*PROFIBUS DP/V1*

*Since April 2007*

# EDD's for SIMATIC PDM

## Short Instructions

May 2008

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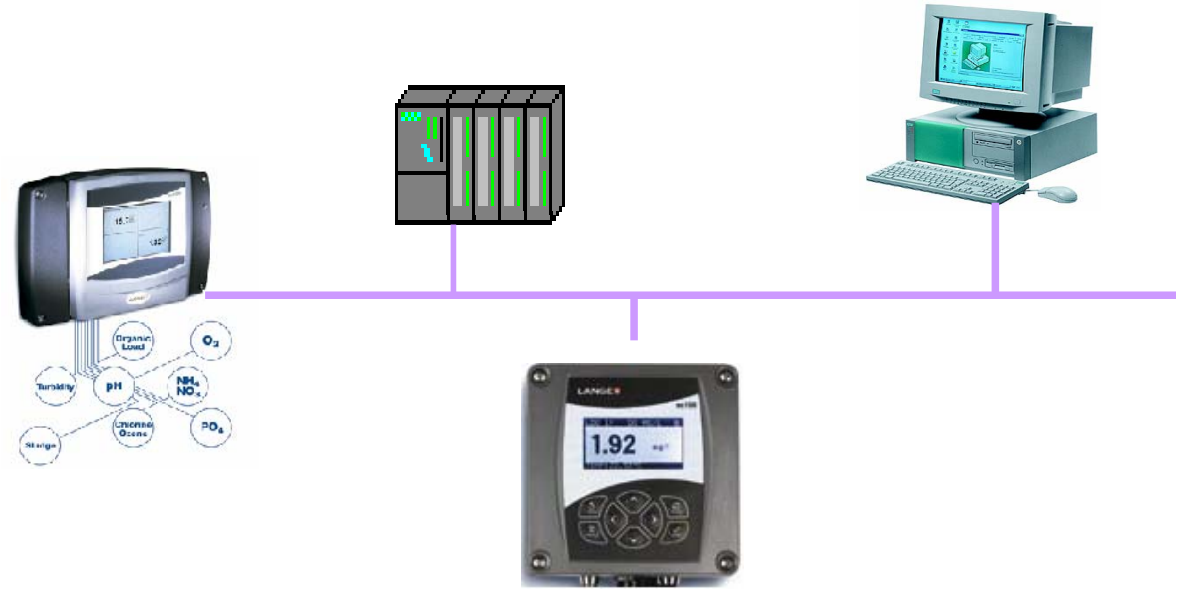
# Introduction & Identification

The SC100 and SC1000 standard controllers are the platform for all intelligent probes and analyzers from HACH-LANGE. The SC platform is a full digital communication system based on the open Modbus standard. Equipped with the Profibus interface card the SC controllers provide the complete range of values and parameters in a standardized method. The modular structure allows using the same GSD file for both controllers and all measurements. The HACH-LANGE SC100 and SC1000 is a PNO/PTO certified Profibus DP/V1 device which allows the access from master class1 (PLC SCADA) and master class 2 systems e.g. SIMATIC PDM



# Requirements - SC Controller

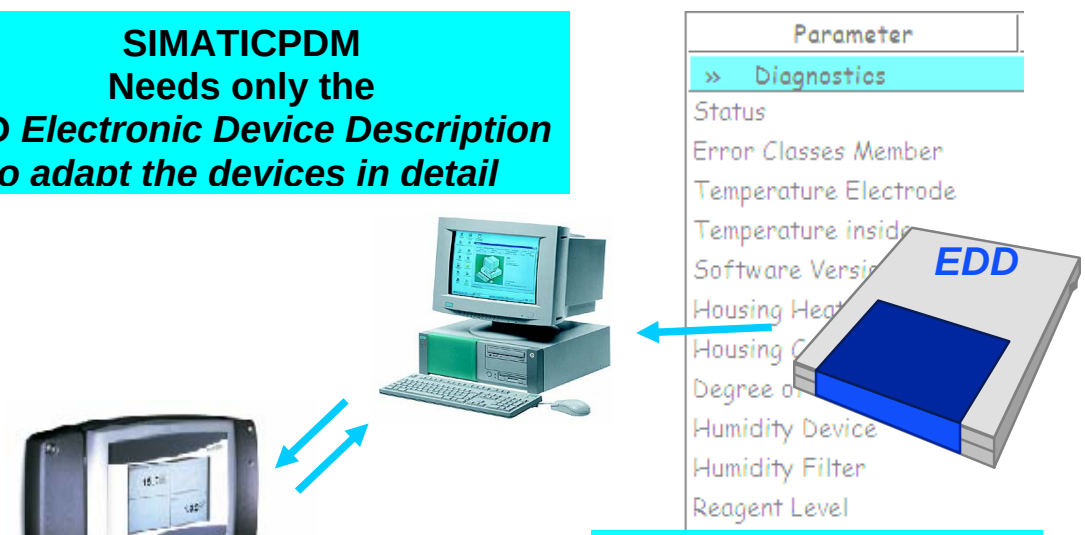
1. SC100: Software Version V4.0 or higher, since May 2008
   To verify the software version please enter SYSTEM SETUP > TEST/MAINT > CODE VERSION
2. Network card version V4.0 or higher, built-in since April 2007, see the label on the PROFIBUS network card.


**Note:** **please reboot the controller after the first start up.**
Start-up takes approximately 50 seconds.

# Operation Overview

The EDD files enable the PDM operations and face plates to run all the HACH LANGE probes and analyzers. These files are used to describe the entire probe/sensor properties as well as the menus, online windows and the face plate behaviour.

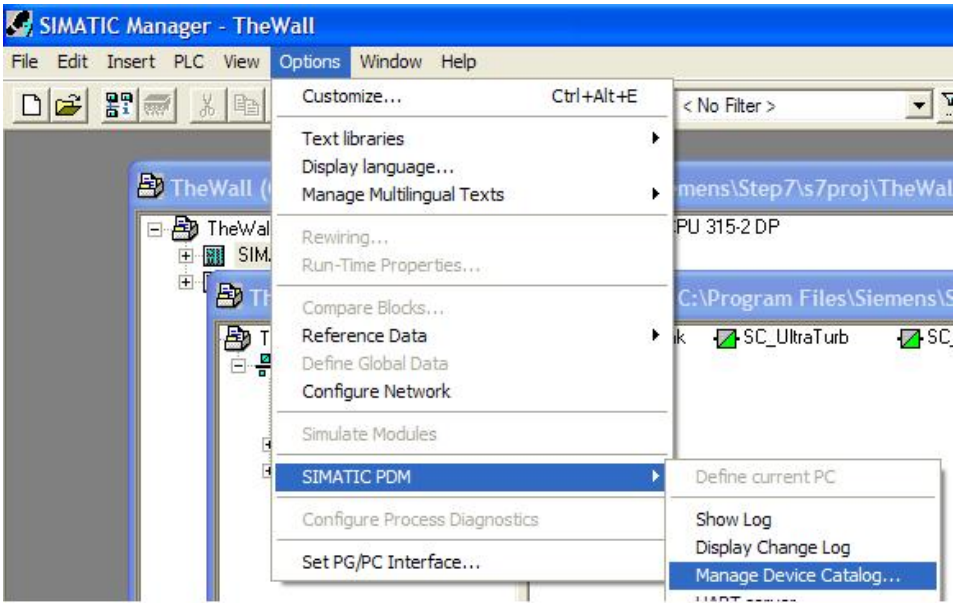
**SIMATICPDM**
**Needs only the**
**EDD *Electronic Device Description***
***to adapt the devices in detail***

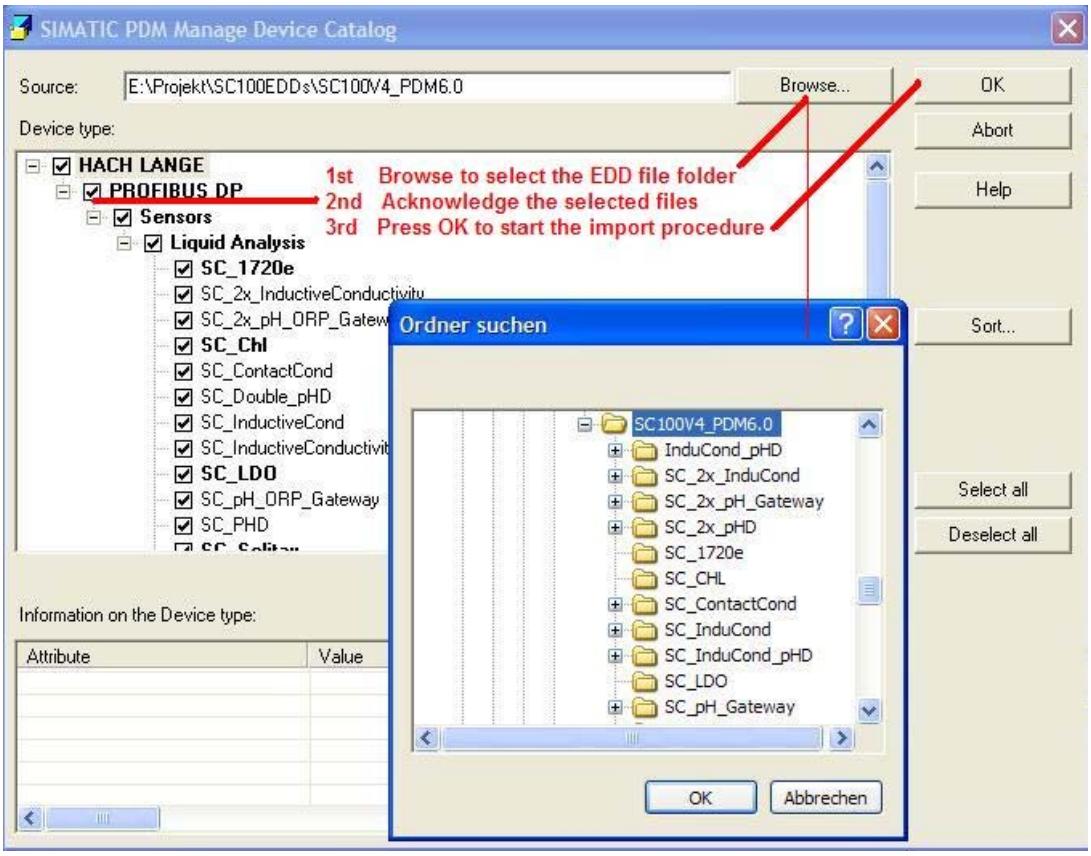



- ❑ **Diagnostic**
- ❑ **Parameterization**
- ❑ **Online values / displays**
- ❑ **Up-und Download settings**
- ❑ **Backup and Restore**

# PDM EDD import

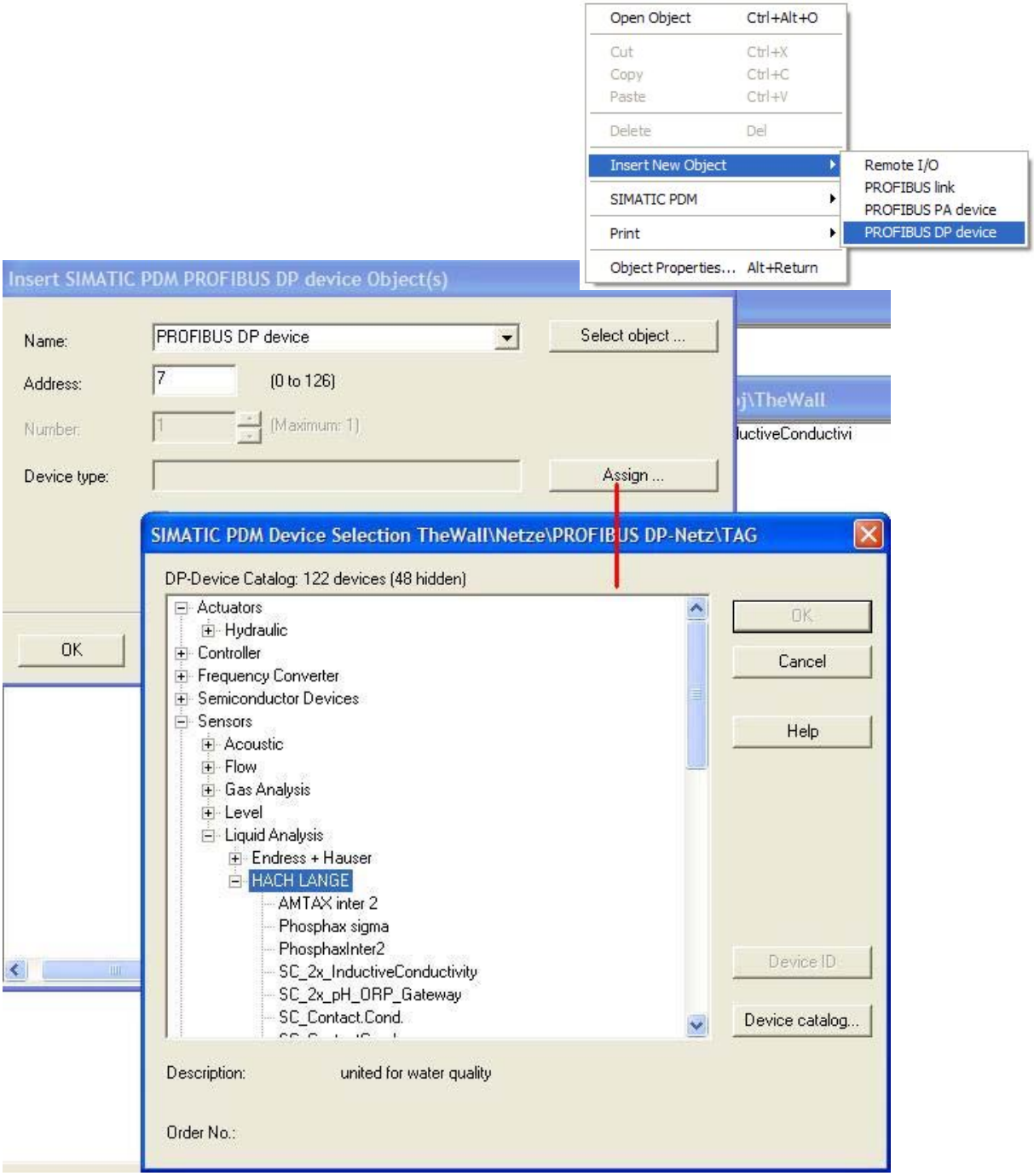
Using the SIMATIC Manager enter from
***OPTIONS > SIMATIC PDM > Manage Device Catalog***



# PDM device selection and assignment

HACH LANGE sensors are now available within the device catalog located at
***"Sensors > Liquid Analysis > HACH LANGE"***



# HACH LANGE EDD structure

HACH LANGE EDD's are all structured in the same manner.

- ***Profibus Interface*** Identification of the DP/V1 Profibus interface card.
- ***Identification probe 1*** Device ID, Serial number and sensor name of the first sensor.
- ***Identification probe 2*** Device ID, Serial number and sensor name of the second sensor, if available. Verify the device ID with the EDD name/type to check if the selected EDD matches the installed sensor types.
- ***Settings 1*** All settings from the first sensor. The white background color indicates that the entry is writeable. Opening the face plate in MAINTENANCE mode allows only the read access, write access is available using the "SPECIALIST" mode.
- ***Diagnostics 1*** Diagnostic data derived from the first sensor.
- ***Measurements probe 1*** All output values derived from the first sensor.
- ***Settings 2*** All settings from the second sensor, if available.
- ***Diagnostics 2*** Diagnostic data derived from the second sensor.
- ***Measurements probe 2*** All output values derived from the second sensor.

SIMATIC PDM - SC_UltraTurb_LDO [Project: TheWall -- C:\Program Files\Siemens\Step7\s7proj\TheWall]

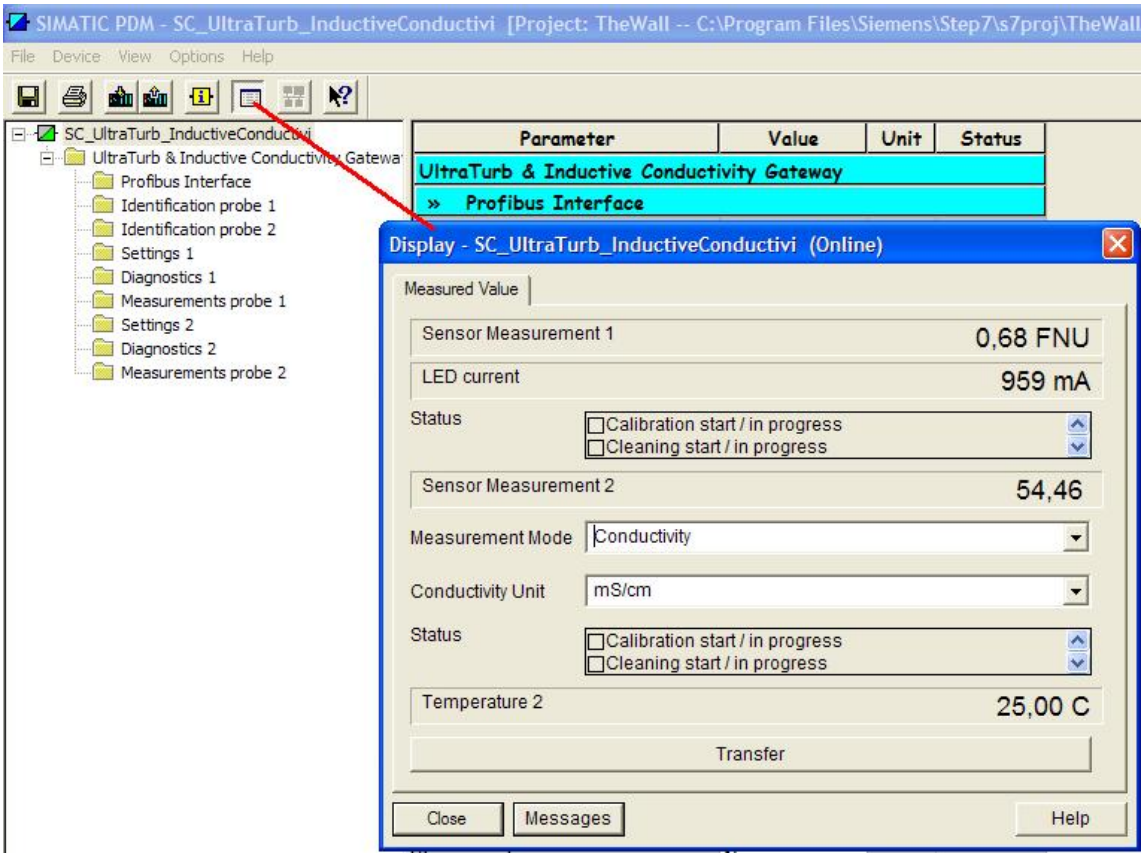
File Device View Options Help

- SC_UltraTurb_LDO
  - UltraTurb & LDO
    - Profibus Interface
    - Identification probe 1
    - Identification probe 2
    - Settings 1
    - Diagnostics 1
    - Measurements probe 1
    - Settings 2
    - Diagnostics 2
    - Measurements probe 2

| Parameter | Value |
|---|---|
| **UltraTurb & LDO** | |
| » **Profibus Interface** | |
| Vendor Name | HACH LANGE |
| Fieldbus type | YAB015 DP/V1 |
| Model Number | 240107 Rel 1.2 |
| » **Identification probe 1** | |
| Device ID | ULTRATURB SC |
| Serial No 1 | 0x0 |
| Serial No 2 | 0x120 |
| Serial No 3 | 0x7351 |
| Location | UltraTurb 1st |
| » **Identification probe 2** | |
| Device ID | LDO |
| Serial No 1 | 0x3 |
| Serial No 2 | 0x1141 |
| Serial No 3 | 0x160 |
| Probe Location | LDO 2nd |
| » **Settings 1** | |
| Measurement unit | FNU |
| Correction | 1 |
| Offset | 0 |
| Wiper state | park position |
| Response time | 15 |

# Online Measurement Windows

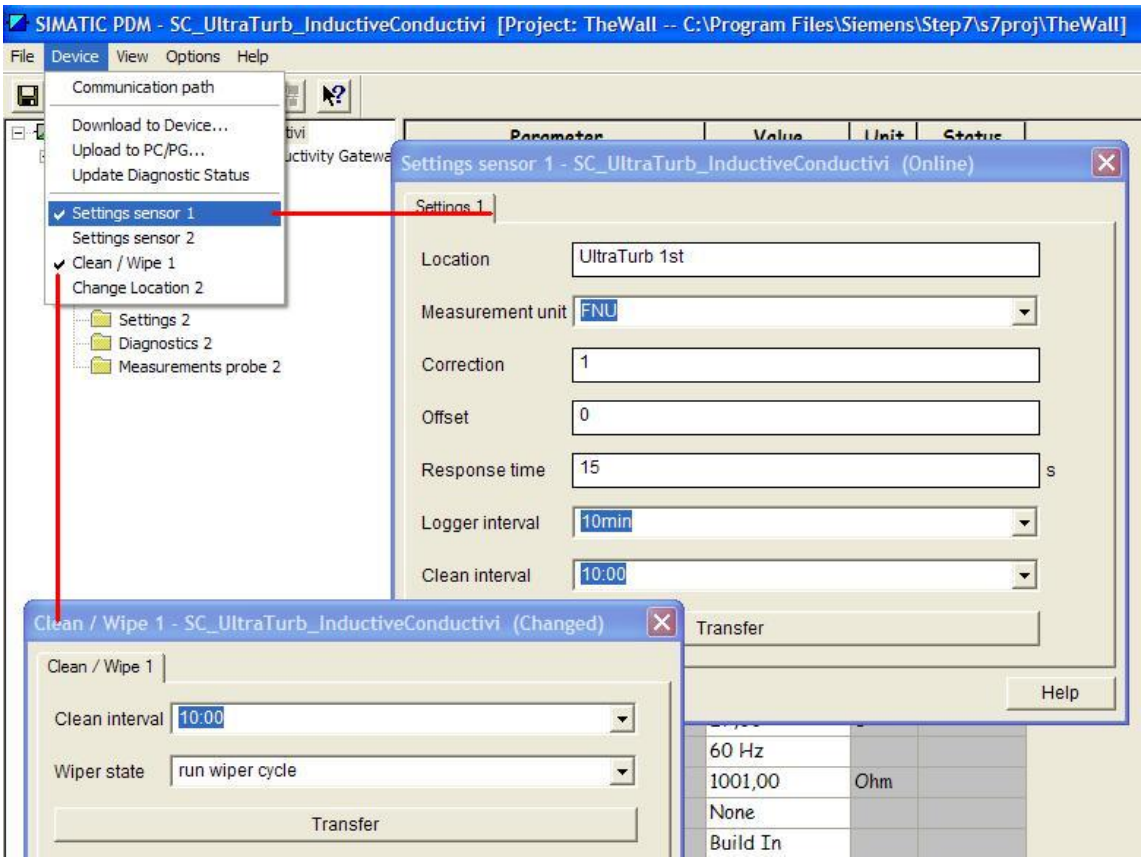
All HACH LANGE EDD's support a dynamic measurement monitor, displaying the measurements, units and status information which are updated periodically.



# Online Configuration Windows

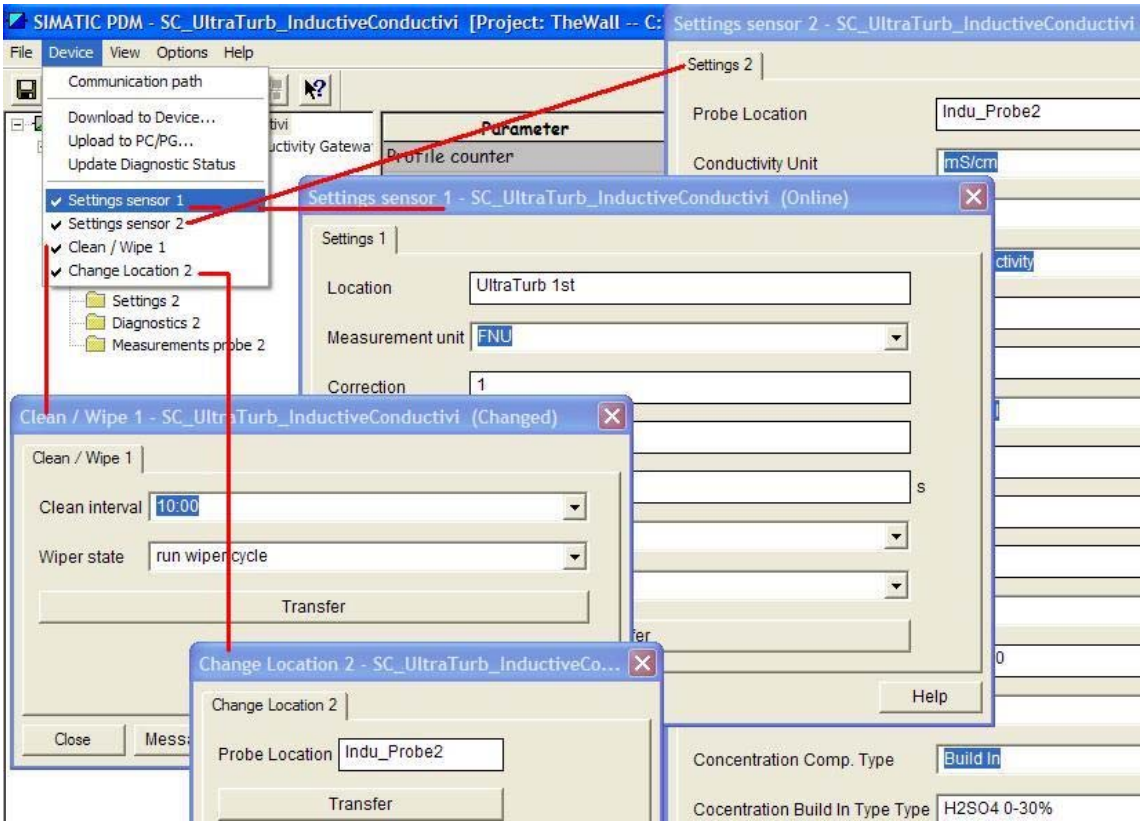
All HACH LANGE EDD's support a dialog for configuration purpose. Dual Sensor EDD's offer different windows for sensor 1 and sensor 2.

Note: Please close all dynamic measurement windows while performing parameterization or parameter download / upload procedures!



Online configuration windows are used to upload or download complete parameter sets. Particularly with regard to Dual Sensor EDD's the use of the assigned "Setting Windows" is performing much faster then the parameterization from the main page, because only the changed parameters will be updated.

Sensors equipped with a cleaning device or wiper e.g. SOLITAX, ULTRATURB and many analyzers have a separated dialog window available to start a cleaning cycle remotely.



# Available Single Sensor EDD’s

| Single Sensor EDD's | |
|---|---|
| **Device type** | **EDD Name** |
| SOLITAX | SC_Solitax |
| LDO | SC_LDO |
| 34xx Contacting Conductivity Digital Gateway | SC_ContactCond |
| 37xx Inductive Conductivity Digital Gateway | SC_InduCond |
| 1200 SC pH/ORP Combination Digital Gateway | SC_pH_Gateway |
| 1720E Turbiditymeter | SC_1720e |
| 9184 SC Chlorine Analyzer | SC_CHL |
| pH ORP Differential Sensor | SC_pHD |
| ULTRATURB plus sc | SC_UltraTurb |
| Amtax_SC | SC1000Amtax |
| Phosphax_SC | SC1000Phosphax |
| Nitratax SC | SC1000Nitratax |
| Amtax inter2 | AmtaxInter |
| Phosphax inter2 | PhosphaxInter |
| Surface Scatter 7 | SC_SS7 |
| Phosphax sigma | PhospphaxSigma |
| 1200 S-SC pH/ORP | SC1000_pH_ORP |

# Available Dual Sensor EDD’s

| Dual Sensor EDD's | |
|---|---|
| **Device type** | **EDD Name** |
| Dual pH ORP Differential Sensor | SC_2x_pHD |
| Dual 37xx Inductive Conductivity Digital Gateway | SC_2x_InduCond |
| Dual SC pH/ORP Combination Digital Gateway | SC_2x_pH_Gateway |
| 37xx Inductive Conductivity Digital Gateway + pHD | SC_InduCond_pHD |
| UltraTurb + 37xx Inductive Conductivity | SC_UltraTurb_InduCond |
| UltraTurb + LDO | SC_UltraTurb_LDO |
| UltraTurb + pHD | SC_UltraTurb_pHD |

## Sensor sequencing:

Dual sensor EDD’s combine two sensors operating with one SC-Controller, either SC100 or SC1000. It is important that the order of the sensors is the same on in the SC-Controller and in the EDD!

### Order of the Sensors on SC100:

The order of probes is determined by the internal Modbus address. The first sensor that was scanned and recognized by the SC100 gets the address 1. The second sensor will be assigned to address 2. Scanning both sensors at the same time will result in random assignment which may result in conflicts with the order in the EDD.
The order of sensors can be changed manually by changing the MODBUS address. Please enter
***SYSTEM SETUP > NETWORK SETUP > MODBUS ADDRESS***

### Order of the Sensors on SC1000:

The order of probes is determined by the order they are configured within the PROFIBUS telegram. The first sensor configured in the telegram matches to the first sensor in the EDD, the second sensor matches to the second sensor in the EDD. To change the order enter:
***SYSTEM SETUP > NETWORK SETUP > PROFIBUS > TELEGRAM***

**Note: The sensor order specifies also the data order at the cyclic Profibus communication!!**