Q.ANT Native Sensing for Life Sciences
Human bio-magnetic field sensing
Revolutionizing medical research, diagnostics and rehabilitation

Q.ANT

Revolutionizing human biosignal sensing

The Q.ANT magnetometer Q.M 10 enables the contactless measurement of smallest electric currents and magnetic fields in the human body under everyday conditions. With exceptional sensitivity, it can detect magnetic fields as weak as 10 picotesla thus opening up entirely new possibilities for medical research and applications like intuitive prosthetics control, neurology, diagnostics and function monitoring, rehabilitation research and telemedicine. Based on photonic quantum technology, the Q.ANT magnetometer redefines the way biosignals are captured and processed in medical technology to provide researchers deeper insights into the body's biosignals and push the boundaries of medical technology into new application fields.

Fundamental system requirements for human bio-magnetic field sensing fulfilled

Human bio signal strength

Nerves: ~ fT
Brain: ~ 100 fT
Eye: ~ 1 pT
Muscle: ~ 10 pT
Heart: ~ 100 pT
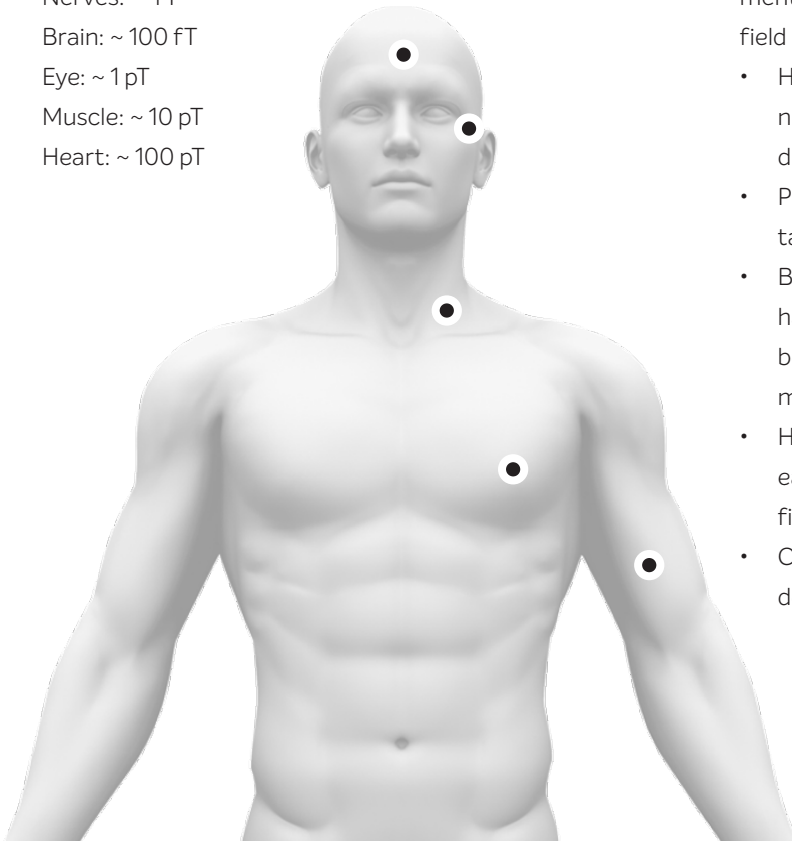
The Q.ANT magnetic field sensor Q.M 10 fulfills fundamental requirements needed for human bio-magnetic field sensing:

- High Magnetic field resolution: Sensor technology needs to achieve a sensitivity in at least the low two-digit picotesla range.
- Portable, usable under daily life conditions and operatable at room temperature.
- Bandwidth below 1 kHz: Human bio-magnetic signals have AC components with 200 Hz frequency and below. The frequency spectrum gives valuable information, e. g. on the force of the muscle excitement.
- High dynamic range: Reliable operation under normal earth magnetic field conditions (50 µT background fields).
- Contactless measurement makes operation independent from interference from sweat or hair.

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High precision bio-magnetic field sensing in medical research and industry

Unlike other high precision magnetic field sensor technologies that require extreme lab conditions to achieve comparable sensitivity, the Q.ANT magnetometer functions reliably under everday conditions including an operation at room temperature and at high background fields. This unique combination of sensitivity and practicality unlocks new possibilities for medical research and applications:
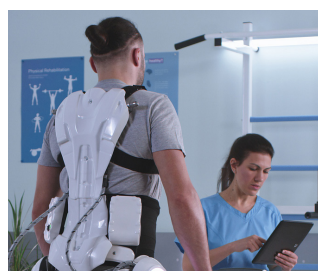
Prosthetics

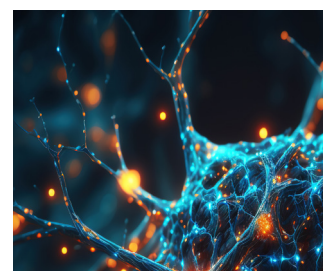Intuitive control of prosthetics through precise muscle signal detection without direct skin contact.

Diagnostics

Early diagnosis and enhanced monitoring of muscle and nervous system disorders.

Rehabilitation

Accurate analysis, continuous monitoring and optimization of rehabilitation protocols e.g. after spinal cord injuries.

Research

Develop new approaches in the diagnosis and treatment of muscle and nervous system disorders.

Skip the Queue:

Early adopter program with customized pricing and features

Q.M 10, the next generation of Q.ANT's quantum magnetic field sensor, will be available in April 2025 and can be pre-ordered now. Q.ANT invites researchers and product developers to join the „Q.M 10 Early Adopter Program" to explore new research fields and profit from a competitive edge before the official market launch of Q.M 10:

- Early access to initial sensors
- Collaborative product development workshops
- AI-driven data analysis
- Tailored business models with customized pricing