

LD291DTM

smar

JAN / 09
LD291DTM

LD291DTM - Device Type Manager

LD291 Series
4 to 20 mA + Hart Pressure Transmitter

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- OnLine Parameterize
 - Blocks
 - Identification
 - Device
 - Sensor
 - Flange/Seal
 - Configuration
 - Measurement
 - User Unit
 - Display
 - Table
 - Calibration
 - Methods
 - General
 - Multidrop
 - OffLine Parameterize
 - Observe
 - Diagnosis

Manufacturer	<input type="text" value="SMAR"/>
Device Type	<input type="text" value="LD291"/>
Device ID	<input type="text" value="18891"/>
Tag	<input type="text" value="LD291"/>
Descriptor	<input type="text" value="16 CARACTERES"/>
Message	<input type="text" value="32 CARACTERES"/>

Write

Connected



L D 2 9 1 D T M M E



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

LD291DTM is from the family of Smar's HART DTMs. With LD291DTM is possible to have access to many functionalities of LD291 transmitters:

- ✓ Transmitter Identification and Manufacturing Data;
- ✓ Pressure Trim ;
- ✓ Current Trim ;
- ✓ Transmitter Adjustment to the Working Range;
- ✓ Engineering Unit Selection;
- ✓ Transference Function for Flow Rates Measurement;
- ✓ Linearization Table;
- ✓ Device Configuration;
- ✓ Equipment Maintenance.

For further details about the topics above, refer to the LD291 manual.

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LD291DTM

Pre - Requirements

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

Installation

To do the LD291DTM installation and all Smar’s DTMs, run the file **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.

LD291DTM could be integrated in all frame applications that comply with the version 1.2 of the FDT/DTM standard.

Topology

After LD291DTM 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 LD291DTM is the last element of topology (represents the LD291).

In some cases, is necessary a DTM gateway type (responsible for communication protocol conversion). The LD291DTM could be used with Communication DTM and Gateway DTM from other manufacturers, if they comply with FDT 1.2 standard.

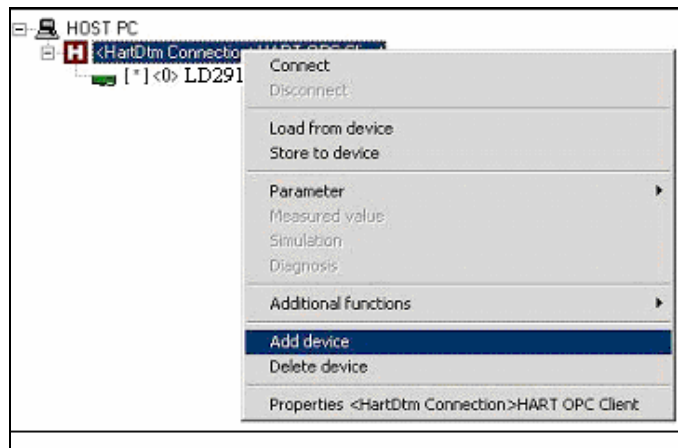


Figure 1 – Add Device Screen

Before changing LD291DTM to online, verify in the topology, if the address set in LD291DTM is the same of the LD291 device address. If it is not, change to the correct address through the communication DTM.

While the LD291DTM 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 LD291:

- Online Parameterize
- Observe
- Diagnosis

Layout

The Smar's DTM's 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 an **Write** button. When any parameter is modified, the related 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 LD291DTM Online Parameterization navigation tree can be seen. The other options also appear.

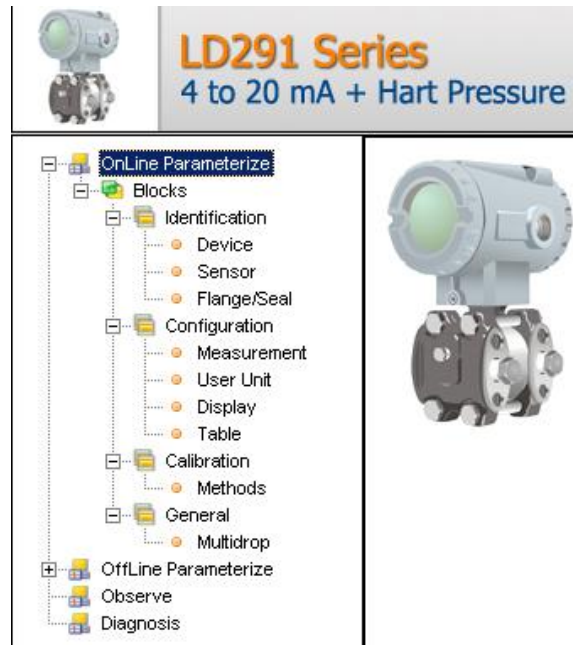



Figure 2 – LD291DTM navigation tree

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:



LD291 Version

In case LD291's version is previous than version 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

LD291DTM sends the #0 command at each 4 seconds and in case LD291 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 to read / write any parameter in case the connected device is not LD291, not even the Universal Commands and Common Practice of HART protocol.

Response Code

When some writing or reading failure occurs, the LD291DTM displays a message coming from Response Code sent by LD291.

LD291DTM Functions

Below we have a brief description about each LD291DTM function.

1. **Online Parameterize** – This function is used to do the LD291 online parameterization, it is enabled when the LD291DTM is online. The user access level for this function is “Operator” (read only) and “Maintenance” (complete access).

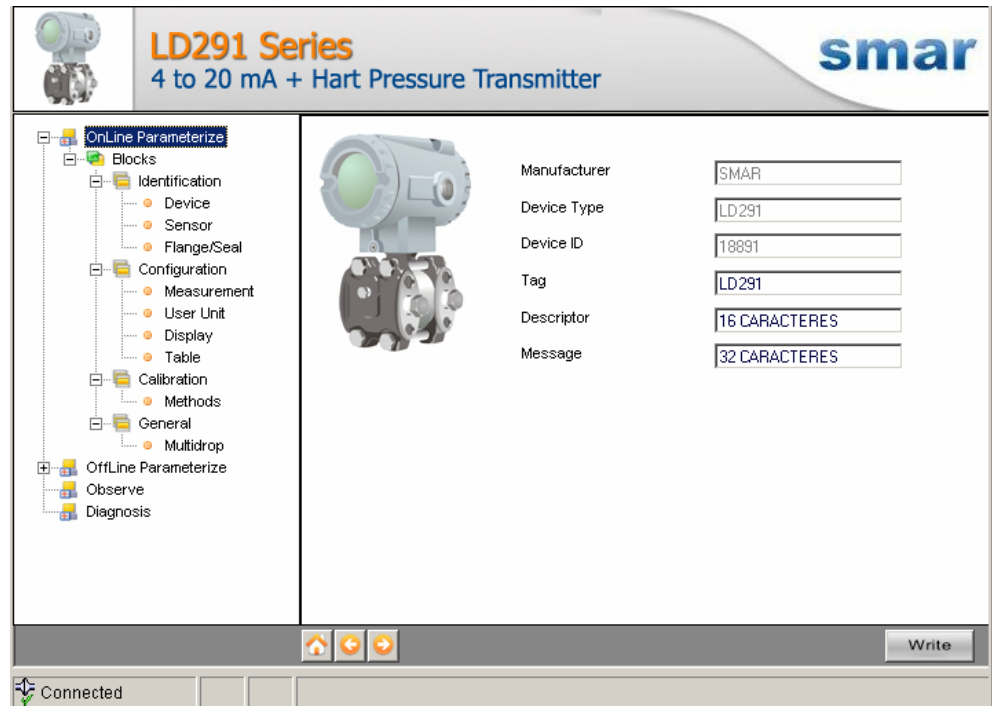


Figure 3 – LD291DTM Online Parameterize Screen

2. **Offline Parameterize** - This function is used to do the LD291 offline parameterization, the parameter values configured in this function can be written in LD291 through the **Download** function. The user access level for this function is “Maintenance”.

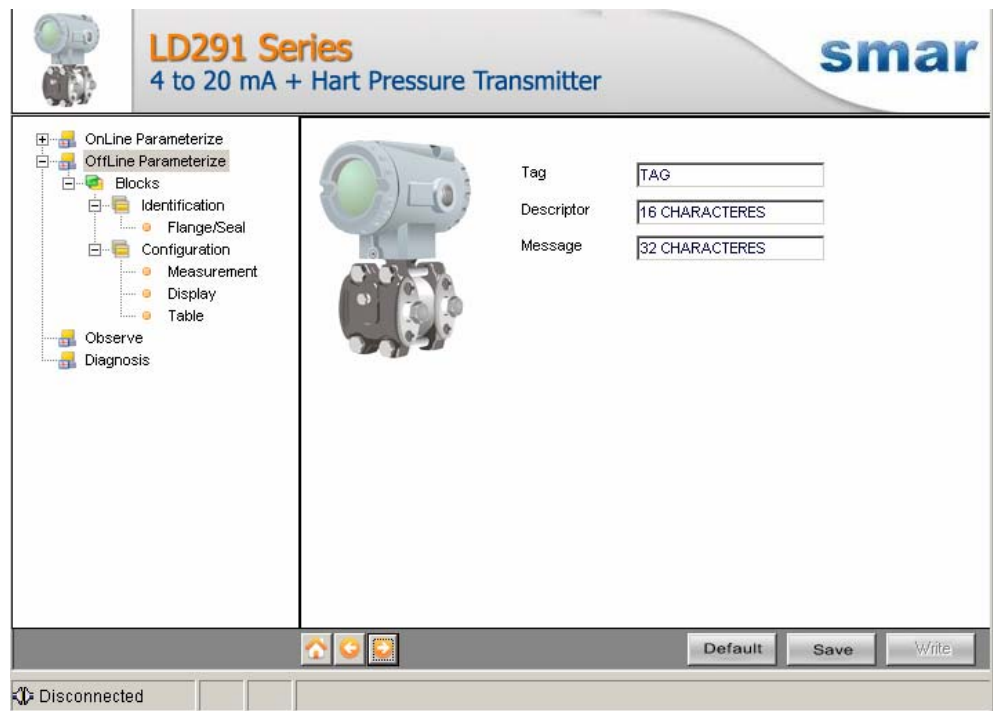


Figure 4 – LD291DTM Offline Parameterize Screen

3. **Observe** – Through this function is possible monitoring the LD291 process variables: Out (mA), Out (%), PV (%), PV (mmH₂O).

The user chooses four variables for monitoring and also has access to the variables monitoring used in the transmitter calibration. This function is enabled when the LD291DTM is online. The user access level for this function is “Operator”.

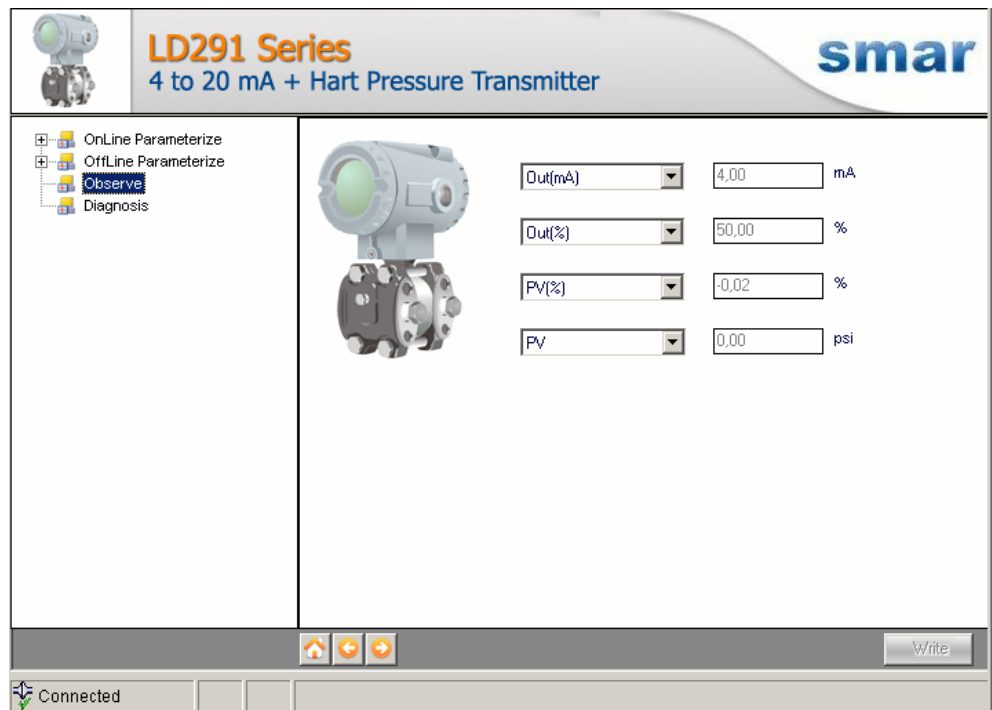


Figure 5 – LD291DTM Observe Screen

4. **Diagnosis** – Through this function the user has access to the LD291 diagnostic parameters. This function is enabled when the LD291DTM is online. The user access level for this function is “Operator”.

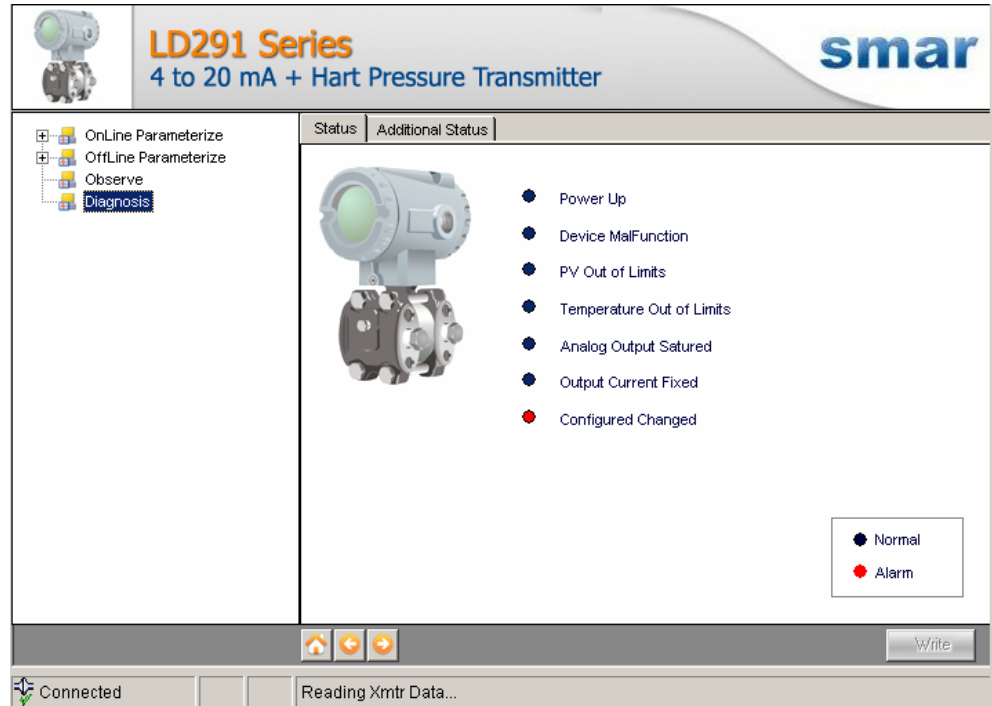


Figure 6 – LD291DTM Diagnosis Screen

5. **Upload** - This function reads the LD291 parameters and updates the LD291DTM database with the recent values. This function is enabled when the LD291DTM is online. The user access level for this function is “Maintenance”.
6. **Download** - This function writes the parameters configured in the LD291 “Offline Parameterize” function. This function is enabled when the LD291DTM is online. The user access level for this function is “Maintenance”.

