

Software DeltaLog12 Manual

Introduction

DeltaLog12 software allows you to manage from your own PC the tools of the series HD2717T... and HD2817T... in case of a single connection and in case they are included in RS485 network.

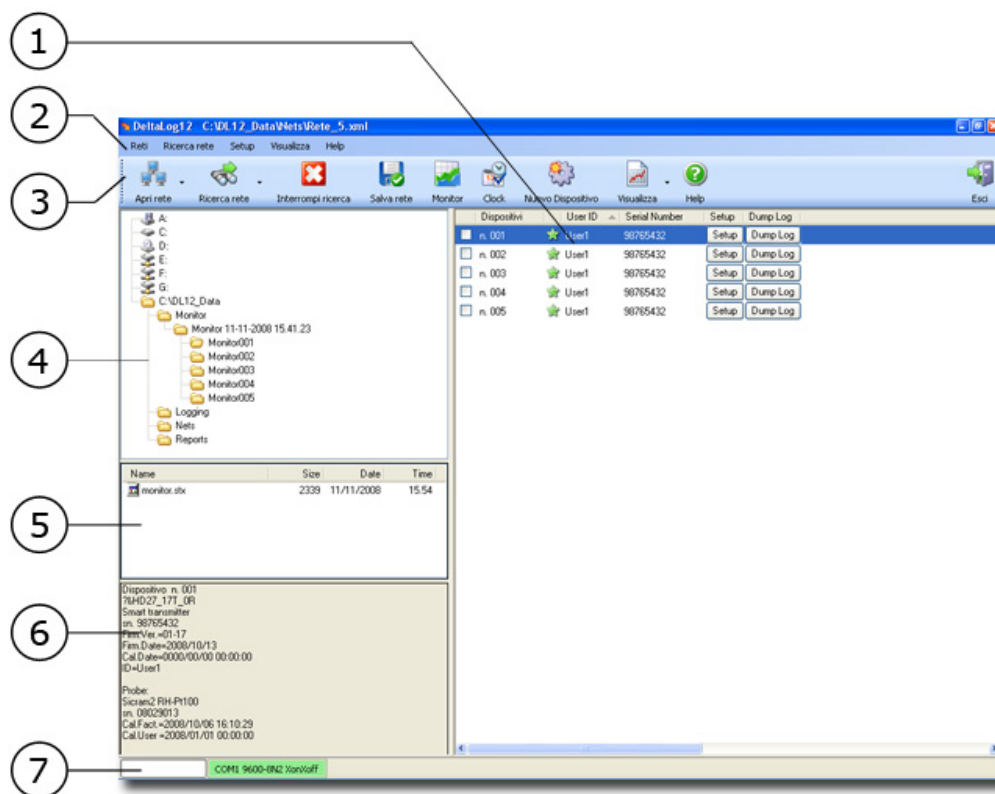
In real time, it's possible to visualize the measures detected from the tool, under a graphic shape, with the function Monitor. The data memorized in the internal memory of each tool can be discharged to the PC and saved on file, printed and exported to the main data formats (Excel, Word, Acrobat, Rich text,...).

The software is provided with the automatic research function of the tools connected to the PC. In order to facilitate the user in the management of a network composed by a high number of tools, there is a special function that creates some subgroups of the main network: then, each subgroup can be managed in an automatic way from the rest of the network and all the software functions can be applied to it.

DeltaLog12 Start up

Start up the program with a double click on the icon on the desktop or select the voice *DeltaLog12* in the folder *DeltaOhm* in Start Up Menu.

The first screen that appears is indicated below:



The following areas can be individualized:

1. **Window of the connected devices:** window that indicates the list of the tools connected to the PC. During the start up, the program charges the configuration that is active since the previous closure.
2. **Menu:** it contains the voices of the menu.
3. **Toolbar buttons:** whole of the icons that contain the main controls of the program.
4. **Folder windows:** they visualize the whole of the PC folders and the predefined work folder. Selecting a folder with a double click, in the section below (point 5) you can see the content. With a double click on the file's name, you can open directly the file.
5. **Files Folder:** whole of the files contained in the selected folder in the upper window (point 4).
6. **Properties Window:** it indicates the features of the selected file in the files' window (point 5).
7. **Status Bar:** it offers information on the serial Connection. The green tag indicates that the software is correctly connected to the tools connected to the PC. A red tag indicates that there is no connection. In order to solve eventual problems of connection, look at the chapter "Resolution of connection problems".

Predefined Work Folder

All the files processed by DeltaLog12 software are saved inside a defined folder like "Predefined Work Folder".

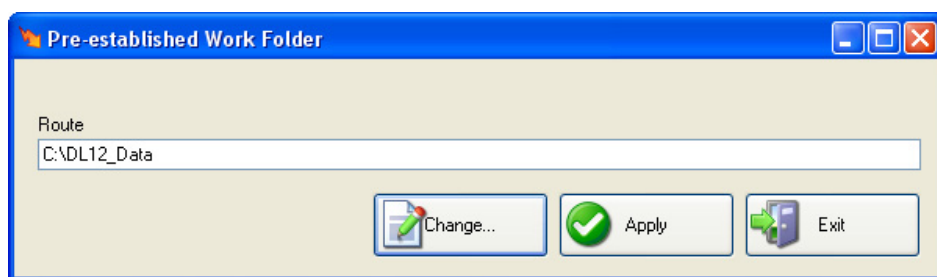
The folder contains other sub-folders:

- a "[Logging](#)" folder in which are archived the data discharged from the tools connected to the PC,
- a "[Monitor](#)" folder that picks all the acquired data with Monitor function,
- a "[Nets](#)" folder with the files that describe the nets connected to the PC,
- a "[Report](#)" folder with the saved files with Export function like "RPT" files.

DeltaLog12 software, during its installation, creates a folder called "C:\DL12_Data" in the root of installation disk.

In order to modify the name and the position of this folder, there is the menu control "Setup >> Work folder".

The following folder opens:



Press the button "Change..." and select the new folder: confirm with OK.

Press the button "Apply" to close the window.

To let the actual modification, it's necessary to close and open again the program.

Connection to the PC

HD2717T... and 'HD2817T... are provided with a RS232C/RS485 serial main multistandard communication port and a RS232C auxiliary serial port COM AUX.

The main port have 11, 12 and 13 clamps belonging to the terminal box, the COM AUX auxiliary port has its own 3 poles connector placed near to 10 clamp.

To a fixed connection to the PC, for the management of the tool, for RS485 net connection, etc., use RS232C/RS485 multistandard port.

The auxiliary port has to be kept busy **only for temporary connections** for operations such as, for example, the first configuration of the tool described as [follows](#).

In the instruction manual of the tool are indicated the details about the connection type to make in function of the length of line and the number of tools to connect to the PC (look at the chapter "*Serial communication and tools net*").

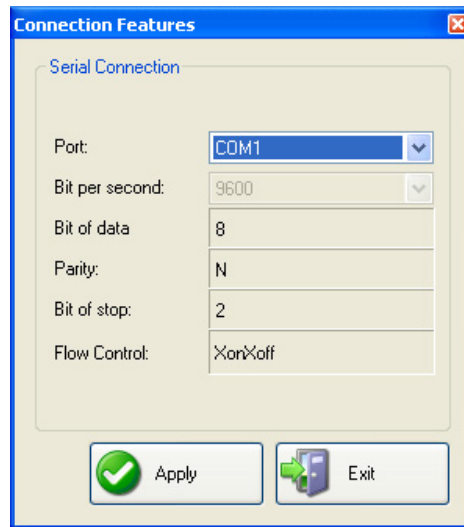
First set up of the tool

The function that can be activated with "New device" button allows to set the **address**, **UserID** and serial protocol of a new tool. These parameters can be set also acting directly from the menu of the tools if you have HD2717T and HD2817T models equipped with a display (look at the relative manual of use).

For HD2717Tx.0x models without the display, it's necessary to use this DeltaLog12 function.

Process

1. Connect AUX COM port to the device of RS232 serial port with RS27 apposite serial cable.
2. Start DeltaLog12.
3. Open the menu function "Setup >> Serial Connection".

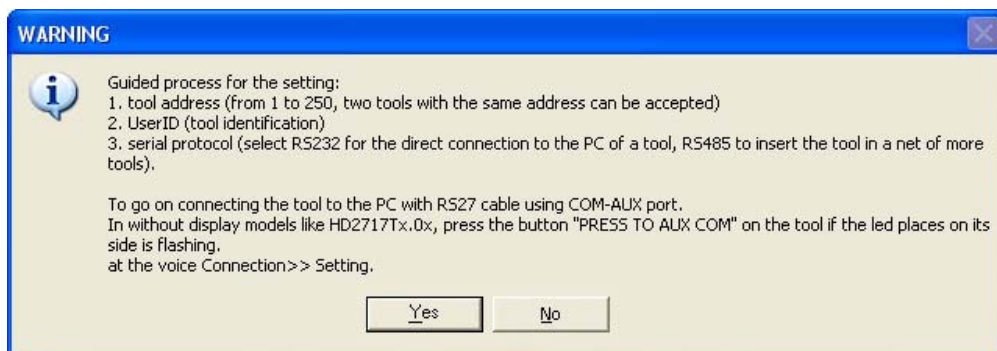


4. Select COM port to which is connected the tool. The other parameters of the connection are fixed and can't be modified.
5. Confirm with the button "Apply".
6. Connect the tool: so AUX COM port is automatically selected for a minute.
In the models with display, it is also possible to press AUX button on the tool (AUX flashing led indicated that AUX COM port is active).
In the models with display, go in the menu of the tool and select AUX COM port.

7. Start the train process pressing "New device" button.



8. At the following screen that resumes the purpose of the process, press YES:



9. The first of three windows for the address modification opens: at the top, the data of the tool and the probe are indicated. With the window menu it's possible to select a new address.

HD28_17T_DR0 sn. 09014275

Tool Data

HD28_17T_DR0
 Smart transmitter
 09014275
 Firm.Ver.=02-05
 Firm.Date=2009/04/14
 Cal. Date: 000000000000
 Id: usercodegoeshere
 Address n.: 2

Change the address

The current address of the tool is: 2

List of available addresses

1

✓

10. Change the address, selecting it between the ones available.

11. Press the flag button to confirm the new value and pass to the following screen.



12. The second screen opens with the settings of **UserID**: insert, if you want, the new UserID changing the actual one.

13. Press the confirmation button to go on.

HD28_17T_DR0 sn. 09014275

Tool Data

HD28_17T_DR0
 Smart transmitter
 09014275
 Firm.Ver.=02-05
 Firm.Date=2009/04/14
 Cal. Date: 000000000000
 Id: usercodegoeshere
 Address n.: 1

User ID Change

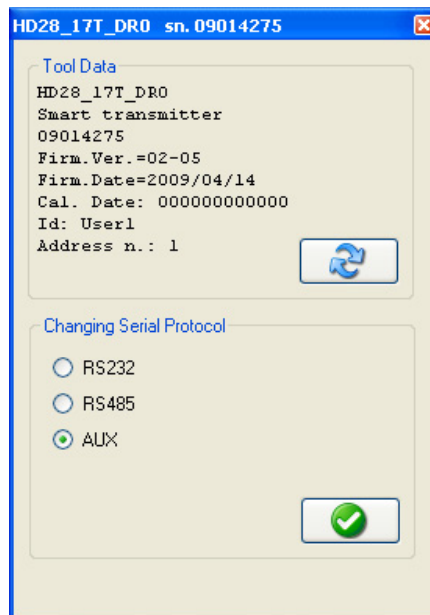
Current User ID: usercodegoeshere

New User ID

User1

✓

14. The third and last screen opens, so you can select the communication protocol:



15. The actual selection is on "AUX": select the communication protocol using by the tool in its final working:

RS232 if there is only the tool directly connected with the PC at a maximum distance of 15 meters.

RS485 if there is only a tool far more than 15 meters from the PC or if you want to realize a net with more tools. In both cases it's necessary to put between the tool and the PC a RS232/RS485 converter (look at the details in the tool manual).

16. Press flag button to confirm the new protocol and stop the process.



17. Disconnect the tool from the PC.

The same process has to be done for all the tools you want to insert in the net.

Warning: after the change of the communication protocol (RS232 and RS485), the tool stops to communicate with the COM AUX port so, if there are other settings to do (for example the setting of the date and hour), there must be done before the start up of the process.

The process can be repeated starting from the beginning and repeating all the processes.

Connection to PC for the tools of HD2817T ... series

1. Connect the 11-12-13 clamps as indicated on the tool manual: for the connection with RS485 protocol, it's necessary to put RS232/RS485 converter between the PC and the tool.

2. Select the type of protocol, commuting into the tool the dip-switch at the left of the 11 clamp on "RS232" and "RS485".

3. Go into the menu of the tool, pressing the button MENU (Look at the [note](#)).

4. With the arrows select "Serial" and confirm with ENTER.

5. With the arrows select "RS232" or "RS485" and confirm with ENTER. Next to the selected voice, an asterisk appears.

6. For the direct connection of a unique tool (in RS232 or RS485) is not necessary to change if the address that belongs to the company is equal to 1 (go to the following point).

If you are installing a tool net in RS485, assign to each tool a different address: with the arrows select the voice of the menu "Address" and press ENTER button.

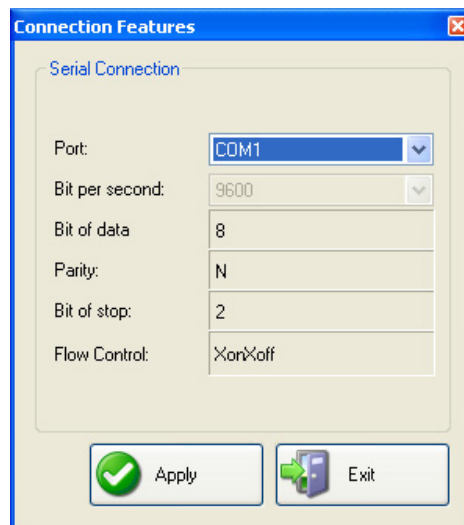
"Address" written is flashing.

With the arrows assign to the tool the address' number and confirm with ENTER button.

To speed up the search of the tool in the net, we suggest you to start from the address 1 and go on assigning high numbers to the different tools.

7. Press MENU to go out from the menu of the tool and come back to the measure.

8. Connect the PC where is installed DeltaLog12 software.
9. Start DeltaLog12.
10. Open the menu function "Setup >> Serial Connection".

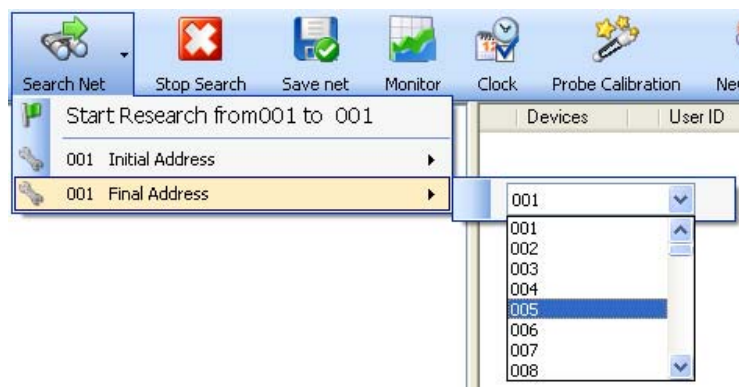


11. Select COM port to which is connected the tool. The other parameters of the connection are fixed and can't be modified.
12. Confirm with the button "Apply".

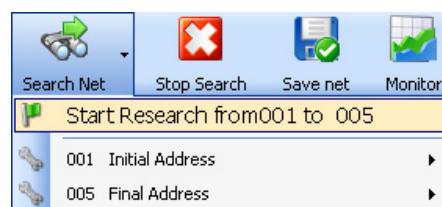
13. Start the tools connected to the PC with "Net Search" button .



14. Select the first and final addresses assigned to the tools that compose the net.



15. Press "Start search from ... to ..." button to start the connection of the tools.



16. In the screen at the right, the list of the detected tools opens: a green start indicates the tools correctly connected to the PC.

Devices	User ID	Serial Number	Setup	Dump Log
✓ n. 001	★ User1	09014275	Setup	Dump Log
✓ n. 002	★ User1	09014275	Setup	Dump Log
✓ n. 003	★ User1	09014275	Setup	Dump Log
✓ n. 004	★ User1	09014275	Setup	Dump Log
✓ n. 005	★ User1	09014275	Setup	Dump Log

17. The software asks for saving the actual configuration: assign a name to the net and confirm with OK.

18. The connection process is completed.

When you open again it, the software charges the last saved configuration.

Using "Open Net", it's possible to charge a net saved before.



Look at the chapters:

["Manage of nets"](#) to manage the tools nets,

["Data discharge"](#) to discharge the data from the memory of the tools connected to the PC,

["The function Monitor"](#) for the reading in continuous of the measures detected from the tools connected to the PC.

Note: the settings of the address of the tool, of the USER ID and the serial protocol (points from 3 to 7) can be also done from the software through ["New device"](#) control. In this case it's necessary to connect COM AUX serial auxiliary port of the tool to the PC with RS27 cable.

Connection to the PC for the tools of HD2717T series ... with display

1. Connect 11-12-13 clamps as indicated in the tool manual: for the connection with RS485 protocol, it's necessary to put RS232/RS485 converter between the PC and the tool.

2. Select the type of protocol, commuting the dip-switch in the tool at the left of 11 clamp on "RS232" or "RS485".

3. Go in the menu pressing MENU button (Look at the [note](#)).

4. Press ENTER button till reading on the line of the comments the written "COMM_PORT_SEL" (Select the serial port).

5. With the arrows select "232" or "485" and confirm with ENTER.

6. For the direct connection to a tool (in RS232 or RS485) it's not necessary to change the address that is established by the company and is equal to 1 (go to the following point). If you are installing a tool net in RS485, assign a different address to each tool: press ENTER till reading the written "ADDR_SEL" (Setting of the address number).

With the arrows assign the address number to the tool and confirm with ENTER.

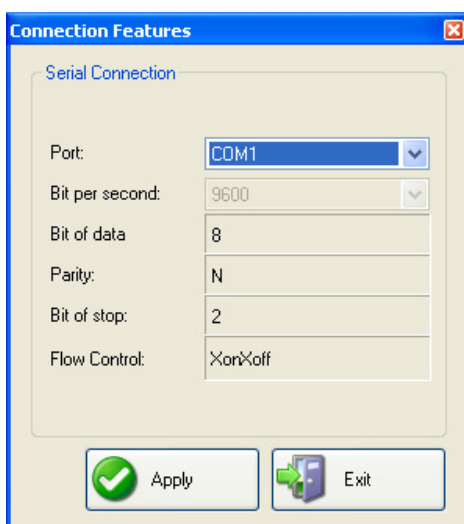
To speed up the research of the tool in the net, we suggest you to start from the address 1 and go on assigning high numbers to the different tools.

7. Press MENU to exit from the menu of the tool and come back at the measure.

8. Connect the PC where you installed DeltaLog12 software.

9. Start DeltaLog12.

10. Open the function of the menu "Setup >> Serial Connection".



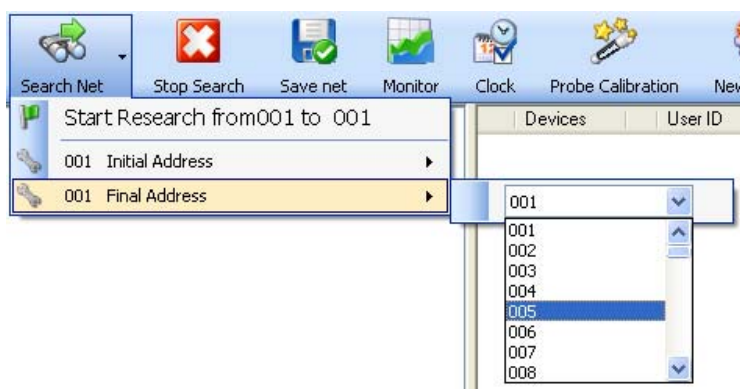
11. Select COM port to which the tool is connected. The other parameters of the connection are fixed and can't be changed.

12. Confirm with "Apply".

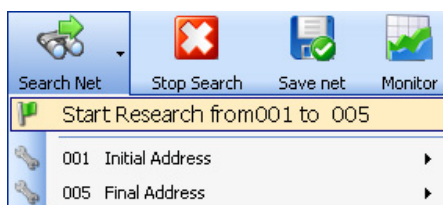
13. Start the research of the tools connected with the PC with "Search net".



14. Select the initial and final addresses assigned to the tools that compose the net.



15. Press "Start research from ... to ..." to start the connection of the tools.



16. In the right screen, the list of detected tools opens: a green star indicates the tools correctly connected to the PC.

Devices	User ID	Serial Number	Setup	Dump Log
☒ n. 001	★ User1	09014275	Setup	Dump Log
☒ n. 002	★ User1	09014275	Setup	Dump Log
☒ n. 003	★ User1	09014275	Setup	Dump Log
☒ n. 004	★ User1	09014275	Setup	Dump Log
☒ n. 005	★ User1	09014275	Setup	Dump Log

17. The software asks for saving the actual configuration: assign a name to the net and confirm with OK.

18. The connection process is finished.

When you open again, the software charges again the last saved configuration.

Using "Open Net" button, it's possible to charge a saved net before.



Look at the following chapters:

"[Net Management](#)" to manage the tools data,

"[Data discharge](#)" to discharge the data from the memory of the tools connected to the PC,

"[Monitor function](#)" for a reading in continuous of the measures detected by the tools connected with the PC.

Note: the settings of the tool address, of the USER ID and of the serial protocol (points from 3 to 7) can be done by the software through "[New Device](#)". In this case, it's necessary to connect COM AUX auxiliary serial port from the tool to the PC with RS27 cable.

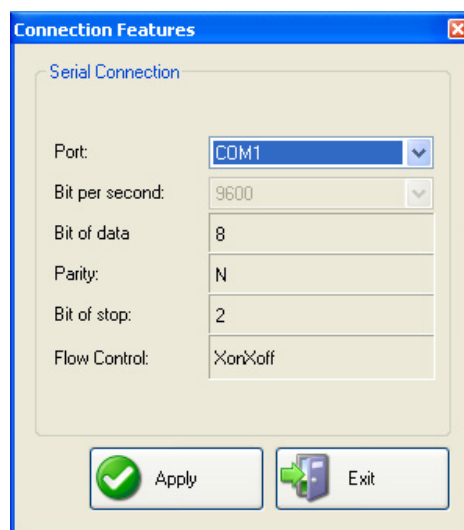
Connection to the PC for tool of HD2717T...series without display

After inserting the tool in a net, it's necessary to assign it an address that identifies it in a unique manner and select the communication protocol.

These operations must be necessary done through DeltaLog12 software connecting the AUX COM auxiliary port of the tool with a RS232 serial port of PC through RS27 cable: this connection is temporary.

The permanent connection is done to 11-12-13 clamps.

1. Follow the passages described in the chapter about [first configuration of a new tool](#). The same process has to be repeated for all the tools that you want to insert into the net.
2. Connect 11-12-13 clamps as indicated in the tool manual: for the connection with RS485 protocol, it's necessary to put RS232/RS485 converter between the PC and the tool.
3. Select the protocol type, commuting the dip-switch in the tool at the left of 11 clamp on "RS232" or "RS485".
4. Connect the PC where is installed DeltaLog12 software.
5. Initialize DeltaLog12.
6. Open the function of the menu "Setup >> Serial Connection".

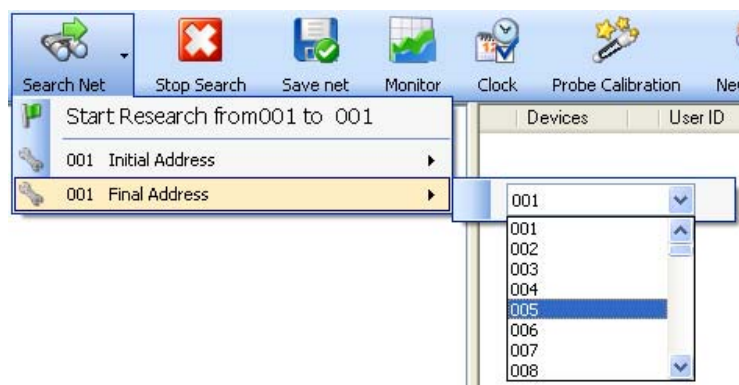


7. Select COM port to which is connected the tool. The other parameters of the connection are fixed and can't be modified.
8. Confirm with "Apply".

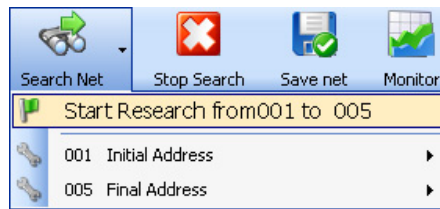
9. Start the research of the devices connected to the PC with "Search Nets".



10. Select the first and final addresses assigned to the tool that compose the net.



11. Press "Start research from ... to ..." to start up the connection of the tools.



12. In the right screen, the list of the detected tools opens: a green star indicated the tools correctly connected to the PC.

Devices	User ID	Serial Number	Setup	Dump Log
☒ n. 001	★ User1	09014275	Setup	Dump Log
☒ n. 002	★ User1	09014275	Setup	Dump Log
☒ n. 003	★ User1	09014275	Setup	Dump Log
☒ n. 004	★ User1	09014275	Setup	Dump Log
☒ n. 005	★ User1	09014275	Setup	Dump Log

13. The software ask for saving the actual configuration: assign a name to the net and confirm with OK.

14. The connection process is finished.

At the following re-opening, the software recharge the last saved configuration.

Using "Open Net", it's possible to charge the net previously saved.



Look at the chapters:

"[Net management](#)" to manage the nets of the tools,

"[Discharge data](#)" to discharge the data from the memory of the tools connected with the PC,

"[Monitor function](#)" for the reading in continuous of the measures detected from the tools connected to the PC.

Manage of a tool net

Thanks to RS485 connection you can create a net composed by a maximum of 250 tools, DeltaLog12 software allows the control and the management of each tool from the PC. Each tool is identified by its own address.

When you have to manage a lot of tools, it can be convinient to create some sub-groups of the whole net: for example all the tools of a building connected to a RS485 single net can be divided in groups and each group contains the tools that are in the building floor. To each subgroup you can assign a name that identifies it.

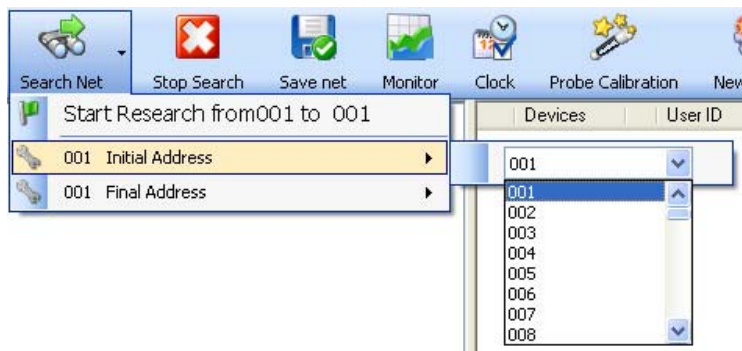
Go on in the following way:

Connect all the tools to the PC as described in the chapter "[Connection to the PC](#)".

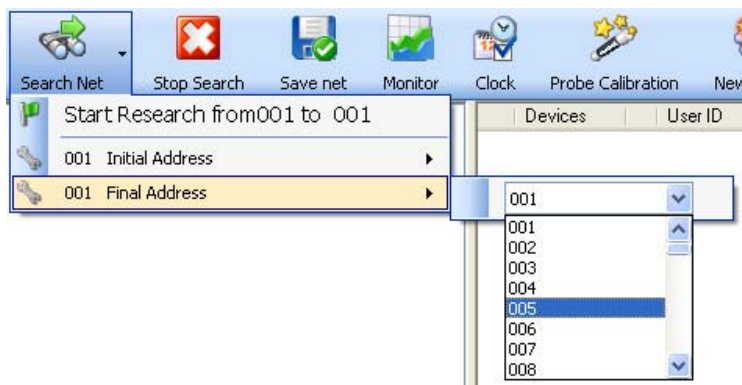
Press "Search Net"



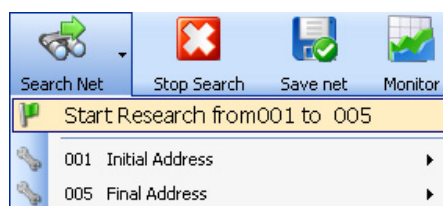
Select the first address of the net (the lower address assigned to the net tools)



Select the final address of the net (the higher address assigned to the net tools)



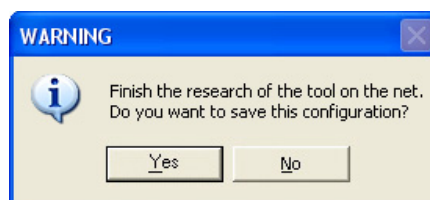
Press "Start Research from ... to ...".



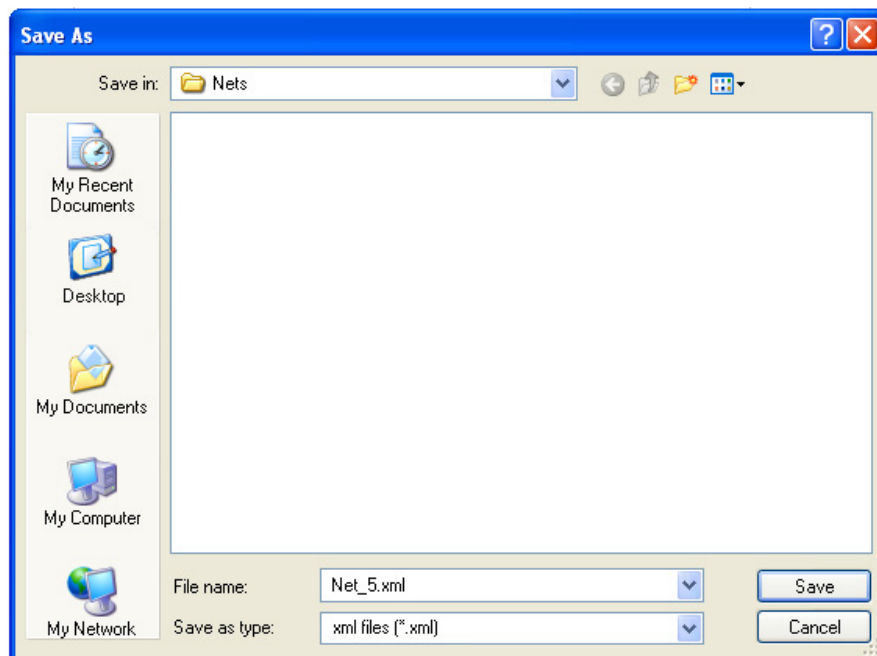
The software is connected to all the selected devices. The list appears on the devices window:

Devices	User ID	Serial Number	Setup	Dump Log
☒ n. 001	★ User1	09014275	Setup	Dump Log
☒ n. 002	★ User1	09014275	Setup	Dump Log
☒ n. 003	★ User1	09014275	Setup	Dump Log
☒ n. 004	★ User1	09014275	Setup	Dump Log
☒ n. 005	★ User1	09014275	Setup	Dump Log

It's required to assign a name to the net.



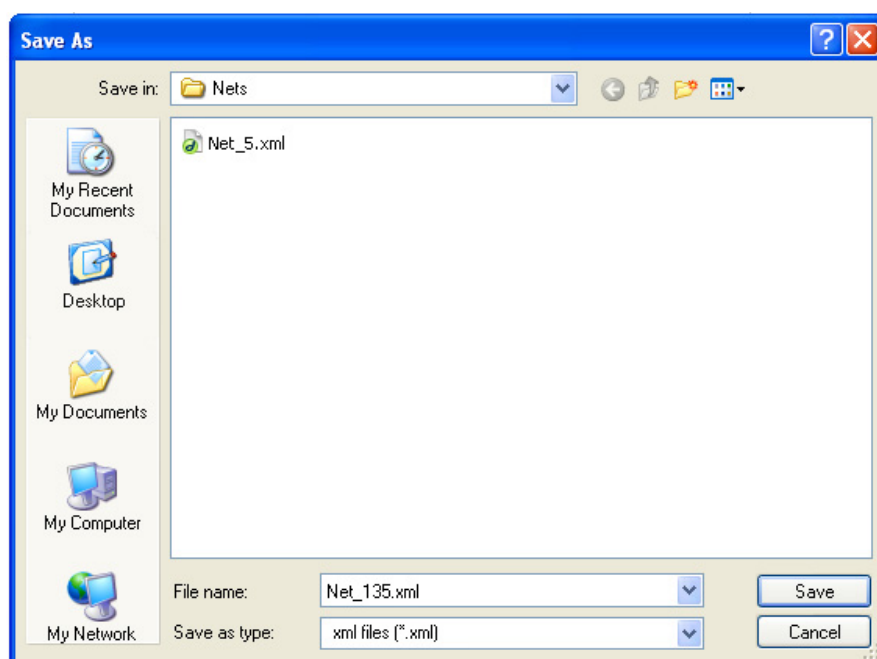
Press YES and insert the net name: this is the complete net that includes all the available tools.



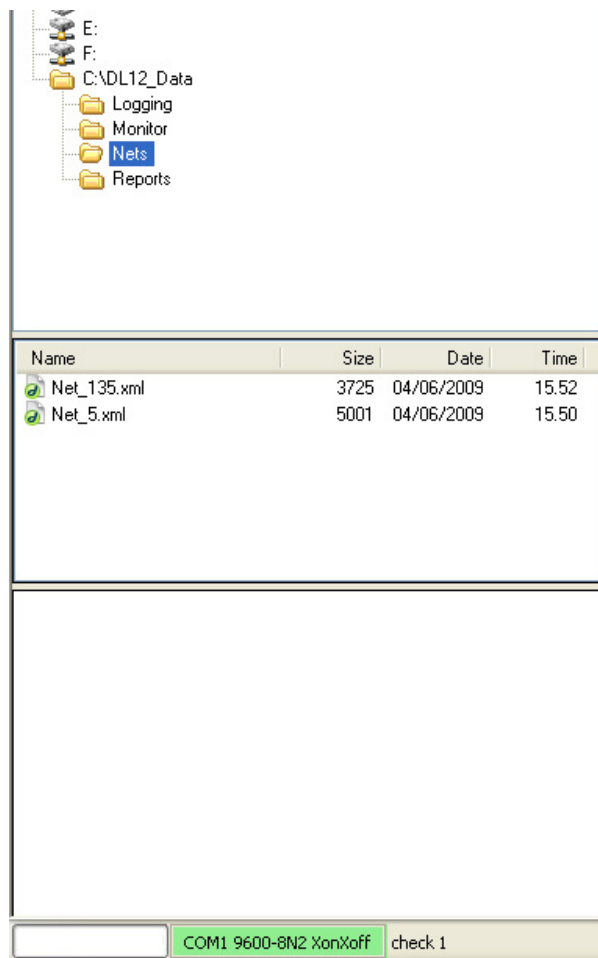
In order to re-organize the net and create a subgroup of the whole net, select the devices that you want to include as indicated in the following image and press "Save Net".



At the following window, digitalize the name to assign to the subgroup and confirm with Save.



The list of the nets is saved in "Nets" folder inside the work one. To visualize, make a double click on "Nets" written:



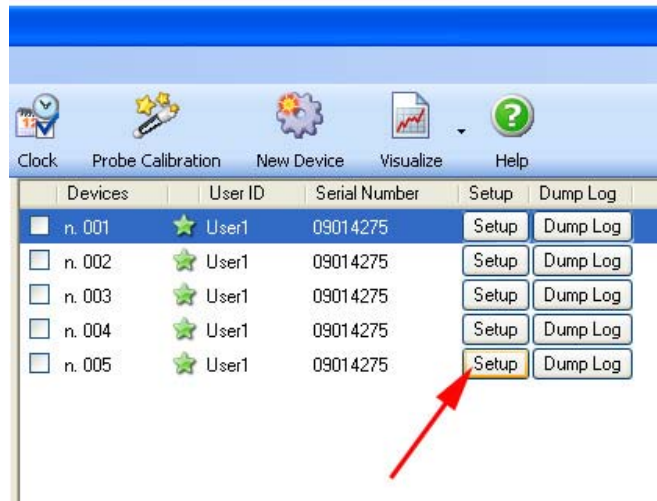
To charge a net, click on its name: the software automatically opens the list of devices and connected to them. The other tools are not visualized.

Tool settings (Setup)

"SETUP" placed next to each tool in the devices window, allows to visualize and change the actual settings.

To open the settings screen:

1. connect the devices to the PC pressing "[Search Net](#)".
2. press "SETUP" placed next to the tool to be set.



The software reads the data of the tool and introduces them in a screen as the following one.

Some functions change in relation to the models: for example, on other versions there are no relay.

The following screens are for the models with the activated functions.

The setup is made by the following items:

[Clock](#)

[Tool Data](#)

[Probe Data](#)

[Address, User ID and Logging Interval](#)

[Relay RL1 Configuration](#)

[Relay RL2 Configuration](#)

[Relay RL3 Configuration](#)

[Configuration analogical outputs](#)

Clock

With the function **Watch** the data and the hour of the tool update themselves.

Warning: the modifications of the data and the hour stop the actual recording and start a new one. If the option "PC Clock" is selected, the tool is added with date and hour of the PC. To set a different date and/or hour, remove the selection and change manually date and hour. To confirm, press SET.

Tool Data

The section indicates the tool data: serial number, date and version of the firmware, date of calibration, User ID.

Probe Data

The section indicates the data with reference to the probe connected to the tool: serial number, date and version of the firmware, date of calibration by the company and date of calibration by the user.

Address, User ID and logging interval

The screen indicated the actual values of the three parameters and allows their modification.

Notes:

1. don't assign an address already used from other tool: the company value is 001.
2. the setting of a new logging interval stops the actual recording section and starts the new one: the function "discharge data" doesn't allow to discharge the previous sections.

Relay RL1 and Relay RL2 Configurations

DeltaLog12 Tool Setup n. 5

Clock
DD/MM/AA: 04/06/09
hh.mm.ss: 16.00.24
☒ PC Clock
SET

Tool Data
HD28_17T_DR0
Smart transmitter
09014275
Firm.Ver.=02-05
Firm.Date=2009/04/14
000000000000
User1

Probe Data
Probe=Sicram2 RH-Pt100
Firm.Ver.=02-01 b001
Firm.Date=2009/03/10
Probe SN=08020944
Date cal. by company =2009/03/24 10:52:00
Date cal. by user=2009/01/01 00:00:00

Address, User ID, Logging Interval | **Relay RL1 Configuration** | Relay RL2 Configuration | Relay RL3 Configuration | Config. Analogical Output

MODE
☐ Force OFF
☒ RH relative humidity
☐ AH absolute humidity
☐ MR mixing ratio
☐ Td dew point
☐ T temperature
☐ Force ON
SET ALL

ACTIVE ABOVE
☒ Active
☐ Inactive
Set Value: 50,0

ACTIVE BELOW
☒ Active
☐ Inactive
Set Value: 15,0

HYSTERESIS
☒ Active
☐ Inactive
Set Value: 10,0

ON ERROR
☐ Energized
☒ De-Energized

RELAY RL1

MODE	RH	
ACTIVE ABOVE	39,5	Inactive
ACTIVE BELOW	-10	Active
HYSTERESIS	1	Active
ON ERROR	De-Energized	

Graph (Point 7): A sine wave oscillating between two horizontal lines, one red and one blue, representing the relay's state over time.

In the image are stressed the different tools where it's possible to intervene to set the relay. The description is for RL1 relay and RL2 relay. For more detailed description above the functionalism of the relay look at the Instruction Manual.

The **graphic** of **point 7** indicated as an example a curve where are visualized the different settings:

the more marked lines, stressed with a colour, of the curve represent the pulled relay, the ones less marked in black indicate the no excited relay.

the red horizontal lines are the high threshold with its hysteresis,

the blu horizontal lines are the low threshold with its hysteresis.

1. **MODE** defines the physical size connected with the functionality of the relay.
"Force OFF" blocks the relay in OFF state. "Force ON" blocks the relay in ON state.

2. **ACTIVE ABOVE** (High threshold) when the measure increases, it represents the threshold no-excited to the excited one. The red continuous line is represented on the example graphic (point 7).
The intervention threshold can be deactivate, choosing "Inactive" voice.

3. **ACTIVE BELOW** (Low threshold) when the measure decreases, it represents the threshold no-excited to the excited one. The blue continuous line is represented on the example graphic (point 7).
The intervention threshold can be deactivate, choosing "Inactive" voice.

4. **HYSTERESIS** (Hysteresis) is the hysteresis value of the relay that is applied to the high and low threshold. To deactivate the hysteresis, select "Inactive" voice. To set the functionality of the relay, we suggest **not** to deactivate the hysteresis and to use a value up than zero.

5. **ON ERROR** With this parameter you can control the behaviour of the relay if the physical size connected to the relay fall in a fault. The fault occurs when, for example, the measure is over the limits of functionality declared by the data sheets, when the probe is broken or is disconnected.

If On_Error=Deenergized, when there is a no excited relay in any actual condition.

Se On_Error=Energized, when there is a excited relay in any actual condition.

6. The table indicates the actual status of the relay.

Press **SET ALL** to save the modifications done to the parameters.

Relay RL3 Configuration

The screenshot shows the 'DeltaLog12 Tool Setup n. 5' window. It has several sections: 'Clock' with date and time fields and a 'PC Clock' checkbox; 'Tool Data' with fields for tool name, serial number, version, date, and user; 'Probe Data' with fields for probe name, version, date, and user. Below these are tabs for 'Address, User ID, Logging Interval', 'Relay RL1 Configuration', 'Relay RL2 Configuration', 'Relay RL3 Configuration' (which is active), and 'Config. Analogical Output'. The 'Relay RL3 Configuration' tab contains two main sections: 'MODE' with four radio buttons ('Force OFF', 'Force ON', 'Energized', 'De-Energized') and a red '1' next to them; and 'SOURCE' with four checked checkboxes ('Probe Error', 'Out 1 Error', 'Out 2 Error', 'Out 3 Error') and a red '2' next to them. A 'DELAY' section has a 'Set Value:' label, a red '3' next to it, and a numeric input field with '0'. At the bottom right is a 'SET ALL' button.

It's used to set the functionality parameters of RL3 alarm relay.

1. **MODE** The four voices define the possible modality of functionality of the alarm relay:

Force OFF blocks the relay in a no excited state.

Force ON blocks the relay in an excited state.

Energized on error: the functionality of RL3 relay is controlled by fault condition of one or more parameters, chosen between the ones indicated at the voice *Source* indicated below. Selecting this functionality mode, RL3 relay is excited, when one or more of the chosen parameters have a fault. In normal conditions, if the chosen parameters have not a fault,

the relay is disexcited and the contact between 3 and 4 clamps is open.

Deenergized on error: the functionalism of RL3 relay is controlled by fault condition of one or more parameters, chosen between the ones indicated at the voice *Source* indicated below. Selecting this functionalism mode, RL3 relay is disexcited, when one or more of the chosen parameters have a fault. In normal conditions, if the chosen parameters have not a fault, the relay is excited and the contact between 3 and 4 clamps is close.

2. **SOURCE** lists the alarm sources, established by the functionalism mode "*Energized on error*" or "*Deenergized on error*".

Probe error activates when there is a fault by the probe, for example, when the measure exceeds the functionalism limits declared in technical data, when the probe is broken or is disconnected.

Out 1 Error happens if the analogical output 1 has a fault to overpass the high or low set limits.

Out 2 Error happens if the analogical output 2 has a fault to overpass the high or low set limits.

Out 3 Error happens if the analogical output 3 has a fault to overpass the high or low set limits.

It's also possible to select more fault sources: the intervention of any of them, activates the alarm and RL3 relay commutation.

3. **DELAY** represents the times in seconds of staying in the fault condition that is made by the allarm.

Press **SET ALL** to save the changes made to the parameters.

Analogical Outputs Configuration

DeltaLog12 Tool Setup n. 5

Clock
DD/MM/AA: 04/06/09
hh:mm:ss: 16.44.32
☒ PC Clock
SET

Tool Data
HD28_17T_DR0
Smart transmitter
09014275
Firm.Ver.=02-05
Firm.Date=2009/04/14
000000000000
User1

Probe Data
Probe=Sicram2 RH-Pt100
Firm.Ver.=02-01 b001
Firm.Date=2009/03/10
Probe SN=08020944
Date cal. by company =2009/03/24 10:52:00
Date cal. by user=2009/01/01 00:00:00

Address, User ID, Logging Interval | Relay RL1 Configuration | Relay RL2 Configuration | Relay RL3 Configuration | **Config. Analogical Output**

MODE OUT 1
☒ RH relative humidity
☐ AH absolute humidity
☐ MR mixing ratio
☐ Td dew point
☐ T temperature
Scale low value: 0,0
Scale high value: 100,0

MODE OUT 2
☐ RH relative humidity
☐ AH absolute humidity
☐ MR mixing ratio
☐ Td dew point
☒ T temperature
Scale low value: 0,0
Scale high value: 100,0

MODE OUT 3
☐ RH relative humidity
☐ AH absolute humidity
☐ MR mixing ratio
☒ Td dew point
☐ T temperature
Scale low value: -20,0
Scale high value: 80,0

CURRENT/VOLTAGE OUTPUT
☒ 4...20 mA / 2...10 Vdc
☐ 0...20 mA / 0...10 Vdc

SET ALL

This section resumes the functionalism parameters of the analogical outputs. HD2717T... models have two analogic outputs 1 and 2, HD2817T.. models have three: the chosen variables for the analogical outputs are also the ones visualized on the display.

You can select:

the physical size connected with each analogical output,

the lower limits (*Scale low value*) or the upper ones (*Scale high value*) of the physical size connected with the analogical output.

the analogical output type: 4...20mA/2...10Vdc or 0...20mA/0...10Vdc.

The selection of the outputs with a **Idc** current or in **Vdc** voltage has to be directly done on the tool, through dip-switches placed behind 14, 15 and 16 clamps (look at the instruction manual at the chapter "Configuration of analogical outputs"). For example, choosing "4...20mA/2...10Vdc" parameter, the outputs are in 4...20mA current if on the tool the dip-switch is on "I" while in 2...10Vdc voltage if the tool is on "V".

Press **SET ALL** to save the changes made to the parameters.

Discharge of data

The recording function of the data is always active. The tool memory is organized in a circular manner: once filled, the more recent data write the old ones. There is no button to cancel the memory.

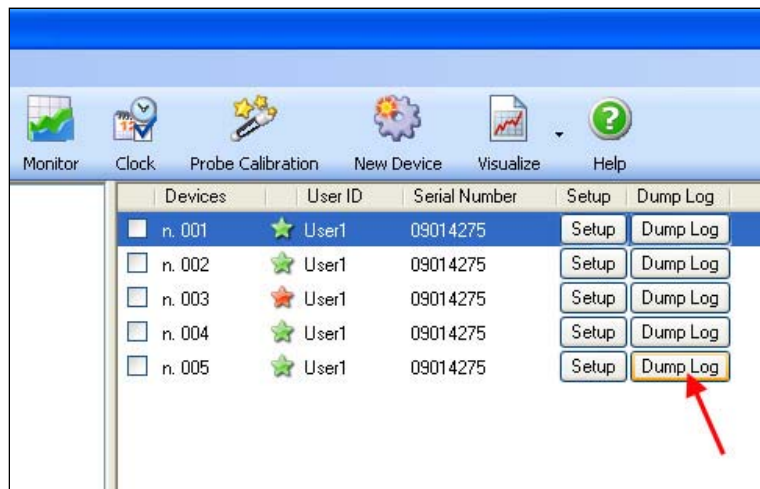
Each sample memorizes the date and the hour, the temperature, the relative humidity, the absolute one, the mixing ratio, the point of dew, the value of the analogical outputs and the state of the three relays (if there are).

Each memorized data represents the AVERAGE of the measures done each second in the recording interval. For example, selecting the logging interval of 20 seconds, each memorized data is the average on 20 seconds. So you can't memorize the instantaneous measure of the size observed when the interval expires, but the average on all the interval. The tool will do a measure per second.

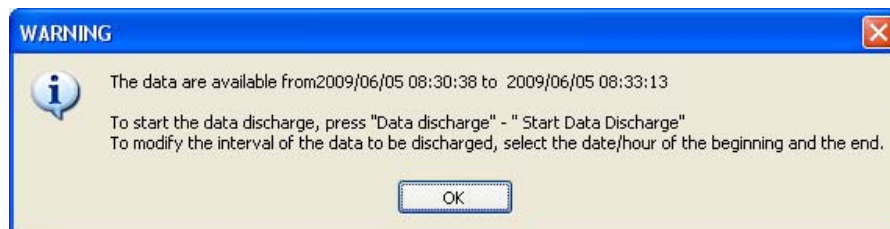
The state of each relay is memorized in the following way: it memorizes "0" if, in logging interval, the relay is always disexcited, "1" if it's always excited, "V" if it has both conditions. For more details look at the instruction manual of the tool.

To start the discharge of the data from the memory of one of the tools connected to the PC, go on as follows:

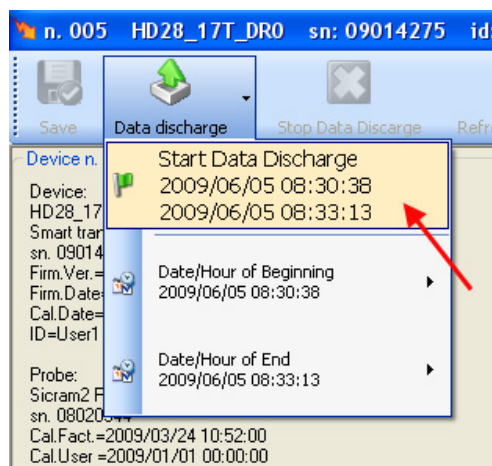
1. connect the devices to the PC pressing "**Search Net**".
2. press "Damp Log" placed next to the tool from which you want to discharge the data.



The software asks for the selected tool and introduces a first screen as the following one in which the recording properties are resumed:



To discharge all the data, press "Data Discharge" >> "Start discharge data".

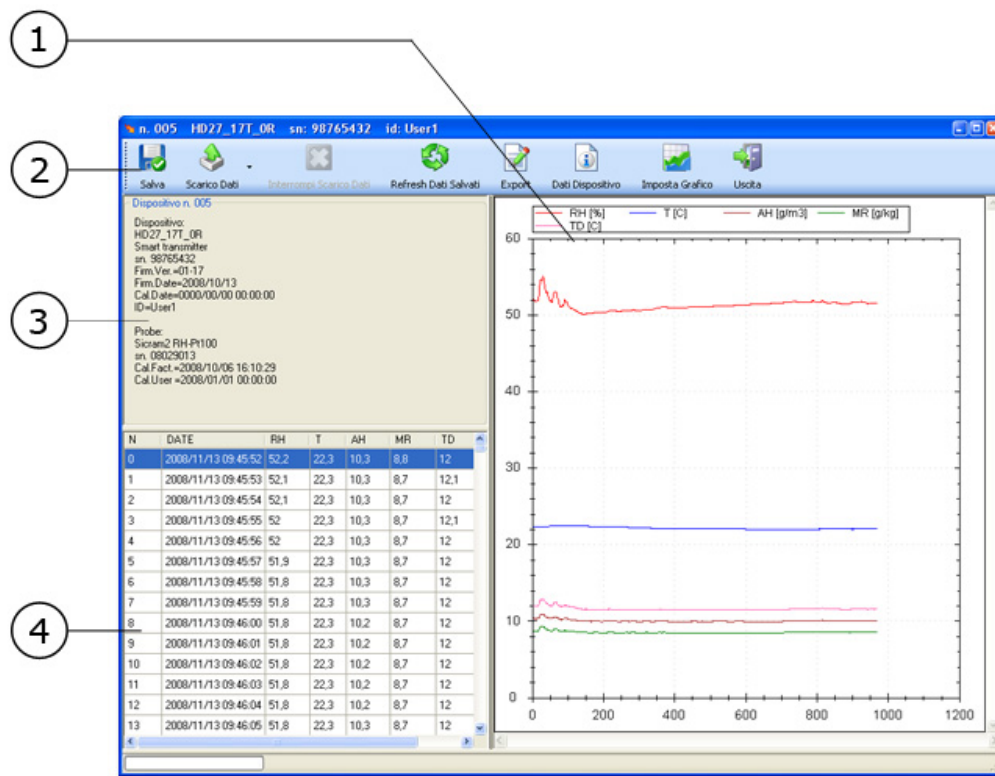


It's possible to modify the limits of the data block to discharge with "Date/Starting Hour" and "Date/Finishing Hour" and then go on pressing "Start Discharge Data".

The discharge operation is marked by the toolbar placed downward:



When you stop the discharge, the data are introduced in a screen as the following one:

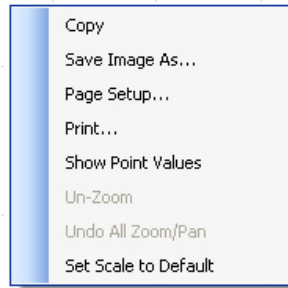


1. Graphic of the data

The graphic visualizes the flow of the five memorized sizes; relative humidity, temperature, absolute humidity, mixing ratio and point of dew. The abscises axis indicates the number of samples. With "Set graphics" it's possible to desactive some sizes.

Function of the right button on the mouse

A click with the right button of the mouse above the graphic, opens the menu with the following controls:



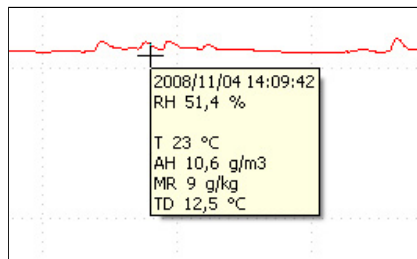
Copy: it copies the current graphic and allows to paste on other application (for example on Word).

Save Image as...: it saves the screen of the actual graphic in an image folder. A window, where you can choose the position and the format of the file (emf, bmp, jpg, gif, tif, png) opens.

Set Page...: it allows you to set the page to print the graphic.

Print...: it opens the printing window that allows you to print the actual graphic.

Show the values: it habilitates the visualization of a tag that indicates the sizes' values, when you pass the mouse on the graphic. The first number represents the date and the sampling hour, the second one indicates the size value where the mouse is placed. The other lines indicate the values of the other active sizes.



Cancel Zoom: it cancels the last zoom done on the graphic.

Cancel all Zoom and movements: it cancels allzoom done and resets the inicial visualization.

Set default scale: it expands the axis in order to visualize all the sizes with the best possible resolution.

2. Menu bar



The discharged data are saved in "[Work Folder](#)\Logging...".
The saved files have "stx" extention.



The button allows you to do a new data discharge. Pressing the button, the menu for the selection of the initial limits and the final ones of the data to be discharged opens: the software offers the whole discharge of the memory. Pressing "Start discharge data" allows you to start the discharge.



Pressing this button, you stop the data discharge operation before its end. To go on with a new data discharge, use "Discharge Data" button.



The tool goes on with the recording of the data also when it is connected to the PC: pressing "Refresh saved data", the list with the most recent data, is updated.



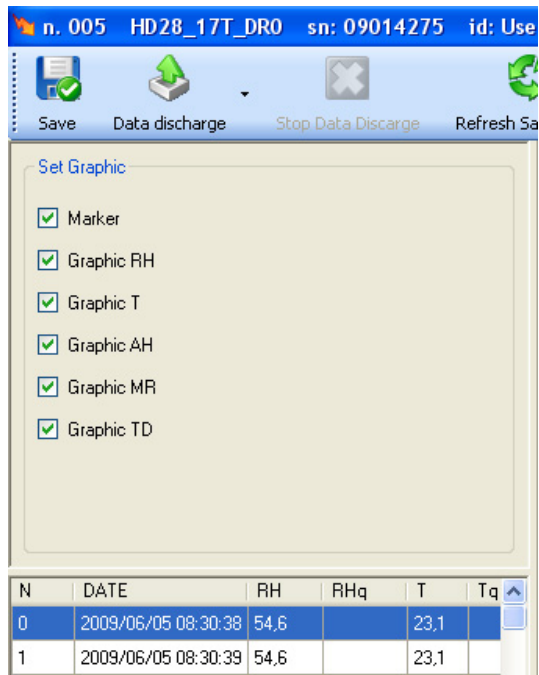
Export button transfers the discharged data to a [report](#) through which it's possible to print the data or it's possible to export them on file whose formats are Rpt (original format), Doc (Word), PDF (Acrobat), Xls (Excel), Rtf (Rich text).



The button recalls the [data](#) of the tool and of the connected probe.



It indicates the graphic properties:



"Marker" activates or desactivates on the curves the symbols indicating the periods of memorization.

The other voices "Graphic ..." habilitates or dishabilitates the trace of the curves on the graphic.



Close the screen of the data discharge.

3. Data window

It visualizes the [Data](#) of the tool and of the probe ("Device data" button) or the graphic settings ("Set graphic" button).

"Tool data" indicates the data in relation to the tool: serial number, date and version of the firmware, date of calibration, User ID.

"Probe data" indicates the data in relation to the probe connected with the tool: serial number, date and version of the firmware, date of calibration by the company and date of calibration by the user.

4. List of the data under the shape of a table.

The data indicates the consequent number of the sample, date and hour, value of the relative humidity, absolute humidity, mixing ratio and point of dew.

Export function

The Export function is on different points of the program: it is, for example, on the screen of "[Data discharge](#)" and of "[Visualize Data](#)". When you press Export button, the data are transferred and visualized in a window as the following one:

DATE	RH	I	AH	MR	TD
2008/11/06 11:41:26	54,80	23,30	11,50	9,80	13,70
2008/11/06 11:41:27	54,50	23,30	11,40	9,70	13,60
2008/11/06 11:41:28	54,30	23,30	11,30	9,70	13,60
2008/11/06 11:41:29	54,00	23,30	11,30	9,60	13,50
2008/11/06 11:41:30	53,70	23,30	11,20	9,60	13,40
2008/11/06 11:41:31	53,40	23,30	11,20	9,50	13,30
2008/11/06 11:41:32	53,20	23,30	11,10	9,50	13,20
2008/11/06 11:41:33	53,00	23,30	11,10	9,40	13,20
2008/11/06 11:41:34	53,00	23,30	11,10	9,40	13,20
2008/11/06 11:41:35	52,90	23,30	11,00	9,40	13,10
2008/11/06 11:41:36	52,80	23,30	11,00	9,40	13,10
2008/11/06 11:41:37	52,70	23,30	11,00	9,40	13,10
2008/11/06 11:41:38	52,60	23,30	11,00	9,40	13,00

This report can be printed, saved in the original format "rpt" in order to open it again after with "[Visualize >> Report](#)" button or export it in other compatible formats with the most known software such as, for example,, Word, Excel, Acrobat, ...
The following formats are supported:

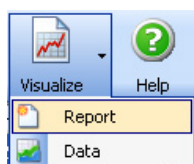
- *RPT* original format. To open again a report file saved before, you have to use the main menu: "[Visualize >> Report](#)".
- *PDF* Adobe Acrobat format,
- *DOC* Word format,
- *XLS* Excel format,
- *RTF* Rich Text format.

In the upper bar there are the control icons:

-  **Export Report**
It saves the report in rpt, pdf, doc, rtf or xls formats.
-  **Print Report**
It opens the setting window of the printer and send the report to the printer.
-  **Go to the first page**
It comes back to the first page of the report.
-  **Go to the previous page**
It visualizes the previous page.
-  **Go to the following page**
It visualizes the following page.
-  **Go to the last page**
It visualizes the last page of the report.
-  **Zoom**
Control to enlarge and reduce the sizes of the visualized page.

Opening an existing Report

The reports created as indicated above with [Export](#) function and saved with "rpt" exstention, can be open again for the visualization and the printing.



Press *Visualize >> Report* on the toolbar of the main screen of DeltaLog12 or select the menu voice *Visualize >> Report*.

Select the file you want to open: only the files with ".rpt" can be seen. Confirm with *Open button*.

On the opened report you can do the [already seen](#) operations of visualization, printing, exportation.

Monitor function

Monitor function visualizes the detected measures from the tools connected with the PC in real time. The tools of which you can read the measures and the reading frequency have to be selected before starting *Monitor* function. The measures appear on divided windows: one for each tool.

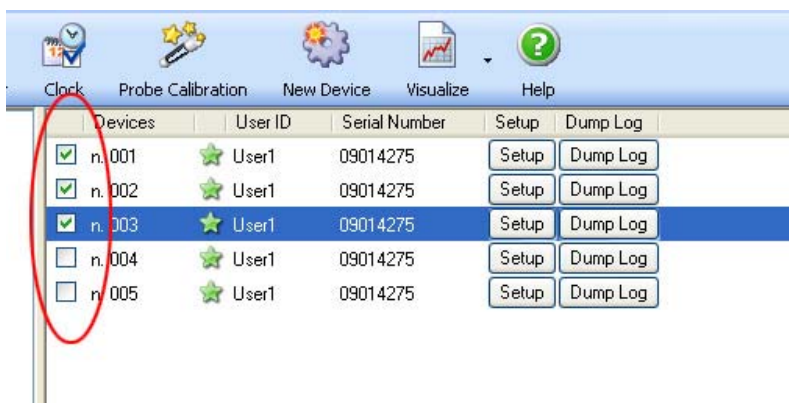
The tool of the selected net are examined in sequence with a delay of 2 seconds between a tool and the following one: to avoid too long updated times, we suggest you to monitor contemporarily not more than 16 tools.

Go on in the following way:



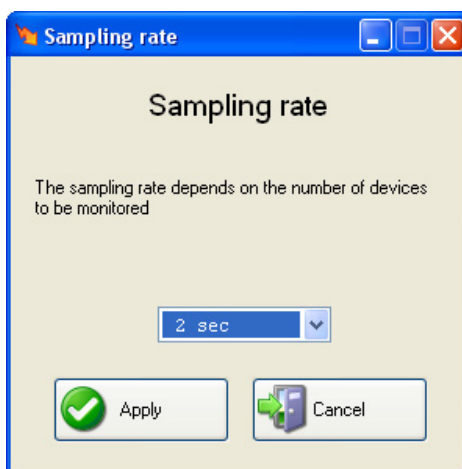
Start the connection of the tools connected to the PC with "Search Net" button.

Select the tools of which you want to detect the measures:



Press *Monitor* button or select *Nets >> Monitor* menu button.

The setting window of the frequency with which are detected the measures of selected tools, opens: the minimum value changes in function of the number of the tools connected to the PC. With only a tool, it's equal to a second, with two tools it's equal to four, etc..



Select the interval and confirm with *Apply*.

The Monitor screen opens: the data of each tool are indicated on a different window, detected by the address, the serial number and UserID of the tool.

The Monitor screen works as a paper recording: the geographical area slides from left to right. The most recent date, detected by the tool, is indicated at the right of the graphic.

The graphic visualizes the latest 900 samples: all the detected data from the starting of the monitor function are kept in a temporary file that can be saved when the monitor stops and can be visualized after with "[Visualize](#) >> Data" command.



At the left of the graphic are indicated the axis of the relative humidity (RH), the temperature (T) and the point of dew (TD). At the right there are the axis of absolute humidity (AH) and of mixing ratio (MR).

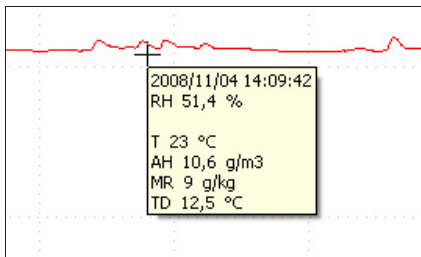
The horizontal axis of the graphic indicated the number of detected samples.

All the measures are visualized in function of the number of the samples (axis of abscises): each visualized data represents the AVERAGE of the measures done each second during the observation interval.

The line placed above the graphic indicated, from left to right:

- the number of the last sample,
- date and hour of the last sample,
- the whole duration of the monitor (the time spent since the start of monitor function),
- the values of the five detected sizes.

Passing the mouse on the graphic, you can see a tag that indicates the values of the physical detected measures.



In the above line, the buttons of Monitor function are grouped:



It restarts Monitor function after pressing STOP.



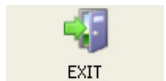
It stops Monitor function.



It changes the acquisition frequency. To habilitate the button, it's necessary to stop Monitor function with Stop.



It allows to put the windows of the different cascaded tools in a horizontal or vertical position.



It closes the Monitor screens and comes back to the main screen.
Before exiting, it asks if you want to save the acquired data on file.



The green flashing symbol indicates that monitor function is active: it's useful because, between following readings, can pass also an hour and so the graphic can appear flashings "blocked".

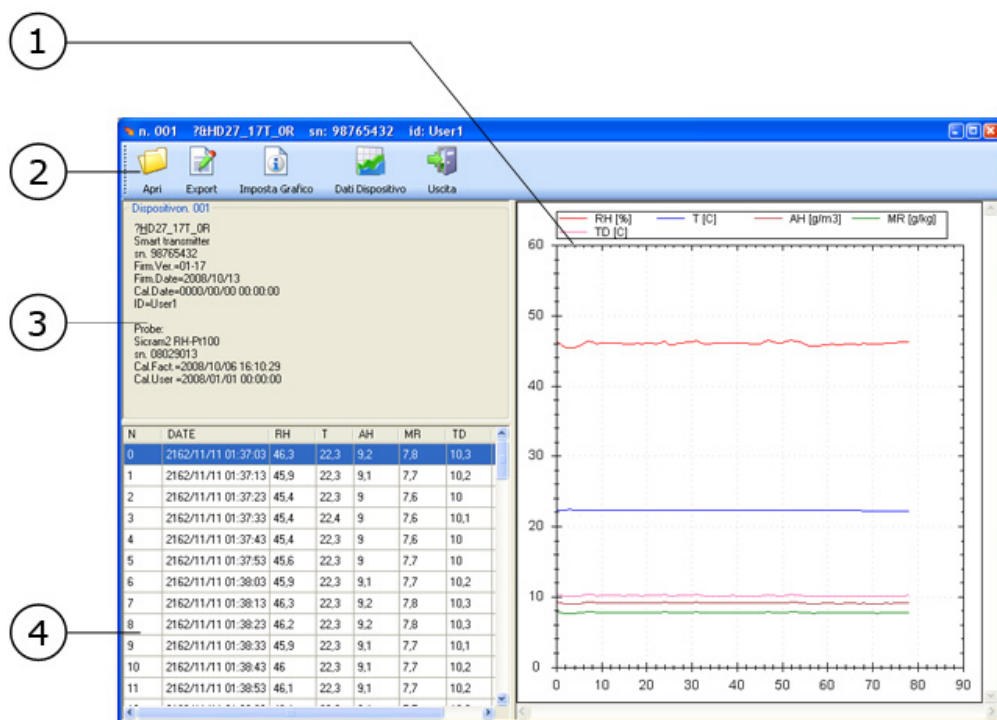
To save the data, press STOP and then EXIT: it's required if you want to save the data.

Pressing "YES", in "Monitor" folder inside of the work folder in a file called "Monitor date hour" where inside of "date" and "hour" there are the actual date and hour.

Visualization of data

The data discharged from the tools with Dump Log function or memorized after a monitor operation, are saved in "Logging" and "Monitor" folders inside the work folder. The files have a ".stx" extension and are compressed. To visualize this kind of files, press "Visualize >> Data" button or select the voice of the menu "Visualize >> Data".

The following screen opens:



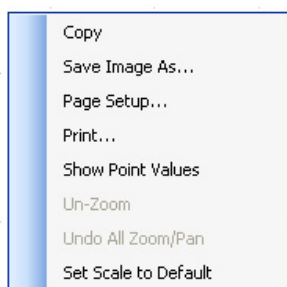
1. Graphic of data.

The graphic visualizes the flow of the five sizes: relative humidity, temperature, absolute humidity, mixing ratio and point of dew. The

axis of abscises indicates the number of the samples. With "Set graphics" it's possible to deactivate and activate again some sizes.

Function of the right button of the mouse

A click with the right button of the mouse on the graphic opens a menu with the following commands:



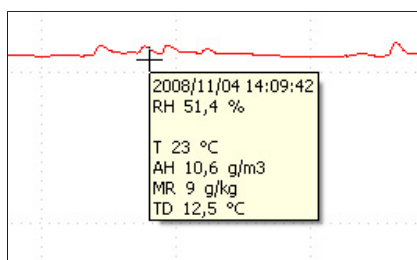
Copy: it copies the actual graphic and allows to paste it on other application (for example on Word).

Save Image as ...: it saves the screen of the actual graphic in an image file. A windows where you can select the position and the format (emf, bmp, jpg, gif, tif, png) of the file opens.

Set page ...: it allows to set the page for printing the graphic.

Print...: it opens the printing window with which you can print the actual graphic.

Show the values: it habilitates the visualization of a tag that indicates the values of the sizes, when you pass the mouse on the graphic. The first number indicates date and sampling hour, the second one indicates the value of the size on which is placed the mouse. The other lines indicate the values of other active sizes.

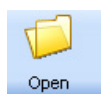


Cancel Zoom: it cancels the last zoom done on the graphic.

Cancel all Zoom and movements: cancel all the zoom done and set again the initial visualization.

Set scale of default: it spreads the axis in order to visualize all the sizes with the best possible resolution.

2. Menu bar.



It opens a "stx" file.



Export button transfers the discharged data from a [report](#) through which it's possible to print the data or export them on file in Rpt formats (original format), Doc (Word), PDF (Acrobat), Xls (Excel), Rtf (Rich text).



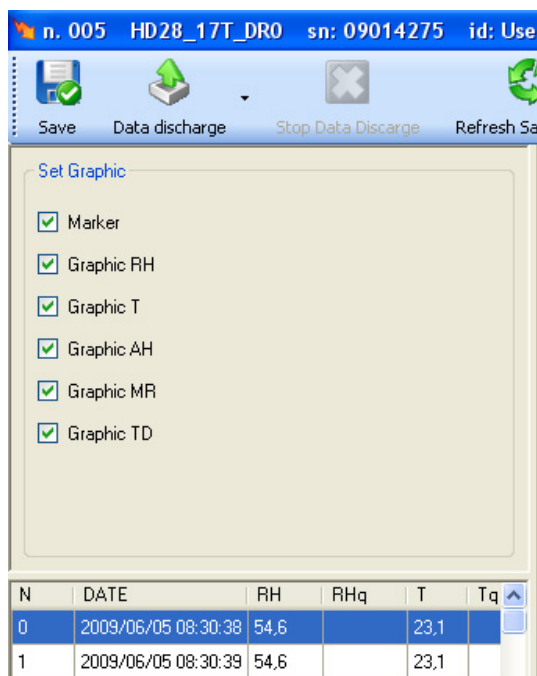
The button recalls the data of the tool and the connected probe.

"**Tool data**" indicates the data in relation to the tool: serial number, date and version of the firmware, date of calibration, User ID.

"**Probe data**" indicates the probe data in relation to the tool: serial number, date and version of the firmware, date of calibration by the company and date of calibration by the user.



It indicates the properties of the graphics:



"Marker" activates or deactivates on the curves the symbols indicating the memorization moments.

The other voices "Graphic ..." activates or deactivates the trace of the curves on the graphic.



It closes the data visualization screen.

3. Data window

It visualizes the data of the tool and of the probe ("Tool data" button) or the settings of the graphic ("Set graphic" button).

4. Data list

It lists the data as a table. The data indicate: consequent number of sample, date and hour, value of relative humidity, temperature, absolute humidity, mixing ratio and point of dew.

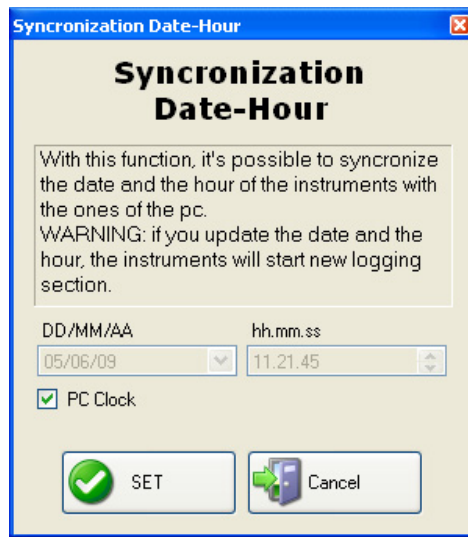
Opening an existing Report

The reports realized with [Export](#) function and saved with "rpt" estention, can be opened again for the visualization and the printing with *Open Report* or with the voice of the menu *Visualize >> Report*.

Tool synchronization

The command of Menu "Setup >> Clock" lock" is selected, the sincronization happens on the date and the hour of the PC. Taking off the flag, it's possible to set manually the date and the hour.

The maximum sgap between the different tools is equal to a second.



1. Connect the devices to the PC pressing "[Search Net](#)".
2. (Optional) Deselect the voice "PC Clock" and set date and hour.
3. Press SET to synchronize the tools of the active net.

Warning: the change of the date and the hour stops the current logging and starts a new one. The data of the previous recording section are not yet available.

Relative humidity calibration

The software DeltaLog12 allows a 3-point calibration (11%, 33%, and HD75% RH) for the relative humidity sensor. The three calibrations are independent, it is therefore possible to perform only one, two, or all three calibrations.

No calibration is required for the temperature sensor.

To calibrate probes correctly, it is highly important that you know and follow physical phenomena on which measurements are based: therefore we advise you to comply with the following instructions and perform new calibrations only if you have the technical know-how.

Before starting the calibration, it is advisable to make sure that a new calibration is necessary, using the 33%RH and 75.4%RH saturated salt solutions: only if you find a measurement error in at least one point, you can perform the calibration.

This calibration cancels all previous calibration data.

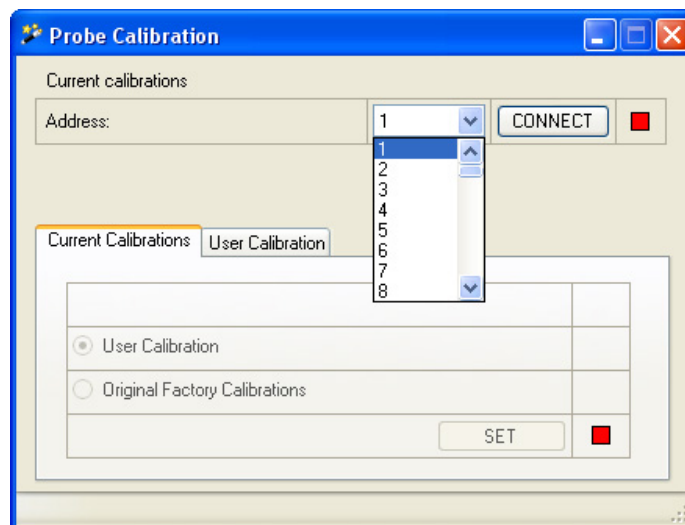
Preliminary operations:

1. Make sure that inside the chamber containing the saturated salt solutions there are at the same time:
 - solid salt,
 - liquid solution or wet salt.
2. The instrument and the saturated solutions to be used must be kept in an environment at stable temperature during the whole calibration process.
3. Unscrew the protection grid of the probe and screw the M12X1 thread of the saturated solution cap.
4. If there is any liquid inside the measurement chamber, dry it with clean absorbent paper.
5. Screw the thread to the bottle. Do not touch the sensitive element with your hands or any other liquid or object.
6. Once the sensor is inserted, wait for at least 30 minutes.
7. Connect the transmitter to your PC.
8. Start the DeltaLog12 program.

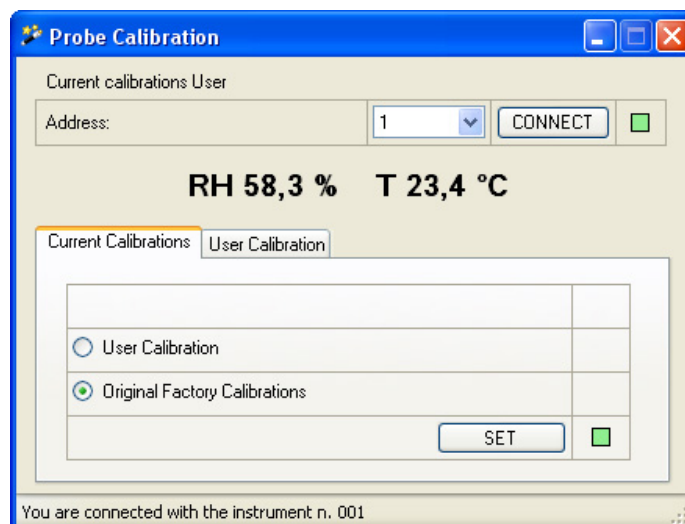
9. Press the Probe calibration key to switch to RH% calibration mode:



10. Select the address of the instrument to be calibrated and press the CONNECT key.

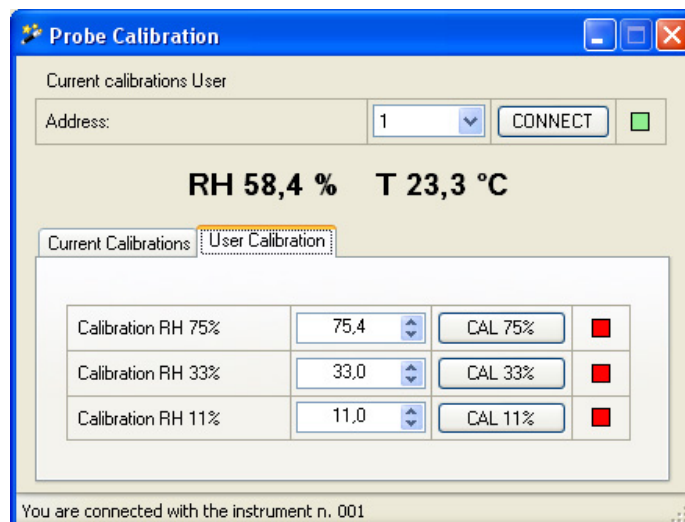


11. The calibration screen appears:



The section "Current calibrations" allows changeover from factory calibration ("Original factory calibration") to user calibration ("User calibration").

In order to proceed with a user calibration of the RH probe, get on to the "User calibration" screen.

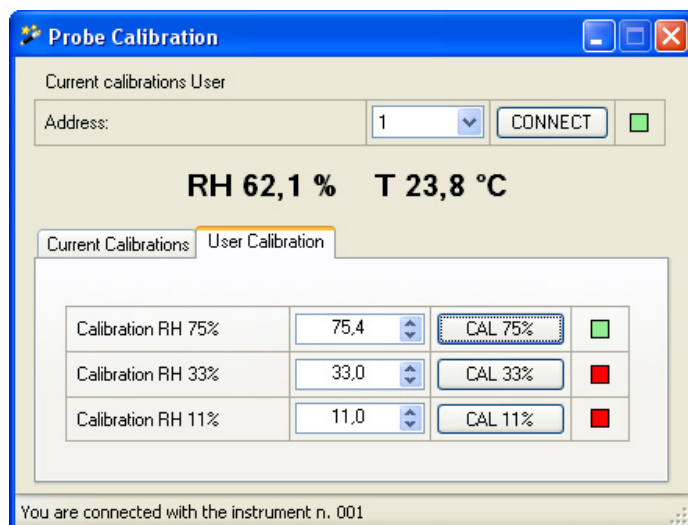


12. Check the temperature reading provided by the probe.

13. Use the arrow keys to set the saturated solution humidity depending on the temperature reading.

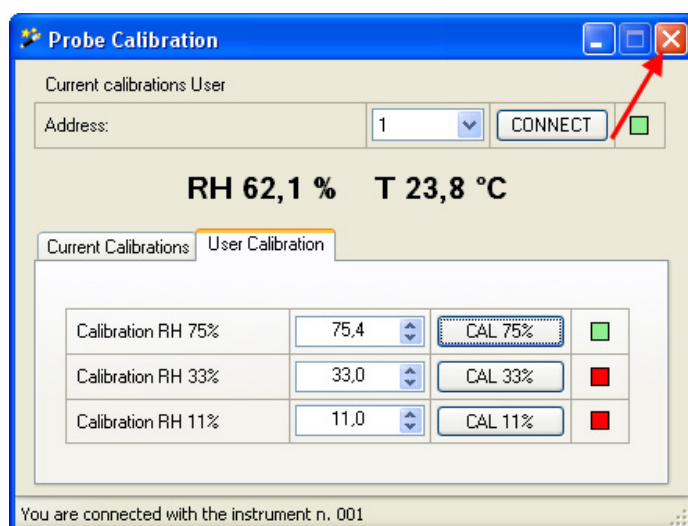
14. Press the CAL 75%, CAL 33% or CAL 11% key , depending on the calibration point to be performed, then press OK to confirm.

If the procedure has been concluded successfully, the red square beside the key becomes green.



15. If necessary, repeat the same procedure for calibrating the other points.

16. In order to leave the calibration procedure, close the windows by pressing the apposite key.



Main Menu

In the upper part of DeltaLog12 window, there is the main menu that allows to control all the software functions.

To activate a function, open the window menu in which the function appears and select it with the mouse. Considering the context in which you are, some voices of the menu can be dishabilitated: these voices are indicated with a grey colour.

A) Nets Menu

Open net

It visualizes the list of the saved nets on "Nets" folder inside the [work folder](#).

Stop Research

It stops the research of the net tools. The function is activated as a consequence of pressing "[Search Net](#)" function or "Search Net" function of the Menu.

Save Net

It saves the actual configuration of the net connected to the PC in "Nets" folder inside [work folder](#).

Monitor

It directly opens the [Monitor function](#) that visualizes on the monitor of the PC the detected measures from the tool. It asks for the connection to the PC.

Exit

It closes DeltaLog12 program.

B) Menu Search Net

Start research from ... to ...

It starts the function of [research](#) of the net devices and connect to them.

C) Menu Setup

Serial Connection

It opens the window for setting the parameters of the [communication serial port](#).

The function is active only when the tool **is** no connected.

If there are problems of connection of the tool to PC, look at the paragraph dedicated to the [resolution of the connection problems](#).

Clock

It opens the window of synchronization of the tools belonging to the active net. ([Look at the details](#)).

New Device

The activate [function](#) also with "New Device" button, allows to set the address, UserID and the serial protocol of a new tool.

Work Folder

It allows to define a [folder](#) of the PC where are saved the files in relation to the tool.

D) Visualize Menu

Visualize Report

It allows to open a before saved file with [Export button](#).

Visualize Data

It allows to open a file of [data](#) discharged with [Dump Log](#) function or memorized after an operation of [monitor](#), saved on the PC. The files have a "stx" estention.

Toolbar

It activates or deactivates [the toolbar](#).

Status bar

It activates or deactivates the [state bar](#).

E) Menu Help

DeltaLog12 Manual

DeltaLog12 software use Manual.

DeltaLog12 Permission

Agreement of software permission with the final user.

About...

Information about DeltaLog12 software version.

Toolbar

To speed up the use of the program, some operations, accessible through the menu, are also indicated on the toolbar placed above the main menu under the shape of buttons.

This bar can be covered or can be visible with the menu control *Visualize >> Toolbar*.



Open net...

It indicated the list of the saved [tool nets](#) in Nets folder.



Search net...

It allows to start the [research of devices](#) connected to the PC: you can set the limit of a minimum and maximum address.



Stop the research

It stops an actual research of the tools, started with "Search Net" button.



Save net

It allows to save as [net](#) a list of the devices before selecting.



Monitor

It starts the [Monitor function](#) for reading in real time the data detected by the tools connected to the PC.



Clock

It opens the sincronization window of the tools belonging to the active net. ([Look at the details](#)).



Probe Calibration

The [function](#) allows you to perform a new user calibration of the %RH sensor or switch between the user and the factory calibration.



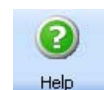
New Device

The [function](#) allows to set the address, UserID and the serial protocol of a new tool.



Visualize...

It opens the visualization function of the [saved data](#) or the report ones made with [Export](#) function.



Help

It opens the on line manual of DeltaLog12 software.



Exit

It closes the program.

State of connection with serial port

A green panel in the state bar indicates that DeltaLog12 software is connected to the COM indicated serial port. If the panel is red, it means that DeltaLog12 can't connect to COM port.

The connection state of each tool to COM port is indicated in [devices window](#).

In consideration of the connection state, the symbol can assume the following states:



DeltaLog12 no connected. There is a fault during the connection attempt, look at the paragraph [Resolution of the Problems](#).



DeltaLog12 connect correctly with the relative parameters.

Resolution of the connection problems

If the program can't connect, verify the following:

- Control if the COM selected port is the right one.

- Don't use a cable long more than 15 meters for the connection between the tool and the PC if you are using a RS232 connection.

- Set correctly RS232/RS485 converter.

- Insert a terminator on RS485 line.

- Follow the notes described in the manual of tool use.

- Control that the programs using the serial ports are not activated (for example Hyperterminal). In affirmative case, close these applications and try again.