

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

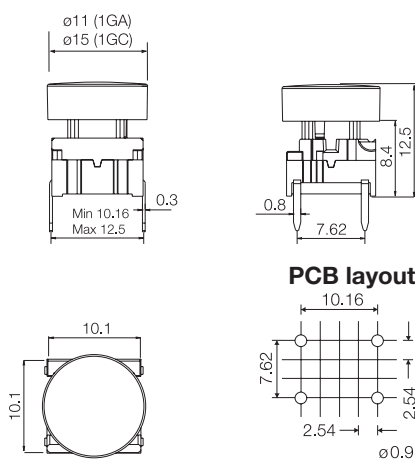
multimec® 3F + 1GA/1GC

Technical Data

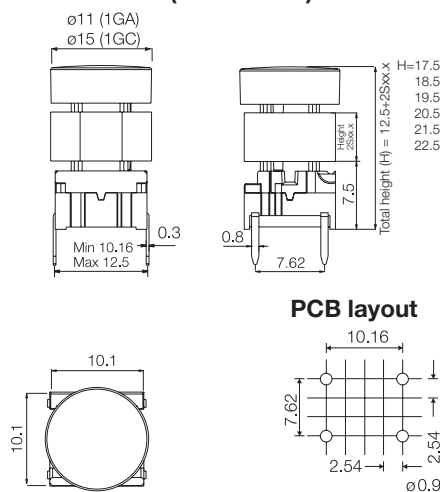
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:
low temp: -40/+115°C
high temp: -40/+160°C



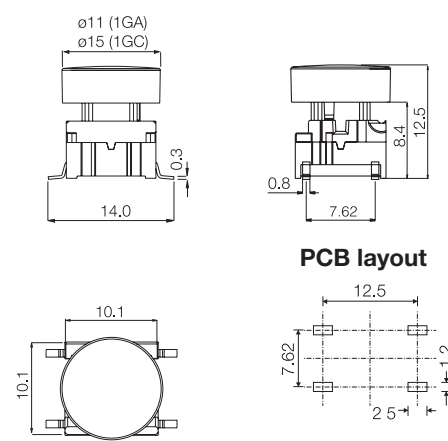
Dimensions (through-hole)



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

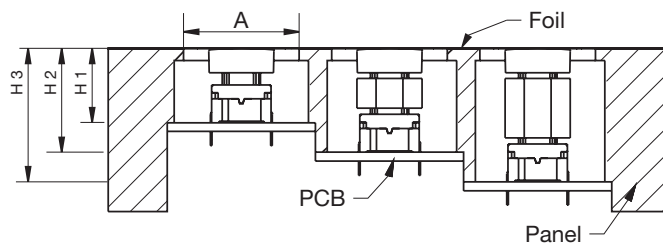
Overall heights below 12.5 mm - Please see Multimec® versions 3C and 3E.

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

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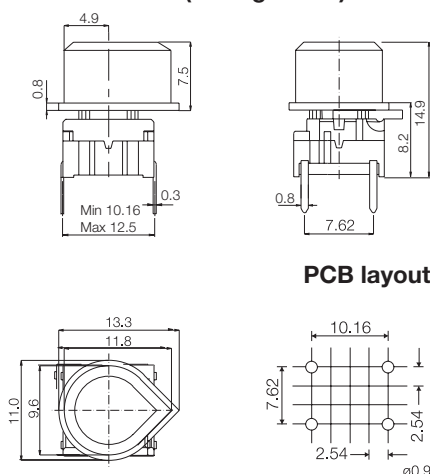
multimec® 3F + 1N

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

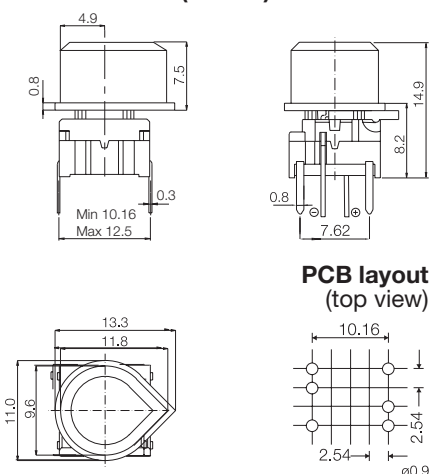


Dimensions (through-hole)



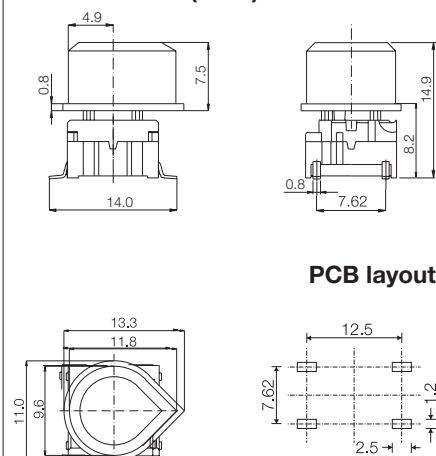
PCB layout

Dimensions (w/LED)



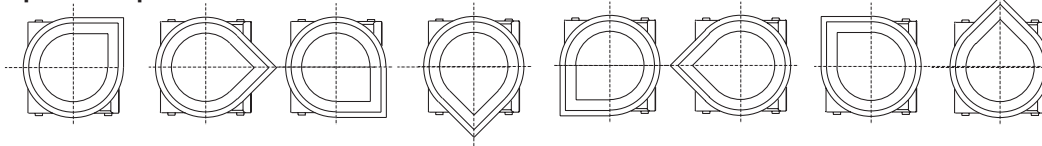
PCB layout (top view)

Dimensions (SMD)



PCB layout

8 different position options



How to order

3 F
Switch

Mounting
T through-hole
S surface mount

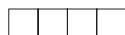
L 6 low temp.
H 9 high temp.

+
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

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multimec®

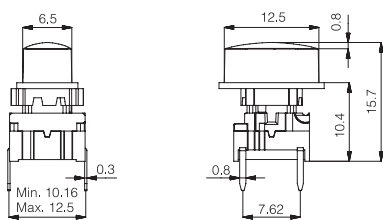
3F + 1WA/1WD/1WP

Technical Data

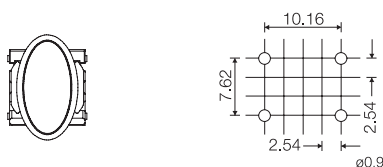
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:
low temp: -40/+115°C
high temp: -40/+160°C



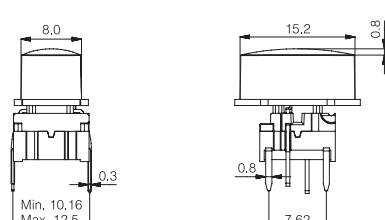
Dimensions (through-hole) 1WA



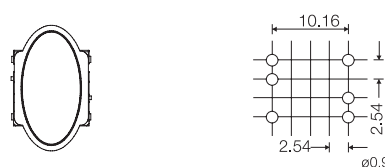
PCB layout



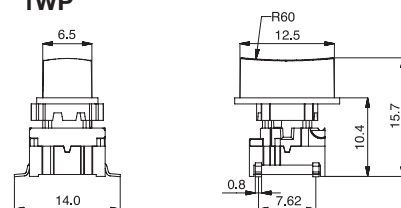
Dimensions (w/LED) 1WD



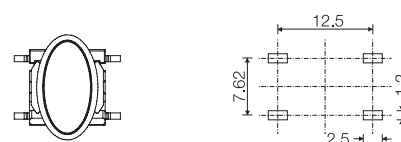
PCB layout (top view)



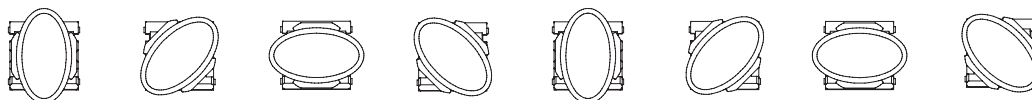
Dimensions (SMD) 1WP



PCB layout



8 different position options



How to order

3 F			+		
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		+		
Switch	Mounting	L 6 low temp. H 9 high temp.		Cap	16 frosted white
	T through-hole			1WA	
		LED		1WD	
		23 green 45 yellow 88 red		1WP	

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

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

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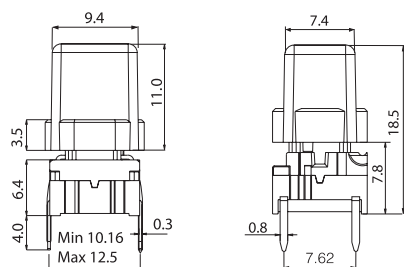
multimec® 3F + 1X

Technical Data

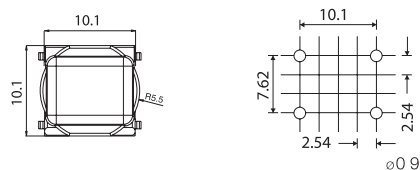
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:
low temp: -40/+115°C
high temp: -40/+160°C



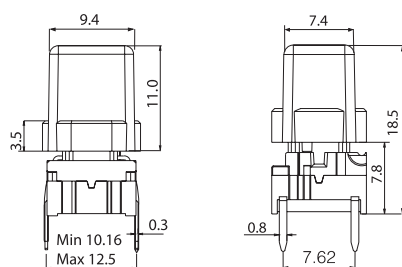
Dimensions (through-hole)



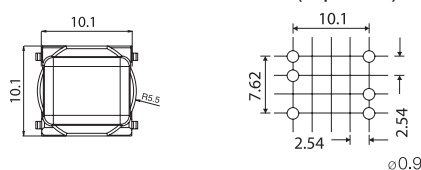
PCB layout



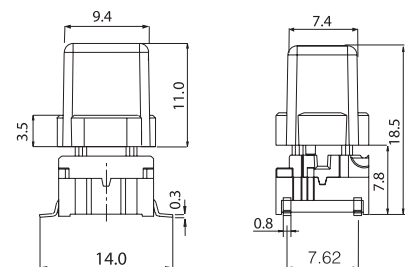
Dimensions (w/LED)



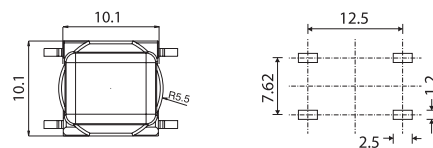
PCB layout (top view)



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
illumec™ switch 4F - see page 13

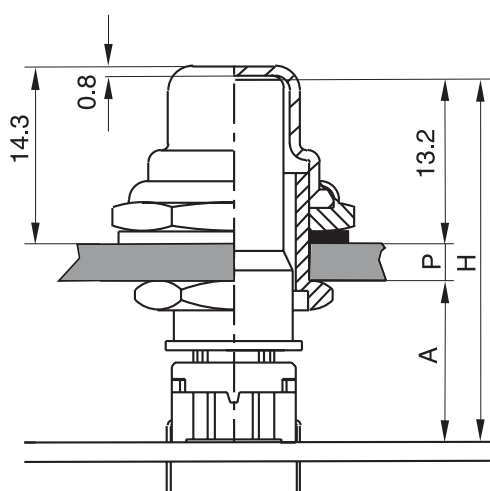
Ordering example: 3FTL6 + 1X09 or 3FTL680 + 1X11

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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			+	AQN	-		+	AQC	-		+	AQB01
Switch	Mounting	L 6 low temp. H 9 high temp.		Bushing	Panel			Cap	Overall Height			Sealing boot, incl. sealing ring
	T through-hole S surface mount				0.5 2.5				24.2 25.2 26.2 27.2			

3 F	T			+	AQN	-		+	AQC	-		+	AQB01
Switch	Mounting	L 6 low temp. H 9 high temp.			Bushing	Panel			Cap	Overall Height			Sealing boot, incl. sealing ring
	T through-hole					0.5 2.5				24.2 25.2 26.2 27.2			

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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Mouser Electronics

Authorized Distributor

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[3FTL6RAS](#) [3FTH9RAS](#) [3FTH900](#) [3FTH940](#) [3FTH945](#) [3FTH9-2SL](#) [3FTH98020](#) [3FTH98040](#) [3FTL62040](#)
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[3FTH920RAS](#) [3FTH946](#) [3FTH9Q](#)