# Using Ixxat Interfaces with 3S CODESYS RTE

Realtime Driver

## Requirements and Restrictions

The Codesys component CmpDrvIfiCan supports passive Ixxat interfaces for Realtime. Support for the Ixxat interfaces is implemented for CODESYS RTE V3. Make sure to install a CODESYS runtime V3.5 SP16 Patch 1 or newer.

The current implementation does not support LIN and CAN FD.

> **!** HMS recommends to use each interface type only once. If several of the same interface types (e.g. 2 x CAN-IB100) are used simultaneously, the CAN network numbers cannot be assigned reliably according to the internal algorithm and must be determined by trial and error.

> **!** When using more than one CAN channel, HMS recommends to use an Ixxat interface with several CAN channels or several different Ixxat interfaces. Only one interface then needs to be registered with CODESYS which reduces issues with the allocation of the CAN network number.

The following passive Ixxat interfaces are supported:

- CAN-IB100
- CAN-IB120
- CAN-IB300

## Integrating Ixxat Interfaces

▶ Download VCI V4 driver from [www.ixxat.com](http://www.ixxat.com) and install the driver (for more information see Installation Guide *VCI Driver*).

▶ Install the Ixxat interface (for more information see User Manual of the interface in use).

▶ In the installation folder of CODESYS open directory `\CODESYSControlRTEV3`.

▶ Open the PLC configuration file *CODESYSControl_User.cfg* (or depending on version *CODESYSControl.cfg*) in a text editor.

▶ Activate the line `Component.3=CmpDrvIfiCan`.

▶ Save the changes and close the editor.

→ System recognizes the driver.

▶ Make sure, that the PLC is stopped.

▶ Start the Windows Device Manager.
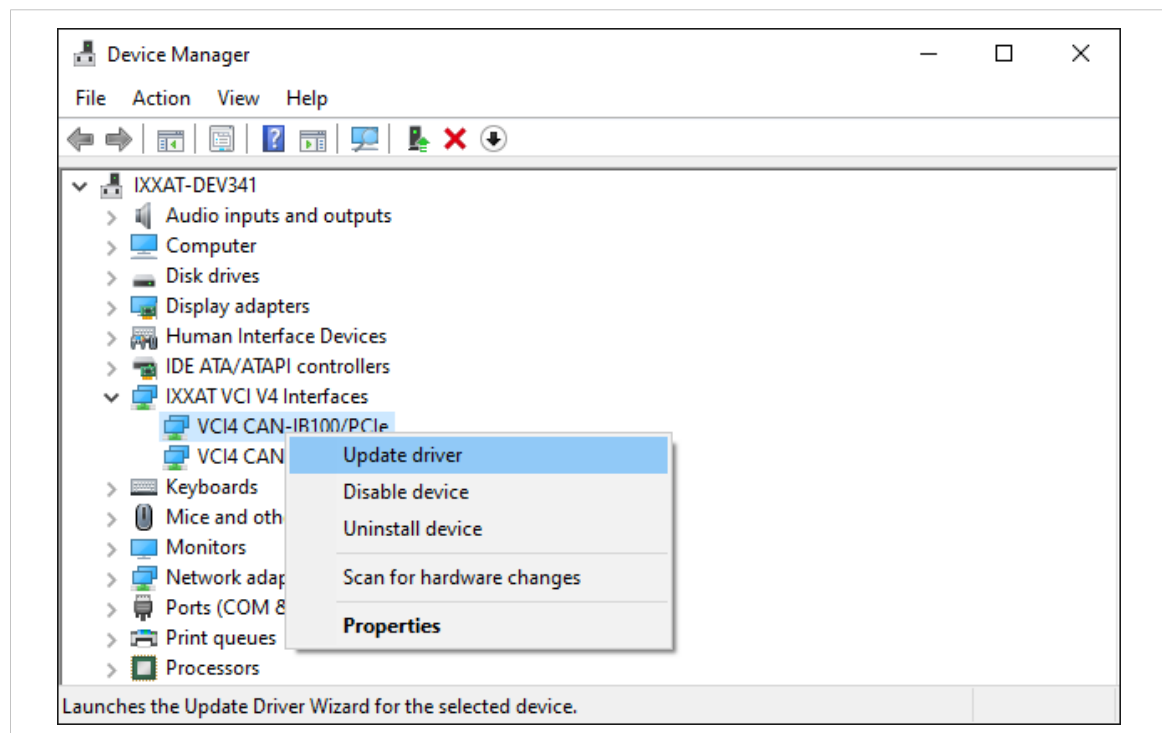
► Expand **Ixxat VCI V4 Interfaces**.



Fig. 1        Device Manager

► Right click on the interface to be used and select **Update driver**.

► Select **Browse my computer for drivers**.

► Select **Let me pick from a list of available drivers on my computer** and click button **Next**.
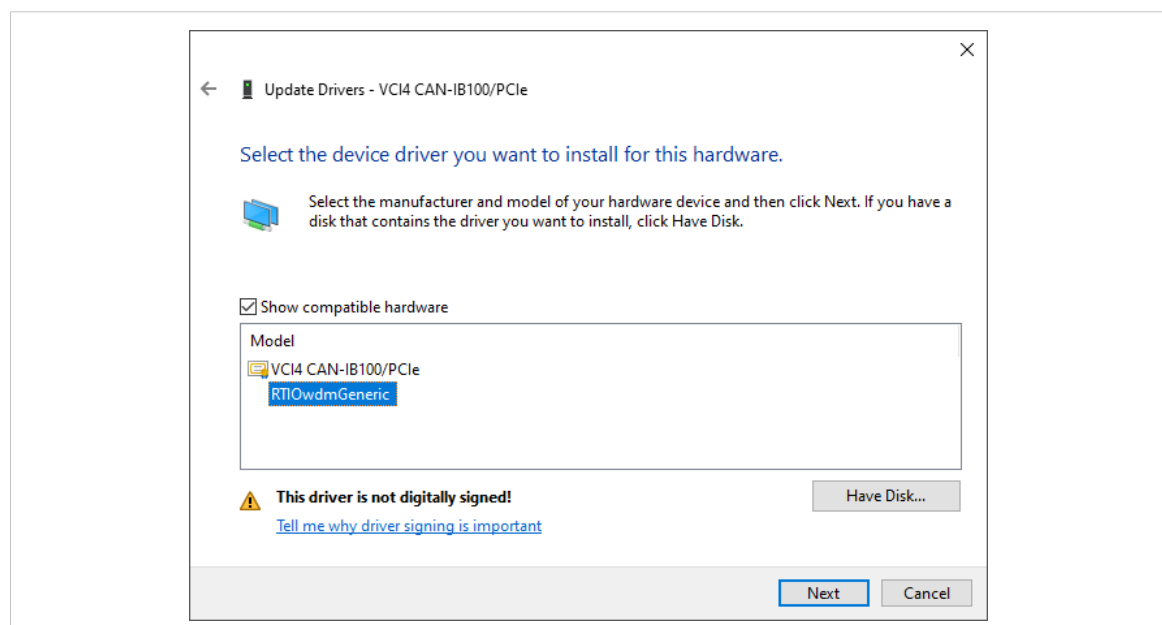


Fig. 2        Available driver

► Select the Codesys RTE driver **RTIOwdmGeneric** and click button **Next**.

► If Windows has successfully updated the driver, click button **Close**.

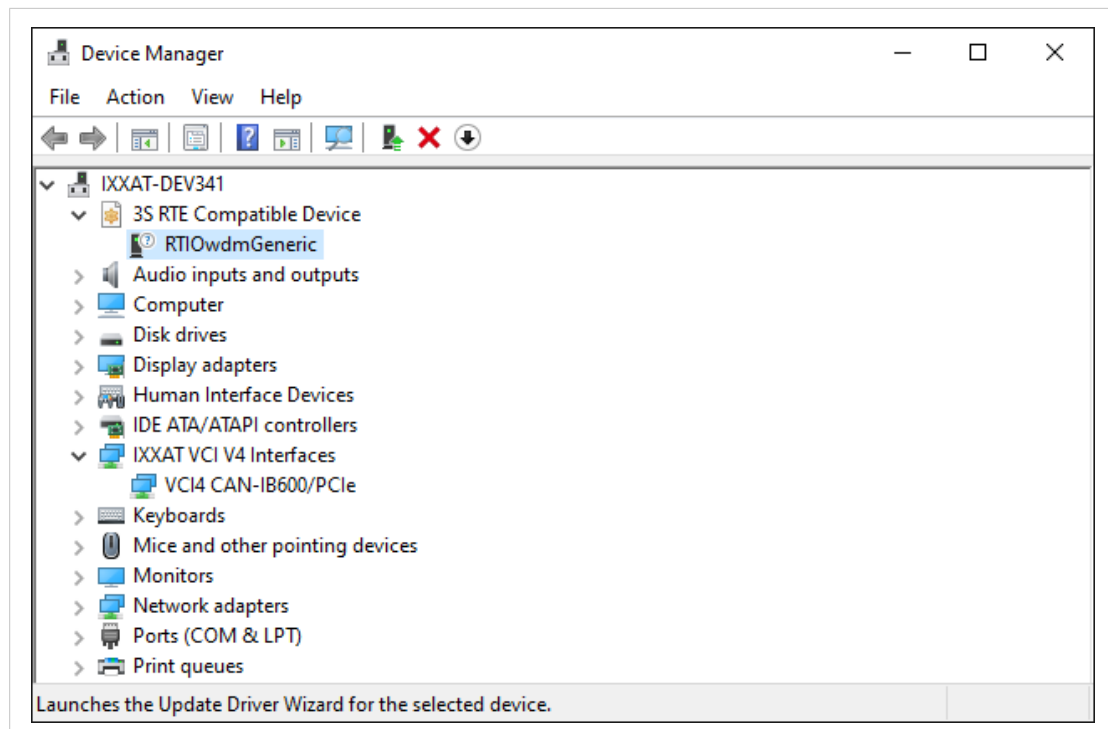→ Ixxat interface is assigned to the CODESYS Realtime driver.



**Fig. 3**      **Assigned interface**

► Repeat for all desired interfaces.

> **!**      With the CODESYS Realtime driver up to five CAN channels can be used.

→ CODESYS automatically scans for Ixxat interfaces that are assigned to the CODESYS driver.

→ The possible interfaces are listed in ascending order (CAN IB100, CAN IB110, CAN IB120, etc.) and the list is scanned for available interfaces.

→ If an interface is detected, CAN channel 1 of the detected interface is assigned to the lowest possible network number.

→ If another interface is detected, CAN channel 1 of the detected interface is assigned to the next free network number in ascending order.

→ When all available interfaces are detected, the interface list is scanned again for further CAN channels.

→ Further CAN channels of an interface are assigned to the next free network in ascending order.

> **!**      Observe that the CAN network number of a connected Ixxat interface may change if several of the same interface types (e.g. 2 x CAN-IB100) are used simultaneously if the PLC is restarted . HMS recommends to use each interface type only once.

► In CODESYS IDE configure the network settings for the application.

► Add the CAN busses and in tab **General** enter the CAN network number in the field **Network**.
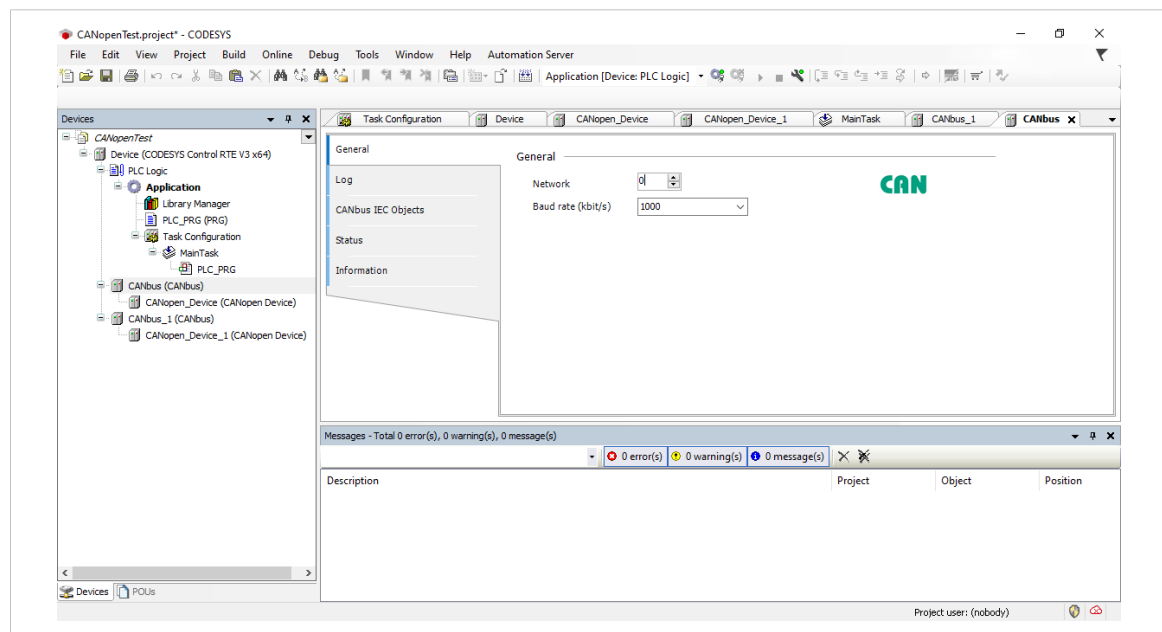


**Fig. 4**       **Assigning network number to a CAN bus**

**How Network Numbers are Assigned:**

For example if the two Ixxat interfaces CAN IB100 with four CAN channels and CAN IB300 with two CAN channels are used, the CAN channels get the following network numbers:

First scan detects the interfaces and CAN channel 1:

• CAN IB100 CAN channel 1 = network number 0

• CAN IB300 CAN channel 1 = network number 1

Second scan detects further CAN channels of the detected interfaces:

• CAN IB100 CAN channel 2 = network number 2

• CAN IB100 CAN channel 3 = network number 3

• CAN IB100 CAN channel 4 = network number 4

With the CODESYS Realtime driver up to five CAN channels can be used. Therefore CAN channel 2 of CAN IB300 is not used.

# Removing Ixxat Interfaces

To remove Ixxat interfaces from CODESYS RTE, the interfaces have to be assigned to the VCI driver. When the interfaces are assigned to CODESYS RTE the device manager shows no information about the interface. When the interfaces assigned to the VCI driver, the device manager shows the name of the interface.

► Make sure the PLC is stopped.

► Start the Windows Device Manager.
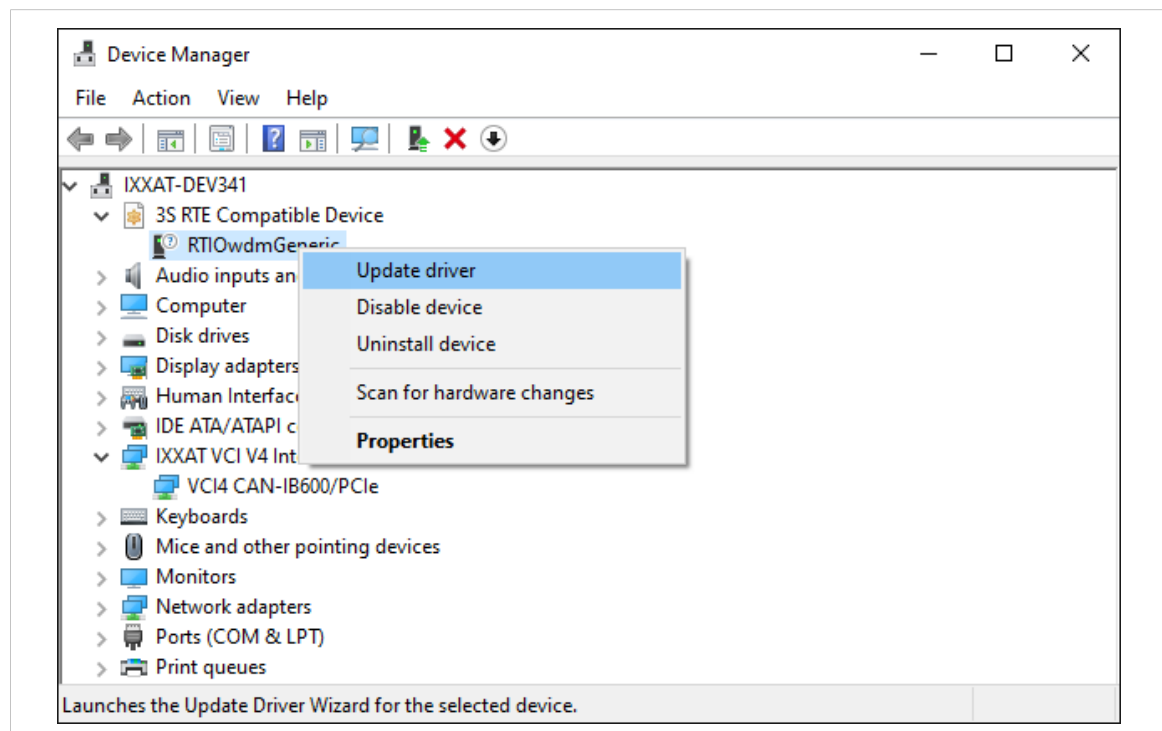
► Expand **3S RTE Compatible Device**.



**Fig. 5          Device Manager**

► Right click on an interface and select **Update driver**.

ⓘ *CODESYS RTE does not display the name of the interface. If more than one interface is assigned to CODESYS RTE, the name of the interface can be identified when assigned to the VCI again.*

► Select **Browse my computer for drivers**.

► Select **Let me pick from a list of available drivers on my computer** and click button **Next**.
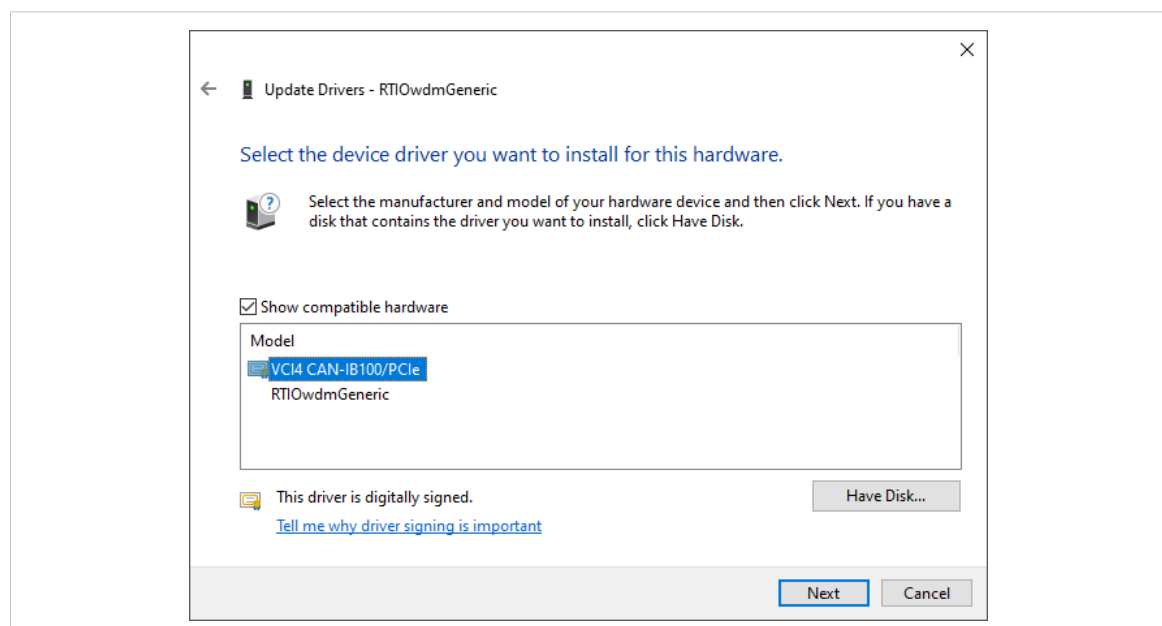
→ The VCI driver displays the name of the interface.



**Fig. 6          Available driver**

► If the displayed interface is not the one to be removed, click button **Cancel** and start again with another interface.

► If the displayed interface is the one to be removed, select the VCI V 4 driver and click button **Next**.

► If Windows has successfully updated the driver, click button **Close**.

  ► Ixxat interface is assigned to the VCI V4 driver.

► Repeat for all desired interfaces.