**New inertial sensor for high-performance motion detection**

Panasonic Industry’s 6DoF inertial sensor series delivers precise information about the state and motion of a vehicle or machinery and provides essential inputs to a control unit

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The cars and machines of tomorrow will feature an increasing number of safety and comfort driver aids. Comprehensive sensing is crucial to support many purposes like motion detection, positioning, sensor fusion, inclination detection, and much more. For these purposes, Panasonic Industry Europe developed a 6-axis inertial sensor series that provides installation freedom, additional functionalities to onboard systems with this one-chip-solution, and cost-effectiveness.

The new high-quality and reliable 6-axis Gyro & Accelerometer 6DoF sensor series from Panasonic Industry, also called "6in1 sensor", is available in a wettable flank QFN package. This housing benefits from a special edge that forms a step. The solder creates a reliable connection in the throat of this step. This allows high-quality soldering and thus error-free assembly, which is essential for automotive safety (electronic stability control, ABS brakes, traction control), comfort (navigation, head-up display, driver-assist & comfort), and industrial applications (off-highway industry, AGV, robotics). The highly robust and shock- as well as vibration-resistant device has been designed under functional safety aspects of ISO26262 and is fully AEC-Q100 compliant. It meets all long-term stability, accuracy, vibration, and shock as well as temperature performance requirements of demanding automotive and industrial applications.

The 6in1 sensor requires, given the built-in high precision and functional safety, very low power and is made to operate over an extended temperature range of -40°C up to +125°C with two temperature sensors inside. It is factory calibrated, highly reliable, and utilizes the latest sensor technology. Further technical details include dynamic ranges of 1g...16g, 30d/s...300d/s, total sensitivity error of less than +/-3%, and drive/sense frequencies of >20kHz.

The 6in1 sensor series results from more than one decade of production experience in safety-critical automotive applications. It provides high accuracy on key features like sensitivity, offset, noise, and selftest in one small package. These factors are critical for sensor technology used in vehicles as the better the vehicle can see into the future with sensors/communication/sensor fusion, the more efficiently the car can react and avoid accidents or at least reduce their effects.

Learn more about the 6DoF inertial sensor series [here.](https://industry.panasonic.eu/components/sensors/6-1)

**About Panasonic**

Panasonic Corporation is a global leader developing innovative technologies and solutions for wide-ranging applications in the consumer electronics, housing, automotive, and B2B sectors. The company, which celebrated its 100th anniversary in 2018, operates 528 subsidiaries and 72 associated companies worldwide and reported consolidated net sales of 61.9 billion Euro (7.49 trillion yen) for the year ended March 31, 2020. Committed to pursuing new value through collaborative innovation, the company uses its technologies to create a better life and a better world for customers.

To learn more about Panasonic: <http://www.panasonic.com/global>

**About Panasonic Industry Europe**

Panasonic Industry Europe GmbH is part of the global Panasonic Group and provides automotive and industrial products and services in Europe. As a partner for the industrial sector, Panasonic researches, develops, manufactures and supplies technologies that support the slogan “A Better Life, A Better World”.

The company’s portfolio covers key electronic components, devices and modules up to complete solutions and production equipment for manufacturing lines across a broad range of industries. Panasonic Industry Europe is part of the global company Panasonic Industrial Solutions.

More about Panasonic Industry Europe: <http://industry.panasonic.eu>