

## RE Partner Solution

# Motor Health Monitoring



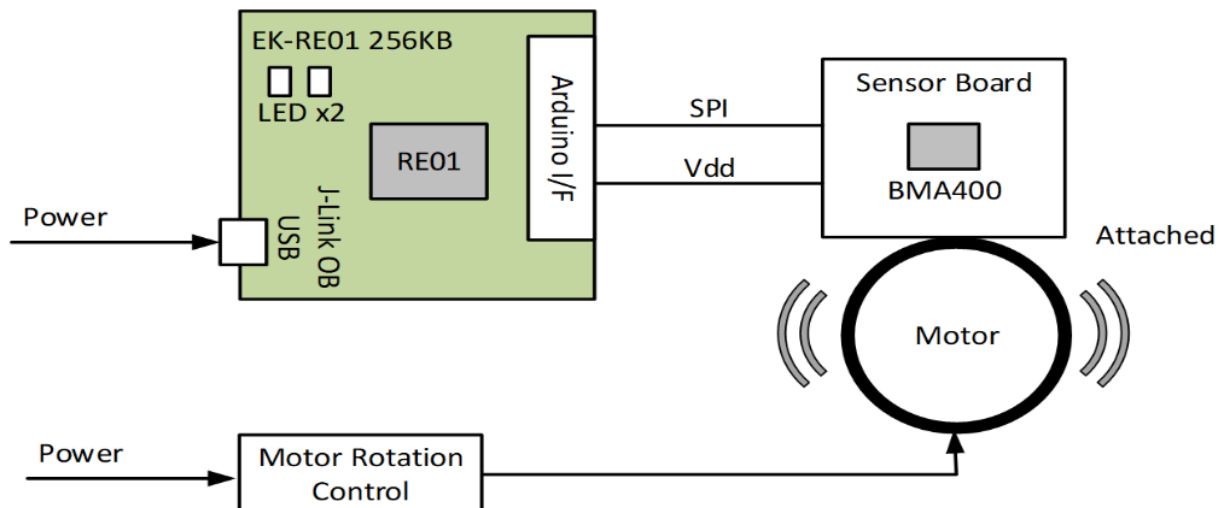
### Solution Summary

Motor Health Monitoring detects the motor health status with [Renesas RE Family's ultra-low current consumption, high performance MCU](#) and motor vibrations using 3-axis accelerometer sensor. The MCU reads the real-time accelerometer data periodically and runs the algorithm to identify the motor health/status.

### Features/Benefits

- RE MCU will operate in 2 different power modes to minimize the current consumption.
- High performance clock(32MHz) speed is used to process the accelerometer data to identify the motor health.
- RE MCU stays in minimum power standby mode with 0.5uA current consumption for most of the time since motor vibration data is collected periodically (1 to 4 hours)
- After wakeup from standby mode, motor health monitoring algorithm runs to read and analyze the accelerometer sensor data to detect faults(Ex: Dynamic eccentricity fault)
- Algorithm will capture 2048 samples of accelerometer values in iteration.
- Fourier Transform of the captured accelerometer values are calculated to identify the faults.

### Diagrams/Graphics



### Target Markets and Applications

- Industrial
- Smart Home Appliances
- Office Automation

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