

KENDRION SOLUTIONS

## Ultra-Precise Sensing & Measurement

Advanced measurement systems delivering laboratory grade performance in product ready hardware

### Core Capabilities

- 40+ years of experience in high performance measurement
- Position measurement with sub-nanometer resolution
- Accelerometers with sub- $\mu\text{m/s}^2$  sensitivity
- Temperature measurement with micro-kelvin resolution
- Magnetic flux measurement systems
- Sub-picoampere-level current meters
- High speed optical spectrometers
- Optical Interferometry

### Why It Matters

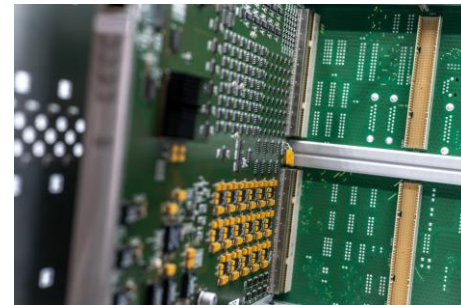
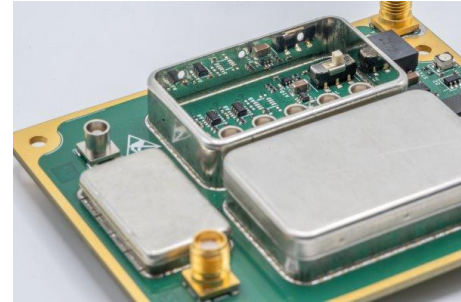
Our solutions combine extreme precision, high bandwidth, robust reliability with realistic cost structures and predictable development cycles.

### Business Impact

- Higher accuracy
- Improved long-term stability
- Reduced calibration requirements
- Lower cost
- Designed & built in the EU

### Application Areas

Advanced high-tech machinery, semiconductor tools, and nanotechnology equipment.



### Kendrion 3T

Institutenweg 1  
7521 PH Enschede  
The Netherlands

T +31 53 433 6633  
E [info-3t-iac@kendrion.com](mailto:info-3t-iac@kendrion.com)  
[www.kendrion.com](http://www.kendrion.com)

02/'26



## Ultra-precision sensing and FPGA-based signal processing — at the limits of physics

### Technical capabilities

We design and build electronics and sensing systems that operate close to fundamental physical limits.

### High resolution capacitive sensing

Low-cost capacitive systems for position and distance measurement  
Sub-nanometer resolution with better than 0.01% accuracy  
Precision excitation and demodulation techniques  
Low-noise, drift compensated analog frontend  
Digital signal processing and position calculation in FPGA domain

### High bandwidth accelerometer measurement

Sub  $\mu\text{m/s}^2$  resolution at 5 kHz bandwidth  
Low-noise amplification  
Real-time drift compensation  
Digital signal processing and acceleration calculation in FPGA domain

### Ultra stable temperature measurement

Micro-kelvin resolution  
Low-cost NTC and PT100 sensors  
Low-noise ADC architecture  
Digital signal processing and temperature calculation in FPGA domain

### Magnetic flux measurement

Ultra low-noise magnetic flux sensing at 200 kHz  
Low-cost GaAs Hall elements  
High-speed position sensing for reluctance motor control  
Synchronous detection and linearization in FPGA domain

### Multi-channel picoampere measurement

0.1 pA resolution  
Electron-beam and ion-beam current measurement  
Leakage-current measurement

