

MLX90900

Giving robots a sense of touch and a human-like perception

The **MLX90900**. A **tactile** sensor designed for robots that could benefit the sense of touch. The sensor is **compact** and **lightweight** (6x6x5 mm³). Embedded in an elastomer, a magnet and 3D magnetometer integrated circuit (IC) work together using **Hall-effect technology** for **precise 3D force sensing**.

Fully integrated and mass-manufactured using cutting-edge semiconductor technology, the MLX90900 ensure accurate force measurements with **high sensitivity**, all while being **robust against stray fields** and harsh environments.

Let's give robots a sense of touch, paving the way for safer, more efficient and accurate collaboration.

MLX90900 Tactile Sensor

The innovative Tactaxis™ technology

3D FORCE SENSING

Range:

- Normal force: 5N
- Shear force: 2N

Specification:

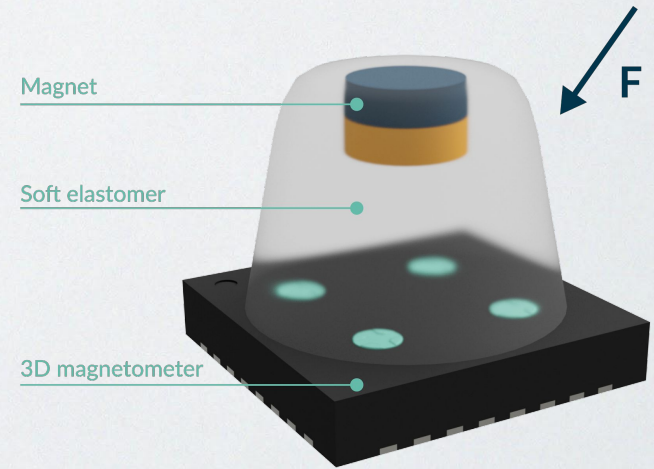
- Accuracy: 10% FS
- Precision: 1% FS
- Resolution: 10mN

COST-EFFECTIVE

Compact and lightweight
 $6 \times 6 \times 5 \text{ mm}^3$

Monolithic tactile sensor
(taxel)

Ease of mechanical
integration and electrical
interface



ROBUST

Stray-field immunity

Thermal stability

Harsh environment
ruggedness



MLX90900 Tactile Sensor

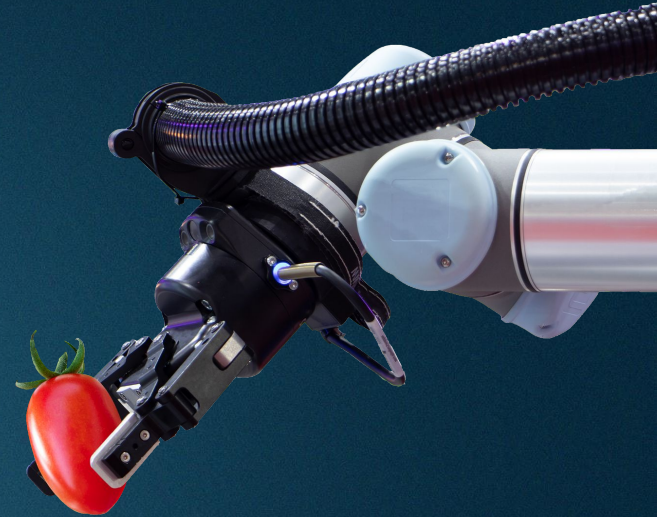
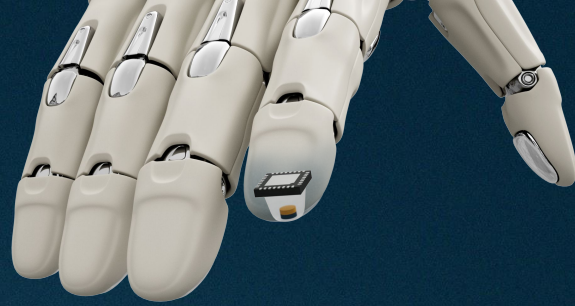
Melexis, a trusted partner

- Magnetic position sensor using 3D Triaxis™ Hall-effect technology - Melexis' core expertise since 1994
- Ready for mass-manufacturing using state-of-the-art semiconductor and elastomer technologies
- Intellectual Property (IP): stray field rejection, slip detection algorithm, sensor integration

MLX90900 Tactile Sensor

Enabler for your robot

- Handling fragile objects and performing delicate tasks
- Seamless, more efficient and safer interactions
- Market expansion unlocked





MLX90900 Tactile Sensor

Key Features

- Slip and contact detection
- Force control
- Weight estimation

Applications

- Pick and place
- Assembling
- Handling
- Harvesting
- Gripping
- ...

CONTACT US

For any questions, partnerships or advanced projects, do not hesitate to contact our expert

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INNOVATION WITH HEART

References

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