



Date: August 16, 2024

About

This document provides users of the CANopen-PN product assistance to migrate to its successor CANopen-PN/2.

Affected Products

Old Device	PLM Status	Recommended Successor Device	PLM Status
 CANopen-PN (C.2921.02)	End of life (EOL ^[1])	 CANopen-PN/2 (C.2931.02)	Available (VERF ^[1])

Background and Information

The PROFINET IO to CANopen Manager gateway CANopen-PN (C.2921.02) is at end of life. It is replaced by its successor CANopen-PN/2 (C.2931.02). The CANopen-PN/2 is designed as a direct replacement, allowing it to be used in most installations without requiring changes to the existing configuration or systems. In addition to several improvements in stability and performance, the CANopen-PN/2 also includes new features. A new GSDML configuration file for the CANopen-PN/2 is only required to take advantage of the new features; if used as a replacement product, the existing CANopen-PN GSDML configuration file can continue to be used.

Technical Differences

The following table lists the main differences between the CANopen-PN and the CANopen-PN/2.

Device Property	CANopen-PN	CANopen-PN/2
PROFINET Controller	ERTEC400	Included in Sitara CPU
USB connector	Standard-B	Mini-B

Contact for Questions

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LED Labels and Blinking Codes

The blinking codes and labels of the LEDs differ between the CANopen-PN and CANopen-PN/2. Please refer to chapter 1.4 of the CANopen-PN/2 Manual and chapter 3 of the CANopen-PN Hardware Manual for the list of codes. [1]

LED Function	CANopen-PN	CANopen-PN/2
PROFINET IO Identification	F	CON (blinking)
PROFINET IO Connection Status	P	CON (on/off)
CANopen Status	C	R
CANopen Error	E	E
Module Power Status	not displayed	PWR

Necessary changes in application

No changes to the application or the existing system are required to use CANopen-PN/2 instead of CANopen-PN. If you have any further questions, please do not hesitate to contact us.

CANopen-PN Compatibility Mode

The CANopen-PN/2 was developed as a direct replacement for the CANopen-PN and in most cases does not require any changes to the application or the system in which it is used. When using CANopen-PN/2 as a replacement for CANopen-PN and without changing the configured GSDML file, a so-called “CANopen-PN compatibility mode” is automatically activated. This mode ensures that the behavior of the software is as close as possible to that of CANopen-PN. Since CANopen-PN/2 is based on a new hardware and software platform, minor deviations in timing cannot be ruled out.

The “CANopen-PN compatibility mode” can also be activated manually in the GSDML Composer for new configurations of the CANopen-PN/2.

Further details can be found in chapter 8 of the CANopen-PN/2 manual. [2]

GSDML Composer

The GSDML Composer version 1.0.7.0 and newer opens a dialog at startup asking whether the configuration should be for CANopen-PN or CANopen-PN/2. The CANopen-PN configuration works for both gateways, but only if the CANopen-PN/2 device is selected will the new functions be available. It is also possible to migrate old CANopen-PN configurations to the CANopen-PN/2 platform.

For older applications, the device type with which the application was tested should be selected. For new applications or major changes to the application, the device type that is actually used should always be selected.

	CANopen-PN	CANopen-PN/2
CANopen-PN GSDML	natively supported	compatible
CANopen-PN/2 GSDML	not compatible	natively supported

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New Functions of the CANopen-PN/2

New Error and Status Management

The CANopen-PN/2 provides further configuration options for the error and status management of connected CANopen devices. It can be defined whether a PROFINET alarm is to be triggered if the device is not available, has an error or is in the wrong CANopen state. Alternatively, the CANopen-PN/2 provides the current CANopen state in the cyclic data and any state changes can be handled directly in the user application.

In the CANopen-PN Compatibility Mode the error and state management simulates the behavior of the CANopen-PN. Therefore no changes are necessary when using the device in compatibility mode.

For details see chapters 5.5.12, 5.7 and 8.2 of the CANopen-PN/2 Manual [2]

Further improvements

Besides improvements in the stability and performance of the device, there are some new features which are mostly smaller convenience changes.

For a detailed list of all differences of the two gateways see Chapter 8.1 of the CANopen-PN/2 Manual. [2]

Links

[1] <https://esd.eu/en/support/product-lifecycle-management>

[2] <https://esd.eu/en/support/manuals>

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Document History

Rev.	Changes	Date
1.0	Initial version of the application note	2024-08-16

Technical details are subject to change without further notice.

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