

## MTOUCH-12 – COMPRESSIBLE TOUCH PANEL TEST PROBE

### 1. Features

- 12mm diameter
- Offers up to 2mm of positioning tolerance compared to solid probes
- Compressible probe replicates human interaction
- Wide operating temperature
- Low electrical resistance, less than 50 ohms
- High reliability for industrial testing, offering more than 1M interactions
- Brass and silicone composition
- Multiple conductive fabric options available
- Suitable for a wide variety of testing scenarios

### 2. Applications

- Industrial automation
- Capacitive touchscreen testing
- Touch panel of film calibration
- Resistive touch pad testing
- Testing robots and actuators
- End of line testing

### 3. Description

The MTOUCH series of touch panel testing styluses is designed to simulate the human fingertip during its interaction with capacitive panels or screens. Being compressible, the stylus allows for increased positioning tolerances for end of line testing applications. It is constructed from brass and silicone wrapped in conductive fabric.

The stylus can be mounted on actuators and end effectors using the standard M4 thread. It is available in two material options, one providing the best electrical conductivity using silver plated fabric and the other being designed for testing unprotected touch films in order to reduce micro-scratches during swipe or drag movements.

Part Number	Fabric option	Application
MTOUCH-12-SOFT	Softer, cotton with knitted silver yarn	Unprotected touch films testing, swiping actions
MTOUCH-12-NYSV	Low resistance, silver plated nylon	Protected touch films testing, capacitive buttons

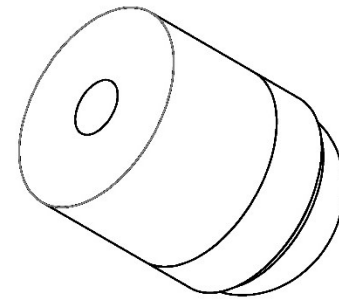
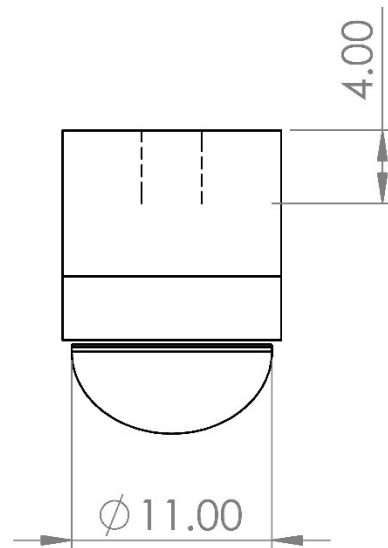
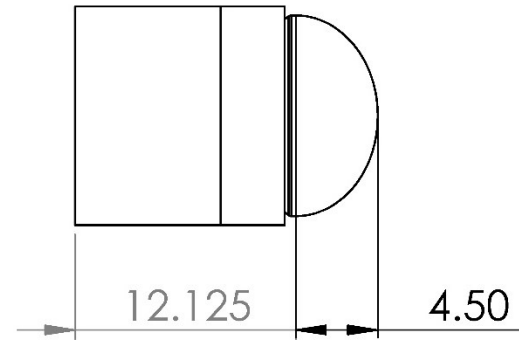
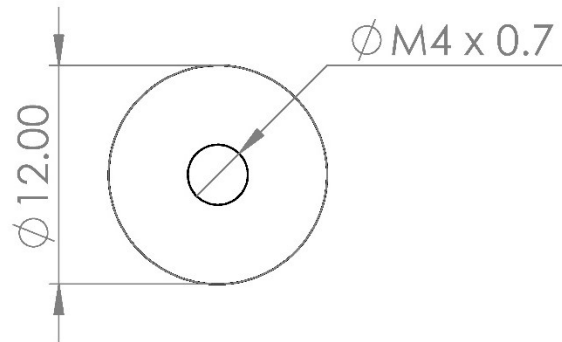
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### 4. Revision History

Date	Revision	Notes
September 2022	Rev. A	Initial release

## 5. Dimensions



## 6. Properties

### 6.1. Electro-mechanical characteristics

Property	MTOUCH-12-SOFT	MTOUCH-12-NYSV
Housing material	Brass	
Silicone hardness	Shore 20A	
Contact material	35% Silver, 63% Cotton, 2% Spandex	17% Silver, 83% Nylon
Contact resistance (ohm)	10 - 50	0.1 - 5
Durability (repetitions, in millions)	> 1M press and > 1M swipe cycles	
Housing diameter (mm)	12.00 ± 0.25	
Uncompressed tip diameter (mm)	11.25 ± 0.75	10.75 ± 0.75
Recommended operating force (N)	< 50	
Compression (mm)	3mm @ 50 N	
Compression @ 20N (mm)	2.46 +- 0.5	
Mounting	M4x0.7mm threaded hole, 4mm deep	

### 6.2. General Information

Specification	MTOUCH-12-SOFT	MTOUCH-12-NYSV
Operating temperature (°C)	0 to +55	
Operating humidity	< 95% RH	
Moisture Sensitivity Level (MSL)	1	
Packaging	2-pack	
Country of origin	Romania	
HS Code	8536.90	

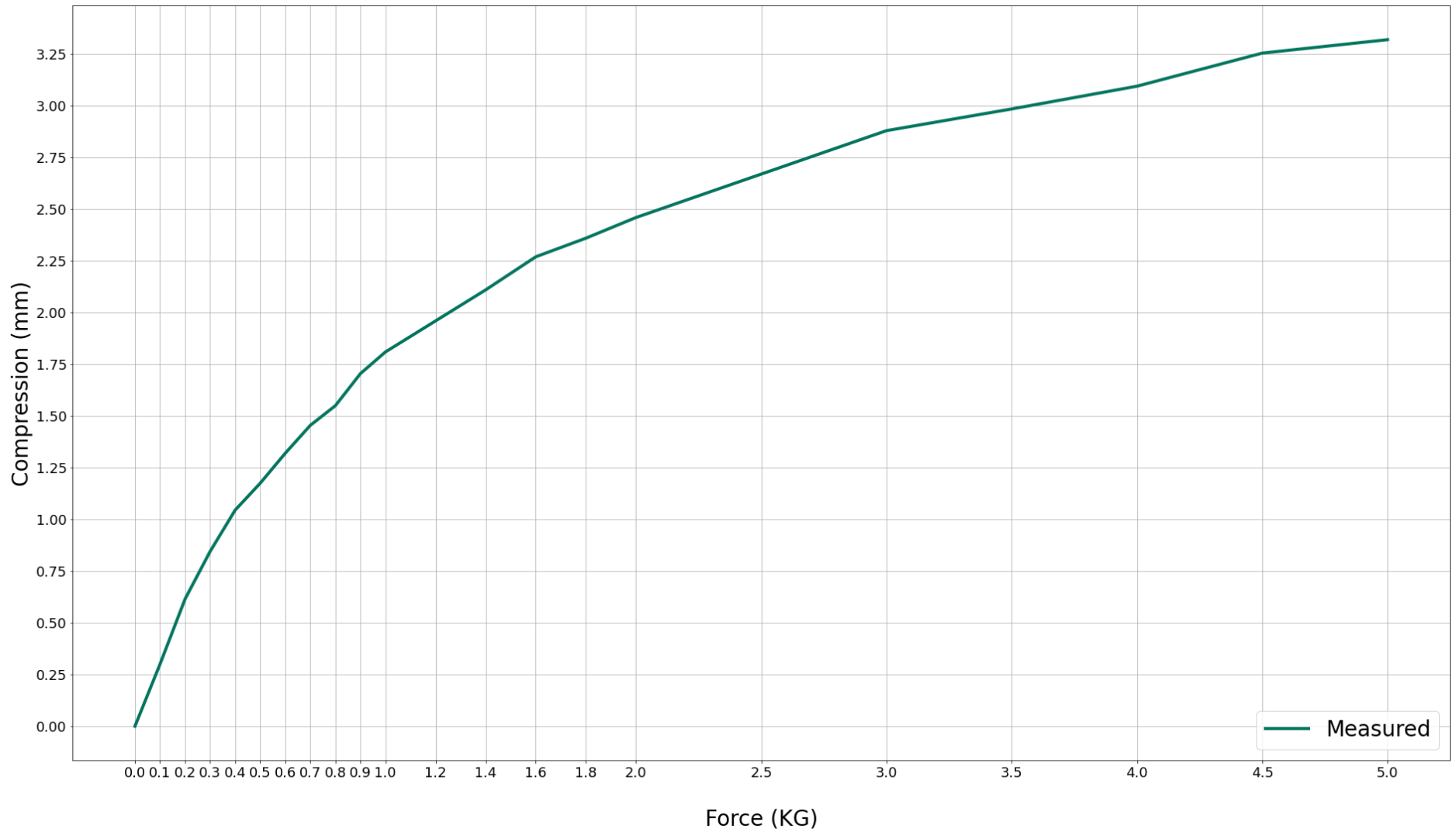
## 7. Device Comparison

Depending on the application, two fabric types can be selected. If the testing scenario involves repetitive and identical swiping motions while the touch panel is unprotected, some micro-scratching may be caused by the finger interaction, when using MTOUCH-12-NYSV. Usually, in end-of-line testing, this is not a concern since the touch area is covered by a protective plastic film. The NYSV material is manufactured by plating nylon fiber with silver to increase its current carrying capability. This process increases the hardness of the fibers, but it offers improved electrical characteristics for the finger and a uniform conductivity across the material structure.

If micro-scratching is a concern, MTOUCH-12-SOFT model is preferred which minimizes the micro-scratching effect for swiping motions. The silver fibers are knitted along the cotton fibers and will offer a good compromise between electrical conductivity and material hardness. Please note that micro-scratching effects can still become a problem with this material if long-running stress test scenarios are performed using a single stylus over the same surface.

## 8. Compression

The following graph presents the typical compression curve for both device variants.



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