



NICOMATIC

CREATIVE  
INTERCONNECT  
SOLUTIONS

Product  
datasheet



# DOMES

## SWITCH'AIR™ FOUR-LEGGED METAL DOMES

### ADVANTAGES

- Excellent tactile effect, even after rigorous tests.
  - Long life expectancy: up to 5 million cycles
- Stable forces and homogeneity of forces per batch number
- Control of dimensions and mechanical characteristics
  - No burrs, thus eliminating the scratching effect
  - On site R&D, along with 100% Traceability

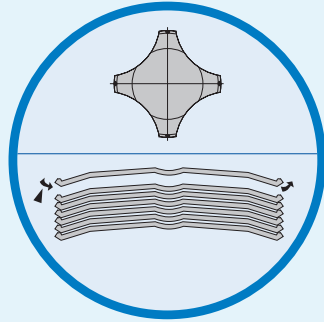
### FUNCTIONALITIES

- Dedicated to membrane switches and all man-machine interface applications with thin thickness
  - Successful and reliable automatic placement with Nicomatic machines, thanks to Patented Switch'Air™ technology
- Available in Bulk, Tape & Reel, Tubes and Custom Arrays
  - Four available diameters: 6mm, 8.4mm, 10mm and 12.2mm with or without dimple

# DESCRIPTIONS

## SWITCH'AIR™ TECHNOLOGY

Patented Switch'Air™ notch helps create a cushion of air between the domes, ensuring simple and accurate placement by automatic systems



### Packaging

N : in Bulk  
TN : in Tube  
RN : in Tape & Reel

### Dimple

D : with Dimple

### Trip Force

140 g - 170 g  
220 g - 280 g - 340 g  
400 g - 420 g

**N12.2 - 4L - (D) - XXX - YY**

**Diameter**  
ø6  
ø8.4  
ø10  
ø12.2

**Type of Dome**  
4L : 4 Legged

**Plating**  
21 : Nickel Plated (Standard)  
31 : 1 Sided Gold Plated

## QUALIFICATION TESTS

- Life expectancy
- Overload test (Static load)
- Overstroke test (Actuator shifted off center)
- O.S.O. Test (Same time: overload, sweet pot, overstroke)
- Electrical measurement

6 MM 4L With and without dimple	140	170	220		8.4 MM 4L With and without dimple	220	280	340	400
Trip force (g)	140 +/- 20	170 +30 -20	220 +/- 30		Trip force (g)	220 +/- 30	280 +/- 30	340 +/- 40	400 +/- 40
Rebound force	60 +/- 20	70 +/- 20	90 +/- 20 / -30		Rebound force	90 +/- 30	90 +/- 30	130 +/- 40	150 +/- 40
Height (mm)	0.30 +/- 0.08	0.35 +/- 0.08	0.35 +/- 0.08		Height (mm)	0.45 +/- 0.10	0.50 +/- 0.10	0.55 +/- 0.10	0.55 +/- 0.10
Total travel (mm) without dimple	0.23 +/- 0.08	0.28 +/- 0.08	0.28 +/- 0.08		Total travel (mm) without dimple	0.37 +/- 0.10	0.42 +/- 0.10	0.45 +/- 0.10	0.45 +/- 0.10
Total travel (mm) with dimple	0.215 +/- 0.08	0.265 +/- 0.08	0.285 +/- 0.08		Total travel (mm) with dimple	0.33 +/- 0.10	0.38 +/- 0.10	0.43 +/- 0.10	0.43 +/- 0.10
Foot print (mm)	5.40 +/- 0.08	5.40 +/- 0.08	5.40 +/- 0.08		Foot print (mm)	8.00 +/- 0.10	8.00 +/- 0.10	8.00 +/- 0.10	8.00 +/- 0.10
Diameter (mm)	6 +0 -0.20	6 +0 -0.20	6 +0 -0.20		Diameter (mm)	8.4 +0 -0.20	8.4 +0 -0.20	8.4 +0 -0.20	8.4 +0 -0.20
Square size (mm)	4.80 +/- 0.08	4.80 +/- 0.08	4.80 +/- 0.08		Square size (mm)	7.00 +/- 0.10	7.00 +/- 0.10	7.00 +/- 0.10	7.00 +/- 0.10
Click ratio (%)	40 - 70 %	40 - 70 %	50 - 80 %		Click ratio (%)	40 - 70 %	50 - 80 %	50 - 80 %	50 - 80 %
10 MM 4L With and without dimple	220	280	340	400	12.2 MM 4L With and without dimple	220	280	340	420
Trip force (g)	220 +/- 30	280 +/- 30	340 +/- 40	400 +/- 40	Trip force (g)	220 +/- 30	280 +/- 30	340 +/- 40	400 +/- 40
Rebound force	90 +/- 30	90 +/- 30	100 +/- 30	100 +/- 40	Rebound force	85 +/- 20	90 +/- 30	100 +/- 30	120 +/- 40
Height (mm)	0.65 +0 -0.20	0.65 +0 -0.20	0.65 +0 -0.20	0.70 +0 -0.20	Height (mm)	0.85 +/- 0.10	0.75 +/- 0.10	0.75 +/- 0.10	0.80 +/- 0.10
Total travel (mm) without dimple	0.55 +0 -0.20	0.55 +0 -0.20	0.60 +0 -0.20	0.60 +0 -0.20	Total travel (mm) without dimple	0.55 +/- 0.10	0.65 +/- 0.10	0.65 +/- 0.10	0.70 +/- 0.10
Total travel (mm) with dimple	0.50 +0 -0.20	0.50 +0 -0.20	0.55 +0 -0.20	0.55 +0 -0.20	Total travel (mm) with dimple	0.48 +/- 0.10	0.58 +/- 0.10	0.58 +/- 0.10	0.63 +/- 0.10
Foot print (mm)	9.50 +/- 0.20	9.50 +/- 0.20	9.50 +/- 0.20	9.50 +/- 0.20	Foot print (mm)	11.70 +/- 0.20	11.70 +/- 0.20	11.70 +/- 0.20	11.70 +/- 0.20
Diameter (mm)	10 +0 -0.20	10 +0 -0.20	10 +0 -0.20	10 +0 -0.20	Diameter (mm)	12.2 +0 -0.20	12.2 +0 -0.20	12.2 +0 -0.20	12.2 +0 -0.20
Square size (mm)	8.4 +0 -0.20	8.4 +0 -0.20	8.4 +0 -0.20	8.4 +0 -0.20	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 %	60 - 80 %	60 - 85 %	Click ratio (%)	40 - 70 %	50 - 80 %	50 - 80 %	50 - 80 %

# OTHER INFORMATION

## TECHNICAL DATA

Environment:  
Storage Temp: from -55°C to +125°C  
Operating Temp: from -40°C to +105°C

Material:  
Stainless Steel

RoHs & REACH Compliant

Plating:  
Nickel Standard (-21)  
Gold Optional (-31)  
Double side Gold Optional

Electrical:  
Switching Voltage: 0.1 to 100 V Dc  
Switching Current: 5µ A to 100 mA Dc  
Contact Resistance: < 100 mΩ  
Switching Capacity: 1 W

INSTRUCTION & DRAWINGS  
available on :

[www.Nicomatic.com](http://www.Nicomatic.com)

FOR MORE INFORMATION  
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