REALITY AI UNBALANCED LOAD AND SHAFT ALIGNMENT

Application example for anomaly detection on dual motor axis

Real-time detection of unbalanced loads and shaft misalignment is one of the key aspects to maintain safe and sustainable motor control systems. Renesas delivers an application example combining both to enable multiple AI inference modules running simultaneously to detect operating anomalies on two independent electric motors deployed on RA8T1 MCUs.

Features

- Integrated workflow within e2studio and RealityAI Tools® including RealityCheck™ Motor toolbox
- BYOM with eAI translator tool enabling users own DNN model for condition monitoring or anomaly detection
- Runs on high-performance 480 MHz Arm® Cortex®-M85 based RA8T1 motor control MCUs

Benefits

- Two independent motor axis with two independent AI/ML condition motoring inferences combining TinyML SVM and DNN
- Early identification of unusual patterns or deviations, preventing potential failures, unplanned downtimes, and increase of safetyness
- Enabled to collect data live from motor control board under actual motor use conditions within few minutes
- Time series data captured from available system parameters for a sensor-less approach that reduces overall BOM cost with elimination of additional sensors

Target Applications

Industrial manufacturing markets including food & beverage, paper milling, oil & gas and power generation.

Conveyor belt

Pump and bearing

Robotics

Computer numerical control (CNC)

- **For more information visit renesas.com/realityai-tools**
- **Request a demo to see unbalanced load and shaft alignment in operation**