300



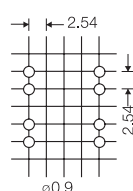
PCB layout



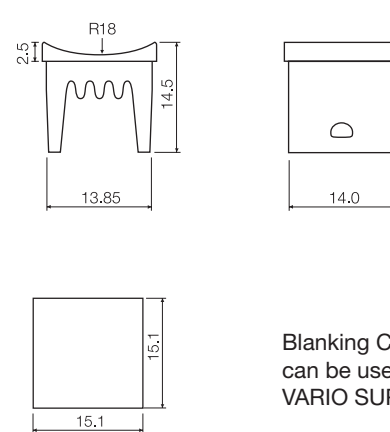
Dimensions 16700



PCB layout



Dimensions 16800



Blanking Cap
can be used with
VARIO SUPPORT

How to order



1 5

+

1 6 3 0 0

Cap



Switch

15501 mom. silver
15551 alt. silver
15502 mom. gold
15552 alt. gold
15500 silent silver
15401 mom. silver high temp.
15402 mom. gold high temp.
15420 silent gold high temp.
15451 alt. silver high temp.

00 blue
01 brown
02 green
03 grey
04 yellow
05 golden
06 white
07 orange
08 red
09 black

30 ultra blue
40 dusty blue
42 aqua blue
32 mint green
33 tele grey
34 melon
38 noble red

50 metal dark blue
53 metal light grey
57 metal dark grey
58 metal bordeaux



1 5

+

1 6 7 0 0

Cap



Switch

00 blue
02 green
03 grey
04 yellow

06 white
08 red
09 black

1 6 8 0 0

Blanking Cap



00 blue
01 brown
02 green
03 grey
04 yellow
05 golden

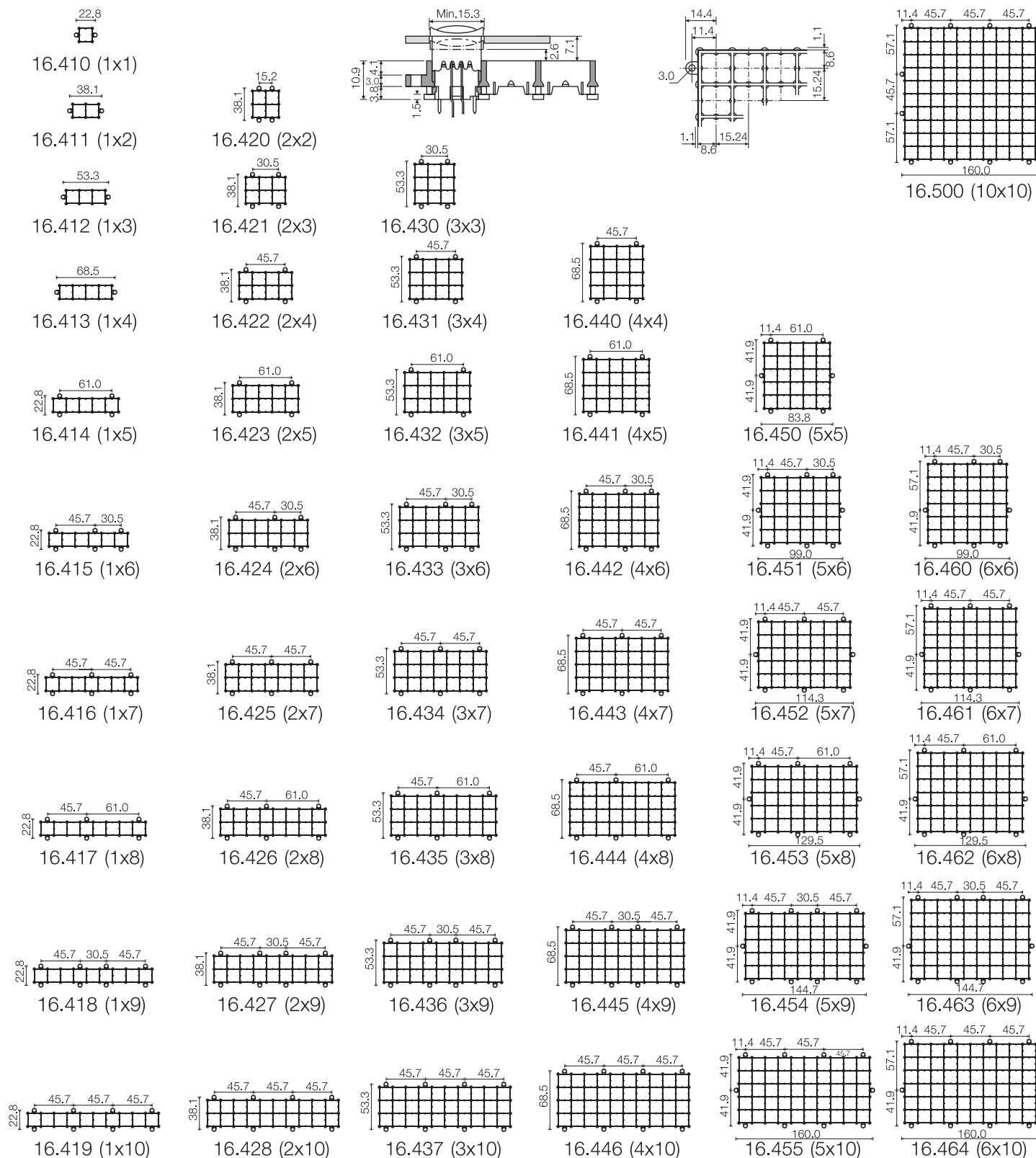
06 white
07 orange
08 red
09 black

11 transparent
12 transparent green
14 transparent yellow
18 transparent red

Ordering example: 15551 + 1670009

For updates of products and/or changes of specifications please see www.mec.dk

For all types of UNIMEC™ switches with bezels - 16310 - 16315 and 16324 - 16326



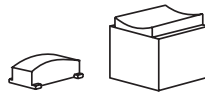
For updates of products and/or changes of specifications please see www.mec.dk



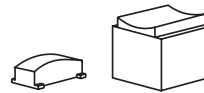
All standard legends are white on black caps.
The size of the legends listed may not correspond to the actual size. Please ask your local distributor, if you do not find what you need on the list. New legends may have been added after this catalogue was printed.
Custom legends and other colour combinations are available, please contact your local distributor.

Standard Keycap Legends

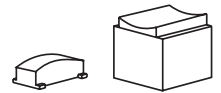
Part no.



Part no.

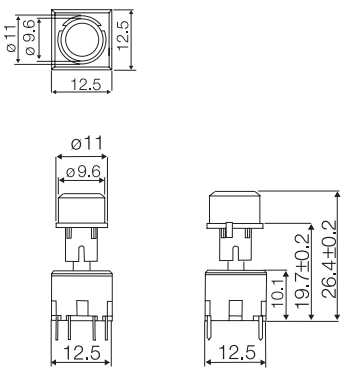
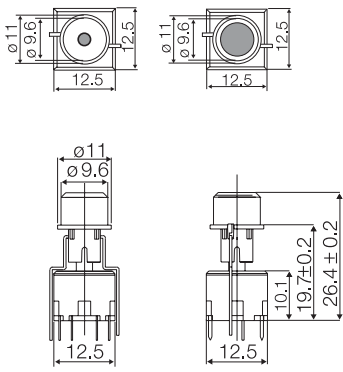
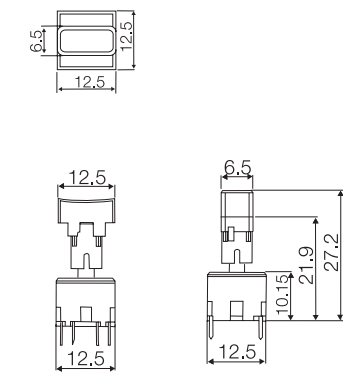
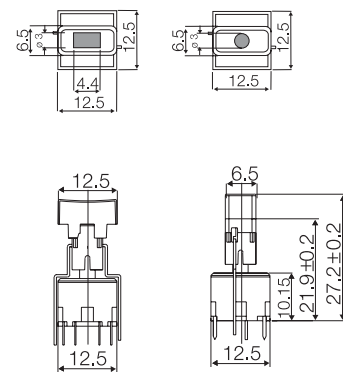
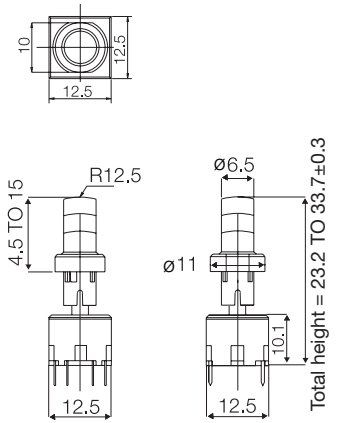
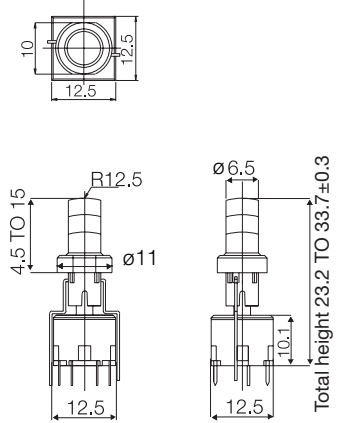
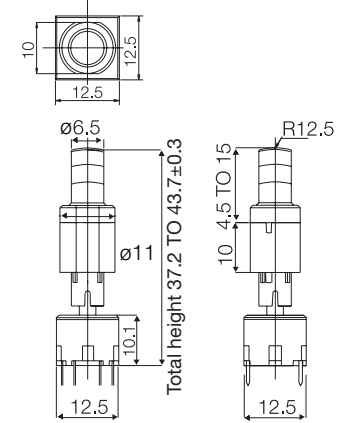
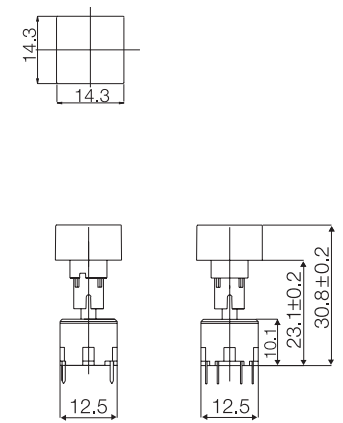


Part no.



LEGEND	18_	18_	LEGEND	18_	18_	LEGEND	18_	18_
0	000	200	A	010	210	ON/OFF	017	217
1	001	201	B	011	211	STOP	018	218
2	002	202	C	012	212	START	031	231
3	003	203	D	013	213	CLEAR	036	236
4	004	204	E	014	214	LOAD	037	237
5	005	205	F	015	215	RESET	038	238
6	006	206	G	063	263	CR	043	243
7	007	207	H	064	264	MANUAL	044	244
8	008	208	I	065	265	END	047	247
9	009	209	J	066	266	CANCEL	048	248
10	020	220	K	067	267	CTRL	050	250
11	021	221	L	068	268	ESC	051	251
12	022	222	M	069	269	DSP	053	253
13	023	223	N	070	270	ENTER	105	305
14	024	224	P	072	272	SHIFT	106	306
15	025	225	S	075	275	ON	116	316
16	026	226	T	076	276	OFF	117	317
			U	077	277			
			V	078	278			
			W	079	279			
			#	107	307			
			*	019	219			
			☐	016	216			
			→	033	233			
			←	133	333			
			↑	034	234			
			↓	134	334			
			↶	135	335			
			↷	115	315			
			↔	041	241			
			+	054	254			
			-	059	259			
			•	056	256			
			:	055	255			

Selection guide

 A 16250 extender is needed when mounting multimec® keycaps on unimec™ switches			
Cap  1D	 1E  1F	 1P	 1Q  1R
Dimensions 			
LED	16923XX  00 blue  20 green  40 yellow  80 red		16923XX  00 blue  20 green  40 yellow  80 red
Cap  1S	 1S illuminated	 1S + 2S	 1K  1K illuminated
Dimensions 			
LED	16923XX  00 blue  20 green  40 yellow  80 red	16923XX  00 blue  20 green  40 yellow  80 red	16924XX  23 green  45 yellow  88 red

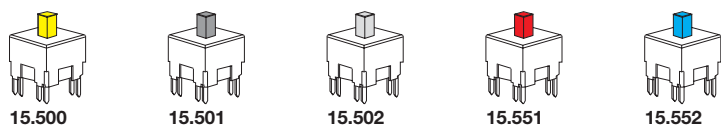
For specific dimensions, color codes, how to order and other information please refer to the pages with the keycaps on multimec® switches. For technical information on the unimec™ basic switches please see technical specifications or go to our website www.mec.dk where you will find a page for each option.

The multimec® keycaps 1N, 1T, 1U, 1V, 1WA, 1WD, 1WP and 1X can also be used on unimec™ switches. Please ask for technical drawings on dimensions.

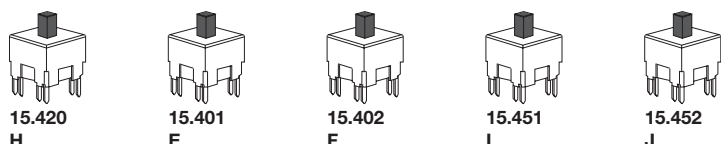
unimec™ basic switch modules

Basic module applies to all versions

Low temp.



High temp.



Part no:



Temperature:

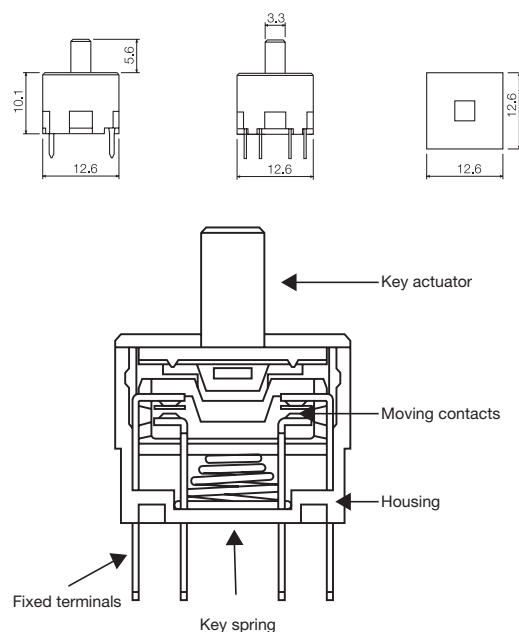
5: low temp.
4: high temp.

Switch function:

0: momentary
5: alternate

Terminal

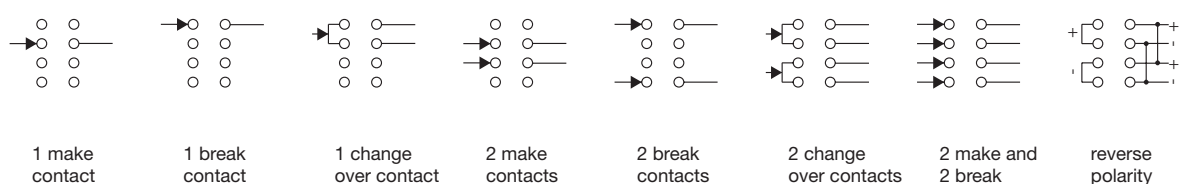
1: silver
2: gold
0: quiet version, silver



PCB Mounting Hole Dimensions Basic Switch	Circuit diagram (topview)	PCB Mounting Hole Dimensions (w/Extender 16250)	Functional diagram
	Without LED	With LED 16923 and 16924	— up --- down

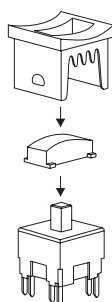
Wiring Diagram

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

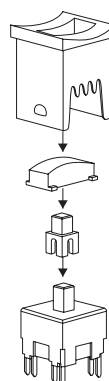


How to assemble

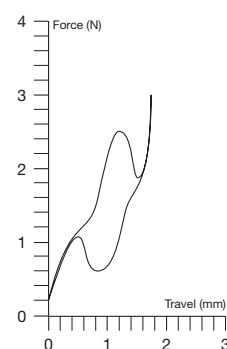
unimec™
15XXX + 16300 +
16310



unimec™
15XXX + 16270 +
16300 + 16324



Operating Force (Typical example)



For updates of products and/or changes of specifications please see www.mec.dk

RoHS Compatible

	RB Low Temperature Versions		RA 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	
Life time	Momentary 1.500.000 cycles		Momentary >10.000.000 cycles	
	Alternate 500.000 cycles		Alternate 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)		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				
Contact lubricant	SnCu + 2μNi + 3μSn100		SnCu + 2μNi + 3μSn100	
Material Specifications - All Caps & Bezels				
	Special protective lubricant Klüber Barrierta I EL Fluid		Special protective lubricant Klüber Barrierta I EL Fluid	
Material Specifications - All Caps & Bezels	ABS (standard) UL94HB		ABS (standard) UL94HB	
Temperature limit	Max. +65°C		Max. +65°C	
Tampon Printing	According to ISO Class: 1/ASTM Class.: 4B		According to ISO Class: 1/ASTM Class.: 4B	

unimec™ LEDs

Part Nos.		16920/16921			16922			16923			16924		
Colour (G= Green, Y= Yellow, R= Red)		G	Y	R	G	Y	R	G	Y	R	G	Y	R
Colour Codes		02	04	08	02	04	08	20	40	80	24	45	89
Absolute Maximum Ratings		(Ta=25°C)											
Power	mW	100	100	100	135	135	135	70	60	60	60	130	80
Current forward	mA	30	30	30	30	30	30	20	20	20	25	40	30
Forward peak current	mA	50	50	50	90	90	90	60**	60**	60**	N/A	500	1000
Voltage reverse	V	5	5	5	5	5	5	3	3	3	5	12	12
Operating temperature	°C	-25 - +100			-55 - +100			-25 - +85			-40 - +85 -55 - +100		
Storage temperature	°C	-25 - +100			-55 - +100			-30 - +100			-40 - +100 -55 - +100		
Soldering temperature	°C	+245 for max. 3 sec.			+300 for max. 3 sec.			+260 for max. 5 sec.			+260 for max. 5 sec.		
Electrical-Optical Characteristics		(Ta=25°C)											
Voltage Forward	Typ. V	2.0	2.0	2.0	2.1	2.2	2.3	2.1	2.1	2.0	2.0*	2.3***	2.0***
	Max. V	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.4*	2.5***	2.3***
Current reverse	µA	100	100	100	100	100	100	10	10	10	10	10	10
Wave length	nm	560	590	660	565	585	635	563	585	650	573	587	633
Spread	Ønm	10	10	10	10	10	10	40	40	40	20	45	16
Spread angle	degree	20	20	20	45	45	45	45	45	45	100	90	85
Luminous Intensity	Min. mcd	1	1	0.8	1.5	2.5	2.5	9.0	5.6	5.6	10****	71****	180****
	Typ. mcd	2	3	1.6	2.5	3.0	5.0	25	16	16	20****	112****	355****
Orientation	The longer pin is the anode, the shorter is the cathode.												

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

Specifications are subject to change without notice.

For updates of products and/or changes of specifications please see www.mec.dk