

Technical Data Sheet

• Force Sensors



FSE103

Description

Variense FSE103 is a unique multi-axis force sensor. Multi-axis force sensors are robust mechanical devices that exhibit a variation in signal when force is exerted on the surface of the sensor. This sensory information can then be used to improve the user's control of electronic devices in industrial and robotics applications, such as automotive electronics and medical systems.

The new digital FSE103 is a round sensor with a diameter of 39 mm, that can measure up to three components of force. It is based on capacitive technology, which is highly adaptive to various applications. Intelligent functionality, maximum sensitivity and ultimate compactness ensure that the sensor will fit your system properly. Custom sensors can be manufactured in sizes ranging from 30 mm to over 600 mm. You can also customize the protocols of communication to suit your needs.

Features and Benefits

- Cost effective
- Ultra compact at just 39 mm in diameter
- Robust to surrounding noise
- User friendly and easy to integrate

Potential Applications

Industrial

- Sense load and compression
- Detect obstacles and impact forces

Robotics

- Control force exertion
- Detect object weight while grasping

Rehabilitation

- Measure athletic performance
- Orthopedic research

Automotive

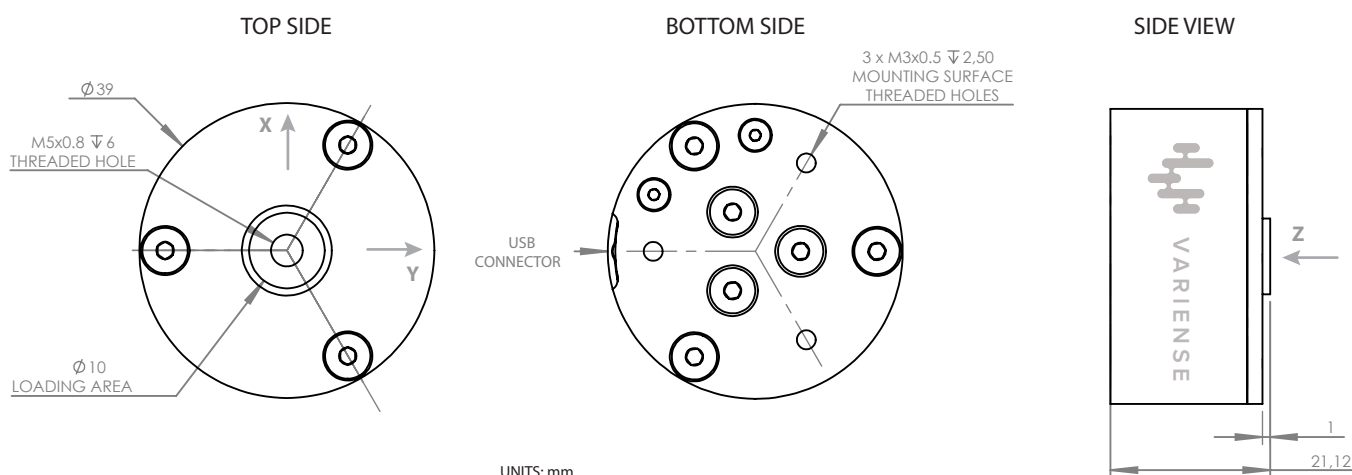
- Measure forces during crash testing or wind tunnel testing

Application Information

- Capacitive technology provides enhanced sensitivity without compromising signal integrity, resulting in low system noise and reducing measurement errors.
- USB interface minimizes space (plug and play). No conversion box needed.
- Return logged serial data with timestamp feature.
- Intuitive and flexible user interface provides easy-to-use display and calculation tools.

Feature	Condition	Value	Unit	Note
Mechanical specifications				
Diameter	Outer	39	mm	
Thickness		21	mm	
Weight		40	g	
Overload capacity	Fx, Fy, Fz	200	%	
Signal specifications				
Sensing range	Fx, Fy, Fz	100, 80, 80	N	
Signal noise		<1.5	N	
Drift		<1	N	72 hours
Operating temperature		-25°C to 80°C		
Electrical specifications				
Supply volatge	DC	2.8-5.3	V	
Communication interface				USB
Acquisition Rate		200	Hz	low noise

Sensor Mounting Dimensions



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