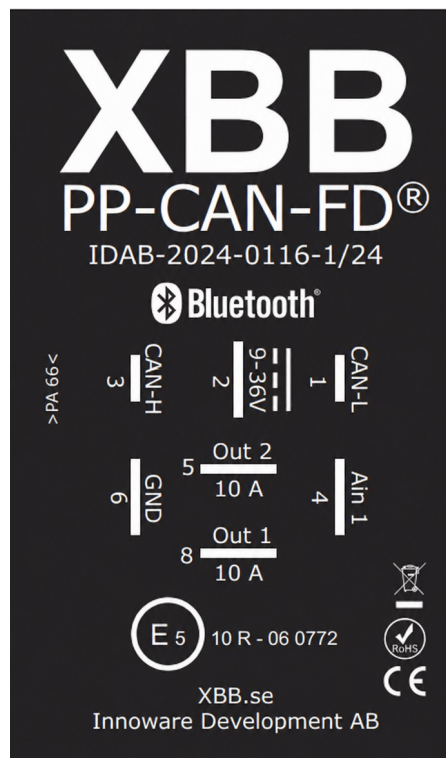


XBB PP-CAN-FD



DATA SHEET

Table of contents

Important:.....	3
Safety information:.....	3
Functionality.....	4
Usage Guidelines and Operating Conditions.....	4
Limitations.....	4
Disposal and Recycling.....	5
Installation Guide for PP-CAN-FD Integration.....	6
Download the XBB Configurator App.....	6
Wireless Data Transmission.....	6
Mounting PP-CAN-FD.....	6
Configuration and Recipe Selection.....	7
System Shutdown and Power Saving.....	7
Adding Additional Modules.....	7
Signal Strength Verification.....	7
PP-CAN-FD Usage and Vehicle Updates.....	8
System Retention and Re-connection.....	8
Technical data:.....	9
Dimensions:.....	10
Connector Pin-out:.....	10
Traceability.....	11
Reference document.....	11
Revision.....	11

Important:

This section contains critical safety and operational information that you need to be aware of before working with the PP-CAN-FD and related components.

Safety information:

Follow the instructions to avoid injury or damage the equipment:

	WARNING! There are ESD sensitive components inside the PP-CAN-FD.
	WARNING! <i>Contains electronics. Must be recycled. Do not dispose in household garbage.</i>
	WARNING! Never open the PP-CAN-FD with the power supply on.

This product conforms to all relevant EU regulations. Please refer to the Declaration of Conformity for detailed information on compliance with EU directives, including RED, RoHS, and REACH. The Declaration of Conformity can be downloaded at: <https://www.xbb.se/docs>

Functionality

The PP-CAN-FD serves as the master unit for all XBB-compatible products that can communicate via a 2.4 GHz radio link or CAN.

It features a fully compliant CAN controller supporting CAN 2.0B and CAN-FD (ISO 11898-1:2015) for communication with vehicles or other CAN-compatible devices, as well as over a 2.4 GHz radio link. The PP-CAN-FD uses a 2.4 GHz radio link for configuration and for communication with other XBB modules.

Up to three XBB-compatible products can be connected to the PP-CAN-FD simultaneously.

The PP-CAN-FD includes voltage monitoring, analog input and a three-axis digital accelerometer, which is used for wake-up purposes. With the **TSharkRex®** programming language, the PP-CAN-FD is fully programmable, allowing it to be customized and configured to meet specific requirements depending on which vehicle it is installed in.

For more detailed technical information and product specifications, please visit [XBB's official website](http://xbb.se). (xbb.se).

Usage Guidelines and Operating Conditions

The PP-CAN-FD is designed for use in vehicles that utilize CAN 2.0B or CAN-FD communication standards and is compatible with a wide range of CAN-enabled devices and systems. It is primarily intended for use in vehicle diagnostics and monitoring systems, providing seamless communication between the dongle and various connected modules.

Limitations

The product is not intended for use in extreme environments, such as underwater or in explosive atmospheres. It should only be operated within a temperature range of -30°C to +80°C and is suitable for vehicles with an operating voltage of 12 VDC (9-36 VDC range). PP-CAN-FD is designed for in-vehicle use and should not be exposed to direct water or excessive dust.

Ensure a proper connection to vehicle CAN wires. PP-CAN-FD must be installed in a standard 7-pin DIN 72552 relay socket that is mechanically secured inside the vehicle. The relay socket must be mounted to prevent movement and vibration damage. Proper mechanical installation is also required for correct accelerometer functionality.

DATA SHEET

XBB PP-CAN-FD

CAN gateway



Order number: IDAB-2024-0116-1/25

Version: EN-20260813-5

Disposal and Recycling

This electronic device contains components that must be properly recycled in accordance with local regulations. PP-CAN-FD must not be disposed of with household waste. At the end of its life cycle, please ensure that PP-CAN-FD is taken to an authorized electronic waste disposal or recycling facility, in accordance with the WEEE Directive.

By disposing of this product correctly, you help conserve natural resources and prevent potential negative environmental and health impacts that could result from improper handling of electronic waste. For more information on the disposal and recycling of this product, please consult your local waste management authority.

Installation Guide for PP-CAN-FD Integration

To set up the XBB system, follow these steps:

Download the XBB Configurator App

Begin by downloading the XBB Configurator app from the App Store or Google Play. You will need to create an account by following the app's instructions. Registration is required to comply with EU regulations, including those related to Cybersecurity. The data collected from your vehicle may include personal information, though this is not always the case.

Wireless Data Transmission

The app requires a wireless connection, which could theoretically be used for tracking devices. However, in this case the radio link is only used to transfer data between your phone, the PP-CAN-FD and the PowerUnit.

Mounting PP-CAN-FD

The PP-CAN-FD is designed to be installed in a standard 7-pin DIN 72552 relay socket. The relay socket must be mechanically secured to a rigid surface inside the vehicle using appropriate fasteners (screws, bolts, or cable ties to a solid mounting point) to prevent movement and vibration damage.

The vehicle power supply to the PP-CAN-FD must be protected by an automotive blade fuse (ATO/ATC type or equivalent), maximum 25A. If the vehicle installation does not already include a fused circuit for the relay socket, an inline fuse holder with a 25A fuse must be installed on the power supply wire (pin 2) before the relay socket. Never operate the PP-CAN-FD without a properly rated fuse in the supply circuit.

Once the relay socket is installed and fused, connect the vehicle's CAN wires to the appropriate pins. The PP-CAN-FD comes pre-installed with a test configuration from the factory, which checks all hardware functions. For example, tapping the PP-CAN-FD allows you to view the real-time status of the built-in accelerometer in the XBB Configurator app.

Configuration and Recipe Selection

Remove the test recipe via the app, turn on the vehicle ignition. Then, select a recipe that matches your vehicle model. After uploading the correct recipe to PP-CAN-FD, verify that the desired signals and functions operate as intended.

Please take extra care if the IGNITION signal is included in the recipe, ensuring that it follows the vehicle's ignition cycle. This is the signal that sets PP-CAN-FD in standby mode and turns off the CAN controller/communication with the vehicle.

System Shutdown and Power Saving

For recipes that include a 'SYSTEM_ACTIVE' signal, it should automatically count down to zero after the vehicle's ignition is turned off (see Configuration and Recipe Selection). This will eventually turn off the PP-CAN-FD CAN communication, ensuring that the PP-CAN-FD does not interfere with the vehicle when it is powered down.

Adding Additional Modules

Next, add the desired secondary module, such as a PowerUnit. For example, if you have installed a PowerUnit in the engine bay to activate auxiliary lights when your vehicle's high beams are on, select the HIGHBEAM signal for the appropriate output on the PowerUnit, or if you only using the built-in outputs on the PP-CAN-FD, connect your auxiliary lights to the desired output.

Signal Strength Verification

Ensure adequate signal strength between the PP-CAN-FD and the PowerUnit by checking the RSSI value under the PowerUnit tab in the app.

DATA SHEET

XBB PP-CAN-FD

CAN gateway



Order number: IDAB-2024-0116-1/25

Version: EN-20260813-5

PP-CAN-FD Usage and Vehicle Updates

The PP-CAN-FD can remain plugged into the vehicle CAN bus permanently. However, it is recommended to remove the PP-CAN-FD during over-the-air (OTA) updates of the vehicle's internal system provided by the vehicle manufacturer. Additionally, the PP-CAN-FD should be removed if the vehicle is parked and not used for an extended period, such as two weeks or more.

System Retention and Re-connection

The system only needs to be installed once, as the PP-CAN-FD retains all configurations. If power is interrupted, PP-CAN-FD will reconnect the entire system within 2–4 seconds.

This installation process ensures seamless functionality and communication between the PP-CAN-FD and any connected modules, maintaining optimal performance.

DATA SHEET

XBB PP-CAN-FD

CAN gateway



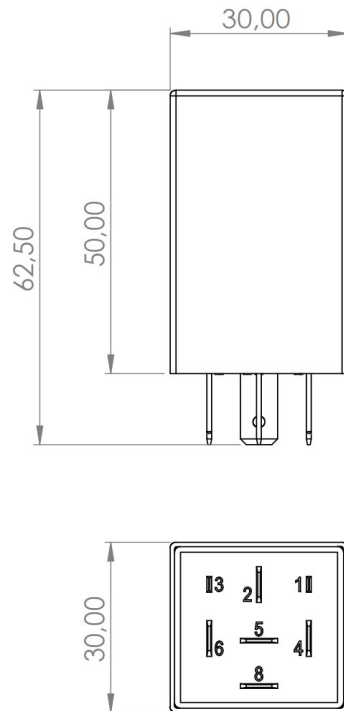
Order number: IDAB-2024-0116-1/25

Version: EN-20260813-5

Technical data:

Rated voltage:	12	VDC
Operating voltage:	9 – 36	VDC
Quiescent current in Standby mode:	3 – 5.4	mA
Operational current (with CAN transmission activated):	15	mA
Frequency band:	2402 to 2480	MHz
Max transmitted power:	+4	dBm
Implementation:	Plastic	PA66
RED 2014/53/EU: “European Radio Equipment Directive” EN 300 328 “2.4 GHz wireless communication” EN 301 489-1 “EMC general requirements, applied as normative reference through EN 301 489-17, not a harmonised standard in its own right” EN 301 489-17 “EMC requirements for 2.4 GHz devices” RoHS3 (2015/863/EU): “Restriction of Hazardous Substances” REACH (1907/2006): “Registration, Evaluation, Authorization and Restriction of Chemicals” EN IEC 62368-1:2024 + A11:2024: “Audio/video, info. and commu. tech. equip. – Safety requirements” UNECE Regulation No. 10 (Rev.6): “EMC of vehicles and components (E-mark)” Type approval No. E5*10R06/03*0772*00 EN 55025 (CISPR 25): “Vehicles, boats and ICE – Radio disturbance characteristics” EN 62311: “Assessment of electronic and electrical equip. related to human exposure restrictions for EMF”		
Permissible temperature range:	-30 to +80	°C
Weight:	40	g
Connection:	7 pin relay socket	DIN 72552
Feature:	2.4 GHz radio, CAN, CAN-FD, voltage monitoring, 3-axis accelerometer, Analog Input, 2x Output 10A Fully programmable.	

Dimensions:



Connector Pin-out:

<i>Pin #</i>	<i>Function</i>
1	CAN-L
2	9-36 VDC
3	CAN-H
4	Analog Input
5	Output #2 (10A)
6	GND
7	-
8	Output #1 (10A)

DATA SHEET

XBB PP-CAN-FD

CAN gateway



Order number: IDAB-2024-0116-1/25

Version: EN-20260813-5

Traceability

Reference document

Denomination	Publication number
Reference instruction	Nr:EN-20260813-5
Hardware version	Ver 2.4
Type approval	E5*10R06/03*0772*00

Revision

The following significant changes have taken place since the previous version:

Rev	Page	Description of revision	Approved by tech. manager	Date	App. by doc. officer.	Date
1	ALL	Creation of doc.	KHS	24-09-05	KHS	24-09-05
2	5, 7, 9, 11	Added VDC notation, fuse requirement, relay socket mounting, updated standards list, version update.	KHS	26-02-20	KHS	26-02-20
3	1, 4, 6, 9, 11	Removed IP65, max ambient temp +80°C, added RF band and TX power, standards list revised, label updated, minor text corrections, version update.	KHS	26-07-15	KHS	26-07-15
4	1, 4, 6, 9, 11	Bluetooth word mark, logo and SIG declaration removed pending processor update, hardware version and type	KHS	26-08-11	KHS	26-08-11

DATA SHEET

XBB PP-CAN-FD

CAN gateway



Order number: IDAB-2024-0116-1/25

Version: EN-20260813-5

		approval added, safety standard stated with edition, version update.				
5	10	Connector pin-out corrected. Pin 5 is Output #2 and pin 8 is Output #1, matching the housing marking and the circuit diagram. Revisions 1 to 4 stated them the other way round. Article number updated from /24 to /25 following the new pad printing, which carries the manufacturer's postal address and no Bluetooth marking.		26-08-13		