

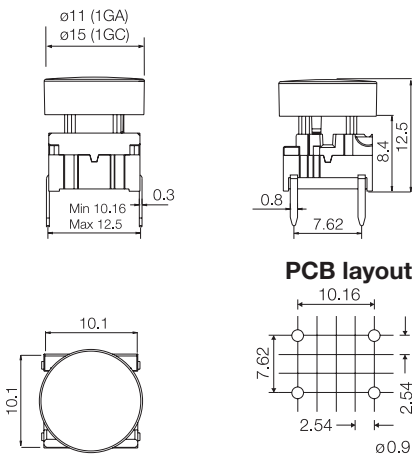
multimec® 3F + 1GA/1GC

Technical Data

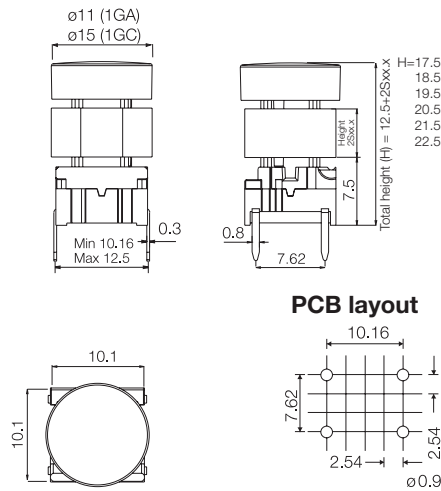
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:
low temp: -40/+115°C
high temp: -40/+160°C



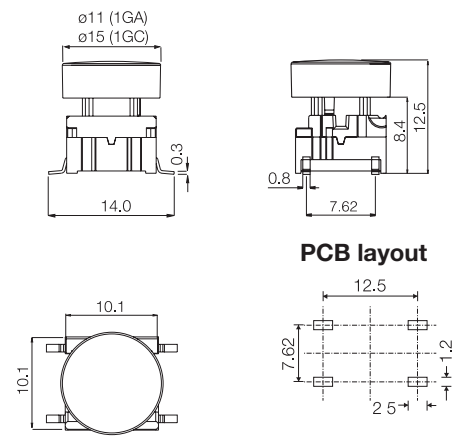
Dimensions (through-hole)



Dimensions (w/extender)



Dimensions (SMD)



How to order

3 F + **1 G A 0 9** + **2 S 0 9 - . 0**
Switch **Mounting** **L 6** low temp. **Cap black** **Extender black** **Height**
T through-hole **H 9** high temp. **05.0**
S surface mount **1 G C 0 9** **Cap black** **06.0**
 07.0
 08.0
 09.0
 10.0
 (Optional)
 Adds 5-10 mm
 to total height.

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

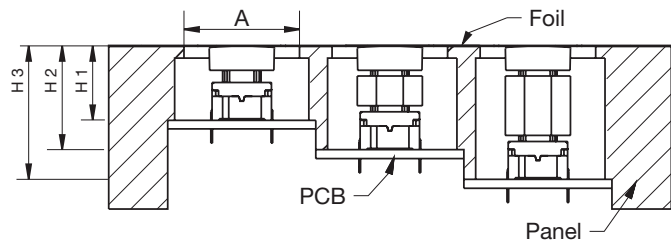
Overall heights below 12.5 mm - Please see Multimec® versions 3C and 3E.

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

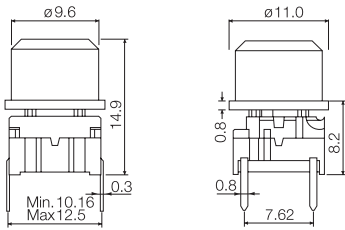
Technical Data

- 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

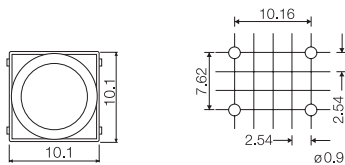


Keycaps shown on this page can also be used on **illumec™ switch 4F**

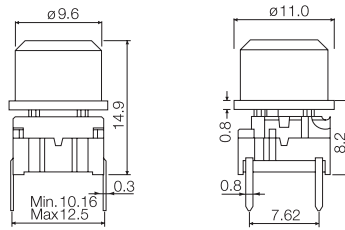
Dimensions (through-hole) 3F



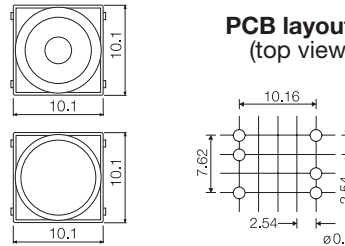
PCB layout



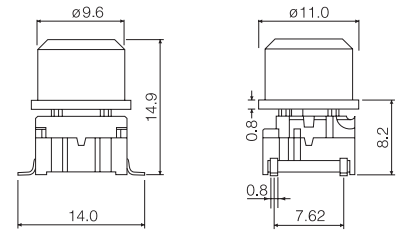
Dimensions (w/LED) 3F



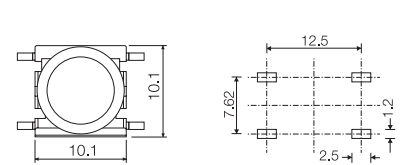
PCB layout (top view)



Dimensions (SMD) 3F



PCB layout



How to order

3 F

Switch



Mounting

T through-hole
S surface mount



L 6 low temp.
H 9 high temp.

1 D

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

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

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



Cap 1D



Cap 1E



Cap 1F



11 transparent
16 frosted white



Lens

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

1 transparent
2 green
4 yellow
6 frosted white
8 red

Ordering example: 3FTL620 + 1E032

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

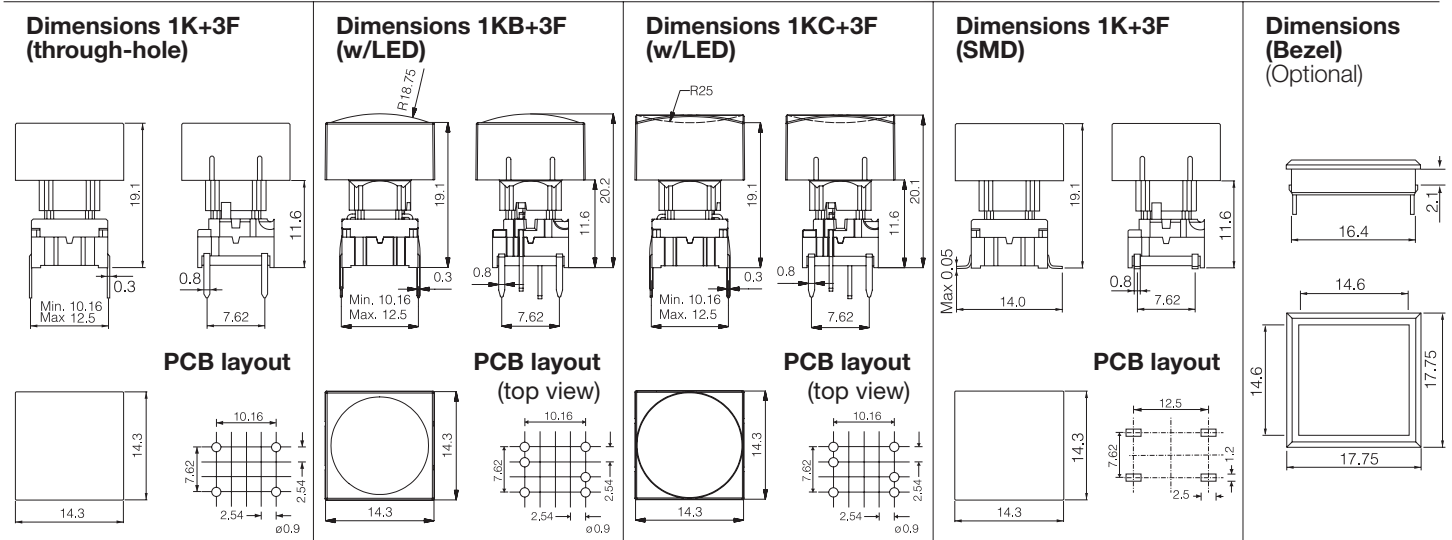
multimec® 3F/4F + 1K/1KB/1KC

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



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



How to order

3 F	<input type="checkbox"/>	<input type="checkbox"/>	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+	<input type="checkbox"/>	<input type="checkbox"/>
Switch	Mounting	L 6 low temp. H 9 high temp.		1 K	1 6			2 K	
	T through-hole S surface mount			Cap	00 blue 02 green 03 grey 04 yellow 06 white 08 red 09 black			Bezel	03 grey 06 white 08 red 09 black

3 F	T	<input type="checkbox"/>	<input type="checkbox"/>	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Switch	Mounting	L 6 low temp. H 9 high temp.	LED		1 1 1 6			2 K	
	T through-hole S surface mount		24 green 45 yellow 89 red		Cap frosted white			Bezel	03 grey 06 white 08 red 09 black
					 1K				
					 1KB				
					 1KC				

The 1K caps consist of a transparent lid and a diffuser lens. It is possible to make your own customized legend by placing a foil between the lid and the lens.

Ordering example: 3FTL689 + 1K1116

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

multimec® 3F/4F + 1N

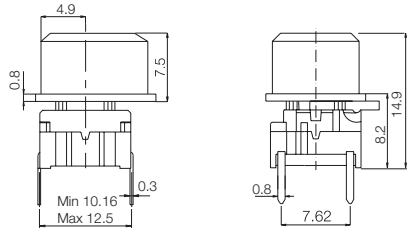
Technical Data

- 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

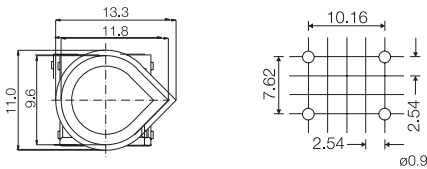
Keycaps shown on this page can also be used on **illumec™ switch 4F**



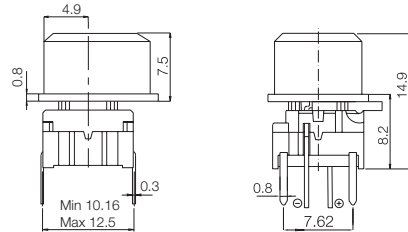
Dimensions (through-hole) 3F



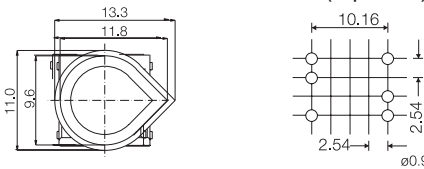
PCB layout



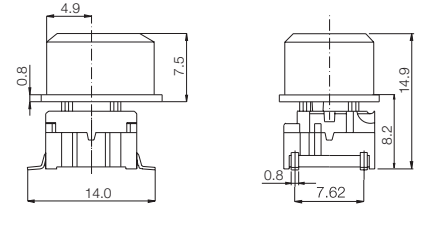
Dimensions (w/LED) 3F



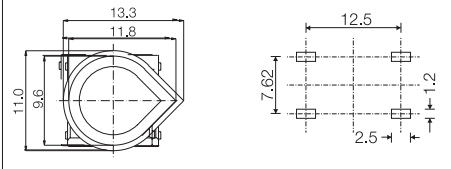
PCB layout (top view)



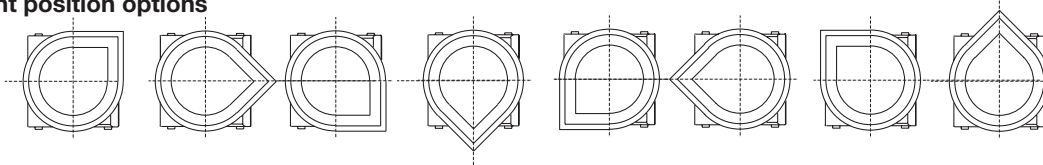
Dimensions (SMD) 3F



PCB layout



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
	T through-hole S surface mount				

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			

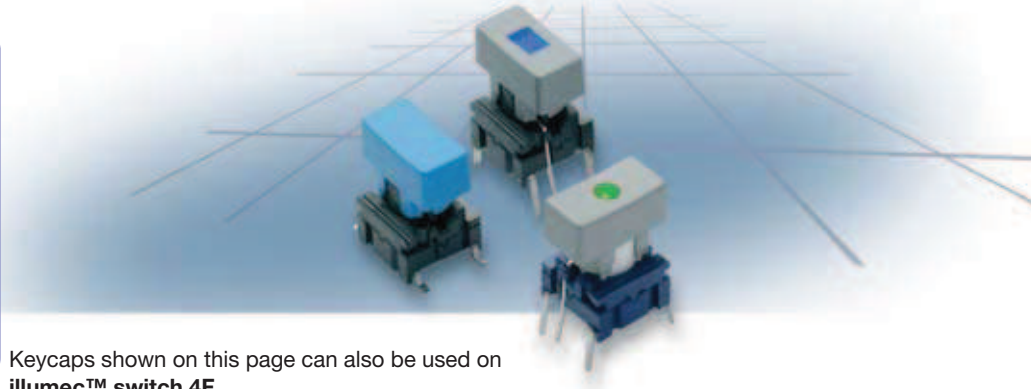
Ordering example: 3FTL6 + 1N09 or 3FTL680 + 1N18

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

multimec® 3F/4F + 1P/1Q/1R

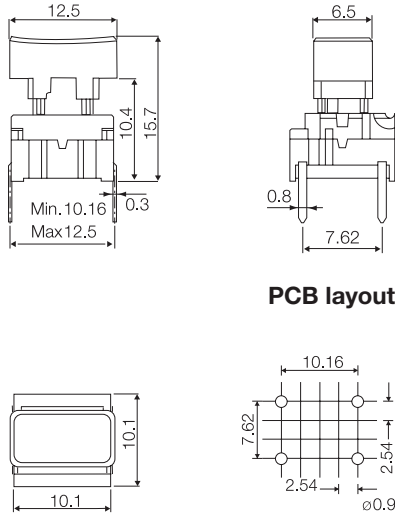
Technical Data

- 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

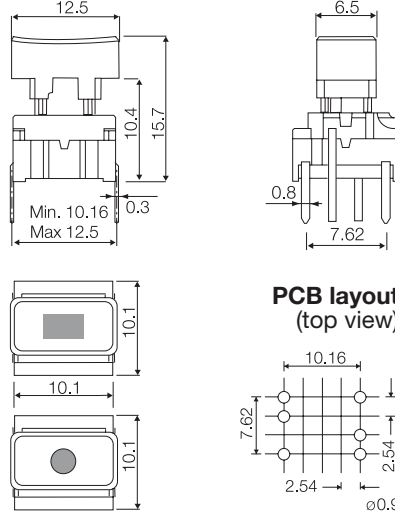


Keycaps shown on this page can also be used on **illumec™ switch 4F**

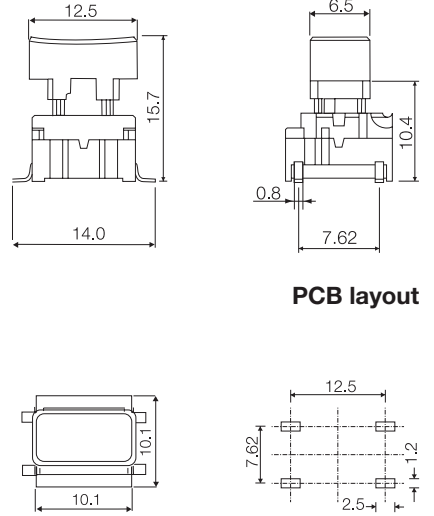
Dimensions (through-hole) 3F



Dimensions (w/LED) 3F



Dimensions (SMD) 3F



How to order

3 F Switch	<input type="checkbox"/> Mounting T through-hole S surface mount	<input type="checkbox"/> <input type="checkbox"/> L 6 low temp. H 9 high temp.	+	<input type="checkbox"/> <input type="checkbox"/> 1 P Cap 	<input type="checkbox"/> <input type="checkbox"/> 00 blue 02 green 03 grey 04 yellow 06 white 08 red 09 black	<input type="checkbox"/> Lens 1 transparent 6 frosted white
3 F Switch	<input type="checkbox"/> <input type="checkbox"/> Mounting T through-hole	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> L 6 low temp. H 9 high temp.	+	<input type="checkbox"/> <input type="checkbox"/> 1 Q <input type="checkbox"/> <input type="checkbox"/> 1 R 	<input type="checkbox"/> <input type="checkbox"/> 00 blue 03 grey 08 red 09 black	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> LED 00 blue 20 green 40 yellow 60 white 80 red 2040 green/yellow 8020 red/green 8040 red/yellow

Ordering example: 3FTL680 + 1Q091

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

multimec[®] 3F/4F + 1S + 2S

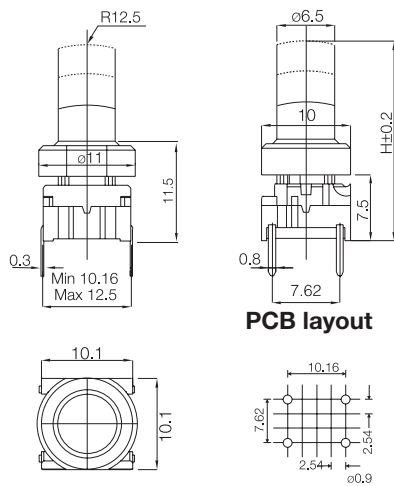
Technical Data

- 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

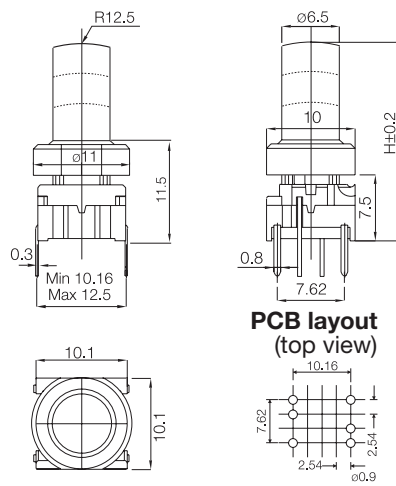
Keycaps 1S11 shown on this page can also be used on illumec™ switch 4F



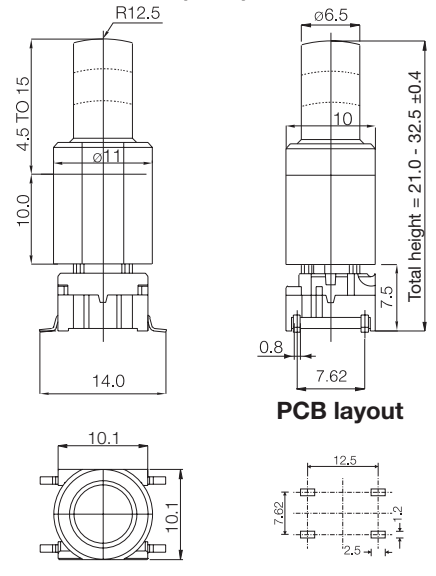
Dimensions (through-hole) 3F




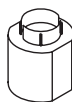
Dimensions (w/LED) 3F




Dimensions (SMD) 3F



How to order

3 F	<input type="checkbox"/>	<input type="checkbox"/>	+	1 S 0 9 - . . .	+	2 S 0 9 - . . .
Switch	Mounting	L 6 low temp. H 9 high temp.		Cap black	Height	Extender black Height
	T through-hole S surface mount				16.0 19.0 22.5	 05.0 (Optional) 06.0 Adds 5-10mm to total height 07.0 08.0 09.0 10.0

3 F	T	<input type="checkbox"/>	+	<input type="checkbox"/>	+	1 S 1 1 - . . .
Switch	Mounting	L 6 low temp. H 9 high temp.		LED		Cap Transparent Height
	T through-hole			00 blue 20 green 40 yellow 60 white 80 red 2040 green/yellow 8020 red/green 8040 red/yellow		16.0 19.0 22.5

Customised Heights:

3F+1S is available in any height from 12.0 to 24 mm.
 3F+1S+2S is available in any height from 17.0 to 34 mm.
 Min. height for 1S11 is 16.0 and for 1S09 min height is 12.0 mm.
 Min. order qty. for custom heights is 2.000 pcs.
 For heights less than 12.0 mm, please refer to 3E switch range.

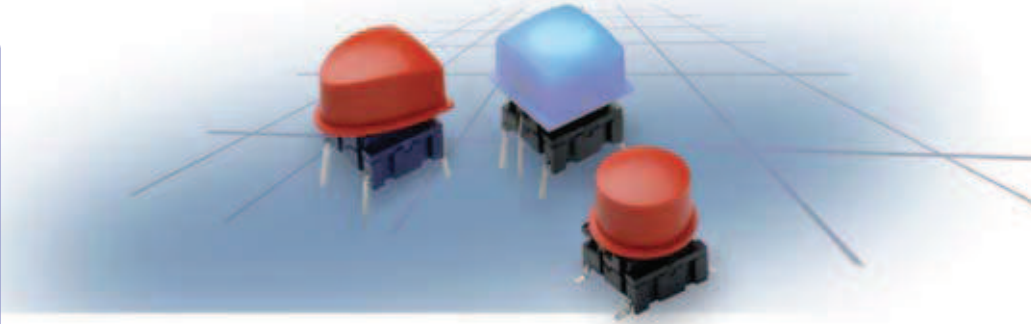
Ordering example: 3FTL640 + 1S11-19.0

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

multimec® 3F/4F + 1T/1U/1V

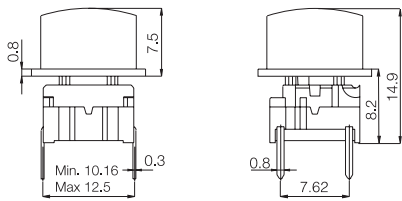
Technical Data

- 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

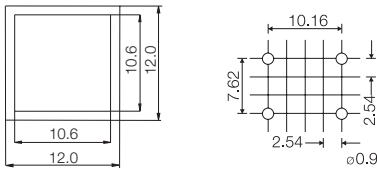


Keycaps shown on this page can also be used on **illumec™ switch 4F**

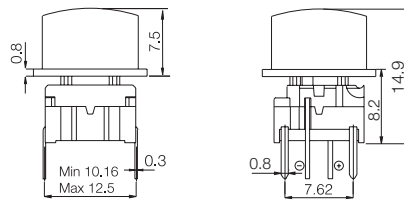
Dimensions (through-hole) 3F



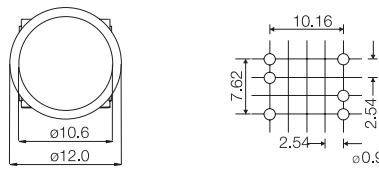
PCB layout



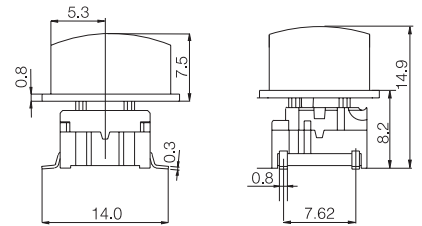
Dimensions (w/LED) 3F



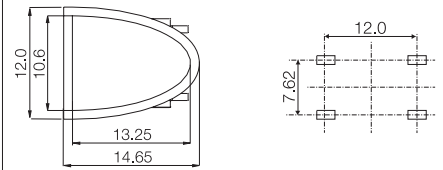
PCB layout (top view)



Dimensions (SMD) 3F



PCB layout



How to order

3 F

Switch



Mounting
T through-hole
S surface mount



L 6 low temp.
H 9 high temp.

+



Cap



1T



1U



1V



00 blue
03 grey
08 red
09 black

3 F

Switch



Mounting
T through-hole



L 6 low temp.
H 9 high temp.



LED
24 green
45 yellow
89 red

+



Cap



1T



1U



1V

1 6

frosted white

Ordering example: 3FTL645 + 1V16

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

multimec® 3F/4F WA/1WD/1WP

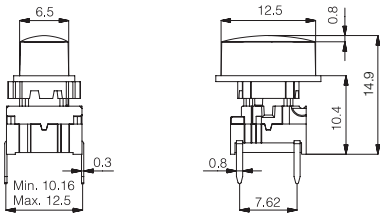
Technical Data

- 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

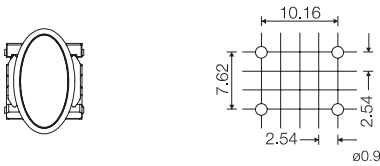


Keycaps in frosted white shown on this page can also be used on **illumec™ switch 4F**

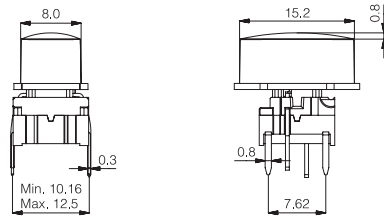
Dimensions (through-hole) 3F 1WA



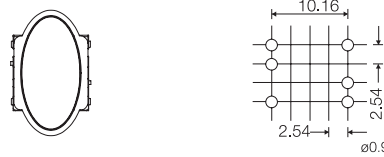
PCB layout



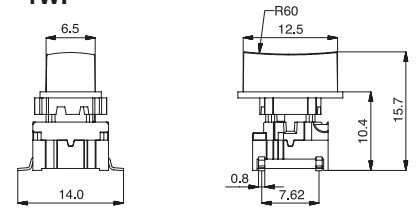
Dimensions (w/LED) 3F 1WD



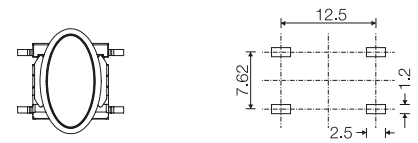
PCB layout (top view)



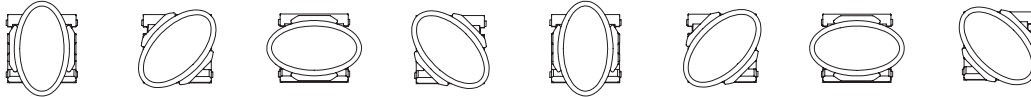
Dimensions (SMD) 3F 1WP



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	<input type="checkbox"/>	<input type="checkbox"/>	+	<input type="checkbox"/>	<input type="checkbox"/>
Switch	Mounting	L 6 low temp. H 9 high temp.		Cap	16 frosted white
	T through-hole			1WA 1WD 1WP	

Ordering example: 3FTL6 + 1WA09 or 3FTL689 + 1WP16

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

multimec® 3F/4F + 1X

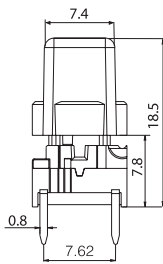
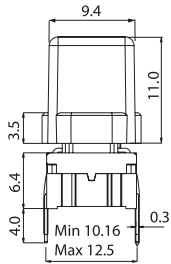
Technical Data

- 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

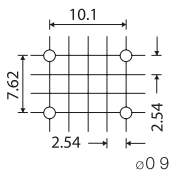
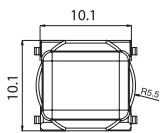


Keycaps shown on this page can also be used on **illumec™ switch 4F**

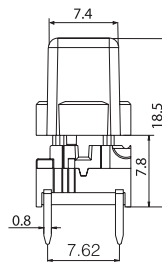
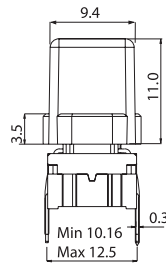
Dimensions (through-hole) 3F



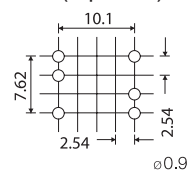
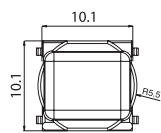
PCB layout



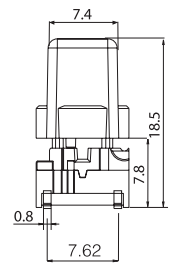
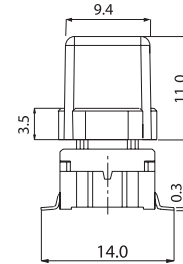
Dimensions (w/LED) 3F



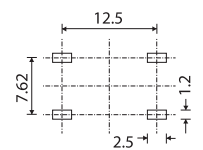
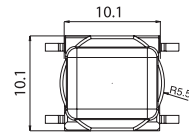
PCB layout (top view)



Dimensions (SMD) 3F



PCB layout



How to order

3 F

Switch

T

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

T

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

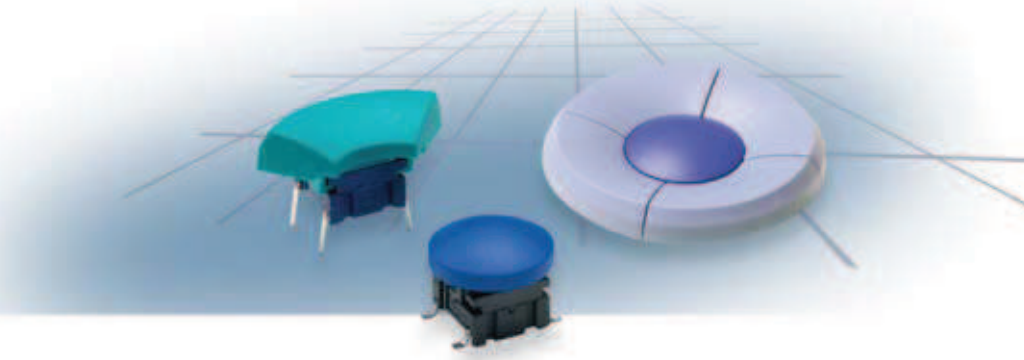
16 frosted white

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

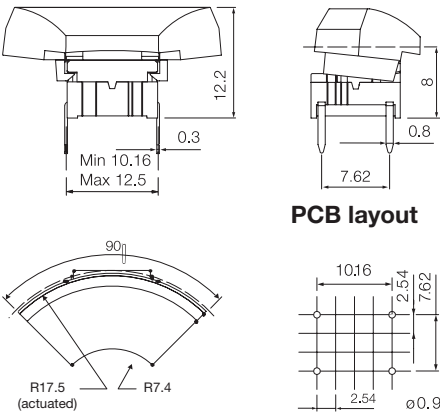
For updates of products and/or changes of specifications please see www.mec.dk

Technical Data

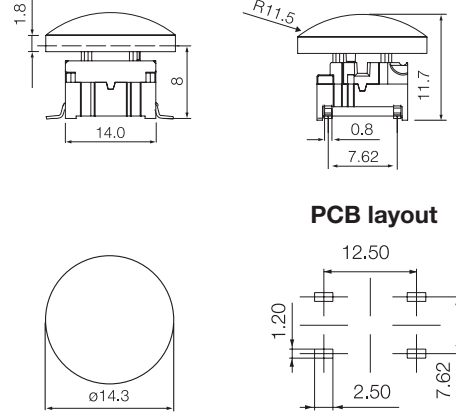
- through-hole or SMD
- 50mA/24VDC
- single pole/momentary
- 10.000.000 operations life time
- IP67 sealing
- temperature range:
 - low temp: -40/+115°C
 - high temp: -40/+160°C



Dimensions 1ZB (through-hole)

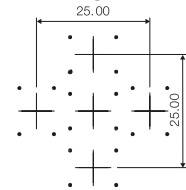


Dimensions 1ZC (SMD)

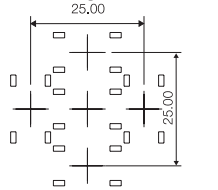


Recommended panel cut-out:
ø35.0-35.5 Depending on application

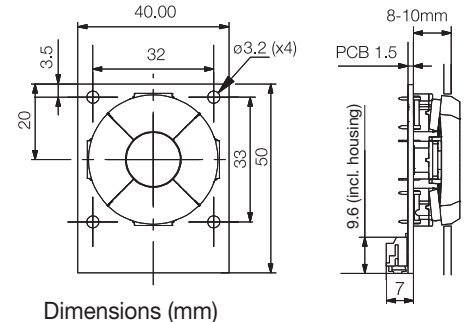
PCB layout TH



PCB layout SMD



Dimensions Navimec[™] Module



Dimensions (mm)

How to order

3 A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Switch	Mounting	L 6 low temp.	Cap 1ZB	03 grey	
	T through-hole	H 9 high temp.		06 white	
	S surface mount			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	
3 F	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Switch	Mounting	L 6 low temp.	Cap 1ZC		
	T through-hole	H 9 high temp.			
	S surface mount				

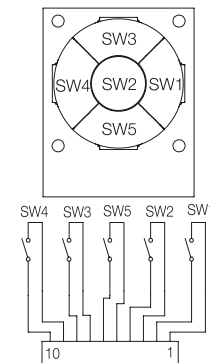
Navimec[™] Module

- Part No. 9508000** Navimec[™] Module excl. keycaps
- Part No. 950XXYY** Navimec[™] Module incl. keycaps
- Part No. 9509XXXYYY** Navimec[™] Module incl. keycaps with legends

The module can be delivered with keycaps (4 x 1ZB and 1 x 1ZC) in solid colours or black keycaps with white legends.
 For module incl. keycaps in solid colours (950XXYY) please indicate colour code for 1ZBXX and colour code for 1ZCYY.
 For module incl. keycaps with legends (9509XXXYYY) please indicate legends for 1ZBXXX and legends for 1ZCYYY. All Caps are black with white legends. Please see legends available on page 23.

Examples: Module with 5 switches (4x3ATL6+1x3FTL6) mounted with 4x1ZB30 ultra blue and 1x1ZC42 aqua blue = 9503042.
 Module with 5 switches (4x3ATL6+1x3FTL6) mounted with 4x1ZB09XD136 (legend arrow) and 1x1ZC09118 (legend OK) = 9509136118.

Circuit Diagram Navimec[™] Module (Front side View)



The plug on the Navimec[™] module is JST SMT S10B-PH-SM3-TB or similar.
 We recommend using
 Cable socket: JST PHR-10 or similar
 Contact: JST SPH-002T-PO.5S or similar.

Ordering example: 4x3ATL6+1ZB53 and 1x3FTL6+1ZC58 or Navimec[™] Module 9505358

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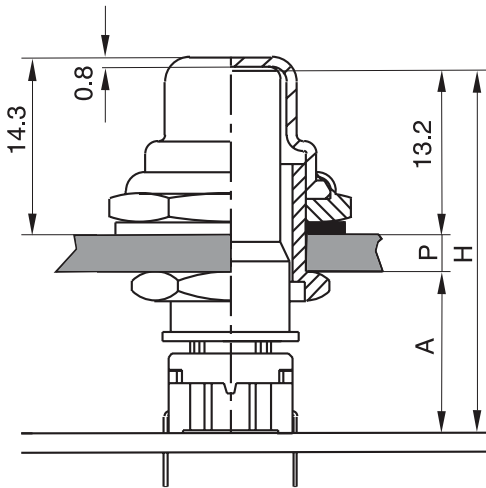
Specifications switches: Specifications Sealing Boot:

- 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



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



$$H = A + P + 13.2$$

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. **Bushing** **Panel** **Cap** **Overall Height** **Sealing boot, incl. sealing ring**
T through-hole **H 9** high temp. **0.5** **09** black **24.2** **09** black
S surface mount **2.5** **11** transparent **25.2** **11** transparent
26.2
27.2

3 F **T** + **AQN** - . + **AQC** - . + **AQB01**

Switch **Mounting** **L 6** low temp. **LED** **Bushing** **Panel** **Cap** **Overall Height** **Sealing boot, incl. sealing ring**
T through-hole **H 9** high temp. **00** blue **0.5** **11** transparent **24.2** **11** transparent
20 green **2.5** **25.2**
40 yellow **26.2**
60 white **27.2**
80 red
2040 green/yellow
8020 red/green
8040 red/yellow

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

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