

# SWITCH'AIR® non-stick Four-Legged domes

Thanks to its SWITCH'AIR® process, NICOMATIC has eliminated all risk of dome sticking thus ensuring efficient automatic placement and packaging in tubes for quick and easy positioning. Nicomatic offers one of the widest product ranges on the market.

## DESCRIPTION

The SWITCH'AIR® notch helps to create a cushion of air between the domes so that they no longer stick together.

## ADVANTAGES

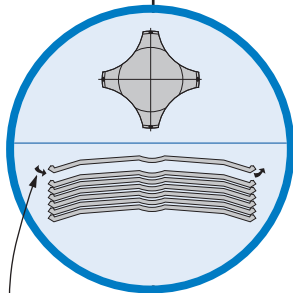
The SWITCH'AIR® non-stick domes offer :

- Excellent tactile effect even after rigorous tests (click ratio > 50%)
- Very long life expectancy : up to 5 million cycles
- Stable forces and homogeneity of forces per batch number
- Control of dimensional and mechanical characteristics
- No burrs, thus eliminating the scratching effect
- Successful and reliable automatic placement with NICOMATIC machines
- Domes in tubes save routine manual pre-separation of the domes by the operator
- The standard model is pre-nickel plated to avoid all risk of contamination
- 100% traceability per batch number

## PRODUCTION CAPACITY

NICOMATIC is one of the worldwide largest manufacturers of metal domes :

- Over 100 standard references available
- On-site R&D and production
- Proprietary manufacturing process for DOME ARRAYS



SWITCH'AIR®  
technology  
patented  
by NICOMATIC

## QUALIFICATION TESTS

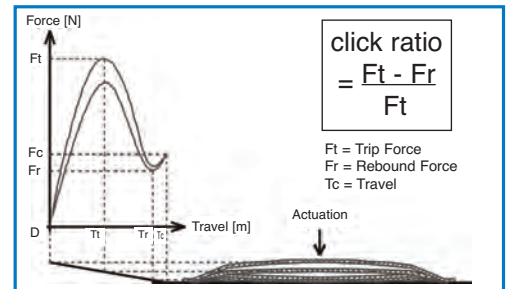
- Life expectancy
- Overload test (static load)
- Overstroke
- Sweet spot (position of the actuator shifted from the dome centre)
- O.S.O. test (at a time : overload, sweet spot, overstroke)
- Electrical measurement

## PACKAGING

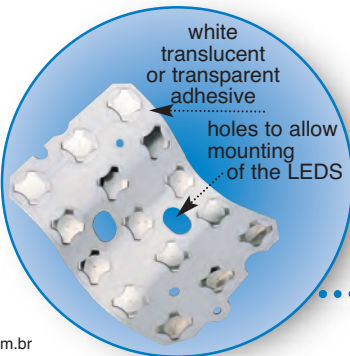
NICOMATIC SWITCH'AIR® non-stick domes can be ordered :

- In bulk quantities
- In tubes of 800 domes each\*
- In tape & reel
- In sheets for custom made arrays

## Mechanical characteristics



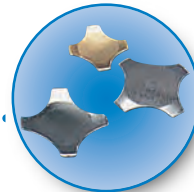
Typical force versus travel curve for a metal dome



white translucent or transparent adhesive  
holes to allow mounting of the LEDs



The domes are already pre-positioned on adhesive arrays according to customer configurations, ready to be placed onto the circuit.



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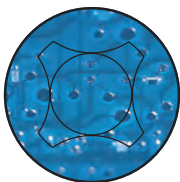
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For more information on the NICOMATIC distributor network, please visit the web site <http://www.nicomatic.com>



NICOMATIC FRANCE  
is certified ISO 9001



# SWITCH'AIR® non-stick Four-Legged domes

## SERIES 4-LEG DOMES

### 6 MM 4L ■ With and without micro-dimple

DOME REFERENCE XXX	140	170	220
Trip force (g)	140 +/- 20	170 <sup>+30</sup> / <sub>-20</sub>	220 +/- 30
Rebound force	60 +/- 20	70 +/- 20	90 +20 / -30
Height (mm)	0.30 +/- 0.08	0.35 +/- 0.08	0.35 +/- 0.05
Total travel (mm) without dimple	0.23 +/- 0.08	0.28 +/- 0.08	0.28 +/- 0.05
Total travel (mm) with dimple	0.215 +/- 0.08	0.265 +/- 0.08	0.25 +/- 0.05
Foot print (mm)	5.40 +/- 0.08	5.40 +/- 0.08	5.40 +/- 0.08
Diameter (mm)	6 <sup>+0</sup> / <sub>-0.20</sub>	6 <sup>+0</sup> / <sub>-0.20</sub>	6 <sup>+0</sup> / <sub>-0.20</sub>
Square size (mm)	4.80 +/- 0.08	4.80 +/- 0.08	4.80 +/- 0.08
Click ratio (%)	40 - 70 %	40 - 70 %	50 - 80 %

### 8.4 MM 4L ■ With and without dimple

DOME REFERENCE XXX	220	280	340	400
Trip force (g)	220 +/- 30	280 +/- 30	340 +/- 40	400 +/- 40
Rebound force	90 +/- 30	90 +/- 30	130 +/- 40	150 +/- 40
Height (mm)	0.45 +/- 0.10	0.50 +/- 0.10	0.60 +/- 0.10	0.50 +/- 0.05
Total travel (mm) without dimple	0.37 +/- 0.10	0.42 +/- 0.10	0.52 +/- 0.10	0.40 +/- 0.05
Total travel (mm) with dimple	0.33 +/- 0.10	0.38 +/- 0.10	0.48 +/- 0.10	0.38 +/- 0.05
Foot print (mm)	8.00 +/- 0.10	8.00 +/- 0.10	8.00 +/- 0.10	8.00 +/- 0.10
Diameter (mm)	8.4 <sup>+0</sup> / <sub>-0.20</sub>	8.4 <sup>+0</sup> / <sub>-0.20</sub>	8.4 <sup>+0</sup> / <sub>-0.20</sub>	8.4 <sup>+0</sup> / <sub>-0.20</sub>
Square size (mm)	7.00 +/- 0.10	7.00 +/- 0.10	7.00 +/- 0.10	7.00 +/- 0.10
Click ratio (%)	40 - 70 %	50 - 80 %	50 - 80 %	50 - 80 %

### 10 MM 4L ■ With and without dimple

DOME REFERENCE XXX	220	280	340	400
Trip force (g)	220 +/- 30	280 +/- 30	340 +/- 40	400 +/- 40
Rebound force (g)	85 +/- 20	90 +/- 30	90 +/- 30	100 +/- 40
Height (mm)	0.55 +/- 0.05	0.57 +/- 0.05	0.60 +/- 0.05	0.62 +/- 0.05
Total travel (mm) without dimple	0.45 +/- 0.05	0.47 +/- 0.05	0.50 +/- 0.05	0.52 +/- 0.05
Total travel (mm) with dimple	0.42 +/- 0.05	0.44 +/- 0.05	0.47 +/- 0.05	0.49 +/- 0.05
Foot print (mm)	9.50 +/- 0.20	9.50 +/- 0.20	9.50 +/- 0.20	9.50 +/- 0.20
Diameter (mm)	10 <sup>+0</sup> / <sub>-0.20</sub>	10 <sup>+0</sup> / <sub>-0.20</sub>	10 <sup>+0</sup> / <sub>-0.20</sub>	10 <sup>+0</sup> / <sub>-0.20</sub>
Square size (mm)	8.40 +/- 0.10	8.40 +/- 0.10	8.40 +/- 0.10	8.40 +/- 0.10
Click ratio (%)	40 - 70 %	50 - 80 %	60 - 80 %	70 - 85 %

### 12.2 MM 4L ■ With and without dimple

DOME REFERENCE XXX	220	280	340	420
Trip force (g)	220 +/- 30	280 +/- 30	340 +/- 40	420 +/- 40
Rebound force (g)	85 +/- 20	90 +/- 30	100 +/- 30	120 +/- 40
Height (mm)	0,70 <sup>+0,05</sup> / <sub>-0,10</sub>	0.75 +/- 0.05	0.75 +/- 0.05	0.80 +/- 0.05
Total travel (mm) without dimple	0,60 <sup>+0,05</sup> / <sub>-0,10</sub>	0.65 +/- 0.05	0.65 +/- 0.05	0.70 +/- 0.10
Total travel (mm) with dimple	0,56 <sup>+0,05</sup> / <sub>-0,10</sub>	0.61 +/- 0.05	0.61 +/- 0.05	0.66 +/- 0.10
Foot print (mm)	11.70 +/- 0.20	11.70 +/- 0.20	11.70 +/- 0.20	11.70 +/- 0.20
Diameter (mm)	12.20 <sup>+0</sup> / <sub>-0.20</sub>	12.20 <sup>+0</sup> / <sub>-0.20</sub>	12.20 <sup>+0</sup> / <sub>-0.20</sub>	12.20 <sup>+0</sup> / <sub>-0.20</sub>
Square size (mm)	9.90 +/- 0.10	9.90 +/- 0.10	9.90 +/- 0.10	9.90 +/- 0.10
Click ratio (%)	40 - 70 %	50 - 80 %	50 - 80 %	50 - 80 %

### MATERIAL

- Stainless steel
- RoHS directive compliant
- REACH regulations compliant

### PLATING

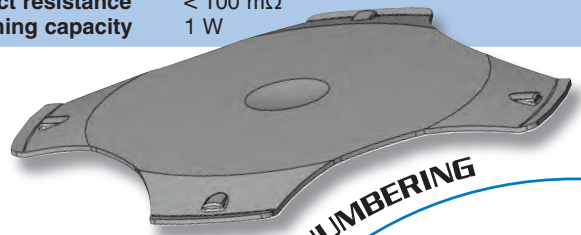
- Nickel plated standard model (-21)
- Optional one side gold plated (-31)

### ENVIRONMENTAL

- Storage temperature from -55°C to + 125°C
- Operating temperature from -40°C to + 105°C

### ELECTRICAL

- Rated voltage up to 100 V RMS
- Rated current 5µA to 100 mA
- Contact resistance < 100 mΩ
- Switching capacity 1 W



DOME SPECIFICATIONS

**PART NUMBERING**

