

PCAN-USB Pro FD

CAN, CAN FD, and LIN Interface for High-Speed USB 2.0



The PCAN-USB Pro FD adapter enables the connection of CAN FD and LIN networks to a computer via USB. Two field buses can be connected at the same time, up to four with appropriate adapter cables (2 x CAN FD, 2 x LIN). Each CAN FD channel is separately isolated against USB and LIN with a maximum of 500 Volts. Its robust aluminum casing makes the PCAN-USB Pro FD adapter suitable for mobile applications.

The monitor software PCAN-View and the programming interface PCAN-Basic for the development of applications with CAN connection are included in the scope of supply and support the standard CAN FD. The monitor application PLIN-View Pro as well as the PLIN programming interface are also included in the scope of supply.

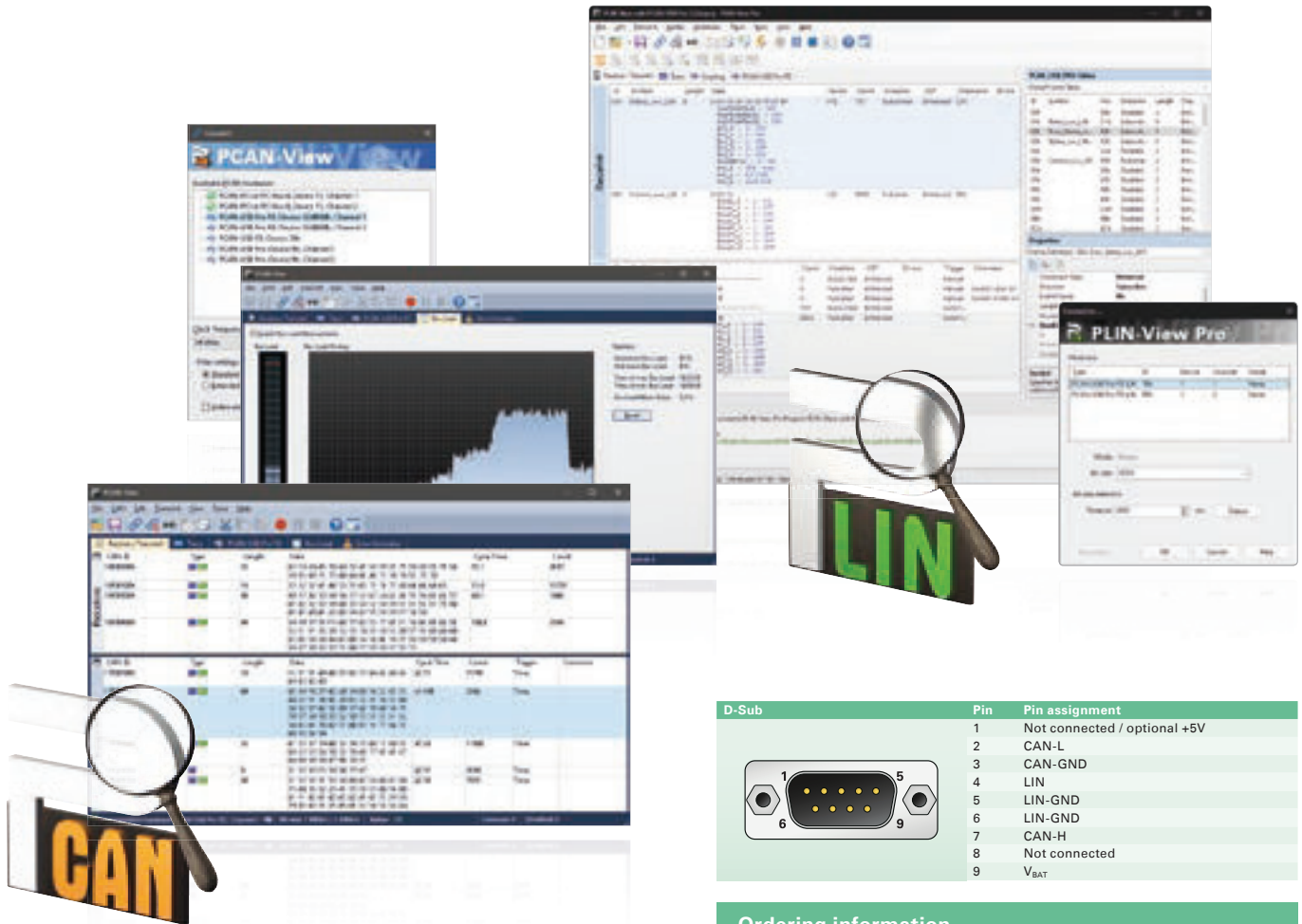
CAN FD is primarily characterized by higher bandwidth for data transfer. Further information about CAN FD can be found on page 10.

Specifications

- ___ Adapter for High-speed USB 2.0 (compatible to USB 1.1 and USB 3.0)
- ___ Transmitting and receiving of CAN FD and LIN messages using 2 D-Sub connections (both with pin assignment for the CAN FD and LIN bus)
- ___ Time stamp resolution 1 μ s
- ___ 5-Volt supply at the D-Sub connector can be activated through a solder jumper, e.g., for external bus converter
- ___ Voltage supply via USB
- ___ Extended operating temperature range from -40 to +85 °C (-40 to +185 °F)

CAN operation properties:

- ___ Complies with CAN specifications 2.0 A/B and FD
- ___ CAN FD support for ISO and Non-ISO standards switchable
- ___ CAN FD bit rates for the data field (64 bytes max.) from 25 kbit/s up to 12 Mbit/s
- ___ CAN bit rates from 25 kbit/s up to 1 Mbit/s
- ___ FPGA implementation of the CAN FD controller
- ___ NXP TJA1044GT CAN transceiver
- ___ Each CAN FD channel is separately opto-decoupled against USB and LIN up to 500 V
- ___ CAN termination can be activated through solder jumpers, separately for each CAN channel



- ☐ Measurement of bus load including error frames and overload frames on the physical bus
- ☐ Induced error generation for incoming and outgoing CAN messages

LIN operation properties:

- ☐ Bit rates from 1 kbit/s up to 20 kbit/s
- ☐ TJA1028 LIN transceiver
- ☐ Compliant with all LIN specifications (up to version 2.2)
- ☐ Both LIN channels (common ground) are opto-decoupled against USB and CAN FD
- ☐ Can be used as a LIN master or slave (1 ms master task resolution)
- ☐ Automatic bit rate, frame length, and checksum type recognition
- ☐ Autonomous scheduler with support for unconditional, event, and sporadic frames
- ☐ Hardware can work through a schedule table (up to 8 schedule tables can be configured with a total of 256 slots)

Please note: The PCAN-USB Pro FD can be used alternatively for the PCAN-USB Pro, because this CAN interface is no longer manufactured! The PCAN-USB Pro FD behaves identically concerning the CAN and LIN functionality.

D-Sub	Pin	Pin assignment
	1	Not connected / optional +5V
	2	CAN-L
	3	CAN-GND
	4	LIN
	5	LIN-GND
	6	LIN-GND
	7	CAN-H
	8	Not connected
	9	V _{BAT}

Ordering information

Designation

PCAN-USB Pro FD

Part No.

IPEH-004061

Scope of supply

- ☐ PCAN-USB Pro FD in aluminum casing
- ☐ CAN FD device drivers for Windows 11 (x64/ARM64), 10 (x64), and Linux
- ☐ LIN device drivers for Windows 11 (x64/ARM64), 10 (x64), and Linux
- ☐ CAN monitor PCAN-View for Windows (details on page 94)
- ☐ LIN monitor PLIN-View Pro for Windows (details on page 95)
- ☐ Programming interface PCAN-Basic for developing applications with CAN connection (details on page 80)
- ☐ Programming interface PLIN-API for developing applications with LIN connection (details on page 93)
- ☐ Programming interfaces for standardized protocols from the automotive sector
- ☐ Manual in PDF format

Accessories: LIN Connection Cable for PC LIN Interfaces optionally available (details on page 124).