

TECH NOTE :: ClipX read/write TEDS with TEDS editor

Version: 2020-06-09

Autor: Michael Guckes, Roland Siepmann

Status: HBM: Public

Brief description

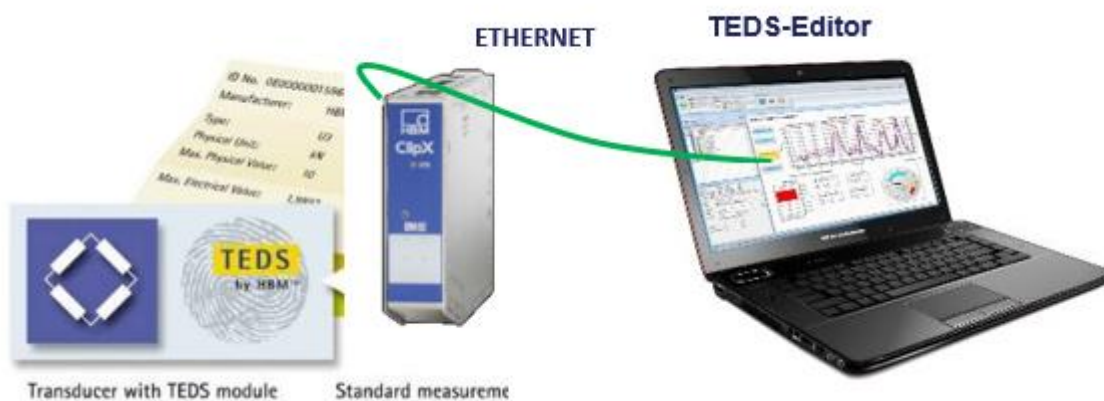
This is an instruction to read and write TEDS of a sensor using ClipX and the TEDS editor. In the following it is shown how to write new TEDS on the TEDS chip of a sensor and read the data back.

General information:

TEDS is an international standard (IEEE 1451.4) to store and handle sensor-data (type, scaling, ...) in a measuring chain consisting of a sensor and an amplifier. Starting with ClipX firmware 2.2 and higher it is possible to write TEDS-file with TEDS-sensor-data direct into a TEDS-chip which is connected to the ClipX.

The other way around ClipX is able to read all data from a TEDS-Chip connected to ClipX and generate a TEDS-file out of this, which is stored in the ClipX device-storage and on the PC.

With this method it is possible for the user to handle TEDS-sensors with ClipX which is important in terms of secure and fast amplifier adjustment.



Preparation

To read or write TEDS data the following materials are required:

- ClipX device (incl. supply)
- Sensor with TEDS-Chip
- Ethernet cable
- PC with HBM TEDS editor

Execution

In the following it is described how to create a TEDS file and write the data to the TEDS chip. Afterwards, this data is read from the sensor and stored in a file. At first, all the components must be connected.

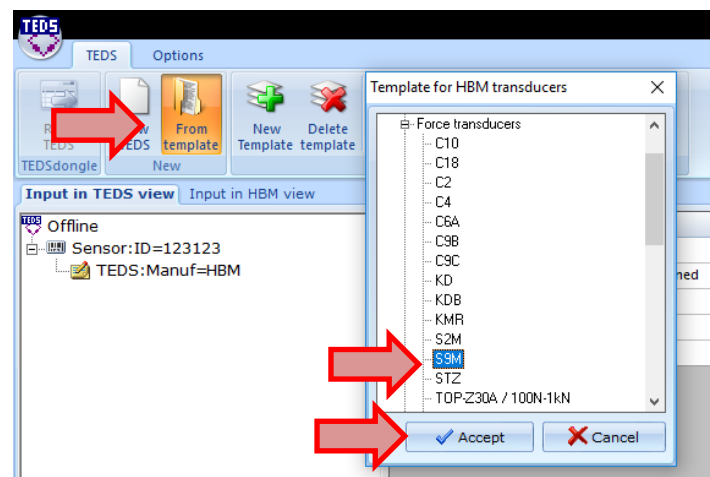
1. Create and write TEDS file to a sensors TEDS chip

Because the TEDS-editor is not implemented in the ClipX webserver, this procedure is done in 3 steps:

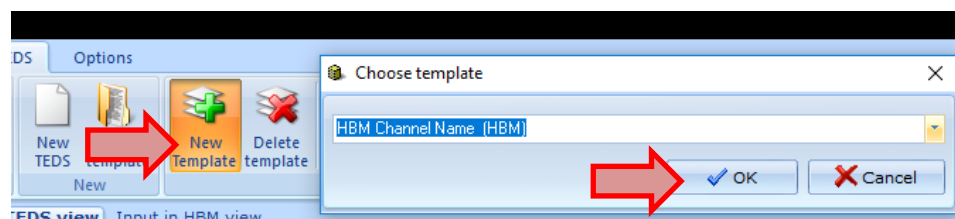
1. Creating the TEDS file (offline) using the HBM TEDS editor on the pc
2. Upload the TEDS file to the device storage of ClipX
3. Write the data to the TEDS chip

In this example the TEDS chip of a S9M force transducer from HBM is written. Therefore the TEDS editor on the pc is started:

- Load TEDS from template



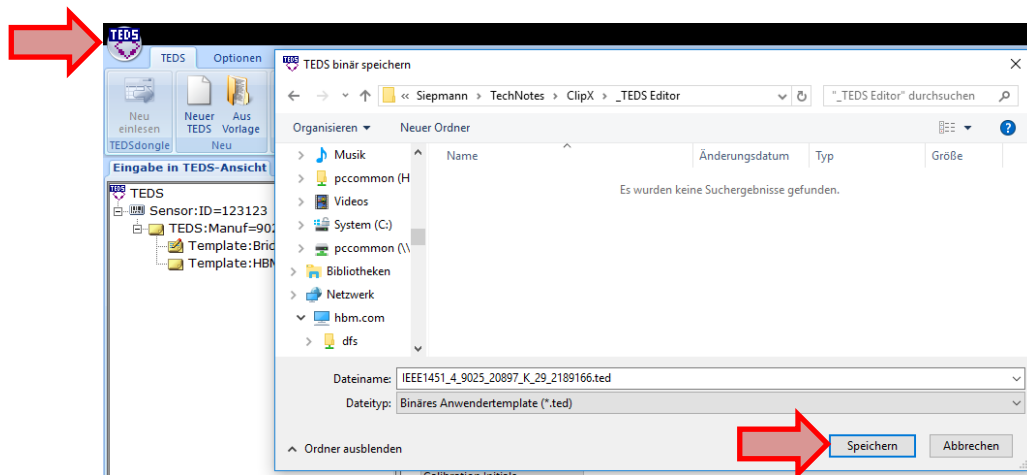
- Add additional templates like HBM Channel Name



- Now the sensor data can be entered

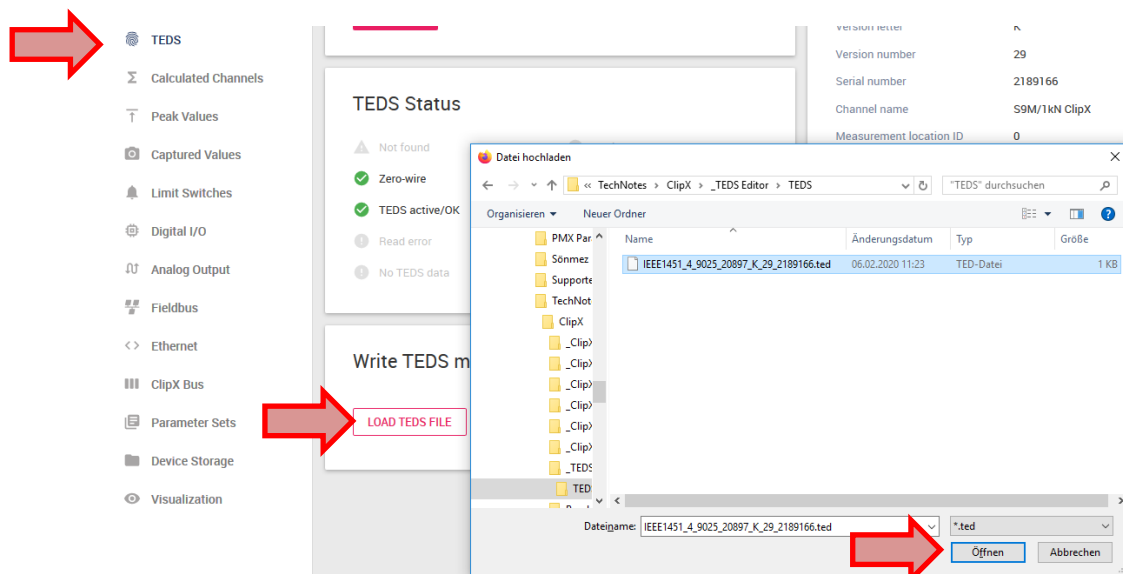
Parameter	Wert
Transducer Electrical Signal Ty	Bridge Sensor
Minimum Force/Weight	0,00000
Maximum Force/weight	1,00000k
Minimum Electrical Value	0,00000
Maximum Electrical Value	2,00000m
Mapping Method	Linear
Bridge type	Full
Impedance of each bridge elem	350,0
Response Time	1,0000000u
Excitation Level (Nominal)	2,5
Excitation Level (Minimum)	2,5
Excitation Level (Maximum)	2,5
Calibration Date	31-Dec-2099
Calibration Initials	
Calibration Period (Days)	0
Measurement location ID	0

- After that save the created TEDS file



Now the TEDS file is created and must be uploaded to the device storage of ClipX. To do that the ClipX webserver is opened:

- Go to the menu item 'TEDS'
- Click 'Load TEDS file', browse for your new created TEDS file and open it




- Now select 'Write file into TEDS module'

Write TEDS module

LOAD TEDS FILE

Available TEDS files
IEEE1451_4_9025_20897_K_29_2189166.ted



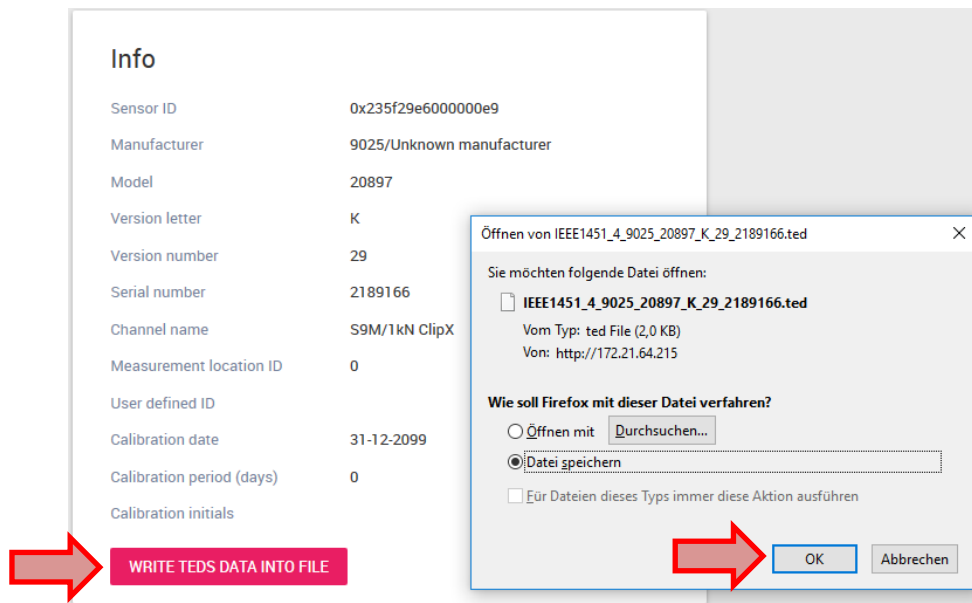
WRITE FILE INTO TEDS MODULE

After this the writing of your TEDS file is done.

2. Read data from TEDS sensor/chip

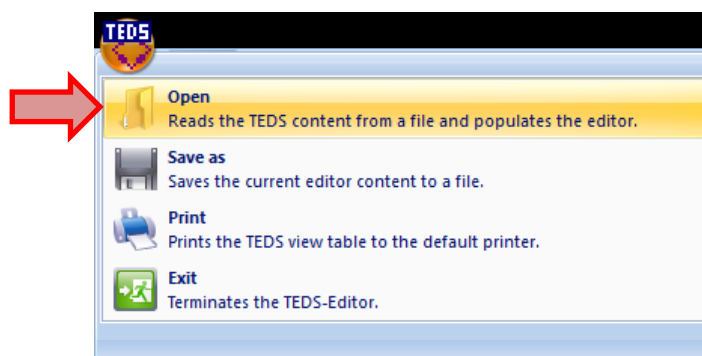
To read TEDS data from a sensor the ClipX webserver is opened:

- Go to the TEDS menu
- On the right side select 'Write TEDS data into file
- The download dialog is opened automatically
- Save the file



The stored file contains all TEDS data from the TEDS chip. If desired it can now be adapted using the TEDS editor on the PC.

- Open file using the file browser



Now all the TEDS data is available and can be adapted. To save the file and load it to the chip follow the instructions of the previous chapter.

Hint: In the TEDS editor, the TEDS view and the HBM view are available to do the setup.

Disclaimer

These examples are for illustrative purposes only. They cannot be used as the basis for any warranty or liability claims.