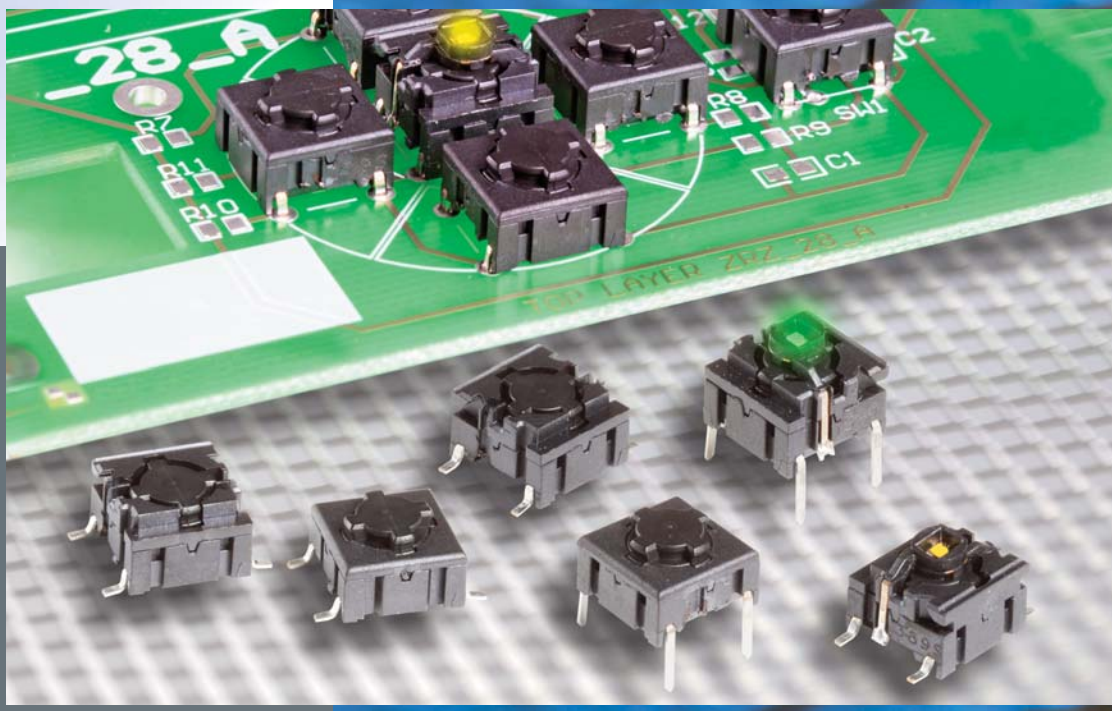
mec switches

5E/5G



The Multimec 5E and 5G series is the new generation of the existing 3A, 3C, 3E, 3F, 4A and 4Fmultimec 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:

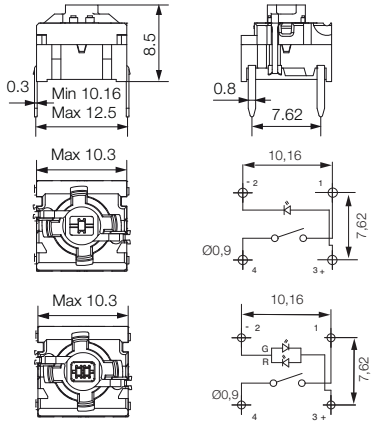
multimec® 5E/5G



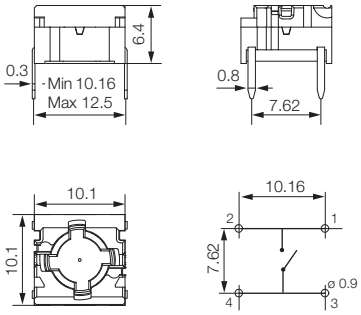
Technical Data:

- 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

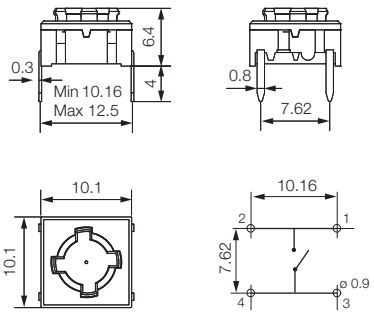
5GTH9 (through-hole) 1+2 LED



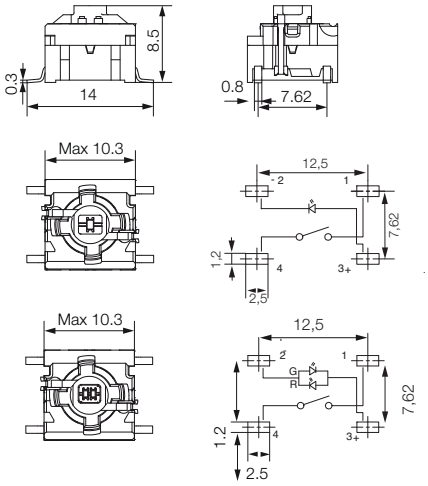
5GTH9 (through-hole)



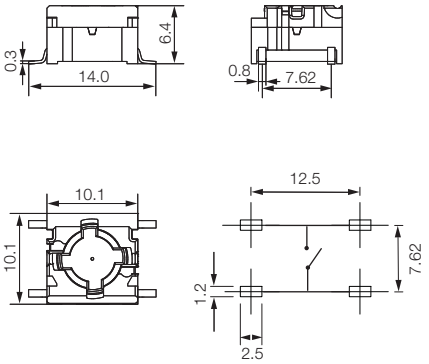
5ETH9 (through-hole)



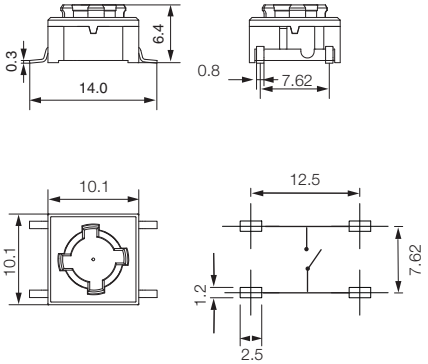
5GSH9 (SMD) 1+2 LEDS



5GSH9 (SMD)



5ESH9 (SMD)



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

5 E

Switch

Mounting
TH9 through-hole
SH9 surface mount

Actuation force
20
35
65

5 G

Switch

Mounting
TH9 through-hole
SH9 surface mount

Actuation force
20
35
65

Ordering example: 5GSH96535

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

mec a/s dec. 2009

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

mec switches

1A/1H/1M/1ZA



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:

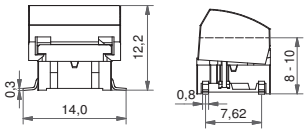
multimec®

5G + 1A/1H/1M/1ZA

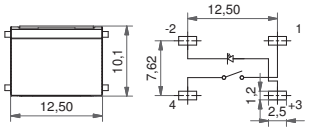
Technical Data:
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations lifetime
- IP67 sealing
- temp. range: switch:-40/+160°C
  LED: -30/+85°C
  solid keycap: -40/+65°C
  transparent keycap: -40/+85°C
- actuation force: 2.0, 3.5, 6.5 N



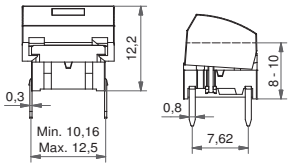
Dimensions (SMD w/LED)
1A



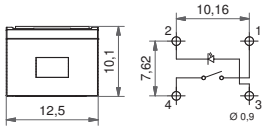
PCB layout



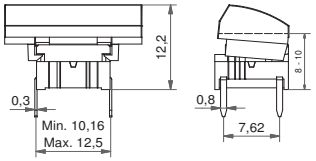
Dimensions (TH w/LED)
1H



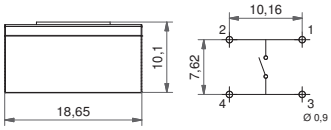
PCB layout



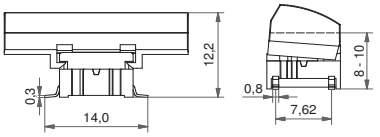
Dimensions (through-hole)
1ZA



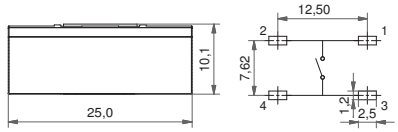
PCB layout



Dimensions (SMD)
1M



PCB layout



HOW TO ORDER illuminated

5 G	☐☐☐	☐☐	☐☐☐☐	+	☐☐	☐☐	☐
Switch	**Mounting**	**Actuation force**	**LED**		**Cap**	**Colour code 1H**	**Lens 1H**
	TH9 through-hole	**20**	**01** blue		1H	**00** blue **06** white	**1** transparent
	SH9 surface mount	**35**	**22** green			**02** green **08** red	**2** green
		65	**42** yellow			**03** grey **09** black	**4** yellow
		Q**	**61** white			**04** yellow	**6** frosted white
			82 red			**Colour code 1A**	**8** red
			2242 green/yellow		1A	**10** frosted blue **16** frosted white	
			8222 red/green			**12** frosted green **18** frosted red	
			8242 red/yellow			**14** frosted yellow	

HOW TO ORDER non-illuminated

5 G	☐☐☐	☐☐☐	+	☐☐☐	☐☐
Switch	**Mounting**	**Actuation force**		**Cap**	**Colour code**
	TH9 through-hole	**20**		1A	**00** blue **30***ultra blue **50***metal dark blue
	SH9 surface mount	**35**			**02** green **40***dusty blue **53***metal light grey
		65		1ZA	**03***grey **42***aqua blue **57***metal dark grey
		Q**			**04** yellow **32** mint green **58** metal bordeaux
				1M	**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

MEC A/S September 2011

MEC A/S Industriparken 23 • DK-2750 Ballerup • Denmark
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mec switches

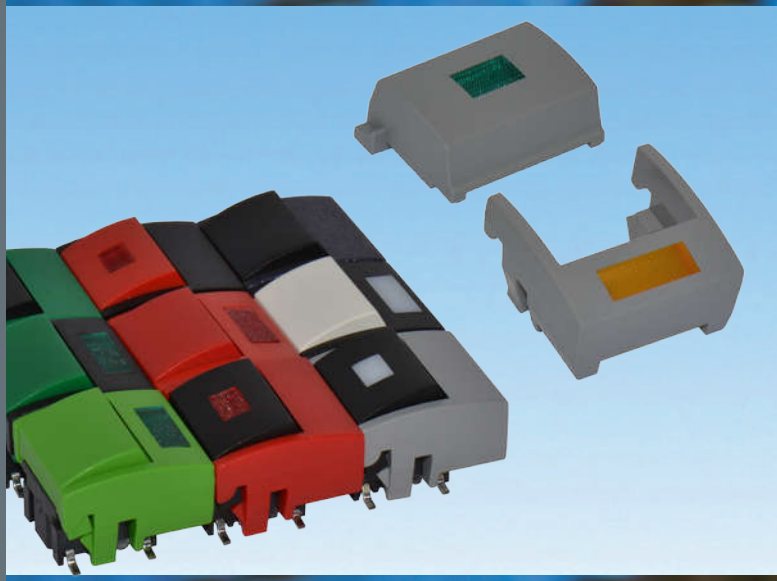
1B/1C+2C/2D



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:

multimec®

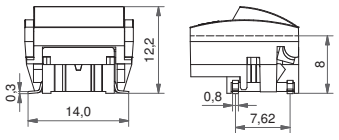
5G + 1B/1C + 2C/2D

Technical Data:

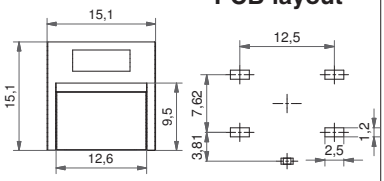
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations lifetime
- IP67 sealing
- temp. range: switch:-40/+160°C
  LED: -30/+85°C
  solid keycap: -40/+65°C
  transparent keycap: -40/+85°C
- actuation force: 2.0, 3.5, 6.5 N



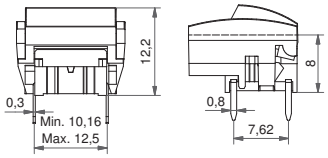
Dimensions (SMD)
1B+2D



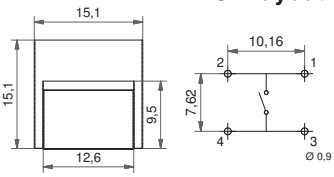
PCB layout



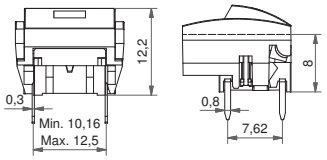
Dimensions (through-hole)
1B+2C



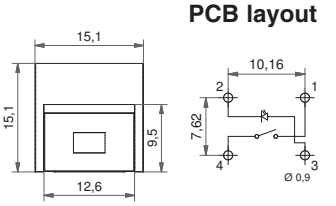
PCB layout



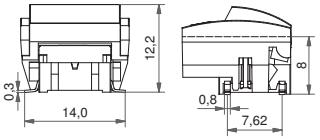
Dimensions (TH w/LED)
1C+2C



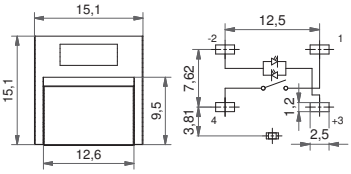
PCB layout



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



PCB layout



HOW TO ORDER illuminated

5 G	☐☐☐	☐☐	☐☐☐☐	1 C	☐☐	☐	2 C	☐☐
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** solid colour	**Colour code**	**Lens**	**Bezel**	**Colour code**
			+	1 B	☐☐		+ 2 D	☐☐ ☐
				Cap transparent	**Colour code**		**Bezel**	**Colour code** **Lens**

HOW TO ORDER non-illuminated

5 G	☐☐☐	☐☐☐	+	1 B	☐☐	+	2 C	☐☐	or	2 D	☐☐ ☐
Switch	**Mounting** **TH9** through-hole **SH9** surface mount	**Actuation force** **20** **35** **65** **Q***		**Cap** solid colour	**Colour code**		**Bezel**	**Colour code**		**Bezel**	**Colour code** **Lens**

*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 orde-

COLOUR CODES

Transparent caps
10 frosted blue
11 transparent
12 frosted green
14 frosted yellow
16 frosted white
18 frosted red

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

For 1B and 2C 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

Lenses
1 transparent
2 green
4 yellow
6 frosted white
8 red

Ordering example: 5GTH93561+1C001+2C09 with illumination
5GSH954+1B08+2D081 without illumination
**5GSH92001Q or 5GTH920Q (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

MEC A/S September 2011

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mec switches

1DS/1ES/1FS



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



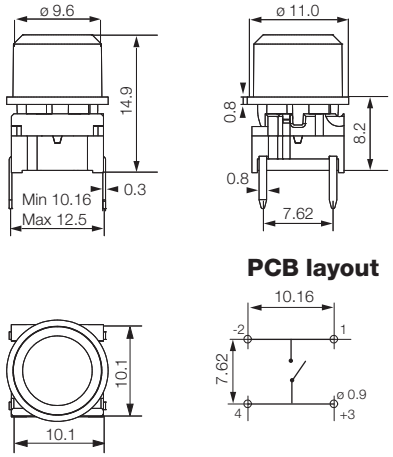
Distributor:

multimec® 5G + 1DS/1ES/1FS

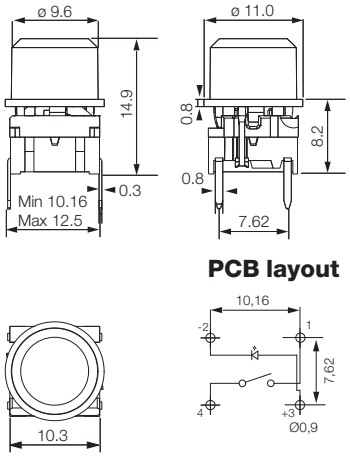
Technical Data
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:
  LED:-40/+85°C
  solid cap +65°C
  transparent +85°C
- actuation force: 2.0, 3.5, 6.5 N



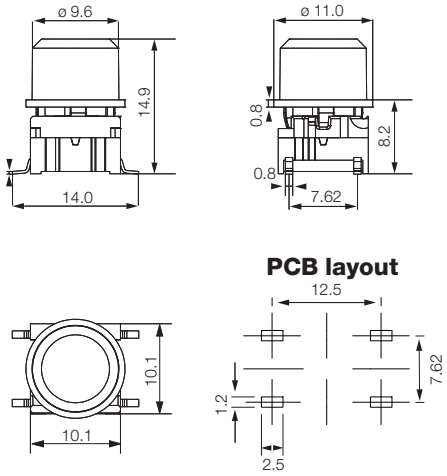
Dimensions (through-hole)



Dimensions (w. LED)



Dimensions (SMD)



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		**08** red	
			61 white	**1FS** with lens	**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 ±0,2

Ordering example: 5GTH935 + 1DS08

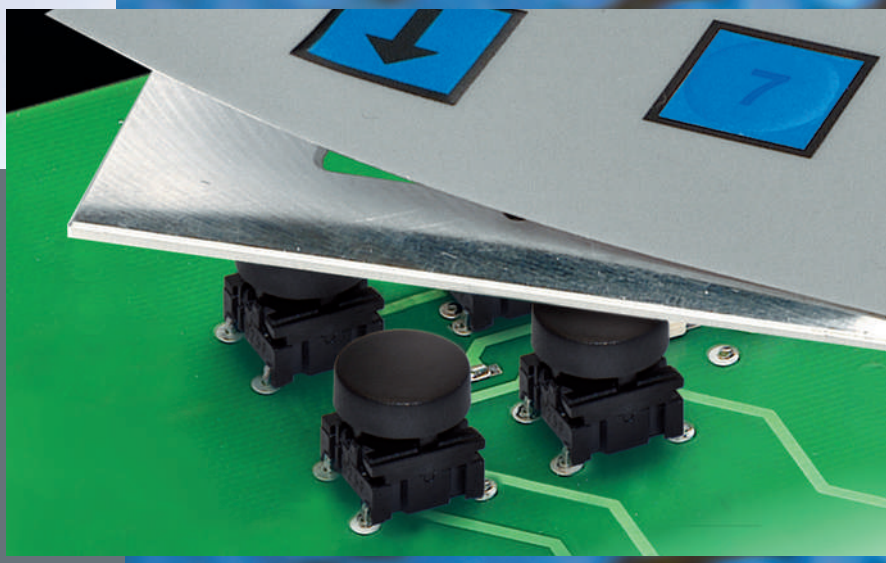
See colour codes on our website: www.mec.dk

mec a/s dec. 2009

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

mec switches

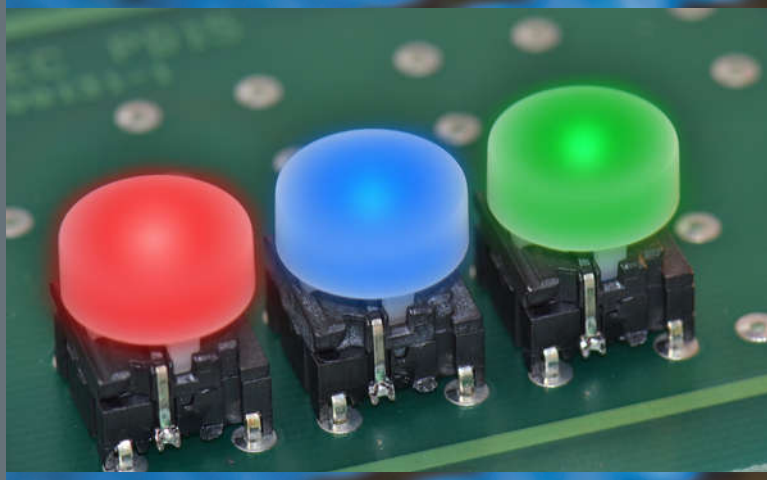
1GAS/1GCS



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:

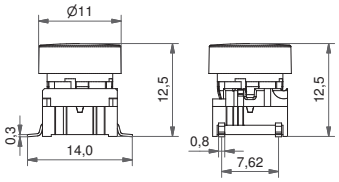
multimec®

5G + 1GAS/1GCS

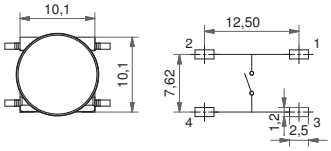
Technical Data:
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations lifetime
- IP67 sealing
- temp. range: switch:-40/+160°C
  LED: -30/+85°C
  solid keycap: -40/+160°C
  transparent keycap: -40/+85°C
- actuation force: 2.0, 3.5, 6.5 N



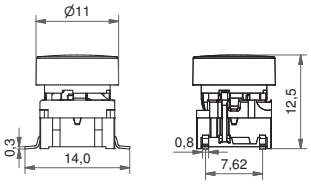
Dimensions (SMD) + 1GAS



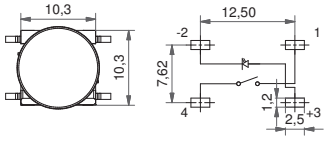
PCB layout



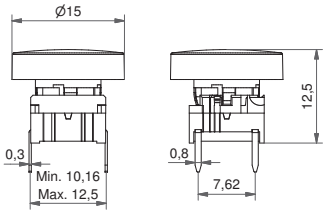
Dimensions (SMD w/LED) + 1GAS



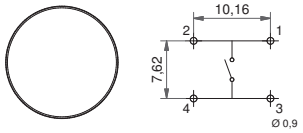
PCB layout



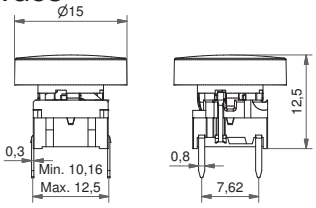
Dimensions (through-hole) + 1GCS



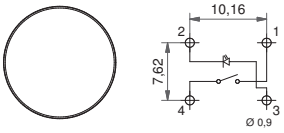
PCB layout



Dimensions (TH w/LED) + 1GCS



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
transparent colour

1GAS



1GCS



Colour code
11 transparent
16 frosted white

HOW TO ORDER non-illuminated

5 G [ ][ ][ ] + [ ][ ][ ][ ]

Switch

Mounting
TH9 through-hole
SH9 surface mount

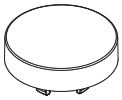
Actuation force
20
35
65
Q*

Cap
solid colour

1GAS



1GCS



Colour code
00 blue
02 green
03 grey
04 yellow
06 white
08 red
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 + 1GAS09 without illumination
5GTH96501 + 1GCS16 with illumination
*5GSH920Q or 5GTH92061Q (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

MEC A/S May 2012

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mec switches

1JS



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:

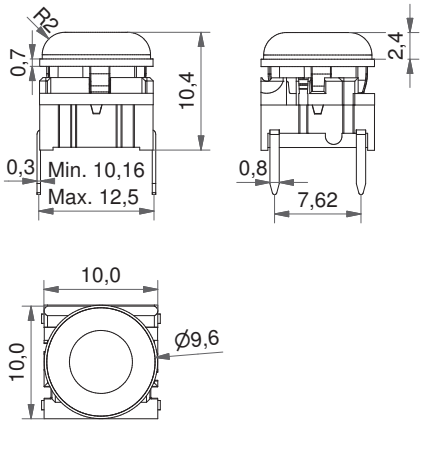
multimec®

5G + 1JS

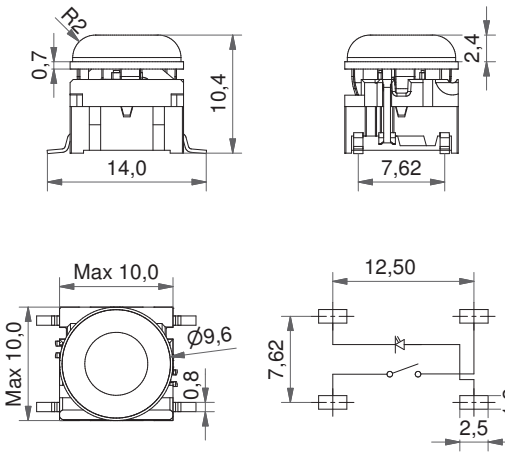
Technical Data:
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations lifetime
- IP67 sealing
- temperature range:
  LED: -30/+85°C
  solid cap: +65°C
  transparent: +85°C
- actuation force: 2.0, 3.5, 6.5 N



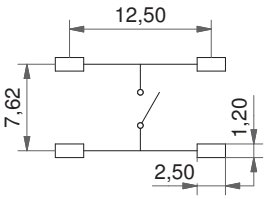
Dimensions (through-hole)



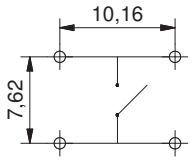
Dimensions (SMD w/LED)



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

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MEC A/S Feb 2011

mec switches

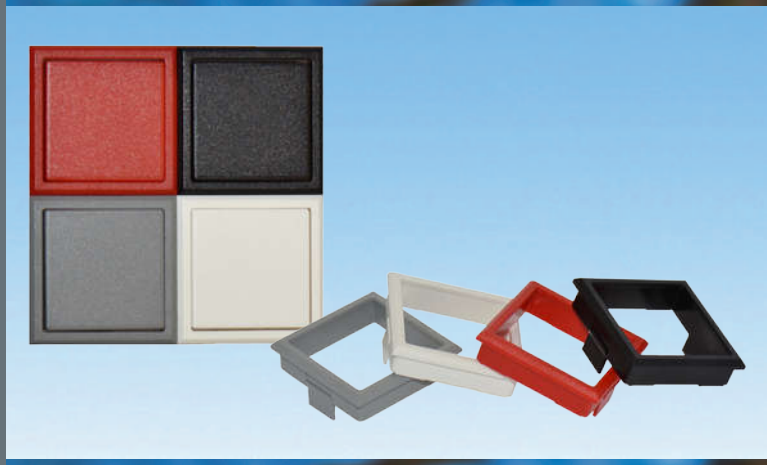
1KS/KBS/KCS



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.



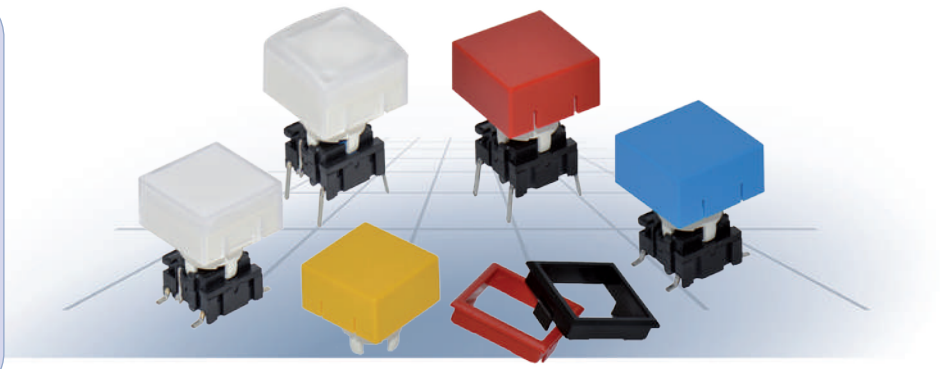


Distributor:

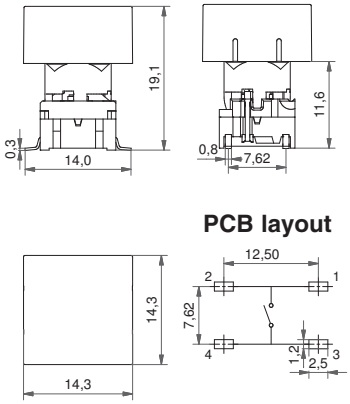
multimec®

5G + 1KS/1KBS/1KCS

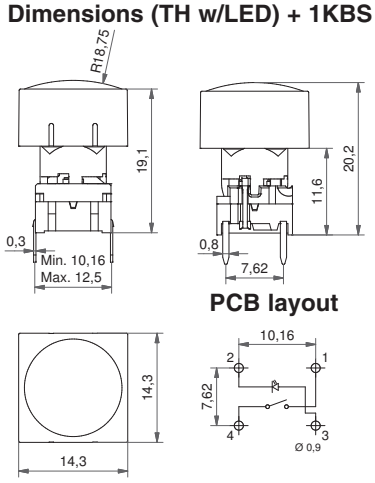
Technical Data:
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations lifetime
- IP67 sealing
- temp. range: switch:-40/+160°C
  LED: -30/+85°C
  solid keycap: -40/+65°C
  transparent keycap: -40/+85°C
- actuation force: 2.0, 3.5, 6.5 N



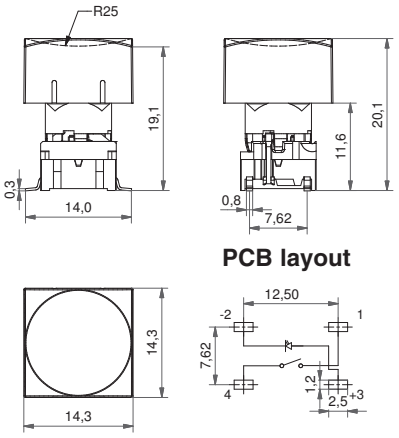
Dimensions (SMD) + 1KS



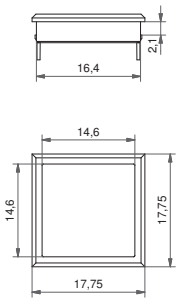
Dimensions (TH w/LED) + 1KBS



Dimensions (SMD w/LED) + 1KCS

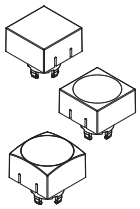


Dimensions (Bezel) (optional)



HOW TO ORDER illuminated

5 G					1 1 1 6		2 K	
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** frosted white lens and transparent lid	+	**Bezel** **03** grey **06** white **08** red **09** black



HOW TO ORDER non-illuminated

5 G				1 K S		1 6		2 K	
Switch	**Mounting** **TH9** through-hole **SH9** surface mount	**Actuation force** **20** **35** **65** **Q***	+	**Cap** 1KS		**Colour code** **00** blue **02** green **03** grey **04** yellow **06** white **08** red **09** black	+	**Bezel** **03** grey **06** white **08** red **09** black	

*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: 5GTH93501+1KCS1116+2K09 with illumination
5GSH965+1KS09+2K03 without illumination
*5GTH92082Q or 5GSH920Q (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

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

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MEC A/S October 2011

mec switches

1PS/1QS/1RS



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





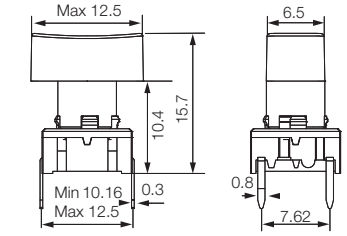
Distributor:

multimec® 5E/5G + 1PS/1QS/1RS

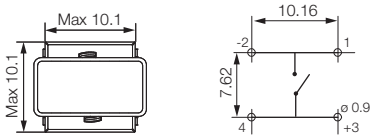
Technical Data
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:
  LED:-40/+85°C
  solid cap +65°C
  transparent +85°C
- actuation force: 2.0, 3.5, 6.5 N



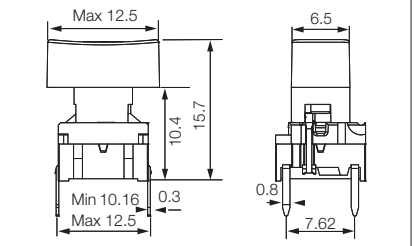
Dimensions (through-hole)

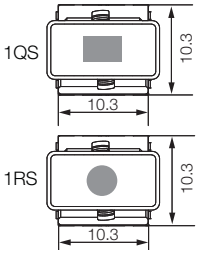


PCB layout

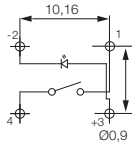


Dimensions (w/LED)

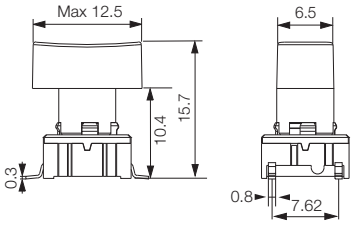




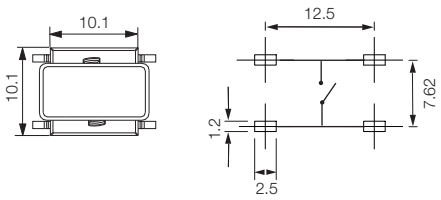
PCB layout



Dimensions (SMD)



PCB layout



HOW TO ORDER

Switch 5 G

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

1QS with lens



1RS with lens



1PS



Colour code
- **00** blue
- **03** grey
- **08** red
- **09** black

Lens
- **1** transparent
- **6** frosted white

Colour code
- **11** transparent
- **16** frosted white

Switch to be used: 5E or 5G

5 E
5 G

Mounting
- **TH9** through-hole
- **SH9** surface mount

Actuation force
- **20**
- **35**
- **65**

Cap

1PS solid colour



Colour code
- **00** blue
- **02** green
- **03** grey
- **04** yellow
- **06** white
- **08** red
- **09** black

Dimensions (mm) Unless otherwise specified, all tolerances ±0,2

Ordering example: 5ETH935+1PS08

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

mec a/s dec. 2009

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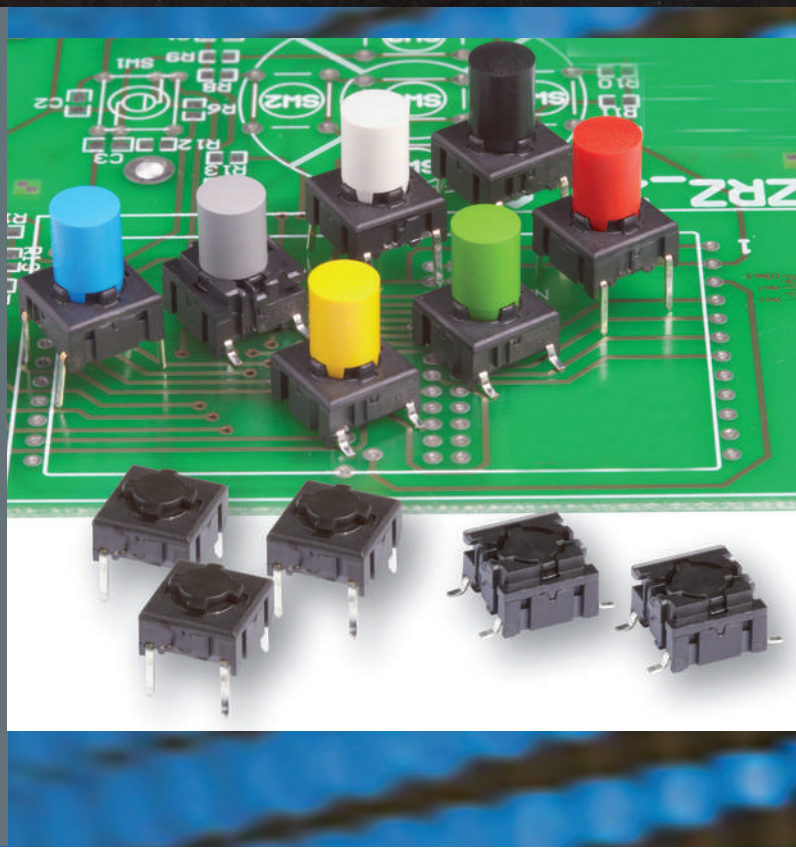
mec switches

1SS/1LS/1IS



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

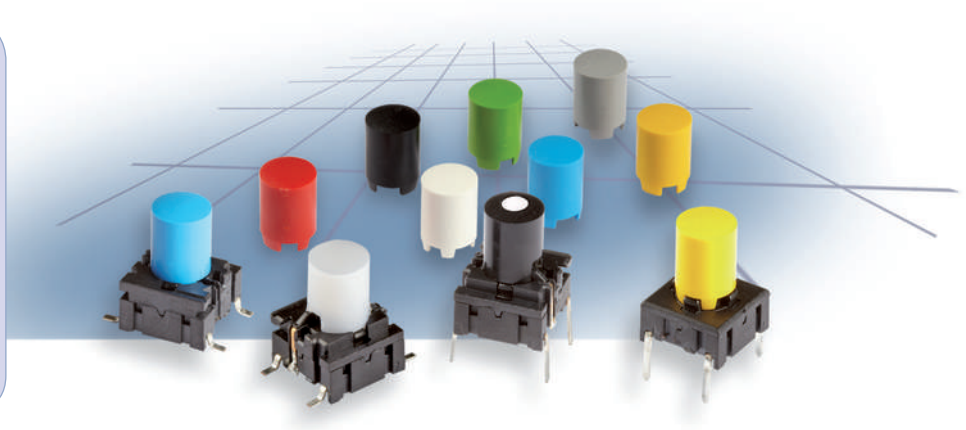


Distributor:

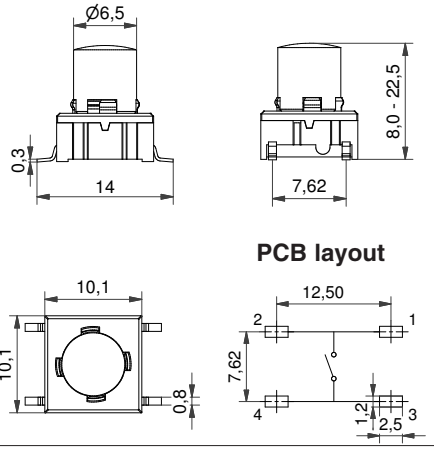
multimec®

5E/5G + 1SS/1LS/1IS

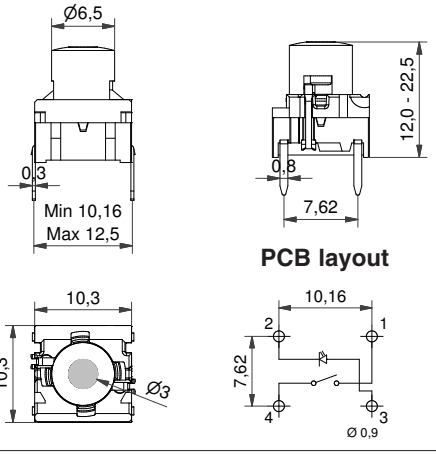
Technical Data:
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations lifetime
- IP67 sealing
- temp. range: switch:-40/+160°C
  LED: -30/+85°C
  solid keycap: -40/+160°C
  transparent keycap: -40/+85°C
- actuation force: 2.0, 3.5, 6.5 N



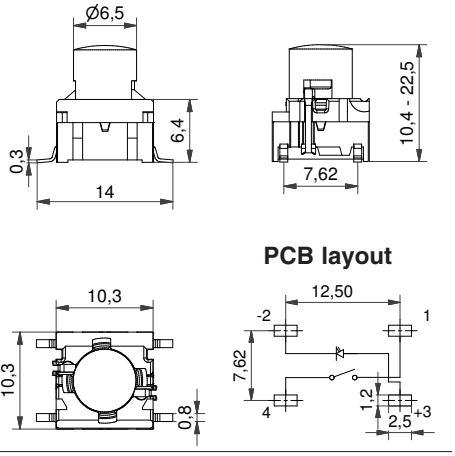
Dimensions (SMD) + 1SS



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			**09** black	**6** frosted white	
			82 red		**1IS**	**11** transparent	**8** red	**Height/1IS**
			2242 green/yellow		transparent	**16** frosted white		**10.4** **16.0**
			8222 red/green					**11.0** **19.0**
			8242 red/yellow					**12.0** **22.5**
								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

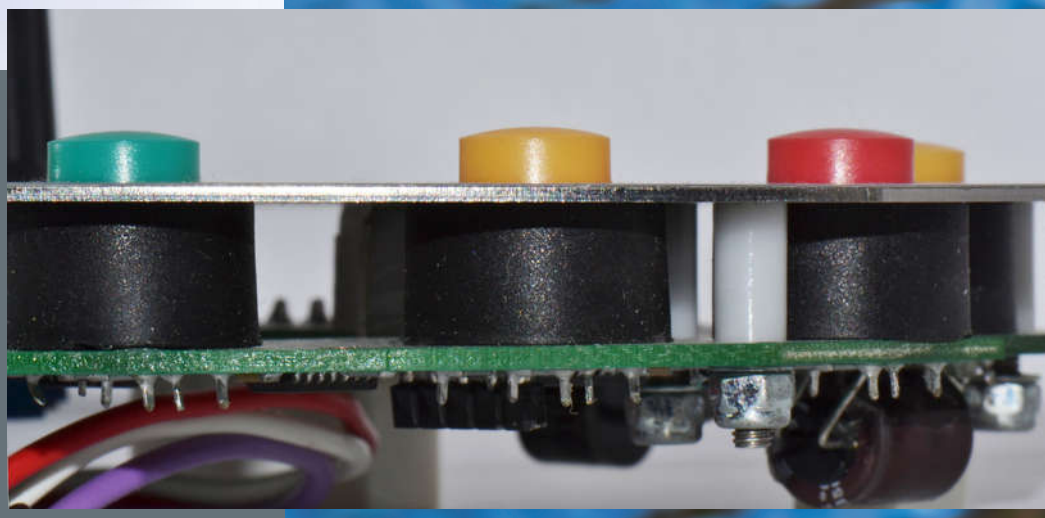
For updates of products and/or changes of specifications please see www.mec.dk

MEC A/S February 2012

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mec switches

Panel sealed 1TS/1US/1VS

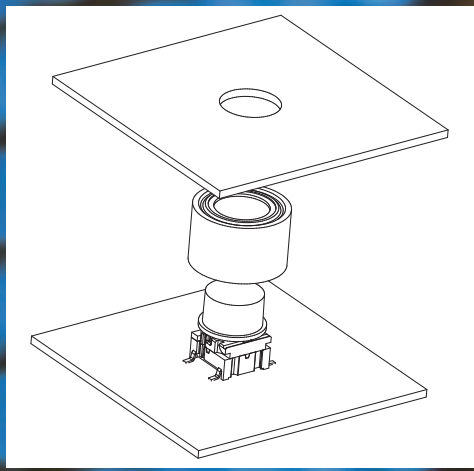


The sealings 1TW/1UW/1VW provide an opportunity of having the 1TS/1US/1VS caps with panel sealing.

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.



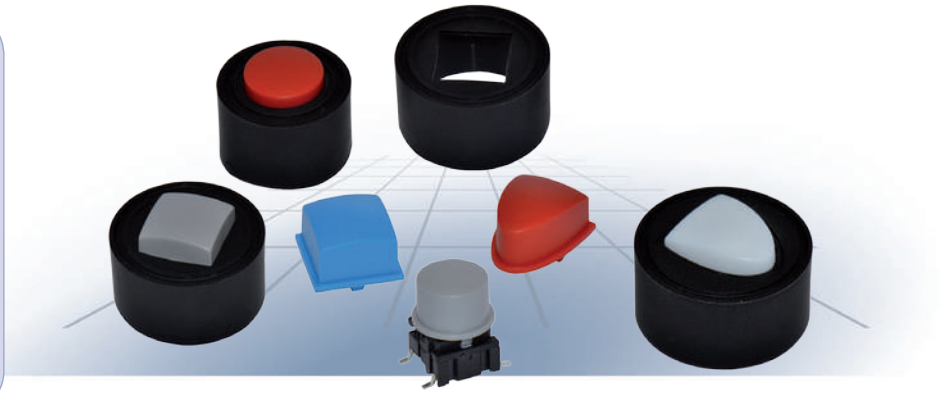


Distributor:

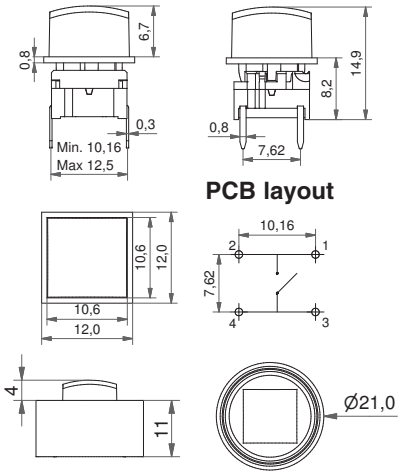
multimec® 5G+1TS/1US/1VS+1TW/1UW/1VW

Technical Data:

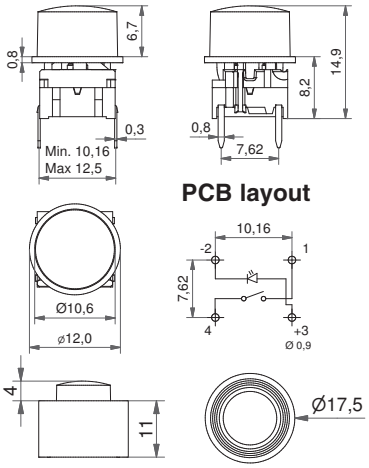
- through-hole or surface mount
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations lifetime
- Switch: IP67 sealing
- temp. range: switch:-40/+160°C
  LED: -30/+85°C
  solid keycap: -40/+65°C
  transparent keycap: -40/+85°C
- actuation force: 2.0, 3.5, 6.5 N



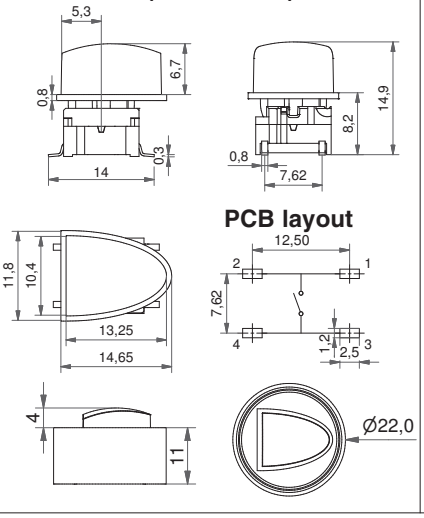
Dimensions (TH) 1TS+1TW



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

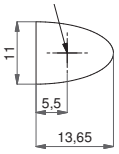


Dimensions (SMD w/LED) 1VS+1VW

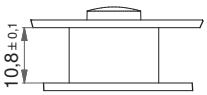


Recommended panel cut-out

1TS - 11x11mm
1US - Ø11mm
1VS



Distance between PCB and front panel



HOW TO ORDER illuminated

5 G							
Switch	**Mounting** **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** **1TS** **1US** **1VS**	**Colour code** **16** frosted white	+ **Sealing** **1TW** **1UW** **1VW**

HOW TO ORDER non-illuminated

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

*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

MEC A/S November 2011

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mec switches

1ZW "with panel seal"



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.





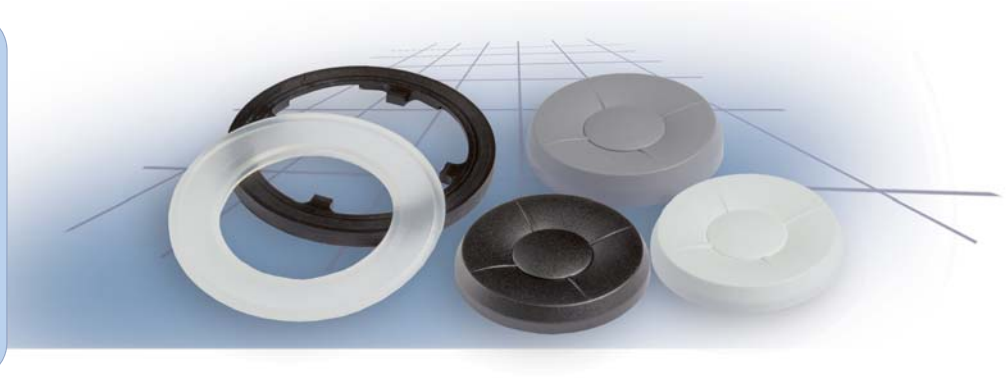
Distributor:

controlmec®

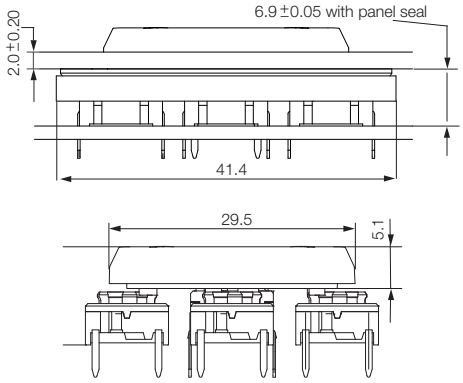
1ZW "sealed"

Technical Data

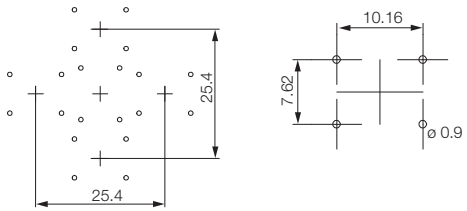
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:
  LED:-40/+85°C
  solid cap +65°C
  transparent +85°C
- actuation force: 2.0, 3.5, 6.5 N



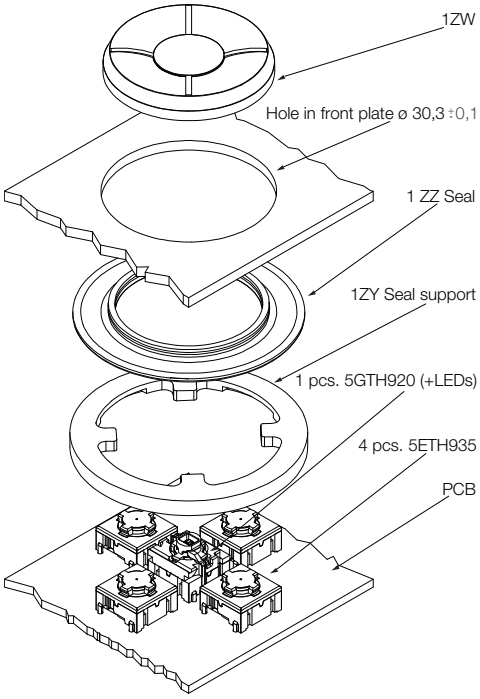
Dimensions 1ZW



Recommented PCB layout



Mounting example



HOW TO ORDER

Panel seal

5 G							
Switch	**Mounting**	**Actuation force**	**LED**	**Cap for seal 1ZW**	**Colour code**	**Seal 1ZZ**	**Seal support 1ZY**
	TH9 through -hole	**20**	**01** blue		**00** blue		
	SH9 surface mount	**35**	**22** green		**02** green		
		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

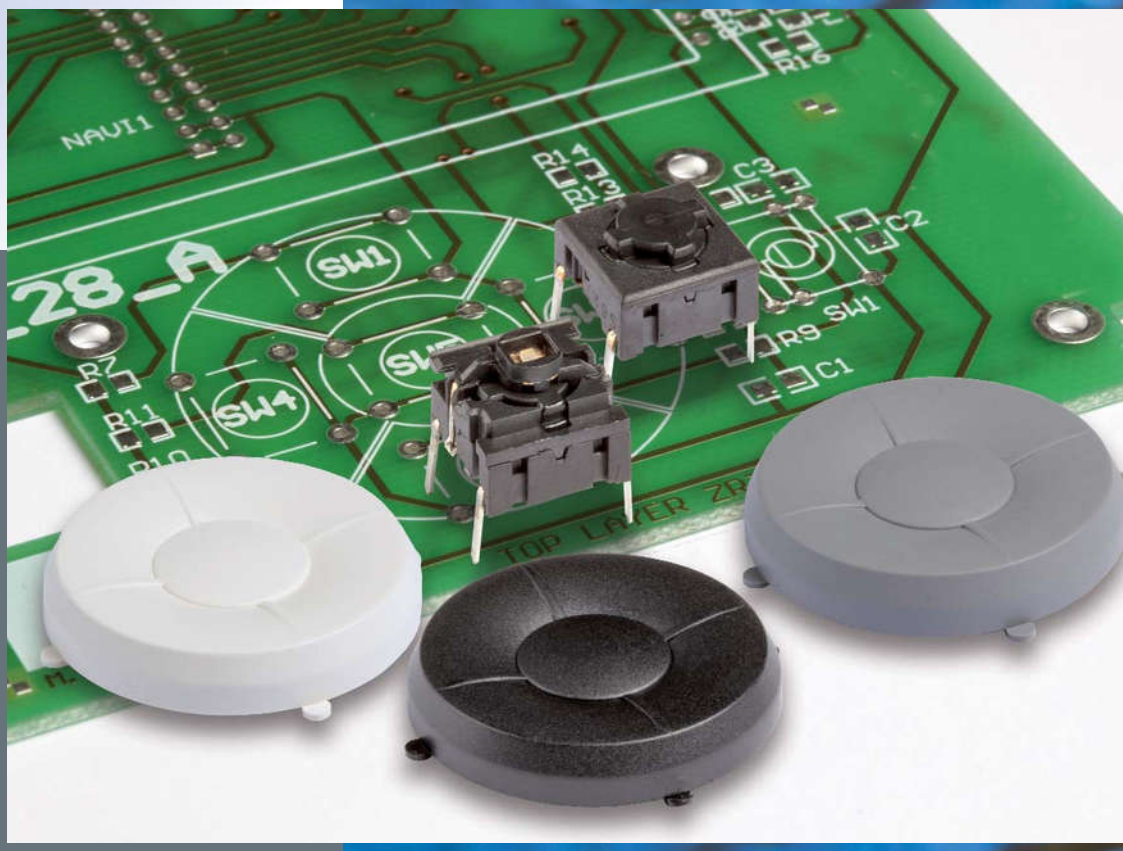
Ordering example (sealed version) 1ZW: 1 x 5GTH920 + 4 x 5ETH935 + 1ZW03 + 1ZZ + 1ZY

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mec a/s dec. 2009

mec switches

1Z "without panel seal"



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.



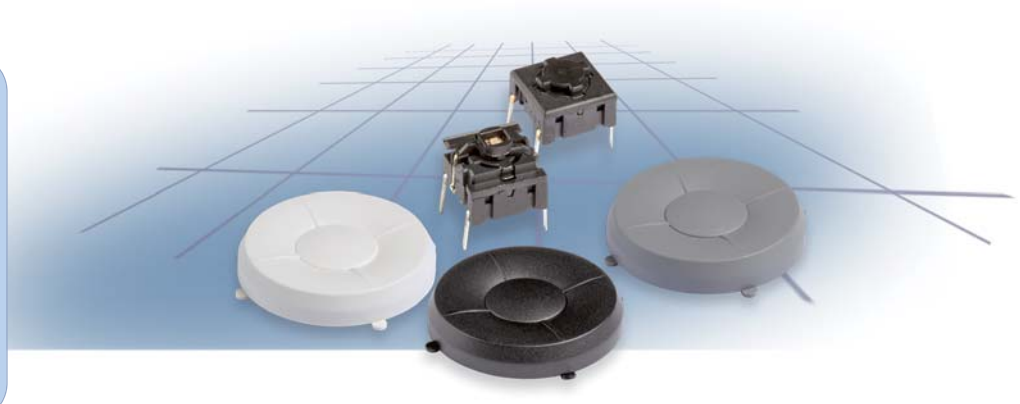
Distributor:

controlmec®

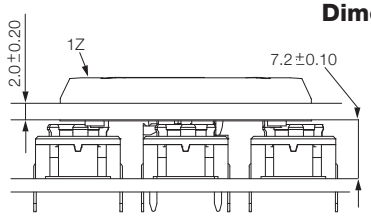
1Z "without sealing"

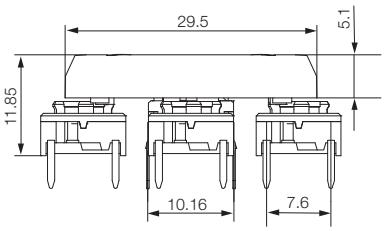
Technical Data

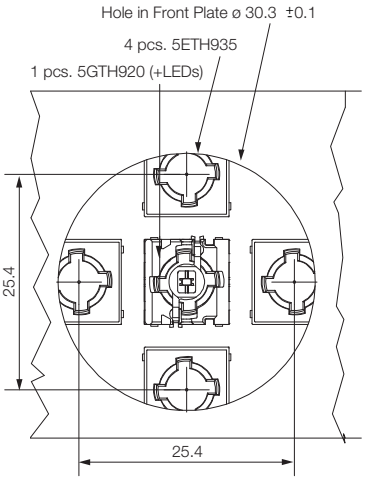
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:
  LED:-40/+85°C
  solid cap +65°C
  transparent +85°C
- actuation force: 2.0, 3.5, 6.5 N

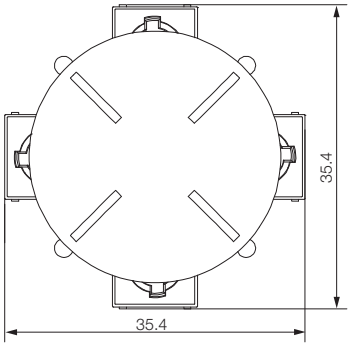


Dimensions 1Z

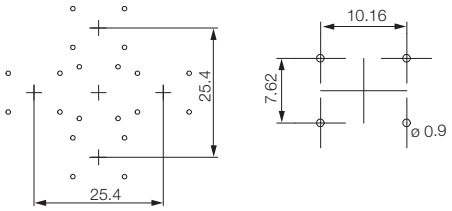








Recommented PCB layout



HOW TO ORDER

5 G					
Switch	**Mounting**	**Actuation force**	**LED**	**Cap**	**Colour code**
	TH9 through-hole	**20**	**01** blue	**1Z**	**00** blue
	SH9 surface mount	**35**	**22** green		**02** green
		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 (unsealed version)1Z: 1 x 5GTH920 + 4 x 5ETH935 + 1Z03

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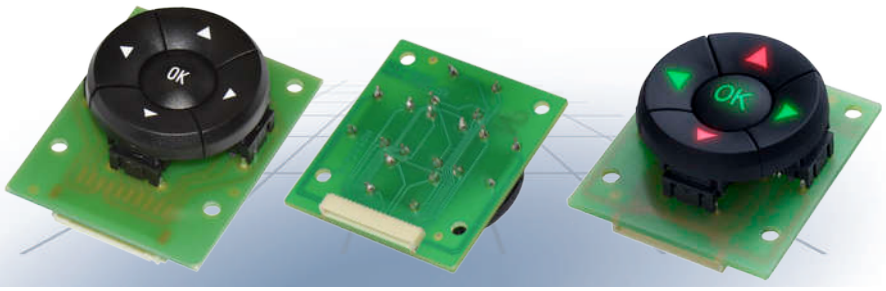
mec a/s dec. 2009

Navimec

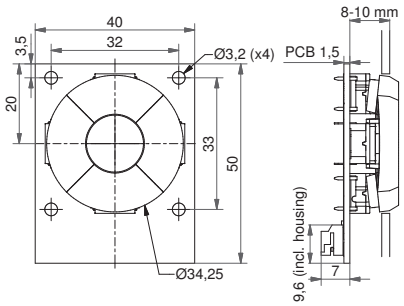
Navimec Module standard and illuminated

Technical Data:

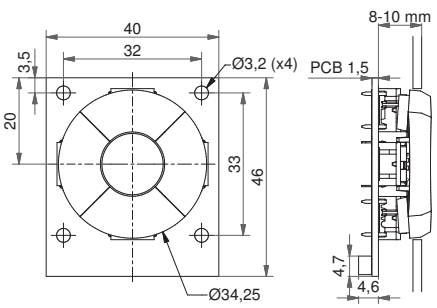
- module should be attached to the front plate with bolts (bolts not supplied by MEC)
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations lifetime
- switches sealed to IP67
- temperature range:
  switch body:-40/+160°C
  LED: -30/+85°C
- actuation force: 2.0, 3.5, 6.5 N



Dimensions Standard Navimec module



Dimensions illuminated Navimec module

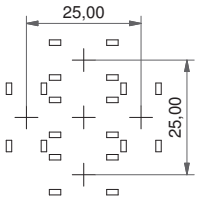


*When the 1ZB is activated the diameter changes from 34,25mm to 35,0mm

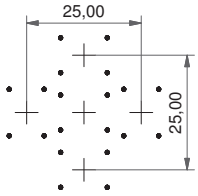
Recommended panel cut-out:
ø = 35,0 - 35,5 Depending on application

PCB layout for Navimec solution

SMD



TH



HOW TO ORDER

Navimec Module ordering options:

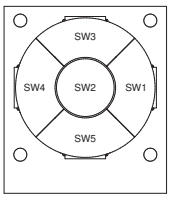
- Navimec Module excl. keycaps
- Navimec Module incl. keycaps
- Navimec Module incl. keycaps with legends
- illuminated Navimec Module excl. keycaps
- illuminated Navimec Module incl. keycaps with legends

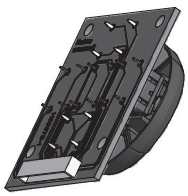
Part no. 9810120 - PCB and connector for Navimec Module
Part no. 9810125 - PCB and connector for illuminated Navimec Module

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.

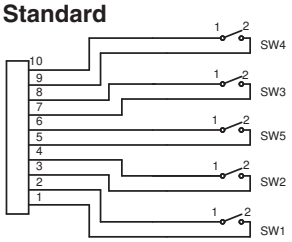
For example:
9810120 + 4x 5GTH920 + 1x 5GTH920 (without caps)
9810120 + 4x 5GTH965+1ZB42 + 1x 5GTH965+1ZCS42 (with caps)
9810125 + 4x 5GTH93501+1ZB16LM136 + 1x 5GTH93501 +1ZCS16LM118 (painted caps with laser engraved legends)

Circuit diagram Navimec module



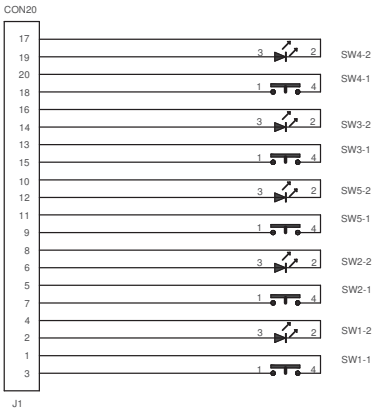


Standard



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

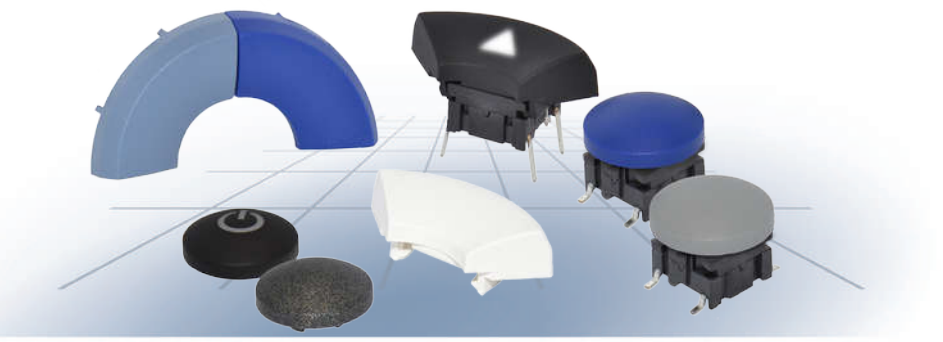
Distributor:

multimec®

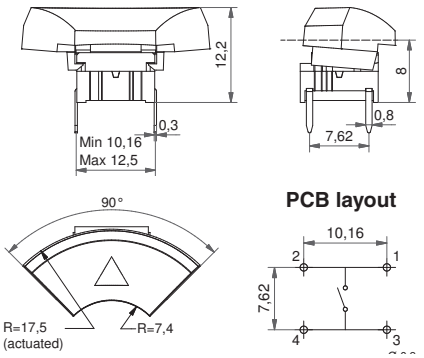
5G + 1ZB/1ZCS

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

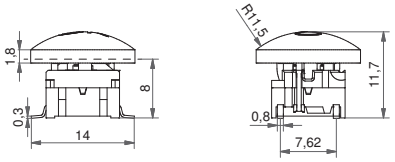


Dimensions (through-hole) + 1ZB



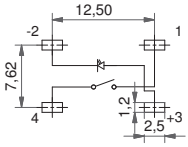
PCB layout

Dimensions (SMD w/LED) + 1ZCS

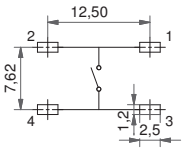




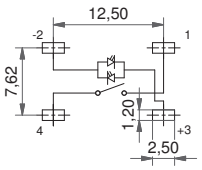
PCB layout



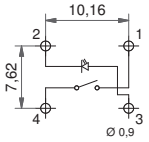
PCB layout SMD



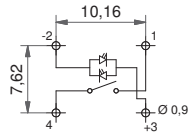
PCB layout bicolour SMD



PCB layout TH w/LED



PCB layout bicolour TH



HOW TO ORDER illuminated

5 G				+	1 Z B 1 6 L M	
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**  frosted white with black soft touch paint and laser marking	**Legend code** **136** ▲
					1 Z C S 1 6 L M **Cap** 	**Legend code** **118** OK **123** ⏻

HOW TO ORDER non-illuminated

5 G			+	1 Z B			
Switch	**Mounting** **TH9** through-hole **SH9** surface mount	**Actuation force** **20** **35** **65** **Q***		**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** ▲
				1 Z C S **Cap** 		**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

MEC A/S July 2011

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