The SKF Machine Condition Indicator

A simple, autonomous monitoring solution

The standalone SKF Machine Condition Indicator (MCI) gives plants a reliable, affordable way to monitor non-critical machines. It is ideal for machinery with constant operating conditions not previously monitored in plants. A vibration sensor and an alarm indicator in one unit, the fully sealed, battery-powered MCI requires no wired or wireless connections, installing directly on machinery for permanent installation for periodic measurements.

Much like the Check Engine light in a car, machine condition lights on top of the MCI become illuminated when the unit detects developing issues, alerting maintenance technicians that the machine needs to undergo a root cause analysis. Three LED lights rotate and blink green, amber, or red at various intervals and durations to indicate mode or alarm status.

Benefits

- Monitor non-critical machinery cost-effectively
- Extend maintenance route intervals
- Cut maintenance demands and costs
- Free up maintenance staff for higher level/other tasks
- Integrate MCI units into an operator driven reliability program/ maintenance routes

Applications

- Non-critical machinery in plants with constant operating conditions
- “Standard” machinery running at steady speeds from 900 to 3 600 r/min
- Safe-area applications

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Simple, reliable, affordable machine condition monitoring

Smart control for long battery life

The battery-powered MCI conserves energy by "sleeping" most of the time, waking up eight times per day at pre-set intervals to take measurements. Once activated, the MCI begins taking measurements immediately, evaluating current machine vibration level. If the level does not meet minimum alarm threshold, the MCI goes back to sleep to eliminate taking data when the machine is not running.

Robust reliability and functionality

Designed to provide a low-cost solution for monitoring non-critical equipment, the SKF Machine Condition Indicator (MCI) is a sealed, battery-powered, standalone unit designed for industrial use. Fully potted to optimize sealing, the MCI houses internal sensors that measure velocity, enveloped acceleration (bearing and gearbox vibration), and machine surface temperature. To address many different machine types, the MCI supports two modes of operation: threshold mode and percentage mode.

Verification and adaptive alarming

If the MCI detects an alarm condition, it automatically verifies the condition by retrying its measurements. The process helps rule out transient conditions and false alarms. If the alarm level is exceeded by only a small amount, the MCI may verify the condition for two to twelve hours before it displays the red alarm LEDs. If the alarm level is exceeded by a large amount, the SKF MCI recognizes this and performs fewer verifications of the alarm condition before alarming. Stronger alarms display the red alarm LEDs sooner than the weaker alarms, and all alarms are verified. Once the SKF MCI has verified the alarm, red LEDs blink in a specific blink pattern according to the measurement type in alarm for a duration of one week.

Easy to set, activate, integrate and change

A magnetic read key is included with the MCI to program, activate and reset the unit. The key allows users to change operating modes, set vibration baselines, and acknowledge alarms. The top of the MCI unit features a barcode with its serial number, allowing location and status to be easily recorded into an ODR program, as well as maintenance routes and scheduled check-ups.

Features

- Velocity measurements support overall machine health
- Measure enveloped acceleration detects bearing degradation
- Temperature measurements indicate uncharacteristic heat
- Two modes of operation address most industrial machines
- Built-in Intelligence to avoid false alarming

Actual MCI size
The compact SKF Machine Condition Indicator delivers big functionality in a very small footprint.

Three LED machine condition lights
By rotating or blinking green, amber, or red, the MCI's LEDs indicate mode and alarm status.

Barcode on top with serial number
The accessible MCI barcode enables easy unit location and status uploads into an ODR program.

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