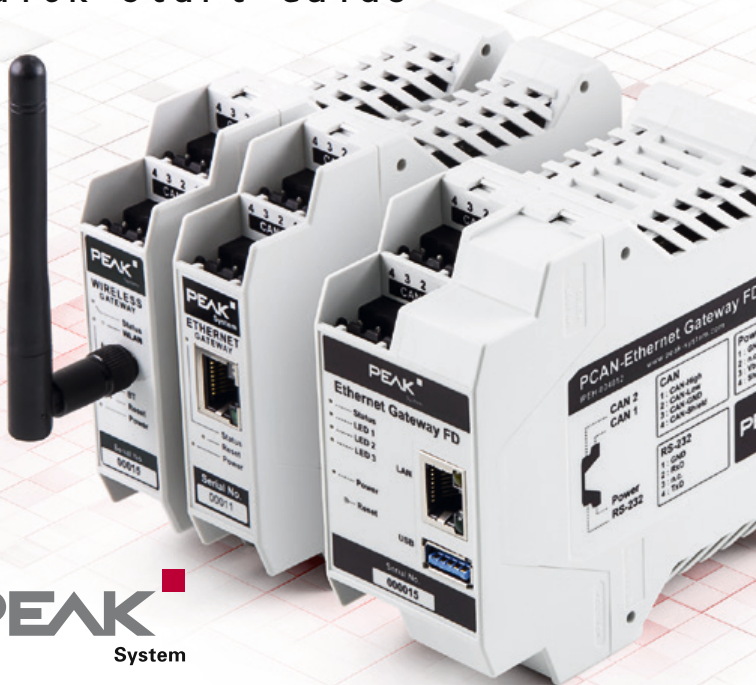# PCAN-Gateway
Quick Start Guide

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Congratulations ...

... on your new PCAN-Gateway. This guide covers the basic configuration and operation of the PCAN-Gateway product family.

Documentation

Detailed documentation in PDF format is available on our website. See the last page of this quick start for download links.

Simplified EU Declaration of Conformity

PEAK-System Technik GmbH declares:

- The listed products are in compliance with the EU directives 2014/30/EU (EMC) and 2011/65/EU (RoHS 2):
    - PCAN-Ethernet Gateway DR (IPEH-004010)
    - PCAN-Ethernet Gateway FD DR (IPEH-004012)
    - PCAN-Wireless Gateway DR (IPEH-004011)
    - PCAN-Wireless Gateway (IPEH-004020 and IPEH-004020-A)

- The listed radio equipment are in compliance with the directive 1999/5/EC:
    - PCAN-Wireless Gateway DR (IPEH-004011)
    - PCAN-Wireless Gateway (IPEH-004020 and IPEH-004020-A)

The full texts of the EU declaration of conformity are available in the documentation of each product. See the last page for download links.
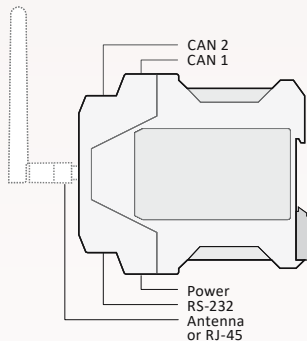
Connectors

PCAN-Ethernet Gateway DR
PCAN-Ethernet Gateway FD DR
(IPEH-004010 and IPEH-004012)

CAN 1 & 2: High-speed CAN channels, connectors via 4-pole screw-terminal strips (Phoenix)
Power: Voltage supply 8 - 30 V
LAN: RJ-45 connector

CAN 2
CAN 1

Power
RS-232
Antenna
or RJ-45

PCAN-Wireless Gateway DR
(IPEH-004011)

CAN 1 & 2: High-speed CAN channels, connectors via 4-pole screw-terminal strips (Phoenix)
Power: Voltage supply 8 - 30 V
WLAN: 2.4 GHz dipole antenna

Pin Assignment CAN

1	CAN-High
2	CAN-Low
3	CAN-GND
4	CAN-Shield

1 2 3 4

Pin Assignment Power

1	GND
2	not connected
3	Vbat (8 - 30V)
4	Shield

1 2 3 4

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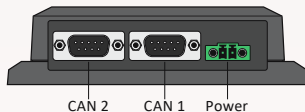System

CAN 2   CAN 1   Power

PCAN-Wireless Gateway (IPEH-004020)

CAN 1 & 2: High-speed CAN channels, connectors via D-Sub, 9-pin (in accordance with CiA® 303-1)
Power: Voltage supply 8 - 30 V
WLAN: Internal chip antenna

Pin Assignment D-Sub & Power

1	opt. +5V
2	CAN-Low
3	GND
4	Wake-up
6	GND
7	CAN-High

PCAN-Wireless Gateway (IPEH-004020-A)

CAN 1 & 2: High-speed CAN channels, connectors via automotive connector, 12-pin (Tyco)
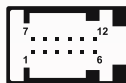**Power:** Voltage supply 8 - 30 V
WLAN: Internal chip antenna

CAN 1, CAN 2, Power

Pin Assignment Tyco

1	Vb
2	GND
3, 9	CAN1-Low
4, 10	CAN1-High
5, 11	CAN2-Low
6, 12	CAN2-High
7	Wake-up
8	GND

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Basic Configuration

Preparation

1 **Power Supply:** Connect the PCAN-Gateway to a suitable power supply (8 - 30 V DC). When the Status LED is blinking green, the device is ready and the default configuration is executed.

2 **Computer:** Configure your PC with IP address settings that correspond to the default settings of the PCAN-Gateway (IP: 192.168.1.xxx, Subnet mask: 255.255.255.0).

3a **IP Connection for the PCAN-Ethernet Gateway (FD) DR:** Use the supplied RJ-45 network patch cord to connect the device to your LAN network.

3b **IP Connection for the PCAN-Wireless Gateway (DR):** Connect your PC to the WLAN network that is provided by the PCAN-Gateway (SSID: *PEAK Wireless Default* | Password: *iCANaccess*).

4 **Configuration Website:** Open the device's address: 192.168.1.10 in a web browser to access the configuration website. Enter *admin* for username and password and confirm with *Enter*. Now you can start with the basic device configuration.

CAN Configuration

Open the page *Network >> CAN* to configure the CAN channels. Please note that the bit rate settings must match with the settings of the connected CAN bus.

Listen-Only-Mode: Enable this checkbox, if the gateway should act as an observer, not affecting the data traffic.

Clock Frequency: Bit rates are calculated based on the selected clock frequency. Depending on your gateway the frequency is selectable or fixed to 24 MHz.

Nominal Bit Rate: Select a bit rate for transmitting CAN frames.

Additional Settings for CAN FD

If your gateway supports the modern standard CAN FD, additional settings are available for each CAN channel.

CAN FD: Enable this checkbox to use CAN FD and to show the data bit rate selection.

Data Bit Rate: Select a bit rate for transmitting the data of CAN frames.

Save your settings for each channel with the button *Save Settings*.

IP Configuration

Depending on your device the connection to the IP network is done via LAN or WLAN. Open the page *Network >> LAN* or *Network >> WLAN* to configure the IP interface.

Connection Settings: Only available on PCAN-Gateways with WLAN interface! Enter the access data of the WLAN network you will be connecting to.

Address Settings: Enter an IP address and Subnet mask that match the settings of your IP network.

   Please note: *DHCP* is not recommended.

After you have saved the settings, you are automatically logged out and the basic configuration of the device is completed. For devices with WLAN interface: After the basic configuration, the default WLAN network is no longer available.

Reset

You can reset a PCAN-Gateway if it is no longer accessible. Press with a paper clip into the reset hole for longer than 8 seconds. Regular gateways are thereby reset to the factory defaults (configuration and software). The PCAN-Ethernet Gateway FD DR (IPEH-004012) instead activates a special restore partition.

Application Example

The PCAN-Gateways allow the connection of different CAN buses over IP networks. CAN frames are wrapped in TCP or UDP message packets and then forwarded via LAN or WLAN from one device to another.

| CAN Bus A | Gateway 1 | IP Network | Gateway 2 | CAN Bus B |
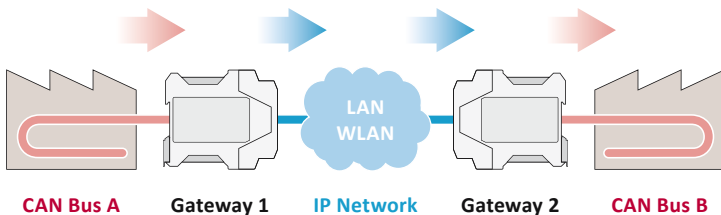
In this application example, message traffic from CAN bus A is being forwarded to CAN bus B via an IP network.

For this unidirectional data transmission two PCAN-Gateways and the creation of a route on each device are required.

Gateway 1: Create a Send Route

Gateway 1 is connected to CAN bus A via its CAN channel 1. To transfer the CAN messages to Gateway 2, you have to create a Send route on Gateway 1.

1	**Add Route**	Open the configuration website of Gateway 1 and go to the page *Routing >> Manage Routes.* Click the button *Add Route.*
2	**Configure Route**	Select *Send: CAN > IP* from the *Choose the direction* drop-down list. Complete the form with the values from the table below.

Status	Active
CAN	CAN Channel 1 (connected to CAN bus A)
IP Address	192.168.1.202 (address of Gateway 2)
Port	50000
Protocol	TCP

3	**Confirm**	Click the *Add Route* button at the bottom of the page to complete the route creation process. After saving, the route will be displayed in the overview on the page *Routing >> Manage Routes*.

Gateway 2: Create a Receive Route

Gateway 2 has to receive the messages sent by Gateway 1. Furthermore, the extracted CAN messages, have to be transferred to CAN bus B, which is connected to CAN channel 2. To make that work, you have to create a Receive route on Gateway 2.

1 Add Route   Open the configuration website of Gateway 2 in another browser tab and go to the page *Routing >> Manage Routes.* Click the *Add Route* button*.*

2 Configure Route   Select *Receive: IP > CAN* from the *Choose the direction* drop-down list. Complete the form with the values from the table below.

Status	Active
Port	50000 (like the Send route)
Protocol	TCP (like the Send route)
CAN	CAN Channel 2 (connected to CAN bus B)

3 Confirm   Click the *Add Route* button at the bottom of the page to complete the route creation process. After saving, the route will be displayed in the overview on the page *Routing >> Manage Routes*.

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Final Check

Open the page *Routing >> Manage Routes* on both devices.
If the Status LEDs of the Send route on Gateway 1 and the
Receive route on Gateway 2 are green, everything is fine and the
unidirectional message forwarding is working.

Please note: If you like to setup a bidirectional message
transmission, you have to create a message forwarding in the
opposite direction. For this a Send route on Gateway 2 and a
Receive route on Gateway 1 are required.

A detailed description of this application example is available in
the documentation of your PCAN-Gateway.

Video Tutorials

With short video tutorials on YouTube, we demonstrate how to
configure and use the PCAN-Gateways.

www.youtube.com/user/peaksystemtechnik

Software Updates

For each model of the PCAN-Gateway product family there is a separate software package that can be downloaded from our website. The update can be installed via the configuration website. Simply follow the instructions on the page *Device >> Software Update*.

PCAN-Ethernet Gateway FD DR

Part No.: IPEH-004012
Software Package: *www.peak-system.com/quick/DLP4012*
Documentation (English): *www.peak-system.com/quick/DOC4012E* ➡

PCAN-Ethernet Gateway DR

Part No.: IPEH-004010
Software Package: *www.peak-system.com/quick/DLP4010*
Documentation (English): *www.peak-system.com/quick/DOC4010E* ➡

PCAN-Wireless Gateway DR

Part No.: IPEH-004011
Software Package: *www.peak-system.com/quick/DLP4011*
Documentation (English): *www.peak-system.com/quick/DOC4011E* ➡

PCAN-Wireless Gateway

Part No.: IPEH-004020 & IPEH-004020-A
Software Package: *www.peak-system.com/quick/DLP4020*
Documentation (English): *www.peak-system.com/quick/DOC4020E* ➡

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