



XNX™ Universal Transmitter HART

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1 Introduction

The purpose of this document is to support the plant operators with commissioning, operation, configuration and diagnosis of the XNXTM Universal Transmitter HART. The XNX is a universal gas analyser transmitter utilizing the full range of toxic and flammable gas sensing technologies - including catalytic bead, electrochemical and infrared. It supports the widest range of sensors on a common platform and offers a modular choice of inputs and outputs (saving customers time and money).

The XNX HART device can be configured and operated by a DTM (Device Type Manager) that provides an easy to use user interface for accessing device variables, configuration parameters and diagnosis information.

The XNX HART Device Type Manager offers the combination of FDT and EDDL technologies and a uniform user interface according to the FDT style guide. It is a full-featured device DTM that carries the standard EDD-Interpreter components to execute the EDD during runtime. Because it is using existing device descriptions, plant operators will experience a familiar operating concept in the DTM.

WARNING

For safety reasons this equipment must be operated by qualified personnel only. Read and understand the instruction manual completely before operating or servicing the equipment. For information regarding the XNX device, please check the XNX Device Technical Manual

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2 Software installation

2.1 Required software / software components

In order to be able to use the XNX HART DTM and to go online with the device you need the following components:

- FDT Frame application (PACTware or some other FDT application supporting FDT 1.2.x)
- HART Communication DTM (it represents the communication hardware needed for connecting the field devices to the automation software): There is a free version of HART Communication DTM available for download from CodeWrights website (www.codewrights.de)
- Honeywell Analytics HART DTM Library
- Microsoft .NET Framework (.NET 2.0)
- HART modem (RS232 or USB interfaces of the companies Endress+Hauser, Microflex or MACTek)

2.2 Downloads

2.2.1 PACTware and .NET 2.0

- Go to <http://www.pactware.com>, select English language
- Select Download
- Select PACTware
- Select Download Pepperl+Fuchs GmbH
- Under Products/Software/PACTware/View all products in group:
 - download PACTware 4.X
 - download .NET 2.0
- Under Products/Software/Software tools:
 - download Microsoft.NET

2.2.2 HART Communication DTM

- Go to <http://www.codewrights.de/>
- Select Downloads
- Select Software
- Select Download on HART Communication DTM Version 1.0.52 (or above)

2.2.3 Honeywell Analytics HART DTM Library

- This link has the DTM setup (example file name: Honeywell Analytics HART DTM Library V2.4.6.58.zip)
- Go to the HPS link : <http://www.honeywellanalytics.com/en/products/XNX-Universal-Transmitter>
- Please go to your XNX product
Note: This gets updated as new DTMs are added.

2.3 System requirements

2.3.1 System resources

Proper execution of the DTMs requires a standard PC with at least following system resources:

- x86 32-bit or x64 64-bit processor with at least 1 GHz
- Main memory (RAM) at least 512 MBytes
- Screen Resolution at least 1024x768 pixels

2.3.2 Operating systems

The DTM will run under the following operating systems:

- Windows XP SP3
- Windows 7 - 32 and 64 bit

2.3.3 Hard disk space












The Honeywell Analytics DTM Library HART requires approx. 50 MB hard disk space.

2.4 Installing DTM setup

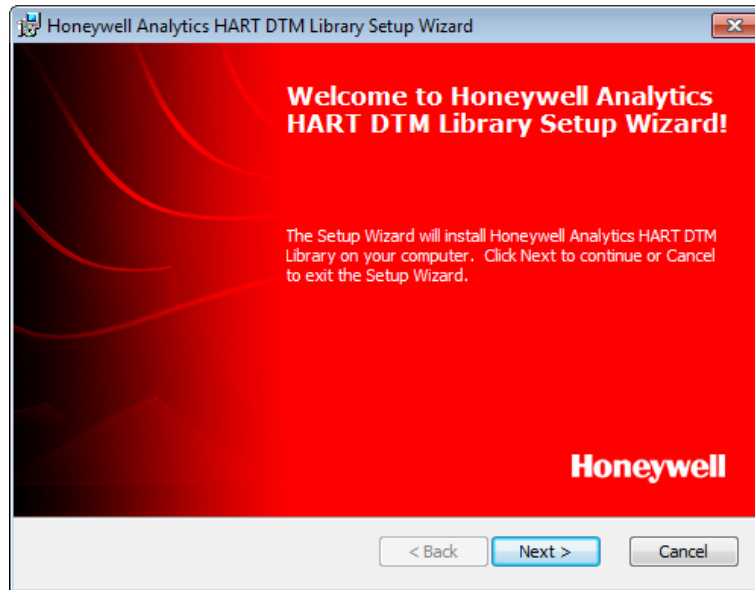
Please install first the Frame Application PACTware (see §2.2.1) and HART Communication DTM (see §2.2.2).

Install Honeywell Analytics HART DTM Library (see §2.2.3) as follows:

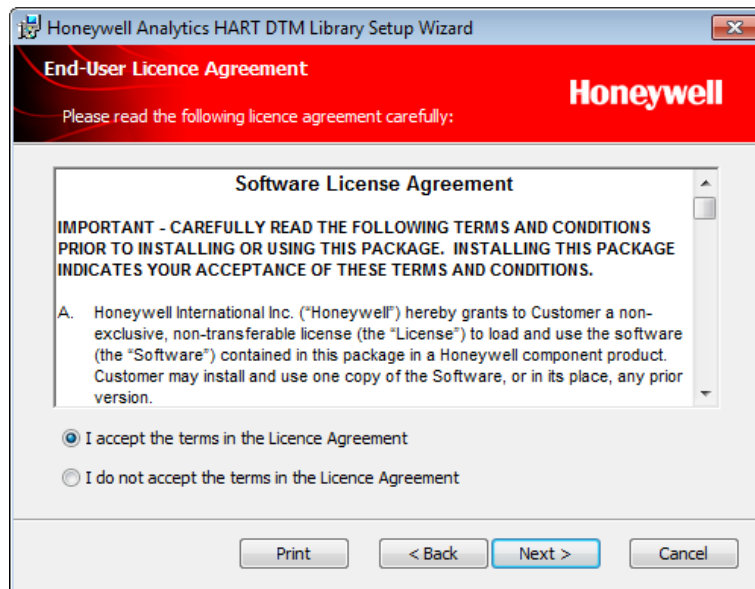
1. Execute the setup by double-clicking “Setup.exe” on the right-hand side: Extract the installation package to your local disk. Structure and files similar to the following example shall appear:

	0009_l.mst	16.05.2014 13:29	MST File	658 KB
	Disk1.cab	16.05.2014 13:29	Cabinet File	28 KB
	Disk2.cab	16.05.2014 13:30	Cabinet File	5.119 KB
	Disk3.cab	16.05.2014 13:30	Cabinet File	4.415 KB
	Disk4.cab	16.05.2014 13:30	Cabinet File	1.827 KB
	Disk5.cab	16.05.2014 13:30	Cabinet File	1.513 KB
	Disk6.cab	16.05.2014 13:30	Cabinet File	72 KB
	Disk7.cab	16.05.2014 13:30	Cabinet File	2.846 KB
	Disk8.cab	16.05.2014 13:30	Cabinet File	440 KB
	Setup.exe	16.05.2014 13:30	Application	212 KB
	Setup.msi	16.05.2014 13:30	Windows Installer Package	888 KB

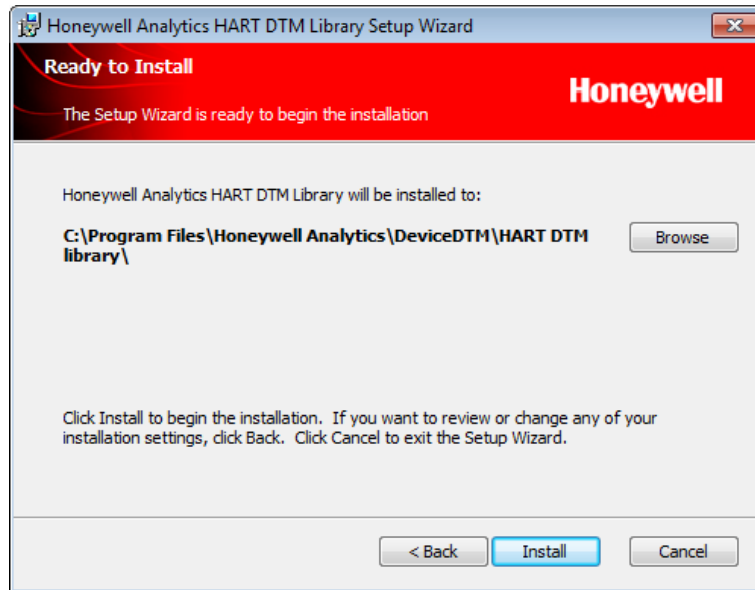
2. On the Welcome Screen, click “Next“:



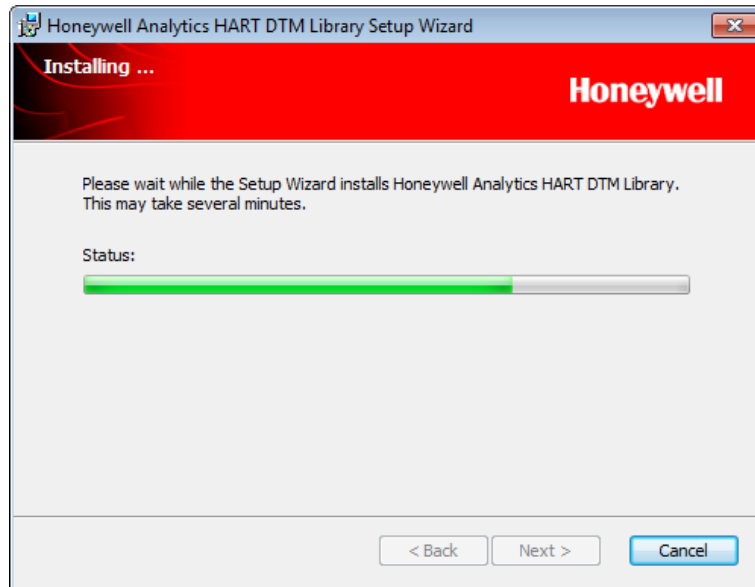
3. On the next screen, accept the License Agreement and click "Next":



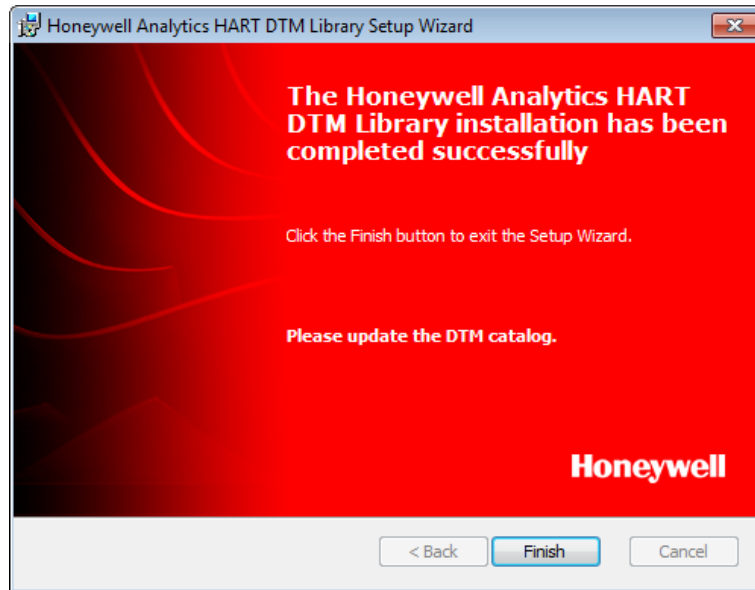
4. Adjust the installation path to your needs (choose the components to install and the destination directory) by pressing "Browse" or just confirm the default installation path with "Install":



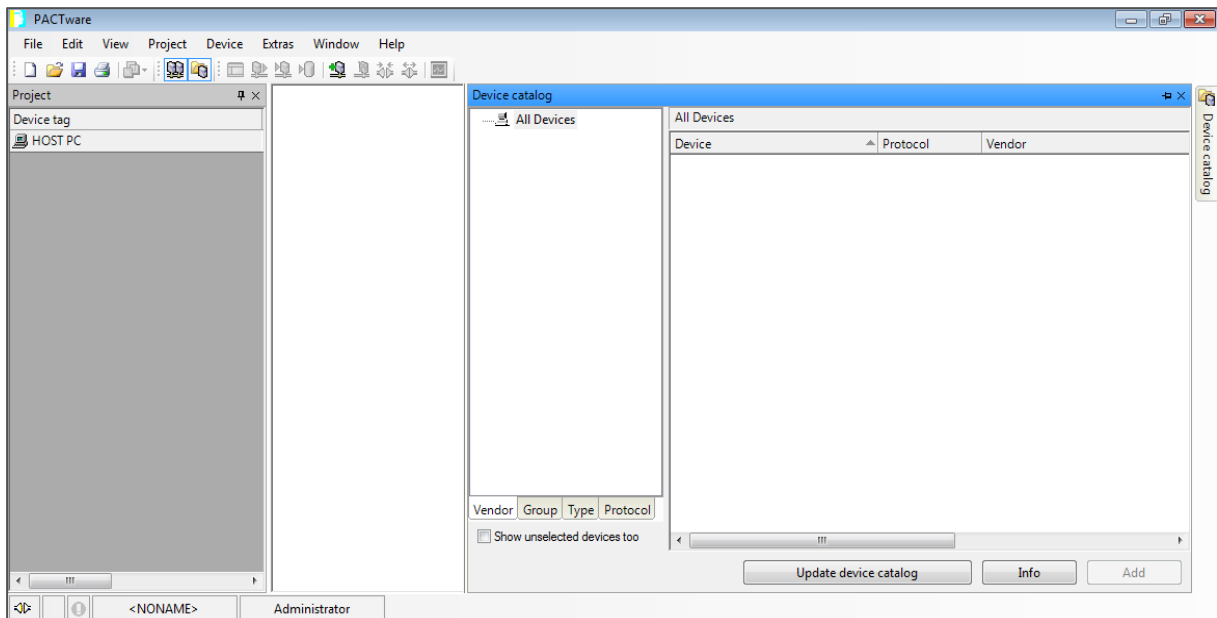
5. A window indicating the installation progress is displayed:



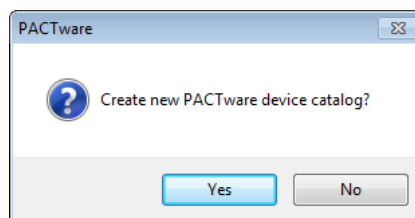
6. Confirm with "Finish" to close the setup wizard:



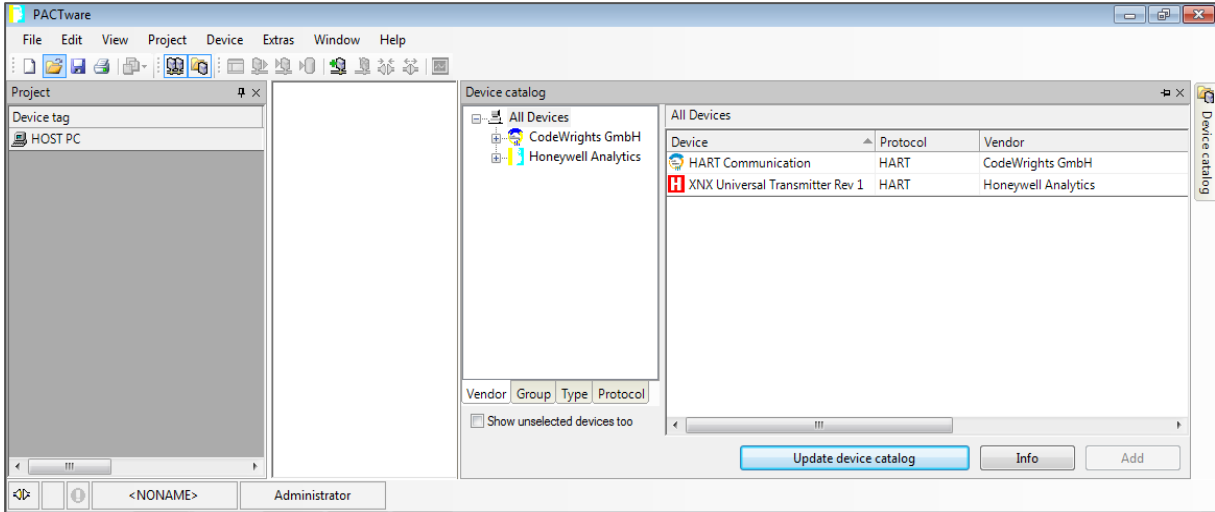
7. Open your frame (PACTware) and update the device catalog:



8. Create an updated PACTware DTM catalog by clicking “yes”:



9. After the update you will find the device types listed in your catalog:

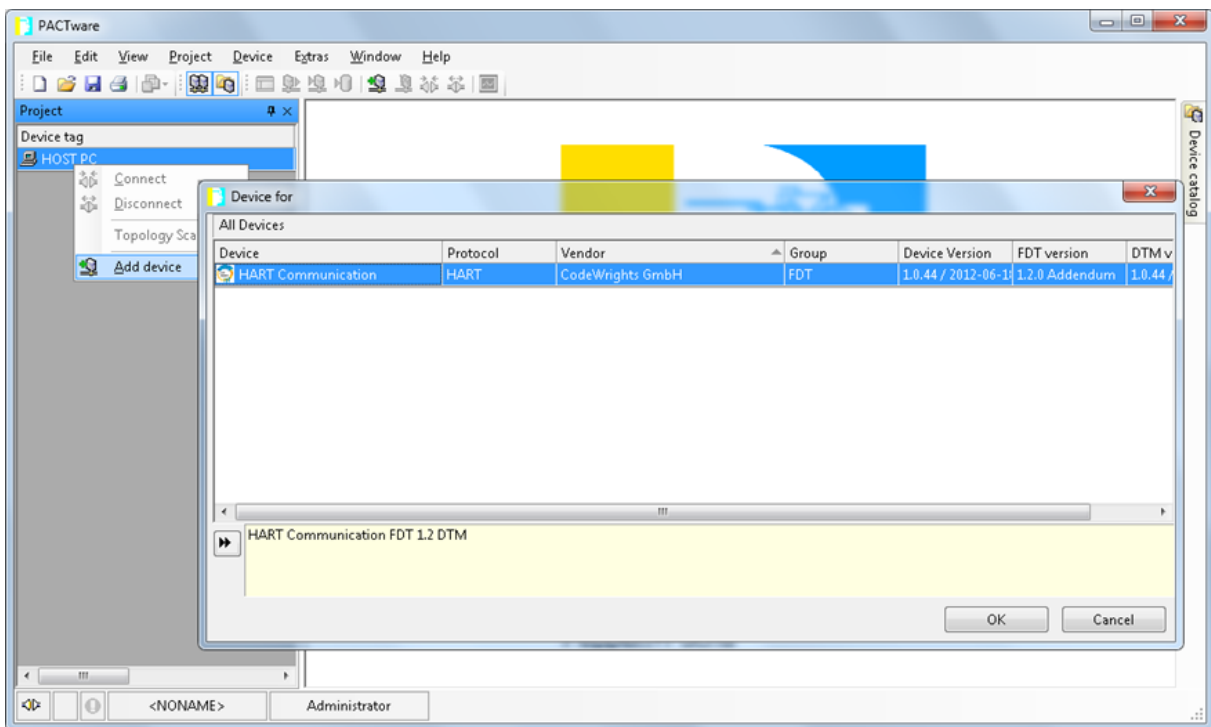


3 Operation

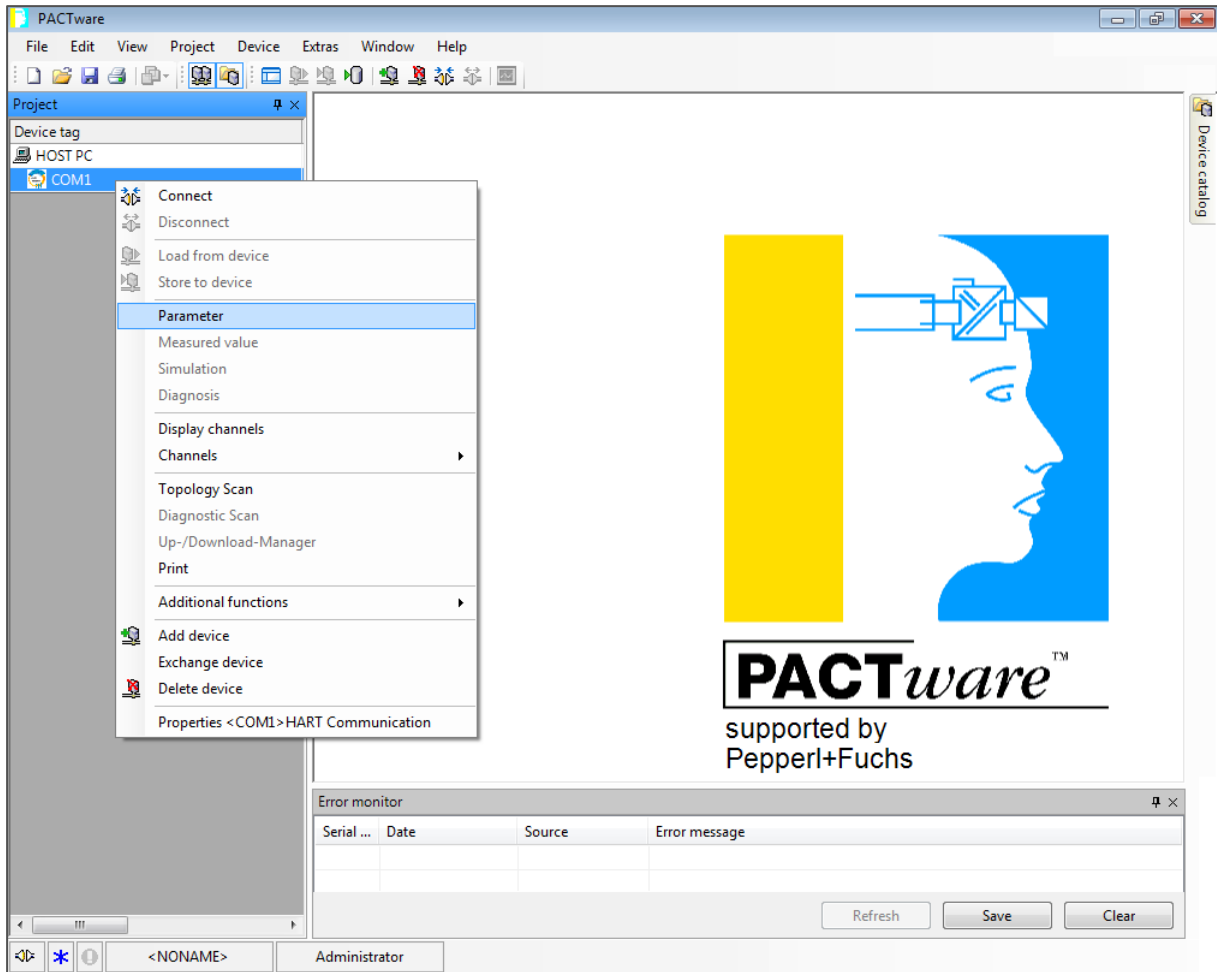
3.1 Establish connection with the device

After completion of §2, please follow the steps described below for establishing the connection with your device using a serial HART modem and the CodeWrights HART Communication DTM (setting up a project in another frame or using another communication DTM might differ):

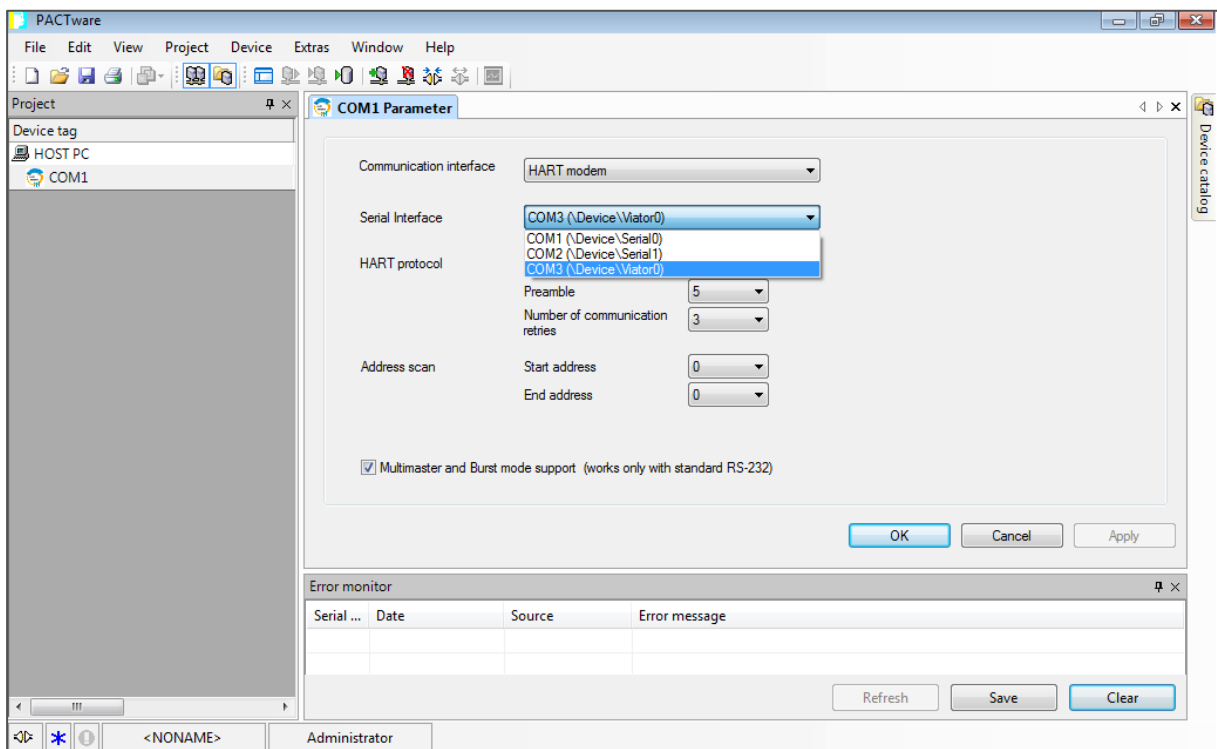
1. Open the PACTware frame application and make sure you have updated the “Device catalog” (if not already done yet) as mentioned in §2.4 Position 7
2. Connect the device and the serial HART modem as described in the XXN device manual (<http://www.honeywellanalytics.com/en/products/XXN-Universal-Transmitter>)
3. Connect the modem connector to the PC COM port (serial modem) or USB port (USB Modem)
4. Right-click on “HOST PC” in the project view on the left-hand side and select “Add device” to add the HART Communication DTM. On the next screen, select the DTM and click “ok”:



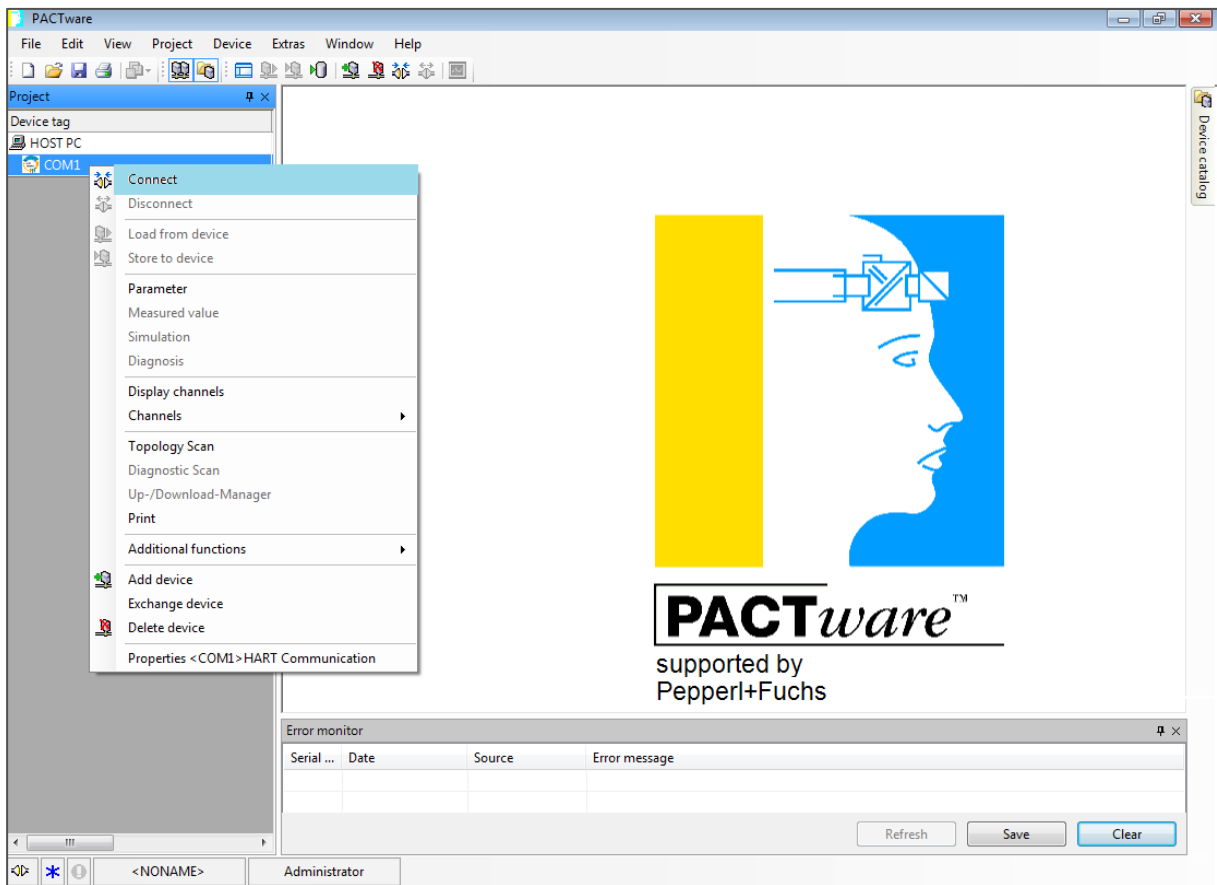
5. Right-click on “HOST PC” in the project view on the left-hand side and select “Parameter”:



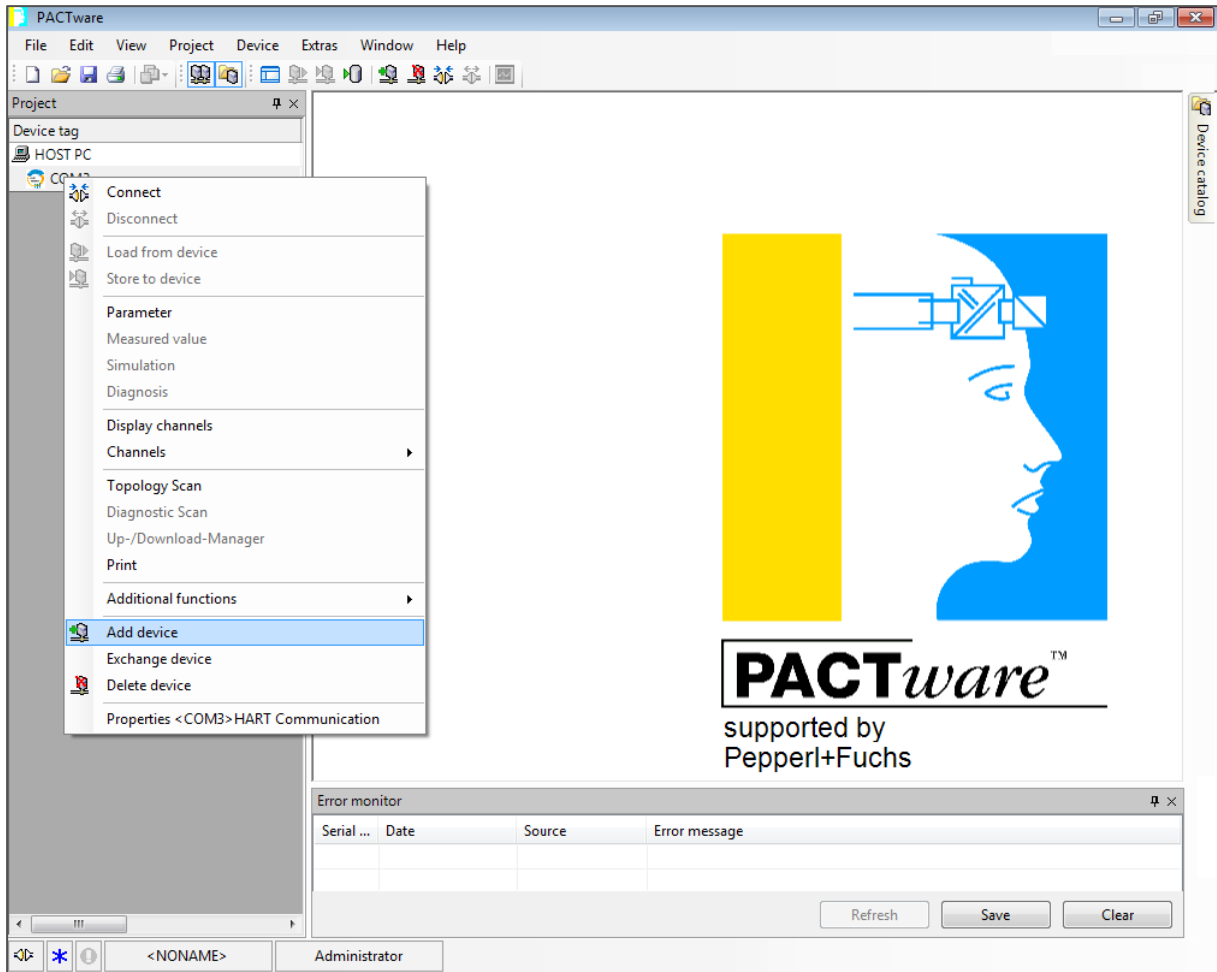
6. Double-click on the HART Communication DTM and adjust the settings according to your hardware connection (you can find this information in Computer/Properties/Device Manager/Ports/Communications Port) then click “ok”:



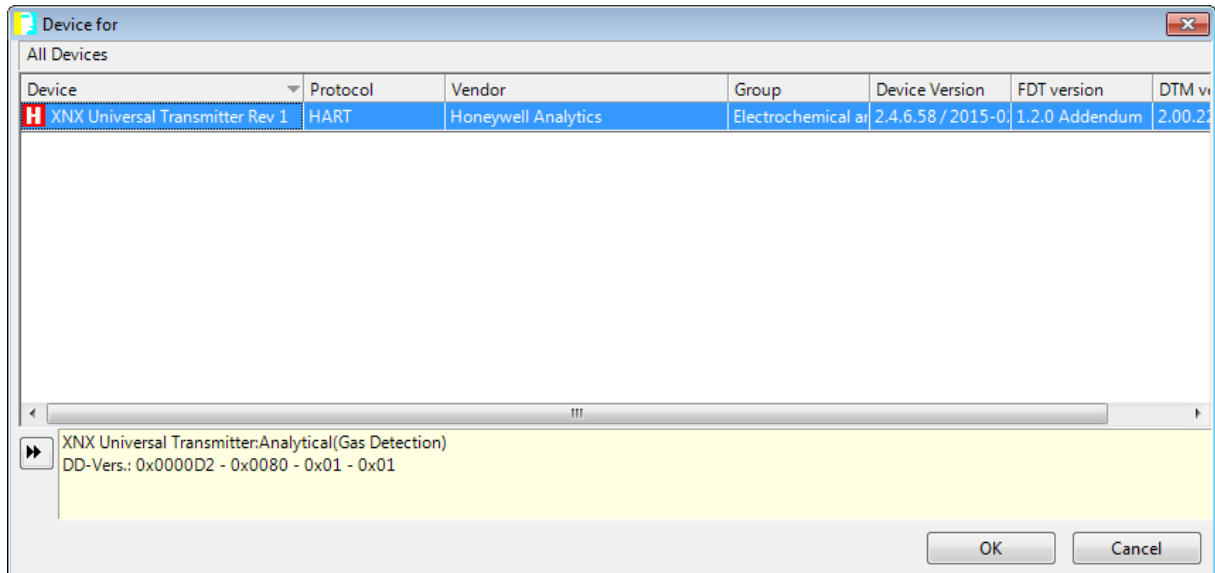
7. Now “Connect” the HART Communication DTM:



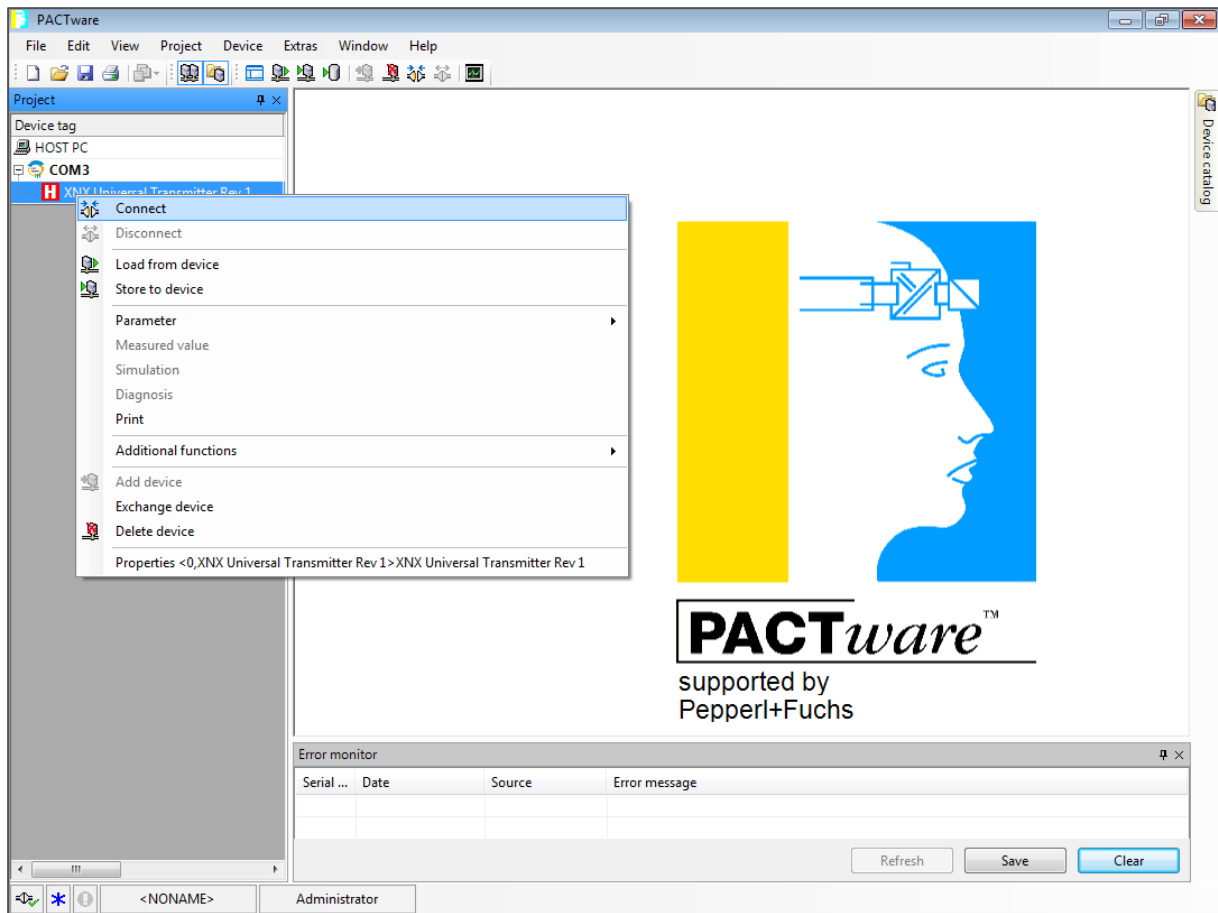
8. Now right-click on the communication DTM and select “Add device”:



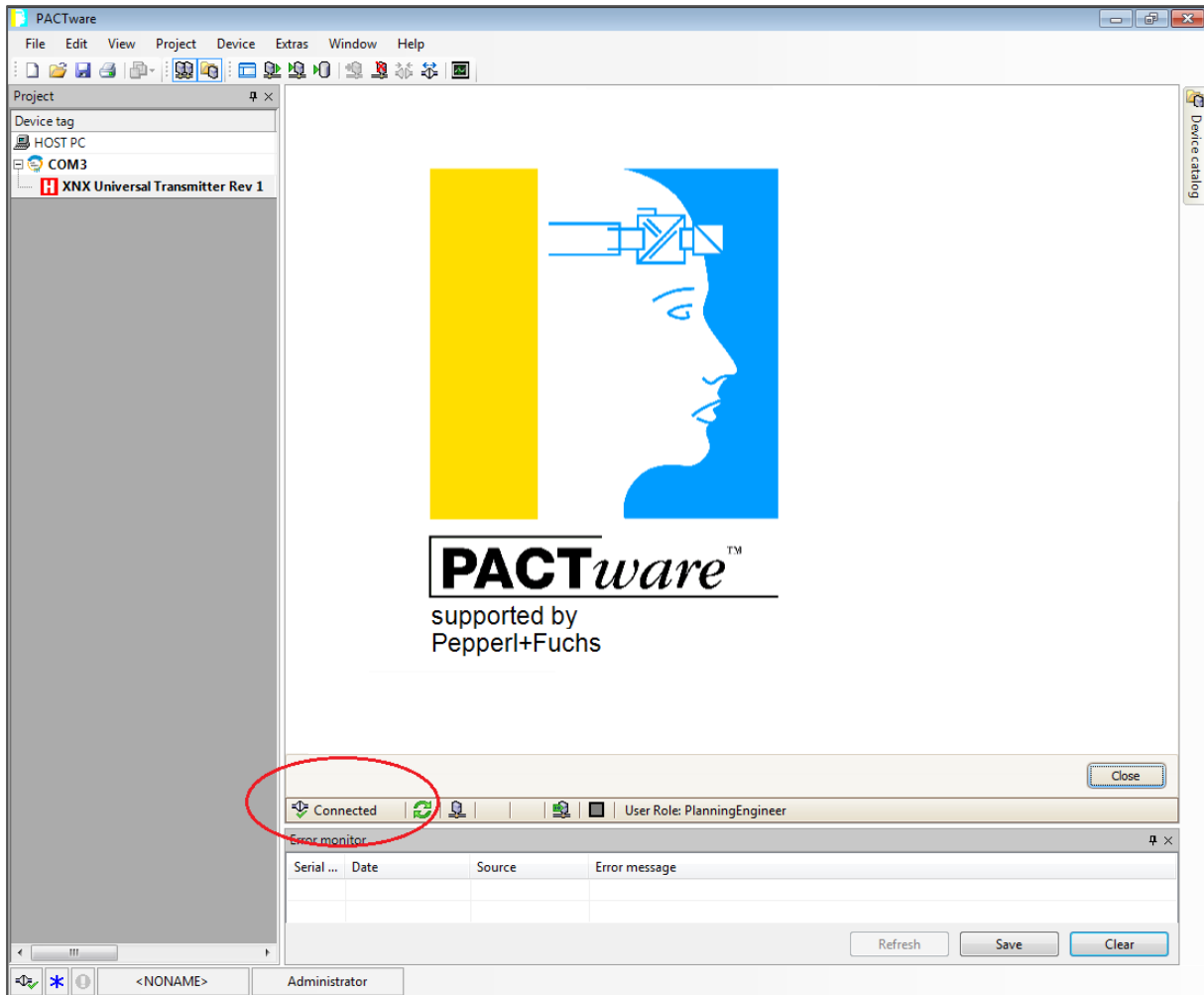
9. Select the XNX Universal Transmitter device type for the XNX device and click “ok”:



10. Go online by right-clicking on the device DTM and select “Connect” to connect the XNX device:



11. Now your device should be online and the symbol “Connected” appears:



The following ERROR MESSAGE: “Connection to device could not be established” can be caused by the following:

- Transmitter is not powered
- HART serial interface is not connected
- HART serial interface and DTM are using different serial ports (COM1, COM2,...). Determine what COM port the computer is using:
- START/Control Panel/System/Hardware/Device Manager/Ports
- (Windows 7: START/Control Panel/Device Manager/Ports). Note the COM port number. Return to the PACTware application. At the top left area of the Project window, right-click on the HART DTM while it is highlighted (e.g., “HART Com3”). Select PARAMETER and verify that the COM port number listed under Serial Interface matches the one in Control Panel)

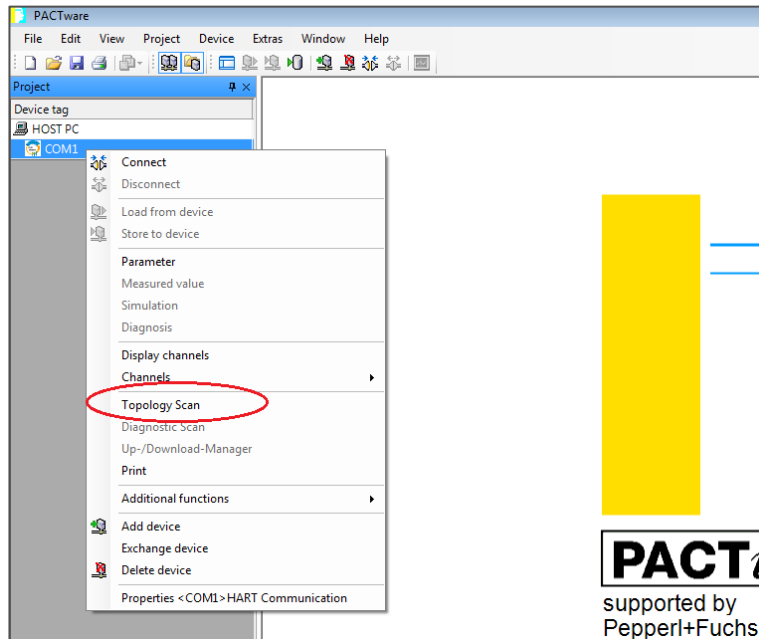
It may be necessary to DISCONNECT from the loop and then CONNECT again to establish communications. For more details regarding error messages, please check the [XXN Device Technical Manual](#).

Topology scan

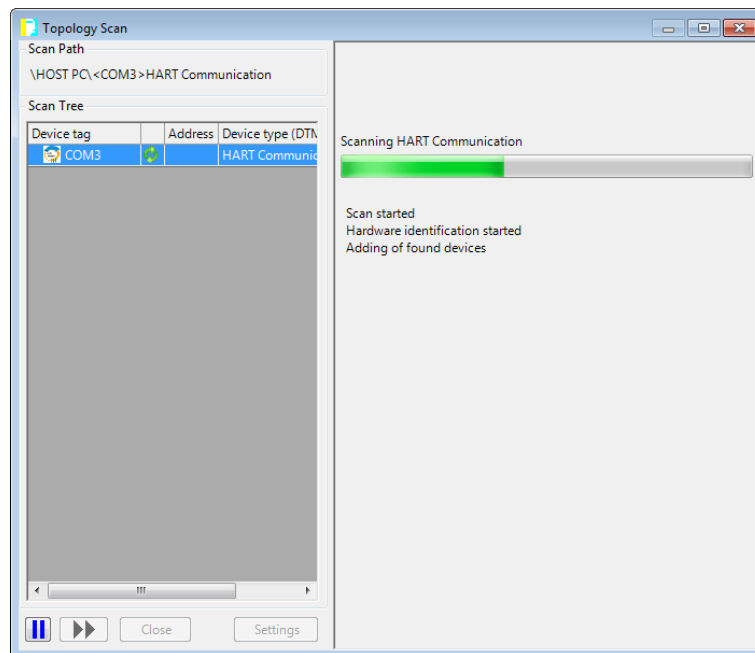
An easier way to connect the device is to use the function “Topology scan”. This function is searching automatically the device and adds it to the project.

Just follow the instructions as mentioned in §3.1 from Position 1-6 and then:

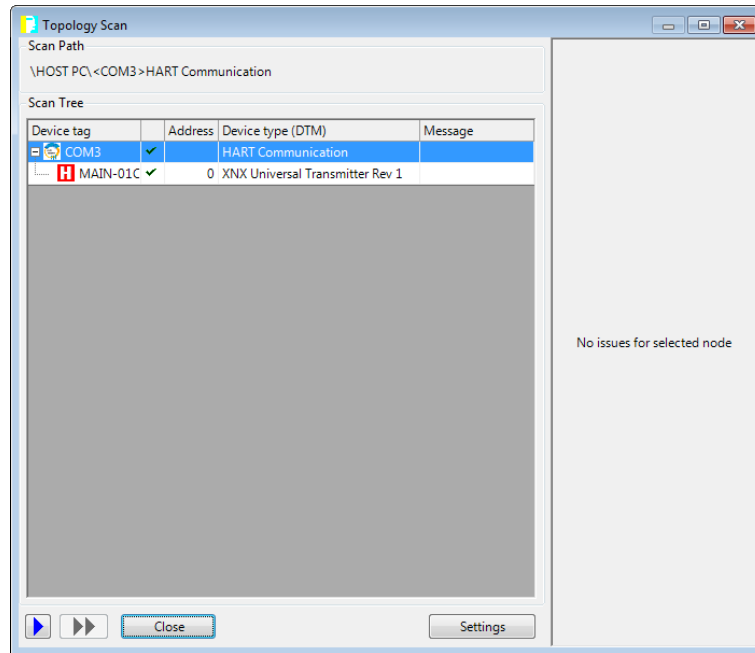
12. Right-click on the communication DTM and select “Topology scan”:



13. A window indicating the scanning progress is displayed:



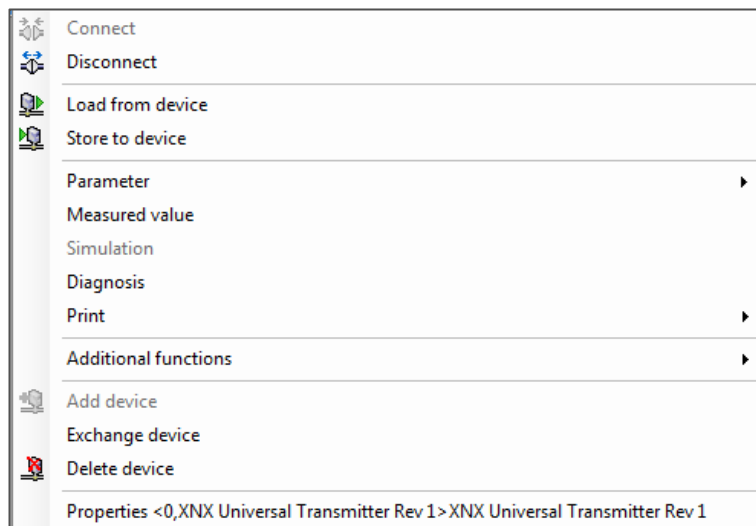
14. The device is added to the project:



15. Now continue with the instructions from §3.1 Position 10.

3.2 PACTware menu structure and items

By right-clicking on the device DTM you will find a menu list. Some menu items are characteristic for DTM and some for frame (in the shown example PACTware):



DTM characteristic menu items:

- Measured value (offers real time information about the current status of the device and is used for common device operation)
- Parameter (offers information regarding the complete device parameters which can be set according to your measurement application)
 - Online parameterization
 - Parameterization (which refers to offline parameterization)

- Diagnosis (offers information for maintenance engineers regarding the faults, warnings, alarms, etc)
- Additional functions (offers information regarding the DTM, like version number, manufacturer, registration status, etc)
 - About DTM
- Load from device (is used for uploading data set from the device to the offline parameterization). Perform this operation in order to store the device configuration in the Frame Application's project file or database.
- Store to device (is used for downloading the offline parameterization data to the device). Perform this operation in order to download and restore a device configuration from a saved project to the device.

Frame characteristic menu items:

The other items shown in the figure above are frame characteristic items. In the following pages we will describe the DTM characteristic items. For more information regarding the Frame items, please check www.pactware.com or the respective operating manual of your Frame Application.

3.3 Operation

WARNING

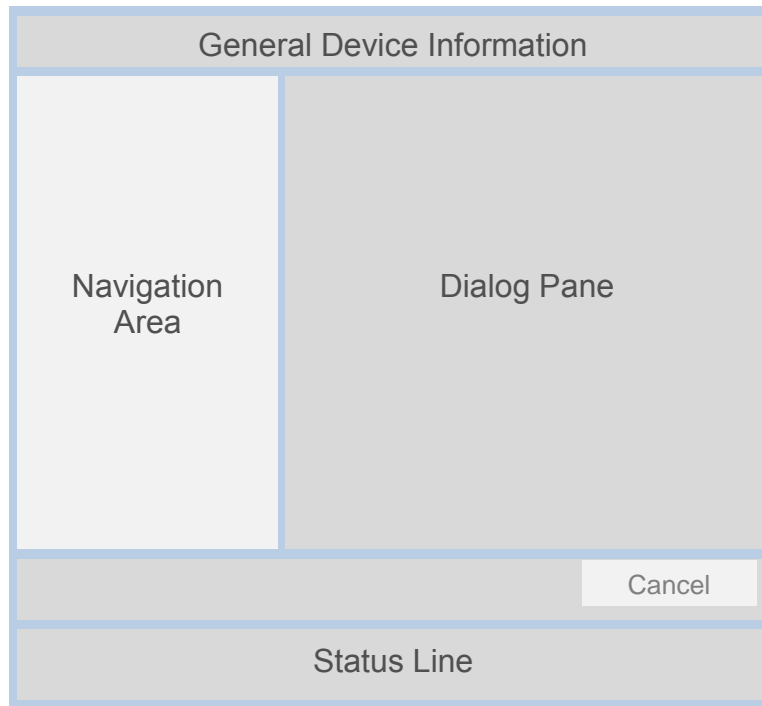
For safety reasons this equipment must be operated by qualified personnel only. Read and understand the instruction manual completely before operating or servicing the equipment. Inappropriate or incorrect use of an instrument adjusted with PACTware can give rise to application-specific hazards, e.g. vessel overfill or damage to system components through incorrect mounting or setting.

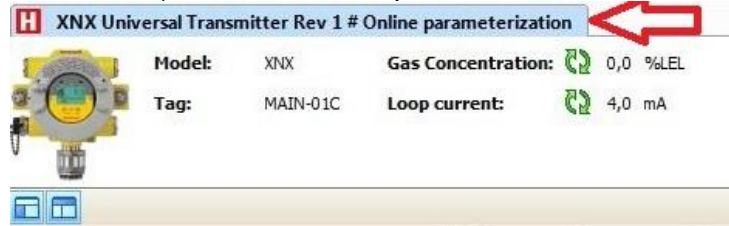


DTM graphical interface

The graphical user interface of the DTM is composed of different areas and elements listed hereafter:

- A header area containing the General Device Information
- The Navigation Area (area on the left side)
- The Dialog Pane (main area on the right side)
- Cancel button

- The Status Line containing information e. g. the online-state of the DTM



Parameter	Meaning
General device information	<p>Contains information like: Model: Name of device Tag: Name of device according to firmware Logo: Logo of the device manufacturer Menu item (which has been opened from menu list:</p> 
Navigation area	<p>The Navigation Area contains folders and subfolders to open the dialog panes of the DTM.</p>  Open/show the navigation area  Hide the navigation area
Dialog pane	<p>On the dialog pane modules, submodules and parameters can be selected or configured. Grid controls display table data: The data grid control enables control of multiple columns and rows of varying control types that may be used to capture and track incident properties. Static grid control: The grid data is static Edit grid control: The grid data can be edited using built-in editors</p>









	<p>IP Grid control: The grid data cell to enter IP address Close/Open (+/-): Grid data view can be opened/closed via (+/-) Drop down grid control: Grid cell contains drop down list Drop down combo (with edit) grid control: Grid cell contains drop down list with edit control.</p> <p> Wait to receive data from device  Displayed data is read in real time from device</p>
<p>Cancel button</p>	<p>To cancel your latest changes, click Cancel. The changes will not be saved or the changed values are not applied on the frame application database. The dialog then closes.</p>
<p>Status line</p>	<p>The Status line displays information about the current state of the DTM. The current activity, e.g. the DTM connection state, is signaled graphically via icons in the status bar:</p>  <p> Connected: Icon closed = Device is online  Disconnected: Icon opened = Device is offline  Disturbed: Communication interrupted between DTM and field device  Data set: The displayed data are read out from the instance data set (offline data from database).  Device: The displayed data are read out from the device (online data).</p>

Table 1. Elements of the DTM graphical interface

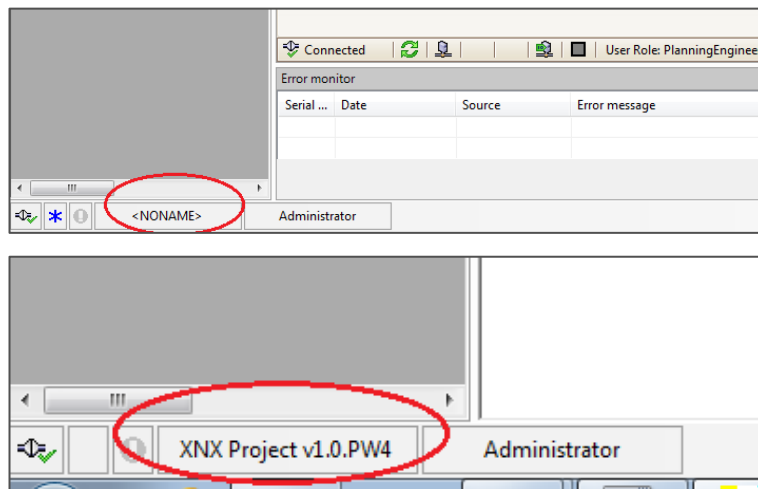
3.4 Create a project

Starting point for the adjustment of all types of field devices is the partial or complete imaging of the device network in a PACTware project. This device network can be created automatically or manually and is displayed in the project window.

Even when instruments that are to be parameterised are not yet available or connected, the project can be created manually (offline operation). The DTM installed on the PC is displayed in the device catalog. The DTM usually has the same name as the instrument that can be adjusted with it.

To create a project in the project window, paste in the DTMs from the instrument catalog - one DTM for each actually used instrument. The entry HOST-PC is the starting point for pasting in the DTMs. The requested DTM can be brought over from the instrument catalog to the project window with a double click or Drag and Drop. In the project window you can change the names of the selected instruments for better differentiation. If the project window or the instrument catalog is not visible, they can be activated in the menu bar under "View".

The given name of the project will appear in the PACTware window:

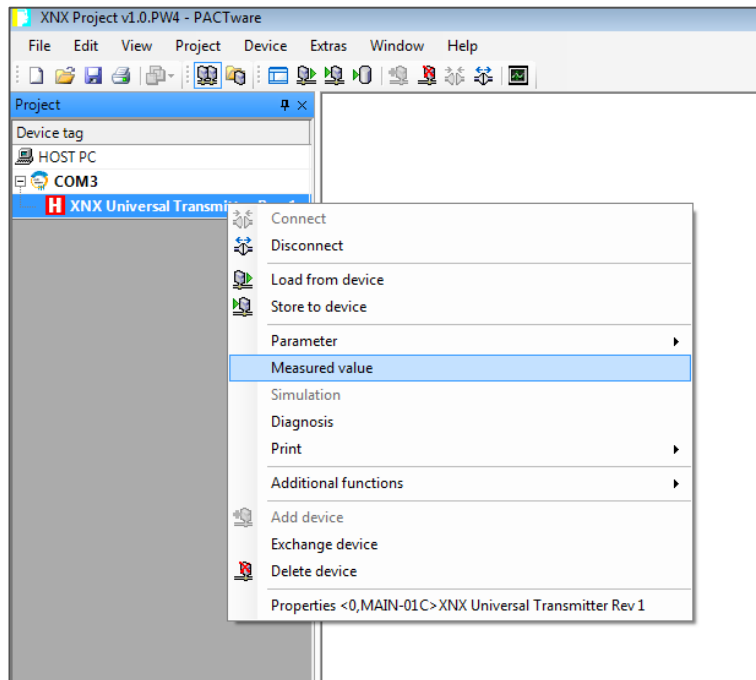


4 Online parameterization

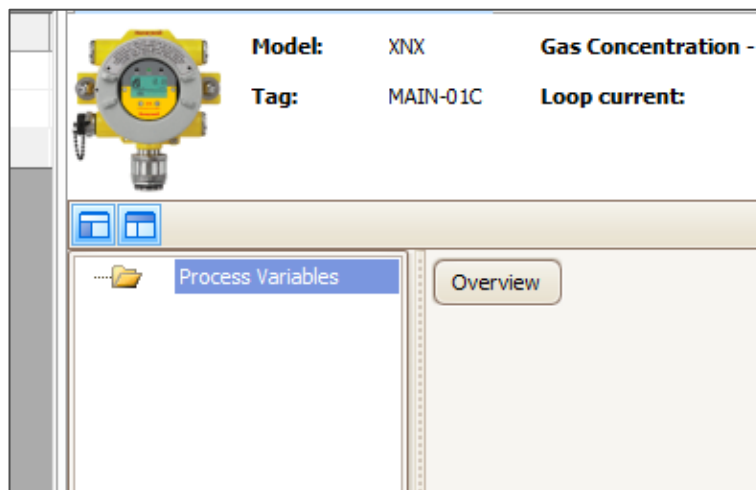
4.1 Measured data

The function measured data offers real time information about the current status of the device and is used for common device operation.

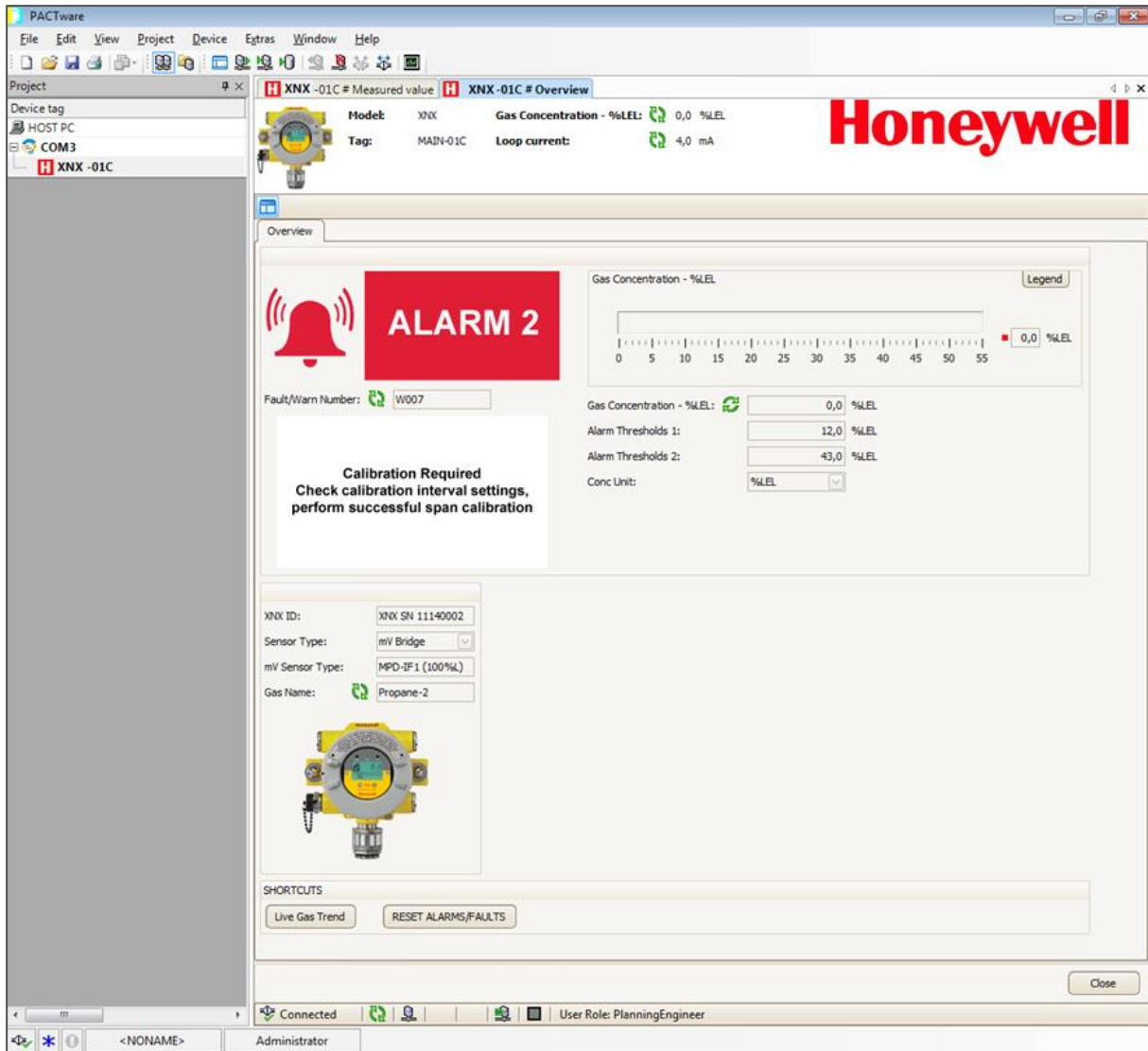
1. In order to get started this function just right-click on device name in the project view on the left-hand side and select “Measured value”:








2. The following window will open, then click “Overview”:



3. By clicking on the “Overview” button, the main operation parameters and device status will be:



- Device status display (ordinarily, “Device OK”  is shown in this area. Depending on the state of the sensor and transmitter, “Warning” , “Fault” , “Alarm 1”  or “Alarm 2”  in order of increasing severity may also be displayed)
- Fault/Warn number (the fault number or warning number is displayed in this area)
- Fault/Action display (the description corresponding to the warning or fault)
- Gas concentration trend (a trend of the measured concentration is displayed)
- Gas concentration (the gas concentration is based on the current configurations)
- Alarm thresholds 1 (lower limit, Alarm 1 set point)
- Alarm thresholds 2 (upper limit, Alarm 2 set point)
- Concentration unit (the concentration units are, for example, Vol %, LEL*Meters, or PPM)
- XNX ID (the serial number of the XNX transmitter)
- Sensor type (type of measurement application the device is intended to be used with. Sensor types will be Excel, Optima, ECC, mV, or Generic mA)
- Gas name (the target gas)
- Photograph (a typical transmitter/sensor system is displayed, representing the specified)

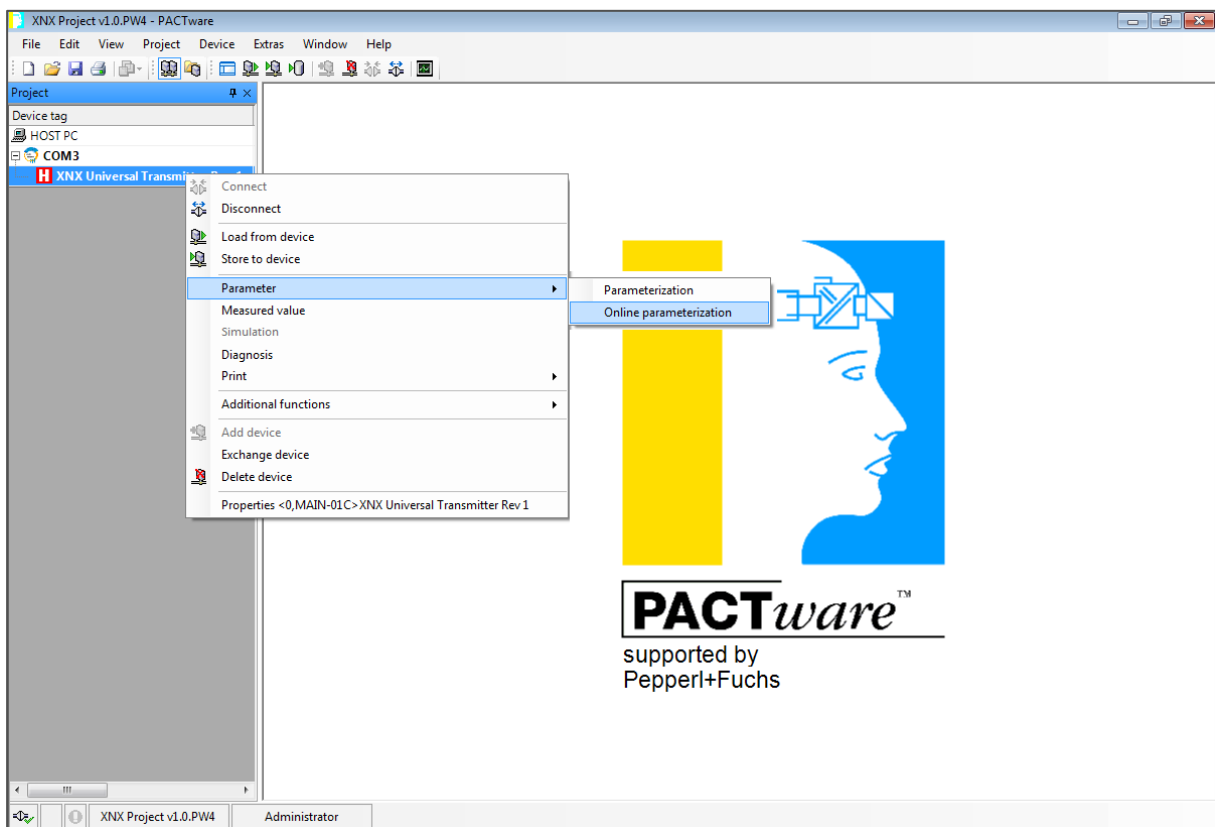
- Shortcuts (the two buttons will immediately display the Live Gas Trend or Reset Alarms/faults screen)
- Live Gas Trend (Three parameters are traced on the graph: the Alarm 1 level, the Alarm 2 level and the Live Gas reading)
- Reset Alarms/Faults button (by clicking this button, all displayed Alarms/Faults will be undone).

4.2 Online parameterization

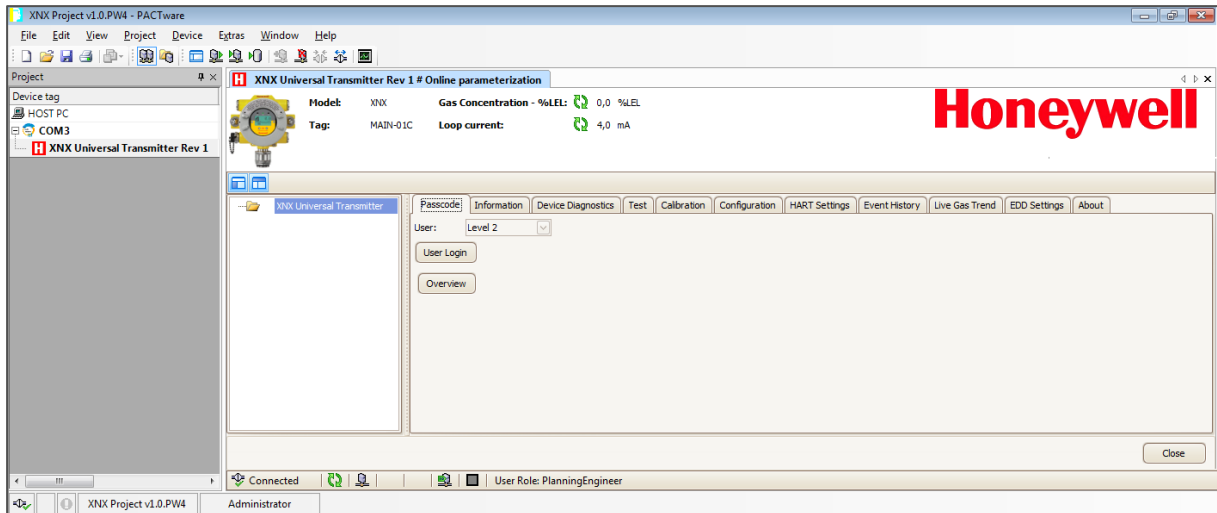
The online parameterization function can be used to configure your device during operation (online parameterization), but also offline (offline parameterization) when the device is not connected.

The following pages describe the steps to configure a XNX device with the DTM. At this time it is assumed that the DTM installation (§ 2.4) and connection with the device (§3.1) was already done.

1. In order to get started this function just right-click on device name in the project view on the left-hand side and select “Parameter” then “Online parameterization”:



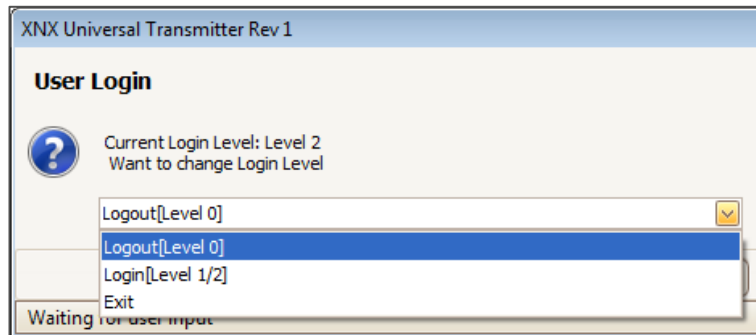
2. An overview of all online configurable functions will be displayed:



4.2.1 Passcode

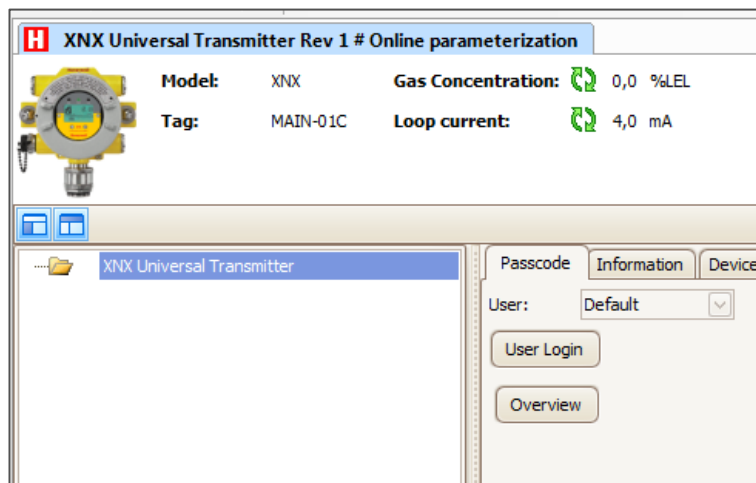
The first item in the online parameterization is “Passcode”. Login level is determined according to the passcode number.

The XNX Device Type Manager (DTM) has two security levels and Level 0 which is used to logout:

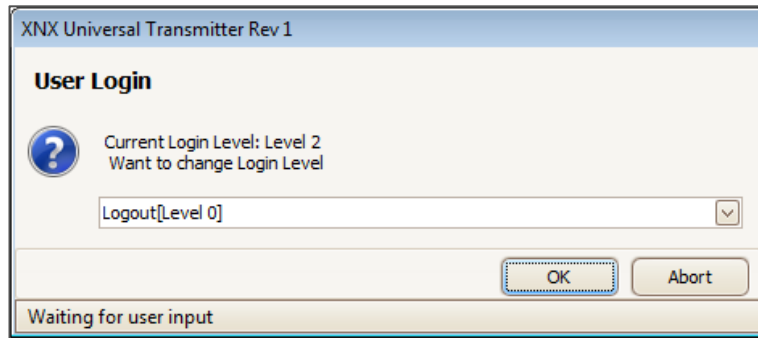


- Level 0 (Logout)
- Level 1 (entering a level-1 password will allow the user to view the software settings)
- Level 2 (a level-2 password is required to change any of the settings)

The passcode item contains three functions:



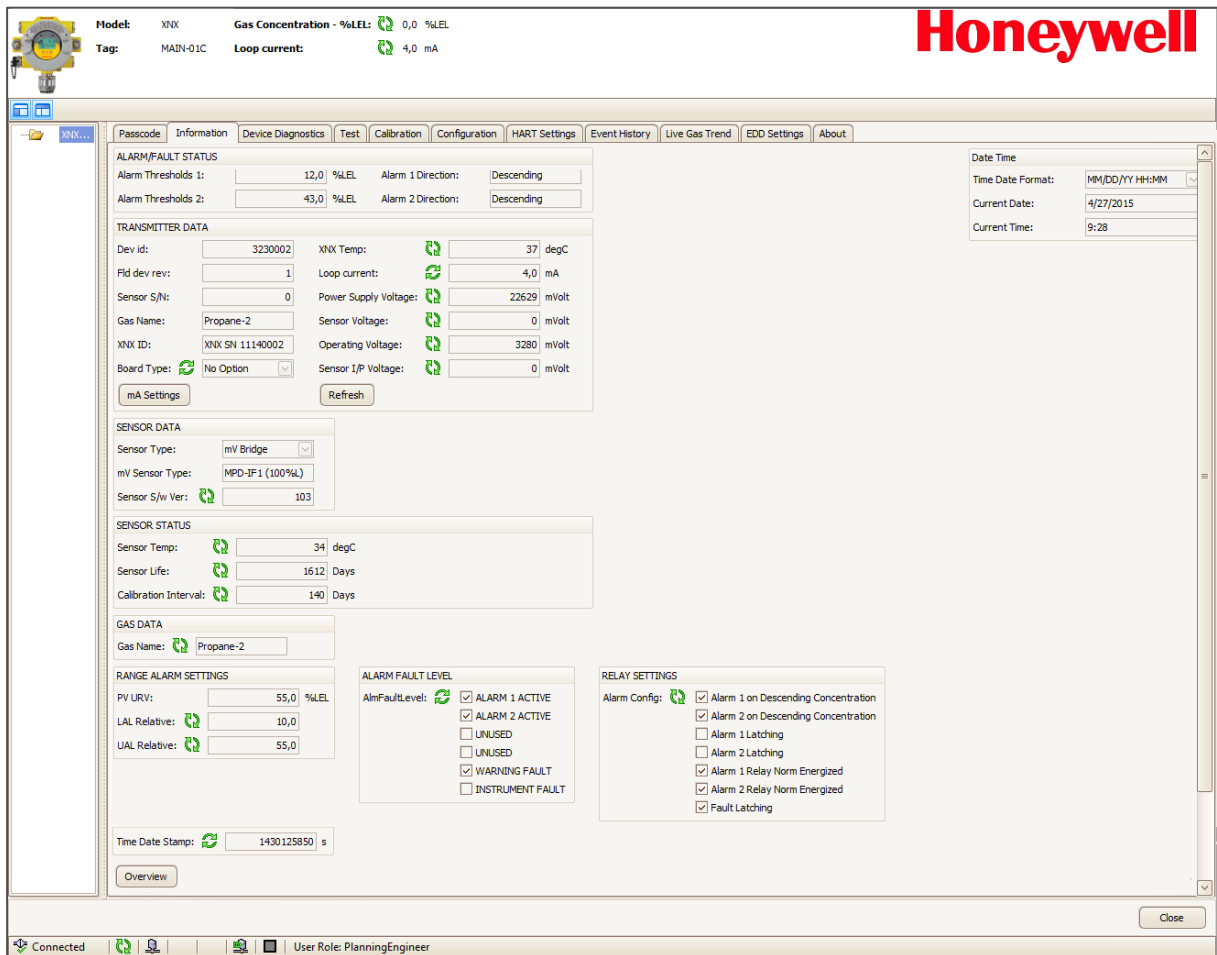
- User (Displays the user’s current access level. Default is Logout[Level0])
- User Login button (click on the User Login button to enter a passcode. Passcode is provided by Honeywell Analytics)



- Overview (by clicking on “Overview”, the “Information” feature will be shown)

4.2.2 Information

The second item in the online parameterization is “Information”:



The Information function provides following features:

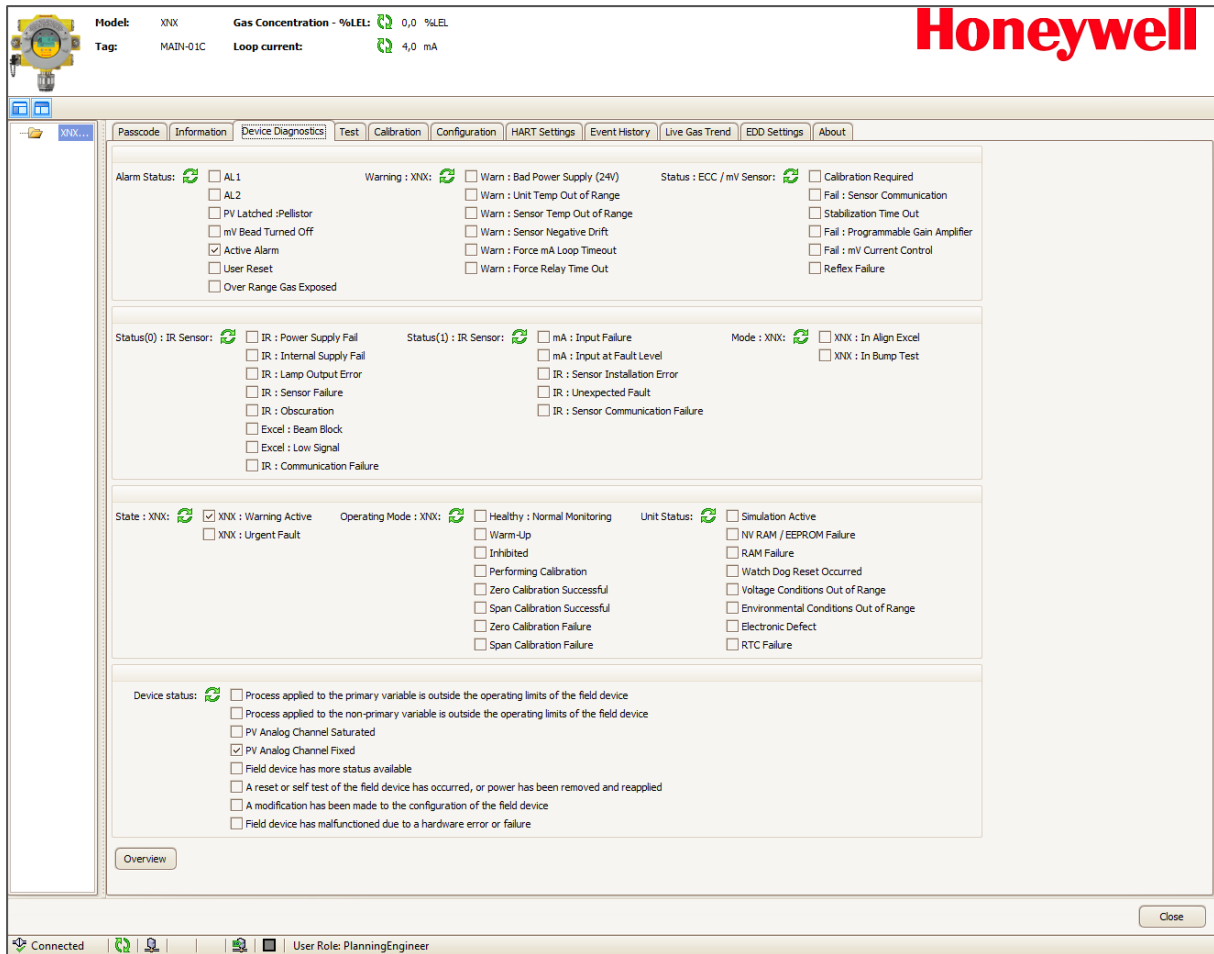
- Alarm/Fault Status:
 - Alarm Thresholds 1 (the XNX transmitter’s current alarm 1 set point is displayed in this box)

- Alarm Thresholds 2 (The XNX transmitter's current alarm 2 set point is displayed in this box)
- Alarm 1 Direction (The direction options are ascending or descending)
- Alarm 2 Direction (The direction options are ascending or descending)
- Transmitter data (after changing values, please click "Refresh"):
 - Dev id (device identification number)
 - FLd dev rev (field device revision number)
 - Sensor S/N (type of sensor)
 - Gas name ((the target gas)
 - XNX ID (the serial number of the XNX transmitter)
 - Board type
 - XNX Temp (device temperature)
 - Loop current (the options are enabled or disabled)
 - Power Supply voltage
 - Sensor voltage
 - Operating Voltage
 - Sensor I/P Voltage
- Sensor Data:
 - Sensor type (type of measurement application the device is intended to be used with)
 - mV sensor type
 - Sensor S/w Ver
- Sensor status:
 - Sensor temp
 - Sensor life
 - Calibration interval
- Gas data /Gas name
- Range alarm settings:
- Alarm fault level
- Relay settings
- Mics info / Time date stamp
- Date time

4.2.3 Device diagnostics

The "Device Diagnostic" function allows the maintenance engineers examination of all faults, warnings, and informational messages.

If any alarms or warnings have been activated, a check mark will be displayed in the square adjacent to it. A detailed description of the alarms and warnings can be found in the XNX device manual §5.

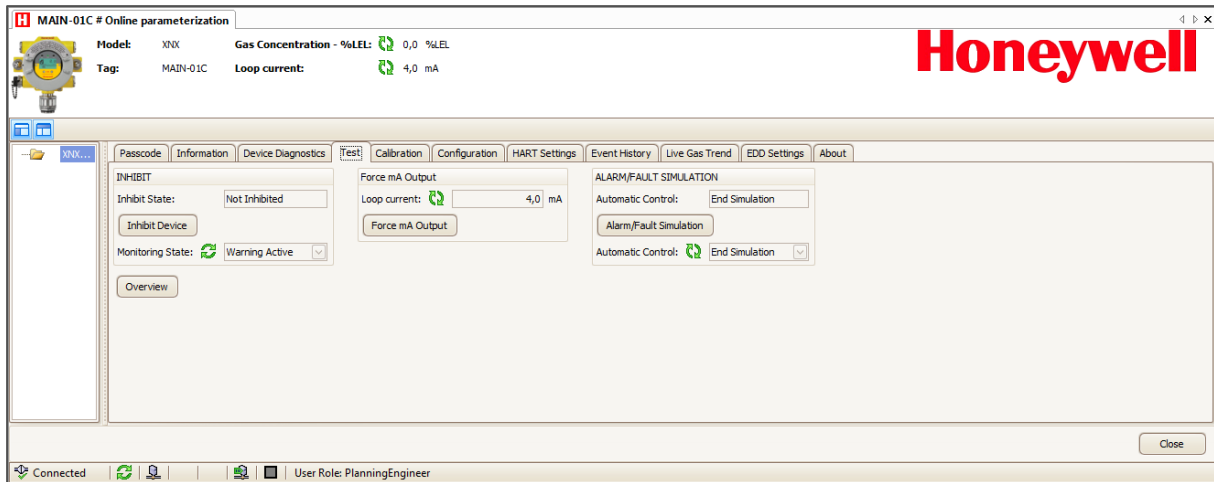


The diagnosis function provides following features:

- Alarm status (even alarm status parameters are displayed from the list in this area)
- Warning (six XXN warning can be displayed from the list in this area)
- Status ECC/mV Sensor (six ECC/mV sensor errors can be displayed from the list in this area. Millivolt includes the MPD and 705 sensors)
- Status (0) IR sensor (eight infrared sensor errors can be displayed from the list in this area. Status (0) refers to errors in the sensor)
- Status (1) IR sensor (eight infrared sensor errors can be displayed from the list in this area. Status (1) refers to errors in the sensor)
- XXN mode (two device modes are displayed in this area)
- State XXN (two XXN states are displayed in this area)
- Operating Mode: XXN (eight XXN operating modes are displayed in this area)
- Unit status (eight unit statuses are displayed in this area)
- Device status (data indicating that the device has detected conditions relating to its hardware, validity of variable, operating status and internal processes. Eight device statuses are displayed in this area)

4.2.4 Test

Other important item in the online parameterization is “Test”:

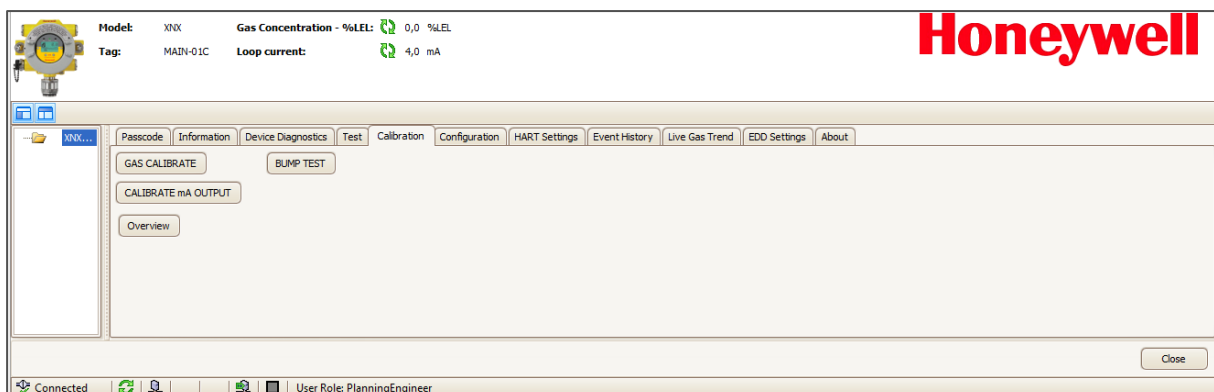


The test function is displayed only after login and provides following features:

- Inhibit
 - Inhibit State (inhibit state will display either “Inhibited” or “Not Inhibited”)
 - Inhibit Device button (this allows the functioning of the transmitter to be tested without creating an external alarm. Press the button again to resume normal monitoring)
- Monitoring state (the current state of the sensor and transmitter)
- Force mA Output
 - Loop current (the options are enabled or disabled)
 - Force mA Output button (pressing the Force mA Output button will display a “WARN-Loop should be removed from automatic control” message. The optional selections are from 1 mA to 22 mA in 1 mA increments)
- Alarm/Fault Simulation (alarms and faults can be simulated to verify that the sensors are operating properly without requiring conditions that trigger actual alarms or faults. A simulation, in effect, forces a sensor into inhibit mode. Simulations can be accomplished either at the sensors with an appropriate test gas or remotely through the DTM software. The DTM display responds just as it would with a real alarm or fault)
 - Automatic Control
 - Alarm/Fault Simulation button (pressing Alarm/Fault Simulation button will result in a “Proceed to Alarm Simulation?” message. The possible test simulations are Level 1 Alarm, Level 2 Alarm, Warning Fault, and Instrument Fault)

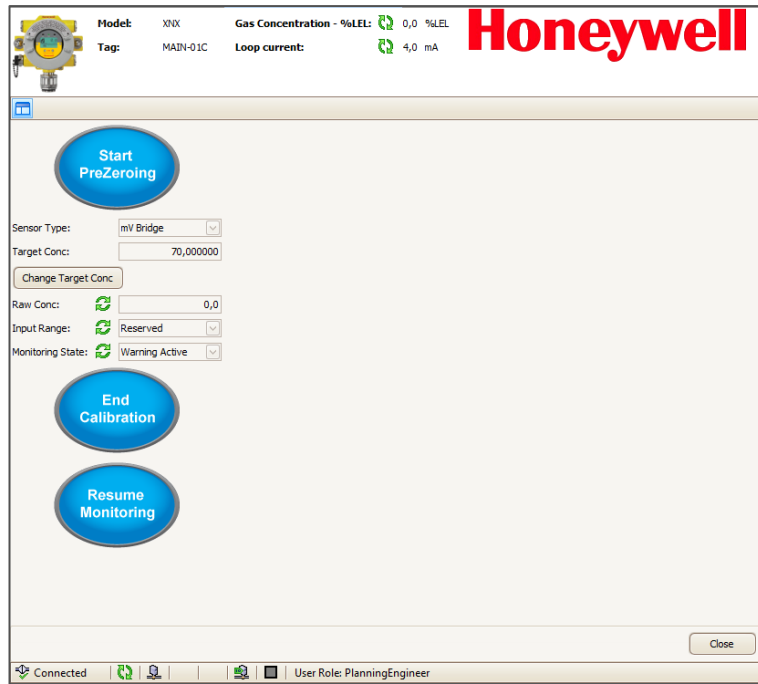
4.2.5 Calibration

Other important item in the online parameterization is “Calibration”:

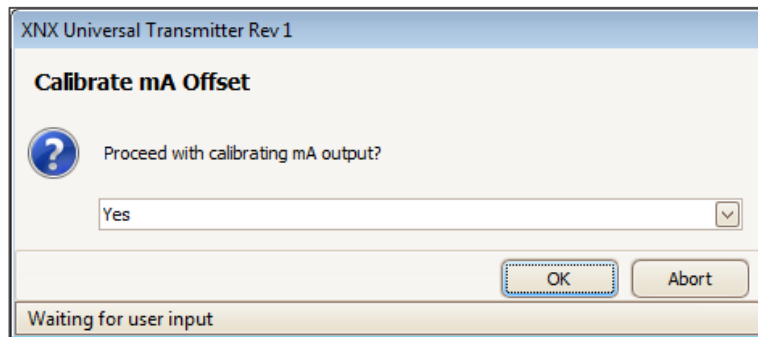


The calibration function is displayed only after login and provides following features:

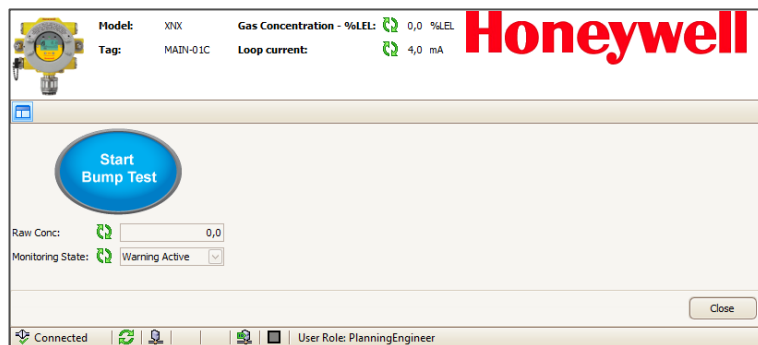
- Gas calibrate button (pressing this button will allow the gas calibration procedure to be initiated)



- Calibrate mA output (Pressing this button will allow the milliamp output parameters to be changed from the factory settings)

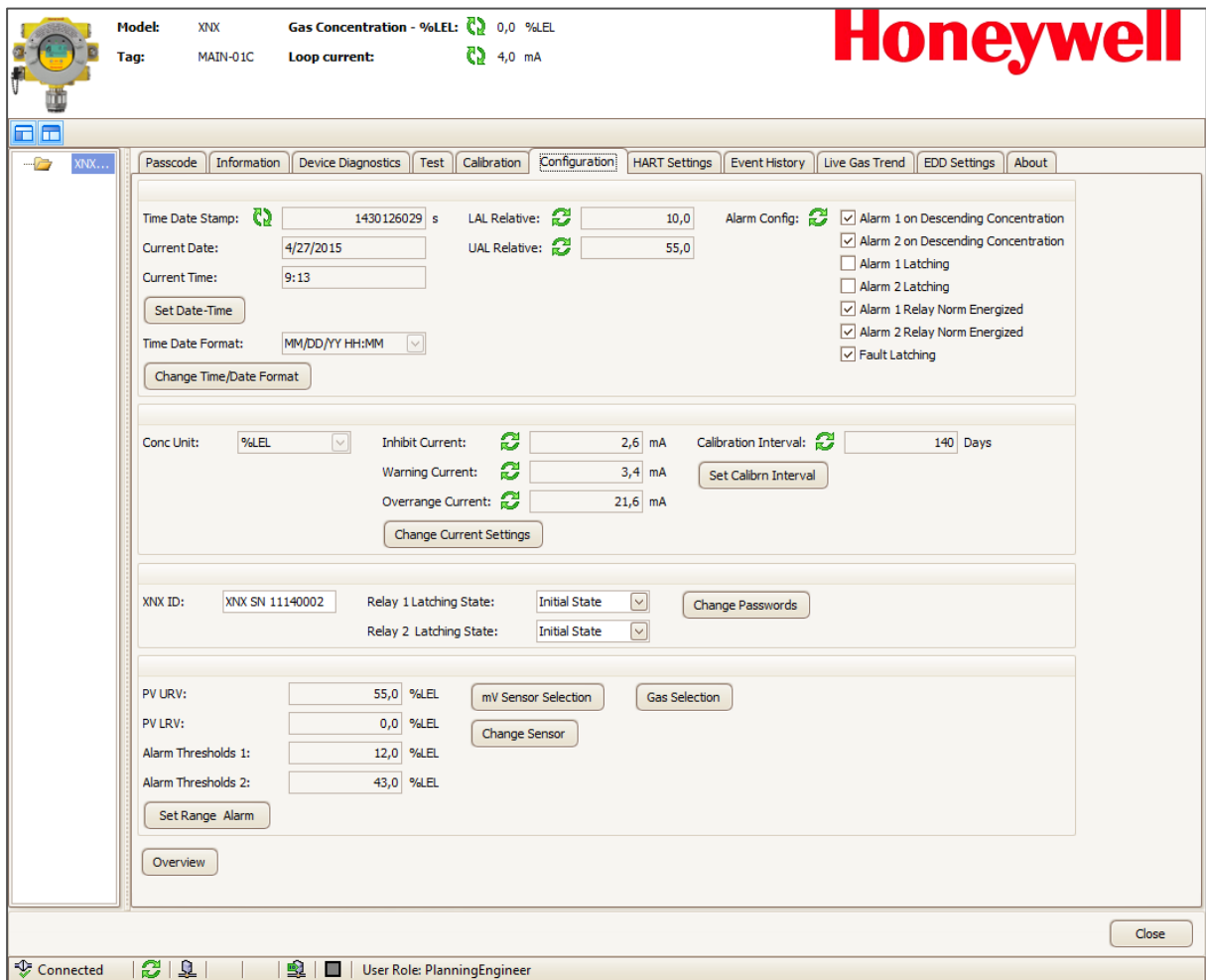


- Bump test button (pressing this button will allow the functional test procedure to be initiated.)



4.2.6 Configuration

Access to the Configuration tab is available only with a Level 2 passcode.



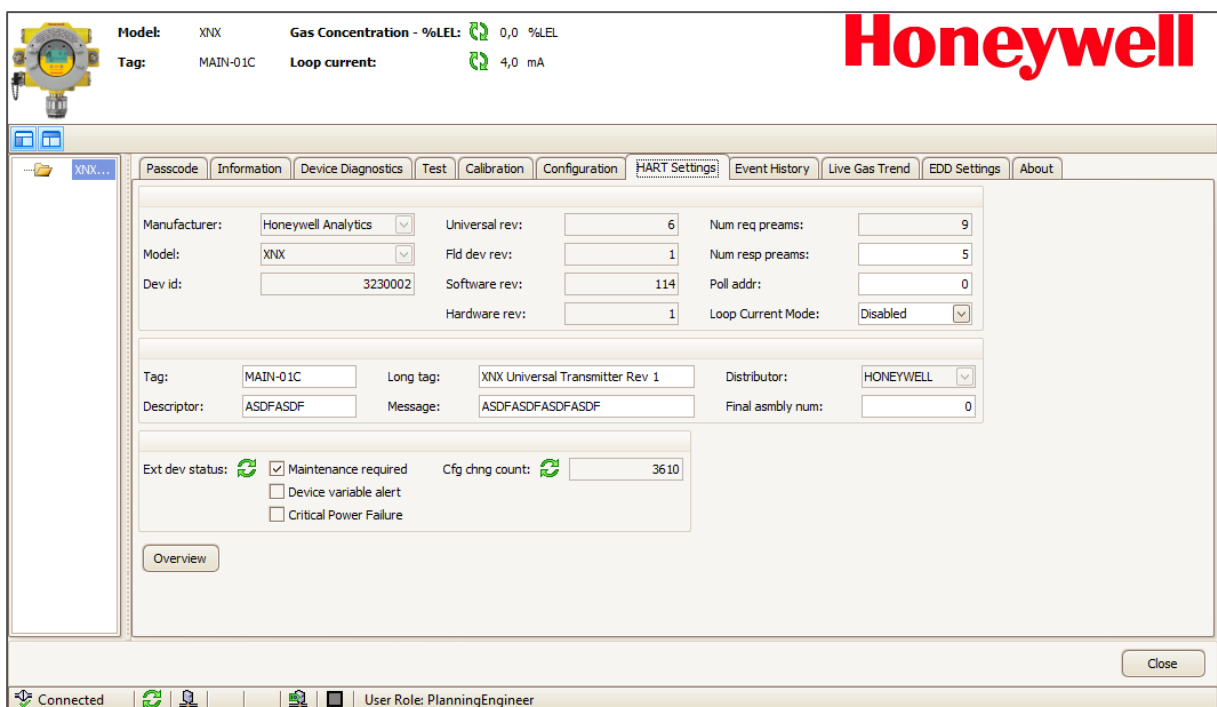
The configuration function provides following features:

- Time Date Stamp (the elapsed time in seconds since January 1, 1970)
- LAL Relative (the lower alarm limit)
- Current Date (displays today's date)
- UAL Relative (the upper alarm limit)
- Current Time (displays the current time)
- Set Date Time button (if adjustments to the date or time are needed, press this button)
- Time Date Format (The options in the Time Date Format dropdown box are MM/DD/YY HH:MM and DD/MM/YY HH:MM)
- Alarm Config (the seven options in the alarm configuration parameters can be selected from the list displayed in this area)
- Conc Unit (the concentration units are displayed in this space)
- Inhibit Current (the milliamp output that the transmitter will use to communicate the inhibit state)
- Warning Current (the milliamp output that the transmitter will use to communicate a warning state)
- Calibration Interval (the milliamp output that the transmitter will use to communicate the calibration Interval)

- Set Calibration Interval button (the calibration interval can be set for any number of days between 1 and 360. A calibration interval of 0 days disables the feature)
- Change Current Settings button. The options are:
 - Inhibit Current (1.0 to 3.5 mA)
 - Warning Current (1.0 to 3.5 mA)
 - Overrange Current (20.0 to 22.0 mA)
 - Low Signal Level (1.0 to 4.0 mA)
 - Block Beam Current (1.0 to 4.0 mA)
- XNX ID (device identification number)
- Relay 1 latching state
- Change passwords button. The options are:
 - Enable “Easy Reset” feature
 - Set new access code
- PV URV
- PV LRV
- Alarm Thresholds 1 (lower limit)
- Alarm Thresholds 2 (highest limit)
- mV sensor selection button
- Gas selection button. A “Reading gas name in progress” message will be displayed. The name of the gas will then be displayed. The Calibration Index (i.e., the gas index) options are:
 - Increment
 - Decrement
 - Accept
 - Revert Exit
- Change sensor button
- Set range alarm button (the Range and Alarm Settings options change according to the sensor connected to the XNX transmitter)

4.2.7 HART settings

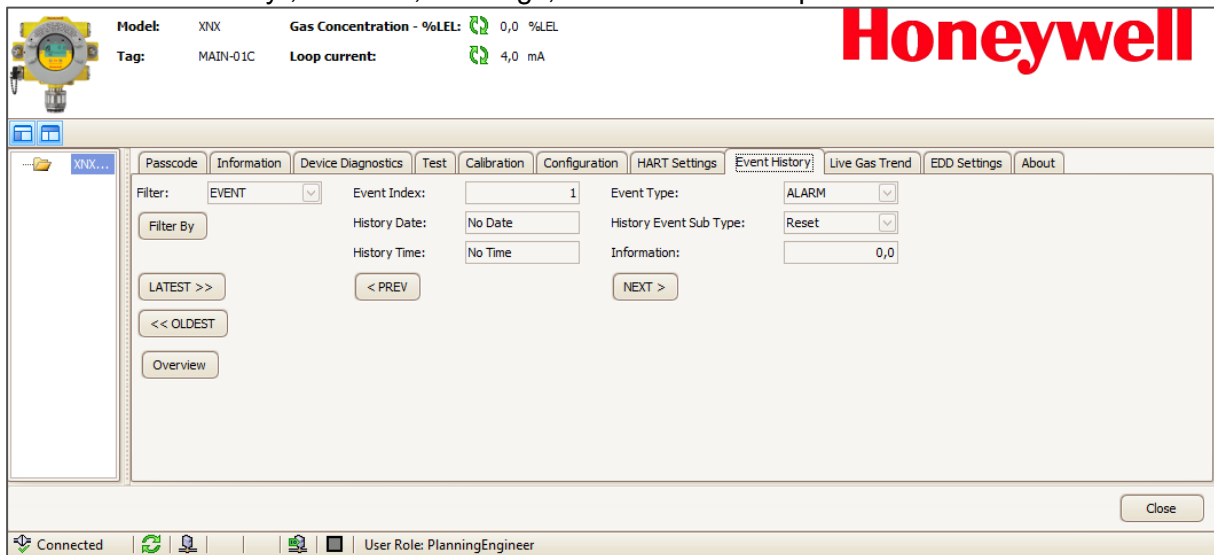
The “HART Settings” function provides following features:



- Manufacturer (the manufacturer is displayed in this box)
- Model (the model is displayed in this box)
- Device is (a manufacturer’s reference number)
- Universal Rev (a manufacturer’s reference number)
- Rd Dev Rev (a manufacturer’s reference number)
- Software Rev (displays the current XNX software revision number)
- Hardware Rev (revision of hardware)
- Loop current mode (the options are enabled or disabled)
- Tag (a user-configurable space, typical used to display the equipment type)
- Long tag (this can be set if a long tag is used for HART addressing)
- Distributor (an area for the distributor’s name)
- Descriptor (a user-configurable space, typical used to display such information as the location of the sensor)
- Message (an area for a message created by the user)
- Final Asmbly Num (a manufacturer’s reference number)
- Exit Dev Status. The three parameters that can be reported in the Exit Dev Status section are:
 - Maintenance required
 - Device variable alert
 - Critical power failure
- Cfg Chng Count
 - Configuration Change Counter

4.2.8 Event history

In the “Events history”, all faults, warnings, and alarms are captured:



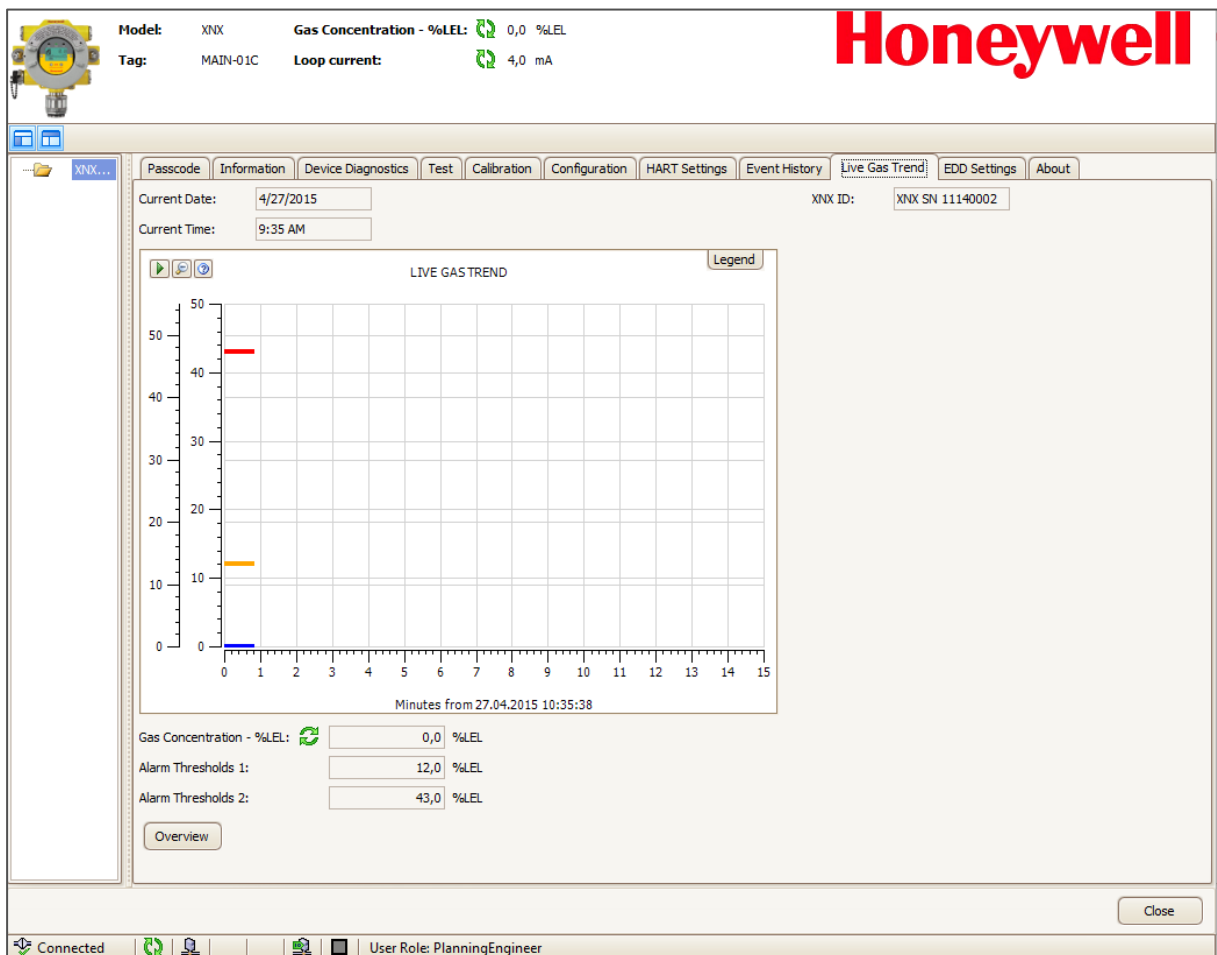
- Filter (events can be displayed by date or by the type of event)
- Filter By button. The filtering options are:
 - By event
 - By hour
 - By day
 - By alarm type
 - By fault type
- Latest >> button (filters events beginning with the most recent)
- Oldest << button (Filters events beginning with the oldest)

- Event Index (alarms, warnings, etc. are assigned event numbers. These can be seen in the Event Index)
- History Date (the date of the event)
- History Time (the time of day of the event)
- <Prev button (Used with the >Next button to navigate through events)
- Event Type (the type of the event e.g., fault, warning, alarm)
- History Event Sub Type (additional information for this event)
- Information (additional numeric parameter for this event)
- Next> button (used with the <Prev button to navigate through events)

4.2.9 Live gas trend

The live gas trend tab displays the chart, today’s date, the serial number of the transmitter and the current time.

Three parameters are tracked in the Live Gas Trend chart: the gas concentration (in blue), alarm threshold 1 (in yellow), and alarm threshold 2 (in red). The sampling interval displayed in the chart can be up to one hour.

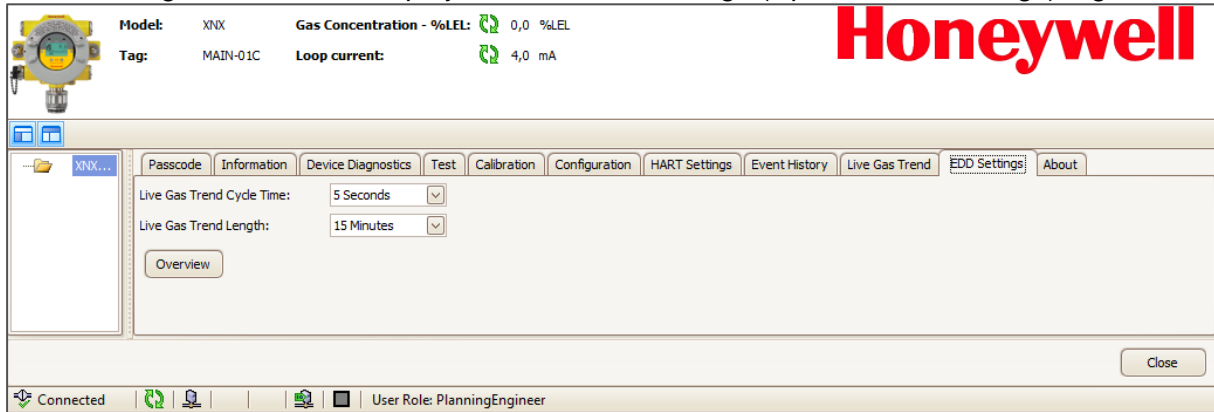


- Current date
- Current time
- XNX ID (the serial number of the XNX transmitter)
- Gas concentration (the gas concentration is displayed in this space)
- Alarm Thresholds 1 (the lower alarm threshold is displayed in the space)

- Alarm Thresholds 2 (the upper alarm threshold is displayed in the space)

4.2.10 EDD settings (Update rate settings)

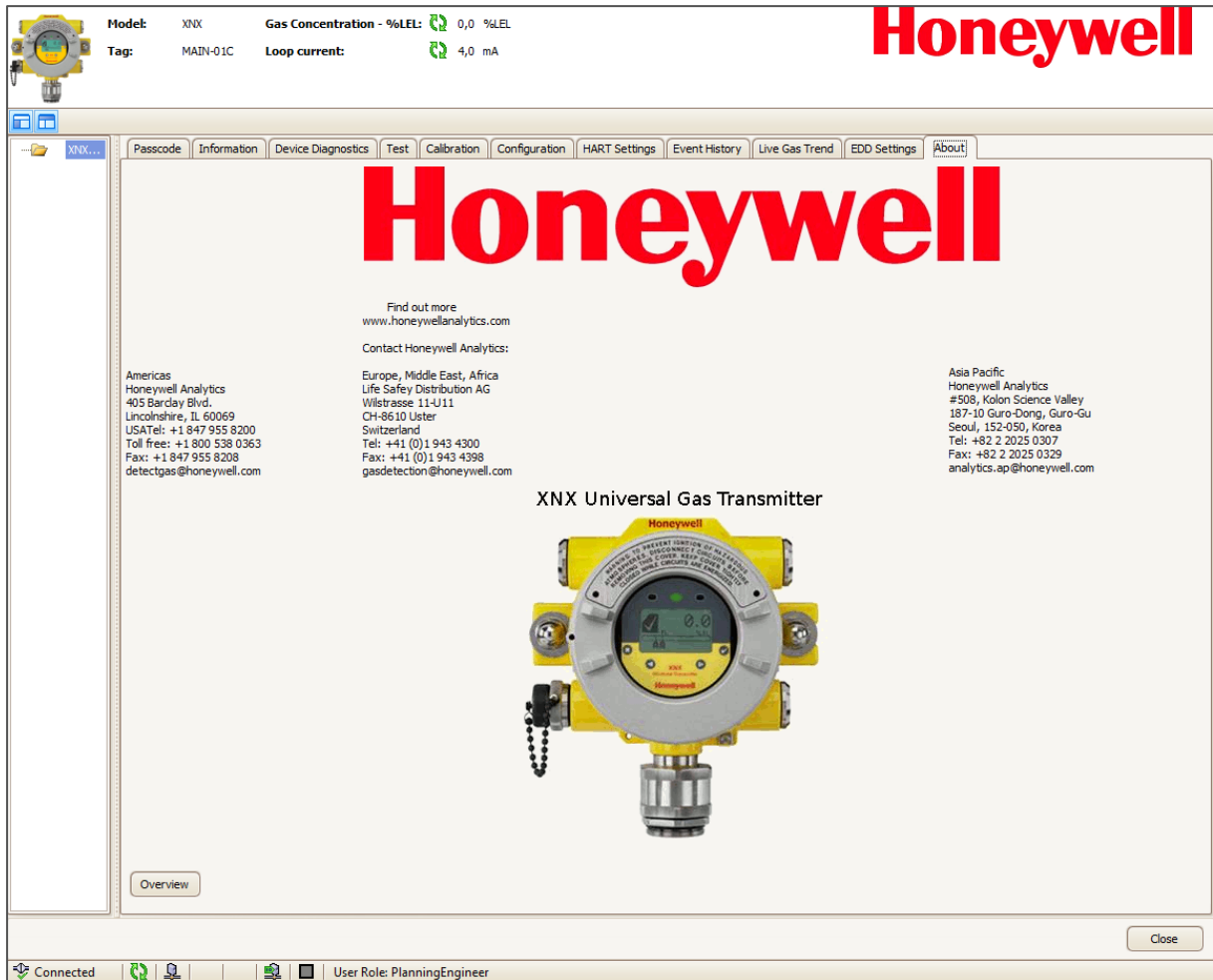
The following information is displayed in the EDD settings (Update Rate Settings) tag:



- Live Gas Trend Cycle Time (the sampling rate is set in this box)
- Live Gas Trend Length (the time of the display shown at one time is entered in this space)

4.2.11 About

The following information is displayed in the “About” tag:



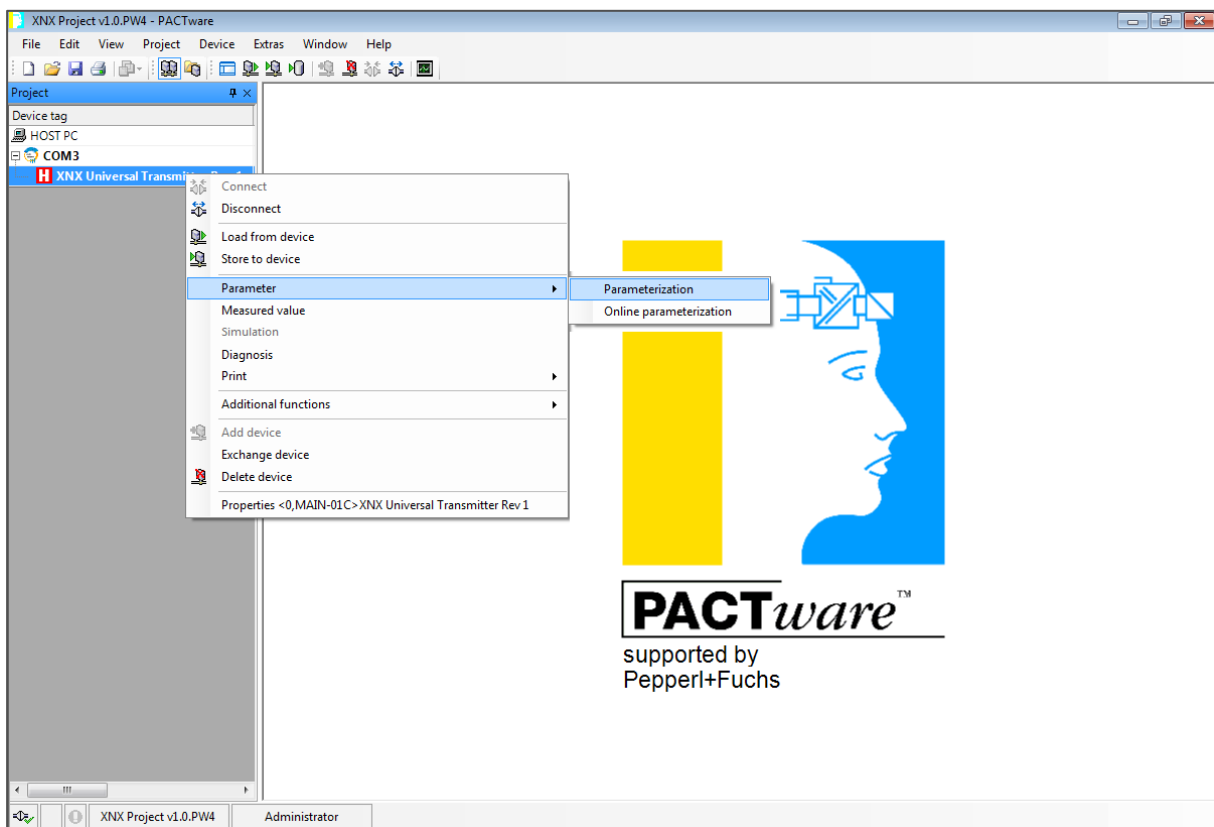
The About tab displays the URL of the Honeywell Analytics website and contact information for our headquarters in North America, South America, Europe, the Middle East, Africa, and the Asia Pacific region.

5 Offline parameterization

In offline mode, the project can be prepared, created and stored without connected instruments. Later on, in online mode these data can be transmitted to the instruments ready for operation.

The following pages describe the steps to offline parameterize a XNX device with the DTM. At this time it is presupposed that the DTM installation (§ 2.4) was already done.

In order to get started this function just right-click on device name in the project view on the left-hand side and select “Parameter” then “Parameterization”:



Offline configuration is the ability to manipulate device parameters without the presence of a physically connected device (commissioning, device exchange, device data set archiving). Offline parameters are stored by the FDT frame.

The offline parameterization provides a selection of features which can be found also in the online parameterization:

- Password (enter the password provided by Honeywell Analytics)
- Board type
- Sensor type (type of measurement application the device is intended to be used with)
- Gas concentration (the gas concentration is displayed in this space)
- Conc unit (the concentration units are displayed in this space)
- mV sensor type
- Gas name (the target gas)
- Alarm thresholds 1 (lower limit, Alarm 1 set point)
- Alarm thresholds 2 (upper limit, Alarm 2 set point)

- Relay 1 Latching State
- Relay 1 Latching State
- Alarm 1 direction
- Alarm 2 direction
- Alarm config (the seven options in the alarm configuration parameters can be selected from the list displayed in this area)
- Change Current settings button. The options are:
 - Inhibit Current (1.0 to 3.5 mA)
 - Warning Current (1.0 to 3.5 mA)
 - Overrange Current (20.0 to 22.0 mA)
 - Low Signal Level (1.0 to 4.0 mA)
 - Block Beam Current (1.0 to 4.0 mA)
- Inhibit current (the milliamp output that the transmitter will use to communicate the inhibit state)
- Warning current (the milliamp output that the transmitter will use to communicate a warning state)
- Overrange current (20.0 to 22.0 mA)
- Sensor temp
- Sensor life
- Calibration interval (the milliamp output that the transmitter will use to communicate the calibration Interval)
- Time date format (The options in the Time Date Format dropdown box are MM/DD/YY HH:MM and DD/MM/YY HH:MM)
- PV URV
- PV LRV
- Manufacturer (the manufacturer is displayed in this box)
- Model (the model is displayed in this box)
- Dev id (device identification number)
- Universal rev (a manufacturer's reference number)
- Fld dev rev (field device revision number)
- Software rev (displays the current XNX software revision number)
- Hardware rev (revision of hardware)
- Num req preams
- Num resp preams
- Poll addr
- Loop current mode (the options are enabled or disabled)
- Tag (a user-configurable space, typical used to display the equipment type)
- Descriptor (a user-configurable space, typical used to display such information as the location of the sensor)
- Long tag (this can be set if a long tag is used for HART addressing)
- Message (an area for a message created by the user)
- Distributor (an area for the distributor's name)
- Final asmbly num (a manufacturer's reference number)
- Ext dev status
- Cfg chng count
- LAL relative (the lower alarm limit)
- UAL relative (the upper alarm limit)
- Monitoring state (the current state of the sensor and transmitter)
- AlmFaultLevel
- Device status (data indicating that the device has detected conditions relating to its hardware, validity of variable, operating status and internal processes. Eight device statuses are displayed in this area)
- Alarm status (even alarm status parameters are displayed from the list in this area)

- Warning XXN (six XXN warning can be displayed from the list in this area)
- Status ECC / mV sensor
- Mode XXN (two device modes are displayed in this area)
- State XXN (two XXN states are displayed in this area)
- Operating Mode XXN (eight XXN operating modes are displayed in this area)
- Unit status (eight unit statuses are displayed in this area)

The screenshot displays the 'XXN-01C # Parameterization' window. At the top right is the Honeywell logo. The interface is divided into several sections:

- Header:** Model: XXN, Tag: MADN-01C.
- Left Panel:** Fields for Password, Board Type (No Option), Sensor Type (mV Bridge), Gas Concentration (0,0 %LEL), Conc Unit (%LEL), mV Sensor Type (MPD-JF1 (100%L)), Gas Name (Propane-2), Alarm Thresholds 1 (12,0 %LEL), Alarm Thresholds 2 (43,0 %LEL), Relay 1 Latching State (Energized), Relay 2 Latching State (Energized), Alarm 1 Direction (Descending), Alarm 2 Direction (Descending), Alarm Config (checked: Alarm 1 on Descending Concentration, Alarm 2 on Descending Concentration, Alarm 1 Latching, Alarm 2 Latching, Alarm 1 Relay Norm Energized, Alarm 2 Relay Norm Energized, Fault Latching), Change Current Settings, Inhibit Current (2,6 mA), Warning Current (3,4 mA), Overrange Current (21,6 mA), Sensor Temp (35 degC), Sensor Life (1612 Days), Calibration Interval (140 Days), Time Date Format (MM/DD/YY HH:MM), PV LRV (55,0 %LEL), PV URV (0,000 %LEL), Manufacturer (Honeywell Analytics), Model (XXN), Dev id (3230002), Universal rev (6).
- Right Panel:**
 - AlmFaultLevel:** ALARM 1 ACTIVE, ALARM 2 ACTIVE, UNUSED, WARNING FAULT, INSTRUMENT FAULT.
 - Device status:** Process applied to the primary variable is outside the operating limits of the field device, Process applied to the non-primary variable is outside the operating limits of the field device, PV Analog Channel Saturated, PV Analog Channel Fixed, Field device has more status available, A reset or self test of the field device has occurred, or power has been removed and reapplied, A modification has been made to the configuration of the field device, Field device has malfunctioned due to a hardware error or failure.
 - Alarm Status:** AL1, AL2, PV Latched ;pellistor, mV Bead Turned Off, Active Alarm, User Reset, Over Range Gas Exposed.
 - Warning : XXN:** Warn : Bad Power Supply (24V), Warn : Unit Temp Out of Range, Warn : Sensor Temp Out of Range, Warn : Sensor Negative Drift, Warn : Force mA Loop Timeout, Warn : Force Relay Time Out.
 - Status : ECC / mV Sensor:** Calibration Required, Fail : Sensor Communication, Stabilization Time Out, Fail : Programmable Gain Amplifier, Fail : mV Current Control, Sensor Failure.
 - Status(1) : IR Sensor:** IR : Sensor Failure, IR : Obscuration, Excel : Beam Block, Excel : Low Signal, IR : Communication Failure, mA : Input Failure, mA : Input at Fault Level, IR : Sensor Installation Error, IR : Unexpected Fault, IR : Sensor Communication Failure.
 - Mode : XXN:** XXN : In Align Excel, XXN : In Bump Test.
 - State : XXN:** XXN : Warning Active, XXN : Urgent Fault.
 - Operating Mode : XXN:** Healthy : Normal Monitoring, Warm-Up, Inhibited, Performing Calibration, Zero Calibration Successful, Span Calibration Successful, Zero Calibration Failure, Span Calibration Failure.
 - Unit Status:** Simulation Active, NV RAM / EEPROM Failure, RAM Failure, Watch Dog Reset Occurred, Voltage Conditions Out of Range, Environmental Conditions Out of Range, Electronic Defect, RTC Failure.
- Bottom Panel:** Num req preams (9), Num resp preams (5), Poll addr (0), Loop Current Mode (Disabled), Tag (MADN-01C), Descriptor (ASDFASDF), Long tag (XXN Universal Transmitter Rev 1), Message (ASDFASDFASDFASDF), Distributor (HONEYWELL), Final asbly num (0), Ext dev status (checked: Maintenance required, Device variable alert, Critical Power Failure), Cfg chng count (3613), LAL Relative (10,0), UAL Relative (55,0), Monitoring State (Warning Active).

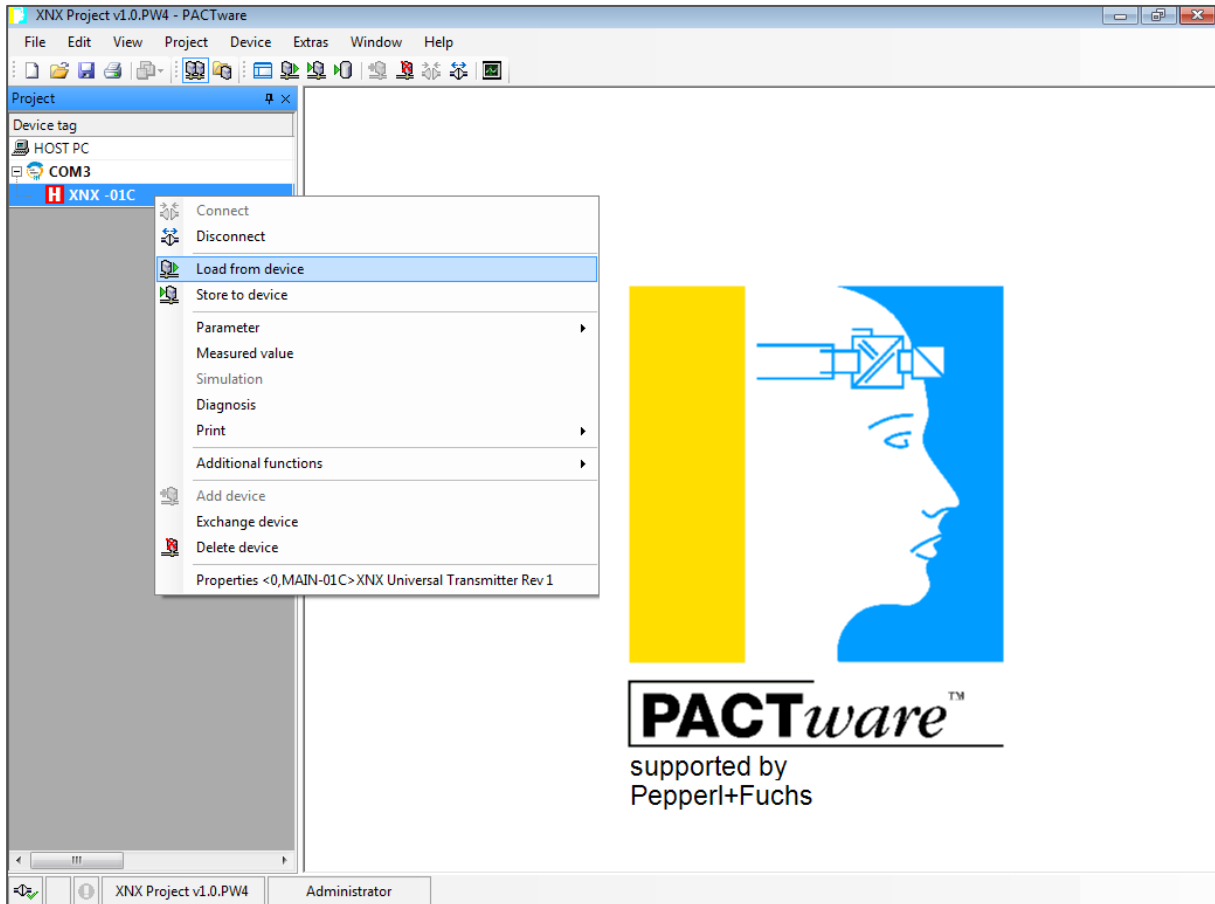
A 'Close' button is located at the bottom right of the window. The user role 'PlanningEngineer' is visible at the bottom of the interface.

5.1 Load from device

WARNING

You may lose the current offline configuration parameters.

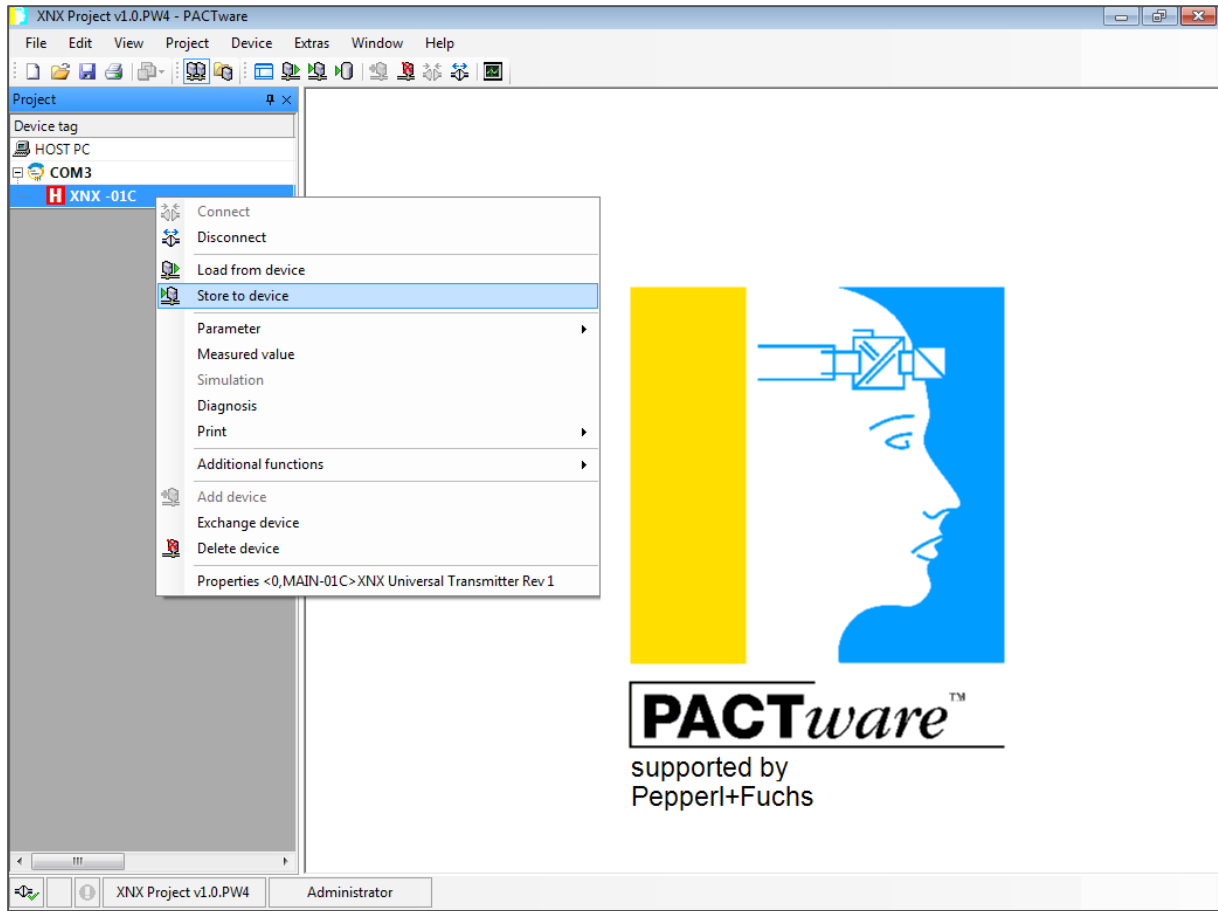
“Load from device” loads device parameters from the currently connected device to the Offline parameterization window of the DTM:



After clicking “Load from device” icon, an “Upload” screen will be shown and the upload progress bar. When the progress bar is through building, you can click on the “Edit device parameter” icon.

5.2 Store to device

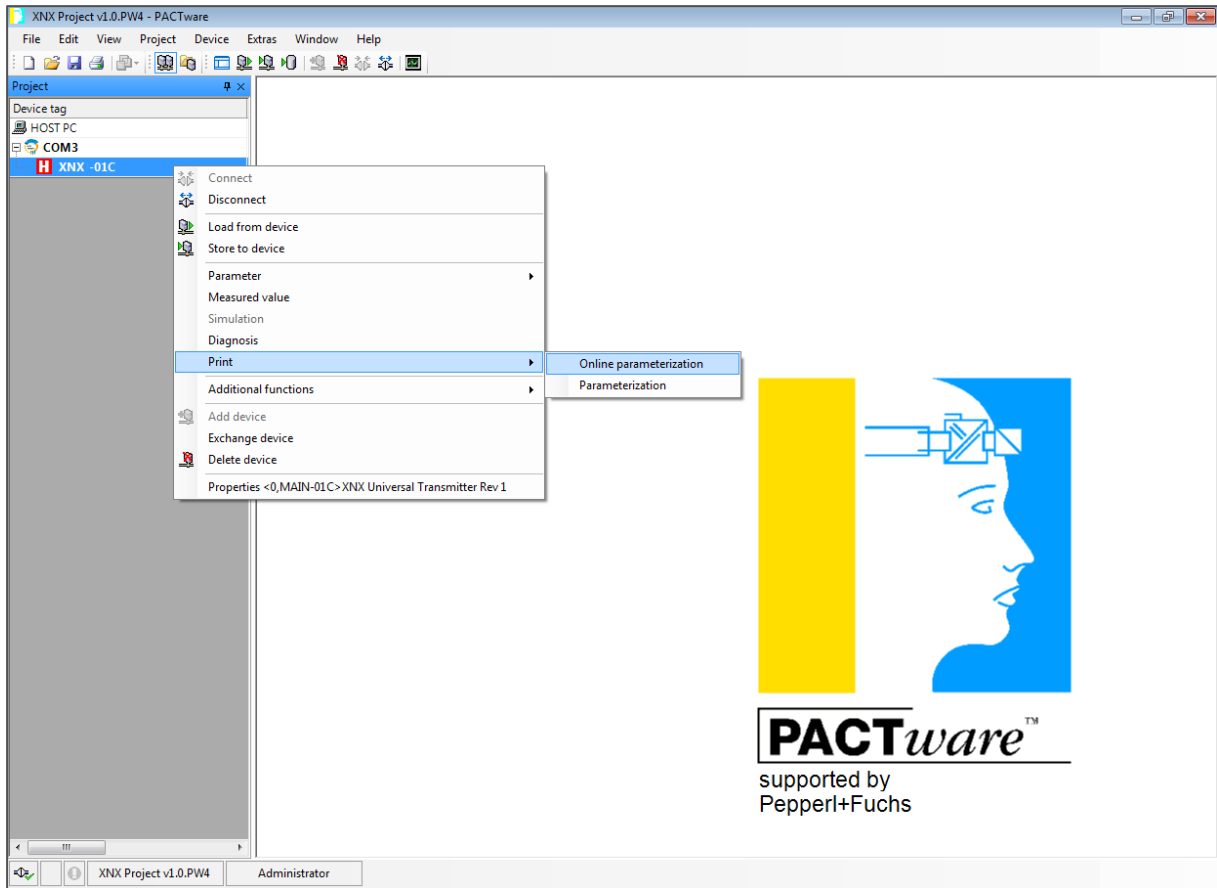
“Store to device” sends the device parameters from the “Offline parameterization” window of the current DTM to the currently connected device. Ensure the offline parameters are appropriate values before sending:



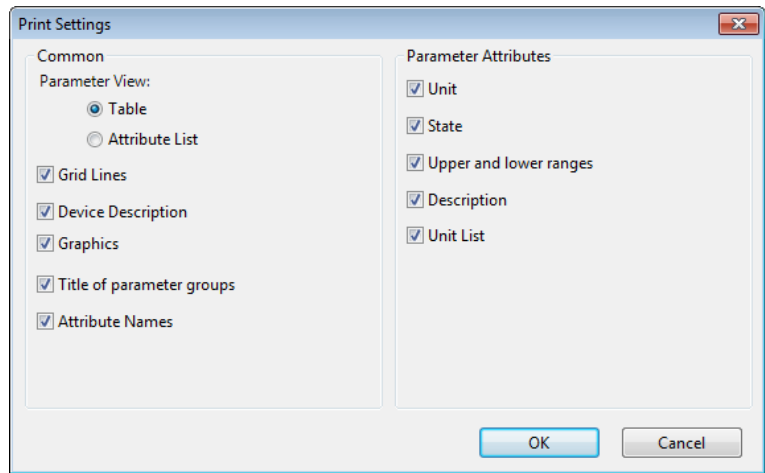
5.3 Print

“Print” is a frame specific function which offers the possibility to print the online/offline parameter set.

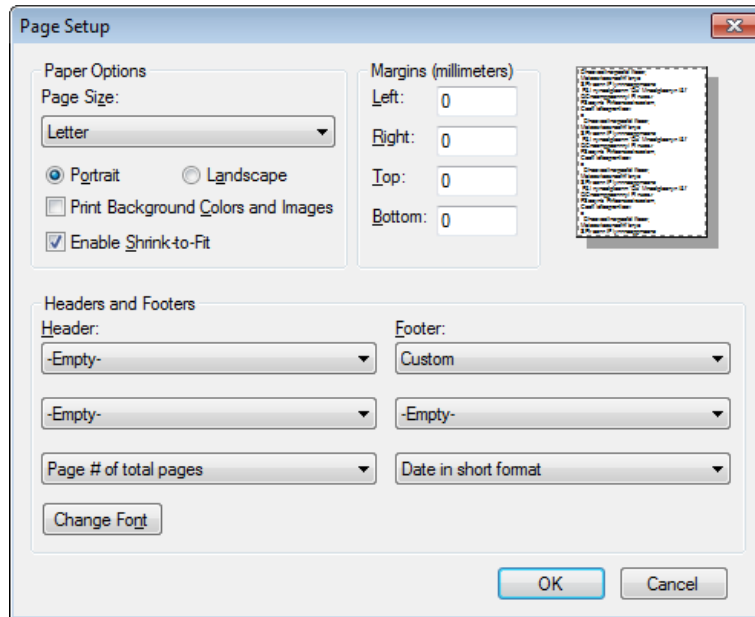
In order to print the parameter list just right-click on device name in the project view on the left-hand side and select “Print” then “Online parameterization” or “Parameterization”:



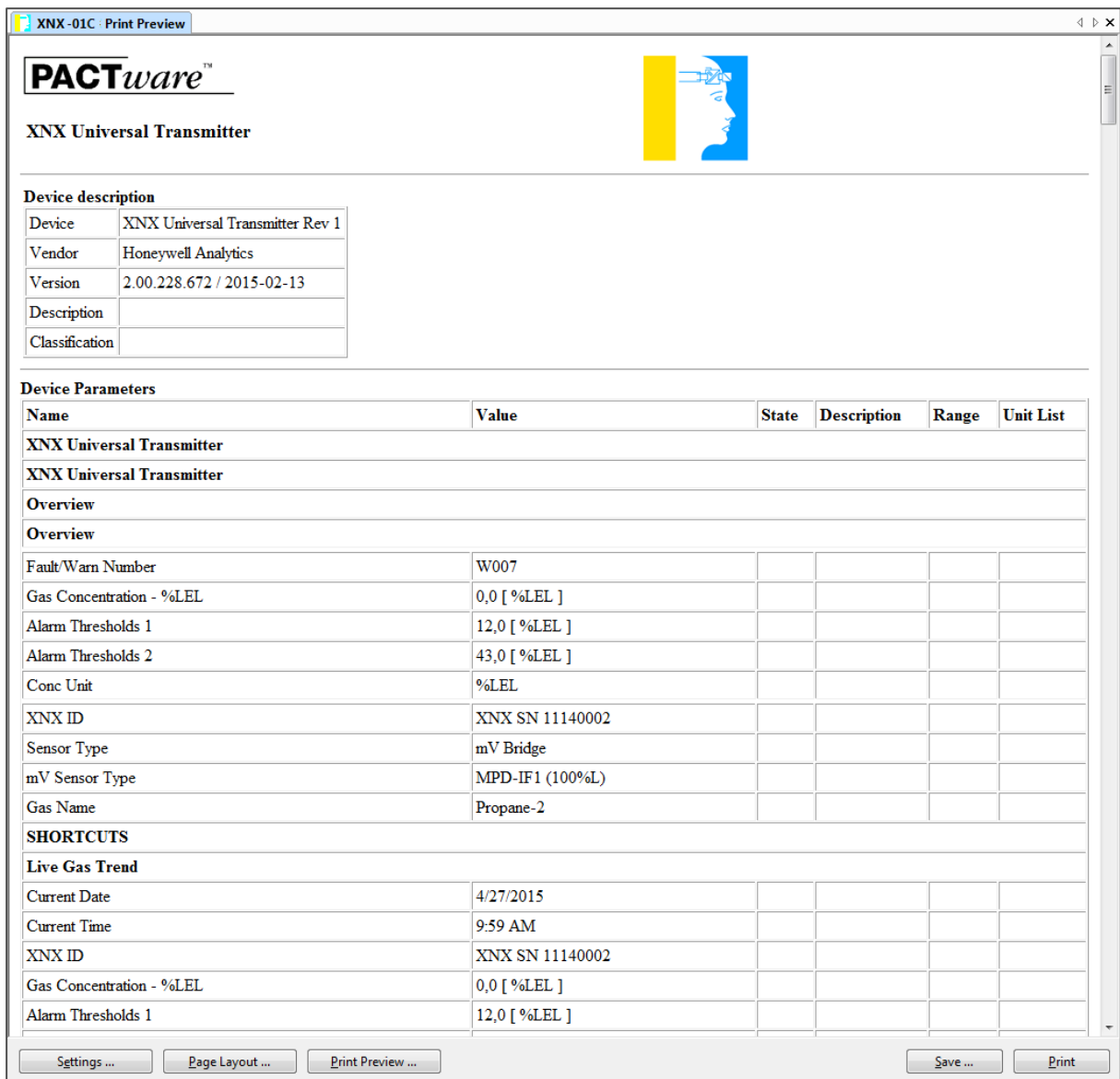
Define the items which shall be printed:



Also the page layout can be adjusted:



Before printing or saving the file on your computer, the print preview will be displayed:



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The Honeywell logo is displayed in a bold, red, sans-serif font. The letters are thick and closely spaced, with a distinctive 'y' that has a long, curved tail.