

PCAN-GPS FD (IPEH-003110)



Product Description

The PCAN-GPS FD is a programmable sensor module designed for position and orientation determination with a CAN FD connection. It features a satellite receiver, a magnetic field sensor, an accelerometer, and a gyroscope. Incoming sensor data is processed by the NXP LPC54618 microcontroller and transmitted via CAN or CAN FD. The behavior of the PCAN-GPS FD can be freely programmed using the provided development package with GNU compiler tools for C and C++, allowing custom firmware development and transfer via CAN.

Technical Specifications

Feature	Specification
Microcontroller	NXP LPC54618 with Arm® Cortex® M4 core
CAN Interface	High-speed CAN (ISO 11898-2), compliant with CAN 2.0 A/B and CAN FD
CAN FD Bit Rates	40 kbit/s up to 10 Mbit/s (64-byte data field)
Classic CAN Bit Rates	40 kbit/s up to 1 Mbit/s
CAN Transceiver	NXP TJA1043
CAN Termination	Activatable via solder jumpers
Wake-up Sources	CAN bus or separate input
Satellite Receiver	u-blox MAX-M10S supporting GPS, Galileo, BeiDou, GLONASS, SBAS, QZSS
Navigation Reception	Simultaneous reception of up to 4 navigation systems
Antenna Supply	3.3 V for active GPS antennas
Magnetic Field Sensor	Electronic three-axis IIS2MDC from ST

Gyroscope and Accelerometer	ISM330DLC three-axis sensor from ST
Memory	8 MByte QSPI flash
Digital I/Os	3 configurable as input (High-active) or output with Low-side switch
LEDs	Status signaling
Connection	10-pole terminal strip (Phoenix)
Voltage Supply	8 to 32 V
Backup Power	Button cell preserves RTC and GPS data to shorten TTFF (Time To First Fix)
Operating Temperature	-40 °C to +85 °C (-40 °F to +185 °F, except button cell)
Firmware Update	Via CAN interface

Scope of Supply

- PCAN-GPS FD module in plastic casing with mating connector
- External antenna for satellite reception
- Windows development package with GCC ARM Embedded, flash program, and programming examples
- PDF manual

Requirements

- PEAK CAN interface required for transferring firmware via CAN

Ordering Information

- PCAN-GPS FD – Part No.: IPEH-003110