Order number: IDAB-2023-1206-1

Version: EN-20240905-1

PP-CAN-FD

DATA SHEET

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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!*** *Contains electronics. Must be recycled. Do not dispose in household garbage.*
!	***WARNING!*** Never open the PP-CAN-FD with the power supply on.

This product conforms to all relevant EU regulations. Please refer to the attached Declaration of Conformity for detailed information on compliance with EU directives, including RED, RoHS, and REACH. The Declaration of Conformity can be found in the appendix or downloaded at: https://www.xbb.se/en/mer-information/

Functionality

The PP-CAN-FD serves as the master unit for all XBB-compatible products that can communicate via Bluetooth® or CAN.

It features a fully compliant CAN 2.0B controller for communication with vehicles or other CAN-compatible devices, as well as via Bluetooth. The PP-CAN-FD is Bluetooth qualified.

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. (xbb.se).

Usage Guidelines and Operating Conditions

The PP-CAN-FD is designed for use in vehicles that utilize CAN 2.0B 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 +85°C and is suitable for vehicles with an operating voltage of 12 Volts. 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 positioned in a way that it could not be or damaged by vibrations also ensure it is secured with straps to maintain the gyroscope functionality.

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.

Bluetooth and Data Transmission

The app requires Bluetooth, which could theoretically be used for tracking devices. However, in this case, Bluetooth is only used to transfer data between your phone, the dongle, and the PowerUnit.

Mounting PP-CAN-FD

Once the app is installed and your account is set up, connect the PP-CAN-FD to the vehicle’s CAN wires. 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 gyroscope in the 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.

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.

Technical data:

Rated voltage:	12	V
Operating voltage:	9 – 36	V
Quiescent current in Standby mode:	3 – 5.4	mA
Operational current (with CAN transmission activated).	15	mA
Protection class:	IP 65	-
Implementation:	Plastic	>PA66<

PP-CAN-FD complies with the following EMC and safety standards

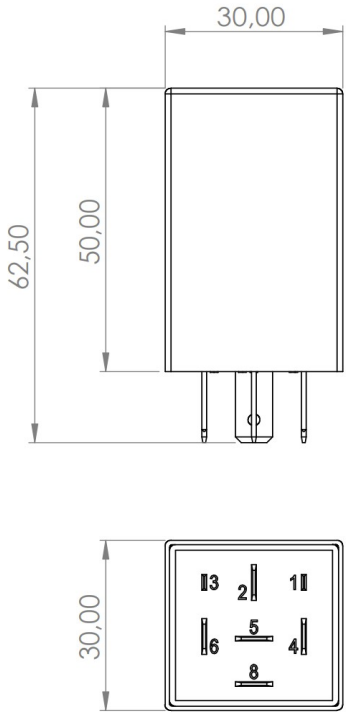
RED 2014/53/EU: "European Radio Equipment Directive"
EN 300 328 "2.4 GHz wireless communication"
EN 301 489-1 "EMC general requirements for radio equipment"
EN 301 489-17 "EMC requirements for 2.4 GHz devices"

Bluetooth SIG certified: "Innoware Development AB No: D053188"
ISO 14229-1: "Unified Diagnostic Services (UDS) – Specification and requirements"
ISO 14229-7: "Unified Diagnostic Services (UDS) - UDS on CAN implementation"

RoHS3 (2015/863/EU): "Restriction of Hazardous Substances"
REACH (1907/2006): "Registration, Evaluation, Authorization and Restriction of Chemicals"
DIN 72552: "Standard for electrical terminal codes, including relays."

Permissible temperature range:	-30 to +85	ºC
Weight:	40	g
Connection:	7 pin relay socket	DIN 72552
Feature:	Bluetooth®, CAN, CAN-FD, voltage monitoring, 3-axis accelerometer, Analog Input, 2x Output 10A Fully programmable.	

Dimensions:



Connector Pin-out:

Pin #	***Function***
1	*CAN-L*
2	*9-36V*
3	*CAN-H*
4	*Analog Input*
5	*Output #1 (10A)*
6	*GND*
7	*-*
8	*Output #2 (10A)*

Traceability

Reference document

Denomination	Publication number
Reference instruction	Nr:EN-20240905-1

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						
3						
4						
5						