

# DataLogger

## Software Manual

Status	IP Address or COM Port	Slave ID	Device Name	Read Date - Time	Measured Value	Unit	Notes
OK	192.168.0.72	1	PfOrande	28. 4. 2020 11:46:44	21,9	[°C]	Register: 0
OK	192.168.0.72	1	Pfledana	28. 4. 2020 11:46:45	22,1	[°C]	Register: 1
OK	192.168.0.72	1	Ambiente	28. 4. 2020 11:46:46	21,9	[°C]	Register: 2

**Add Device to Logging List**

Sensor device:

- HS\_ETH\_ModTCP.xml
- HS\_RS485\_ModRTU.xml
- TS\_ETH\_ModTCP.xml
- TS\_RS485\_ModRTU.xml

Properties Value

Device name: TS Lan

Interface: Ethernet

Protocol: Modbus TCP

Measurement type: Temperature

Register: 0

Type variable: i = Int (2 Byte Signed):

Displevivo format: 0.0

Redirect device:

Properties Value

Displaying format:

IP address:

TCP port:

Cancel O.K.

Report - Excel

2 History Records

3 All records

4 Time range: 28. 4. 2020 11:48:10

Date and Time	Net ID	ID + Register	Value	Unit	Description of Device Status
28. 4. 2020 11:42:38	192.168.0.72	1+0	22.0	[°C]	Periodic entry -> OK
7 28. 4. 2020 11:43:36	192.168.0.72	1+0	22.0	[°C]	Periodic entry -> OK
8 28. 4. 2020 11:44:36	192.168.0.72	1+0	21.9	[°C]	Periodic entry -> OK
9 28. 4. 2020 11:45:36	192.168.0.72	1+0	21.9	[°C]	Periodic entry -> OK
10 28. 4. 2020 11:46:37	192.168.0.72	1+0	21.9	[°C]	Periodic entry -> OK
11 28. 4. 2020 11:47:37	192.168.0.72	1+0	21.9	[°C]	Periodic entry -> OK
12 28. 4. 2020 11:42:36	192.168.0.72	1+1	22.1	[°C]	Periodic entry -> OK
13 28. 4. 2020 11:43:36	192.168.0.72	1+1	22.1	[°C]	Periodic entry -> OK
14 28. 4. 2020 11:44:36	192.168.0.72	1+1	22.1	[°C]	Periodic entry -> OK
15 28. 4. 2020 11:45:36	192.168.0.72	1+1	22.1	[°C]	Periodic entry -> OK
16 28. 4. 2020 11:46:37	192.168.0.72	1+1	22.1	[°C]	Periodic entry -> OK
17 28. 4. 2020 11:47:37	192.168.0.72	1+1	22.1	[°C]	Periodic entry -> OK
18 28. 4. 2020 11:42:36	192.168.0.72	1+2	22.0	[°C]	Periodic entry -> OK
19 28. 4. 2020 11:43:36	192.168.0.72	1+2	22.0	[°C]	Periodic entry -> OK
20 28. 4. 2020 11:44:36	192.168.0.72	1+2	22.0	[°C]	Periodic entry -> OK
21 28. 4. 2020 11:45:36	192.168.0.72	1+2	22.0	[°C]	Periodic entry -> OK
22 28. 4. 2020 11:46:37	192.168.0.72	1+2	22.0	[°C]	Periodic entry -> OK
23 28. 4. 2020 11:47:37	192.168.0.72	1+2	21.9	[°C]	Periodic entry -> OK
24					
25					
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## Introduction

DataLogger is a PC Windows based software application, which is used for logging measured data from the monitoring systems of various physical quantities, e.g. temperature and humidity.

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 Modbus or LAN Ethernet Modbus TCP 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 DataLogger must be connected to the same network as the sensor devices and monitors.)

Besides data logging, upper and lower alarm limit values can be set. Exceeding these limits will cause that displayed values will become red (when exceeding the upper limit) or yellow (exceeding the lower limit). Query on selected devices is also possible to make a 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 DataLogger folder with unpacked files, which you have received from your display/sensor supplier.

## Starting Application

After software installation double-click the DataLogger icon on your desktop. Or you can run DataLogger.exe file from DataLogger folder on your PC. The DataLogger 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.

**System Configuration Settings** [X]

System intervals:

Reading interval [ms]: 1000	Pause interval [ms]: 2000
File Save interval [s]: 600	Timeout [s]: 25

Cancel O.K.

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

**Reading interval (in milliseconds)** – this is the time period how often the sensor data will be read. It can be set from 100 to 60000 msec.

For example if set to 10000 msec, the application will request measured data from the sensor every 10 seconds (or from a display with connected sensor). Although it is possible to set this value as low as 100 msec, 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 seconds)** – this is the time period how often the recorded data will be saved into a log file. It can be set from 1 to 3600 seconds.

For example if the files save interval is set to 600 seconds, the application will save the log file every 10 minutes. Nevertheless, exceeding the preset alarm limits will cause saving the log file out of the file save interval. It will be saved immediately after the first time the alarm state occurs.

**Pause interval (in milliseconds)** – time period for pause. It can be set from 100 to 60000 msec. For example, if the Pause interval is set to 10000 msec, the application will request the measured values from all sensors in the list and then will wait for 10 seconds.

**Timeout (in seconds)** – this is the time period in which the reading from the sensor or display must be received. It can be set from 1 to 30 sec. If data is not received within this

time, communication error will be recorded. In case of large networks, please allow longer time for receiving messages (e.g. 10 to 30 sec).

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 DataLogger application. Once you set the configuration settings, there is no need to set it again after you start the application.

## Adding Devices to Logging List



Click on the “**Add Device**” button to add and configure sensor/display settings. The “**Add Device to Logging List**” window will open. In this window it is necessary to choose the connected sensor device from the given xml file and set its properties.

**Add Device to Logging List** X

Sensor device:

- HS\_ETH\_ModTCP.xml
- HS\_RS485\_ModRTU.xml
- TS\_ETH\_ModTCP.xml
- TS\_RS485\_ModRTU.xml

Properties	Value

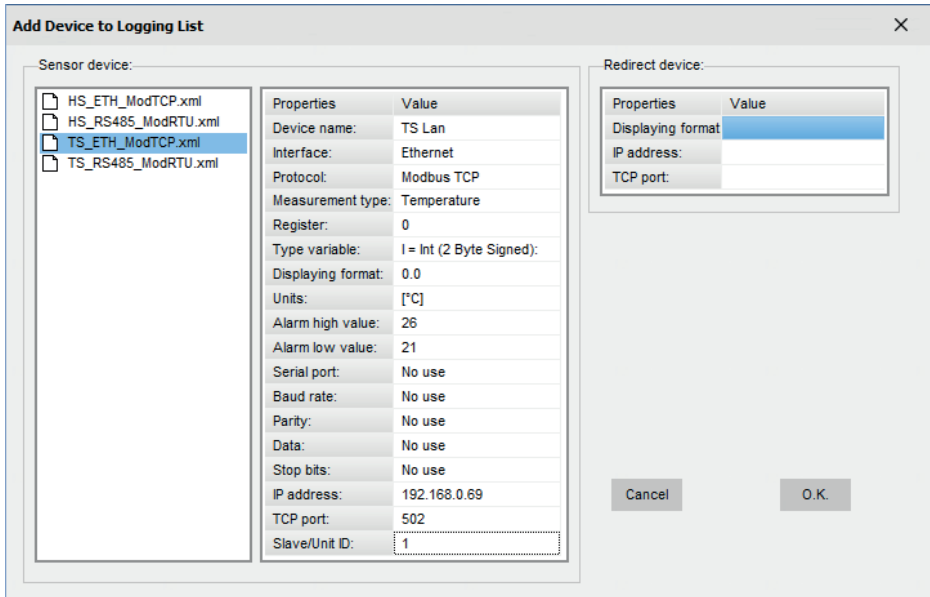
Redirect device:

Properties	Value
Displaying format	
IP address:	
TCP port:	

Cancel O.K.

## Example 1:

Double clicking on file TS\_ETH\_ModTCP.xml will open sensor parameters, which we can edit for the specific use.

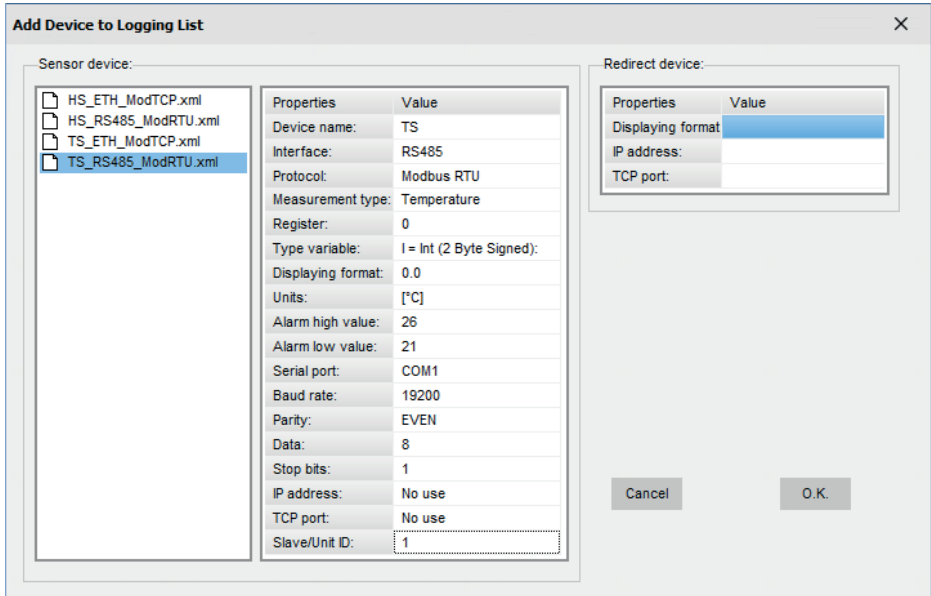


In this case we selected the temperature sensor with Ethernet interface and protocol Modbus TCP. The following parameters can be set:

- Device name:** Enter some meaningful description of the measuring device.  
For example: *"Sensor 1, server room"*, etc.
- Register:** By standard all ELEN sensors for measuring temperature are using Modbus register 0, but in some circumstances it is possible to use registers 1 to 9.
- Units:** Enter the measurement unit for the device.  
In this case it will be degree C.
- Alarm high value:** Upper limit value. Exceeding this value will trigger alarm.
- Alarm low value:** Lower limit value. Value below this limit will trigger alarm.
- IP address:** IP address of the connected sensor.
- TCP port:** Port number for TCP protocol. Default factory value is 502. If you need to change this number, you must change the port number of the sensor device as well.
- Slave/Unit ID:** All ELEN sensor devices use this parameter for internal communication.

## Example 2:

Double clicking on file TS\_RS485\_ModRTU.xml will open sensor parameters, which we can edit for the specific use.




In this case we selected the temperature sensor with RS485 interface and protocol Modbus RTU. The following parameters can be set:

- Device name:** Enter some meaningful description of the measuring device.  
For example: *"Sensor 1, server room"*, etc.
- Register:** By standard all ELEN sensors for measuring temperature are using Modbus register 0, but in some circumstances it is possible to use registers 1 to 9.
- Units:** Enter the measurement unit for the device.  
In this case it will be degree C.
- Alarm high value:** Upper limit value. Exceeding this value will trigger alarm.
- Alarm low value:** Lower limit value. Value below this limit will trigger alarm.
- Serial port:** Enter the serial port number of your PC to which is the sensor connected.
- Baud rate:** Communication speed of the connected sensor.
- Parity:** Communication parity of the connected sensor.
- Data:** Number of data bits.

**Stop bits:** Number of stop bits.

**Slave/Unit ID:** RS485 network address for communication via ModbusRTU.

## Removing Devices from Logging 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.

**Edit Device Parameters** X

Sensor device:

- HS\_ETH\_ModTCP.xml
- HS\_RS485\_ModRTU.xml
- TS\_ETH\_ModTCP.xml
- TS\_RS485\_ModRTU.xml

Properties	Value
Device name:	Ambiente
Interface:	Ethernet
Protocol:	Modbus TCP
Measurement type:	Temperature
Register:	2
Type variable:	I = Int (2 Byte Signed):
Displaying format:	0.0
Units:	[°C]
Alarm high value:	26
Alarm low value:	21
Serial port:	No use
Baud rate:	No use
Parity:	No use
Data:	No use
Stop bits:	No use
IP address:	192.168.0.72
TCP port:	502
Slave/Unit ID:	1

Redirect device:

Properties	Value
Redirect format:	
Redirect IP address:	
Redirect TCP port:	

## 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 measured value is read from device, the value in the table is updated. If the data are received correctly the **“Status”** data column will indicate Read...**“O.K.”**

If there is a communication failure, the **“Status”** data column will show **“Error”** 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.

If there is a sensor device failure, the **“Status”** data column will show **“Sensor ?”** to indicate that there is a sensor fault. Confirm that the sensor connector is plugged in.

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

Status	IP Address or COM Port	Slave ID	Device Name	Read Date - Time	Measured Value	Unit	Notes
OK	192.168.0.72	1	PGrande	28. 4. 2020 11:46:44	21,9	[°C]	Register: 0
OK	192.168.0.72	1	PMediana	28. 4. 2020 11:46:45	22,1	[°C]	Register: 1
OK	192.168.0.72	1	Ambiente	28. 4. 2020 11:46:46	21,9	[°C]	Register: 2

DataLogger Version 2.00.00 Modbus Start LOG



## 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 Sensor Value 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.

Date and Time	Net ID	ID + Register	Device Name	Value	Unit	Device Status
28. 4. 2020 11:42:36	192.168.0.72	1+0	PGrande	22,0	[°C]	Periodic entry -> OK
28. 4. 2020 11:43:36	192.168.0.72	1+0	PGrande	22,0	[°C]	Periodic entry -> OK
28. 4. 2020 11:44:36	192.168.0.72	1+0	PGrande	21,9	[°C]	Periodic entry -> OK
28. 4. 2020 11:45:36	192.168.0.72	1+0	PGrande	21,9	[°C]	Periodic entry -> OK
28. 4. 2020 11:42:36	192.168.0.72	1+1	PMediana	22,1	[°C]	Periodic entry -> OK
28. 4. 2020 11:43:36	192.168.0.72	1+1	PMediana	22,1	[°C]	Periodic entry -> OK
28. 4. 2020 11:44:36	192.168.0.72	1+1	PMediana	22,1	[°C]	Periodic entry -> OK
28. 4. 2020 11:45:36	192.168.0.72	1+1	PMediana	22,1	[°C]	Periodic entry -> OK
28. 4. 2020 11:42:36	192.168.0.72	1+2	Ambiente	22,0	[°C]	Periodic entry -> OK
28. 4. 2020 11:43:36	192.168.0.72	1+2	Ambiente	22,0	[°C]	Periodic entry -> OK
28. 4. 2020 11:44:36	192.168.0.72	1+2	Ambiente	22,0	[°C]	Periodic entry -> OK
28. 4. 2020 11:45:36	192.168.0.72	1+2	Ambiente	22,0	[°C]	Periodic entry -> OK

The Report.xls file will be stored to the DataLogger folder of your PC.

Report - Excel

SÚBOR DOMOV VLOŽIŤ ROZLOŽENIE STRANY VZORCE ÚDAJE REVÍZIA ZOBRAZIŤ Prihlásit

Prilepiť

Calibri 11

B I U A A

Schránka Písmo Zarovnanie Číslo Štýly

Všeobecné

Podmienené formátovanie

Formátovať ako tabuľku

Štýly buniek

Bunky Úpravy

A1

History Records

All records

Time range: 28. 4. 2020 to 28. 4. 2020 11:48:10

Date and Time	Net ID	ID + Register	Value	Unit	Description of Device Status
28. 4. 2020 11:42:36	192.168.0.72	1 + 0	22,0	[°C]	Periodic entry -> OK
28. 4. 2020 11:43:36	192.168.0.72	1 + 0	22,0	[°C]	Periodic entry -> OK
28. 4. 2020 11:44:36	192.168.0.72	1 + 0	21,9	[°C]	Periodic entry -> OK
28. 4. 2020 11:45:36	192.168.0.72	1 + 0	21,9	[°C]	Periodic entry -> OK
28. 4. 2020 11:46:37	192.168.0.72	1 + 0	21,9	[°C]	Periodic entry -> OK
28. 4. 2020 11:47:37	192.168.0.72	1 + 0	21,9	[°C]	Periodic entry -> OK
28. 4. 2020 11:42:36	192.168.0.72	1 + 1	22,1	[°C]	Periodic entry -> OK
28. 4. 2020 11:43:36	192.168.0.72	1 + 1	22,1	[°C]	Periodic entry -> OK
28. 4. 2020 11:44:36	192.168.0.72	1 + 1	22,1	[°C]	Periodic entry -> OK
28. 4. 2020 11:45:36	192.168.0.72	1 + 1	22,1	[°C]	Periodic entry -> OK
28. 4. 2020 11:46:37	192.168.0.72	1 + 1	22,1	[°C]	Periodic entry -> OK
28. 4. 2020 11:47:37	192.168.0.72	1 + 1	22,1	[°C]	Periodic entry -> OK
28. 4. 2020 11:42:36	192.168.0.72	1 + 2	22,0	[°C]	Periodic entry -> OK
28. 4. 2020 11:43:36	192.168.0.72	1 + 2	22,0	[°C]	Periodic entry -> OK
28. 4. 2020 11:44:36	192.168.0.72	1 + 2	22,0	[°C]	Periodic entry -> OK
28. 4. 2020 11:45:36	192.168.0.72	1 + 2	22,0	[°C]	Periodic entry -> OK
28. 4. 2020 11:46:37	192.168.0.72	1 + 2	22,0	[°C]	Periodic entry -> OK
28. 4. 2020 11:47:37	192.168.0.72	1 + 2	21,9	[°C]	Periodic entry -> OK

Report

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\* 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.

**ELEN, s.r.o.**, Lubochnianska 16, 080 06 Lubotice, Slovakia  
tel.: +421 51 773 3700, +421 905 637 717, +421 911 637 716, fax: +421 51 759 9142  
e-mail: [sales@elen.sk](mailto:sales@elen.sk), [www.elen.sk](http://www.elen.sk)