



# HV AD CAN TBM Series

User Guide

Version 02.00





















































## 5.2 CSMconfig user interface

The CSMconfig user interface consists of the following sections:

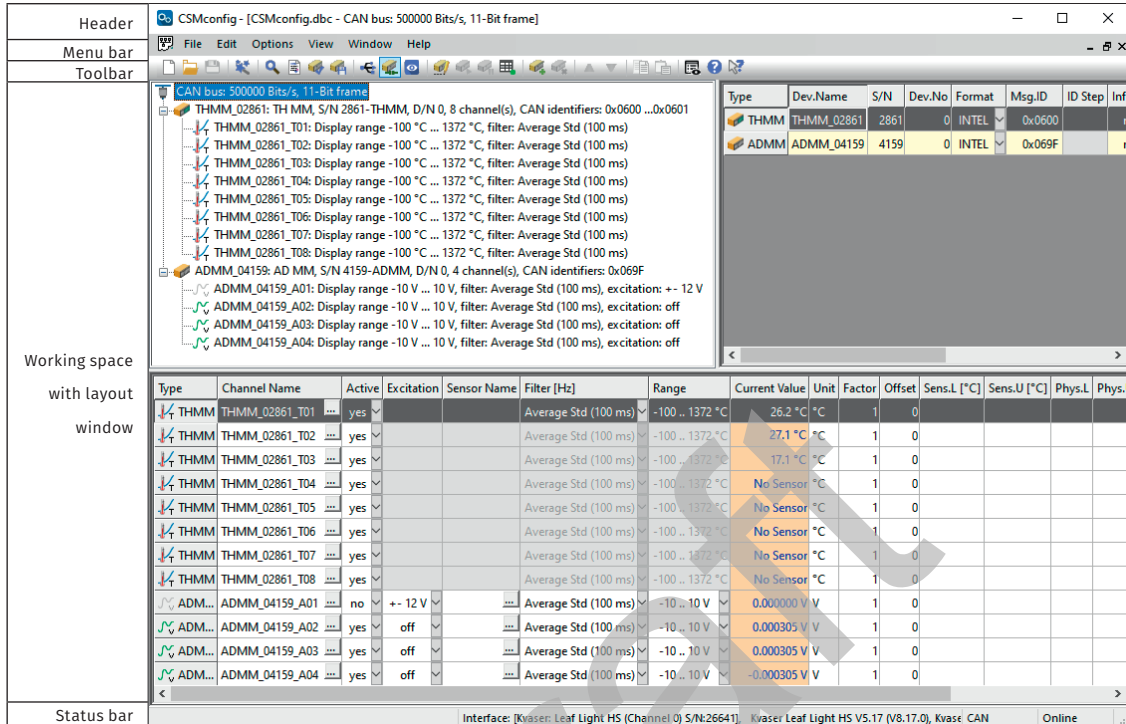


Fig. 5-2: CSMconfig user interface

### 5.2.1 Header

Clicking the program icon on the left opens the program menu.

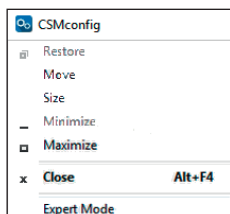


Fig. 5-3: Program menu

In addition to the functions for modifying the position and resizing of the program window, it also contains the option **Expert Mode**.

→ See [CSMconfig online help](#) for further information on the Expert Mode.

### 5.2.2 Menu bar

The commands are arranged in the following menus:

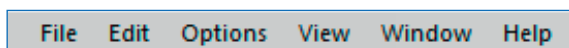


Fig. 5-4: Menu bar

→ See [CSMconfig online help](#) for further information on the menu commands.





### 5.2.3 Toolbar

The toolbar contains the most frequently used menu commands. A command is executed by clicking on the corresponding icon.



Fig. 5-5: Toolbar

→ See [CSMconfig online help](#) for further information on the toolbar commands.

### 5.2.4 Working space

The configuration data is stored in a configuration document. Depending on the bus system, the configuration document is either saved as a DBC file (CAN) or an A2L file (XCP-Gateway/ECAT).

→ See [CSMconfig online help](#) for further information on the configuration documents.

CSMconfig provides various configuration views to create or process a configuration document:

- ▶ Tree view
- ▶ Device list
- ▶ Channel list

These views are integrated in a higher-level window, the layout window. The **Select view layout** dialog offers a number of layouts with different combinations of configuration views.

☞ Select **Window | Select view layout**.

⇒ The **Select view layout** dialog opens.

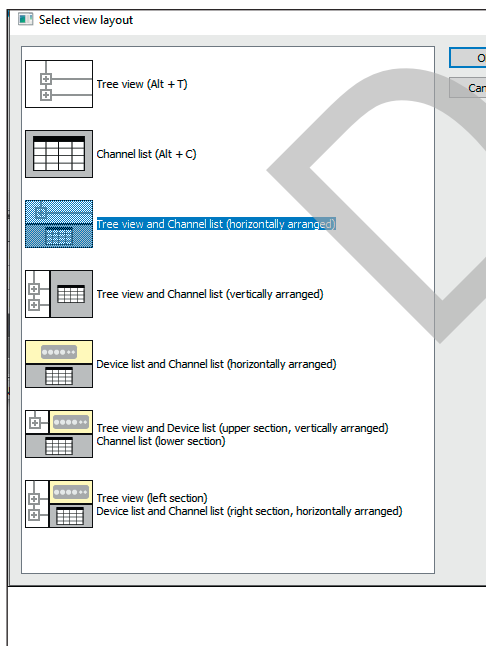


Fig. 5-6: **Select view layout** dialog

☞ Select the matching layout and confirm your choice by clicking on **OK**.

→ See [CSMconfig online help, section "Configuration views and layout window"](#) for further information.



### 5.2.5 Status bar

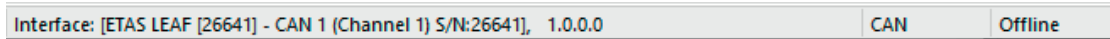



Fig. 5-7: Status bar

The status bar provides the following information:

- ▶ The interface currently connected to the PC or the message “No valid interface selected”
- ▶ The bus system of the active configuration.
- ▶ The configuration status: "Online" or "Offline"

## 5.3 HV AD CAN TBM Series configuration

The CSMconfig software is used for the configuration of HV AD CAN TBM Series measurement modules.

NOTE!	
	<p>We recommend always using the latest version of CSMconfig. Old versions may not support all module variants and functions. The most recent version of CSMconfig can be found in the download area of the CSM website.                  → See: <a href="https://s.csm.de/en-cfg">https://s.csm.de/en-cfg</a></p> <p>Starting with version 8.8.0, CSMconfig also checks at each startup whether a new program version is available.</p>

The following sections contain information on the following topics:

- ▶ HV AD CAN TBM Series settings
- ▶ Creating a standard CAN configuration in CSMconfig

In CSMconfig, configurations can be created both *online* and *offline*.

#### Online configuration

- ▶ The measurement modules are linked to the configuration software.
- ▶ A configuration can be transferred to a single or to all measurement modules of a measurement chain in CSMconfig immediately after completion.

#### Offline configuration

- ▶ There is no connection between configuration software and measurement chain. The configuration document is created "offline", which means without connection to the measurement chain.
- ▶ The configuration is transferred to the measurement chain at a later time:
  - ▶ via CSMconfig, after an online connection to the measurement chain has been established
  - ▶ by transferring the configuration document to the measurement application on-site

#### Configuration views

The user can choose from three different views (windows) for configuration: **Tree view**, **Device list** or **Channel list**. As of program version 8.12 these configuration views are integrated in a higher-level window to form configuration layouts.

→ See chapter 5.2.4 "Working space" for further information.

The following sections contain the basic steps for a configuration using the **Tree view** window.



### 5.3.1 Dialogs and windows

<b>i</b>	Which views are displayed during configuration depends on the configuration layout specified in the <b>Select view layout</b> dialog.
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#### Example

If a new configuration file is created (→ **File | New**), the **Select document type** dialog is displayed by default. Select the file type required for the configuration here. Use document type **CAN only (DBC)** for measurement applications using CAN measurement modules.

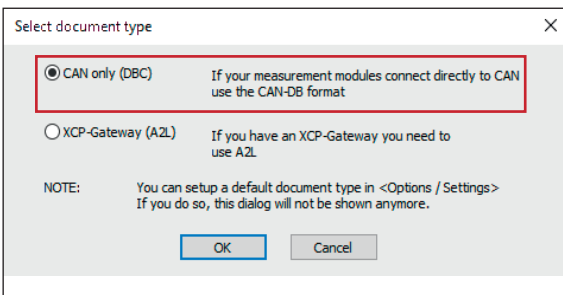


Fig. 5-8: **Select document type** dialog, **CAN only (DBC)** selected

The settings used to create a new configuration file can also be changed in the **Program Settings** dialog (→ **Options | Settings**). The **Default document type** menu provides the following options:

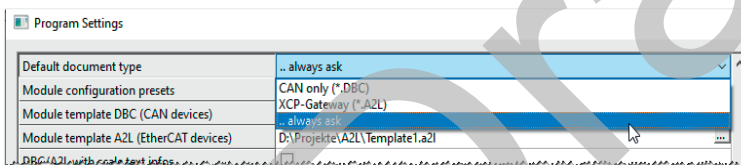


Fig. 5-9: **Program Settings** dialog, options for **Default document type**

- ▶ **... always ask** (default): The **Select document type** dialog is used.
- ▶ **CAN only (\*.DBC)**: Each time a new configuration file is created, the file type **DBC** will be used.
- ▶ **XCP-Gateway (\*.A2L)**: Each time a new configuration file is created, the file type **A2L** will be used.

→ [See CSMconfig online help for further information.](#)

### 5.3.2 Offline configuration

The following sections describe the steps for configuration in **offline mode**. The configuration data is stored in a DBC file when configuring CAN measurement modules offline. This configuration file can be transferred to a measurement module at a later time or made available for further use in other tools such as vMeasure CSM, CANape® or INCA.

- ☞ Start CSMconfig.
  - ⇒ The CSMconfig program window opens.
- ☞ Select **File | New** (→ **Ctrl + N**).
  - ⇒ The **Select document type** dialog (Fig. 5-8) opens.

☞ For configurations with CAN measurement modules, select the **CAN only (\*.DBC)** option and confirm selection with **OK**.

⇒ The window displaying the **Tree view** opens (here **CSMconfig.dbc**).

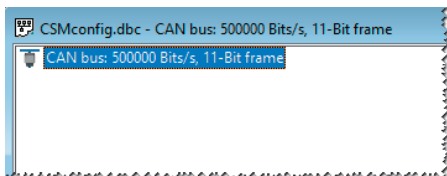


Fig. 5-10: **CSMconfig.dbc** window, **Tree view**

☞ Move the mouse pointer to the window and right-click.

⇒ The context menu opens.

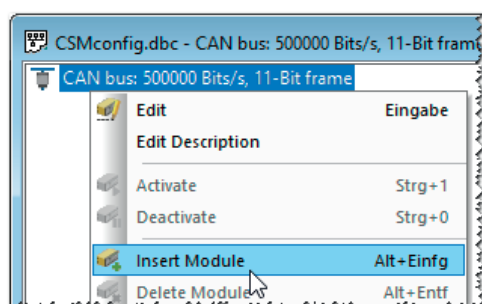


Fig. 5-11: **CSMconfig.dbc** window, **Tree view**, context menu

☞ Select **Insert (→ Insert)**.

⇒ The **Select device type** dialog opens.

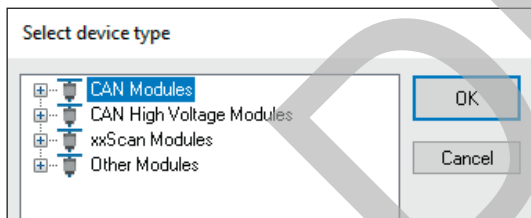



Fig. 5-12: **Select device type** dialog

<b>NOTE!</b>	
	<p>This dialog is designed to select a module series (e.g. AD MM series or HV TH MM series) but not specific module variants (e.g. ADMM 8 pro or HV THMM 4). The options available in the dialogs for device and channel configuration correspond to the highest configuration level of a measurement module series. When transferring the configuration file to the measurement module, if some of the settings are not compatible, an error message appears indicating the incorrect setting (e.g. measurement data rate too high).</p>

If the desired measurement module is not displayed in the selection window, click the **+** symbol in front of the appropriate category.

⇒ The submenu opens.

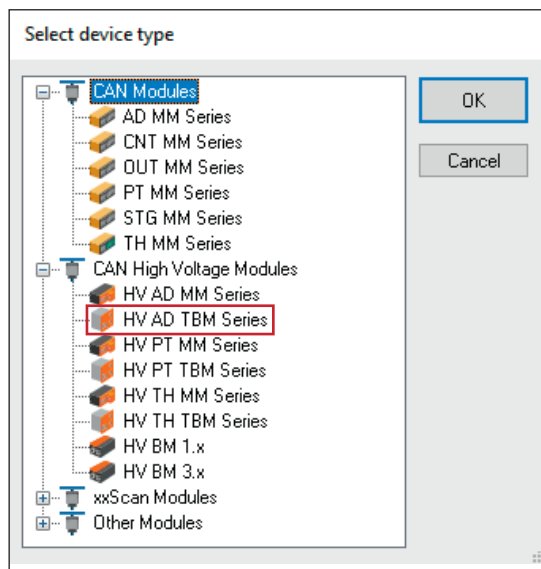


Fig. 5-13: **Select device type** dialog, subentries faded in

⇒ Select the module series (e.g. **CAN High Voltage Modules | HV AD CAN TBM Series Series**) and confirm selection with **OK**.

⇒ The **Device configuration dialog** is displayed.

⇒ The layout window **CSMconfig.dbc** appears in the background.

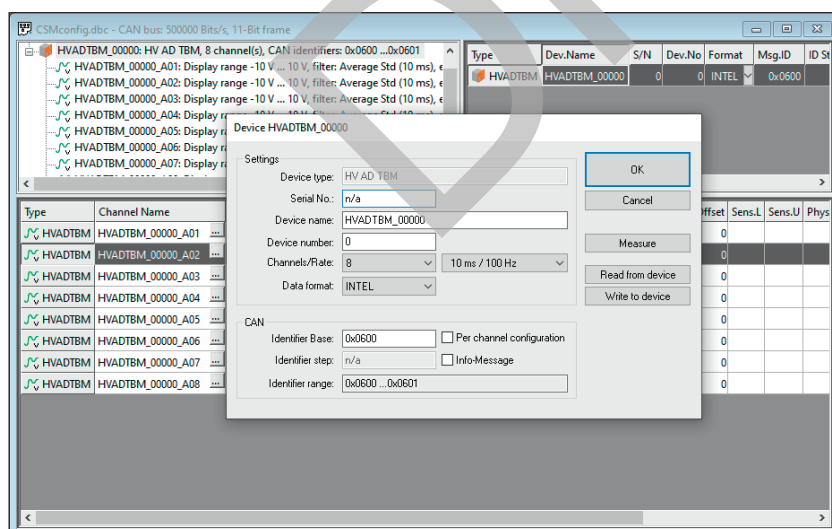


Fig. 5-14: **Device configuration dialog**, **CSMconfig.dbc** window in the background

Information on the configuration of measurement channels and the measurement module can be found in the online configuration section.

→ See [chapter 5.3.3.7 "Measurement channel settings"](#) or [chapter 5.3.3.8 "Device settings"](#).

When a connection to the measurement setup has been established, the configuration must still be transferred to the corresponding measurement module.

→ See [section "Transferring configuration data to the measurement module"](#).



### 5.3.3 Online configuration

#### 5.3.3.1 Preparing configuration

- ☞ Before starting an online configuration, make sure that
  - ▶ measurement module and computer are correctly connected via an appropriate CAN interface
  - ▶ CSMconfig is installed on the computer.

#### 5.3.3.2 Starting CSMconfig

- ☞ Start CSMconfig.
  - ⇒ The program window opens (the previously loaded configuration may be displayed).
- ☞ If an interface is displayed in the status bar (Fig. 5-15), continue with chapter 5.3.3.4 "Creating a new configuration file".

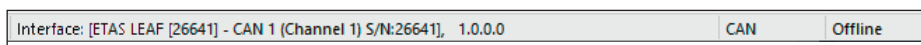


Fig. 5-15: Status bar: CAN interface connected

- ☞ If no interface is displayed in the status bar (Fig. 5-16), continue with chapter 5.3.3.3 "Selecting a communication interface".



Fig. 5-16: Status bar: "No valid interface selected"

#### 5.3.3.3 Selecting a communication interface

After program start, CSMconfig checks the communication interfaces for existing connections. These are listed in the **Interface** dialog.

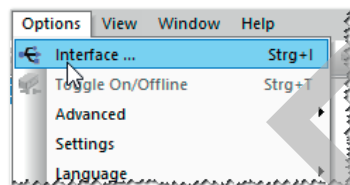


Fig. 5-17: Options | Interface

- ☞ Select **Options | Interface** (→ **Ctrl + I**).
  - ⇒ The **Interface** dialog opens.

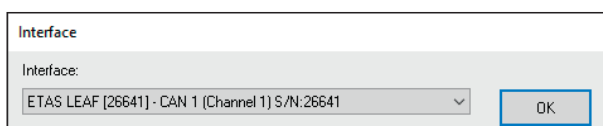


Fig. 5-18: **Interface** dialog

- ☞ If the required interface is not displayed, click on the arrow ▼ to the right.
  - ⇒ The pull-down menu opens.

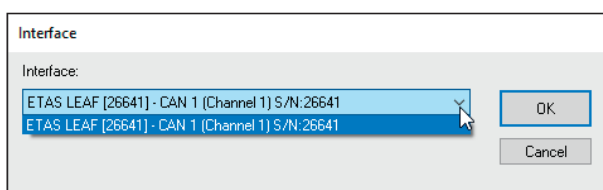


Fig. 5-19: **Interface** dialog, pull-down menu expanded

- ☞ Select the required interface.
- ☞ Click on **OK** to confirm the selection.



### 5.3.3.4 Creating a new configuration file

<b>i</b>	The procedure described in the following section is not required if the configuration is performed using the option <b>Auto-Configuration</b> .
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→ See chapter 5.3.3.6 "Scan Bus and Auto-Configuration".

☞ Select **File | New (→ Ctrl + N)**.

⇒ The **Select document type** dialog (Fig. 5-8) opens.

☞ For configurations via CAN interface, select the **CAN only (DBC)** option and confirm by clicking **OK**.

⇒ The **CSMconfig.dbc** window opens.

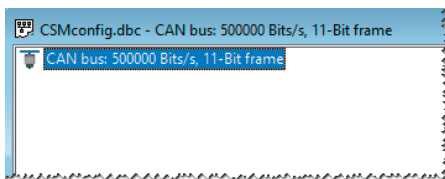


Fig. 5-20: **CSMconfig.dbc** window, **Tree view**

### 5.3.3.5 CAN parameter settings

<b>i</b>	There is usually no need to adjust the CAN parameter settings manually if a new DBC file was created via <b>Auto-Configuration</b> or <b>Scan Bus</b> .
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→ See chapter 5.3.3.6 "Scan Bus and Auto-Configuration".

A change of the CAN parameters may be necessary, for example, if

- ▶ high-speed measurement modules with higher measurement data rates (e.g. ADMM pro HS) are used in the application.
- ▶ data acquisition software requiring other CAN parameters is used.

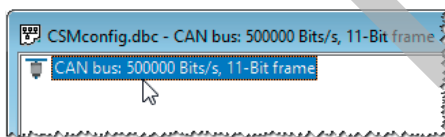


Fig. 5-21: **CSMconfig.dbc** window, **Tree view**, setting CAN Parameters

☞ Double-click on the CAN bus entry using the left mouse button.

or

☞ Mark the CAN bus entry and press the **Enter** key.



⇒ The **CAN Bus** dialog opens.

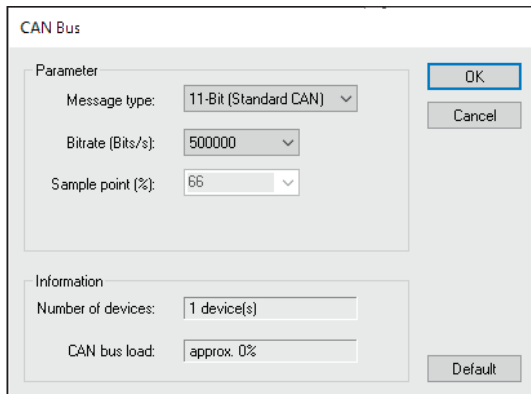


Fig. 5-22: **CAN Bus** dialog

Select the required setting and click **OK** to close the dialog.

→ [See CSMconfig online help for further information.](#)

If the process was successful, the following message appears:

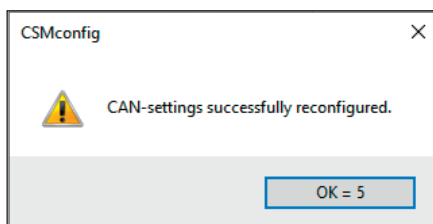


Fig. 5-23: Message "CAN settings successfully reconfigured"

⇒ Click **OK** to close the window.

### 5.3.3.6 Scan Bus and Auto-Configuration


Check which measurement modules are connected to the bus. You can do this by using the commands **Scan Bus** and **Auto-Configuration**.

Measurement modules connected to the bus can be identified and the stored configurations can be read out using both functions. In addition to pure module recognition, **Auto-Configuration** can also resolve any existing conflicts (e.g. CAN-ID conflicts or conflicts during name assignment). **Auto-Configuration** applies only at module level, the channels themselves must be set individually.

<b>i</b>	To create an initial configuration with multiple new <b>CAN measurement modules</b> , CSM recommends using <b>Auto-Configuration</b> because all new measurement modules are set to the same CAN ID.
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### Running Scan Bus

**Scan Bus** searches the bus for connected measurement modules. The configuration data is collected in order to be finally saved in a configuration document.

<b>NOTE!</b>	
	A new configuration document must be created in order to perform <b>Scan Bus</b> . ⇒ Select <b>File   New</b> (→ <b>Ctrl + N</b> ).



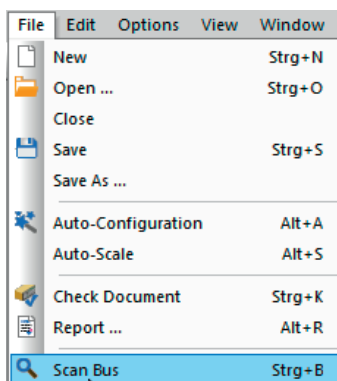


Fig. 5-24: File | Scan Bus

☞ Select **File | Scan Bus** (→ **Ctrl + B**).

- ⇒ The bus is checked for connected measurement modules.
- ⇒ Detected measurement modules are listed below the bus level.

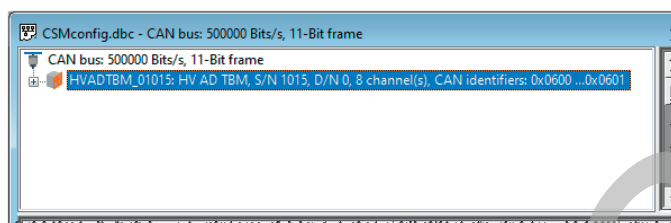


Fig. 5-25: CSMconfig.dbc window, Tree view, detected measurement module(s)

### Running Auto-Configuration

Similar to **Scan Bus**, the **Auto-Configuration** function checks the bus for connected measurement modules. **Auto-Configuration** additionally provides the means to detect and resolve, possible conflicts (e.g. CAN-ID conflicts or conflicts during naming).

If **Auto-Configuration** is used, a configuration file will be automatically created, which means there is no need to create a new configuration file manually beforehand. Upon process completion, the new configuration file needs to be named accordingly and stored in the required folder.

→ See [chapter 5.3.3.9 "Saving a configuration"](#).

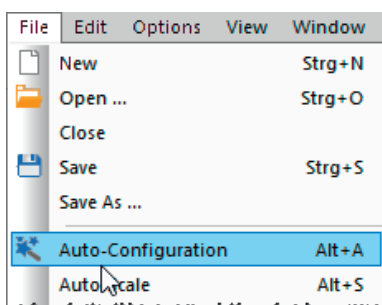


Fig. 5-26: File | Auto-Configuration

☞ Select **File | Auto-Configuration** (→ **Alt + A**).

- ⇒ The bus is checked for existing measurement modules and any conflicts.
- ⇒ The **AutoConfig** window opens.

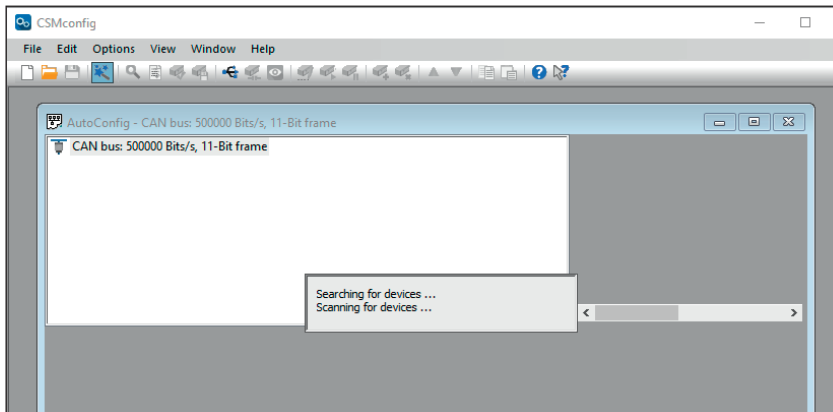


Fig. 5-27: **AutoConfig** window: "Searching for devices..."

- ⇒ **Auto-Configuration** is executed, the message "Searching for devices..." is displayed.
- ⇒ When the process is complete, the following windows are displayed:
  - ▶ The **AutoConfig** window displaying the connected measurement modules.

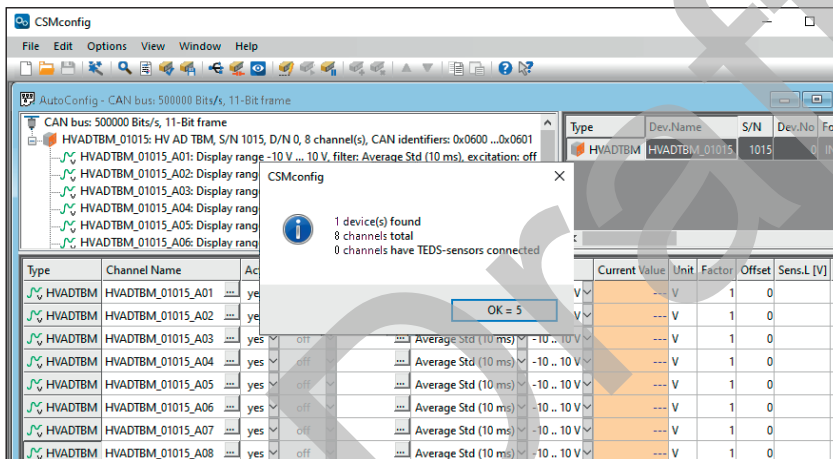


Fig. 5-28: **Auto-Configuration** is executed

- ▶ A message box is displayed indicating how many measurement modules, channels and, if applicable, TEDS sensors have been detected.

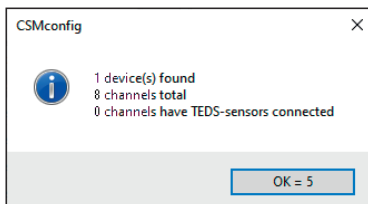


Fig. 5-29: Message box displayed upon the completion of **Auto-Configuration**

The **OK** button features an automatic counter counting from "5" to "0". The window closes automatically as soon as the counter has reached "0". The window can be closed immediately by clicking on **OK**.

→ *Information on how to save a configuration can be found in chapter 5.3.3.9 "Saving a configuration".*

### 5.3.3.7 Measurement channel settings

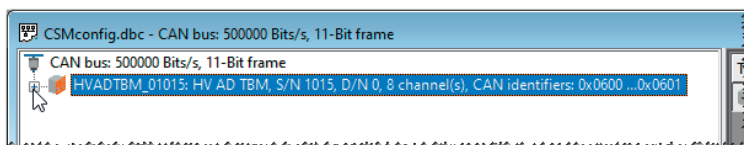


Fig. 5-30: **CSMconfig.dbc** window, **Tree view**, channel list faded out

☞ If the list of measurement channels is not displayed, click on the **+** symbol to the left of the device entry to open the directory tree.

⇒ The list of measurement channels opens.

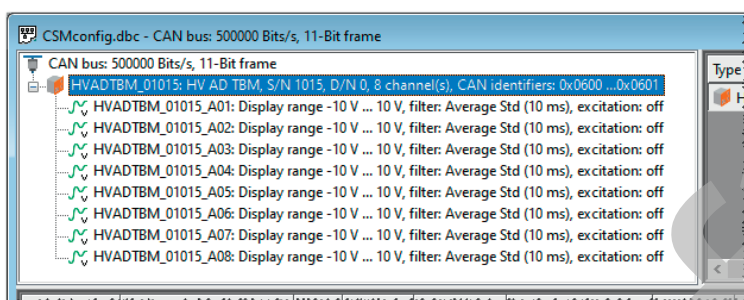


Fig. 5-31: **CSMconfig.dbc** window, **Tree view**, channel list faded in

☞ Double-click on the selected channel entry.

⇒ The **Channel configuration dialog** opens.

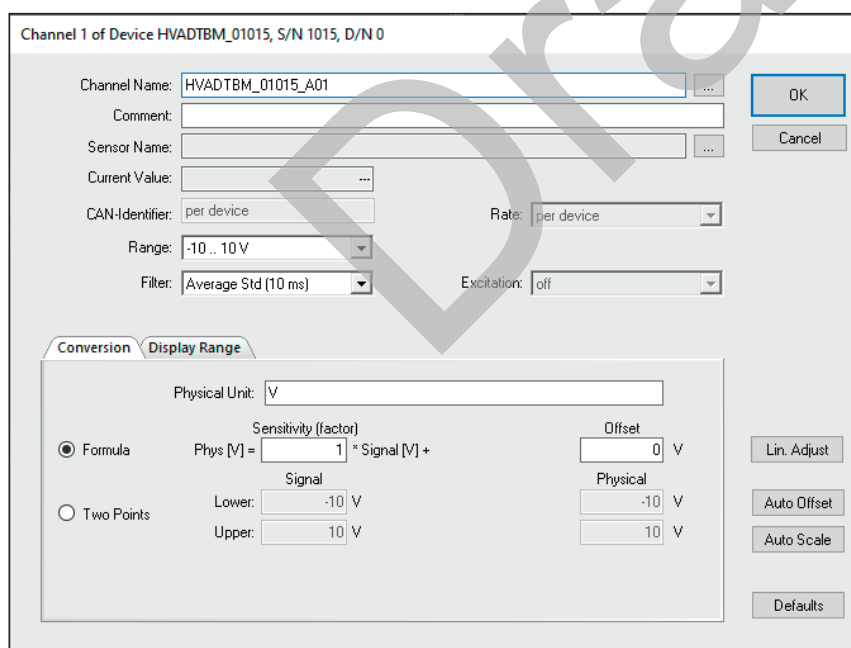


Fig. 5-32: **Channel configuration dialog** (HV AD CAN TBM Series)

☞ Select the required settings (see table "Channel configuration options HV AD CAN TBM Series").

☞ Click on **OK** to close the dialog.

☞ To configure further measurement channels, proceed as described above.



**Channel configuration options HV AD CAN TBM Series**

Field	Function
<b>General settings</b>	
<b>Channel Name</b>	<p>Entry field for channel name. This name is stored in the DBC file and will be used by the DAQ software as identifier.</p> <p>Allowed characters: [a...z], [A...Z], [0...9] and [ _ ] (max. 32 characters)</p> <p>It is possible to integrate a signal database in CSMconfig. The signal database is called up by clicking the <b>...</b> button. This database allows signal names (channel names) to be selected and assigned to the measurement channel. A comment may have been assigned to the signal name. If so, it will be displayed in the <b>Comment</b> field after the signal name has been selected. If the button is greyed-out, no signal database is available.</p> <p>→ <a href="#">See CSMconfig online help, section "Channel configuration dialog" for further information.</a></p>
<b>Comment</b>	<p>Input field for additional text, e.g. channel-specific notes/comments; Any character may be used (max. 100 characters)</p>
<b>Sensor Name</b>	<p>The <b>...</b> button opens a dialog for selecting sensor definitions. By selecting a sensor definition, the corresponding parameters (calibration, sensor excitation, measurement range) will be applied to the configuration document.</p> <p>→ <a href="#">See CSMconfig online help, sections "Channel configuration dialog" and "Sensor database" for further information.</a></p>
<b>Current Value</b>	<p>This field indicates the current measured value of the channel.</p>
<b>CAN-Identifier</b>	<p>The channel-specific CAN identifier is defined with this option. This option is only available if the <b>Per channel configuration</b> option in the <b>Device configuration dialog</b> is enabled.</p>
<b>Rate</b>	<p>The channel-specific send rate is defined with this option. This option is only available if the <b>Per channel configuration</b> option in the <b>Device configuration dialog</b> is enabled.</p>
<b>Range</b>	<p>Pull-down menu for setting the measurement range:                      HV AD4 IF20: <b>±1, ±2, ±5, ±10, ±20 V</b>                      HV AD8 OW20: <b>±5, ±10, ±20, ±45, ±90 V</b>                      HV AD4 XW20: <b>±50, ±100, ±200, ±500, ±1.000 V.</b></p>
<b>Filter</b>	<p>HV AD CAN TBM Series measurement modules have a switchable 6th order Butterworth filter. The options available in the pull-down menu depend on the sampling rate or measurement data rate. The recommended value for the filter frequency is displayed under <b>Std.</b> (e.g. <b>Std. (1500 Hz)</b>). The filter is deactivated with the option <b>SW-Filter off</b>. The value for the standard filter is adjusted accordingly when the measurement data rate is changed.</p>
<b>Excitation</b>	<p>Only module version HV AD4 IF20:                      The sensor excitation voltage can be set here, if applicable <b>10 V, 12 V, 15 V</b> and <b>off</b> option.</p>
<b>Buttons</b>	
<b>Auto-Offset</b>	<p>Calls up the <b>Auto-Offset</b> function of the <b>Auto-Scale</b> wizard.</p>
<b>Auto-Scale</b>	<p>Calls up the <b>Auto-Scale</b> function of the <b>Auto-Scale</b> wizard.</p>
<b>Defaults</b>	<p>Resets the settings in the dialog to the factory defaults. The content of specific fields, such as <b>Channel Name</b>, remain unchanged, however.</p>



Field	Function
<b>Conversion tab</b>	
Using physical scaling, the measured values supplied by a sensor can be scaled into any measured variable using downstream DAQ software (e.g. vMeasure CSM, INCA or CANape®). CSMconfig offers the <b>Formula</b> (scaling as a linear function) and <b>Two Points</b> (scaling over two points) functions here.	
<b>Physical Unit</b>	Input field for the channel measurement unit. Allowed characters: [a...z], [A...Z], [0...9], [ _ ] and [ ° ] (max. 32 characters) The unit entered here is automatically displayed as measurement unit in the <b>Conversion</b> and <b>Display Range</b> tabs.
<b>Formula</b>	This function provides the means to create a formula for the conversion into another measured variable using the variables <b>Sensitivity (factor)</b> and <b>Offset</b> .
<b>Sensitivity (factor)</b>	Field for entering the scaling parameter
<b>Offset</b>	Field for entering the offset value
<b>Two Points</b>	The <b>Two Points</b> function converts sensor readings into another measured variable by defining two points on one axis.
<b>Signal</b>	Measured values supplied by the sensor
<b>Lower</b>	Lower sensor reading
<b>Upper</b>	Upper sensor reading
<b>Physical</b>	Scaled measured values in the measured variable set under <b>Physical Unit</b> .
<b>Lower</b>	Lower value to be defined by the user
<b>Upper</b>	Upper value to be defined by the user
<b>Display Range Tab</b>	
The default values for the measured value display can be defined in a downstream MC or DAQ tool here.	
<b>Device</b>	The lower and upper limit values of the scaled measurement range are displayed in the greyed-out fields.
<b>Minimum</b>	Display of the lower limit value of the scaled measurement range
<b>Maximum</b>	Display of the upper limit value of the scaled measurement range
<b>User</b>	These parameters are used to set the lower and upper limits for the display of the measured value range in the downstream MC or DAQ software. By default, the minimum value or maximum value of the measurement range, which is displayed under <b>Device</b> , is displayed here.
<b>Minimum</b>	Minimum value to be defined by the user and used in the MC or DAQ software.
<b>Maximum</b>	Maximum value to be defined by the user and used in the MC or DAQ software.

Tab. 5-1: Channel configuration options (HV AD CAN TBM Series)



### 5.3.3.8 Device settings

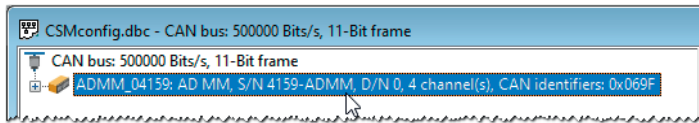


Fig. 5-33: CSMconfig.dbc window, Tree view, module selected

☞ Double-click on the device entry.

⇒ The **Device configuration dialog** is displayed.

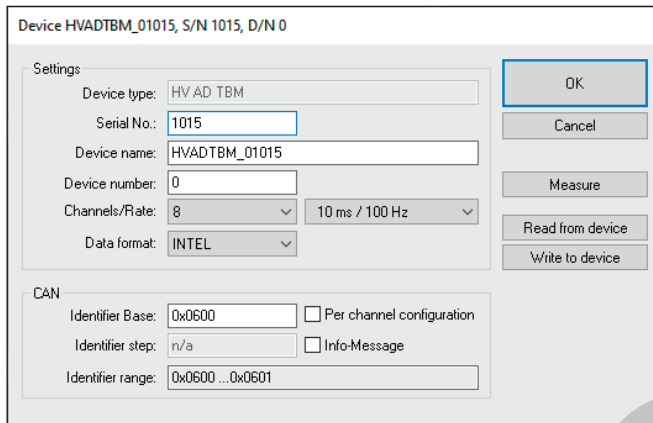


Fig. 5-34: Device configuration dialog (HV AD CAN TBM Series)

#### Settings section

After the completion of **Scan Bus** or **Auto Configuration** in an online configuration, the device type is displayed in the **Device type** field and the serial number is displayed in the **Serial No.** field.

In an offline configuration, the **Device type** is displayed as selected in the **Select device type** dialog (Fig. 5-12). The serial number of the measurement device for which the configuration is created must be entered manually in the **Serial No.** field.

A default name is displayed in the **Device name** field consisting of the name of the device type and the serial number. Alternatively, an individual, user-defined name can be entered.

The following conditions/limitations must be observed when assigning names:

- ▶ The maximum length of the name is 24 characters.
- ▶ Allowed characters: [a...z], [A...Z], [0...9] and [ \_ ].
- ▶ The name must start with a letter or [ \_ ].
- ▶ The name must be unique. It may only be used once per configuration (DBC file).

If the default name remains unchanged, it will be automatically modified as soon as the serial number is changed. The name entered in this field is also used as a component for the channel designation (see Fig. 5-34).

The **Device number** field is provided for entering a device number. It is not mandatory to use this number. This option is not available for ECAT modules, which is why the field is grayed out here.

The number of available measurement channels is specified in the **Channels** selection menu (left).

The value is "4" (HV AD4 IF20 and und HV AD4 XW20) or "8" (HV AD8 OW20), depending on the module version.

The selection menu **Rate** (right) is used to specify the measurement data rate valid for all measurement channels.



The selection menu **Data format** (right) provides two formats for the transmission of CAN messages (not available and greyed out for ECAT measurement modules):

- ▶ INTEL (LSB first, Little Endian)
- ▶ MOTOROLA (MSB first, Big Endian)

### CAN section

This dialog section is only available for CAN measurement modules.

Fig. 5-35: **Device configuration dialog, CAN** section

The start identifier is displayed in the **Identifier base** field. The initial value displayed here depends on the settings made in the **Program Settings** dialog in section **CAN: Identifier base**. If required (e.g. in case of a CAN-ID conflict), this value can be modified accordingly.

For HV AD CAN TBM Series measurement modules, the **Identifier step** field has no function. The field is greyed out and the value "n/a" is displayed.

The range of the CAN identifiers used is displayed in the **Identifier range** field.

By default, CAN identifiers and transmission rate are specified per device. The option **Per channel configuration** enables CAN identifier and transmission rate to be set individually for each channel. If enabled, the pull-down menu **Rate** and the **Identifier base** field will be disabled. Both options can then be set for each channel in the **Channel Configuration Dialog**. A list of the measurement modules supporting this functionality can be found in the online help.

→ [See CSMconfig online help, section "Set CAN ID and Send Rate per Channel"](#).

**Info Message** provides the means to send signals with additional data in a separate message. These signals contain information on the device type, device status, software version, serial number and the internal temperature of the measurement module. If **Info Message** is enabled, another CAN identifier is required.

### Example

If "4" has been set in the **Channels** pull-down menu (e.g. for an ADMM module), the **Identifier Range** consists of one CAN identifier (e. g. "0x0600"). If **Info-Message** is enabled in addition, another CAN identifier will be added to the Identifier range ("0x0600 ... 0x0601") (Fig. 5-35).

	<p>Normally <b>info messages</b> cannot be sent if <b>Per channel configuration</b> is enabled. However, some modules provide the option to use <b>Info-Message</b> and <b>Per channel configuration</b> simultaneously if the required firmware is installed. A list of the measurement modules supporting this functionality can be found in the online help.</p> <p>→ <a href="#">See CSMconfig online help, section "Set CAN ID and Send Rate per Channel"</a>.</p>
--	---

### Buttons


- ▶ **Read from device** reads the configuration from a measurement module. The firmware version and the hardware revision number are also taken into account.
- ▶ **Write to device** writes a configuration to a measurement module.

→ [See CSMconfig online help for further information](#).



### Transferring configuration data to the measurement module

Once the channels and measurement modules are configured, the data must still be transferred to the measurement module.

<b>NOTE!</b>	
	<p>This step is required for both offline and online configurations.</p>

- ☞ Click on the **Write to device** button.
- ⇒ The following safety prmessage is displayed:

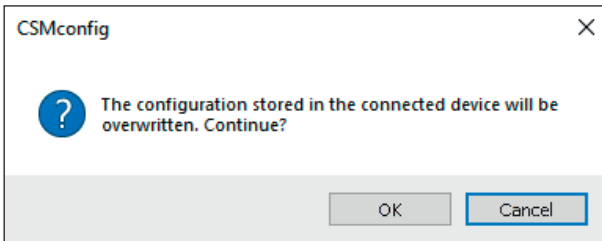


Fig. 5-36: Safety prompt before overwriting the old configuration

- ☞ Click on **OK** to save the configuration.
  - ⇒ A message indicates the successful reconfiguration of the measurement module.
- or
- ☞ Click on **Cancel** to keep the old configuration.

### Check measured values

Finally, the **Measure** function in the **Device configuration dialog** provides the means to check the plausibility of measurements.

- ☞ Click on the **Measure** button (see Fig. 5-34).
- ⇒ The **Measurement Values** window opens.

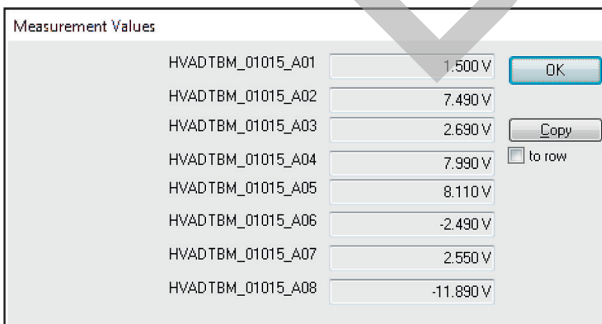


Fig. 5-37: **Measurement Values** window

- ☞ Click on **OK** to close the **Measurement Values** window.
- ☞ Click on **OK** to close the **Device configuration dialog**.





### 5.3.3.9 Saving a configuration

The configuration must finally be saved in a DBC file. The default path for storing configuration files refers to the CSMconfig installation directory. If user rights are restricted, the program prompts the user to save the file in the corresponding user directory.

#### Changing the path for file storage

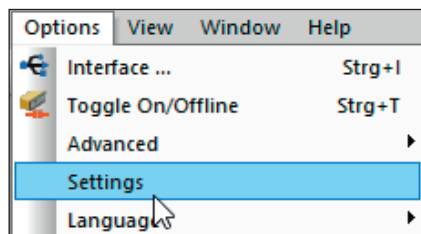


Fig. 5-38: Options | Settings

☞ Select **Options | Settings**.

⇒ The **Program Settings** dialog opens.

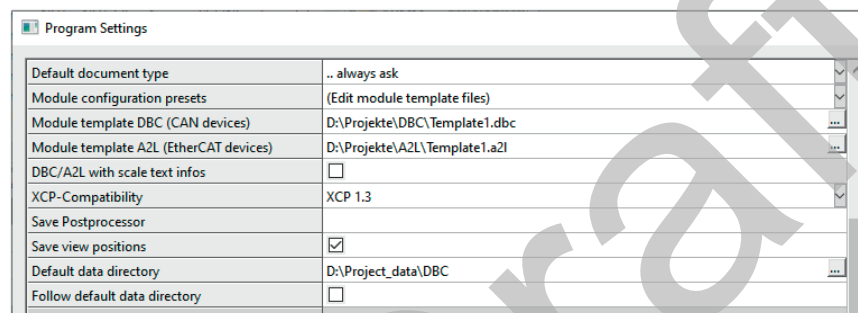


Fig. 5-39: Program Settings dialog, Default data directory option

☞ Enter the new path in the **Default data directory** field.

☞ Click on **OK** to close the **Program Settings** dialog.

<b>i</b>	If the option <b>Follow default data directory</b> is enabled, CSMconfig always sets the path previously applied by the user for storing a DBC or A2L file in the <b>Default data directory</b> path.
----------	---



### Save DBC file

☞ Select **File | Save (→ Ctrl + S)**.

⇒ The **Save as** dialog opens.

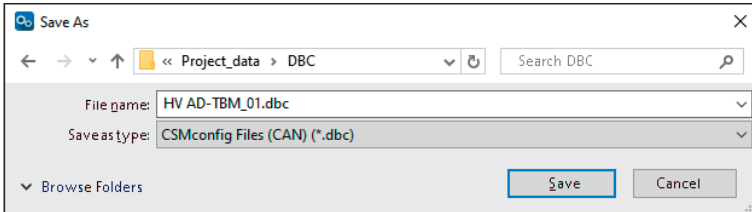


Fig. 5-40: **Save as** dialog

### NOTE!



The **Save as** dialog only opens when a configuration file is saved for the first time with the **Save** menu command. For all further saving operations using **Save**, the existing configuration file is overwritten. If a configuration file is to be saved under a different name or in a different folder, the **Save as...** menu command must be used.

☞ Select a directory, enter the required name in the **File name** field and confirm with **Save**.

⇒ The configuration file with the file extension **\*.dbc** is saved in the current folder.

⇒ The name of the newly created configuration file appears in the header of the **Tree View** window (here: **HV AD CAN TBM Series\_01.dbc**).

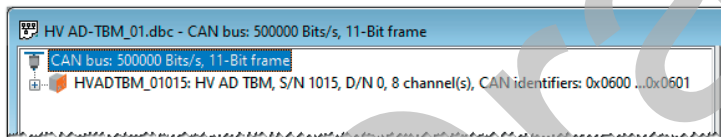


Fig. 5-41: New file name in header: **HV AD CAN TBM Series\_01.dbc**



## 6 Maintenance and Cleaning

### 6.1 Type label

The type label contains the following information:

①	HV AD4 XW20	Device type
②	TE12, R2P 8p, L0B 5p, CAN	Device details: <ul style="list-style-type: none"> <li>▶ TE12 - housing type: 19-inch slide-in unit, 12 HU (GER: TE) wide</li> <li>▶ R2P 8p - measurement input sockets: LEMO REDEL 2P, 8-pole</li> <li>▶ L0B 5p – CAN/power supply sockets: LEMO 0B, 5-pole</li> <li>▶ CAN - bus system</li> </ul>
③	ART1081200	Part number of the measurement module
④	Power: 6 - 30 V DC, typ. 1.8 W	Power supply range, typical power consumption
⑤	Temp.: -40 °C to +85 °C	Operating temperature range
⑥	Meas.: ±50 V – ±1 kV	Measurement range
⑦	S/N: 1-HVAB4	Serial number of the measurement module
⑧	Rating: IP65	Protection class
⑨	Revision: A021	Hardware revision number

Tab. 6-1: Type label

## 6.2 Maintenance services

Upon delivery, the following test documents are issued for HV AD CAN TBM series measurement modules:

Module version	Test documents
HV AD TBM 4LI+ HV AD TBM 8LI	<ul style="list-style-type: none"> <li>▶ Test certificate (HV isolation test)</li> <li>▶ Calibration certificate from the certified CSM calibration laboratory</li> </ul>
HV AD4 XW20	<ul style="list-style-type: none"> <li>▶ Test certificate (HV isolation test)</li> <li>▶ Calibration certificate</li> </ul>

Tab. 6-2: Test documents

This is documented by corresponding stickers attached to the right side of the device housing.

Next calibration date sticker	DKD calibration sticker <sup>1</sup>	HV isolation test sticker <sup>2</sup>

Tab. 6-3: Stickers

To ensure operational safety and functionality, regular maintenance of the measurement module is required. For this purpose CSM offers maintenance packages and a repair service.


- ▶ High-voltage isolation test (functionality testing included)
- ▶ Calibration test (functionality testing included)
- ▶ Repair service


NOTE!	
	<p>A high-voltage isolation test needs to be carried out on a regular basis to ensure operational safety.</p> <p>☞ Make sure that a high-voltage isolation test according to EN 61010-1:2010 is carried out at least every 12 months.</p>


<sup>1</sup> Only for DKD-calibrated measurement modules  
<sup>2</sup> Only for HV measurement modules



## 6.3 Cleaning instructions

WARNING!	
	<p>HV AD CAN TBM Series measurement modules are used in high-voltage applications.</p> <p><b>Improper use can be life-threatening due to high voltage.</b></p> <ul style="list-style-type: none"> <li>☞ Make sure that this work is only carried out by qualified and trained personnel.</li> <li>☞ Observe safety instructions.</li> </ul>

NOTE!	
	<ul style="list-style-type: none"> <li>☞ Disconnect the device before starting to work.</li> </ul>

NOTE!	
	<p>The housing's finish is sensitive to harsh detergents, solvents and abrasive media.</p> <ul style="list-style-type: none"> <li>☞ Never use harsh detergents or solvents for cleaning the device.</li> <li>☞ Use only a slightly moistened cloth.</li> </ul>

### Requirements

- ▶ All cable connections have been removed.

### Parts/material required

- ▶ soft cloth
- ▶ some mild detergent, if required

### Cleaning the device

- ☞ Clean the measurement module with a moist cloth. Add some mild detergent, if required.



## 7 Appendix

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