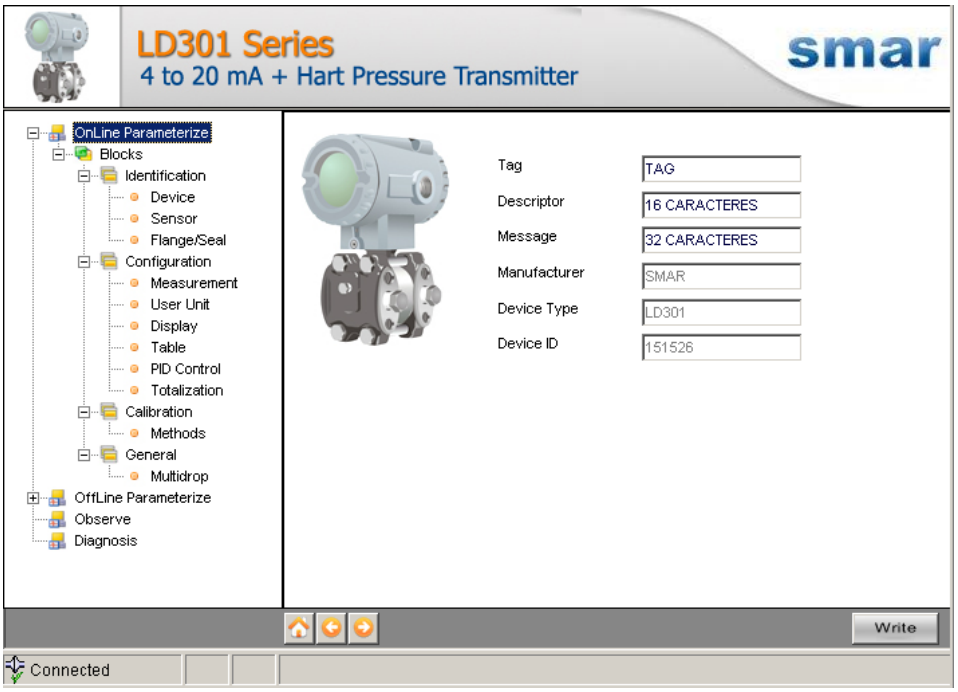
smar - LD301DTM

USER'S MANUAL

LD301DTM - Device Type Manager



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LD301DTM

LD301DTMME

smar

www.smar.com

Specifications and information are subject to change without notice.
Up-to-date address information is available on our website.

web: www.smar.com/contactus.asp

INTRODUCTION

LD301DTM is from the family of Smar's DTMs HART. With LD301DTM is possible to have access to many functionalities of LD301 transmitter:

- ✓ Transmitter Identification and Manufacturing Data;
- ✓ Primary Variable Trim – Pressure;
- ✓ Primary Variable Trim – Current;
- ✓ Transmitter Adjustment to the Working Range;
- ✓ Engineering Unit Selection;
- ✓ Transference Function for Flow Rates Measurement;
- ✓ Linearization Table;
- ✓ Totalizer Configuration;
- ✓ PID Controller Configuration and MV% Characterization Table;
- ✓ Device Configuration;
- ✓ Equipment Maintenance.

For further details about topics above, refer to the LD301 manual.

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LD301DTM

Pre - Requirements

The user needs to be familiar with the use of frame application FDT (Field Device Tool).

Installation

To do the LD301DTM Installation and all Smar's DTMs, run **setup.exe** from CD "**Smar Device Library**". After ending the CD-ROM installation, get into DTMs catalog from frame application to update DTMs list.

The download of installation package of Smar's DTMs can be done at http://www.smar.com/support.asp. The user has to do a login at site.

LD301DTM could be integrated in all frame applications that comply with the version 1.2 of the FDT/DTM standard.

Topology

After LD301DTM is installed and included at DTMs frame application catalog, a DTMs topology must be mounted (representing the devices physical topology).

On top must be inserted the communication DTM (responsible for communication between the computer and the first element from physical topology). The LD301DTM is the last element of topology (represents the LD301).

In some cases, is necessary a DTM gateway type (responsible for communication protocol conversion). The LD301DTM could be used with Communication DTM and Gateway DTM from other manufacturers, if they comply with FDT 1.2 standard.

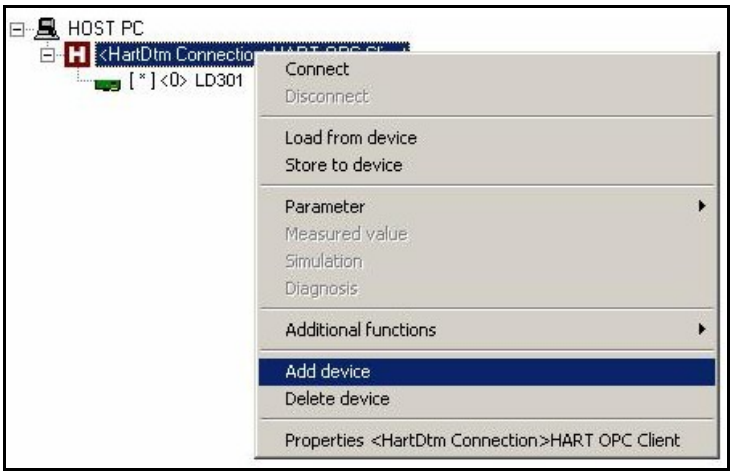

Figure 1 – "Add Device" Screen

Before changing LD301DTM to online, verify in the topology, if the address set in LD301DTM is the same of the LD301 device address. If it is not, change to the correct address through the communication DTM.

While the LD301DTM is offline (not connected), only the option **Offline Parameterize** will be enabled. After connected, will be possible to have online access to many functionalities of LD301:

- Online Parameterize
- Observe
- Diagnosis

Layout

The DTMs from Smar follow a standard layout. The parameters are distributed in many screens according to its functionality. The screens can be accessed by clicking the DTM options. Every time you click an option, all the screen parameters relative to the selected option will be read from the device.

Each DTM screen with parameters that can be written has a **Write** button. When any parameter is modified, the relative field will change its color. After writing, the DTM realizes the reading of the changed parameters and updates the screen.

In the figure below, the LD301DTM Online Parameterization navigation tree can be seen. The other options also appear.

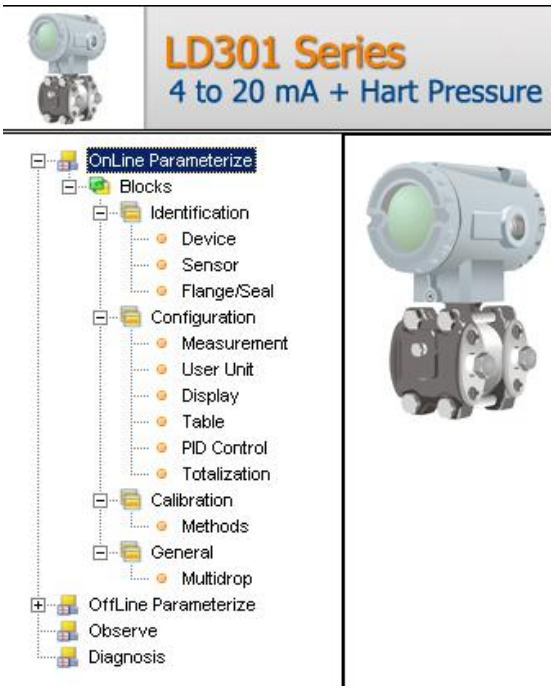

Figure 2 – LD301DTM navigation tree

In the window's bottom part the user has access to navigation buttons . They allow go to home page, back to previous page or go to next page, respectively.

The communication status can be verified - connected or disconnected:

LD301 Version

In case LD301's version is previous than 6.01, possibly some parameter is not implemented and when attempting to write at this parameter, the following message will appear: "Command is not supported by the device".

Communication

LD301DTM sends the #0 command at each 4 seconds and in case LD301 does not answer after 2 tries, the following message will appear:

*"*Communication error detected. No response from device*."* In this case, verify if any connection is broken or if the device is off.

Is not possible read / write any parameter in case the connected equipment is not LD301, not even the Universal Commands and Common Practice of HART protocol.

Response Code

When some writing or reading fail occurs, the LD301DTM displays a message coming from Response Code sent by LD301.

LD301DTM Functions

Below we have a brief description about each LD301DTM function.

1. **Online Parameterize** – This function is used to make the LD301 online parameterization, is enabled when the LD301DTM is online. The user access level for this function is "Operator" (read only) and "Maintenance" (complete access).

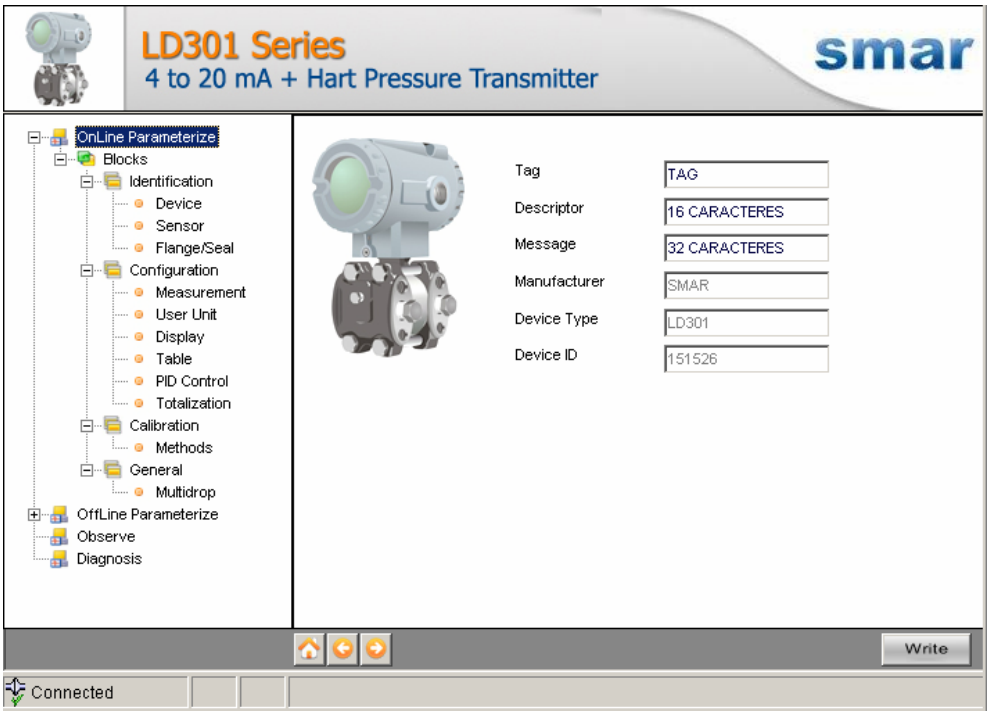

Figure 3 – LD301DTM "Online Parameterize" Screen

2. **Offline Parameterize** - This function is used to make the LD301 offline parameterization, the parameter values configured in this function can be written in LD301 through the **Download** function. The user access level for this function is "Maintenance".

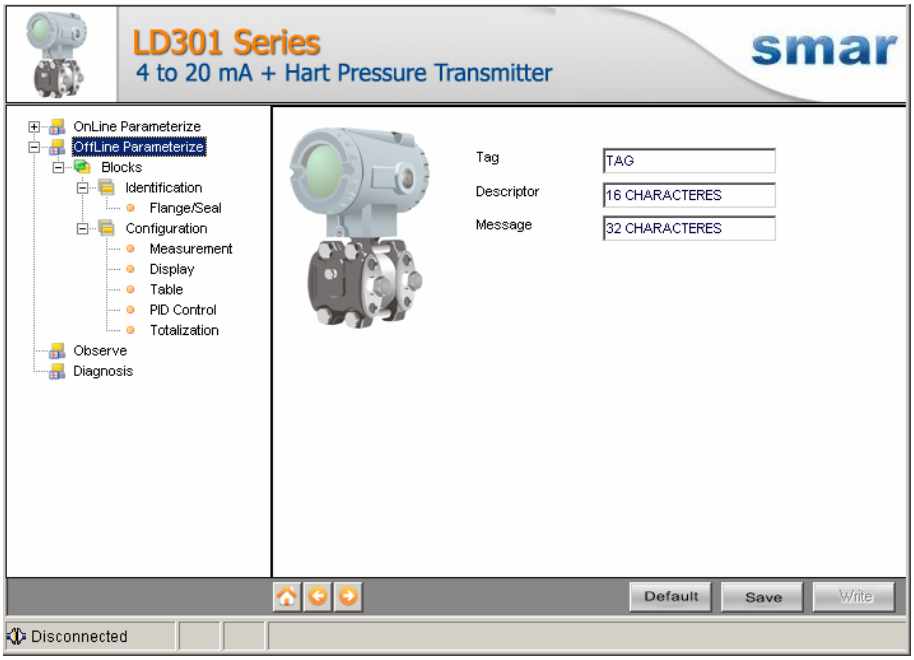

Figure 4 – LD301DTM "Offline Parameterize" Screen

3. **Observe** – Through this function is possible to monitor the LD301 process variables: Out (mA), Out (%), PV (%), PV (mmH_2O).

   The user chooses four variables to monitor and also has access to the variables monitoring used in the transmitter calibration. This function is enabled when the LD301DTM is online. The user access level for this function is "Operator".

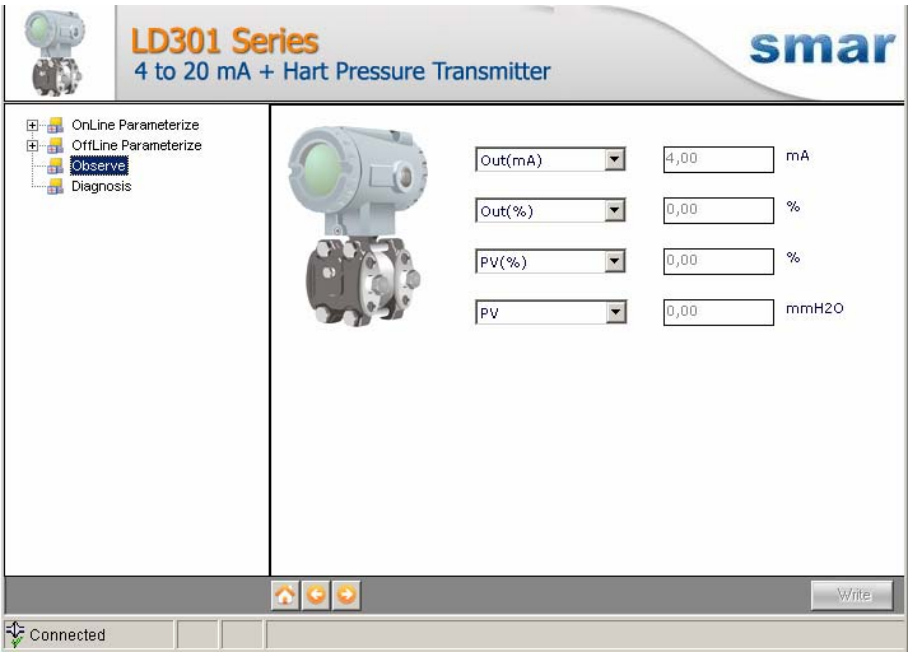

Figure 5 – LD301DTM "Observe" Screen

4. **Diagnosis** – Through this function the user has access to the LD301 diagnostic parameters. This function is enabled when the LD301DTM is online. The user access level for this function is "Operator".

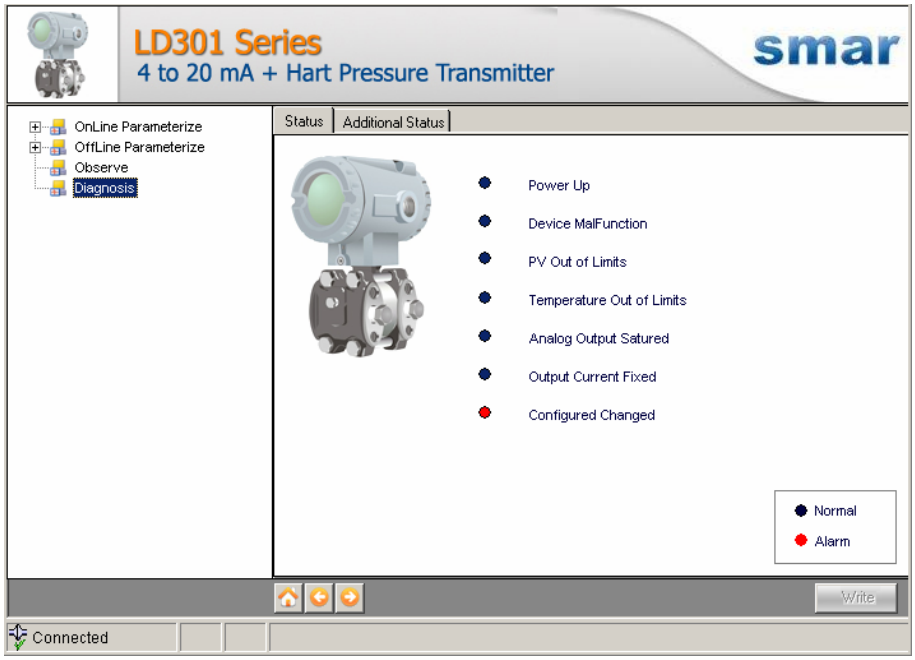

Figure 6 – LD301DTM "Diagnosis" Screen

5. **Upload** - This function reads the LD301 parameters and updates the LD301DTM database with the recent values. This function is enabled when the LD301DTM is online. The user access level for this function is "Maintenance".

6. **Download** - This function writes the parameters configured in the LD301 **Offline Parameterize** function. This function is enabled when the LD301DTM is online. The user access level for this function is "Maintenance".