

# multimec® basic switch modules

Through-hole Versions							
3A		3C		3E	3F		
For 1A/1B/1M/1ZA/1ZB	w/LED for 1C/1H			For 3E actuators/Varimec	For 1D/1K/1N/1P/1S/1T/1U/1V/1WA/1WD/1WG/1WP/1X/1ZC/1GA/1GC	w/LED for 1D/1E/1F/1N/1Q/1R/1S/1X	w/LED for 1K/1KB/1KC/1T/1U/1V/1WA/1WD/1WP
<b>Standard Versions</b>							
3ATL6 3ATH9	3ATL600/20/40/80	3CTL6/3CTL9 3CTH9	3ETLXX-H* 3ETHXX-H*	3FTL6 3FTH9	3FTL600/20/40/60/80/ 2040/8020/8040	3FTL623/45/88	
* 3E available in 6 standard heights: 08.0, 09.5, 10.4, 11.0, 12.0, 15.0 mm. Other heights between 08.0 and 15.0 mm are available upon request.							
Specials: Gold contacts, quiet version and actuation force other than 3.0N							

Surface Mount Versions				Right Angle Versions			
3A	3C	3E	3F	3C	3E	3F	3F w/LED
For 1A/1B/1M/1ZA/1ZB		For 3E actuators/Varimec	For 1D/1K/1N/1P/1S/1T/1U/1V/1WA/1WD/1WP/1X/1ZC/1GA/1GC		For 3E actuators/Varimec	For 1D/1K/1N/1P/1S/1T/1U/1V/1W/1WA/1WD/1WP/1X/1ZC/1GA/1GC	For 1D/1E/1F/1N/1Q/1R/1S/1X
<b>Standard Versions</b>				<b>Standard Versions</b>			
3ASH9/3ASH9R	3CSH9/3CSH9R	3ESH9/3ESH9R	3FSH9/3FSH9R	3CTL6RAS	3ETXX-X.XRAS	3FTL6RAS	3FTL600/20/40/60/80/ 2040/8020/8040RAS

Co-planarity = ≤ 0.05

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

## multimec® Cross Section



For updates of products and/or changes of specifications please see [www.mec.dk](http://www.mec.dk)

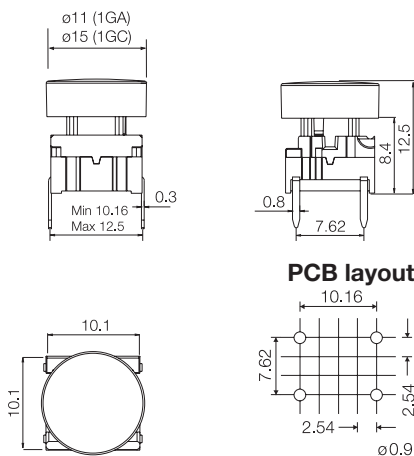
# multimec® 3F + 1GA/1GC

## Technical Data

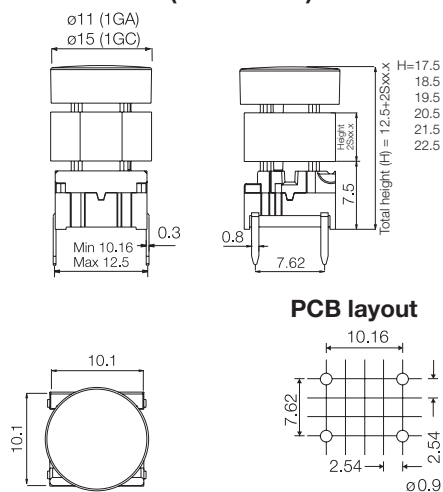
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:  
low temp: -40/+115°C  
high temp: -40/+160°C



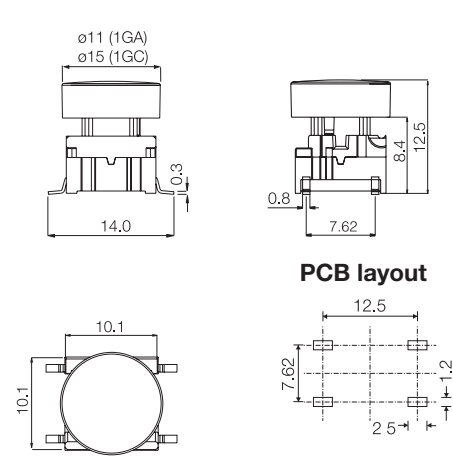
### Dimensions (through-hole)



### Dimensions (w/extender)



### Dimensions (SMD)



## How to order

**3 F**
**Switch**

**Mounting**
**T** through-hole  
**S** surface mount

**L 6** low temp.  
**H 9** high temp.

**+**
**1 G A 0 9**
**Cap black**

**1 G C 0 9**
**Cap black**

**+**
**2 S 0 9 - . 0**
**Extender black**

 (Optional)  
Adds 5-10 mm  
to total height.

**Height**
**05.0**
**06.0**
**07.0**
**08.0**
**09.0**
**10.0**

Keycap	Variable Extender	H (height) mm	Example
1GA/1GC		12.5	H 1
1GA/1GC	2S09-05.0	17.5	H 2
	2S09-06.0	18.5	
	2S09-07.0	19.5	
	2S09-08.0	20.5	
	2S09-09.0	21.5	
	2S09-10.0	22.5	H 3

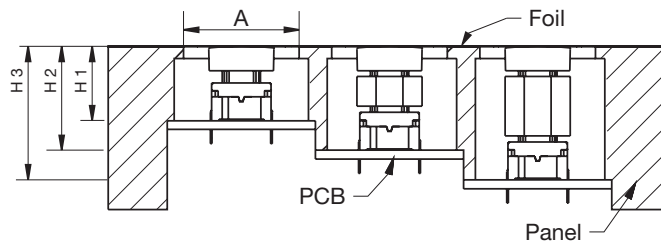
H = Overall height

Overall heights below 12.5 mm - Please see Multimec® versions 3C and 3E.

All 2S09 extenders are stackable giving the possibility to match most overall heights.

 A = We recommend you to allocate enough space for travel of the foil and leave the area free from adhesive.  
Switch travel = 1 mm.

H = We recommend you to calculate this dimension from the top of the PCB to the inner top of the panel.


**Ordering example:** 3FTL6 + 1GA09 or 3FTL6 + 2S09-07.0 + 1GC09

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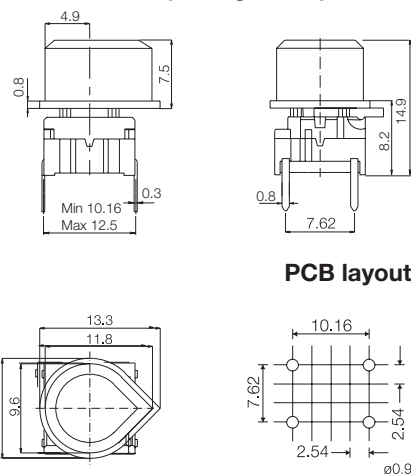
# multimec® 3F + 1N

## Technical Data

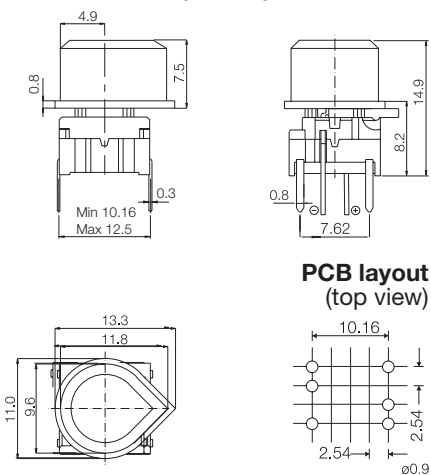
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:  
low temp: -40/+115°C  
high temp: -40/+160°C



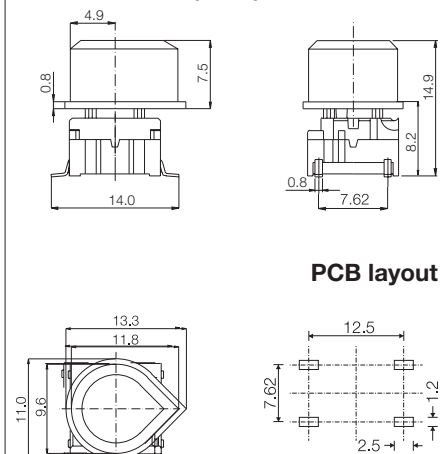
### Dimensions (through-hole)



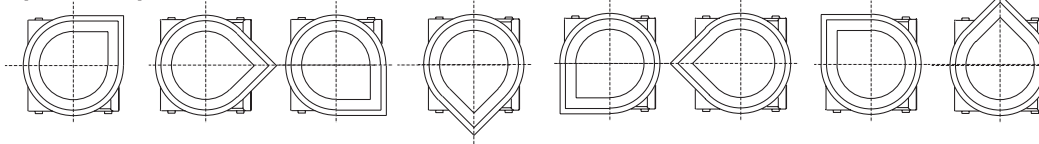
### Dimensions (w/LED)



### Dimensions (SMD)



### 8 different position options



### How to order

**3 F**

Switch

Mounting

T through-hole  
S surface mount

L 6 low temp.  
H 9 high temp.

+

**1 N**

Cap



00 blue  
03 grey  
04 yellow  
08 red  
09 black

**3 F**

Switch

Mounting

T through-hole

L 6 low temp.  
H 9 high temp.

LED

00 blue  
20 green  
40 yellow  
60 white  
80 red  
2040 green/yellow  
8020 red/green  
8040 red/yellow

+

**1 N**

Cap



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

Keycaps shown on this page can also be used on  
illume™ switch 4F - see page 13

Ordering example: 3FTL6 + 1N09 or 3FTL680 + 1N18

For updates of products and/or changes of specifications please see [www.mec.dk](http://www.mec.dk)

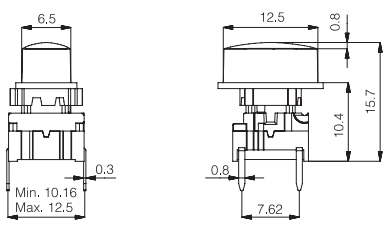
# multimec® 3F + 1WA/1WD/1WP

## Technical Data

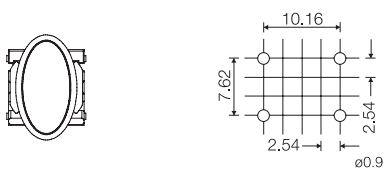
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:  
low temp: -40/+115°C  
high temp: -40/+160°C



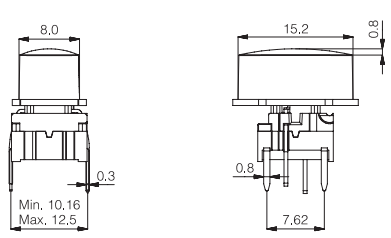
### Dimensions (through-hole) 1WA



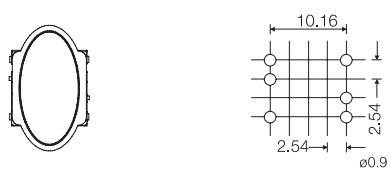
#### PCB layout



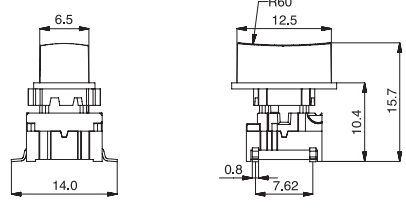
### Dimensions (w/LED) 1WD



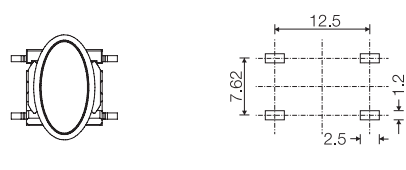
#### PCB layout (top view)



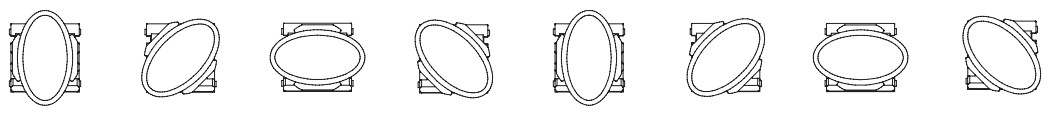
### Dimensions (SMD) 1WP



#### PCB layout



### 8 different position options



### How to order

<b>3 F</b>	<input type="checkbox"/>	<input type="checkbox"/>	+	<input type="checkbox"/>	<input type="checkbox"/>
<b>Switch</b>	<b>Mounting</b>	<b>L 6</b> low temp. <b>H 9</b> high temp.		<b>Cap</b>	<b>00</b> blue <b>03</b> grey <b>08</b> red <b>09</b> black <b>30</b> ultra blue <b>40</b> pigeon blue <b>42</b> aqua blue <b>53</b> metal light grey <b>57</b> metal dark grey
	<b>T</b> through-hole <b>S</b> surface mount			<b>1WA</b> <b>1WD</b> <b>1WP</b>	

<b>3 F</b>	<b>T</b>	<input type="checkbox"/>	<input type="checkbox"/>	+	<input type="checkbox"/>	<input type="checkbox"/>
<b>Switch</b>	<b>Mounting</b>	<b>L 6</b> low temp. <b>H 9</b> high temp.	<b>LED</b>		<b>Cap</b>	<b>16</b> frosted white
	<b>T</b> through-hole		<b>23</b> green <b>45</b> yellow <b>88</b> red		<b>1WA</b> <b>1WD</b> <b>1WP</b>	

Keycaps shown on this page can also be used on **illumecc™ switch 4F** - see page 13

**Ordering example:** 3FTL6 + 1WA09 or 3FTL680 + 1WP16

For updates of products and/or changes of specifications please see [www.mec.dk](http://www.mec.dk)

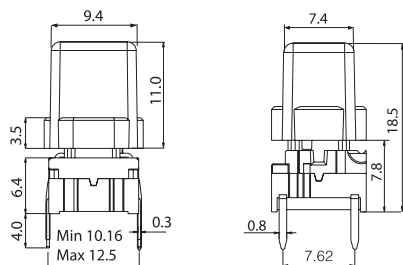
# multimec® 3F + 1X

## Technical Data

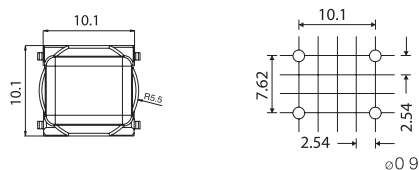
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:
  - low temp: -40/+115°C
  - high temp: -40/+160°C



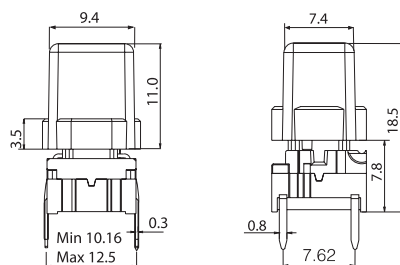
### Dimensions (through-hole)



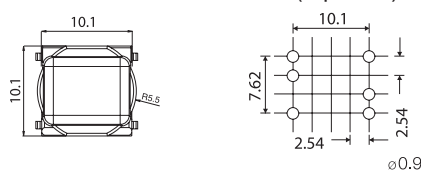
### PCB layout



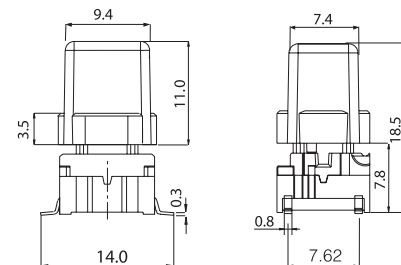
### Dimensions (w/LED)



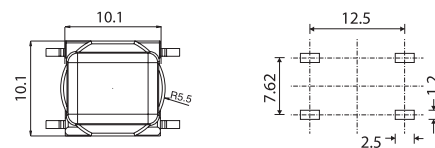
### PCB layout (top view)



### Dimensions (SMD)



### PCB layout



## How to order

**3 F**
**Switch**

**Mounting**
**T** through-hole  
**S** surface mount

**L 6** low temp.  
**H 9** high temp.

**+**
**1 X**
**Cap**

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

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

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

**3 F**
**Switch**

**Mounting**
**T** through-hole

**L 6** low temp.  
**H 9** high temp.

**+**

**LED**  
**00** blue  
**20** green  
**40** yellow  
**60** white  
**80** red  
**2040** green/yellow  
**8020** red/green  
**8040** red/yellow

**1 X**
**Cap**

**11** transparent  
**16** frosted white

Keycaps shown on this page can also be used on  
**illume™ switch 4F** - see page 13

**Ordering example:** 3FTL6 + 1X09 or 3FTL680 + 1X11

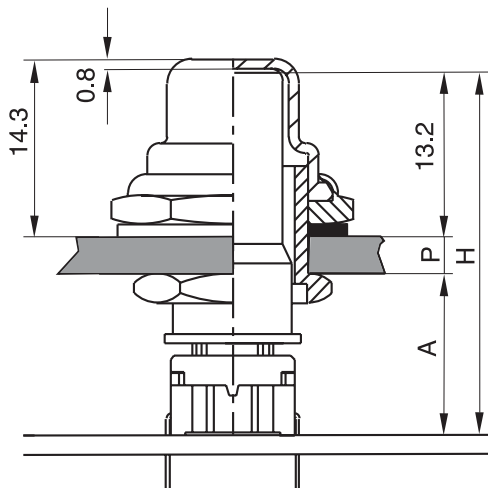
For updates of products and/or changes of specifications please see [www.mec.dk](http://www.mec.dk)

# multimec® Aquamec™

## Specifications switches: Specifications Sealing Boot:

- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:  
low temp: -40/+115°C  
high temp: -40/+160°C

- Operating temperature: -40/+85°C
- IP67 sealing
- sealing life time: 2.000.000 operations
- material: silicone



$$H = A + P + 13.2$$

This leaves nominal 0.3 mm clearance between the top of the cap and the inner side of the sealing boot to accomplish assembly tolerances. **A** can be chosen between 10 -13 mm, we recommend 10 mm to reduce building height and optimize cap guidance.

A	P	CAP	H	BUSHING
10.0	1.0	AQCXX-24.2	24.2	AQN-0.5
10.0	2.0	AQCXX-25.2	25.2	AQN-0.5
10.0	3.0	AQCXX-26.2	26.2	AQN-2.5
10.0	4.0	AQCXX-27.2	27.2	AQN-2.5

Cap is available in black (09) or transparent (11).




The dimension H is the overall height of the switch+cap.




Bushing AQN-0.5 accepts panel thickness (P) 0.5-2.5 mm.

Bushing AQN-2.5 accepts panel thickness (P) 2.5-4.0 mm.

Panel cut out  $\varnothing$  12.0  $\pm$  0.2.

## How to order

<b>3 F</b>	<input type="checkbox"/>	<input type="checkbox"/>	+	<b>AQN</b>	-	<input type="checkbox"/>	.	<input type="checkbox"/>	+	<b>AQC</b>	<input type="checkbox"/>	<input type="checkbox"/>	-	<input type="checkbox"/>	.	<input type="checkbox"/>	+	<b>AQB01</b>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Switch</b>	<b>Mounting</b>	<b>L 6</b> low temp. <b>H 9</b> high temp.		<b>Bushing</b>	<b>Panel</b>	0.5 2.5				<b>Cap</b>	<b>09</b> black <b>11</b> transparent		<b>Overall Height</b>	24.2 25.2 26.2 27.2				<b>Sealing boot, incl. sealing ring</b>	<b>09</b> black <b>11</b> transparent	
	<b>T</b> through-hole <b>S</b> surface mount																			

<b>3 F</b>	<b>T</b>	<input type="checkbox"/>	<input type="checkbox"/>	+	<b>AQN</b>	-	<input type="checkbox"/>	.	<input type="checkbox"/>	+	<b>AQC</b>	<input type="checkbox"/>	<input type="checkbox"/>	-	<input type="checkbox"/>	.	<input type="checkbox"/>	+	<b>AQB01</b>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Switch</b>	<b>Mounting</b>	<b>L 6</b> low temp. <b>H 9</b> high temp.		<b>Bushing</b>	<b>Panel</b>	0.5 2.5				<b>Cap</b>	<b>11</b> transparent		<b>Overall Height</b>	24.2 25.2 26.2 27.2				<b>Sealing boot, incl. sealing ring</b>	<b>11</b> transparent		
	<b>T</b> through-hole																				
					<b>LED</b>																
					<b>00</b> blue <b>20</b> green <b>40</b> yellow <b>60</b> white <b>80</b> red <b>2040</b> green/yellow <b>8020</b> red/green <b>8040</b> red/yellow																

Keycaps shown on this page can also be used on **illumec™ switch 4F** - see page 13

**Ordering example:** AQB0109 + AQC09-27.2 + AQN-2.5 + 3FTL6

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