

Compact IMU sensor: xproINS_IP68

Using multiple specialized Sensors

Instead of a single sensor element, in xproINS_IP68 we use for different sensor.

Each individual type is optimized for the respective area of application.

- 6D main sensor with low noise and low drift
- 6D-IMU with extended measuring range 16g / 2000 °/s
- High-precision 2-axis tilt sensor for static angles
- Magnetometer for future firmware expansion



Included Firmware Feature

xproINS_68 communicates via CAN bus with an external data acquisition system CAN-FD is already prepared. The CAN bus is used transmit both the basic variables of the individual sensors as well as the calculated derived values.

Among others, xproINS_IP68 provides the following software features:

- Kalman filter for signal smoothing in real time
- Module for calculating dynamic angles via sensor fusion
- Fast compensation of mounting angle via push-button
- 4 status LEDs to display the zero position

Robust Design and IP68 protection

The housing of xproINS_IP68 is made of aluminum and is milled from a solid block. The sensor unit can be fixed to a support in a stable and vibration-free manner using two M4 holes. The signal/power connector is also protected and waterproof. A laser-cut seal made of temperature-resistant material ensures reliable sealing against moisture and dirt. There is a button on the top of the sensor to compensate the installation position. The zero position is signaled via four LEDs.

Technical Data

Measuring rage sensors	
Accelerometer #1	6g m/s ² (Main-Sensor) @ 100 Hz
Accelerometer #2	2g / 4g / 8g / 16g (Default 2g)
Gyroscope #1	300 deg/s Allan Variance 0.5 deg /h
Gyroscope #1	125 / 250 / 500 / 1000 / 2000 deg/s
Communication	
CAN interface Type	CAN 2.0B with 500 kBit/s /1 MBit/s, CAN-FD up to 5MB/s
CAN Bus with Galvanic Isolation	Isolated
Firmware-Update	COM-Port Rx/D / Tx/D
Physical	
Dimensions & Weight	52 x 52.6 x 30 mm, appx. 200 g