

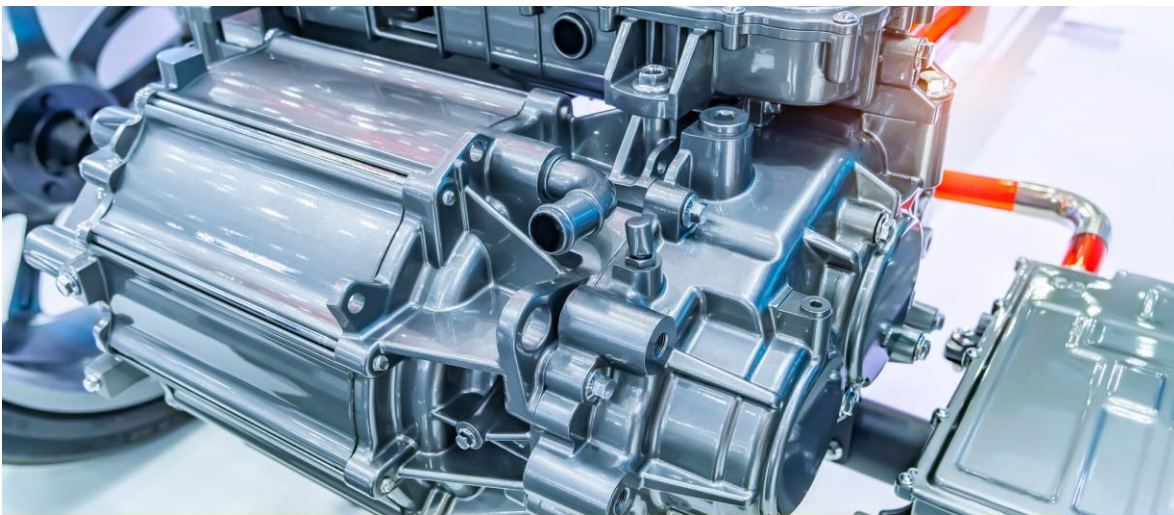


N4773D

STMicroelectronics' wide-bandwidth 3-axis vibration sensor saves space, energy, and bill of materials in industrial and automotive applications

Extended temperature range, -40°C to 125°C, enables vibration monitoring in harsh environments

Geneva, Switzerland, April 29, 2026 -- Combining sensing for three axes in a single digital device, STMicroelectronics' [IIS3DWBG1](#) wide-bandwidth vibration sensor simplifies design and cuts bill-of-materials costs in industrial and automotive condition-monitoring applications.



ST sensor captures high-frequency vibrations in harsh environments



The 3-axis IIS3DWBG1 is suitable for use in industrial condition-monitoring systems, where sensor placement and mounting govern measurement accuracy. Its tiny dimensions and wide operating-temperature range of -40°C to 125°C enhance flexibility to place small, externally attached sensors at optimal diagnostic locations regardless how difficult they are. The compact footprint also facilitates integration inside smart motors and smart gearboxes, while the low power consumption helps designers ensure long-lasting operation in battery-powered applications. The sensor's wide bandwidth and high resolution, as a 3-axis device, simplify capturing patterns associated with defects or wear, as well as equipment setup issues such as looseness and misalignment, to assist with installation, maintenance, and repairs.

In addition to general monitoring of motors and equipment, the IIS3DWBG1 can detect electromechanical vibrations in coils, transformers, snubber capacitors, busbars, connectors and in general vibrations originating in the power electronics module like traction inverter. Automotive brands can thus extend remote diagnostics to cover power modules, as well as traction inverters of electric vehicles to further enhance customer support through predictive maintenance. With its maximum operating temperature of 125°C, the IIS3DWBG1 is also chosen for monitoring circuits and mechanisms in very harsh environments like in hybrid motors.

Featuring extremely stable sensitivity over the operating-temperature range, the IIS3DWBG1 requires no calibration in the final application. Combining flat frequency response from DC to above 6kHz (-3dB point), and noise density of 75 μ g/ \sqrt Hz in 3-axis mode, the sensor detects extremely small vibrations and thus provide enhanced early warning to prevent equipment failures. The sensor is highly resistant to mechanical shocks and integrates digital features including configurable low-pass or high-pass filter with selectable cutoff frequency, an embedded FIFO, interrupts, a temperature sensor, and self-test capability.

Housed in a 2.5mm x 3mm LGA-14L package that saves PCB space and eases circuit layout and final product design, the IIS3DWBG1 is in production now. Pricing starts from \$12.00 for orders of 1000 pieces.

Please visit <https://www.st.com/mems-industrial> for more information.