Temperature and Humidity Monitor System

DataLoggerTH Software Manual

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Introduction

DataLoggerTH is a PC Windows based software application, which is used for logging measured data from the temperature and humidity monitoring systems.

These systems can consist of one or more large size digital displays and sensor devices. Once displays and sensors are installed and connected to a serial line RS485 or LAN Ethernet TCP/IP network, data logging software can be used to record the measured values and show them on a remote PC. (Please note, the PC running the DataLoggerTH must be connected to the same network as the sensor devices and monitors.)

Besides recording the values, upper and lower limits can be set for temperature and humidity values. Exceeding these limits will cause that displayed values will become red. Query on selected devices is also possible to make a quick table of the recorded values for a specified time period. This table can then be exported into Excel file.

Software Installation

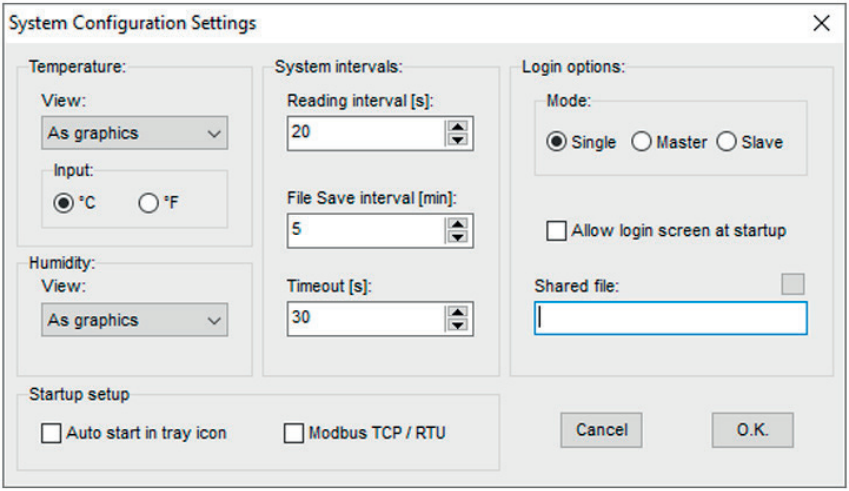
Please run the setup.exe file from the supplied CD, or download this file to your hard disk and double click it. It will install the application software to your PC automatically. Alternatively, you can simply copy to your PC hard disk the entire DataLoggerTH folder with unpacked files, which you have received from your display/sensor supplier.

Starting Application

After software installation double-click the DataLoggerTH icon on your desktop. Or you can run DataLoggerTH.exe file from DataLoggerTH folder on your PC. The Temperature and Humidity Data Logger application window will open.

Configuring the Application Settings

Click on the "System Configuration" button to set the main data logger parameters. The main "System Configuration Settings" window will open.



For **"Temperature View"** and **"Humidity View"** sections you can choose how these values will be displayed in the main table. If you select **"As graphics"**, values in the main table will be displayed with a graphical representation. If you select **"As text"**, the measured values will be displayed as plain text only.

In **"System intervals:"** section please select the desired values for:

Reading interval (in seconds) – this is the time period how often the sensor data will be read. It can be set from 1 to 60 sec.

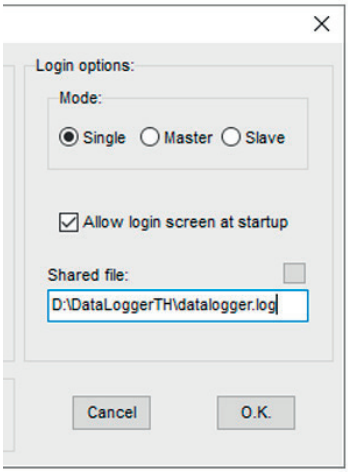
For example if set to 10 sec., the application will request measured data from the sensor every 10 seconds (or from a display with built-in sensor). Although it is possible to set this value as low as 1 sec., it can cause too much data traffic over the LAN network. This is especially true if several devices are connected and read.

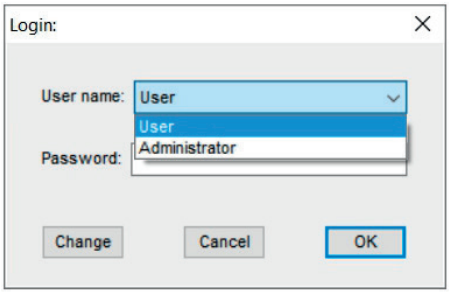
File Save interval (in minutes) – this is the time period how often the recorded data will be stored into a log file. It can be set from 1 to 60 min.

For example if set to 10 min., the application will save the log file every 10 minutes.

Timeout (in seconds) – this is the time period in which the reading from the sensor must be received, otherwise a communication error will be recorded. In case of large networks, please allow longer time for receiving messages (e.g. 10 to 30 seconds).

Login options: Allow login screen at startup – check this box to turn on or off the login window with admin or user privileges with password option at startup. Select "Administrator" if you want to read and record measurements, run query on recorded values, change settings, or add devices to the list. Select "User" if you want to read current measurements only. No other options are available in this mode.





Login options – Mode: - allows different modes of DataLoggerTH operation. **"Single"** means that only one user from one PC will be accessing and using the DataLoggerTH software. **"Master"** means that multiple users will access the measured and recorded values, while the PC on which the "Master" option is selected will record the measured values on its hard disk (can be local or network disk). Other users running the DataLoggerTH software and logged as administrator will be able to read the database file from this "Master" PC when reading the stored values. **"Slave"** means that PC with this option selected will be a passive reader only, measured values will not be stored on this user's PC.

Please note that although it is possible to run the DataLoggerTH software from multiple locations on different PCs, only one PC can be set as "Master" to have the measured values stored in its internal file on the hard disk. Other users, if logged in as administrator, can either read the current measurements or run a search query from the database file of recorded values on the Master PC.

In **„Startup setup:"** section there are options for starting and running the program:

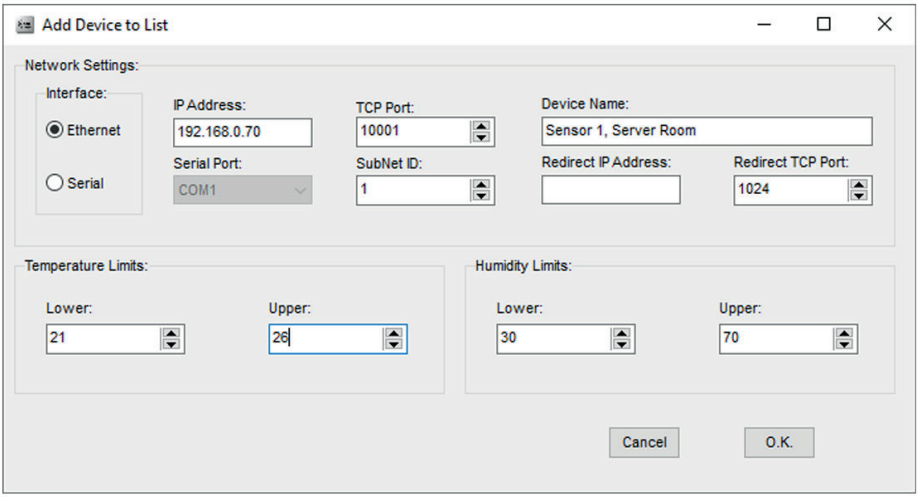
Auto start in tray icon – check this box to turn on or off the automatic running of the measurements in the background. When the program is started, communication with devices is executed and application will be moved into the system tray as an icon.

Modbus TCP / RTU - check this box to turn on or off the communication with temperature/ humidity displays or sensors via MODBUS protocol. Note, it is not possible to combine devices with ASCII (YDN) and MODBUS communication protocols.

After you have finished all the **"System Configuration Settings"** click the **OK** button. New Settings will be saved. These settings will be remembered even after you close and restart the DataLoggerTH application. Once you set the correct options, there is no need to set it again after you start the application.

Adding Devices

Click on the **"Add Device"** button to add and configure sensor/display settings. The **"Add Device to List"** window will open. In this window it is necessary to set the Network Settings and Temperature/Humidity Limits.



Interface:

Select the version of communication interface for the sensor or monitor from which you want to read the values. You have two options to choose from, depending on the type of display communication interface which you have purchased.

Ethernet – LAN version of connection with TCP/IP protocol.

Serial – RS485 serial line connection.

IP Address:

If Ethernet Interface is selected, enter the IP Address of the display. This value depends on the unique IP Address which was set in factory or by your supplier. For example: 192.168.0.70.

TCP Port: Please set the TCP Port of the display or sensor device. The correct factory setting value should be: **10001** (three zeroes between ones).

SubNet ID: Please set the SubNet ID number of the display or sensor device. If several sensors or displays are on the same network each sensor/display device must have a unique ID number which is preset in the factory. This number is on the label on the sensor box or on the back side of display.

Device Name: Enter some meaningful description of the measuring device (sensor or display with built-in sensor). For example: *"Sensor 1, server room"*, etc.

Redirect IP Address: This field is optional. Normally you can leave it empty. But if you want to have the read values transferred to another PC, enter the IP address of the destination PC. You can open the DataLoggerTH software on that PC and read the values.

Redirect TCP Port: This field is optional. Normally you can leave it empty. But if you want to have the read values transferred to another PC, enter the IP address of the destination PC.

Please note, it is important that the DataLoggerTH application software is run on a PC which is connected on the same LAN network as measuring devices (sensors and displays).

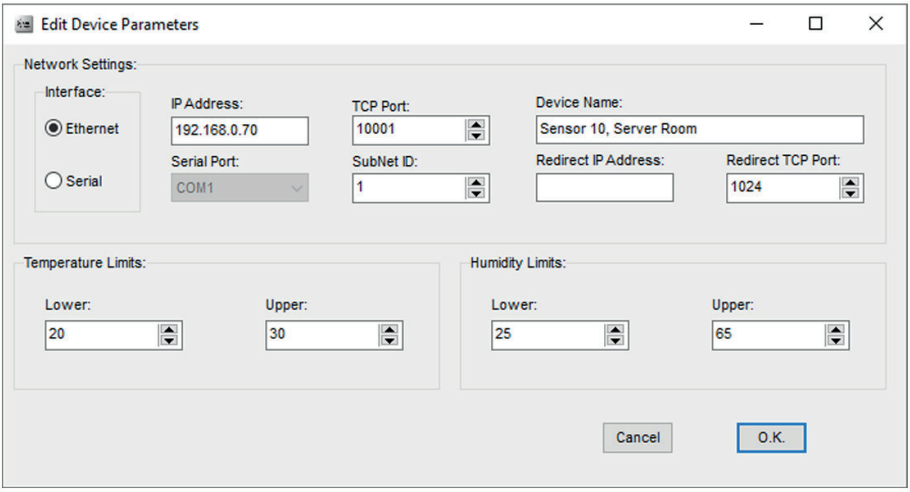
Temperature / Humidity Limits: Please set the desired upper and lower temperature and humidity limits values. When these values are exceeded the alarms are indicated by data values in red color.

Removing Devices from List

If you want to remove the device from the table you can click on the **"Delete Device"** button. It will be removed from the list.

Editing Device Parameters

Click on the **"Edit Device"** button to add and configure sensor/display settings. The **"Edit Device Parameters"** window will open. In this window you can change the parameters of the selected device in the list table.



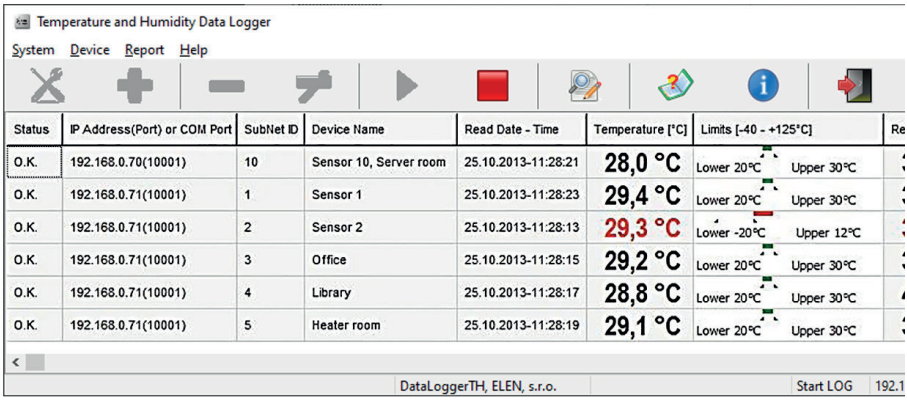
Starting Data Logging

Click on the **"Start"** button to start data logging of the listed devices in the table. Depending on the reading interval set in the System Configuration window, it might take some time for the values of each sensor to be shown in the table.

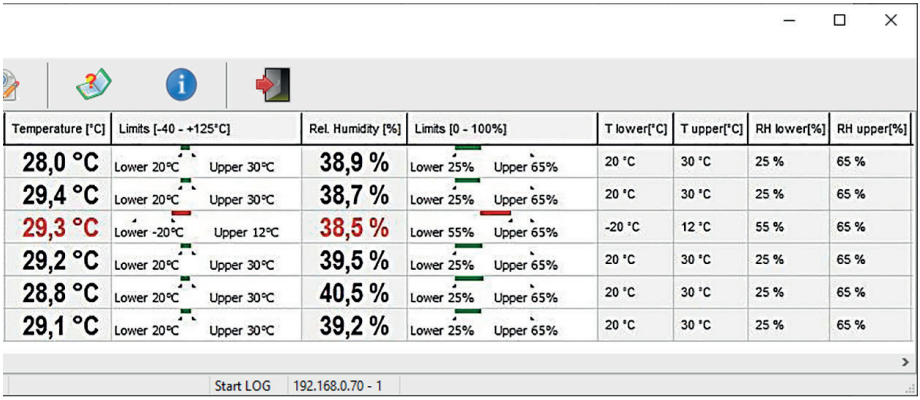
Every time the device measured value is read, the value in the table is updated. If the data are received correctly the **"Status"** data column will show **"O.K."**.

If there is a communication failure, the **"Status"** data column will show **"Fail"** to indicate that the device data cannot be read. Please check the Device Parameters if everything is set correctly. Then check if the devices (sensors and/or displays) are powered and connected to the network.

Data logging table is divided into several columns. Please see pictures below.



Status	IP Address(Port) or COM Port	SubNet ID	Device Name	Read Date - Time	Temperature [°C]	Limits [-40 - +125°C]	Re
O.K.	192.168.0.70(10001)	10	Sensor 10, Server room	25.10.2013-11:28:21	28,0 °C	Lower 20°C Upper 30°C	
O.K.	192.168.0.71(10001)	1	Sensor 1	25.10.2013-11:28:23	29,4 °C	Lower 20°C Upper 30°C	
O.K.	192.168.0.71(10001)	2	Sensor 2	25.10.2013-11:28:13	29,3 °C	Lower -20°C Upper 12°C	
O.K.	192.168.0.71(10001)	3	Office	25.10.2013-11:28:15	29,2 °C	Lower 20°C Upper 30°C	
O.K.	192.168.0.71(10001)	4	Library	25.10.2013-11:28:17	28,8 °C	Lower 20°C Upper 30°C	
O.K.	192.168.0.71(10001)	5	Heater room	25.10.2013-11:28:19	29,1 °C	Lower 20°C Upper 30°C	



Temperature [°C]	Limits [-40 - +125°C]	Rel. Humidity [%]	Limits [0 - 100%]	T lower[°C]	T upper[°C]	RH lower[%]	RH upper[%]
28,0 °C	Lower 20°C Upper 30°C	38,9 %	Lower 25% Upper 65%	20 °C	30 °C	25 %	65 %
29,4 °C	Lower 20°C Upper 30°C	38,7 %	Lower 25% Upper 65%	20 °C	30 °C	25 %	65 %
29,3 °C	Lower -20°C Upper 12°C	38,5 %	Lower 55% Upper 65%	-20 °C	12 °C	55 %	65 %
29,2 °C	Lower 20°C Upper 30°C	39,5 %	Lower 25% Upper 65%	20 °C	30 °C	25 %	65 %
28,8 °C	Lower 20°C Upper 30°C	40,5 %	Lower 25% Upper 65%	20 °C	30 °C	25 %	65 %
29,1 °C	Lower 20°C Upper 30°C	39,2 %	Lower 25% Upper 65%	20 °C	30 °C	25 %	65 %

Stopping Data Logging

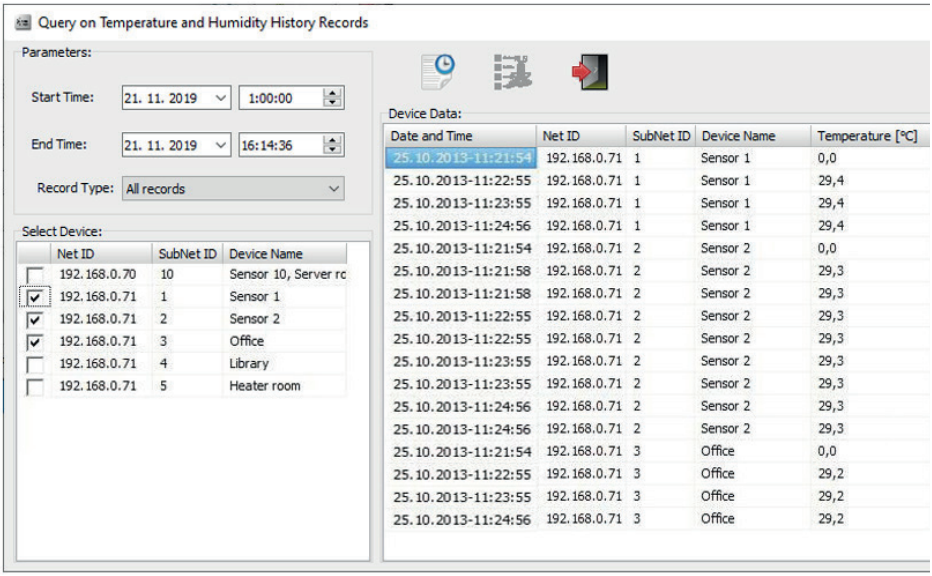
Click on the **"Stop"** button to stop data logging of the listed devices in the table. Displayed values will be cleared from the logging table. This is so the user is not considering the last recorded values to be current by mistake.

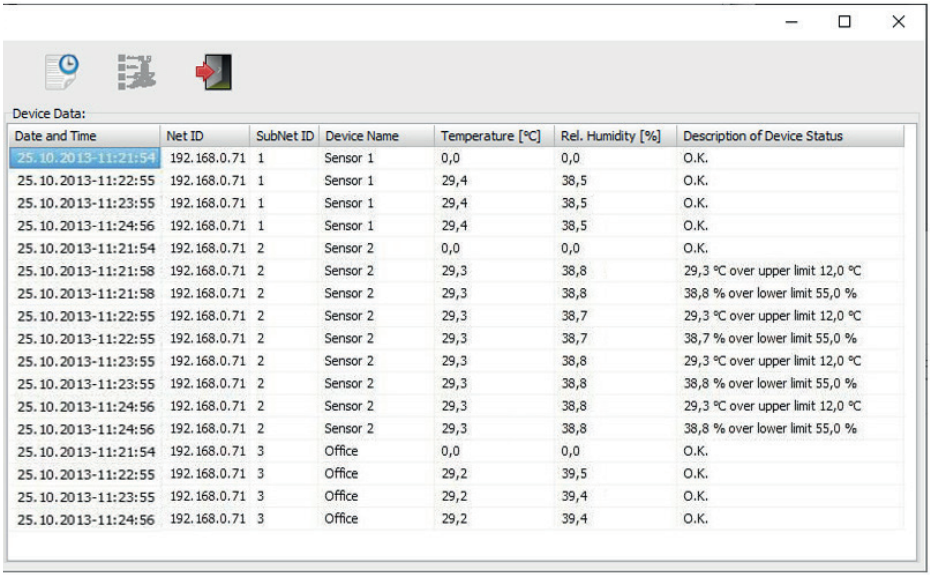
Query on History Records

Click on the **"Query"** button to open the ***"Query on Temperature and Humidity History Records"*** window. You can select desired devices and set Start Time and End Time of the history records.

Once you have made your selection, history data can be displayed in a report by clicking on the **"Run Query Report"** button.

The history query report can be also converted into Excel XLS file by clicking on the **"Export data to XLS file"** button.

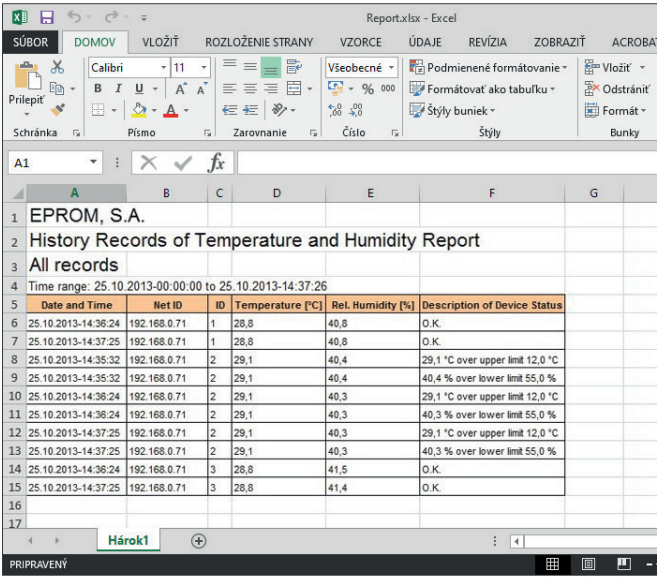




Device Data:

Date and Time	Net ID	SubNet ID	Device Name	Temperature [°C]	Rel. Humidity [%]	Description of Device Status
25.10.2013-11:21:54	192.168.0.71	1	Sensor 1	0,0	0,0	O.K.
25.10.2013-11:22:55	192.168.0.71	1	Sensor 1	29,4	38,5	O.K.
25.10.2013-11:23:55	192.168.0.71	1	Sensor 1	29,4	38,5	O.K.
25.10.2013-11:24:56	192.168.0.71	1	Sensor 1	29,4	38,5	O.K.
25.10.2013-11:21:54	192.168.0.71	2	Sensor 2	0,0	0,0	O.K.
25.10.2013-11:21:58	192.168.0.71	2	Sensor 2	29,3	38,8	29,3 °C over upper limit 12,0 °C
25.10.2013-11:21:58	192.168.0.71	2	Sensor 2	29,3	38,8	38,8 % over lower limit 55,0 %
25.10.2013-11:22:55	192.168.0.71	2	Sensor 2	29,3	38,7	29,3 °C over upper limit 12,0 °C
25.10.2013-11:22:55	192.168.0.71	2	Sensor 2	29,3	38,7	38,7 % over lower limit 55,0 %
25.10.2013-11:23:55	192.168.0.71	2	Sensor 2	29,3	38,8	29,3 °C over upper limit 12,0 °C
25.10.2013-11:23:55	192.168.0.71	2	Sensor 2	29,3	38,8	38,8 % over lower limit 55,0 %
25.10.2013-11:24:56	192.168.0.71	2	Sensor 2	29,3	38,8	29,3 °C over upper limit 12,0 °C
25.10.2013-11:24:56	192.168.0.71	2	Sensor 2	29,3	38,8	38,8 % over lower limit 55,0 %
25.10.2013-11:21:54	192.168.0.71	3	Office	0,0	0,0	O.K.
25.10.2013-11:22:55	192.168.0.71	3	Office	29,2	39,5	O.K.
25.10.2013-11:23:55	192.168.0.71	3	Office	29,2	39,4	O.K.
25.10.2013-11:24:56	192.168.0.71	3	Office	29,2	39,4	O.K.

The Report.xls file can be opened from the DataLoggerTH folder on your PC.



EPROM, S.A.

History Records of Temperature and Humidity Report

All records

Time range: 25.10.2013-00:00:00 to 25.10.2013-14:37:26

Date and Time	Net ID	ID	Temperature [°C]	Rel. Humidity [%]	Description of Device Status
25.10.2013-14:36:24	192.168.0.71	1	28,8	40,8	O.K.
25.10.2013-14:37:25	192.168.0.71	1	28,8	40,8	O.K.
25.10.2013-14:35:32	192.168.0.71	2	29,1	40,4	29,1 °C over upper limit 12,0 °C
25.10.2013-14:35:32	192.168.0.71	2	29,1	40,4	40,4 % over lower limit 55,0 %
25.10.2013-14:36:24	192.168.0.71	2	29,1	40,3	29,1 °C over upper limit 12,0 °C
25.10.2013-14:36:24	192.168.0.71	2	29,1	40,3	40,3 % over lower limit 55,0 %
25.10.2013-14:37:25	192.168.0.71	2	29,1	40,3	29,1 °C over upper limit 12,0 °C
25.10.2013-14:37:25	192.168.0.71	2	29,1	40,3	40,3 % over lower limit 55,0 %
25.10.2013-14:36:24	192.168.0.71	3	28,8	41,5	O.K.
25.10.2013-14:37:25	192.168.0.71	3	28,8	41,4	O.K.

*Please note, you must have the Microsoft Excel application software installed on your PC in order to open the query report file.

Help Information

Click on the **"Help"** button to open the help manual.

About the Software

Click on the **"About"** button to open the window with information about the software version and licensing.

Closing the Application

Click on the **"Application Exit"** button to close the software application. All device parameters and configuration values will be stored, so when you start the application again there is no need to set it again.

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