KLAY-INSTRUMENTS

INSTRUCTION MANUAL

DTM - HART
SERIES 2000 and 2000-SAN

FDT®GROUP
Affiliate Class 3 Member
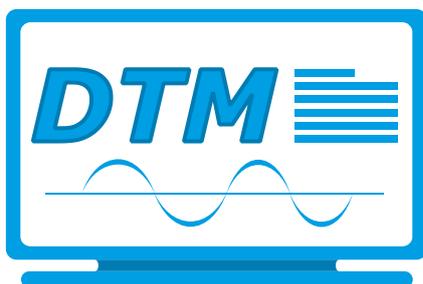
For optimal use read the recommendations and warnings in this manual, these instructions should be studied carefully.

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1. INTRODUCTION

This instruction manual is a guide for installing and using the intelligent pressure and level transmitter Series 2000 and 2000-SAN HART DTM. This DTM is developed to make configuration changes of the Series 2000 HART transmitters easy. This DTM can be used with almost every FDT-container. The DTM can also be used to change the configuration of the submersible level transmitter: Hydrobar-I-Cable.

2. INSTALLATION

To install the Klay DTM Klay Series 2000 on your system, you have to download the installation file.
This file can be downloaded from the Klay Instruments website: www.klay.nl under section downloads.

To start the installation always extract ***Klay Series 2000 HART_1.0.1.zip***.
Select ***Klay Series 2000 HART.exe*** * (You must have administrator rights, do not use the .msi file)

Minimal software requirements: Windows 7 (32 or 64 bit) or higher, for older versions please contact Klay Instruments.

2.1 .net Framework 3.5

The Klay DTM requires .NET Framework 3.5 from Microsoft.
If the framework is already installed the setup will continue.

When the framework is not installed the following message appear:

 Windows 7 users can download the .NET Framework package from
the following location: https://www.microsoft.com/nl-nl/download/details.aspx?id=21

 Windows 10 and 8 users can enable the .NET Framework by selecting
the start menu and type windows features in the search box. The following window appears and the .NET Framework 3.5 can be enabled.
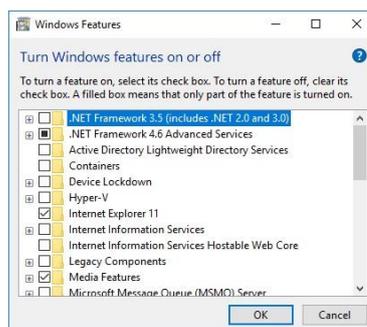
3   DTM

The following pages describes the DTM configuration.

3.1   DEVICE DATA (STATIC)

This menu shows data about the transmitter. This data is read-only and cannot be changed. The data contains information about: The manufacturer, type of transmitter, serial number, revision and others.
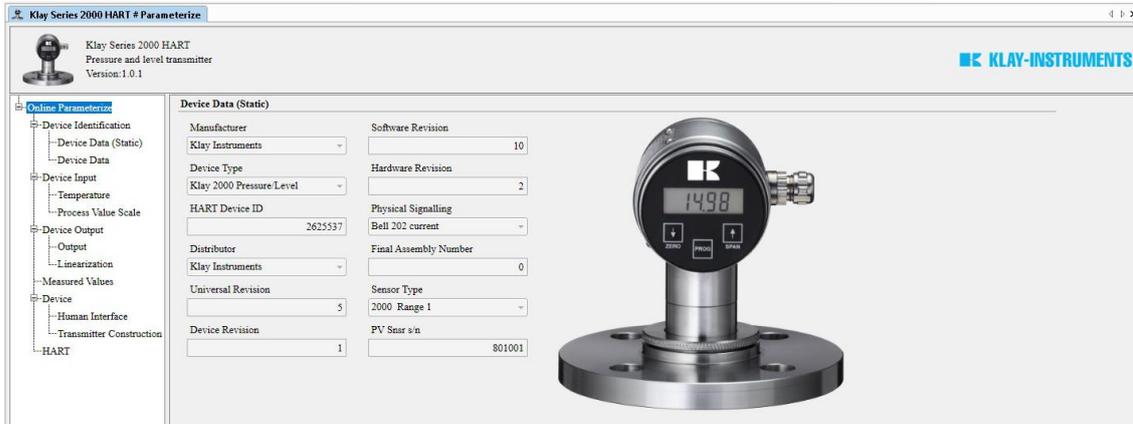
3.2   DEVICE DATA

This menu contains data like TAG, Descriptor, message and date. This data can be changed.
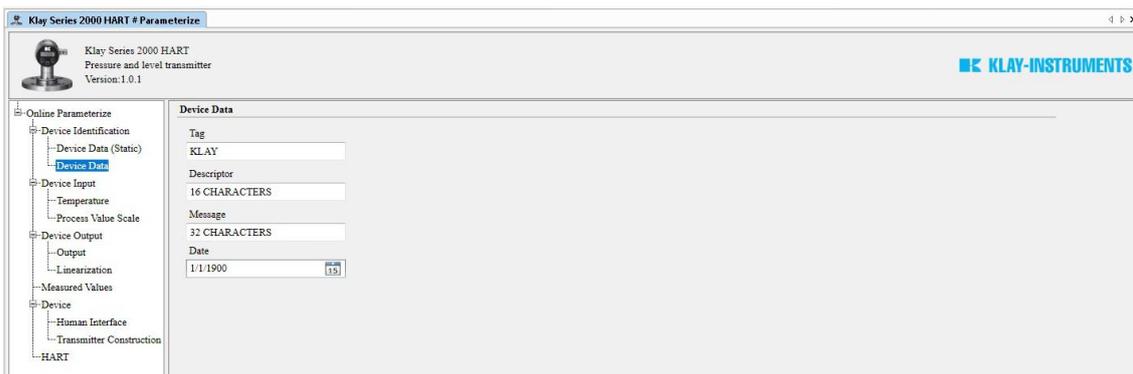
3.3   DEVICE INPUT: TEMPERATURE

In this menu it is possible to change the unit of measured temperatures. It also shows the measured sensor and ambient temperatures. These values are refreshed every 10 seconds.
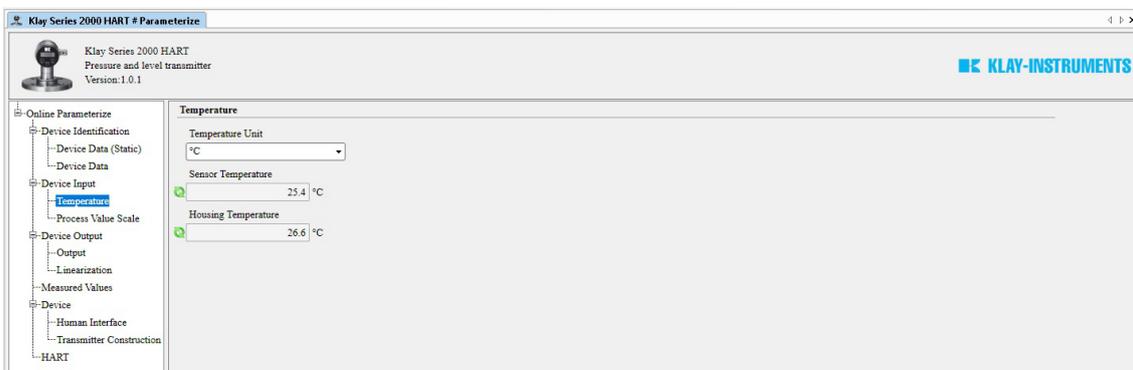
3.4   PROCESS VALUE SCALE

This menu can be used to change the measuring range without test pressure. The maximum and minimum values of measuring range and the sensor limits are shown. The actual range is adjustable with the Lower Range Value (**PV LRV**) and Upper Range Value (**PV URV**). The Sensor value is refreshed every 10 seconds. The engineering unit can be changed with **PV Snsr Unit**.

With the buttons **Adjust Zero (4 mA)** and **Adjust Span (20 mA)**, the Zero and Span can be adjusted Without test pressure. After pressing one of these buttons, follow the displayed instructions. With the buttons **Set Mounting Position Correction** and **Reset Mounting Position Correction** the mounting position can be corrected or reset to factory setting, follow the displayed instructions.
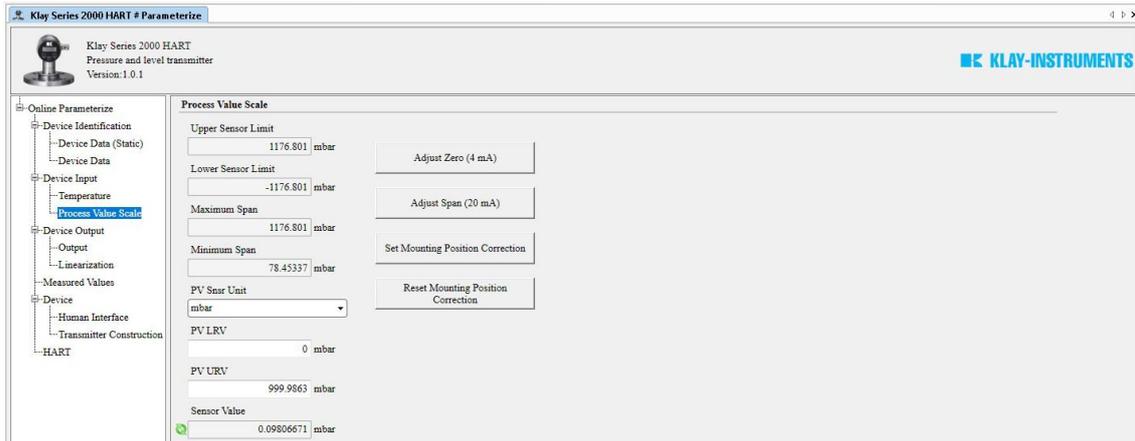
3.5   DEVICE OUTPUT: OUTPUT

In this menu the damping of the output and the mA output (4-20 mA or 20-4 mA) can be configured. If necessary the output can be trimmed with the button **D/A Trim**.
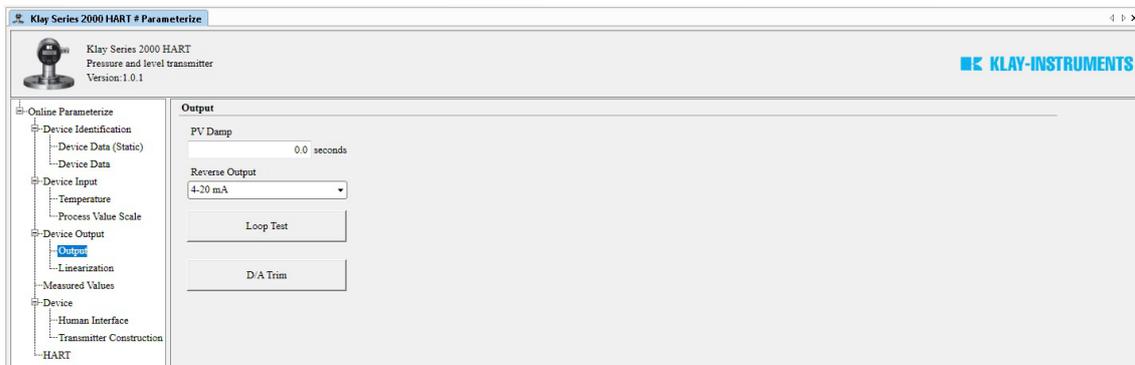
3.6   DEVICE OUTPUT: LINEARIZATION

In this menu it is possible to configure a linearization. Four options are available: **Normal 4-20 mA**, **Cylindrical tank**, **V. Tank (cone)** and **V. Tank (Sphere)**. For each option specific parameters will be asked to fill in. Also the density of medium can be configured.
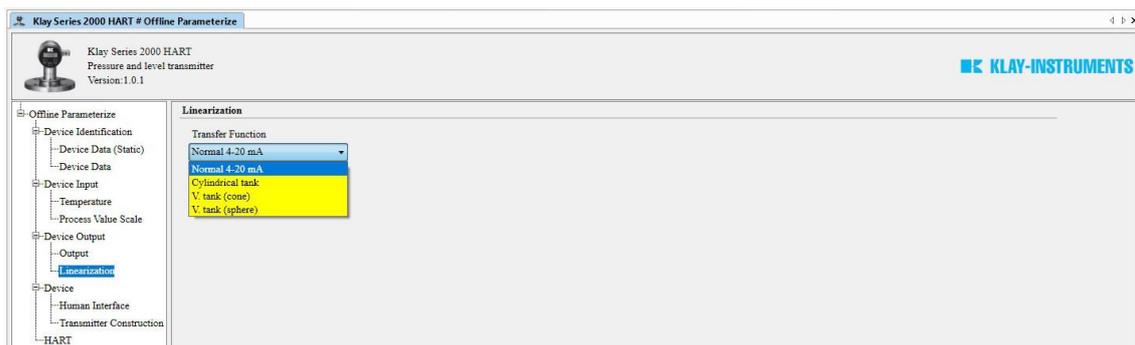
3.7   MEASURED VALUE

In this menu the actual readings are displayed. The actual readings are refreshed every 10 seconds.
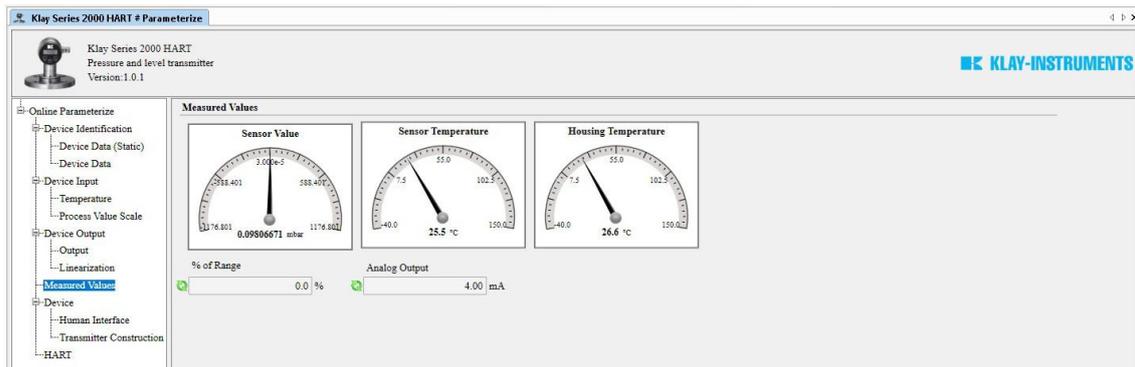
3.8   DEVICE: HUMAN INTERFACE

In this menu the output on the display of the transmitter can be configured. The following options are possible for the display readout: 4-20 mA, Units, Percent, Process temperature, Hectoliter and Cubic liter. Hectoliter and Cubic liter are only available when linearization is enabled. The transmitter can be protected against configuration of parameters using HART communication (**Write protection**) or local configuration (**Local write protect**). Both protections can be configured separately.
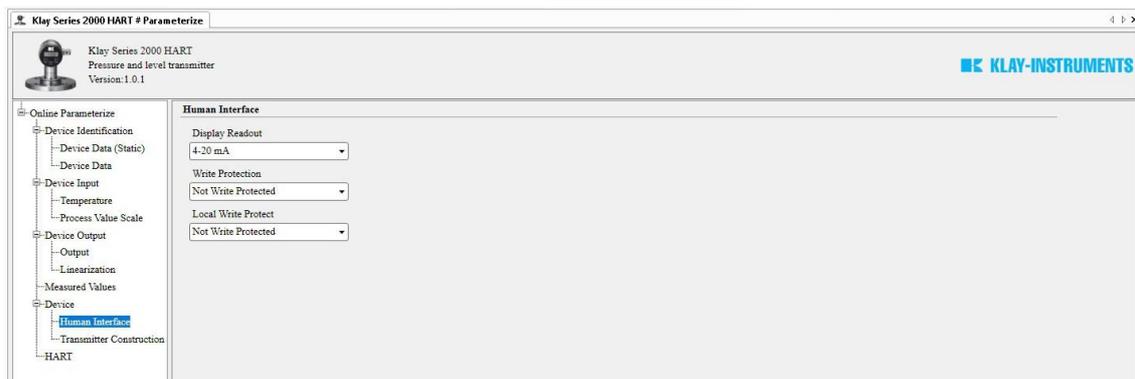
3.9   TRANSMITTER CONSTRUCTION

This menu shows additional construction information of the transmitter.
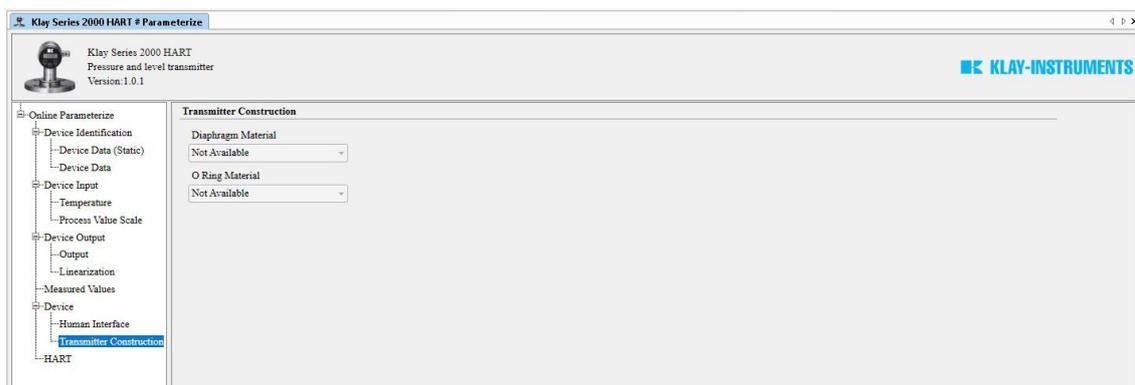
3.10   HART

This menu contains HART related data.