



OptoForce - 3 Axis Hemispherical Range of Sensors

Description

The 3D Hemispherical Sensor is at the heart of the full product range of an optical based force sensing system, utilising four photodiodes to measure the amount of reflected light emitted by an LED, permitting measurement of the X,Y and Z forces acting upon the sensor. The items are mounted to a PCB that is housed within a silicone dome which is completely void of air, providing superior protection to the sensor internals and subsequently allowing substantial overloading above and beyond the stated nominal capacities for each of the axis. The base of the sensor can consist of the PCB itself or mounted onto metal or ABS.



Hemispherical Sensors mounted to Robot hand

The compliant surface of the sensor offers contact with a large variety of different shaped objects and the whole of the silicone surface area is able to register the force applied. Typical applications include robotic hands and legs, load and compression sensing. The technology is fully customisable with respect to size, material, shape and measurement range. More detailed technical data about the full standard product range is available in PDF format upon request.



Hemispherical Sensor mounted to metal base

Key Features

- Compression Force (Fz) Nominal Capacity Range = 10 N - 600N
- Silicone Dia Options = 10 mm - 30 mm
- High percentage overloads ranging between 300% and 600% in the Fz axis.
- Operating temperatures ranging between -40° C to 85° C depending on the base material of the sensor.
- High Sensitivity and reliability.
- Dust proof, waterproof and robust.
- Fully customisable to suit the customers requirements