isCAN USB

MANUAL

THORSIS TECHNOLOGIES

CERTIFICATE OF CONFORMITY

according to EC Directive 2014/30/EU (electromagnetic compatibility) from February 26, 2014.

We hereby declare, that the device indicated below in its design and construction, is in conformity with the essential safety and health requirements of the EC Directive 2014/30/EU. Changes or modifications not approved by Thorsis Technologies void the validity of the declaration.

Device type	Order number
isCAN USB	11300-0201

CHANGES OR MODIFICATIONS NOT APPROVED BY THORSIS TECHNOLOGIES VOID THE VALIDITY OF THE DECLARATION.

STANDARDS USED: EN 61326-1:2013

Manufacturer
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Magdeburg, 2023-01-31

Dipl.-Inf. Michael Huschke,
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UK DECLARATION OF CONFORMITY

Thorsis Technologies GmbH declares as manufacturer under sole responsibility, that the products down in the list complies with the requirements of following UK legislation:

- S.I. 2019/1246 The Product Safety, Metrology and Mutual Recognition Agreement (Amendment)(EU Exit) regulations 2019
- S.I. 2020/852 The Product Safety and Metrology (Amendment)(EU Exit) regulations 2020
- S.I. 2016/1091The Electromagnetic Compatibility Regulations 2016
- S.I. 2012/3032 The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

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STANDARDS USED: EN 61326-1:2013
CERTIFICATION: NONE

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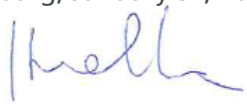
Magdeburg, January 31, 2023



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UK CA

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1. isCAN USB

The CAN dongle isCAN USB with the universal USB interface grants a fast access to any CAN/CANopen based network. The isCAN USB interface standard type supports the CAN specification 2.0A (11 bit ID) and 2.0B (29 bit ID).

It is connected with a 9 pin D-Sub connector according to the CiA specification DS-102. LED's indicate the actual working condition. The opto-isolated interface supports a transmission speed of up to 1 MBit/s.

1.1 Technical details

CE-Certificate	isCAN USB
Interface	USB
Controller	CY7C68014A, Asic SJA1000
Identifier length	11/29 Bit
Transmission rate	10 kbit/s – 1 Mbit/s (CAN)
Driver software	Windows XP, Vista, Windows 7, 8, 10 and 11
Available software	isCAN/CANopen Comm DTM, isCAN/CANopen server (OPC), RP1210 Interface-Dll with J1939-support and ISO15765-2 support SAE J2534-1 Driver Dll (Passthru API) API interface Dll with examples in C/C++ and C# source code

1.2 Delivery content

CAN-USB-Interface „isCAN USB“, Driver-, Configuration- and Testsoftware; Documentation in german and english on CD.

2. Installation and commissioning

2.1 Installation of the driver software

The driver software must be installed before connecting the device. Otherwise, the operating system can not find the interface to the associated driver.

The driver software package isCAN Multidriver contains a Dynamic Link Library (DLL) which allows the access to the firmware under the operating systems Windows XP, Vista and Windows 7, 8, 10 and 11. The actual operating system is detected automatically by the driver DLL.

The configuration of the interface can be done with the configuration software isCAN Driver Configurator which is installed into the Thorsis directory of the Start Menu.

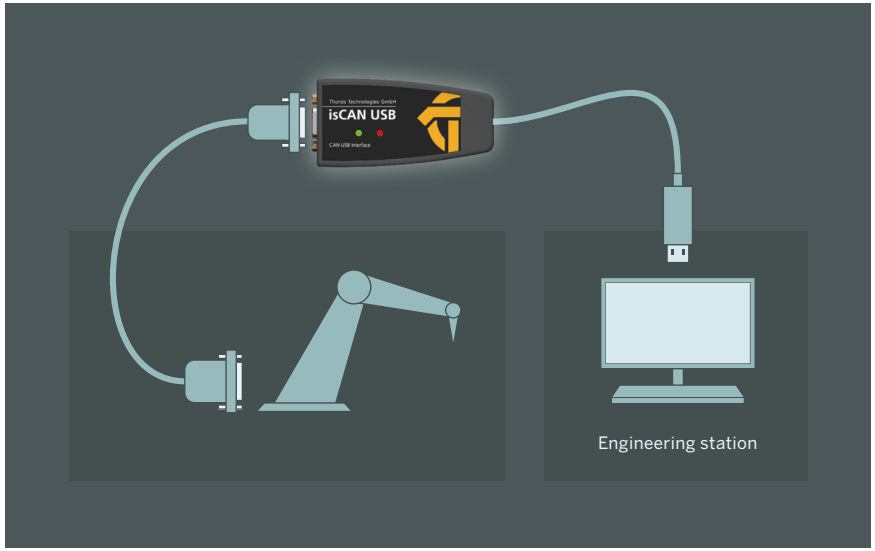
Installation process:

- Login as administrator.
- Insert the installation CD-ROM.
- The setup starts with an autoroutine; proceed according to the instructions displayed on the screen.
  Should Autorun be disabled on your machine, run the setup.exe on the installation CD.
- The installation is done in the standard program directory of the target machine under **C:\Program Files\Thorsis\isCAN Multidriver**

2.2 Installation of the hardware

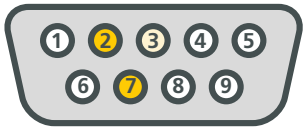
The Interface can be connected to the CAN/CANopen network with its D-Sub 9 pin connector directly.
With the integrated USB cable the interface can be connected with the PC/notebook.

Two LEDs indicate the actual operation mode. The green LED indicates that the CAN controller is powered up and running.
It is switched on as soon as a software application initializes the adapter and starts communication on the CAN bus.
The red LED indicates an error condition on the CAN bus by flashing three times.



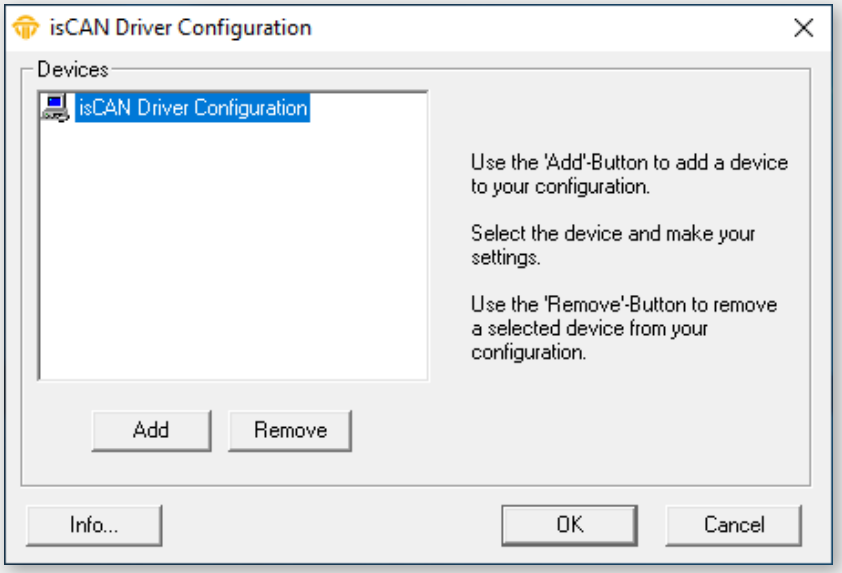
2.2.1 Pin assignment

The signals are routed to pin 2 and pin 7 of the D-Sub connector.



2 — CAN low
3 — Ground
7 — CAN high

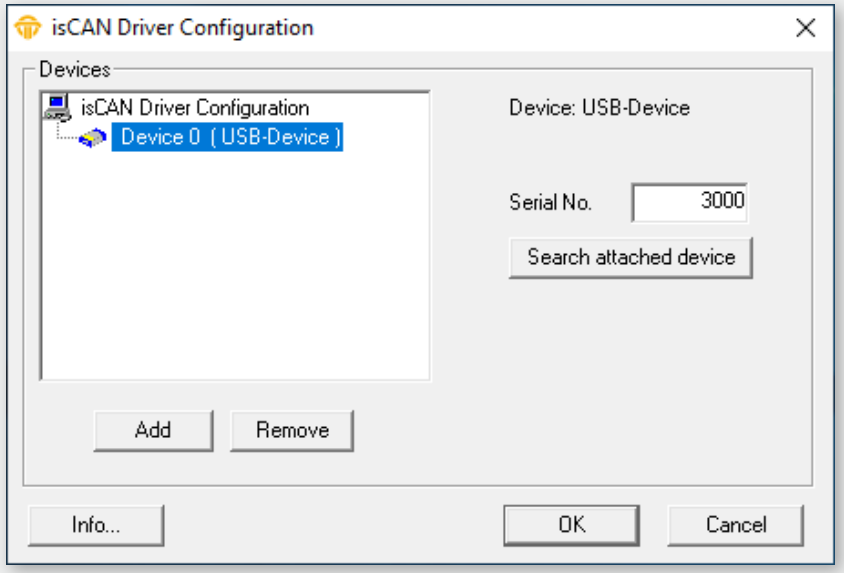
2.3 Configuration and Commissioning



To ease the task of hardware configuration the configuration software isCAN Driver Configurator is provided.
It is installed in the Start Menu. This simple dialog based program allows the easy addition and removal of the CAN interfaces. It also checks the available resources of the system. Each device is assigned to a certain number which enables the software to address the device. Empty devices can be included in order to allow gaps in the enumeration of devices.

While the configuration software is running the device drivers of the hardware are stopped. All applications requiring access to the devices should be terminated before the start of the configuration software. After the termination of the configuration software the device drivers are started again. The new parameters are available at once for all PCI and USB interfaces.

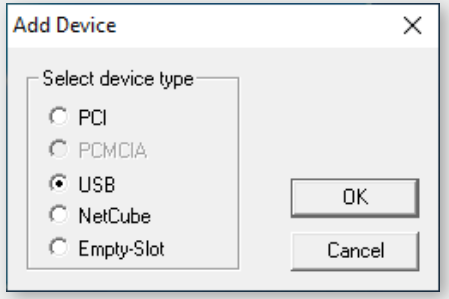
2.3.1 Add a device

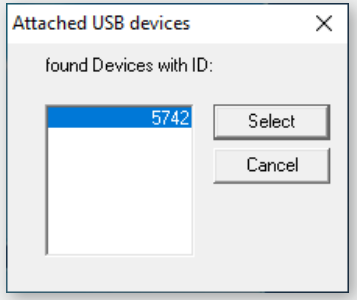


Please press the button Add, choose the device type you would like to add. Press OK, then make your settings.

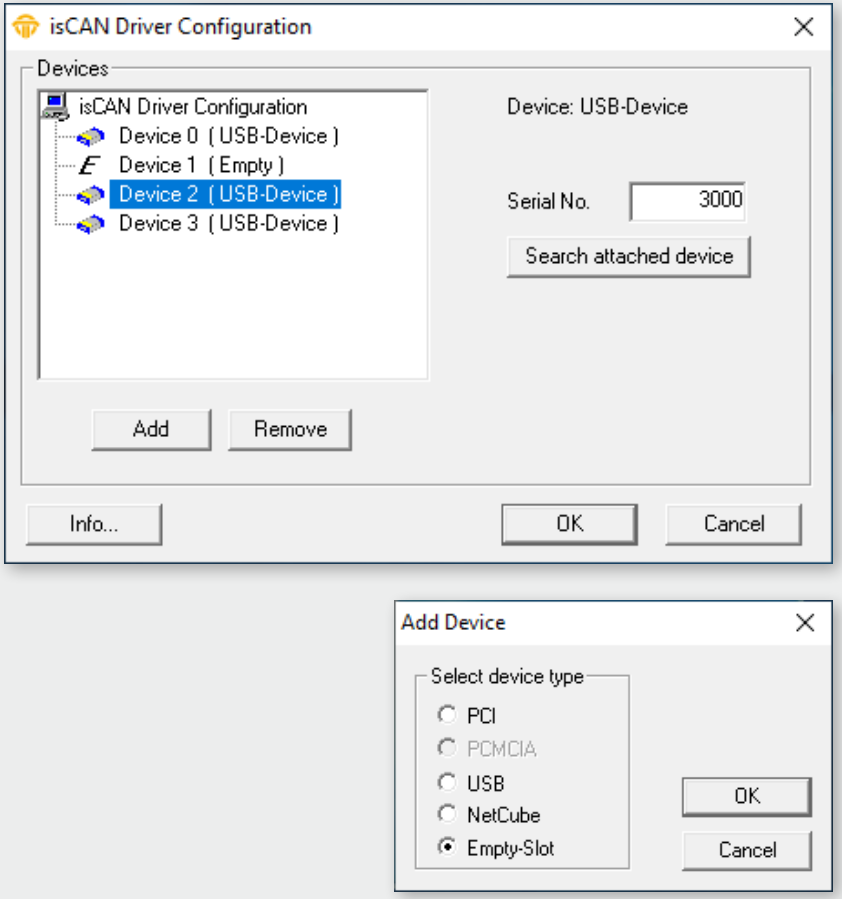
Every isCAN USB adapter is identified by a serial number. This number ensures that the software is communicating with the correct hardware in case that there are more adapters attached to the PC simultaneously. The number is printed on a label located at the bottom of the isCAN USB device.

Enter the serial number and confirm the settings by clicking OK. The configuration software can also detect the serial number automatically by searching for all isCAN USB devices attached to the PC.



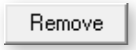


2.3.2 Add an Empty Slot



The empty device does not contain any resources.
It serves as a substitute for device numbers not assigned.
Using this devices enables a free enumeration of devices by inserting empty devices between the real ones.

2.3.3 Removal of a device

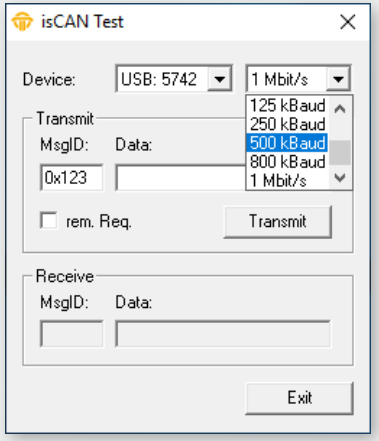
Mark the device you wish to remove and press the button 

2.4 Test Software: isCAN Test

The correct operation of isCAN interfaces which have been added with the isCAN Driver Configurator can be checked with the help of the test program isCAN Test.
It is installed in the Thorsis folder of the Start Menu.

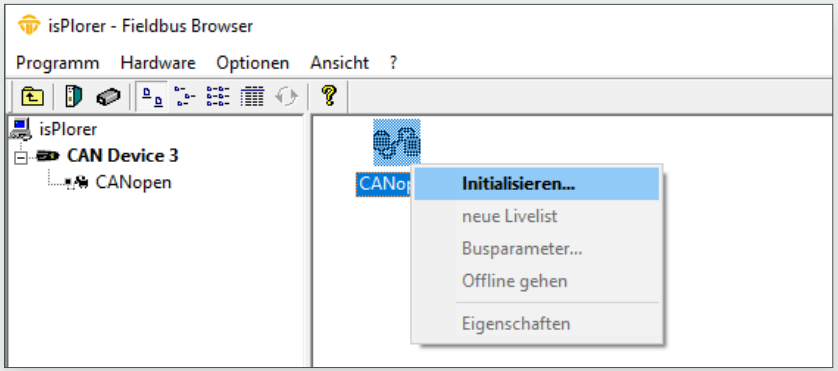
The following functions are provided by the application:

- Choice of configured interfaces (isCAN USB, isCAN PCI)
- Baudrate settings
- Transmisson of messages
- Display of received messages

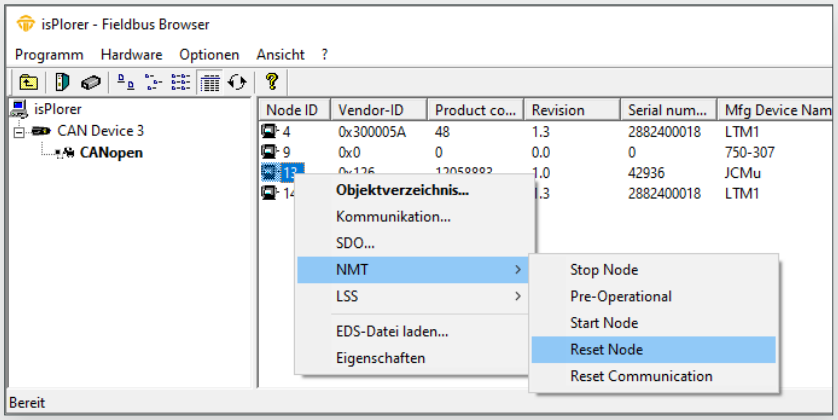


3. isPlorer

For users of CANopen devices, the driver software includes a CANopen configuration software “isPlorer”.
This software enables simple configuration tasks for CANopen field devices such as reading or writing parameters, changing the node ID and bit rate or resetting parameters to factory default.



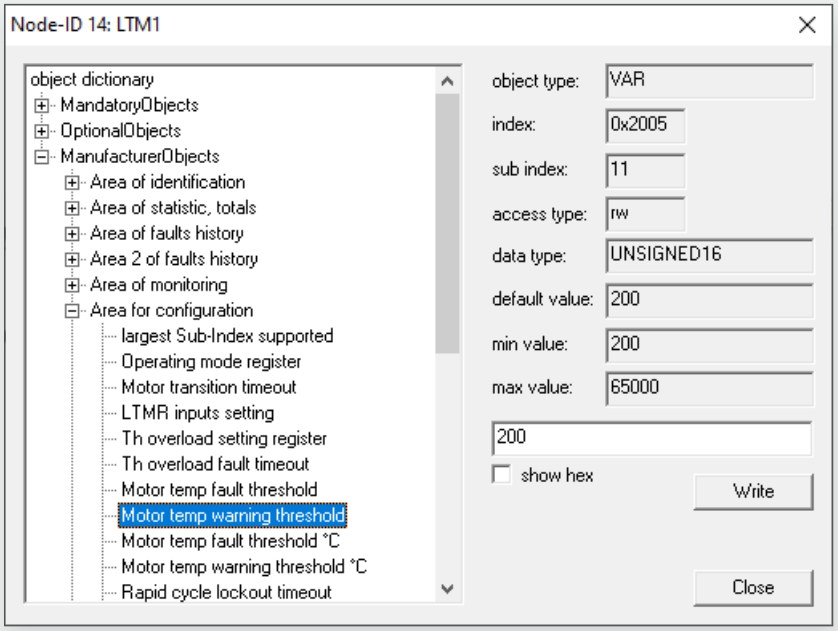
Before starting the software, you should connect the isCAN USB Interface to your PC. After starting isPlorer, the device appears on the left in a tree view together with the CAN connection associated with the device.
The device is initialized by double-clicking or selecting the „Initialize...“ menu item from the context menu.



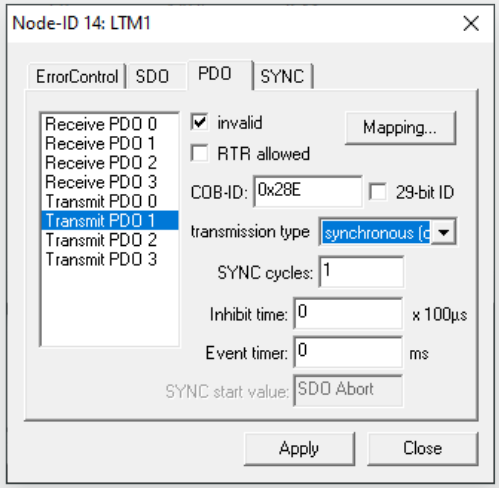
After initialization of the hardware, the isPlorer displays a list of all connected CANopen devices. By using the context menu the user can access different configuration functions and commands for example:

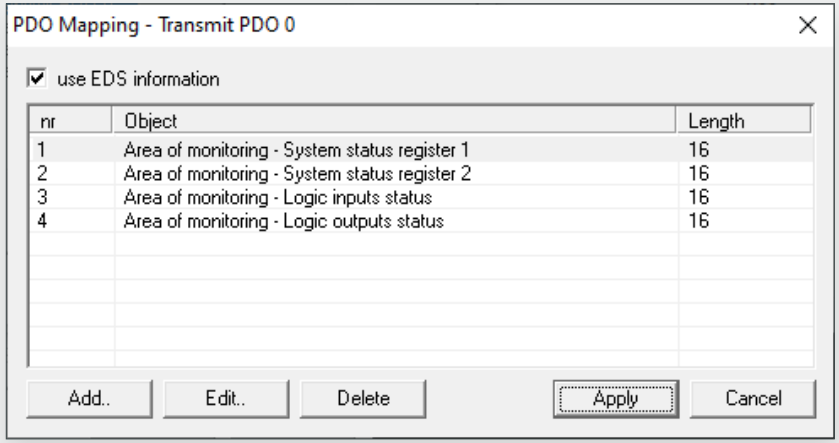
- Setting node ID or bit rate via LSS (if supported by the CANopen device)
- Setting the NMT state
- Reading objects via SDO protocol

If an EDS file of a CANopen device is available, the user can access all parameters of the object directory.



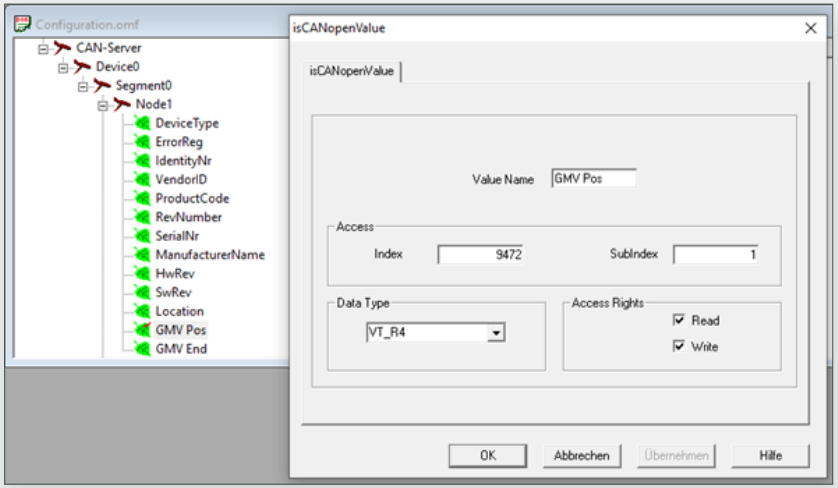
The user can also configure all communication parameters such as COB-IDs, Node guarding, Heartbeat or define the PDO mapping.





4. isCAN Server

Optionally an OPC server is available for the isCAN USB. It allows to access CAN data from external software.
This OPC server can both access the data of CANopen devices (using the SDO protocol) and assign individual CAN messages to the OPC items created according to their message ID. A configurator is available for this assignment, in which the user can define all OPC items as required.



For definition of CANopen parameters, the user configures the index and the subindex as well as the datatype. For configuration of PDOs or basic CAN messages the user needs to configure the CAN message identifier instead of the index and subindex.

5. Document History

Version	Date	Description
1.0	09.05.2017	initial version
1.1	02.24.2020	new graphics & images
1.2	04.17.2023	added UK Conformity Assessed marking
1.3	03.22.2024	**Content expansion**

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