

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 |
| | | | | | | | |
| Standard Versions | | | | | | | |
| 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 |
| | | | | | | | |
| Standard Versions | | | | Standard Versions | | | |
| 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

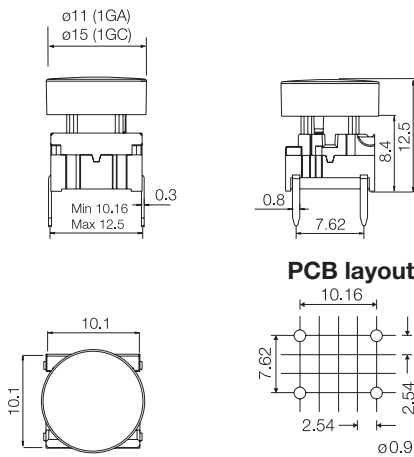
multimec® 3F + 1GA/1GC

Technical Data

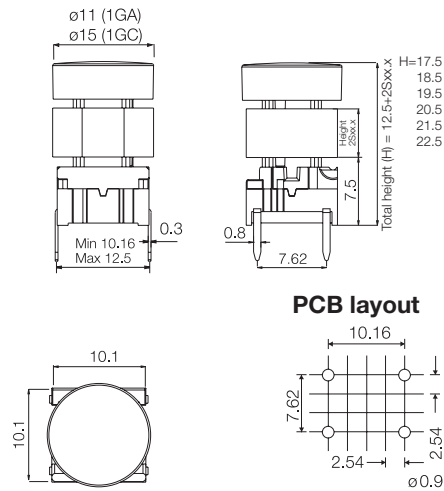
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:
 - low temp: -40/+115°C
 - high temp: -40/+160°C



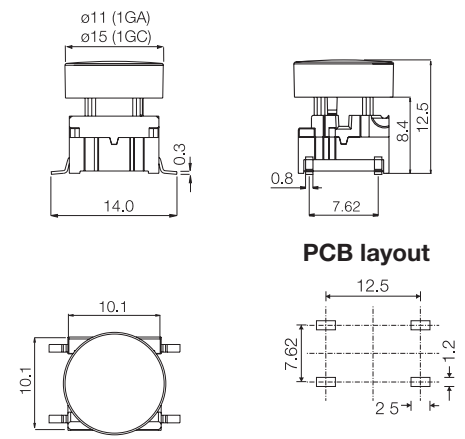
Dimensions (through-hole)



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

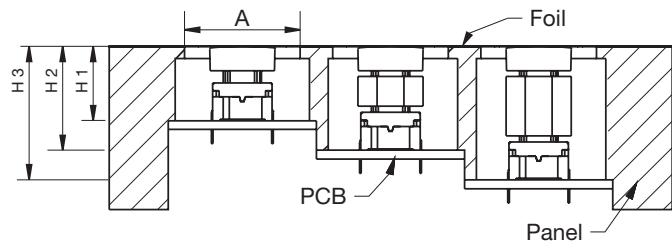
Overall heights below 12.5 mm - Please see Multimec® versions 3C and 3E.

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

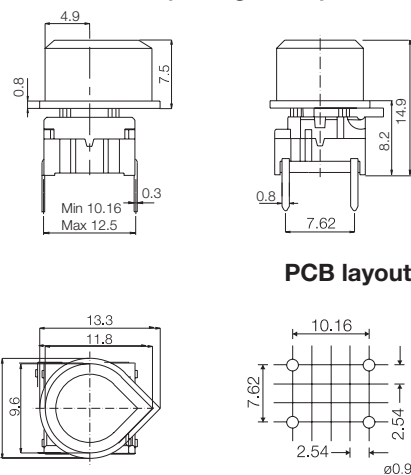
multimec® 3F + 1N

Technical Data

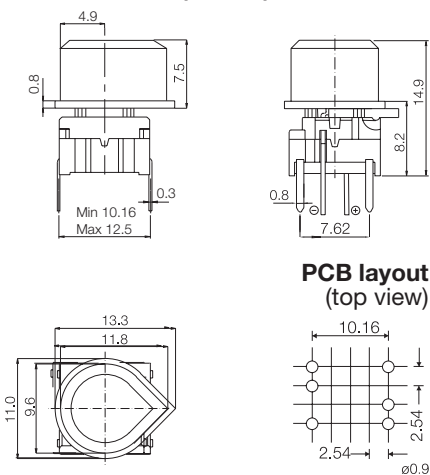
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:
low temp: -40/+115°C
high temp: -40/+160°C



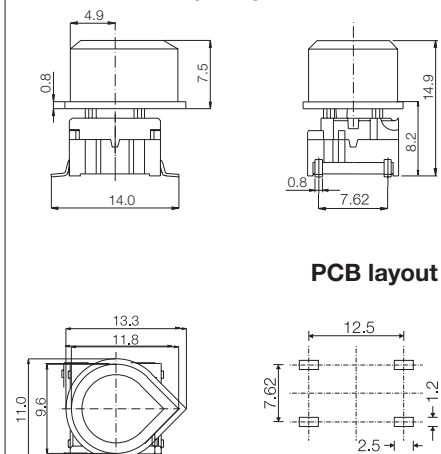
Dimensions (through-hole)



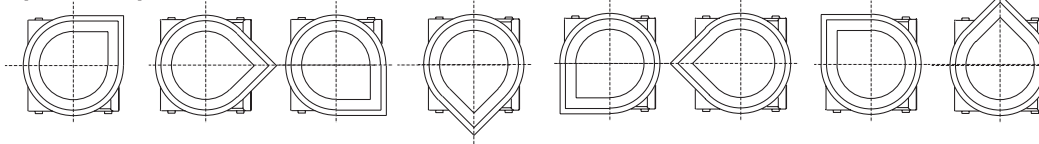
Dimensions (w/LED)



Dimensions (SMD)



8 different position options



How to order

| | | | | | |
|------------|--------------------------|---------------------------------|---|------------|---|
| 3 F | <input type="checkbox"/> | <input type="checkbox"/> | + | 1 N | <input type="checkbox"/> |
| Switch | Mounting | L 6 low temp. H 9 high temp. | | Cap | 00 blue 03 grey 04 yellow 08 red 09 black |

| | | | | | | |
|------------|----------------|---------------------------------|--|-----|--|--------------------------|
| 3 F | T | <input type="checkbox"/> | <input type="checkbox"/> | + | 1 N | <input type="checkbox"/> |
| Switch | Mounting | L 6 low temp. H 9 high temp. | LED | Cap | 10 frosted blue 12 frosted green 14 frosted yellow 16 frosted white 18 frosted red | |
| | T through-hole | | 00 blue 20 green 40 yellow 60 white 80 red 2040 green/yellow 8020 red/green 8040 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

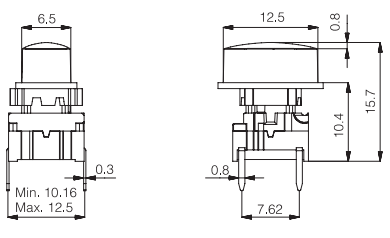
multimec® 3F + 1WA/1WD/1WP

Technical Data

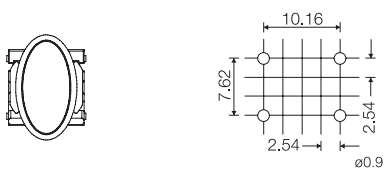
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:
low temp: -40/+115°C
high temp: -40/+160°C



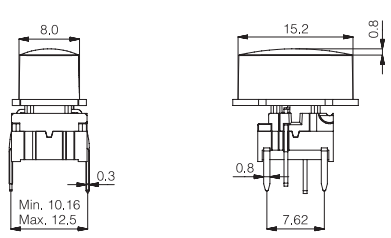
Dimensions (through-hole) 1WA



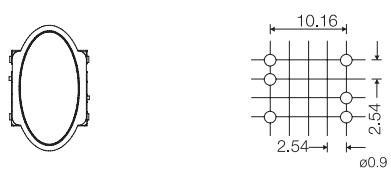
PCB layout



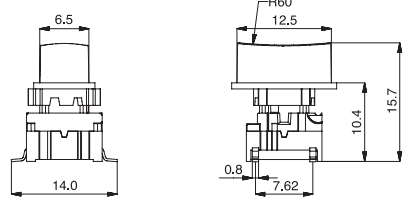
Dimensions (w/LED) 1WD



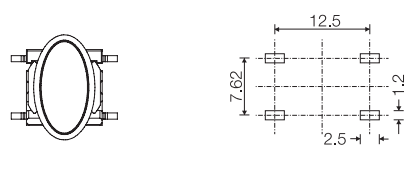
PCB layout (top view)



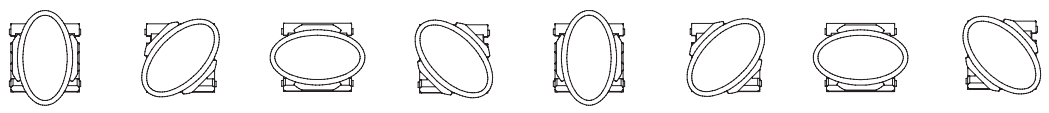
Dimensions (SMD) 1WP



PCB layout



8 different position options



How to order

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

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

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

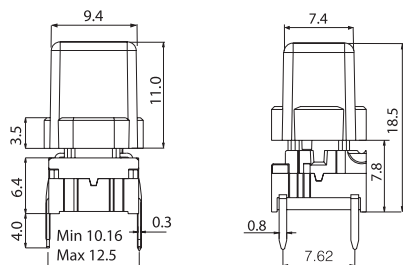
multimec® 3F + 1X

Technical Data

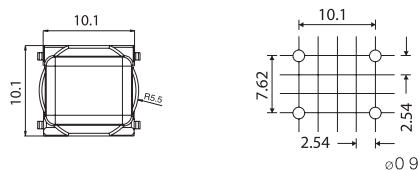
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:
 - low temp: -40/+115°C
 - high temp: -40/+160°C



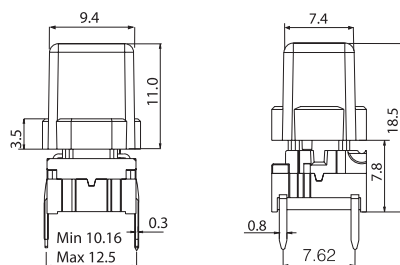
Dimensions (through-hole)



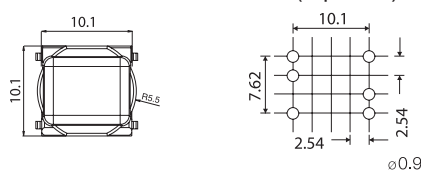
PCB layout



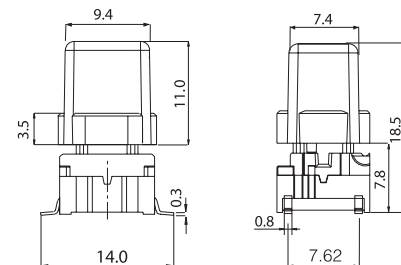
Dimensions (w/LED)



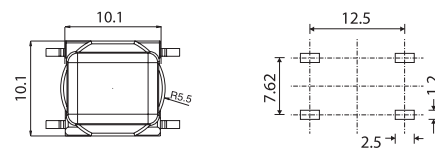
PCB layout (top view)



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

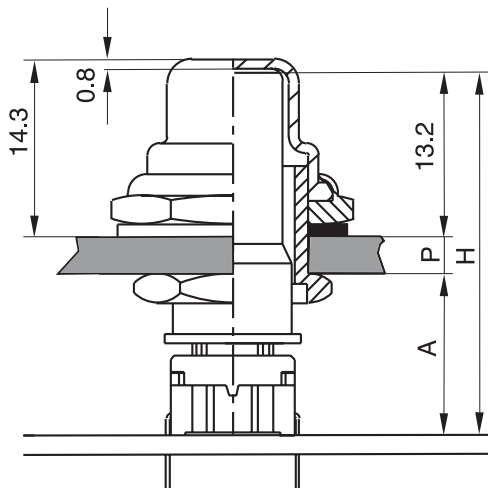
For updates of products and/or changes of specifications please see www.mec.dk

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

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

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

Keycaps shown on this page can also be used on **illume™ 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