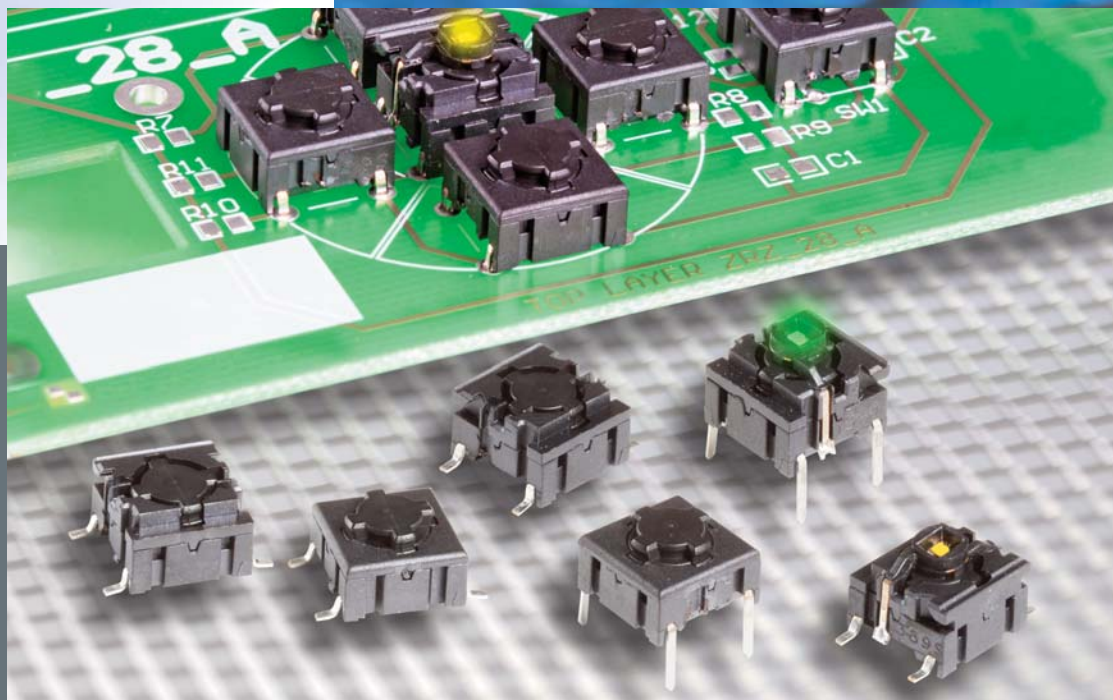




The Multimec 5E and 5G series is the new generation of the existing 3A, 3C, 3E, 3F, 4A and 4F multimec switches. The 5E and 5G series is a narrower product line, but the flexibility is more advanced. The switches will be supplied in high temperature material only to stand today's advanced soldering processes. The cap holding system is improved, by a superior snap system.

The 5E and 5G series can be supplied with LED's integrated in the switch and also as a surface mount switch. A high variety of aesthetic designed keycaps is available for the multimec switches both as solid caps, but also with excellent illumination possibilities.

The standard program will include three different actuation forces: 2, 3.5, and 6.5N. The multimec switches are known for their crisp audible tactile feel although a quiet version is available for sensitive applications such as audio, conference and military equipment.

The switch can be used as through-hole or SMD versions, and are designed to be used in a wide variety of applications.



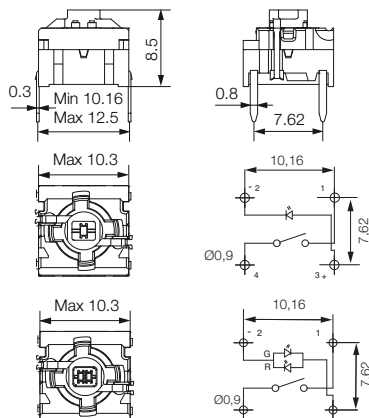
Distributor:

Technical Data:

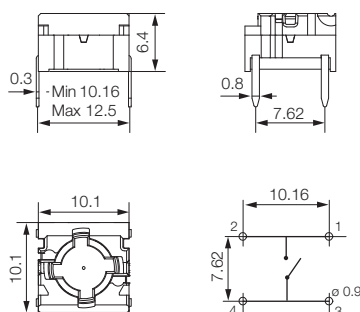
- through-hole or SMD / 50mA/24VDC / single pole/momentary
- 10.000.000 operations life time / IP67 sealing / actuation force: 2.0, 3.5, 6.5 N
- high temperature -40/+160° C



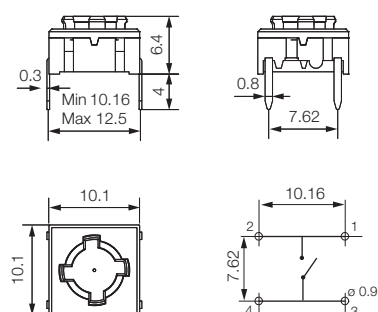
5GTH9 (through-hole) 1+2 LED



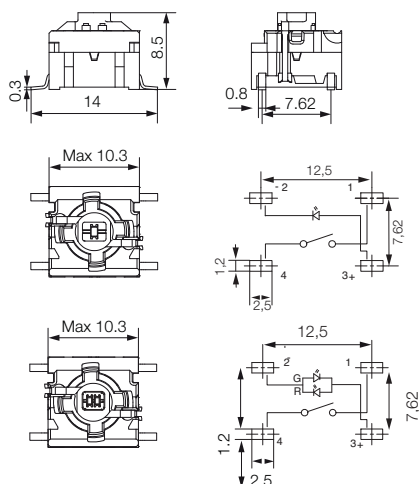
5GTH9 (through-hole)



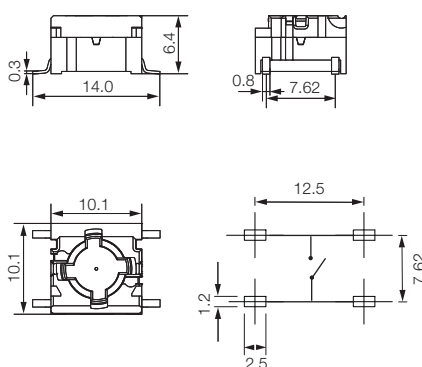
5ETH9 (through-hole)



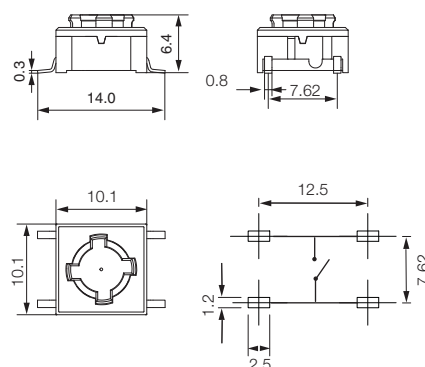
5GSH9 (SMD) 1+2 LED



5GSH9 (SMD)



5ESH9 (SMD)



HOW TO ORDER

5 G					
Switch	Mounting	Actuation force	LED		
	TH9 through-hole	20	01 blue / 22 green / 42 yellow / 61 white / 82 red / 2242 green/yellow / 8222 red/green / 8242 red/yellow		
	SH9 surface mount	35			
		65			

5 E					
Switch	Mounting	Actuation force	Switch	Mounting	Actuation force
	TH9 through-hole	20		TH9 through-hole	20
	SH9 surface mount	35		SH9 surface mount	35
		65			65

Ordering example: 5GSH96535

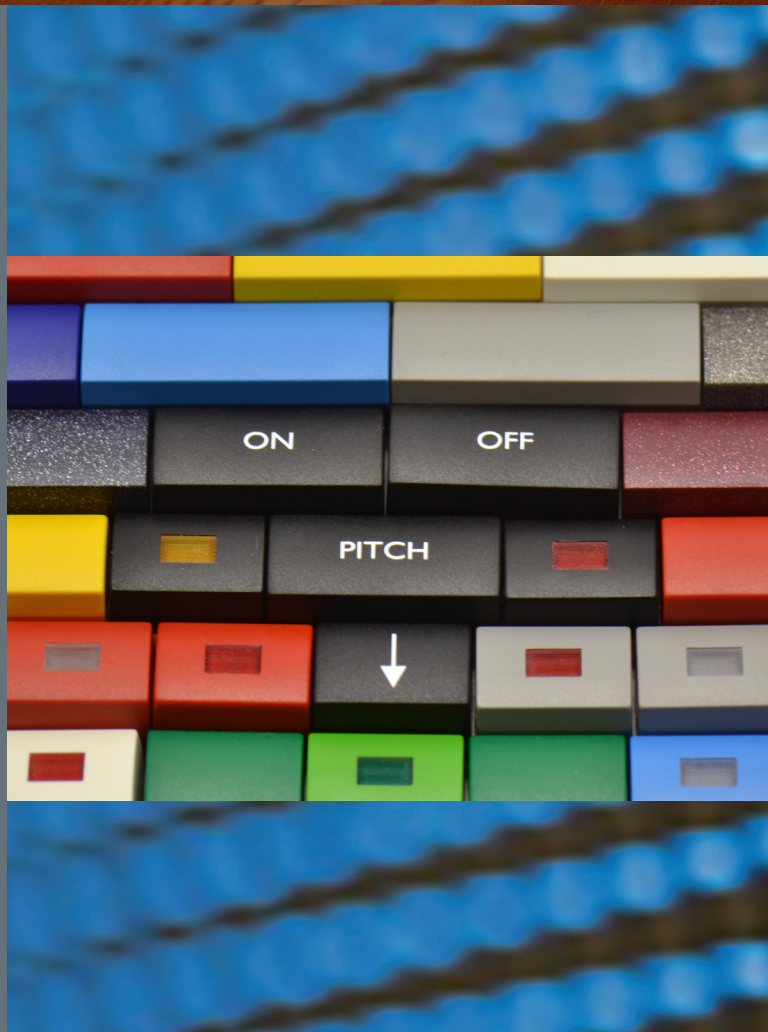
See colour codes on our website: www.mec.dk
Dimensions (mm) Unless otherwise specified, all tolerances ± 0.2



1A/1H/1M/1ZA series caps have a hinge-type retention system which gives a rocker-action actuation when mounted on Multimec 5G switch.

Illumination can be provided with 1A in transparent colours or 1H with different colour lenses.

1A/1H, 1ZA and 1M caps offer three different dimensions, many solid and transparent colours as well as lens colours. 1A has many legend options in its standard offering; however, all caps can be provided with custom legends.

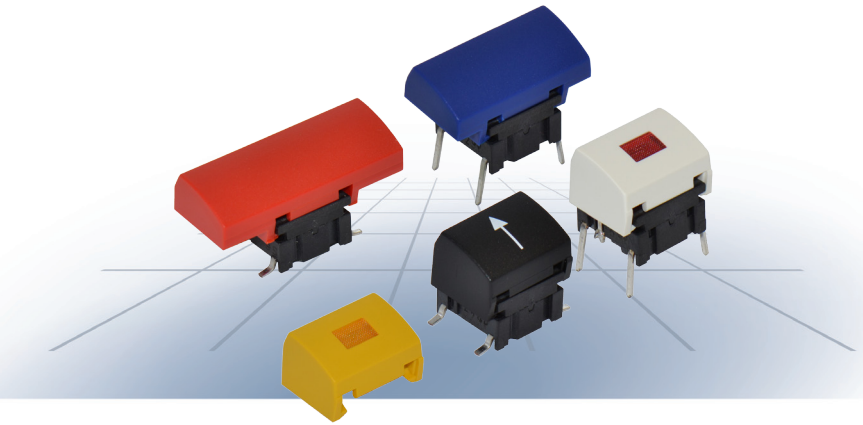


*Letter legends on the picture are not standard

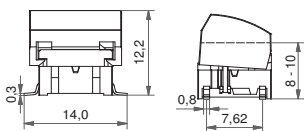
Distributor:

Technical Data:

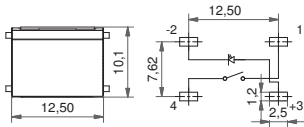
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations lifetime
- IP67 sealing
- temp. range: switch: -40/+160°C
LED: -30/+85°C
solid keycap: -40/+65°C
transparent keycap: -40/+85°C
- actuation force: 2.0, 3.5, 6.5 N



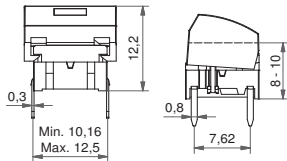
Dimensions (SMD w/LED) 1A



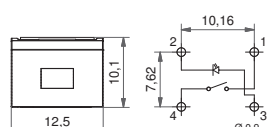
PCB layout



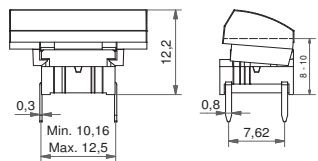
Dimensions (TH w/LED) 1H



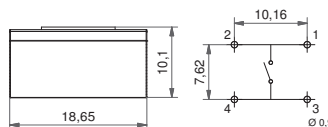
PCB layout



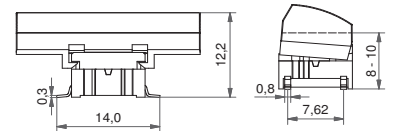
Dimensions (through-hole) 1ZA



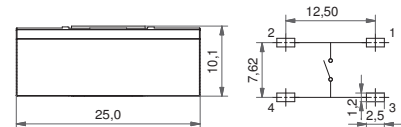
PCB layout



Dimensions (SMD) 1M



PCB layout



HOW TO ORDER illuminated

5 G

□ □ □

□ □

□ □ □ □

+

□ □

□ □

□

Switch

Mounting

TH9 through-hole
SH9 surface mount

Actuation force

20
35
65
Q**

LED

01 blue
22 green
42 yellow
61 white
82 red
2242 green/yellow
8222 red/green
8242 red/yellow

Cap



1A



Colour code 1H

00 blue 06 white
02 green 08 red
03 grey 09 black
04 yellow

Lens 1H

1 transparent
2 green
4 yellow
6 frosted white
8 red

Colour code 1A

10 frosted blue 16 frosted white
12 frosted green 18 frosted red
14 frosted yellow

HOW TO ORDER non-illuminated

5 G

□ □ □

□ □ □

+

□ □ □

□ □

Switch

Mounting

TH9 through-hole
SH9 surface mount

Actuation force

20
35
65
Q**

Cap



Colour code

00 blue 30*ultra blue 50*metal dark blue
02 green 40*dusty blue 53*metal light grey
03*grey 42*aqua blue 57*metal dark grey
04 yellow 32 mint green 58 metal bordeaux
06*white 33 tele grey
08 red 34 melon
09*black 38 noble red * Colours for 1ZA

**Quiet version is only available for actuation force 2.0N (20) and the letter Q is added to the end of the switch part number. See the ordering example.

Ordering example: 5GSH93582 + 1H068 with illumination
5GTH965 + 1ZA57 without illumination
**5GTH92001Q with illumination or 5GSH920Q (quiet version)

Dimensions (mm) Unless otherwise specified, all tolerances +/- 0,2

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

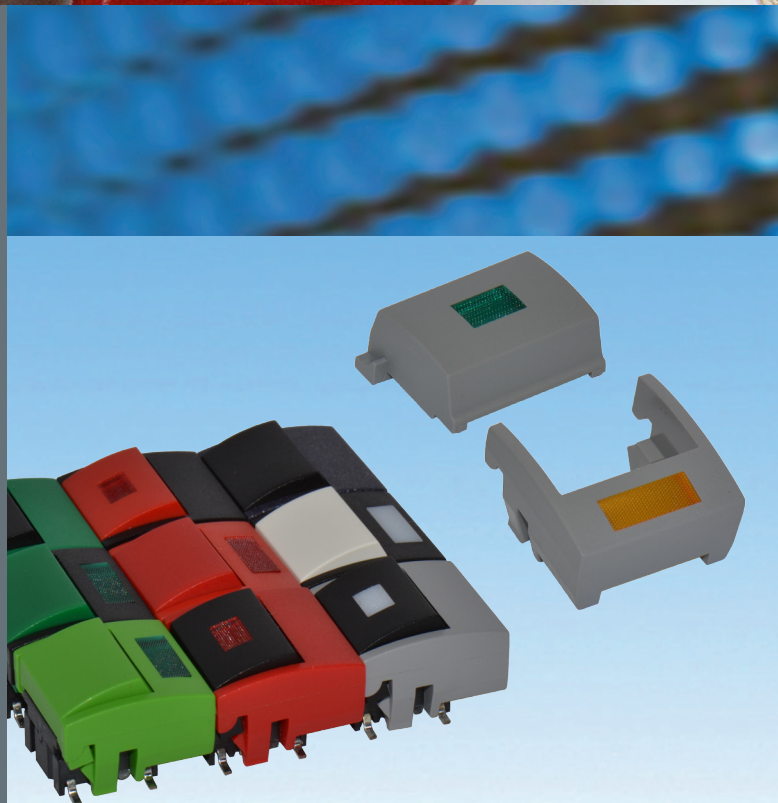
See colour codes on our website: www.mec.dk



1B/1C cap and 2C/2D bezel series have a award-winning design. The cap is connected to the bezel with a hinge-type retention system and the bezel snaps on to the switch.

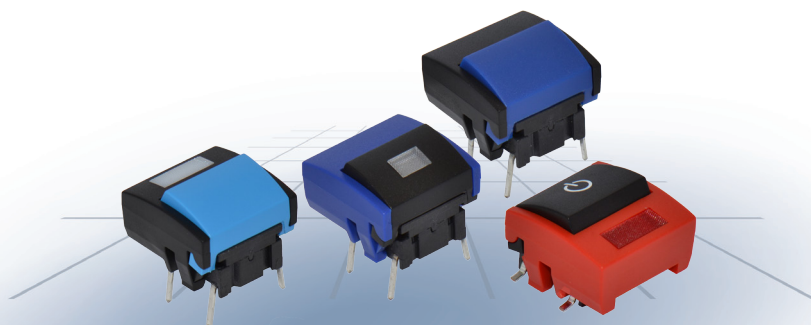
The series provides many design options with its solid and transparent colour range as well as different illumination option.

Illumination can be achieved by using 1B cap in transparent colour, 1C cap with a lens or 2D bezel with a lens where LED is placed on the PCB.

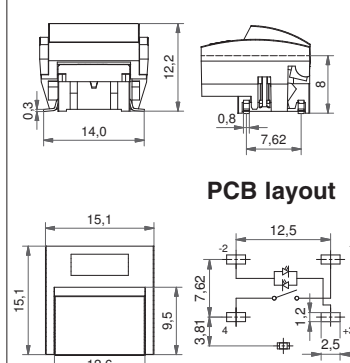
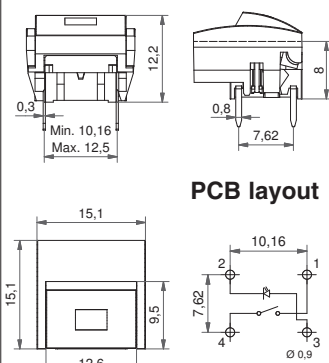
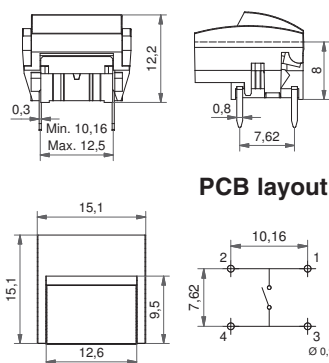
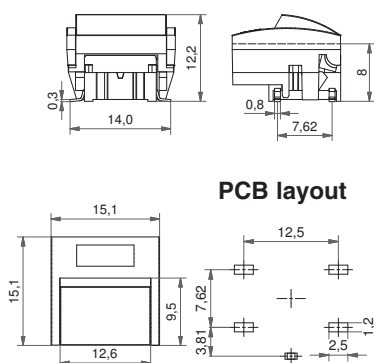


Distributor:

- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations lifetime
- IP67 sealing
- temp. range: switch:-40/+160°C
LED: -30/+85°C
solid keycap: -40/+65°C
transparent keycap: -40/+85°C
- actuation force: 2.0, 3.5, 6.5 N



Dimensions (SMD w/LED)
1B+2D



5 G				1 C			2 C	
Switch	Mounting	Actuation force	LED	Cap	Colour code	Lens	Bezel	Colour code
	TH9 through-hole	20	01 blue					
	SH9 surface mount	35	22 green	+	solid		+	
		65	42 yellow		colour			
		Q*	61 white		1 B			2 D
			82 red		Cap	Colour code		
			2242 green/yellow		transparent			
			8222 red/green				Bezel	Colour code
			8242 red/yellow					Lens

[illegible]

COLOUR CODES

Transparent caps		Solid caps		For 1B and 2C only:			Lenses
10 frosted blue	16 frosted white	00 blue	06 white	30 ultra blue	33 tele grey	50 metal dark blue	1 transparent
11 transparent	18 frosted red	02 green	08 red	40 dusty blue	34 melon	53 metal light grey	2 green
12 frosted green		03 grey	09 black	42 aqua blue	38 noble red	57 metal dark grey	4 yellow
14 frosted yellow		04 yellow		32 mint green		58 metal bordeaux	6 frosted white
							8 red

Dimensions (mm) Unless otherwise specified, all tolerances $\pm 0,2$

See colour codes on our website: www.mec.dk



The new caps for the Multimec switches 1DS / 1ES / 1FS is optimized with a “snap on” system to ensure the cap to stay on the switch actuator even under heavy vibrations or similar scenarios.

- The 1DS cap is a solid cap which can be supplied in different colours
- The 1ES cap is a solid cap like 1DS, but with a small round lens for intensive or smooth illumination
- The 1FS cap is a solid cap like 1DS, but with a large round lens for intensive or smooth illumination



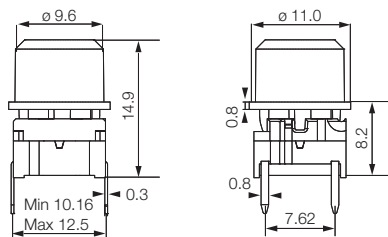
Distributor:

Technical Data

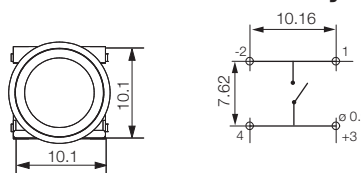
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:
LED: -40/+85°C
solid cap +65°C
transparent +85°C
- actuation force: 2.0, 3.5, 6.5 N



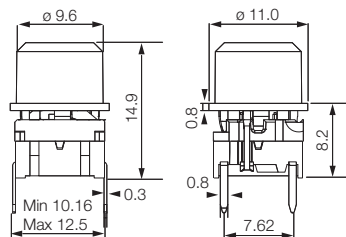
Dimensions (through-hole)



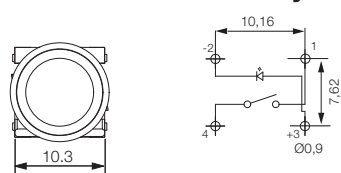
PCB layout



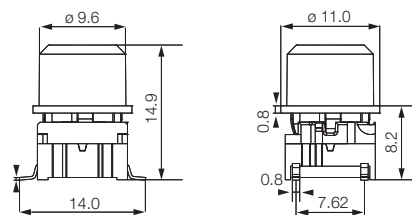
Dimensions (w. LED)



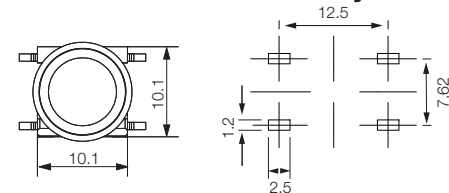
PCB layout



Dimensions (SMD)



PCB layout



HOW TO ORDER

5 G						
Switch	Mounting	Actuation force	LED	Cap	Colour code	Lens
	TH9 through-hole	20	01 blue	1ES with lens	00 blue	1 transparent
	SH9 surface mount	35	22 green		03 grey	6 frosted white
		65	42 yellow	1FS with lens	08 red	
			61 white		09 black	
			82 red			
			2242 green/yellow			
			8222 red/green			
			8242 red/yellow			
				1DS		
					11 transparent	
					16 frosted white	

5 G					
Switch	Mounting	Actuation force	Cap	Colour code	
	TH9 through-hole	20	1DS solid colour	00 blue	
	SH9 surface mount	35		02 green	
		65		03 grey	
				04 yellow	
				06 white	
				08 red	
				09 black	

Dimensions (mm) Unless otherwise specified, all tolerances $\pm 0,2$

Ordering example: 5GTH935 + 1DS08

See colour codes on our website: www.mec.dk

mec Industriparken 23 · DK-2750 Ballerup · Denmark

Tel.: +45 44 97 33 66 · Fax: +45 44 68 15 14 · E-mail: danmec@mec.dk · www.mec.dk



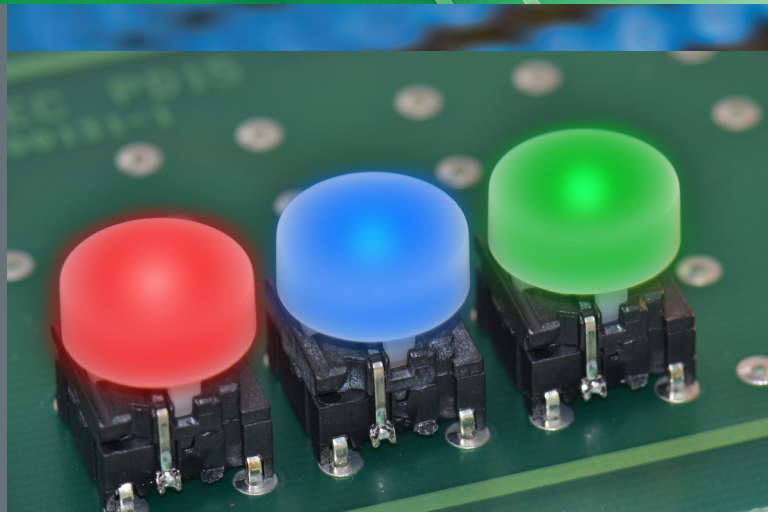
The 1GAS/1GCS caps are optimised for use with foil overlays.

Compared to conventional membrane panels it provides an extremely rugged and a long-term cost-effective solution with increased reliability, enhanced product life and improved tactile feel.

The new caps have 9 standard colour options: blue, green, grey, yellow, white, red, black, transparent and frosted white.

Even more, the under part of the new cap series has been cleared, so the caps in transparent and frosted white can provide excellent illumination.

When used with the 2SS variable height extender, the 1GAS/1GCS caps can be to any required operating height between 17.5-22.5mm.



Distributor:

- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations lifetime
- IP67 sealing
- temp. range: switch:-40/+160°C
LED: -30/+85°C
solid keycap: -40/+160°C
transparent keycap: -40/+85°C
- actuation force: 2.0, 3.5, 6.5 N



HOW TO ORDER illuminated

HOW TO ORDER non-illuminated

5 G			+		
Switch	Mounting	Actuation force		Cap	Colour code
	TH9 through-hole	20		solid colour	00 blue
	SH9 surface mount	35			02 green
		65		1GAS	03 grey
		Q*			04 yellow
				1GCS	06 white
					08 red
					09 black

*Only available for actuation force 2.0N (20) and the letter Q is added

Dimensions (mm) Unless otherwise specified, all tolerances ± 0.2

See colour codes on our website: www.mec.dk

MEC A/S May 2012



MEC's exclusive snap-on keycap in 10.4 mm total height. Optimized for use with foil overlays.

The 1JS keycaps are available in nine standard colours: 00 blue/02 green/03 grey/04 yellow/06 white/08 red/09 black/11 transparent/16 frosted white.

In combination with the switch the 1JS becomes the lowest illuminated keycap possible; especially designed for foil overlays and featuring soft edges for extended foil overlay lifetime. The 1JS 11 transparent/16 frosted white has superior illumination potential when combined with the newest Multimec 5G switch. The switch can be either surface mount or through-hole. Cap retention is optimized with an innovative "snap-on" system.



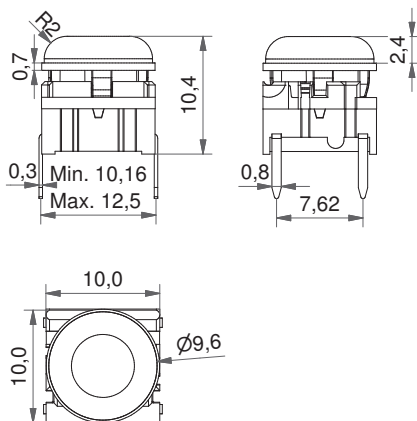
Distributor:

Technical Data:

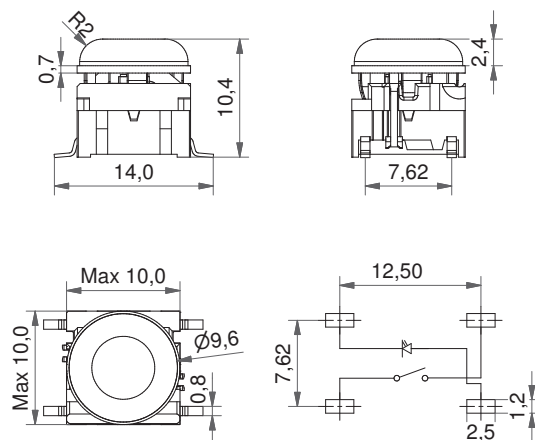
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations lifetime
- IP67 sealing
- temperature range:
LED: -30/+85°C
solid cap: +65°C
transparent: +85°C
- actuation force: 2.0, 3.5, 6.5 N



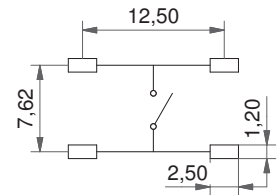
Dimensions (through-hole)



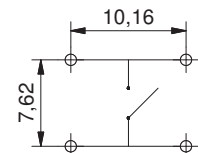
Dimensions (SMD w/LED)



PCB Layout SMD



PCB Layout TH



HOW TO ORDER

5 G				+	1 J S	
Switch	Mounting	Actuation force	LED		Cap	Colour code
	TH9 through-hole	20	01 blue		1JS transparent	11 transparent
	SH9 surface mount	35	22 green			16 frosted white
		65	42 yellow			
			61 white			
			82 red			
			2242 green/yellow			
			8222 red/green			

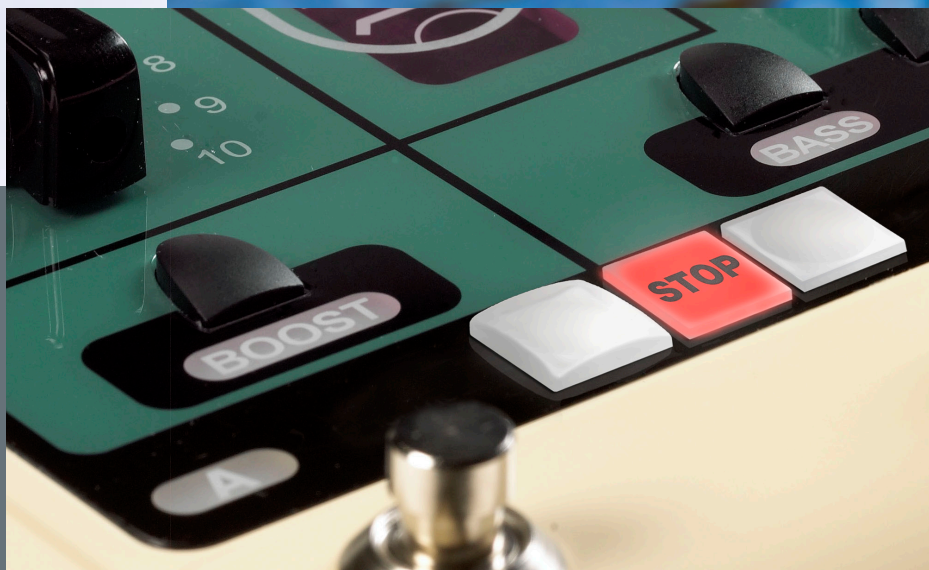
5 G			+	1 J S	
Switch	Mounting	Actuation force		Cap	Colour code
	TH9 through-hole	20		1JS solid colour	00 blue
	SH9 surface mount	35			02 green
		65			03 grey
					04 yellow
					06 white
					08 red
					09 black

Dimensions (mm) Unless otherwise specified, all tolerances +/- 0,2

Ordering example: 5GTH935+1JS08 without illumination
5GTH93501+1JS16 with illumination

See colour codes on our website: www.mec.dk

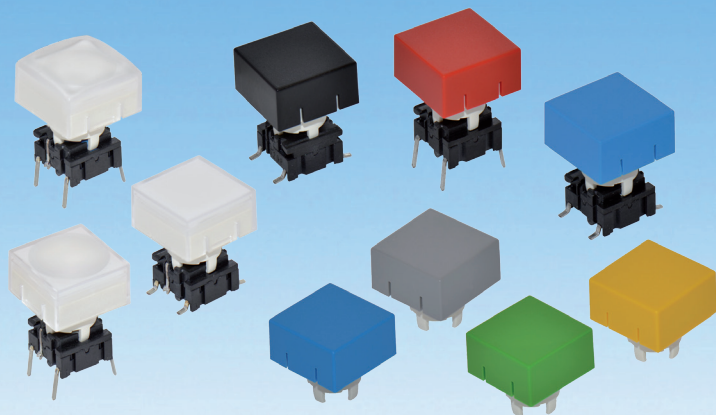
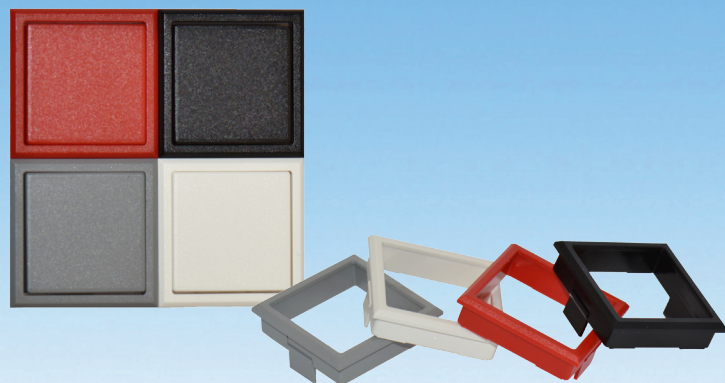
For product updates and/or changes of specifications please see www.mec.dk



The 1KS series is square caps with measurements of 14.3 x 14.3 mm and can be used with the 2K bezel, which snaps into the front panel, or alone without the bezel.

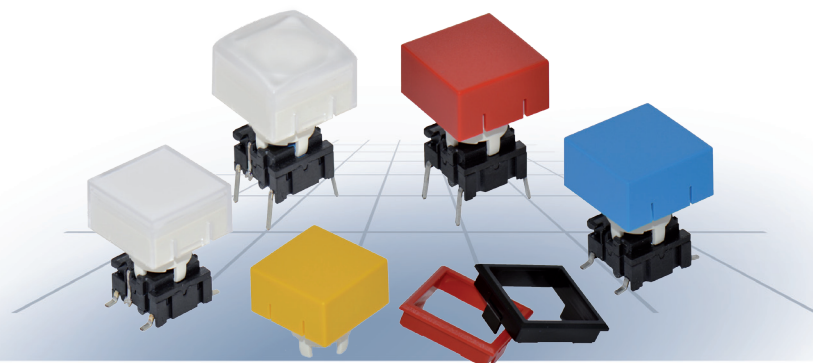
The 1KS is with a flat top, the 1KBS with a convex top and 1KCS with a concave top. All three versions are designed for illumination with a nice distribution of the illumination to the whole cap surface. The caps also offer the designer the option of using interchangeable legends or standard printed graphics. A legend can be printed on the top lid surface or a foil with the legend is placed between the transparent lid and the lens.

When used with the 2SS variable height extender, the 1KS/1KBS/1KCS caps can be to any required operating height between 24.1-29.1mm.



Distributor:

- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations lifetime
- IP67 sealing
- temp. range: switch:-40/+160°C
LED: -30/+85°C
solid keycap: -40/+65°C
transparent keycap: -40/+85°C
- actuation force: 2.0, 3.5, 6.5 N

[illegible]

The technical drawing on the left shows a square plate with a side length of 14.3 mm. A circular hole is centered within the square. The wiring diagram on the right shows a circuit with two 2.5 mm² conductors. One conductor is connected to a switch and a terminal block. The other conductor is connected to a terminal block. The switch is labeled with a voltage of 12.50 V. The terminal block is labeled with a voltage of 7.62 V. The conductors are labeled with a cross-section of 1.2 mm² and a length of 2.5 mm.

Technical drawing of the 'Kubus' table. The top view shows a square table with an outer side length of 17,75 and an inner side length of 14,6. The side view shows a table with a height of 21 and a width of 16,4.

5	G
---	---

Mounting

THIS *discovery*

TH9 through-hole
SH9 surface mount

Actuation force

20
35
65
Q*

LED

01 blue
22 green
42 yellow
61 white
82 red
2242 green/yellow
8222 red/green
8242 red/yellow

Cap frosted white lens and transparent lid

Bezel

03 grey
06 white
08 red
09 black

5	G
---	---

Switch

Mounting

TH9 through-hole
SH9 surface mount

Actuation force

20
35
65
Q*

1	K	S
---	---	---

Cap



Colour code

00 blue
02 green
03 grey
04 yellow
06 white
08 red
09 black

2	K	
---	---	--

Bezel

03 grey
06 white
08 red
09 black

Ordering example: 5GTH93501+1KCS1116+2K09 with illumination
5GSH965+1KS09+2K03 without illumination
*5GTH92082Q or 5GSH920Q (quiet version)

Dimensions (mm) Unless otherwise specified, all tolerances ± 0.2

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

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The new caps for the Multimec switches 1PS / 1QS / 1RS is optimized with a "snap on" system to ensure the cap to stay on the switch actuator even under heavy vibrations or similar scenarios.

- The 1PS cap is a solid cap which can be supplied in different colours
- The 1QS cap is a solid cap like 1PS, but with a rectangular lens for intensive or smooth illumination
- The 1RS cap is a solid cap like 1PS, but with a round lens for intensive or smooth illumination



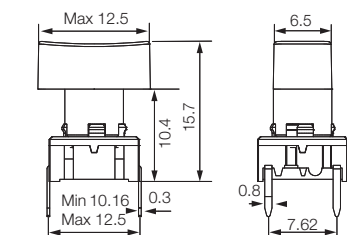
Distributor:

Technical Data

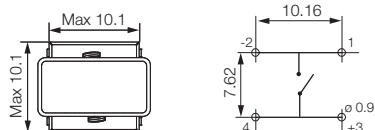
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:
LED:-40/+85°C
solid cap +65°C
transparent +85°C
- actuation force: 2.0, 3.5, 6.5 N



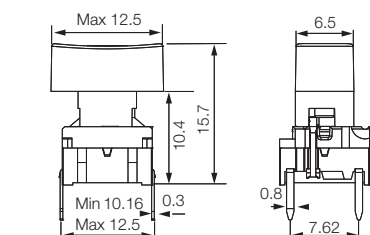
Dimensions (through-hole)



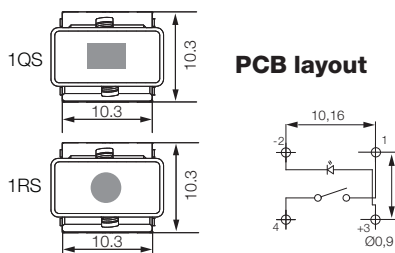
PCB layout



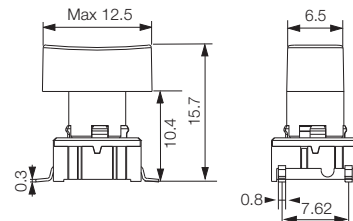
Dimensions (w/LED)



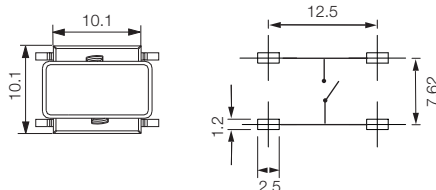
PCB layout



Dimensions (SMD)



PCB layout



HOW TO ORDER

5 G	☐	☐	☐	☐	☐	☐
Switch	Mounting	Actuation force	LED	Cap	Colour code	Lens
	TH9 through-hole	20	01 blue	1QS with lens	00 blue	1 transparent
	SH9 surface mount	35	22 green		03 grey	6 frosted white
		65	42 yellow	1RS with lens	08 red	
			61 white		09 black	
			82 red	1PS		
			2242 green/yellow		11 transparent	
			8222 red/green		16 frosted white	
			8242 red/yellow			

Switch to be used: 5E or 5G

5 E	☐	☐	☐	☐
5 G	☐	☐	☐	☐
Mounting	Actuation force	Cap	Colour code	
TH9 through-hole	20	1PS solid colour	00 blue	
SH9 surface mount	35		02 green	
	65		03 grey	
			04 yellow	
			06 white	
			08 red	
			09 black	

Dimensions (mm) Unless otherwise specified, all tolerances $\pm 0,2$

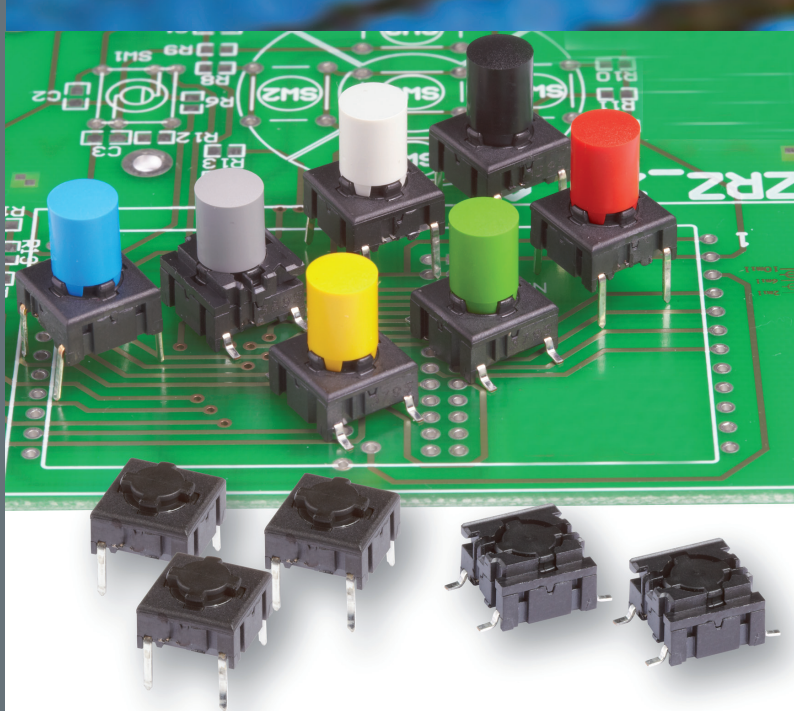
Ordering example: 5ETH935+1PS08

See colour codes on our website: www.mec.dk



The new caps for the Multimec switches 1SS/1LS/1IS are optimised with a “snap-on” system to ensure the cap to stay on the switch actuator even under heavy vibrations or similar scenarios.

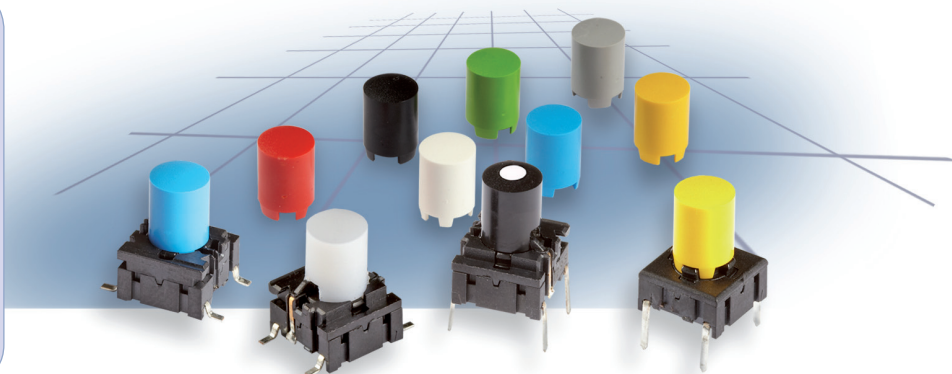
- The 1SS cap is solid cap which can be supplied in different colours
- The 1LS cap is a solid cap like 1SS, but with a small round lens for intensive or smooth illumination
- The 1IS cap is a transparent or frosted white cap like 1SS, for intensive or smooth illumination



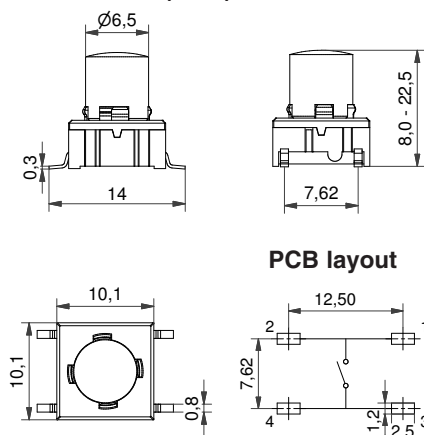
Distributor:

Technical Data:

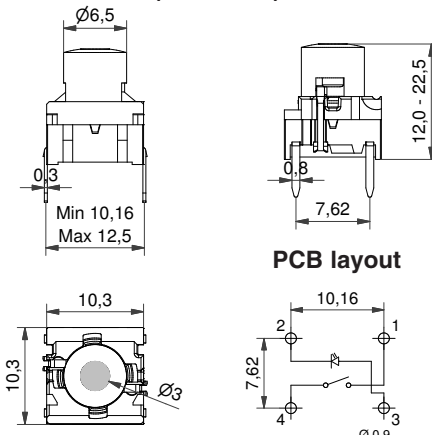
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations lifetime
- IP67 sealing
- temp. range: switch: -40/+160°C
LED: -30/+85°C
solid keycap: -40/+160°C
transparent keycap: -40/+85°C
- actuation force: 2.0, 3.5, 6.5 N



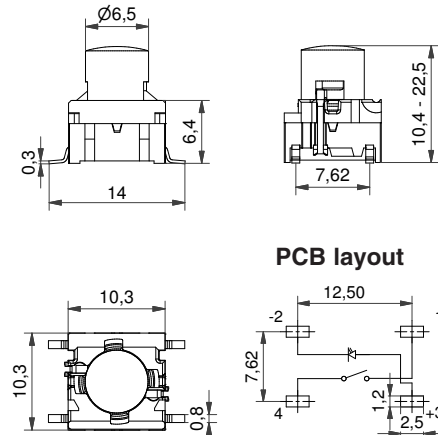
Dimensions (SMD) + 1SS



Dimensions (TH w/LED) + 1LS



Dimensions (SMD w/LED) + 1IS



HOW TO ORDER illuminated

5 G				+					
Switch	Mounting	Actuation force	LED		Cap	Colour code	Lens	Height/1LS	
	TH9 through-hole	20	01 blue		1LS with lens	00 blue	1 transparent	12.0	19.0
	SH9 surface mount	35	22 green			03 grey	2 green	15.0	22.5
		65	42 yellow			08 red	4 yellow	16.0	
		Q*	61 white		1IS	09 black	6 frosted white	Height/1IS	
			82 red		transparent	11 transparent	8 red	10.4	16.0
			2242 green/yellow			16 frosted white		11.0	19.0
			8222 red/green					12.0	22.5
			8242 red/yellow					15.0	

HOW TO ORDER non-illuminated

5 E				+					
5 G									
Switch	Mounting	Actuation force			Cap	Colour code	Height		
	TH9 through-hole	20			1SS	00 blue	08.0	16.0	
	SH9 surface mount	35			solid colour	02 green	09.5	19.0	
		65				03 grey	10.4	22.5	
		Q*				04 yellow	11.0		
						06 white	12.0		
						08 red	15.0		
						09 black			

*Only available for actuation force 2.0N (20) and the letter Q is added to the end of the switch part number. See the ordering example.

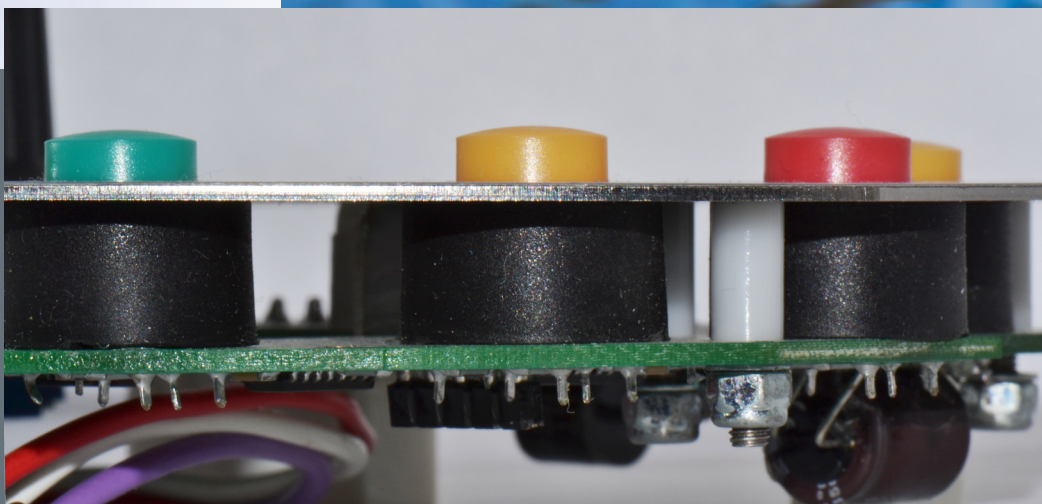
Dimensions (mm) Unless otherwise specified, all tolerances +/- 0,2

Ordering example: 5ETH920+1SS0409.5 without illumination
5GSH93542+1IS1619.0 with illumination
*5ESH920Q or 5GTH9208222Q (quiet version)

See colour codes on our website: www.mec.dk

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

Panel sealed 1TS/1US/1VS



The sealings 1TW/1UW/1VW provide an opportunity of having the 1TS/1US/1VS caps with panel sealing.

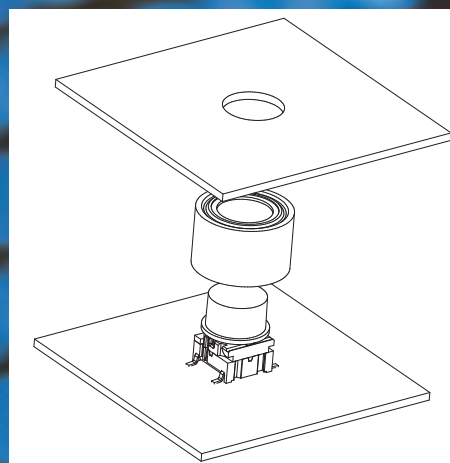
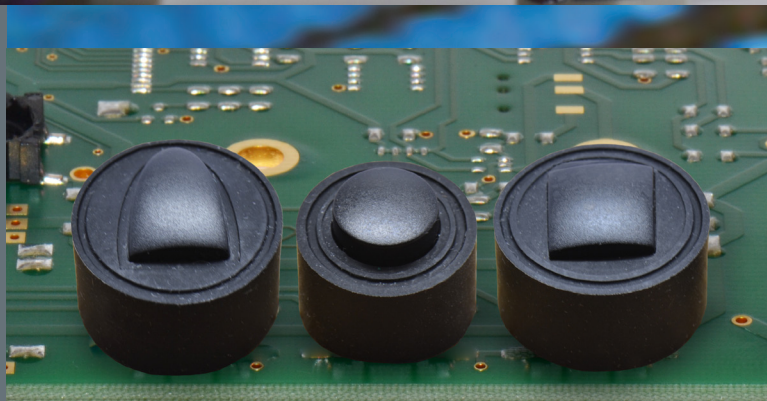
Level of sealing from front panel:

5G+1TS+1TW = IP67

5G+1US+1UW = IP67

5G+1VS+1VW = IP65

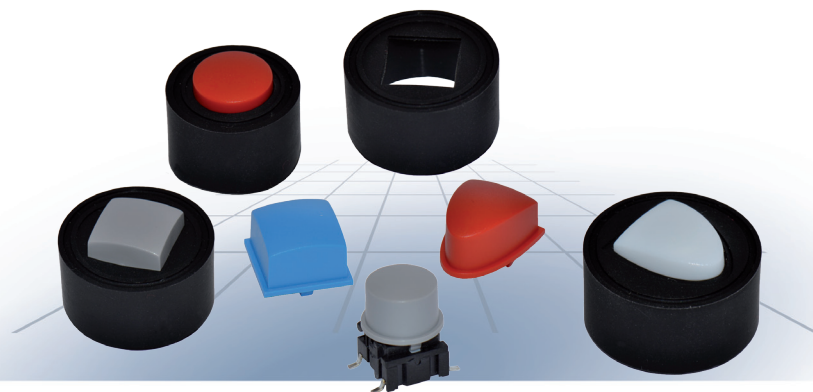
The solution is excellent for rough environment, designed for outdoor, dusty and humid applications.



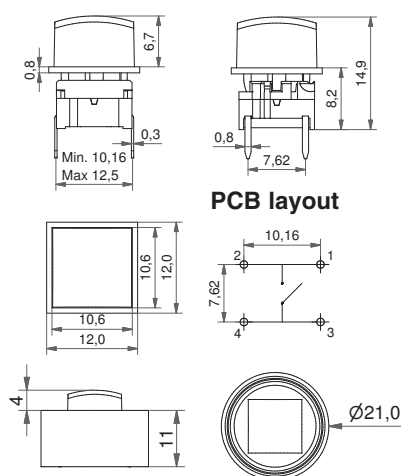
Distributor:

Technical Data:

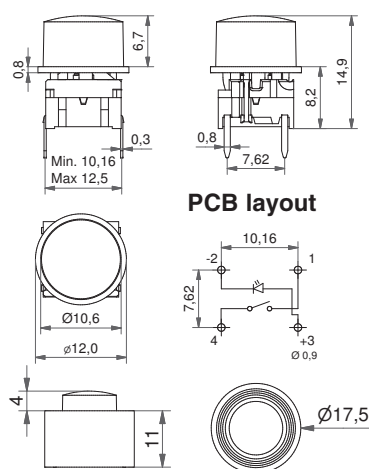
- through-hole or surface mount
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations lifetime
- Switch: IP67 sealing
- temp. range: switch: -40/+160°C
LED: -30/+85°C
solid keycap: -40/+65°C
transparent keycap: -40/+85°C
- actuation force: 2.0, 3.5, 6.5 N



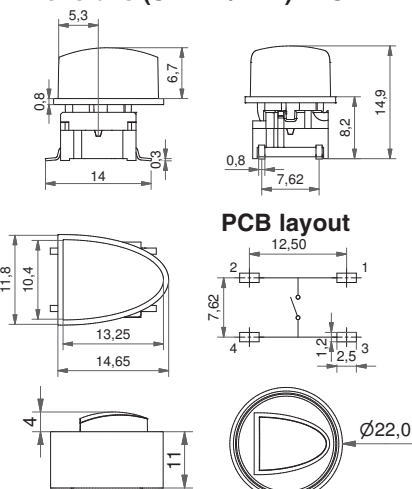
Dimensions (TH) 1TS+1TW



Dimensions (TH w/LED) 1US+1UW

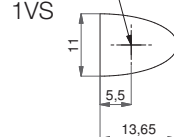


Dimensions (SMD w/LED) 1VS+1VW

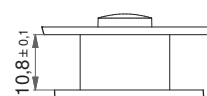


Recommended panel cut-out

1TS - 11x11mm
1US - Ø11mm
1VS



Distance between PCB and front panel



HOW TO ORDER illuminated

5 G				+				+		
Switch	Mounting	Actuation force	LED		Cap	Colour code	Sealing			
	TH9 through-hole	20	01 blue		1TS	16 frosted white	1TW			
	SH9 surface mount	35	22 green		1US		1UW			
		65	42 yellow		1VS		1VW			
		Q*	61 white							
			82 red							
			2242 green/yellow							
			8222 red/green							
			8242 red/yellow							

HOW TO ORDER non-illuminated

5 G				+				+		
Switch	Mounting	Actuation force			Cap	Colour code	Sealing			
	TH9 through-hole	20			1TS	00 blue	1TW			
	SH9 surface mount	35			1US	03 grey	1UW			
		65			1VS	08 red	1VW			
		Q*				09 black				

*Only available for actuation force 2.0N (20) and the letter Q is added to the end of the switch part number. See the ordering example.

Dimensions (mm) Unless otherwise specified, all tolerances +/- 0,2

Ordering example: 5GSH935 + 1TS03 + 1TW without illumination
5GTH96542 + 1US16 + 1UW with illumination
*5GSH920Q or 5GTH92082Q (quiet version)

See colour codes on our website: www.mec.dk

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



Controlmec TM is a five position integrated switch solution, designed for outdoor, dusty and humid applications, to control a unit, navigate in a display, operate auxiliary equipment on a vehicle, boat or similar. The Controlmec is sealed to IP67, and exist of:

- One complete solid cap, with recess on the back site for the seal efficiency
- The unit panel plate (customers design)
- A gasket to seal between the cap, and the panel.
- A support ring to ensure the right position of sealing behind the front plate
- And then the PCB including the switches

The PCB with the switches, shall be assembled according to the MEC datasheet, and mounted to the back side of the front panel by bolts, to ensure the right pressure for the sealing efficiency.

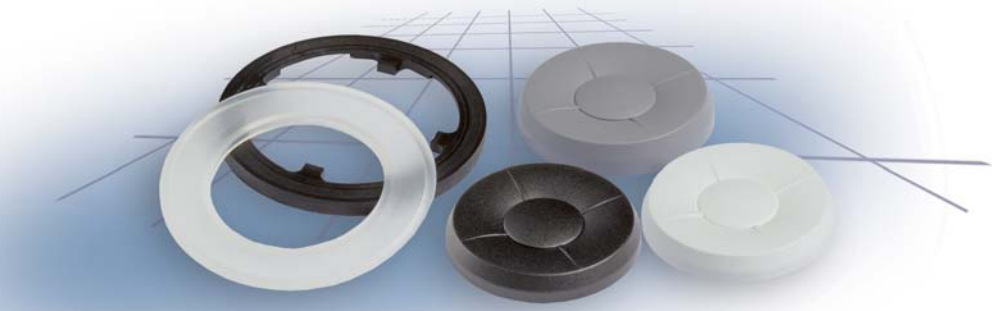
The Controlmec is an extension of the Navimec system which includes the Multimec switches, of excellent high quality and long lifetime. Configurations can be made with through hole or SMD switch versions, provided they are accurately positioned.



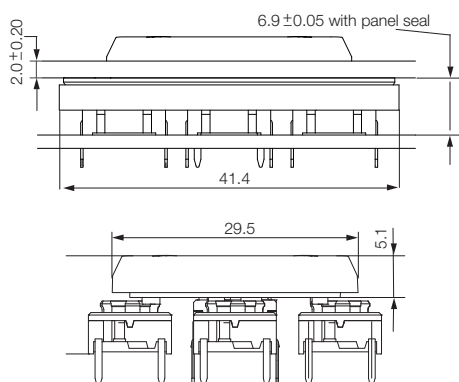
Distributor:

Technical Data

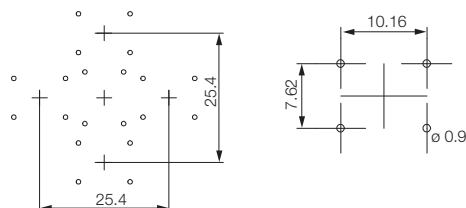
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:
LED: -40/+85°C
solid cap +65°C
transparent +85°C
- actuation force: 2.0, 3.5, 6.5 N



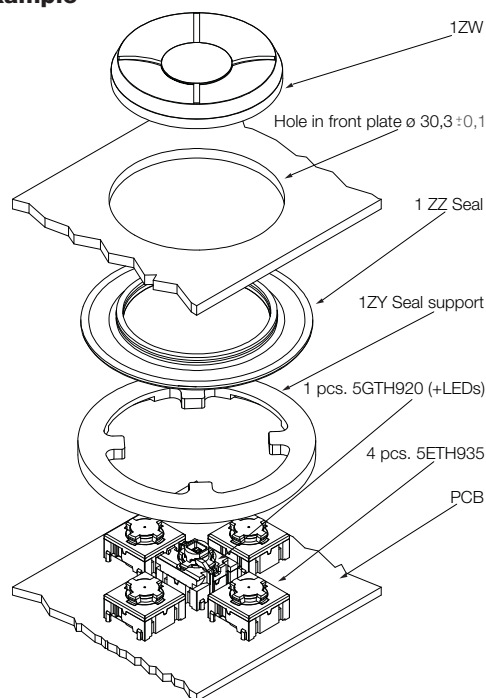
Dimensions 1ZW



Recommended PCB layout



Mounting example



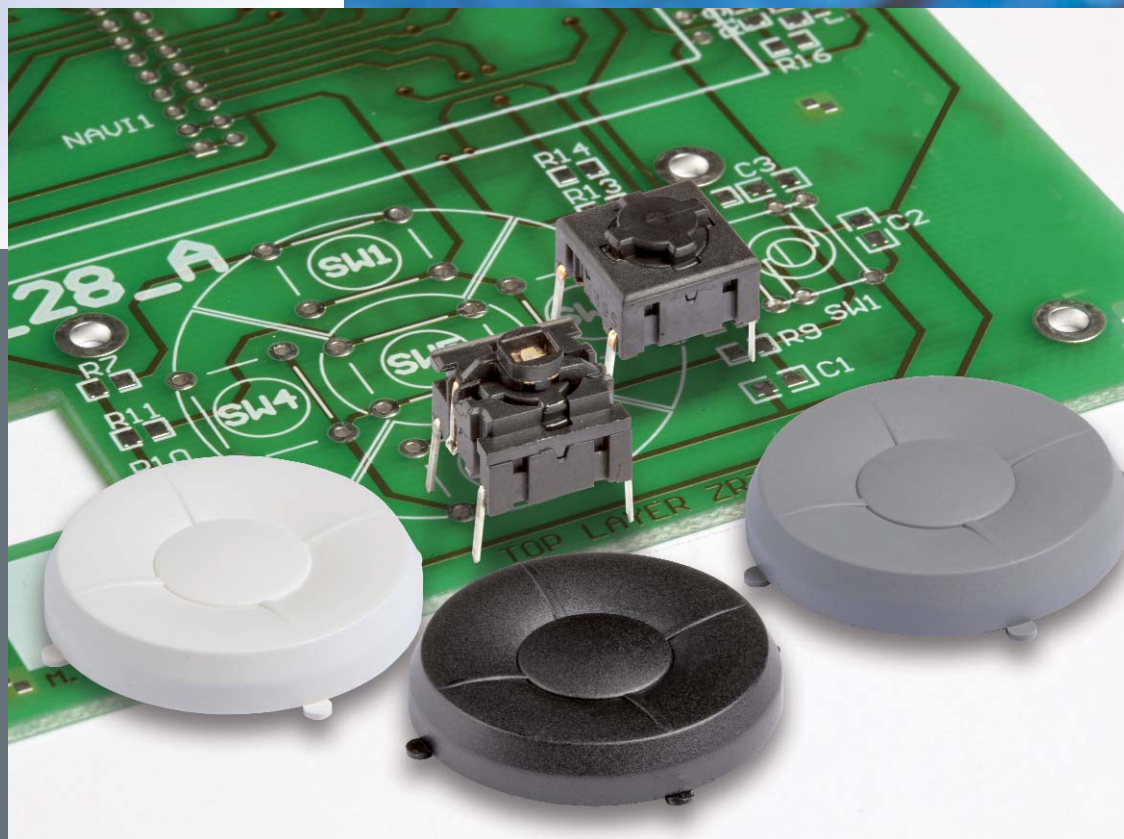
HOW TO ORDER

5 G						Panel seal	
Switch	Mounting	Actuation force	LED	Cap for seal 1ZW	Colour code	Seal 1ZZ	Seal support 1ZY
	TH9 through-hole	20	01 blue		00 blue		
	-hole	35	22 green		02 green		
	SH9 surface mount	65	42 yellow		03 grey		
			61 white		04 yellow		
			82 red		06 white		
			2242 green/yellow		08 red		
			8222 red/green		09 black		
			8242 red/yellow		11 transparent		
					16 frosted white		

5 E		
Switch	Mounting	Actuation force
	TH9 through-hole	20
	SH9 surface mount	35
		65

See colour codes on our website: www.mec.dk
Dimensions (mm) Unless otherwise specified, all tolerances ± 0,2

Ordering example (sealed version) 1ZW: 1 x 5GTH920 + 4 x 5ETH935 + 1ZW03 + 1ZZ + 1ZY



Controlmec TM is a five position integrated switch solution, designed for easy activations for indoor and non-dusty applications, to control a unit, navigate in a display, operate auxiliary equipment indoor on a vehicle, boat or similar. The Controlmec can also be supplied as an IP67 sealed solution. The Controlmec exist of:

- One complete solid cap
- The unit panel plate (customers design)
- The PCB including the switches

The PCB with the switches, shall be assembled according to the MEC datasheet, and mounted to the back side of the front panel.

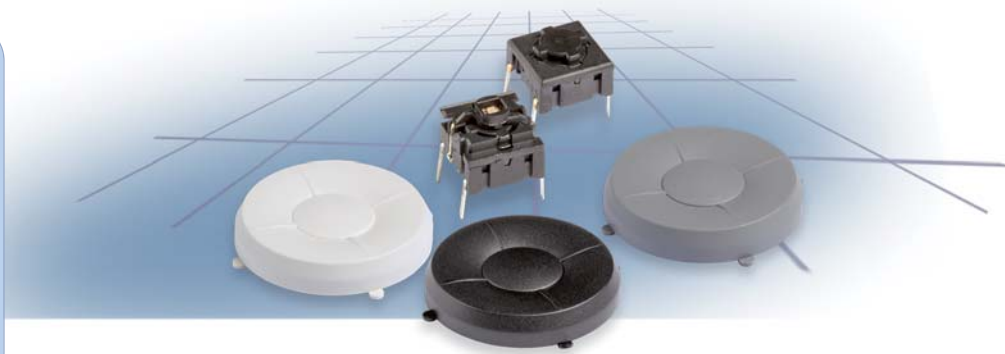
The Controlmec is an extension of the Navimec system which includes the Multimec switches, of excellent high quality and long lifetime. Configurations can be made with through hole or SMD switch versions, provided they are accurately positioned.



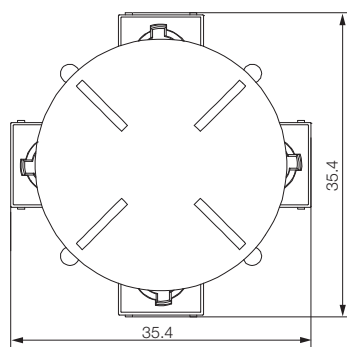
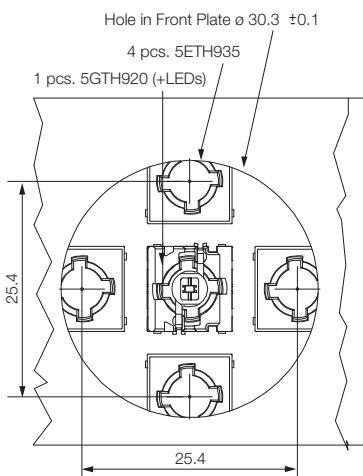
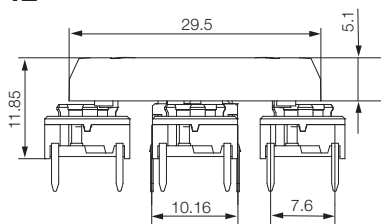
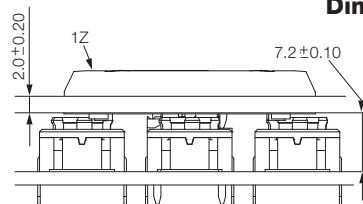
Distributor:

Technical Data

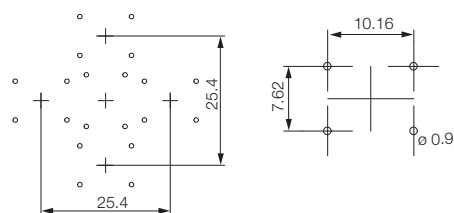
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:
LED: -40/+85°C
solid cap +65°C
transparent +85°C
- actuation force: 2.0, 3.5, 6.5 N



Dimensions 1Z



Recommended PCB layout



HOW TO ORDER

5 G

Switch Mounting

TH9 through-hole
SH9 surface mount

Actuation force

20
35
65

LED

01 blue
22 green
42 yellow
61 white
82 red
2242 green/yellow
8222 red/green
8242 red/yellow

Cap

1Z

Colour code

00 blue
02 green
03 grey
04 yellow
06 white
08 red
09 black
11 transparent
16 frosted white

5 E

Switch

Mounting

TH9 through-hole
SH9 surface mount

Actuation force

20
35
65

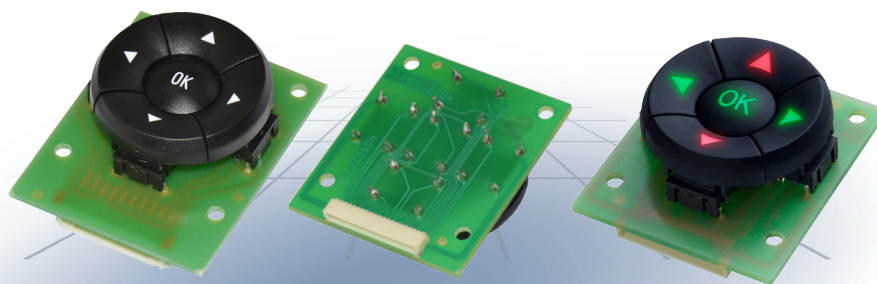
See colour codes on our website: www.mec.dk
Dimensions (mm) Unless otherwise specified, all tolerances ±0,2

Ordering example (unsealed version)1Z: 1 x 5GTH920 + 4 x 5ETH935 + 1Z03

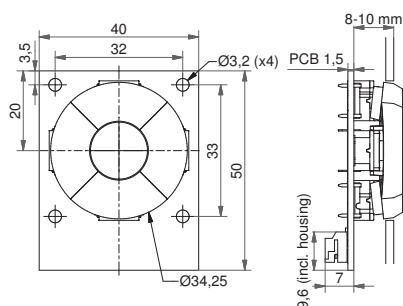
Technical Data:

- module should be attached to the front plate with bolts (bolts not supplied by MEC)
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations lifetime
- switches sealed to IP67
- temperature range:
switch body: -40/+160°C
LED: -30/+85°C
- actuation force: 2.0, 3.5, 6.5 N

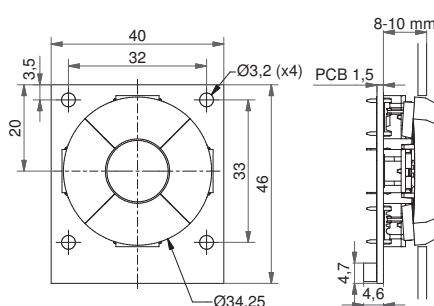
Navimec Module standard and illuminated



Dimensions Standard Navimec module



Dimensions illuminated Navimec module

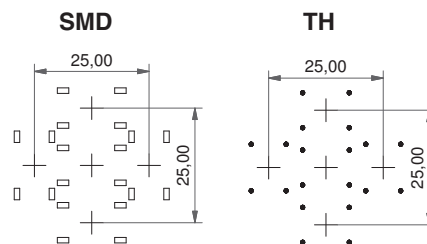


*When the 1ZB is activated the diameter changes from 34,25mm to 35,0mm

Recommended panel cut-out:

ø = 35,0 - 35,5 Depending on application

PCB layout for Navimec solution



HOW TO ORDER

Navimec Module ordering options:

- Navimec Module excl. keycaps
- Navimec Module incl. keycaps
- Navimec Module incl. keycaps with legends
- illuminated Navimec Module excl. keycaps
- illuminated Navimec Module incl. keycaps with legends

Part no. 9810120 - PCB and connector for Navimec Module

Part no. 9810125 - PCB and connector for illuminated Navimec Module

Part no. for switches and caps:

Navimec Module has many customisation options regarding actuation force, cap and LED colours and legends. Because of that ordering is based on part numbers of separate parts instead of one specific part number. MEC has the switches mounted on the module before delivery, which is included in the module price.

See the other side for information on switch and cap options as well as the examples below.

For example:

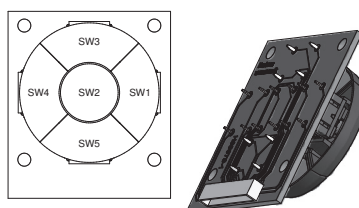
9810120 + 4x 5GTH920 + 1x 5GTH920 (without caps)

9810120 + 4x 5GTH965+1ZB42 + 1x 5GTH965+1ZCS42 (with caps)

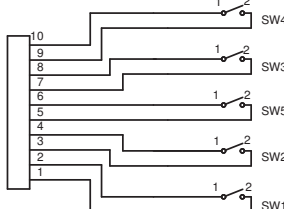
9810125 + 4x 5GTH93501+1ZB16LM136 + 1x 5GTH93501

+1ZCS16LM118 (painted caps with laser engraved legends)

Circuit diagram Navimec module



Standard

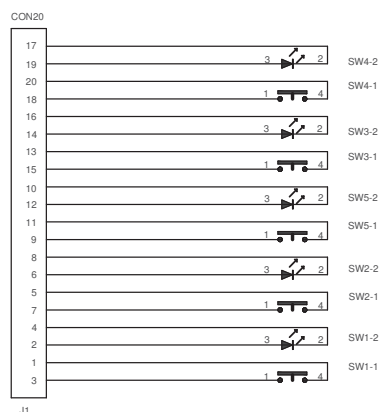


The connector on the standard Navimec module is JST SMT S108-PH-SM3-TB or similar. We recommend using:

Cable socket: JST PHR-10 or similar

Contact: JST SPH-002T-P0.5S or similar

illuminated



The connector on the illuminated Navimec module is CI1120M1H or similar.

We recommend using:

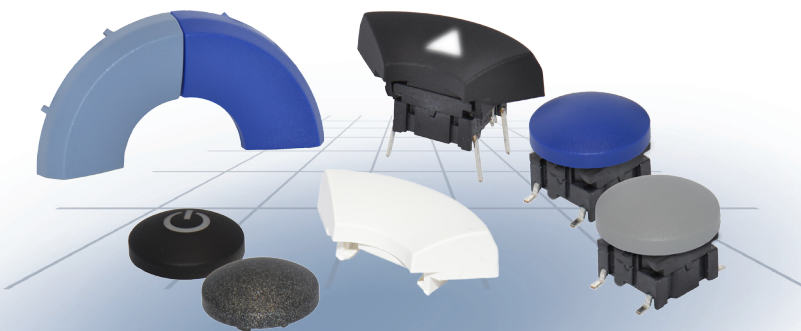
Cable socket: Cvilux CI1120S0000 or similar

Contact: Cvilux CI11T011PP0 or similar

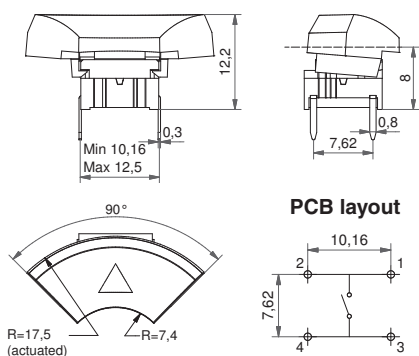
Distributor:

Technical Data:

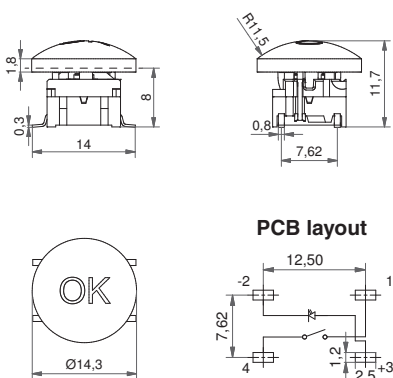
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations lifetime
- IP67 sealing
- temperature range:
switch body: -40/+160°C
LED: -30/+85°C
- actuation force: 2.0, 3.5, 6.5 N



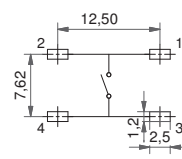
Dimensions (through-hole) + 1ZB



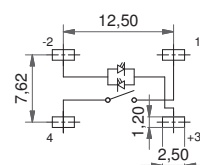
Dimensions (SMD w/LED) + 1ZCS



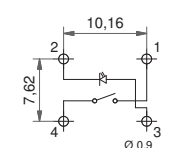
PCB layout SMD



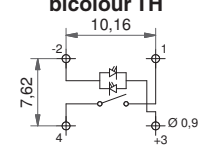
PCB layout bicolour SMD



PCB layout TH w/LED



PCB layout bicolour TH



HOW TO ORDER illuminated

5 G

Switch

Mounting

TH9 through-hole
SH9 surface mount

Actuation force

20
35
65
Q*

LED

01 blue
22 green
42 yellow
61 white
82 red
2242 green/yellow
8222 red/green
8242 red/yellow

1 Z B 1 6 L M

Cap



frosted white
with black soft
touch paint and
laser marking

1 Z C S 1 6 L M

Cap



Legend code

136 ▲

Legend code

118 OK
123 ⏻

HOW TO ORDER non-illuminated

5 G

Switch

Mounting

TH9 through-hole
SH9 surface mount

Actuation force

20
35
65
Q*

1 Z B

Cap



1 Z C S

Cap



Colour code

02 green
03 grey
06 white
08 red
09 black
30 ultra blue
40 dusty blue
42 aqua blue
50 metal dark blue
53 metal light grey
57 metal dark grey
58 metal bordeaux

Legend code**

136 ▲

Legend code**

038 RESET
105 ENTER
118 OK
119 SET
120 MENU
121 FUNC
122 HOME
123 ⏻

*Quiet version only available for actuation force 2.0N (20) and the letter Q is added to the end of the switch part number. See the ordering example.

Ordering example:

4x 5GTH93561+1ZB16LM136 + 1x 5GTH93561+1ZCS16LM118 (with illumination)

4x 5GSH920+1ZB09 + 1x 5GSH920+1ZCS09 (without illumination)

*5GTH92001Q or 5GSH920Q (quiet version)

For product updates and further information see our website: www.mec.dk

** White legends on black caps are standard, other options are available but considered custom products.

Dimensions (mm) Unless otherwise specified, all tolerances +/- 0,2

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Apem:

[1DS02](#) [1DS03](#) [1DS06](#) [1DS08](#) [1DS09](#) [1DS11](#) [1DS16](#) [1DS30](#) [1ES001](#) [1GAS09](#) [1JS11](#) [1PS06](#) [1PS09](#) [1QS031](#)
[1SS09-08.0](#) [1SS09-09.5](#) [1SS09-10.4](#) [1SS09-12.0](#) [1SS09-16.0](#) [1SS09-19.0](#) [1SS09-22.5](#) [5ESH935](#) [5ETH920](#)
[5ETH935](#) [5ETH965](#) [5GSH93542](#) [5GTH935](#) [1UW](#) [1TW](#) [1VW](#) [1US16](#) [1TS16](#) [1VS16](#) [2SS09-05.0](#) [5GTH93522](#)
[1TS08](#) [1P09](#) [1V03](#) [5GTH93542](#) [1Q091](#) [5GSH93501](#) [1VS08](#) [5GSH9358222](#) [5ESH965](#) [1U16](#) [1U08](#) [1TS09](#)
[5GSH93522](#) [1T03](#) [5GTH93561](#) [1S09-22.5](#) [1QS096](#) [5GTH93501](#) [1S09-19.0](#) [1JS09](#) [5GTH93582](#) [1S11-16.0](#)
[5GSH93582](#) [1S09-16.0](#) [5GSH965](#) [1T16](#) [5GTH9358222](#) [1P03](#) [1U03](#) [1R036](#) [1PS11](#) [1U09](#) [1V09](#) [1SS09-15.0](#)
[5GTH965](#) [1US08](#) [5ETH920S](#) [5ESH965R](#) [5ETH965-2SL](#) [5ETH920-2SL](#) [5ESH920Q](#) [5ETH935S](#) [5ETH965S](#)
[5ETH935-2SL](#) [5ETH965RAS](#)