

# Ultravimec™

Panel sealed • navigational solution •  
low total height



## DISTINCTIVE FEATURES

Compact navigational solution

h=7.15 mm

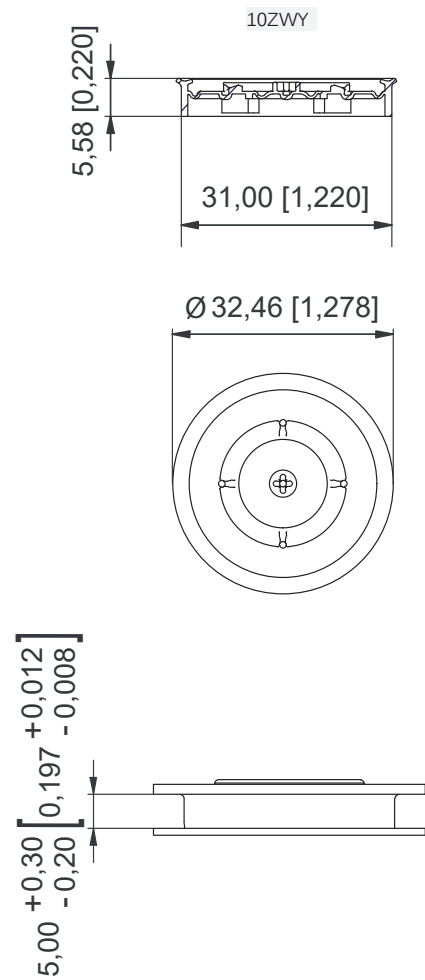
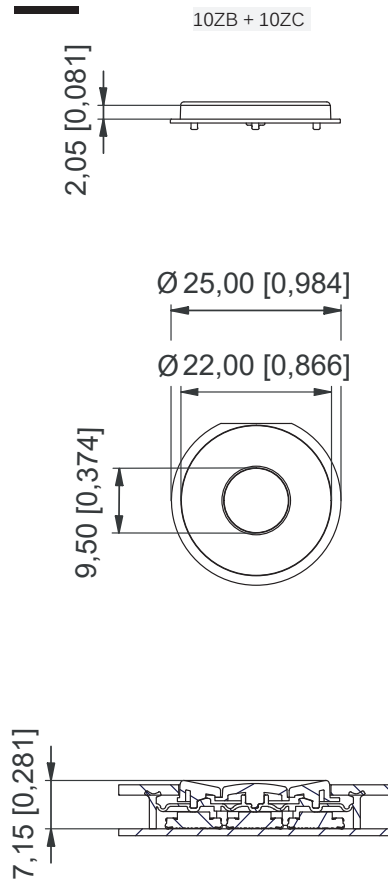
Panel sealed to IP67

Excellent illumination with LEDs on the PCB



SWITCH SPECIFICATIONS : see Ultramec™ series

6C+10ZB + 10ZC + 10ZWY -  
J-BEND



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## GENERAL SPECIFICATIONS

- Front panel sealing: IP67 to IEC 60529
- Mechanical lifecycle (sealing) : 500,000 activations
- Recommended panel thickness: 1.0 mm

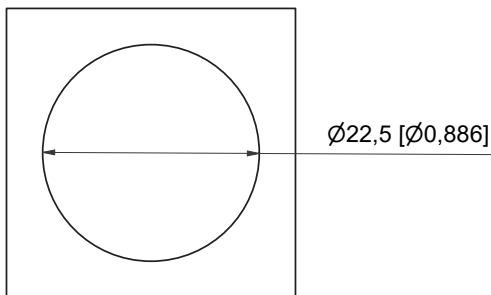


## MATERIALS

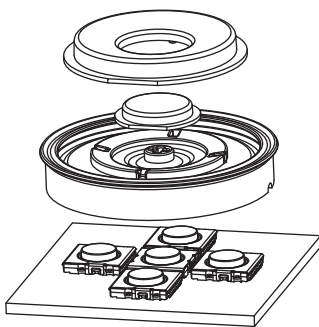
- Sealing: silicone
- Non-illuminated cap: ABS
- Illuminated cap: polycarbonate (PC)



## PANEL CUT-OUT

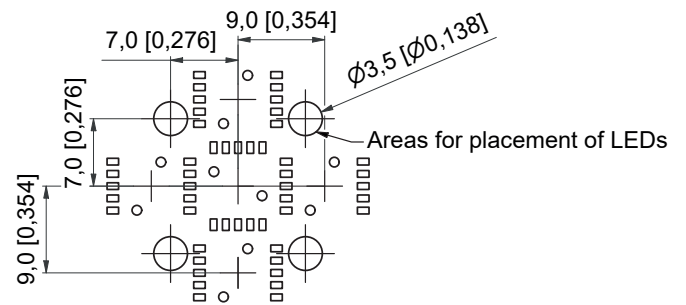


## ASSEMBLY

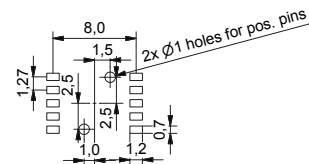


## PCB LAYOUT

ULTRAVIMEC SOLUTION



ULTRAMEC 6C SWITCH



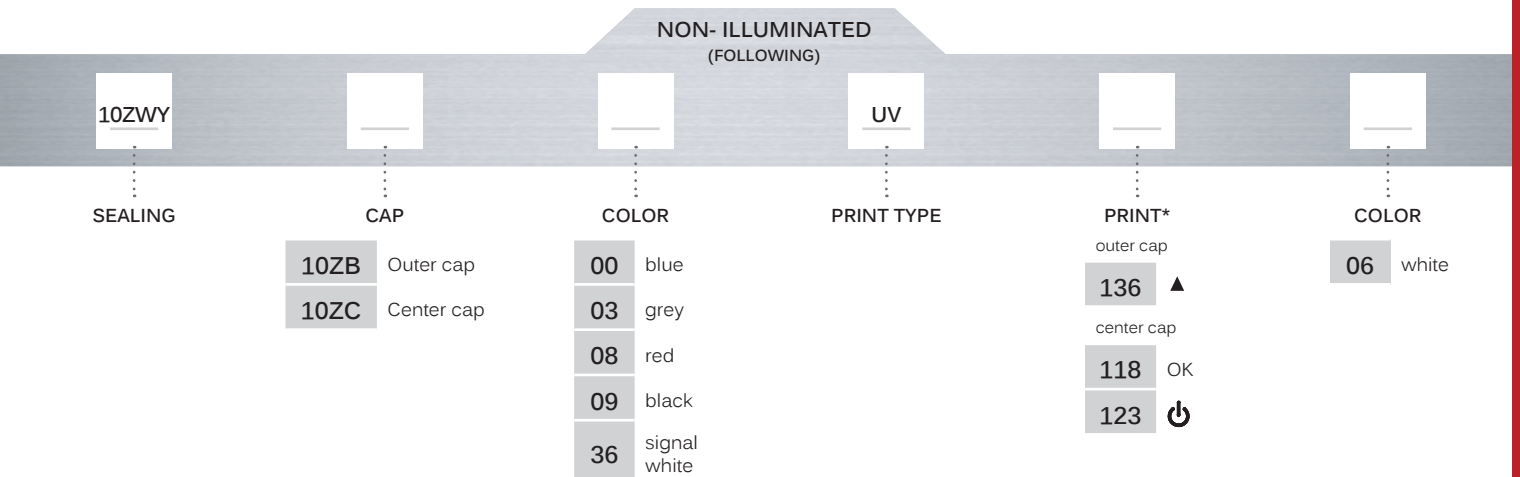
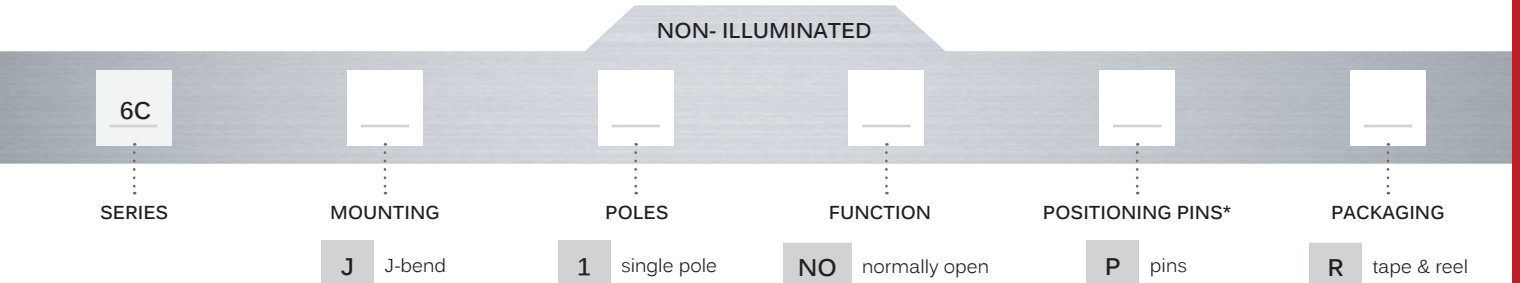
## LEGENDS

Please note that anti-rotation is established with the Cross or inserts in the bottom of the caps that insert into the sealing.

The cut-outs are for production purpose and they will be used to indicate the direction of the legend. In case of the standard printed legends the cut-out is placed left from the legend.



## BUILD YOUR PART NUMBER



\*optional

**NOTICE:** Please note that not all combinations are standard. Contact APEM for further info. Please note that the switches, caps and sealing are ordered separately.

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## BUILD YOUR PART NUMBER

ILLUMINATED

6C

SERIES

MOUNTING

**J** J-bend

POLES

**1** single pole

FUNCTION

**NO** normally open

POSITIONING PINS\*

**P** pins

PACKAGING

**R** tape & reel

ILLUMINATED  
(FOLLOWING)

10ZWY

SEALING

CAP

**10ZB** Outer cap  
**10ZC** Center cap

COLOR

**16** frosted white

PRINT TYPE

**LMH** hard paint laser marked

PRINT\*

outer cap  
**136** ▲  
center cap  
**118** OK  
**123** ⏻

COLOR

**09** black

\*optional

**NOTICE:** Please note that not all combinations are standard. Contact APEM for further info. Please note that the switches, caps and sealing are ordered separately.

# Ulramec™ 6C

High performance tactile switches •  
low profile • IP67



## DISTINCTIVE FEATURES

Low profile h=2.5 mm

8 x 8 mm

Normally open momentary switch

Sealed to IP67

3,000,000 cycles lifetime



## ENVIRONMENTAL SPECIFICATIONS

- Sealing : IP67 according to IEC 60529
- Working and storage temperature : -40 °C/+85 °C (-40 °F to 185°F)
- Soldering : JEDEC J-STD-020E



## ELECTRICAL SPECIFICATIONS

- Recommended load : 0.5-50 mA 24 VDC
- Contact resistance : <50 mΩ
- Insulation resistance : >10 MΩ
- Contact bounce : <2 mS
- Dielectric strength: 250 V



## MECHANICAL SPECIFICATIONS

- Standard actuation force :  
before soldering 4.2 N ±1.0 N  
after soldering : 3.7 N ±0.7 N
- Max. actuation force : 100 N for 10 sec
- Travel : 0.3 mm ±0.15 mm
- Lifetime : 3,000,000 cycles

The company reserves the right to change specifications without notice.



## MATERIALS

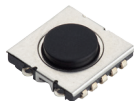
- Housing : PPS UL94V0
- Actuator : silicone
- Contact dome : stainless steel
- Fixed contacts :  
Silver : CuZn + 1 μNi + 4 μAg
- Terminals : CuZn + 1 μNi

All tolerance if not otherwise specified ±0.2mm.

# Ulramec™ 6C

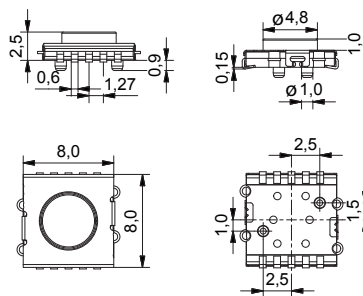
High performance tactile switches • low profile • IP67

6C

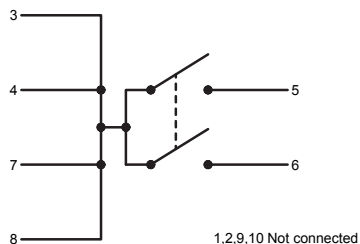
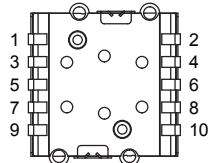
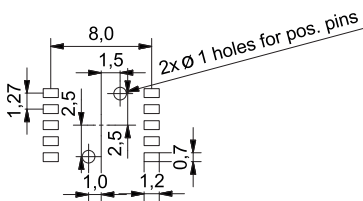


- J-bend
- NO

All tolerances unless otherwise noted : ±0.2 mm



## PCB LAYOUT & CIRCUIT DIAGRAM

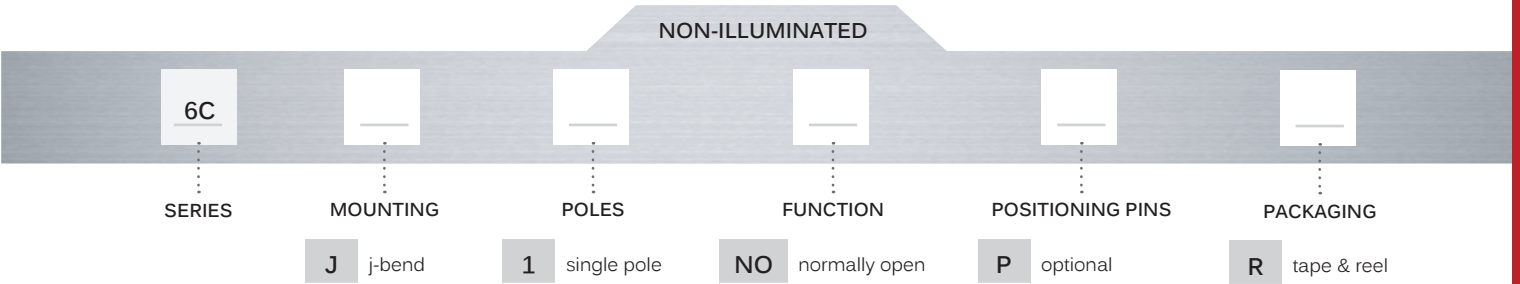


# Ultramec™ 6C

High performance tactile switches •  
low profile • IP67



## BUILD YOUR PART NUMBER



## ABOUT THIS SERIES



Accessories : See APEM website for cap options

# Ulramec™ 6C

High performance tactile switches •  
low profile • IP67

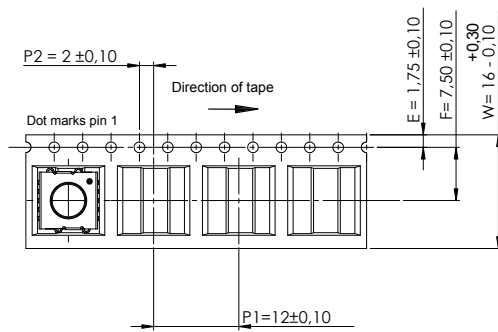


## TAPE & REEL

Tape and reel is available for the parts listed and has the following specifications

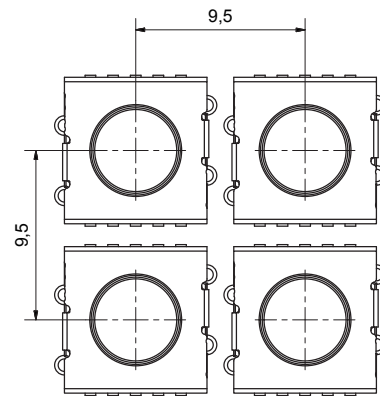
- Reel diameter: Ø330 mm
- Tape width: 16 mm
- Pitch: see list
- Tape and reel material : antistatic or better
- Quantity per reel : see list

PART NO.	ORDERING CODE	PITCH	QUANTITY PER REEL
6CJ1NOP	6CJ1NOPR	12	1000
6CJ1NO	6CJ1NOR	12	1000



## MOUNTING

SPACE REQUIREMENT - MATRIX MOUNTING



surface mount (J-bend)





## USAGE GUIDELINES

### HOW TO GET THE BEST RESULTS WITH MEC SWITCHES ?

These guidelines are offered to users of MEC Switches as an aid to ensure successful and reliable switch operation. Please see the technical specifications for details on operating and storage temperatures and soldering guidelines to make sure you select the best switch for your application.

When reflow soldering is taking place, MEC strongly recommend that the temperature profile is analyzed and compared with the temperature rating of the switch. It is also important to monitor the accumulated heat buildup from both the pre-heat zones and the solder zone.

Standard accessories for Ultramec™ 6 series switches are made from ABS plastic with a maximum operating temperature of 65 °C.

### MOUNTING AND DISMOUNTING

If switches are to be mounted in rows, it is essential that the recommendations regarding spacing are followed. PC board thickness should be 1.4 ±0.2 mm.

### SOLDERING AND CLEANING ULTRAMEC™ SERIES

Ultramec™ series switches are fully sealed to IP67 specifications to minimize solder flux and aqueous based cleaning solutions from entering the switch and contaminating the contacts. The switches can be placed on the PC board with other components and reflow soldered. Ultramec™ series offers a high level of sealing, however, with aqueous solvent solutions care must be taken to avoid the worst case situation with water jets, complete immersion into a liquid with a temperature below the board or surface tension reducing additives.

Recommended cleaning methods are demineralized water. Any surface tension reducing agents, such as soap, must not be used as they risk causing a potential leakage of the switch.

### SOLDERING - SURFACE MOUNT VERSIONS

For all methods - infrared, convection and vapor phase. The upper limit 240 °C/40 sec must be observed. The soldering temperature profile must have moderate temperature gradients. (JEDEC J-STD-020E)

### ROHS COMPLIANCE

As of 1 July 2006 MEC has completed the conversion to RoHS compliance. For more info please see our homepage [www.apem.com](http://www.apem.com)

### TEMPERATURE LIMITS:

Switch	160 °C
Accessories	65 °C

### PACKAGING

Ultramec™ series switches are delivered on tape/reel. Each reel contains 1000 pcs. It is also possible to purchase half full reels.