# EUCHNER

**Software Manual**

# Contents

# 1. General notes

## 1.1. Use of the manual

This manual describes the function and use of the .NET 3964R library (order no. 8000140), version V1.2.X.

The order number and the software version number can also be found in the HTML documentation.

## 1.2. Scope

| ℹ | **Important!** |
|---|---|
| | Make sure to use the documentation valid for your product version. Please contact the EUCHNER support team if you have any questions. |

## 1.3. Requirement for the user

Proper use of the .NET 3964R library requires prior knowledge in application programming and the integration or application of .NET class libraries in a PC environment.

## 1.4. Supplementary documents

The overall documentation for this product consists of the following documents:

| Document title (document number) | Contents | |
|---|---|---|
| Manual (MAN20001624) | (this document) | www |
| Release Notes (MAN20001686) | Release Notes for software updates | www |
| Documentation (HTML) | .NET library documentation | |
| Manual for EKS Electronic-Key Adapter or Inductive Read/Write System CIS... | Device-specific information for the respective product | 📖 www |

| ℹ | **Important!** |
|---|---|
| | Always read all documents to gain a complete overview of safe installation, setup and use of the device. |

## 1.5. System requirements

| | |
|---|---|
| Hardware: | Standard PC |
| | If you use an EKS Electronic-Key adapter with USB interface, the current EKS USB driver version (order no. 094376) must be installed on the Windows operating system. |
| Development environment: | An integrated development environment (IDE) that supports .NET Standard 2.0 is required. |
| Operating system: | Windows® 10 64-bit |
| | Windows® 11 |
| | Windows® Server 2016 |
| | Windows® Server 2019 |
| | Windows® Server 2022 |

| ℹ | **Important!** |
|---|---|
| | The .NET 3964R library including demo application was programmed in C#. |

## 1.6. Use of brand names

Microsoft Windows® is a registered trademark of Microsoft Corporation.

# 2. General function of the application

The .NET class library supports the integration of the following systems in a Microsoft .NET application:

‣ Ident system CIS stations with serial interface

‣ Electronic-Key-System EKS Electronic-Key adapters with serial and USB interfaces

This enables the systems to be used in combination with process visualization software, for example.

Data communication uses the 3964R transfer protocol. Here, the .NET class library serves as the protocol driver and enables straightforward communication setup from .NET-based programming environments such as Microsoft C# .NET.

The .NET class library can be used to read and possibly write the transponder data. Transponders with the following memory types are supported:

‣ 16 bytes read/write (no serial number)

‣ 116 bytes read/write plus 8 bytes serial number read only

‣ 5 bytes serial number read only

Refer to the respective product description for the memory structure. It is necessary to observe the required block formation when writing data.

# 3. Installation

To use the .NET class library, add the *lib_.NET3964R* folder to your .NET project.

The description for the .NET class library commands is integrated in the software. The HTML documentation can also be used as a supplement. This is available via the *index.html* document in the *html* folder.

# 4. Demo application

The basic functions of the .NET class library can be tested in the integrated demo application *Euchner.DemoApp.Device3964R*.

The demo application can be started under DemoApp3964R_X depending on the available .NET version. It is intended exclusively for illustrative purposes for the functions and not for complete applications.

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> ### (i) Important!
>
> At least a .NET 6 or .NET Framework 4.6.1 runtime environment is needed to use the demo application.

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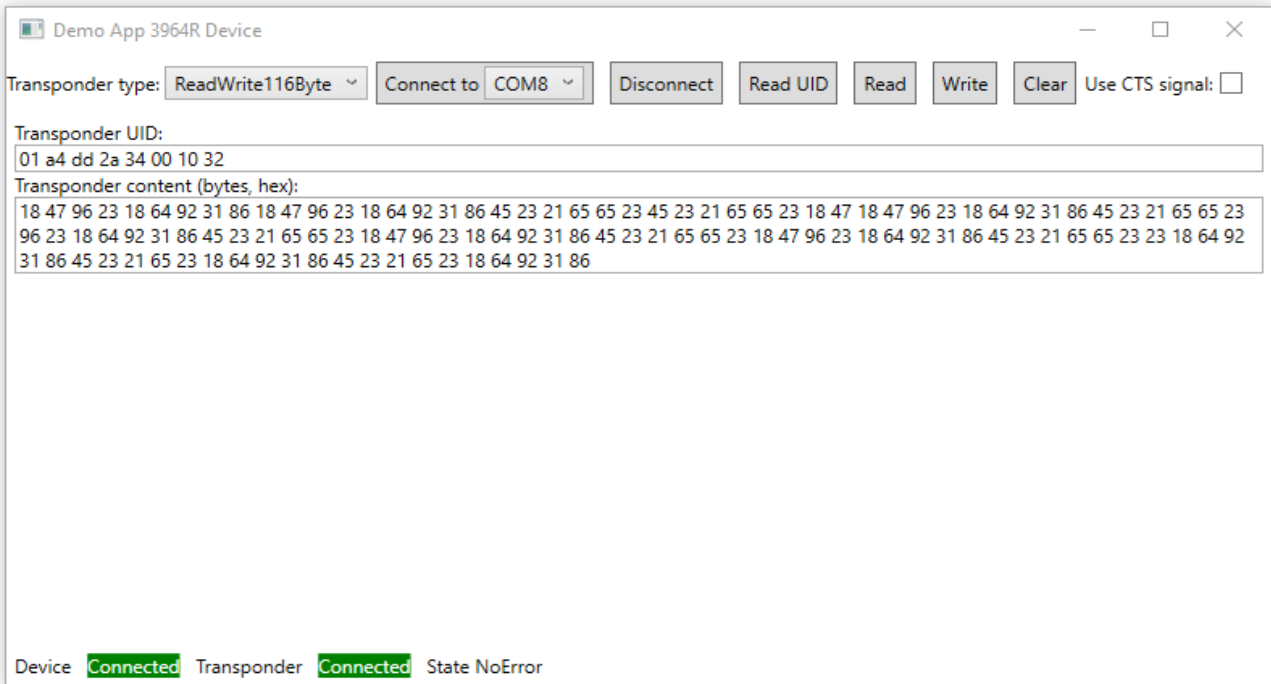
Connect a device to the PC and select a transponder type from the drop-down box. The buttons can then be used as follows:

| Button | Meaning |
|---|---|
| *Connect to* | Select a COM port from the drop-down box and click the *Connect to* button. The connection to the device is established. |
| *Disconnect* | Disconnect the connection to the device. |
| *Read UID* | Read the UID (unique identifier). The UID is the unique serial number for a transponder. The read/write transponder with 16-byte memory does not contain a serial number. |
| *Read* | Read the entire transponder read/write area. The read only transponder with 5-byte memory contains only a serial number. |
| *Write* | Write data to the transponder. It is necessary to observe the required block formation when writing data. The read only transponder with 5-byte memory cannot be written. |
| *Clear* | Overwrite data on the transponder with the value 0. |
| *Use CTS signal* | Use the CTS signal of the COM port as a trigger to read the data as soon as the transponder is in the actuating range. |