

# multimec® basic switch modules

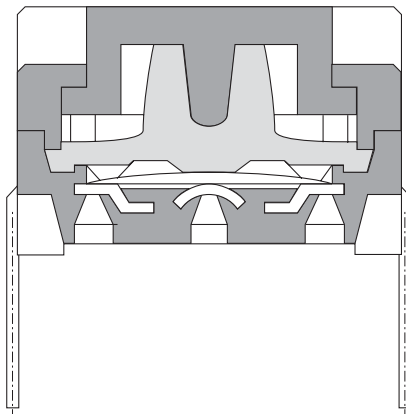
Through-hole Versions							
3A		3C		3E	3F		
For 1A/1B/1M/1ZA/1ZB	w/LED for 1C/1H			For 3E actuators/Varimec	For 1D/1K/1N/1P/1S/1T/1U/1V/1WA/1WD/1WG/1WP/1X/1ZC/1GA/1GC	w/LED for 1D/1E/1F/1N/1Q/1R/1S/1X	w/LED for 1K/1KB/1KC/1T/1U/1V/1WA/1WD/1WP
<b>Standard Versions</b>							
3ATL6 3ATH9	3ATL600/20/40/80	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)

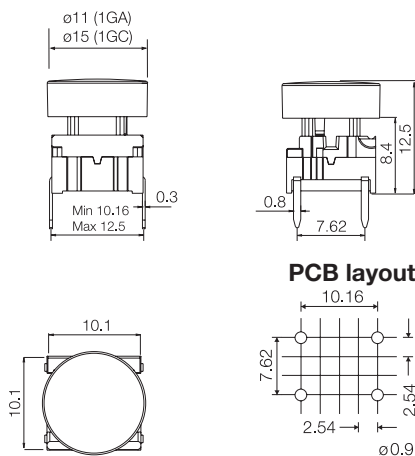
# multimec® 3F + 1GA/1GC

## Technical Data

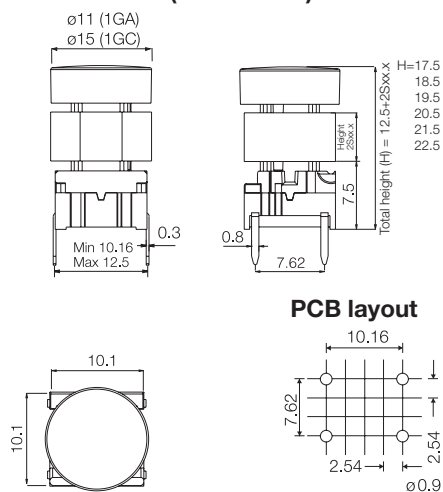
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:
  - low temp: -40/+115°C
  - high temp: -40/+160°C



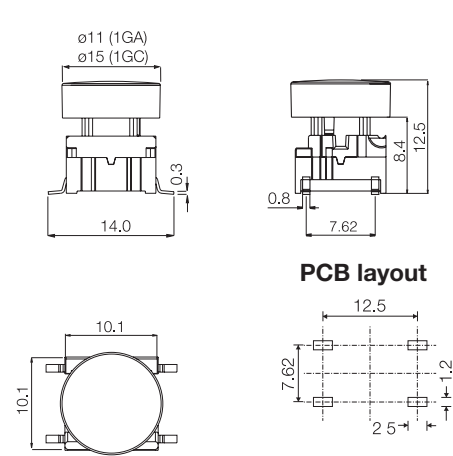
### Dimensions (through-hole)



### 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

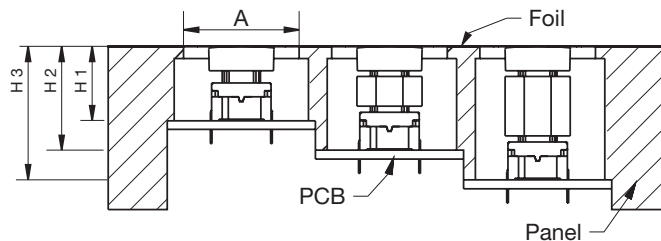
H = Overall height

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

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

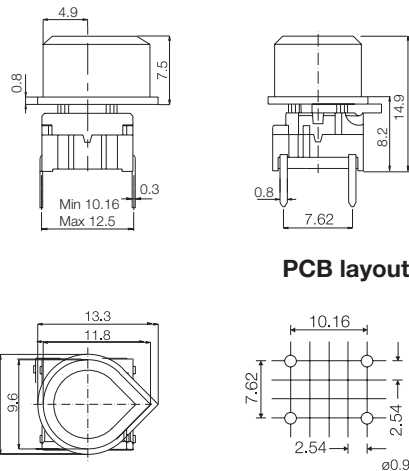
# multimec® 3F + 1N

## Technical Data

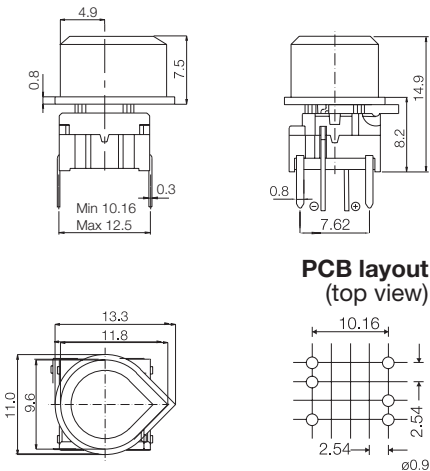
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:
  - low temp: -40/+115°C
  - high temp: -40/+160°C



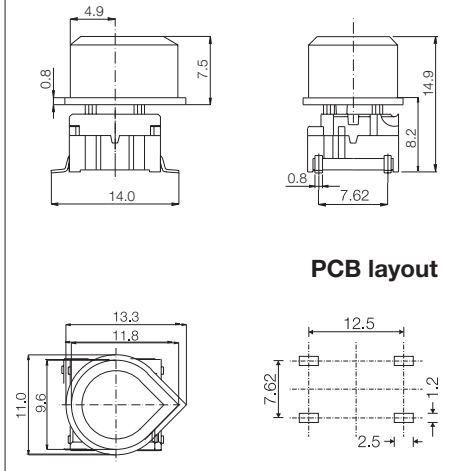
### Dimensions (through-hole)



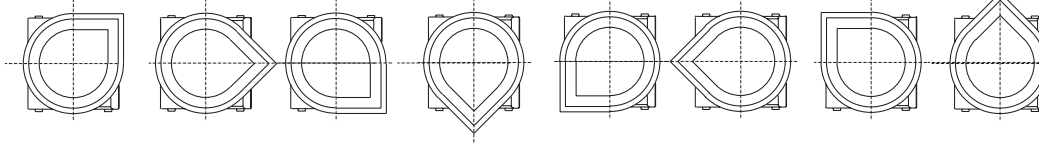
### Dimensions (w/LED)



### Dimensions (SMD)



### 8 different position options



### How to order

<b>3 F</b>	<input type="checkbox"/>	<input type="checkbox"/>	+	<b>1 N</b>	<input type="checkbox"/>
Switch	<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>04</b> yellow <b>08</b> red <b>09</b> black
	<b>T</b> through-hole <b>S</b> surface mount				

<b>3 F</b>	<b>T</b>	<input type="checkbox"/>	<input type="checkbox"/>	+	<b>1 N</b>	<input type="checkbox"/>
Switch	<b>Mounting</b>	<b>L 6</b> low temp. <b>H 9</b> high temp.	<b>LED</b>		<b>Cap</b>	<b>10</b> frosted blue <b>12</b> frosted green <b>14</b> frosted yellow <b>16</b> frosted white <b>18</b> frosted red
	<b>T</b> through-hole		<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  
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)

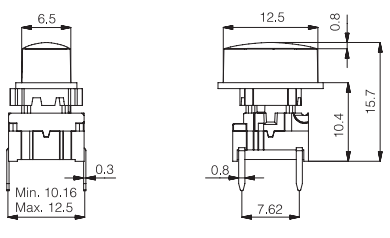
# multimec® 3F + 1WA/1WD/1WP

### Technical Data

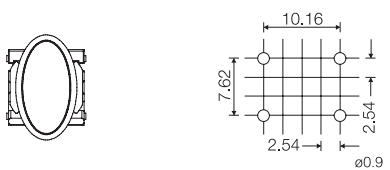
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:  
low temp: -40/+115°C  
high temp: -40/+160°C



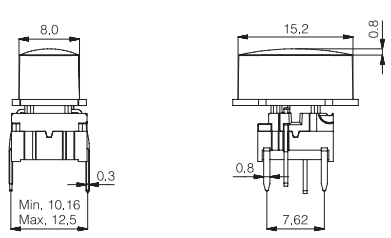
### Dimensions (through-hole) 1WA



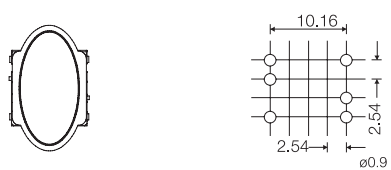
### PCB layout



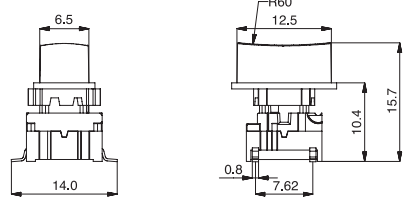
### Dimensions (w/LED) 1WD



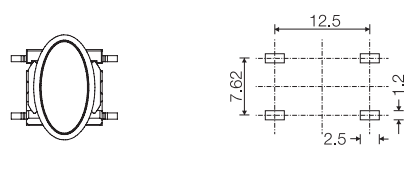
### PCB layout (top view)



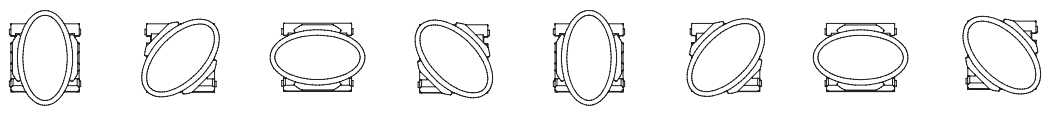
### Dimensions (SMD) 1WP



### 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

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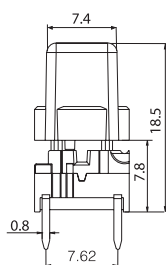
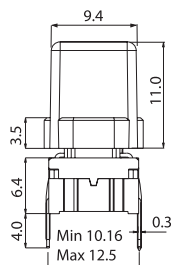
# multimec® 3F + 1X

## Technical Data

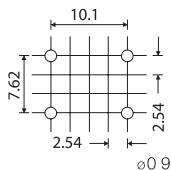
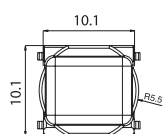
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:
  - low temp: -40/+115°C
  - high temp: -40/+160°C



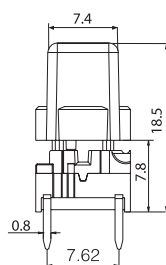
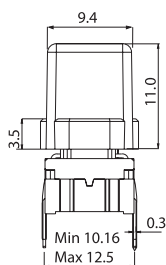
### Dimensions (through-hole)



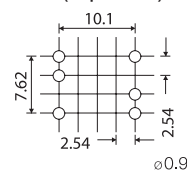
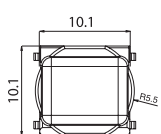
### PCB layout



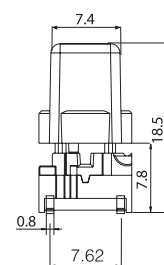
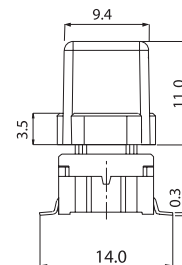
### Dimensions (w/LED)



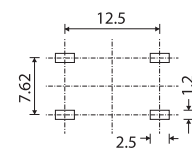
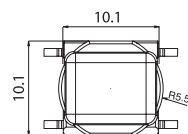
### PCB layout (top view)



### 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

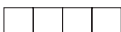
T through-hole



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

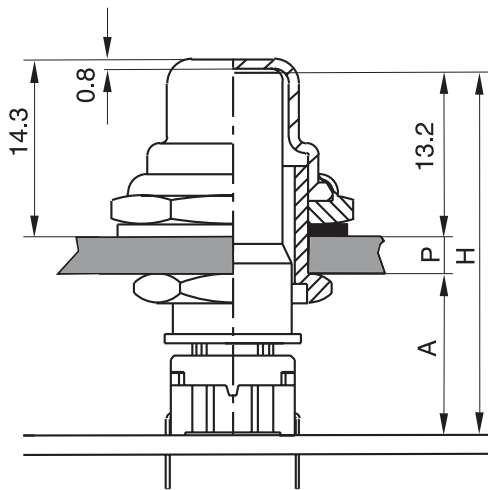
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# multimec® Aquamec™

## 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

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

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