USER MANUAL

TrueDyne RemoteControl 2020
Liquid Density Sensor DML02

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1 Requirements

- DML02 Liquid Density Sensor
- USB-RS485 cable incl. 4-pin M8 plug
- Laptop or PC with USB connection

2 Initial Sensor Setup

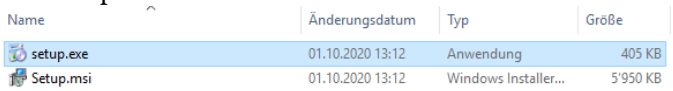
- Connect the 4-pin M8 plug to the sensor connection.
- Connect the USB plug to the COM-Port of your choice.

3 Software Setup

- TrueDyne RemoteControl 2020 can be provided in two different ways:
  1. As an executable installation file
  2. As a .zip directory
- Please be advised that a clean installation using our setup.exe is advised. This is due to the fact that the setup.exe creates a registry entry for our software.
- If this option is not feasible the .zip directory provides an alternative solution.

3.1 Installation via setup.exe

- Run setup.exe as administrator.



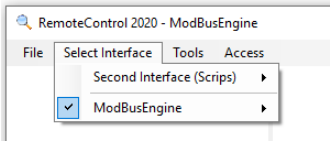
- Follow the installation instructions.
- After the setup is completed there are multiple ways to access TrueDyne RemoteControl:
  - Using the desktop-shortcut
  - Searching for “TDS RemoteControl” in the start menu
  - Run “RemoteControl.exe” in the chosen installation directory.

3.2 Using the .zip directory

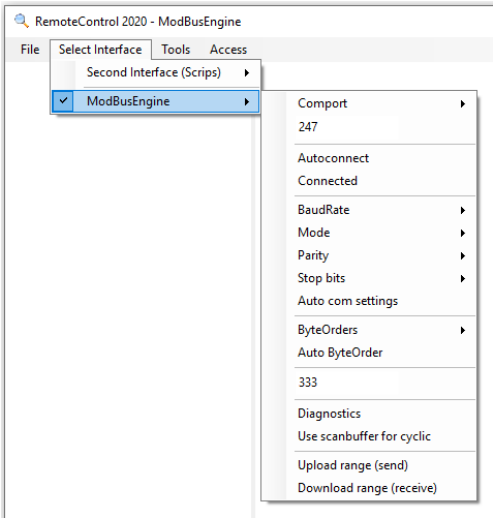
- Unpack the .zip file to the directory of your choice.
- Run “RemoteControl.exe” in the chosen installation directory.

4 Software Configuration

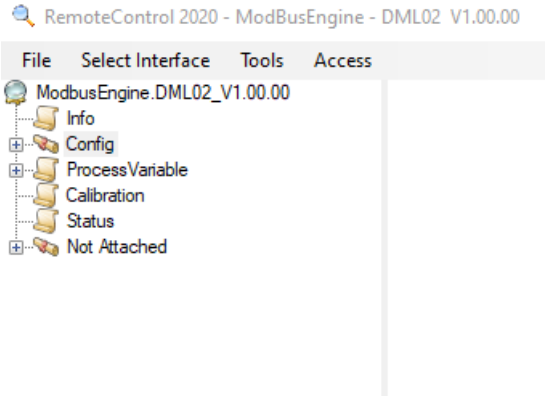
- Once TDS RemoteControl is started, using one of the two options provided above, the ModBusEngine should be selected automatically.
  - This can be verified by the checkbox next to the according engine.
  - If ModBusEngine is not selected by default you can do so by clicking on the according engine.



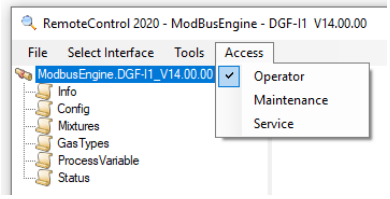
- Before connecting to the sensor the following parameters have to be set:
  - Comport: Pick the COM-Port selected in step 2
  - SlaveID: 247
  - BaudRate: 19200
  - Mode: RTU
  - Parity: Even
  - Stop bits: One
  - ByteOrders:
    - Integer: 1-0-3-2
    - String: 1-0
    - Float: 1-0-3-2



- Once the above parameters have been set you can connect to the sensor by clicking “Connected”.
- If the communication has been established successfully the following ModBus registers will be visible:



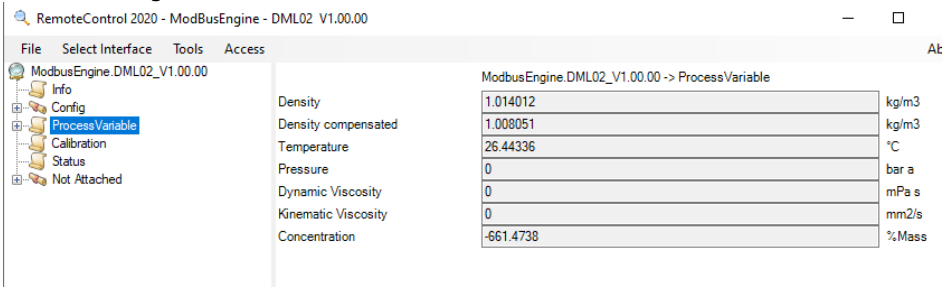
- To prevent locked sensor parameters from being shown as “Unable to determine” please select “Operator” under the “Access” menu tab:



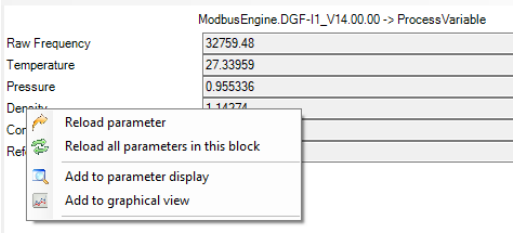
5 Process Variables and Logging

5.1 Measured variables

- Select the ModBus register “ProcessVariable”
- The following variables should now be visible:

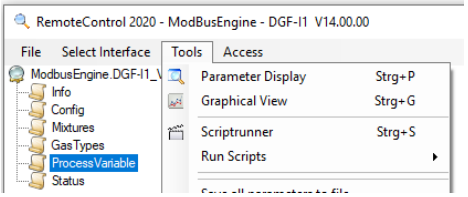


- Refresh the shown values to the most recent measurements by simply right-clicking on any of the shown variables (e.g. “Density”). This provides the option to either reload the selected parameter or reload all parameters that are displayed in this block.

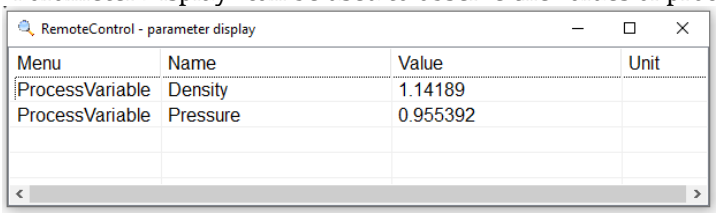


5.2 Logging

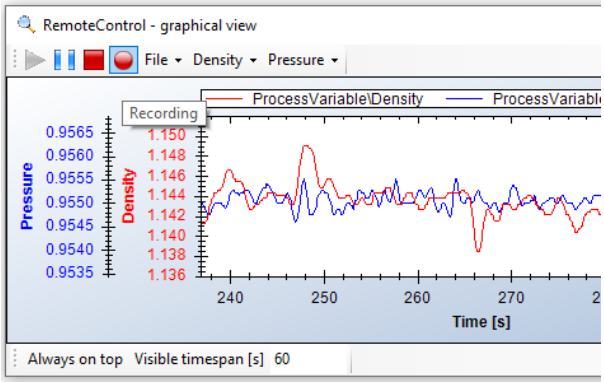
- Following the same steps described in 5.1 you can also choose parameters to be displayed in the “Graphical View” and or “Parameter Display”.
- Once the relevant process variables have been added both tools can be started under the menu tab “Tools” or by using their respective shortcuts:
  - Parameter Display: Ctrl+P
  - Graphical View: Ctrl+G



- “Parameter Display” can be used to observe the values of process variables in real time.



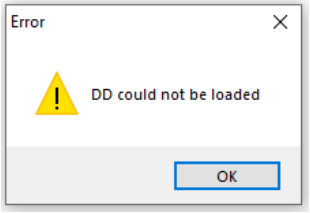
- "Graphical Display" can be used to both display the process variables in an easily customizable graphical view while also providing the logging function.
  - Start the logging function by clicking on the "Recording" button.



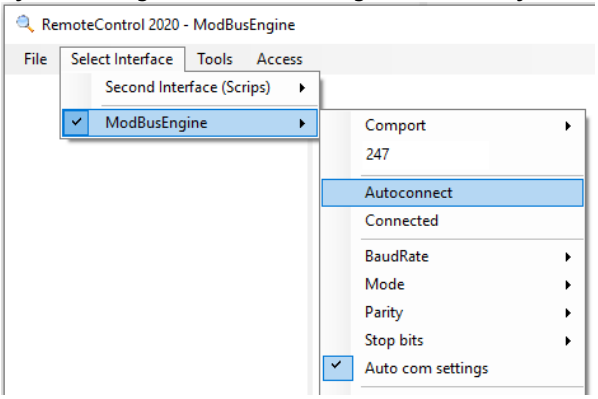
  - Choose a file name and the directory in which you want to create the log-file followed by a click on the "Save" button.
  - To ensure that the logging function is working properly make sure that both the "Recording" and the "Start scrolling" functions are enabled.
  - Do not close the graphical view while you are recording.

6 FAQs

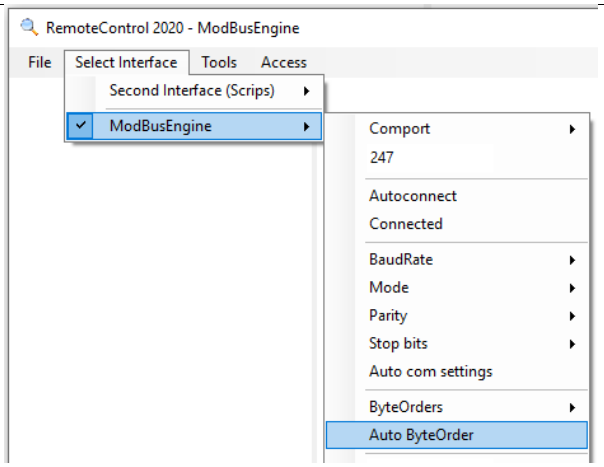
- **Q:** While trying to connect to the sensor the "DD could not be loaded" error prompt is shown.
  A: This error appears mostly due to a wrong "StringByteOrder" setting. Please make sure it is set to "1-0". DD stands for DeviceDescription.



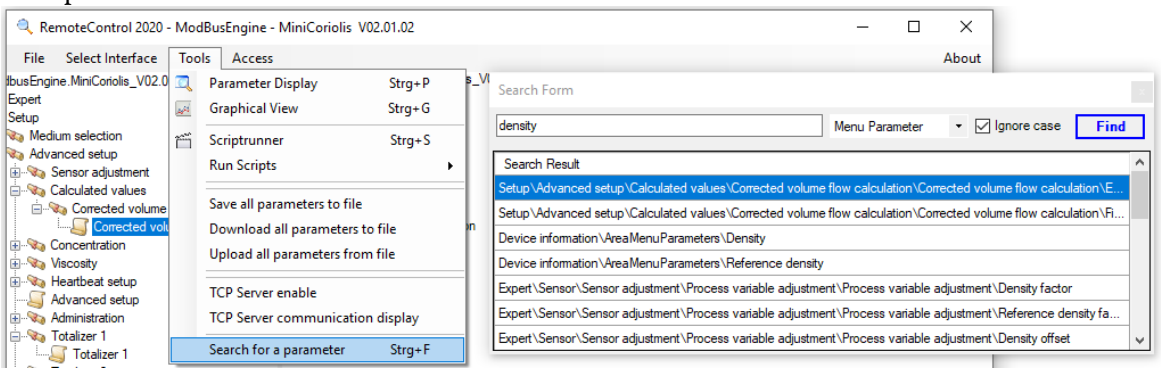
- **Q:** All com-settings have been set accoring to this instruction, but a connection to the sensor cannot be established.
  A: Since the com-settings on the sensor can be changed manually it is possible that they are not congruent to the settings specified in step 4. If the current settings are unknown please try connecting by activating "Auto com settings" followed by the "Autoconnect" option, as shown below.



- **Q:** The connection has been established successfully, but the shown values appear to be unrealisitc or false.
  A: If false ByteOrder settings have been set the sensor will display incorrect values. Please active "Auto ByteOrder" before reconnecting to the sensor.



- **Q:** I am looking for a specific parameter, but can't find it / don't know where to look.
  A: By using the tool "Search for a parameter" (Ctrl+F) the Search Form can be accessed. Simply enter the term you are looking for and press find to receive an overview of all registers containing the sought after parameter.



7 Applicable Documents

- General Terms and Condition for the delivery of goods and services of Endress+Hauser companies in Switzerland.
  https://www.truedyne.com/home/gtc/?lang=en
- Density Sensor DML Data sheet – Technical description and installation instructions.
  - DLO-M2:
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