The IP67 EP3751-0260 EtherCAT Box module features an accelerometer and gyroscope all in one

Precise detection, even of complex rotational movements, with sensor fusion

The EP3751-0260 EtherCAT Box module by Beckhoff connects an acceleration sensor with an inertial measurement unit (IMU), i.e. with a gyroscope. This unit measuring just 30 x 86 x 22 mm thus provides accurate detection of acceleration and rotational motion in addition to shock, vibration, and tilt measurement, both as pre-processed values and as raw sensor data.

An ultra-low-noise 3-axis accelerometer with a 20-bit resolution and an adaptable measuring range of ±2, ±4 and ±8 g are integrated. The sampling frequency is 4 kHz. The built-in sensor is suitable for applications where low frequencies need to be monitored with as little noise as possible – e.g. monitoring building work, bridge monitoring, robotics or condition monitoring. In addition, the I/O box module also features a low-noise, temperature-stable 3-axis MEMS gyroscope sensor (6DoF IMU) to record rotational motion across the three axes. With these two sensors, a wide variety of motion applications can be measured using just one I/O box module, and even complex rotational motion can be recorded precisely.

The high-performance EtherCAT connection also ensures virtually delay-free transmission to the evaluating measuring system. The sensor data is parameterizable and can be transmitted as raw values (unprocessed/unfiltered) or as pre-processed measurement data. The latter can then be filtered, processed, and evaluated using TwinCAT Analytics, for example.

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Press picture:

Picture caption:

The IP67 EP3751-0260 I/O Box module provides both accurate motion information and all underlying raw data from the integrated sensors with the help of ultra-fast EtherCAT communication.

Press kit:

www.beckhoff.com/media/downloads/press/pr262023_beckhoff.zip

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