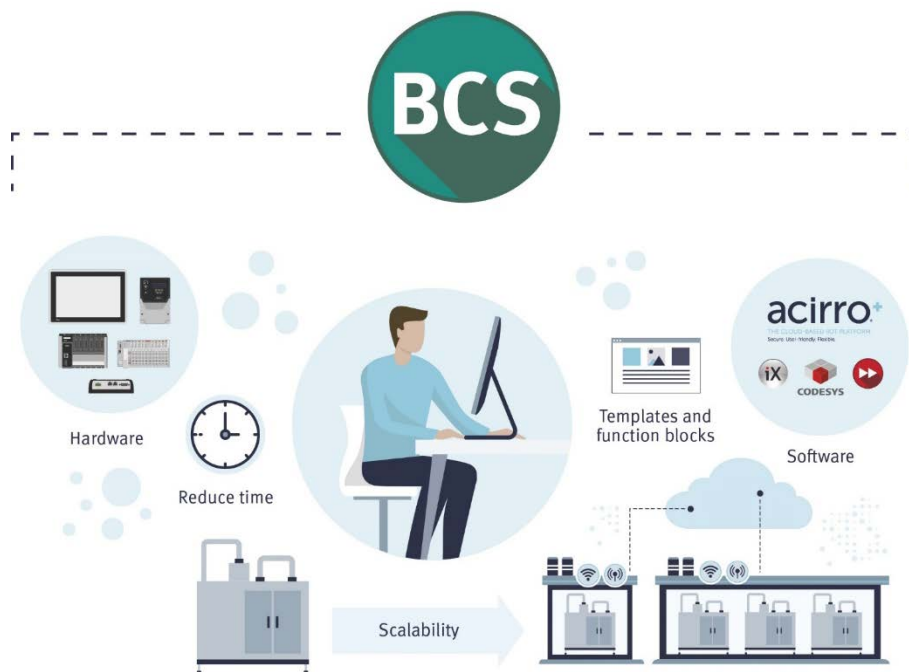


Quick start guide

CSV Read & Delimit FB - CODESYS library

SER0004 - Open and delimit a CSV file



1 Function and area of use

This document explains the CODESYS library for fast logging.

Target device: X2 / BoX2 control series, with embedded CODESYS runtime.

2 About this document

This quick start document should not be considered as a complete manual. It is an aid to be able to startup a normal application quickly and easily.

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Use the following hardware, software, drivers and utilities in order to obtain a stable application:

In this document we have used following software and hardware

- BCS Tools 3.34 or CODESYS 3.5 SP13 patch 3
- X2 control and BoX2 control devices

For further information refer to

- CODESYS online help
- Installation manual X2 control (MAxx202)
- [Beijer Electronics knowledge database, HelpOnline](#)

This document and other quick start documents can be obtained from our homepage.

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4 Datalogging with CODESYS function blocks

This library is compatible with X2Control and BoX2Control devices (DeviceId 0x1024).

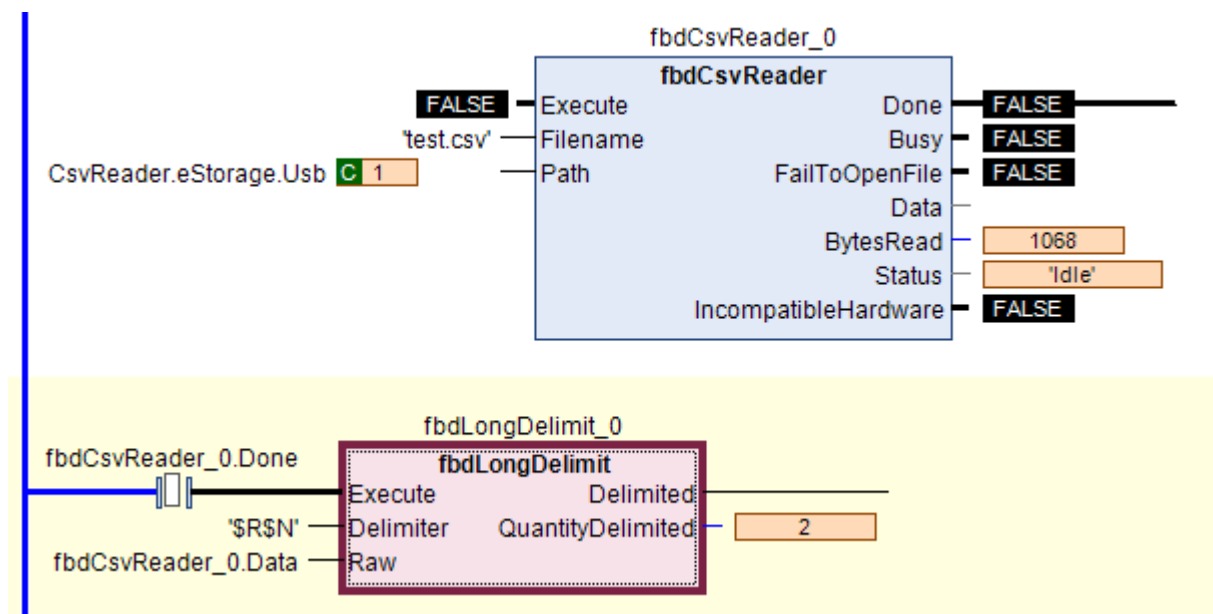
Note! Codesys imposes a restriction on the STRING functions of 255 characters. When there is a requirement to read and/or delimit strings longer than 255 characters, this library will help.

There are two FBs. One will read and present a string as 'raw' csv. The csv location can be located in the internal memory of the x2, the USB or the SD card.

The file can now be further processed with the delimiting FB, which will emulate the C# string.Split() method and return the string delimited into an array of strings.

Included is the one FB and a quickstart guide.

The library file (*.compiled-library) can be installed to the CODESYS software on your PC and the FB be accessed as any block, please follow guidelines and description.



5 Preparing your editor

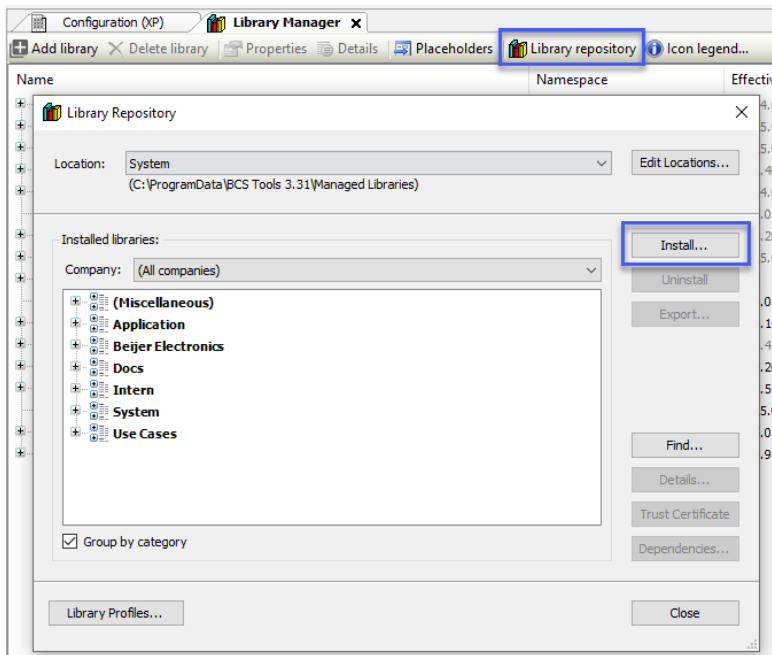
The following chapter describes important procedures and settings needed for a well functioning system.

5.1 Installation of the library to your editor

The *.compiled-library needs to be made available in your system so it can be included in projects. This is done by accessing the ‘Library Manager’ → ‘Library Repository’ then ‘Install’.

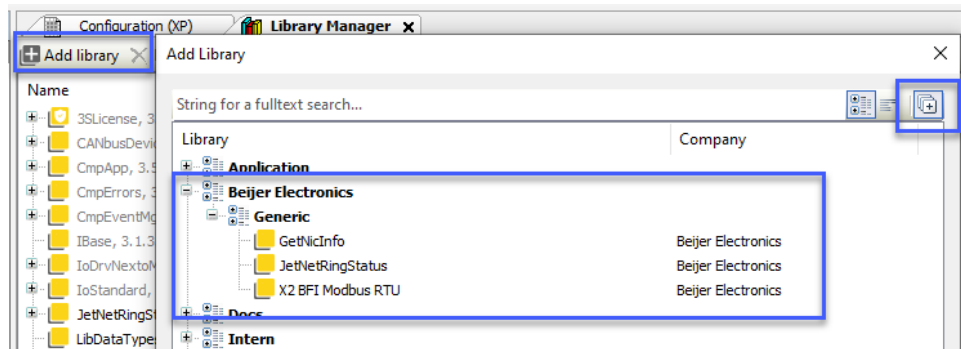
Navigate to the folder where you have put the *.compiled-library. This procedure will need to be repeated if you use a new PC.

Note, the location of System path may differ depending if using BCS Tools or CODESYS software tool and what version of the software.



5.2 Add the library into your project

The new library is now available for you to include in your specific project (example screenshot):

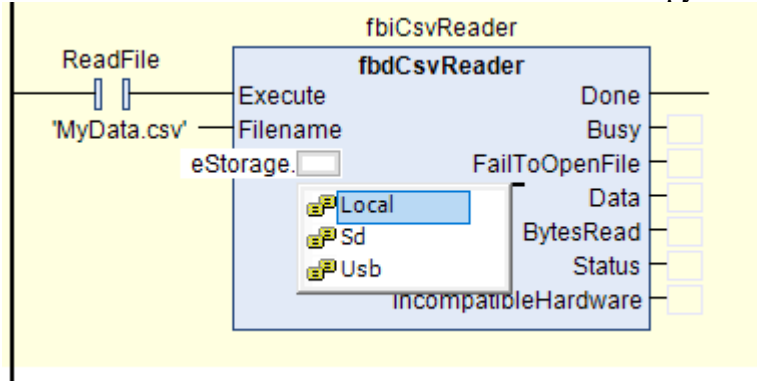


The selected library is now visible in the Library Manager. Its public objects and supplementary help is available here.

6 Description of function blocks

6.1 fbdCsvReader

The FB **fbdCsvReader** will read a *.csv file and copy the text to a STRING.



The block will execute on the rising edge of the **Execute** input.

The location of the *.csv file can be chosen (by enumeration) as:

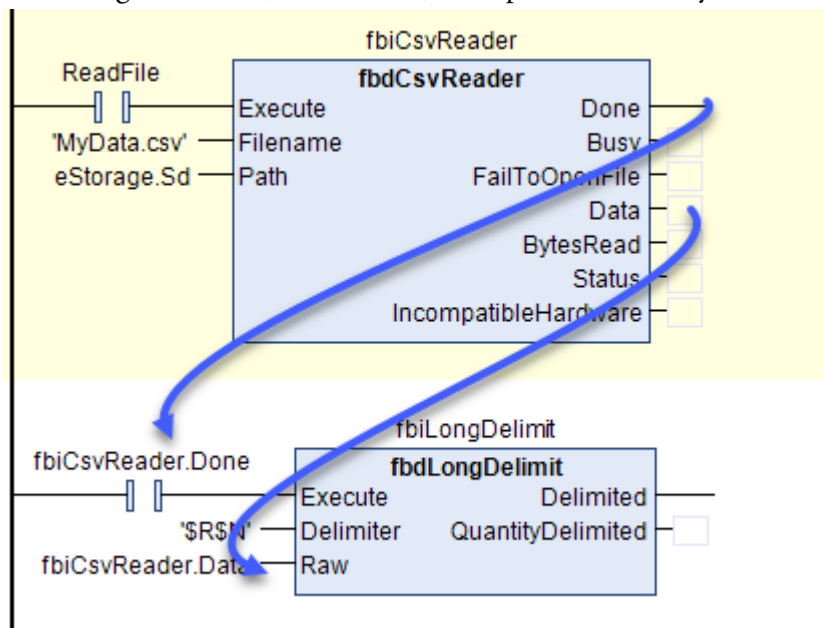
- Local (refers to \Flashdrive\Project\Project Files folder)
- Usb
- Sd

A limit of 30,000 bytes (i.e. characters) is imposed. Codesys can handle longer STRINGS (although without the STRING functions being available) but STRING(30000) is the longest that the IDE can represent.

Name	Scope	Type	Description
Execute	VAR_IN	BOOL	Edge-detected internally
Filename	VAR_IN	STRING	Not case sensitive, and including the file type
Path	VAR_IN	eStorage	Point to where the csv resides
Done	VAR_OUT	BOOL	High for at least one scan after the file has been read
Busy	VAR_OUT	BOOL	High whilst the block is processing. Execution is asynchronous
FailToOpenFile	VAR_OUT	BOOL	Corrupt file; doesn't exist
BytesRead	VAR_OUT	_UXINT	Number of bytes in the csv
IncompatibleHardware	VAR_OUT	BOOL	Not X2Control or BoX2Control devices

6.2 fbdLogDelimiter

The FB **fbdCsvReader** will read a *.csv file and copy the text to a STRING to further process the STRING, the block **fbdLongDelimiter** is provided. This block will accept a STRING and based on a delimiting character (or characters) will split into an array of STRINGS.



Name	Scope	Type	Comment
Execute	VAR_IN	BOOL	Edge-detected internally
Delimiter	VAR_IN	STRING(2)	The character to split the STRING with
Delimited	VAR_OUT	ARRAY[0..999] of uStringByte	Your delimited data (in a UNION). See below
QuantityDelimited	VAR_OUT	UINT	The number of items delimited

The **Delimited** variable is of type **ARRAY[0..999] of uStringByte**:

UNION uStringByte	
Name	Type
AsByte	ARRAY [0..29999] OF BYTE
AsString	STRING(30000)

The Syntax to access the first delimited STRING will be:

fbdLongDelimiter.Delimited[0].AsString

This block executes synchronously, so consider this example:

- ProductA;1;2;3;4;5;<CR><LF>
- ProductB;5;5;5;5;5; <CR><LF>
- ProductC;8;7;6;5;4;<CR><LF>

Preference would be to delimit by the <CR><LF> STRING initially, then further process (delimit by the ; character on subsequent separate scans. Consider using a slow, low priority task too.

7 About Beijer Electronics

Beijer Electronics is a multinational, cross-industry innovator that connects people and technologies to optimize processes for business-critical applications. Our offer includes operator communication, automation solutions, digitalization, display solutions and support. As experts in user-friendly software, hardware and services for the Industrial Internet of Things, we empower you to meet your challenges through leading-edge solutions.

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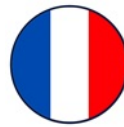
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