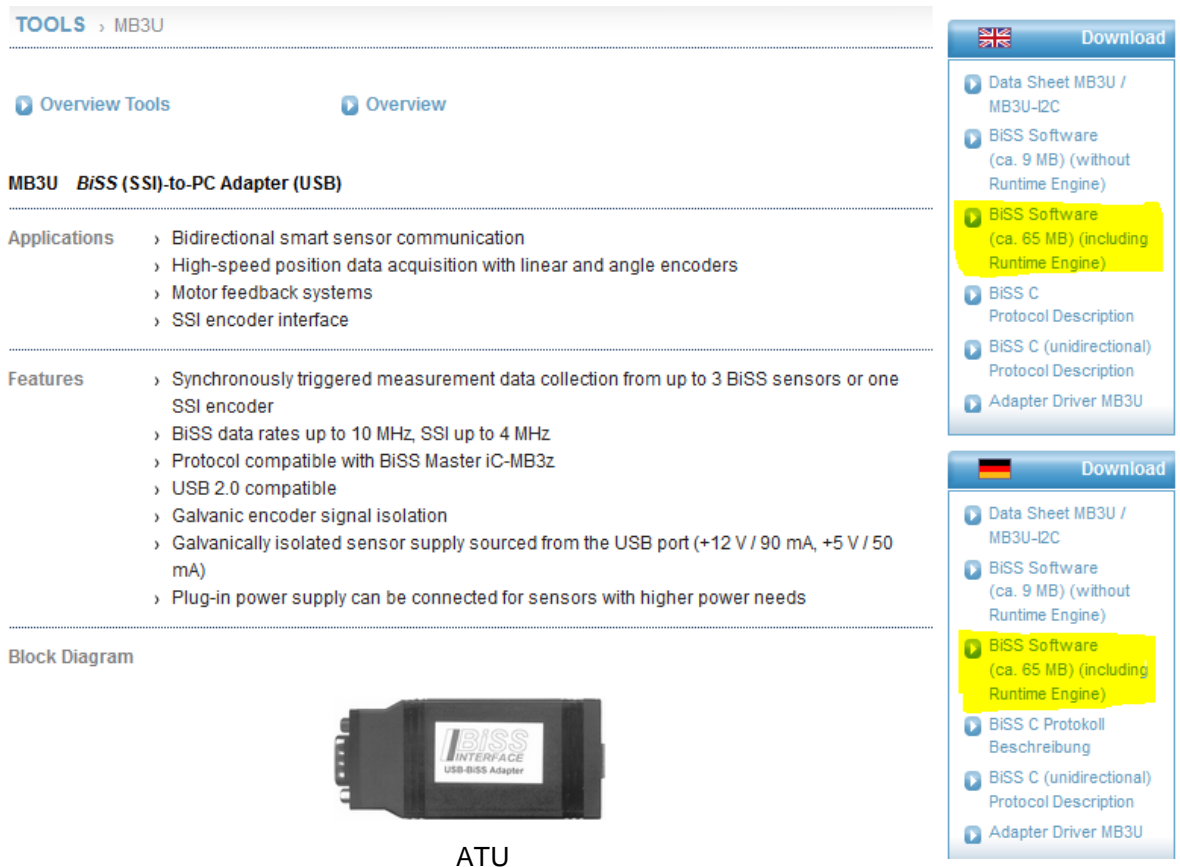


## 1) Download Software

Link: <http://www.ichaus.de/product/MB3U>



**TOOLS** › MB3U

Overview Tools Overview

**MB3U BiSS (SSI)-to-PC Adapter (USB)**


**Applications**

- › Bidirectional smart sensor communication
- › High-speed position data acquisition with linear and angle encoders
- › Motor feedback systems
- › SSI encoder interface

**Features**

- › Synchronously triggered measurement data collection from up to 3 BiSS sensors or one SSI encoder
- › BiSS data rates up to 10 MHz, SSI up to 4 MHz
- › Protocol compatible with BiSS Master iC-MB3z
- › USB 2.0 compatible
- › Galvanic encoder signal isolation
- › Galvanically isolated sensor supply sourced from the USB port (+12 V / 90 mA, +5 V / 50 mA)
- › Plug-in power supply can be connected for sensors with higher power needs

**Block Diagram**



ATU

**Download** (English)

- ▶ Data Sheet MB3U / MB3U-I2C
- ▶ BiSS Software (ca. 9 MB) (without Runtime Engine)
- ▶ **BiSS Software (ca. 65 MB) (including Runtime Engine)**
- ▶ BiSS C Protocol Description
- ▶ BiSS C (unidirectional) Protocol Description
- ▶ Adapter Driver MB3U

**Download** (German)

- ▶ Data Sheet MB3U / MB3U-I2C
- ▶ BiSS Software (ca. 9 MB) (without Runtime Engine)
- ▶ **BiSS Software (ca. 65 MB) (including Runtime Engine)**
- ▶ BiSS C Protokoll Beschreibung
- ▶ BiSS C (unidirectional) Protocol Description
- ▶ Adapter Driver MB3U

## 2) Unzip software and begin to install it

Go to the unpacked Folder "BISS1SO\_gui\_D2rte" look for „setup.exe“ and start the installation. Follow the installation instructions

## 3) Hardware

### 3.1) check delivery content:

- ATU Box
- USB cable (ATU to PC)
- two adapter cables VK-3-15A-0,25-09-S54 and VK-3-18A-0,25-09-S53 (ATU to reading head)
- Power supply unit

## 3.2) check the hardware:

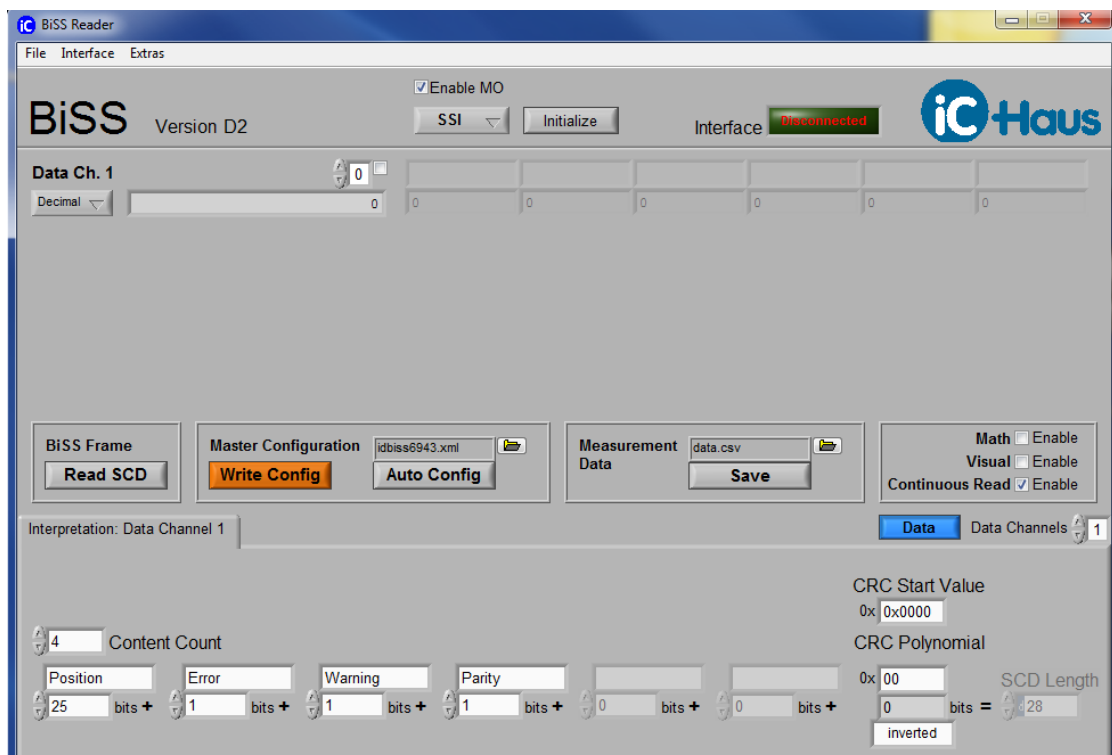
- Make sure that the reading head is supplied with 5V  
(With the Adapter cables VK-3-18A-x,x-09-S53 or VK-3-15A-x,x-09-S54 the ATU Unit supplies the reading head)
- Connect the ATU Box with the PC (USB) and wait until the PC recognized and installed the ATU Box

## 4) Software Instruction

- Start the Software



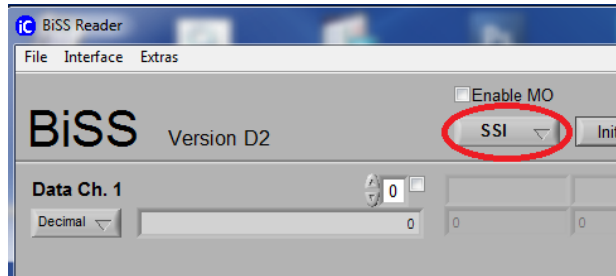
### 4.1) Parameter settings:



For the first use, please set the parameters as shown below:

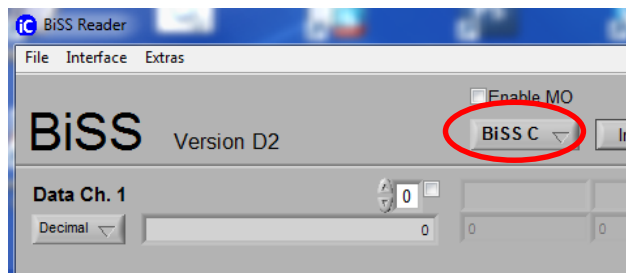
- Choose the interface (SSI or BiSS/C)

## 4.1.1) SSI



- Set Content Count to 4
- Give the 4 fields under „Content Count“ names, e.g. „Position“, „Error“, „Warning“ und „Parity“
- Set the number of bits to 25 + 1 + 1 + 1
- Put a hook at „Continuous Read“ (enable)

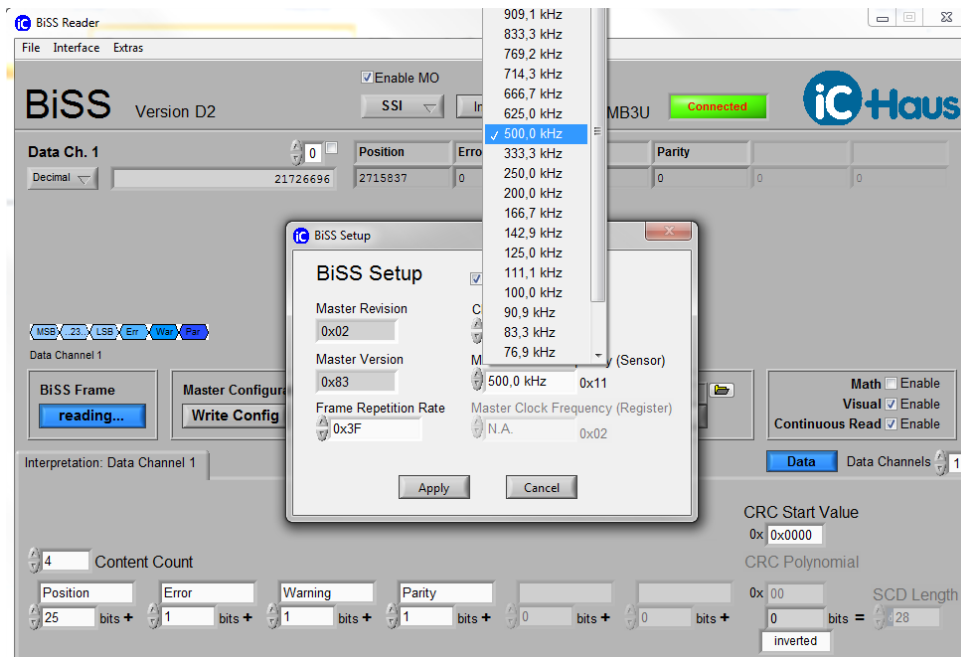
## 4.1.2) BiSS/C



- Set Content Count to 3
- Give the 3 fields under „Content Count“ names, e.g. „Position“, „NotError“, and „NotWarning“
- Set the number of bits to 32 + 1 + 1
- Put a hook at „Continuous Read“ (enable)
- CRC Start Value = 0x0000
- CRC Polynomial = 0x43  
6 bits  
inverted

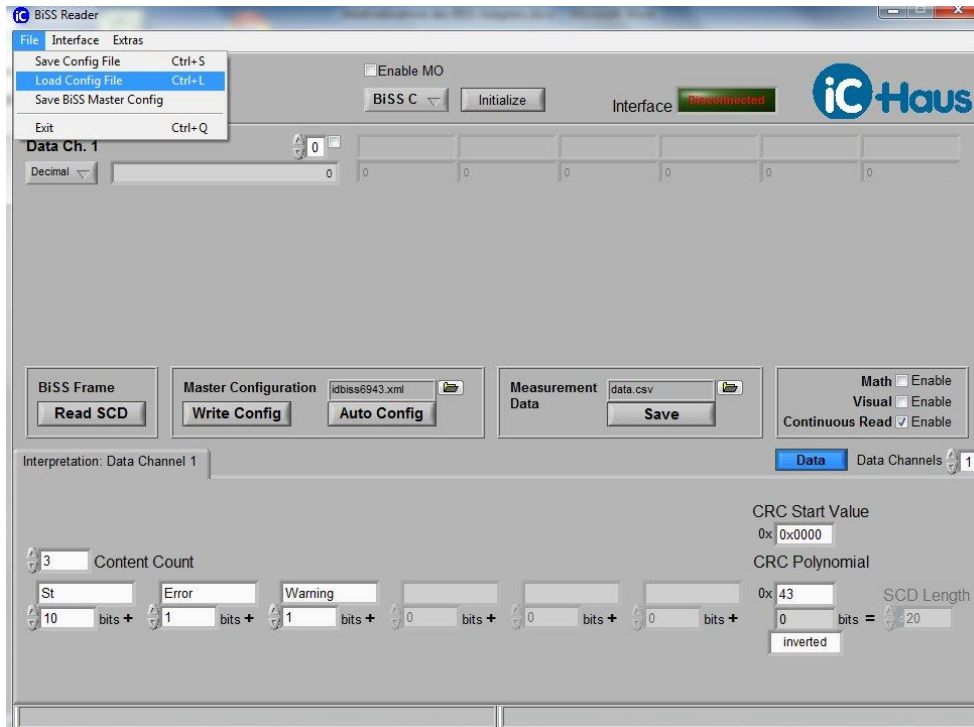
- Caution:  
In the menu „Interface→Communication Setup→Master Clock Frequency (Sensor)“ make sure, that the maximum Clock Frequency is not set to high!

SSI 200 KHz – 1 MHz  
BiSS/C maximum 2,5 MHz

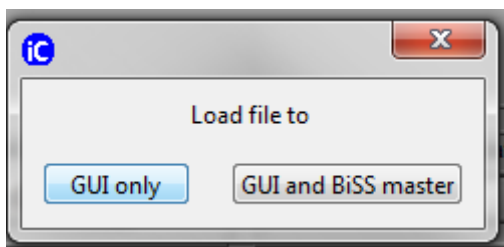


Save the settings with „File→Save ConfigFile“.

If you have an existing file, you can load it with: Ctrl – L:



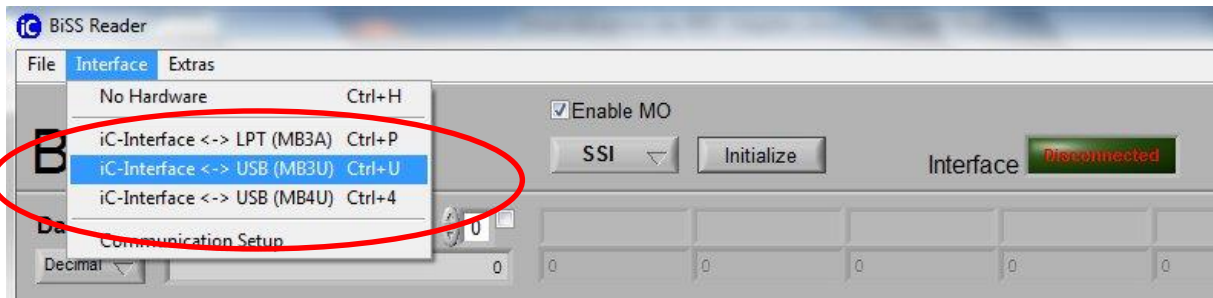
Then click “GUI only”



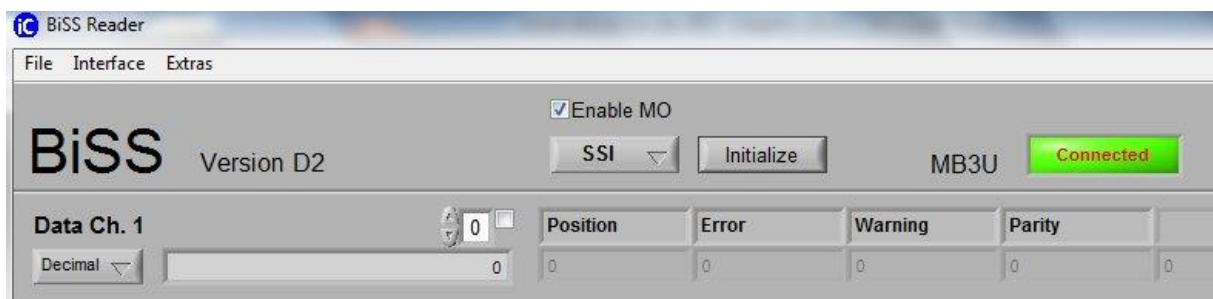
Now the correct number of bits appears: Position (25), Error (1), Warning (1), and Parity (1) (example for SSI)

## 4.2) Start the Interface:

Ctrl – U:

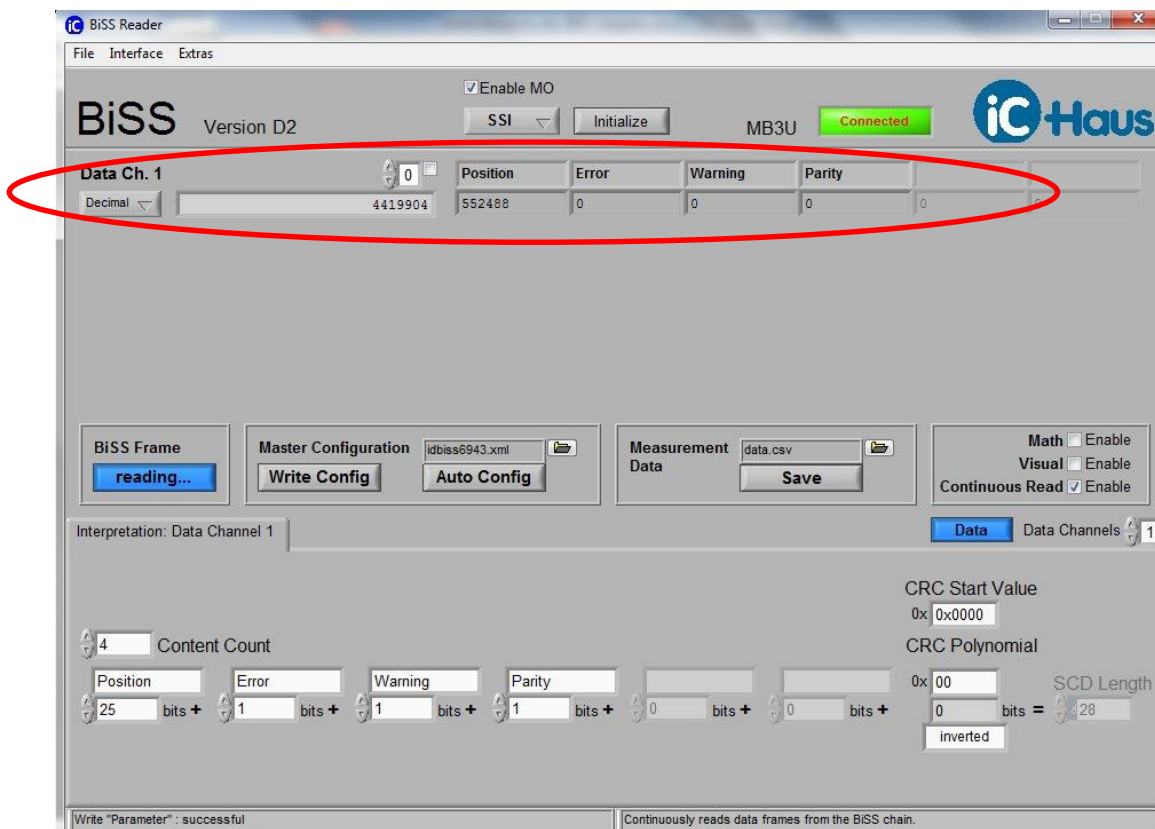


→ “connected” lights green now



Press the „Read SCD“-Button → BiSS Frame “reading” → actual positions values are read

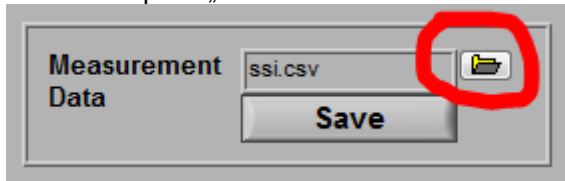
You can see Error, Warning and Parity-Bits now. (example for SSI)



## 4.3.1 Saving the position

If you want to check for errors over the whole distance, please follow this steps:

Next to the point „Measurement“ choose a name and location for the .csv file which will be created.

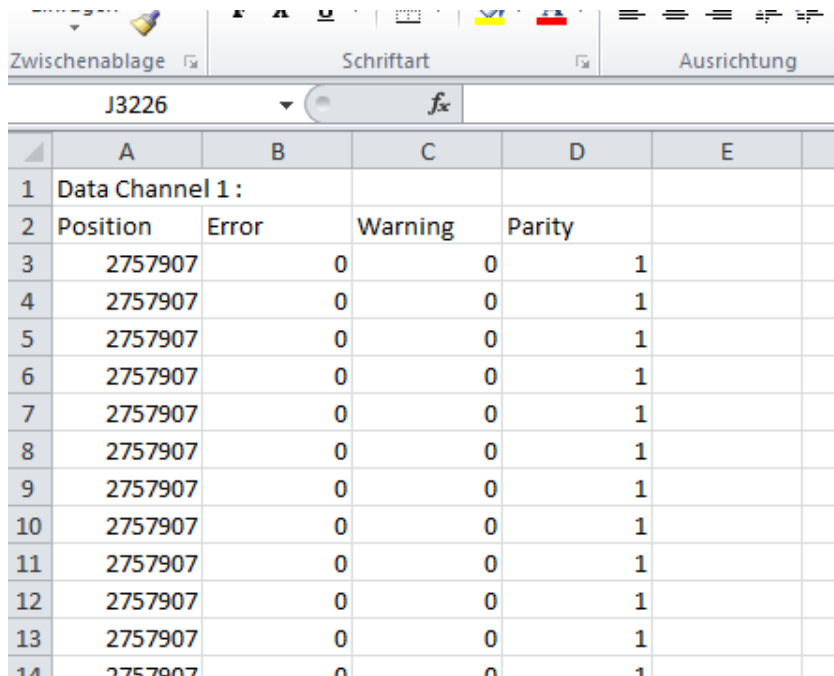


Click the “Save” button to start the recording.

Click the button (storing...) again to stop the recording.

Now the .csv File gets created on the location you have chosen before with all the measuring information's.

You can see the error warning and parity bits of the positions.

A screenshot of a spreadsheet application showing a table of measurement data. The table has columns for Position, Error, Warning, and Parity. The data shows a series of measurements at position 2757907 with error 0, warning 0, and parity 1.

	A	B	C	D	E
1	Data Channel 1 :				
2	Position	Error	Warning	Parity	
3	2757907	0	0	1	
4	2757907	0	0	1	
5	2757907	0	0	1	
6	2757907	0	0	1	
7	2757907	0	0	1	
8	2757907	0	0	1	
9	2757907	0	0	1	
10	2757907	0	0	1	
11	2757907	0	0	1	
12	2757907	0	0	1	
13	2757907	0	0	1	
14	2757907	0	0	1	