

Precise contactless temperature measurement on rotating assemblies - RotoTemp



Market sectors

- Electronic & Electrical Equipment
- Industrial Engineering
- Automobiles & Parts

Solution

The RotoTemp technology is designed for high accuracy contactless temperature measurement on rotating mechanical assemblies with very small space requirements for system installation. The technology minimizes the power consumption, dimensions and mass of a sensor module on the rotating side of the system, thus enabling minimally invasive system installation regarding requirements for mechanical assembly adaptation, unlike the most of currently available competing technologies.

Technology is developed by the University of Zagreb Faculty of Electrical Engineering and Computing, Croatia.

Benefits

- High-accuracy temperature measurement on rotating machinery
- Contactless power supply and data transmission
- Ultra-low power design & miniaturization
- Minimally invasive installation
- Reliable operation in harsh environments (vibration, shock, high temperature etc.)

Applications

Technology is optimized for temperature monitoring of various drivetrain elements (such as clutches, brakes, shafts, motor parts and other similar objects). Technology can be adapted for measurement of other physical quantities (e.g. force, torque, pressure etc.).

- On-condition real-time monitoring & predictive maintenance
- Safety improvements in production vehicles
- Better estimation of CoF with application to improvement of drivetrain system control algorithms (dry clutch)
- Mechanical assemblies wear optimization and improved parts replacement prediction
- Prototype vehicles assessment and development of new drivetrain systems
- Safety improvements in production vehicles and machinery

Target industries: automotive, aerospace, shipbuilding, tooling machines production

Opportunity

Experienced and supportive research and development team is available for consulting and project-based collaboration towards adaptation and further development of technology in accordance to specific customers' needs.

- License agreement
- Prototype hardware production documentation and embedded software for measurement data processing
- Integration support and project-based R&D cooperation

Stage of development

- Prototype demo measurement system developed and tested
- Evaluation system available on request for technology assessment

IP status

National patent application in Croatia and PCT application filed.

Additional information

Technology summary is available [here](#).