ROBOTICS

Tactile sensing in robot arms and end effectors

Tactile sensing is crucial for humanoid robots as it enables the robots to handle objects and interact with people safely and naturally. We excel in several product technologies in this area, namely capacitive, 3D magnetic, and barometric sensing. By advancing tactile sensing, these technologies achieve and enhance true human-like dexterity in humanoid robots.

Benefits

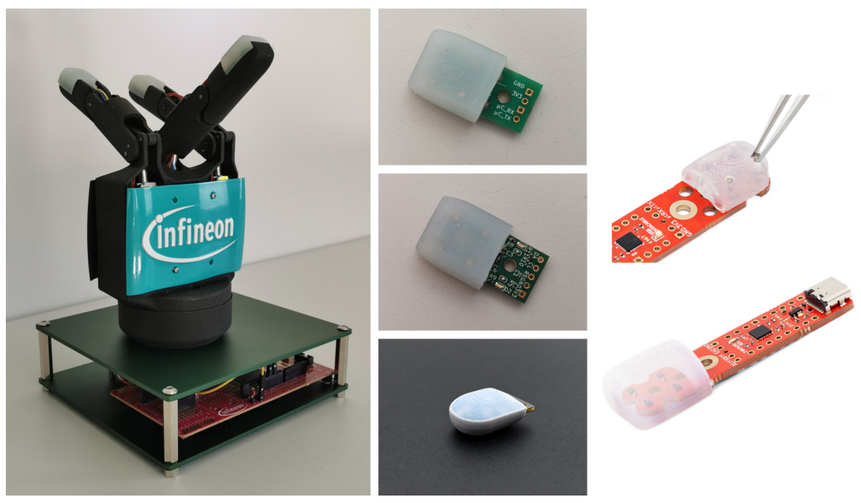
- PSOC™ 4 broad range of sensing modalities (proximity, touch, and force)
- Simple tactile sensing design for normal & shear forces using 3D magnetic sensors
- Significant wiring reduction thanks to the daisy-chain UART in 3D magnetic sensors
- Sensor fusion allowing more robust and more sensitive tactile sensing

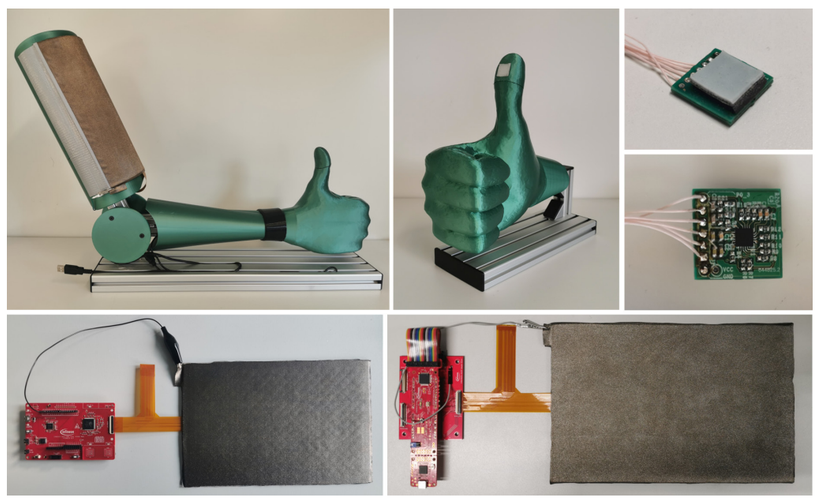
Highlight products

- PSOC™ 4000T/4100TP
- PSOC™ 4100S Max MCU
- XENSIV™ TLI394D-x4D7
- ICP102 barometric pressure sensor
- XMC7100D motion control MCU with Ethernet / PSC3M5 MCU

Applications

- Tactile sensor on the fingertips of dexterous hand and gripper
- Tactile sensor on the palm of dexterous hand
- Tactile sensor on the body skin of humanoid robots
- Tactile sensor on the feet of humanoid robots





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