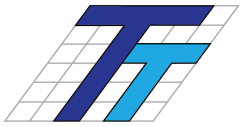

Tactonic Technologies, LLC

Tactonic Technologies Mechanically Interpolating Pressure Sensing (MIPS) Surfaces

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Overview

Tactonic Technologies

Tatonic Technologies, LLC. develops and markets sensing technologies with the expressed purpose of fostering a world where interaction everywhere is a reality. Tactonic Technologies' pressure imaging sensors are designed such that covering arbitrarily large (or small) surfaces with sensate materials is a cost effective possibility. By providing cost effective force sensing materials, Tactonic Technologies helps its clients provide richer interaction between humans, our surroundings and our digital devices. Using this technology, consumers will be able to interact with their devices and environments as opposed to on them. For more information on Tactonic Technologies sensing solutions and products, please visit www.tactonic.com.

General Description

This document lists the general specifications of the Tactonic MIPS surfaces. Many of the elements can be tuned or modified to fit custom requirements or product design guides. The values listed herein are based on Tactonic's standard development kit. Values marked with '$\mathcal{S}$' indicate values that can be custom designed, modified, or tuned to fit specific product.

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Specifications

TACTONIC TECHNOLOGIES—PRESSURE IMAGING FLOOR TILES		
PARAMETER	**VALUE**	**NOTES**
Minimum Size	4mm	Standards sensing surfaces are rectilinear, though, other shapes can be produced.
Maximum Size	610mm	
Standard Sensing Elements Density	6.35mm§	This value is modifiable based on the application of the sensing surface.
Positional Accuracy	100+ dpi	accuracy can be tuned and is proportional to the applied force
Frame Rate	100+ fps	Frame rate is dependent on the above specifications
Power Source	USB	External power can be supplied as required by the application
Sensing Current requirement	~ 2mA§	Can vary based on sensing surface configuration
Communication	USB	
API	C++ & Java	
Operating temperature	-40°C – 85°C	Below -20°C activation force may change by up to 10%
Minimum Activation Pressure (Break Force)	~4g / forcel*	Custom dynamic ranges available
Max Sensing Pressure	4kg / forcel*§	Custom dynamic ranges available
Force Sensing Step Size	0.5g§	Between 4g – 500g of applied force (within standard HCI operating range); Based on reference designs onboard 12–bit ADC

* Forcel–a force sensing element, located at prescribed grid points on a Tactonic Technologies Sensor,

§ Value can be tuned to meet customer / product needs

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Technology Comparison Chart

TECHNOLOGY COMPARISON				
FEATURE	**MIPS**	**PCAP**	**OPTICAL**	**4–WIRE RESISTIVE**
UNLIMITED TOUCHES	Yes	No*	No	No
MULTITOUCH	Yes	Yes	Yes**	No
STYLUS INDEPENDENCE	Yes	No	Yes	Yes
HIGH FRAME RATE	Yes	No	No	Yes
UNAFFECTED BY EMI	Yes	No	Yes	Yes
PRESSURE SENSITIVITY	Yes	No	No	Yes***
LOW POWER	Yes	No	Yes	Yes
DESIGNED FOR LARGE AREA	Yes	No	Yes	No
THIN GLOVED HANDS	Yes	Yes	Yes	Yes
THICK GLOVED HANDS	Yes	No	Yes	Yes
DESIGNED TO WORK ON FLEXIBLE SURFACES	Yes	No	No	No

*touch controller dependent, **more touches require more sensors or cameras, ***depends on the design