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PCAN-GPS Pro FD

Configurable Sensor Module with CAN FD Connection for Measuring Chains

The PCAN-GPS Pro FD is a configurable sensor module for detecting position, orientation, and acceleration. It has a magnetic field sensor, an acceleration sensor, a gyroscope, and a satellite receiver that allows update rates of up to 25 Hz. The sensor data is transmitted via CAN or CAN FD. The connection to the CAN bus is designed with two interconnected LEMO circular connectors for integration into measuring chains. Thanks to the robust housing, the module can also be used under tough conditions.

The device parameters, capturing of sensor data, and CAN message transmission of the PCAN-GPS Pro FD can be configured via the USB port using the Windows software included in the scope of supply. Afterwards, the module runs as an independent CAN node.



Specifications

- STM32H745 microcontroller with Arm® Cortex® M7 and M4 dual core and 2 MByte flash
- High-speed CAN connection (ISO 11898-2)
  - Complies with CAN specifications 2.0 A/B and FD
  - CAN FD bit rates for the data field (64 bytes max.) from 40 kbit/s up to 10 Mbit/s
  - CAN bit rates from 40 kbit/s up to 1 Mbit/s
  - NXP TJA1043 CAN transceiver
- CAN termination can be activated
- CAN connection and supply via 9-pin LEMO circular connectors with Alpha coding (30°)
  - 2 interconnected connectors with pin assignment according to M-CAN for integration in measuring chains
- High-speed USB 2.0 via USB-C connector
- Receiver for navigation satellites u-blox NEO-M9N
  - Supported navigation and supplementary systems: GPS, Galileo, BeiDou, GLONASS, SBAS, and QZSS
  - Simultaneous reception of 4 navigation systems
  - Maximum update rate 25 Hz
  - Configurable supply of active GPS antennas with 3.3 V or 5 V
  - Optional direct access to the u-blox via USB
- Gyroscope and three-axis accelerometer ISM330DLC from ST
- Electronic three-axis magnetic field sensor IIS2MDC from ST
- Memory: 8 MByte QSPI flash and 4 GByte eMMC
- Extended operating temperature range from -40 to +85 °C (-40 to +185 °F)
- 2 RGB LEDs for status signaling
- Configuration with a Windows software via USB
- Voltage supply from 8 to 32 V via LEMO circular connectors for operation
- 5 V supply via USB for configuration
- Supercap for preserving the RTC and the GPS data to shorten the TTFF (Time To First Fix)
- Aluminum casing with Ingress Protection IP50

Ordering information

Designation	Part No.
PCAN-GPS Pro FD	IPEH-003105

Scope of supply

- PCAN-GPS Pro FD in aluminum casing
- External antenna for satellite reception
- PCAN-GPS Pro FD Configuration for Windows 11 (x64/ARM64), 10 (x64)
- Manual in PDF format

Note: Adapter cable from LEMO circular connector to D-Sub socket on request.