User Guide

Config NDA

Software for Setting Configuration Parameters
NDA 100/3-2 TH(S) RG L20 230AC USB(RS485)

Version 1.01

Config NDA

Software for Setting Configuration Parameters
NDA 100/3-2 TH(S) RG L20 230AC USB(RS485)
version 1.01

This software application can be used for setting configuration parameters of NDA displays. Display must be connected to PC via its USB or RS485 interface.

The change of parameters procedure consists of the following steps:

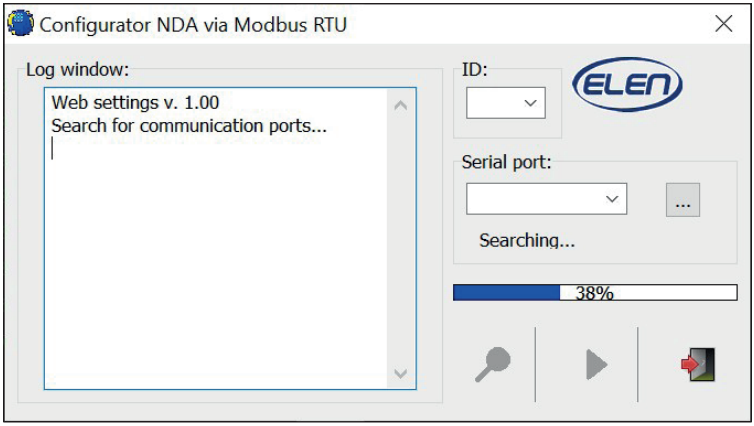
1. Connecting display to PC and searching for the communication port.
2. Searching for display's ID (identification number).
3. Starting the web server (sw application with display configuration).

1. Connecting Display to PC and Searching for the COM Port

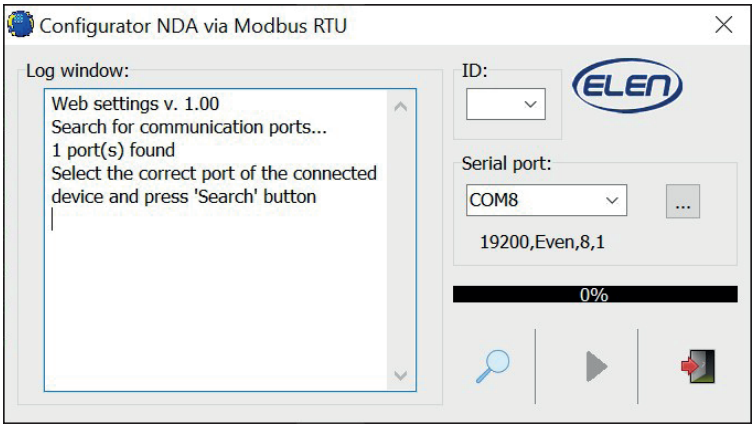
Disconnect the NDA display from the electrical power outlet. Using the USB A-B type cable connect the NDA display to a computer. (USB and RS485 ports are located on the back side of display, under small door.) Then reapply the electrical power again.

If the display is connected to a computer for the first time directly via USB port, and the USB driver is not installed automatically, you need to install the **CDM21228_Setup.exe** driver to create a serial port using the FTDI chip. This file can be downloaded from the Internet. If the display is connected to a computer via the RS485 interface on the display, it is necessary to use the RS485 / USB converter on the computer side (the converter is available as an optional accessory or can be purchased from other suppliers). The **RS485 / USB converter** driver is on the enclosed CD from the manufacturer, or it will be installed automatically.

After successfully connecting and detecting the USB device under Windows OS, run the **Config_NDA.exe** application. SW will start searching for all connected displays automatically.

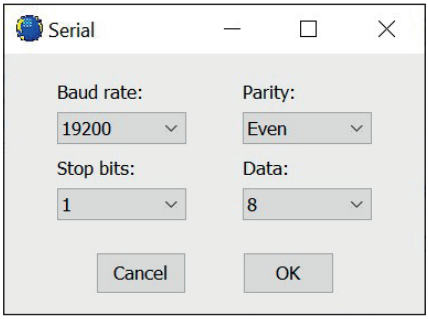


When the search is complete, select the appropriate serial communication port from the list and, if necessary, set the serial transmission parameters by clicking on the **"..."** button.



The COM8 port is selected in the previous figure, but if other external ports are found, those ports will be listed as well. It is necessary to carefully select the correct port. The correct USB / COM port can be found in the Device Manager section on the PC.

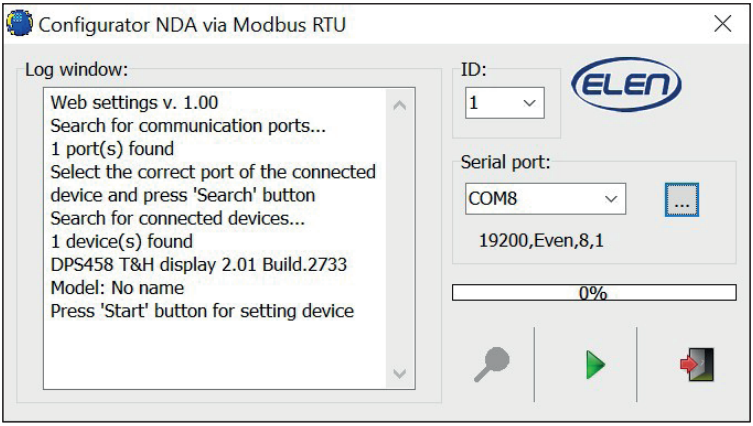
If display's port parameters are different, they must be set in the **Serial** dialog box according to the currently used NDA display.



If you do not know these parameters, exit **Config_NDA.exe** and reset the NDA display to factory defaults. Then run **Config_NDA.exe** again and follow all the steps so far.

2. Searching for Display's ID

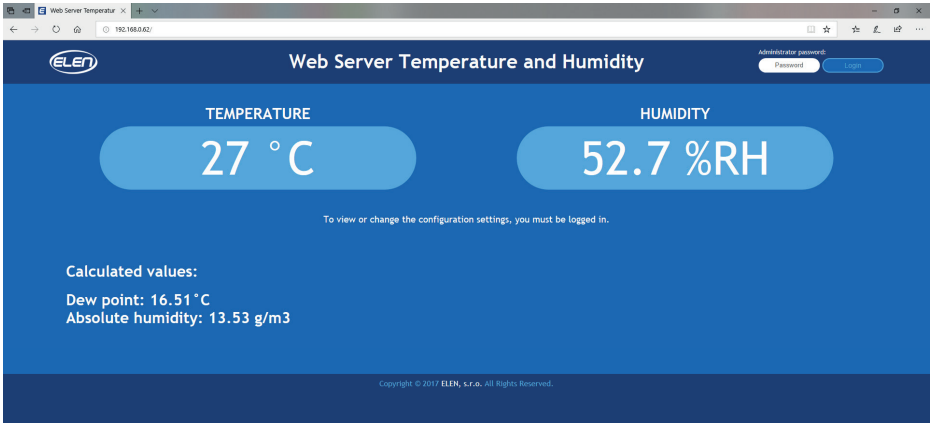
Click the **Search** button to locate the display that is connected to PC. The log window displays its version and model, and the **ID** field shows its number.



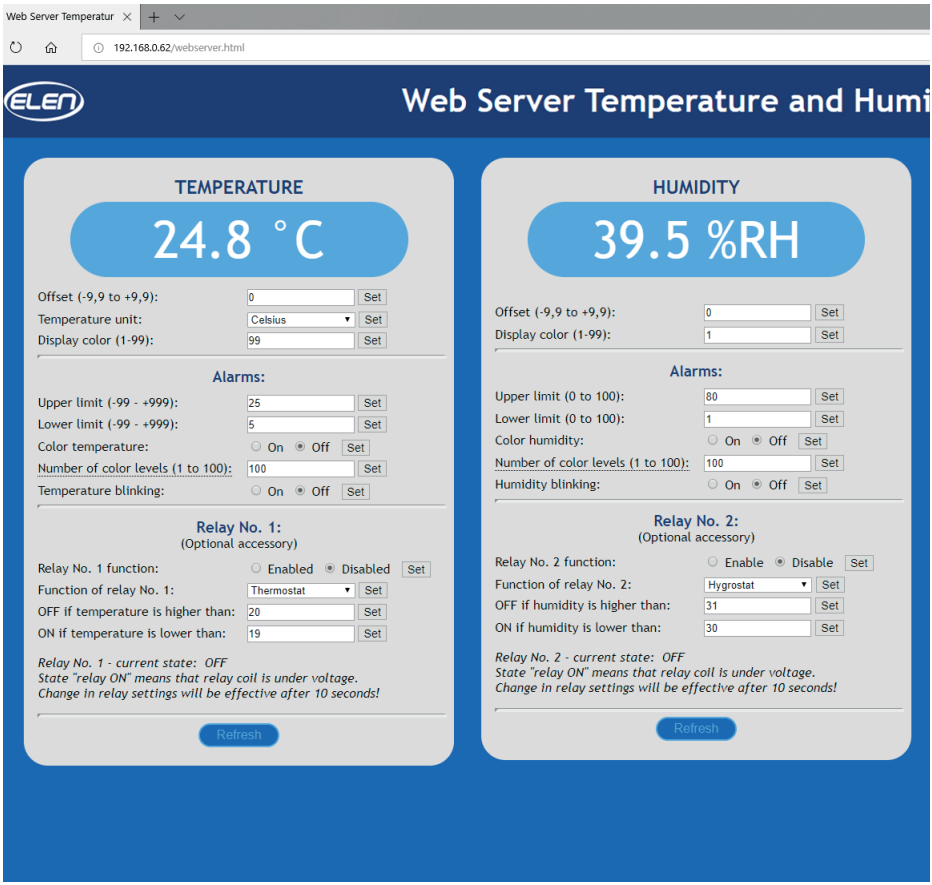
If the application does not find any connected display, the **Start** button will not be available. The display's power supply and / or USB cable connection must be checked.

3. Starting the Web Server

Clicking the **Start** button launches the web server in the default Internet web browser on the PC. Currently measured values will be displayed.



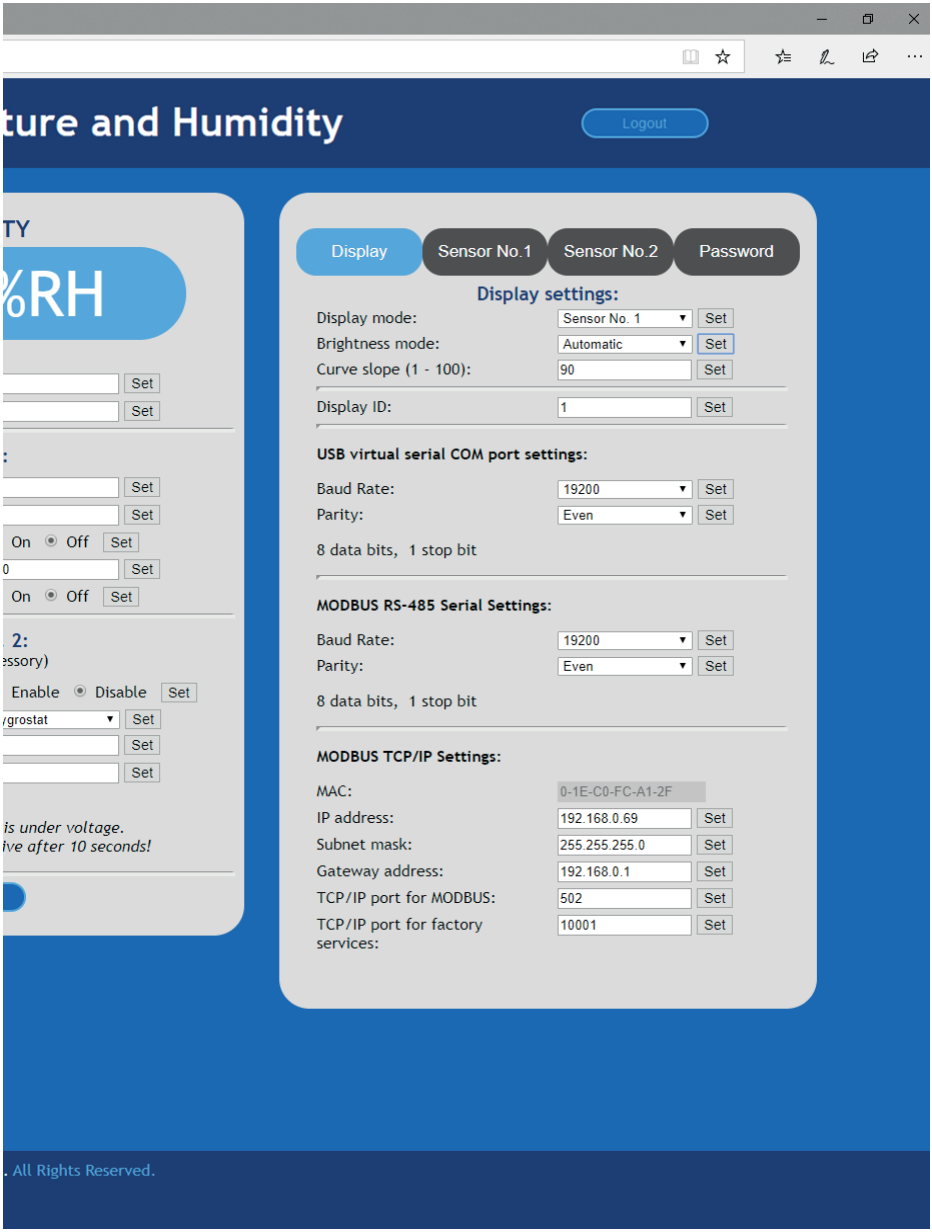
The default password „**admin**" in the upper right corner is used to enter the configuration parameter settings.

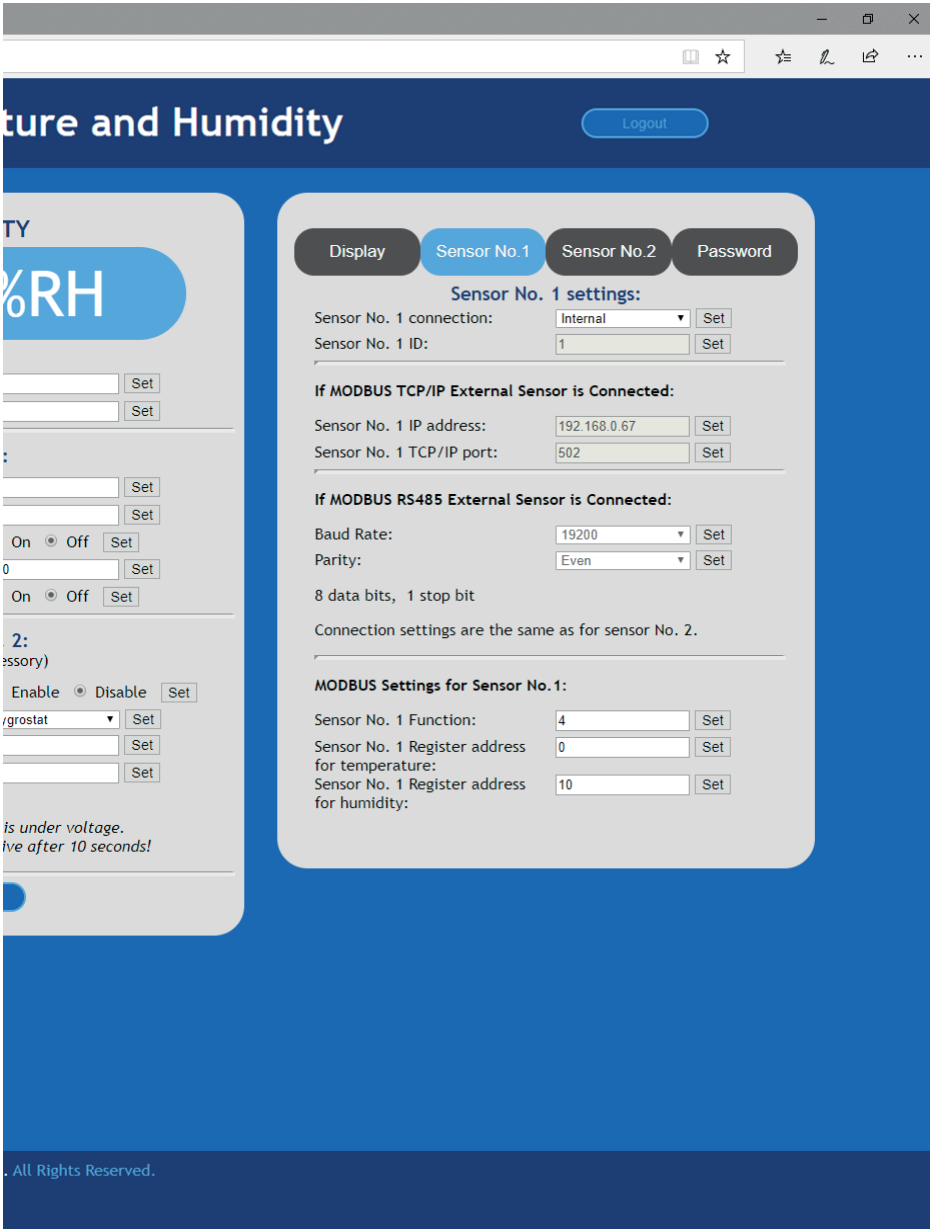


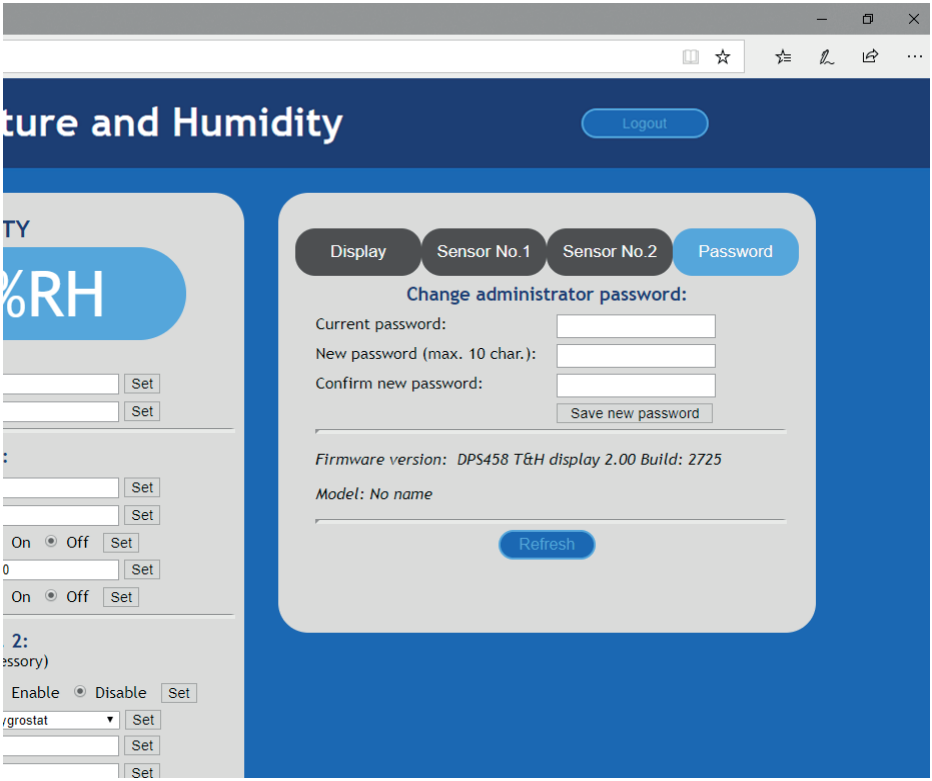
When the web server starts, **Config_NDA.exe** application minimizes to the notification area (the notification area is usually located in the lower-right corner of the Windows screen) and communicates with display in the background.

The configuration settings menu provides the user with many options. Here is a brief description of each option.

Note: Be sure to click the Set button each time you make a change. Otherwise the change will be discarded.

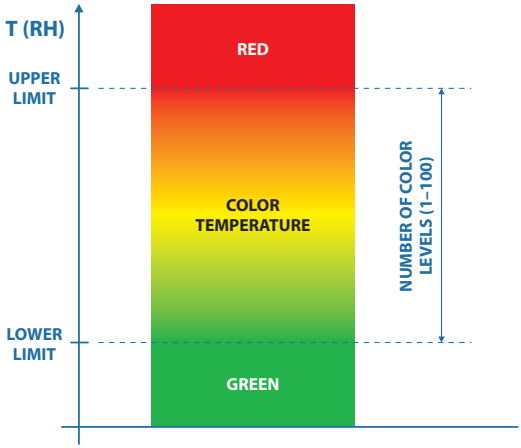

ture and Humidity
Logout
TY
%RH
Set
Set
Set
Set
On Off Set
0
Set
On Off Set
2:
essory)
Enable Disable Set
grostat
Set
Set
Set
is under voltage.
ive after 10 seconds!
Display
Sensor No.1
Sensor No.2
Password
Display settings:
Display mode:
Sensor No. 1
Set
Brightness mode:
Automatic
Set
Curve slope (1 - 100):
90
Set
Display ID:
1
Set
USB virtual serial COM port settings:
Baud Rate:
19200
Set
Parity:
Even
Set
8 data bits, 1 stop bit
MODBUS RS-485 Serial Settings:
Baud Rate:
19200
Set
Parity:
Even
Set
8 data bits, 1 stop bit
MODBUS TCP/IP Settings:
MAC:
0-1E-C0-FC-A1-2F
IP address:
192.168.0.69
Set
Subnet mask:
255.255.255.0
Set
Gateway address:
192.168.0.1
Set
TCP/IP port for MODBUS:
502
Set
TCP/IP port for factory services:
10001
Set
All Rights Reserved.


ture and Humidity
Logout
TY
%RH
Set
Set
Set
Set
On Off Set
0
Set
On Off Set
2:
essory)
Enable Disable Set
grostat
Set
Set
Set
is under voltage.
ive after 10 seconds!
Display
Sensor No.1
Sensor No.2
Password
Sensor No. 1 settings:
Sensor No. 1 connection:
Internal
Set
Sensor No. 1 ID:
1
Set
If MODBUS TCP/IP External Sensor is Connected:
Sensor No. 1 IP address:
192.168.0.67
Set
Sensor No. 1 TCP/IP port:
502
Set
If MODBUS RS485 External Sensor is Connected:
Baud Rate:
19200
Set
Parity:
Even
Set
8 data bits, 1 stop bit
Connection settings are the same as for sensor No. 2.
MODBUS Settings for Sensor No.1:
Sensor No. 1 Function:
4
Set
Sensor No. 1 Register address for temperature:
0
Set
Sensor No. 1 Register address for humidity:
10
Set
. All Rights Reserved.



TEMPERATURE

Offset	**-9,9°C to +9,9°C** Allows user to implement offset correction to measured values from -9,9°C to +9,9°C. Default value is 0. Please be cautious when using this feature because sensors are already calibrated from factory. Under normal circum-stances there should be no need to change it.
Temperature Units	**Celsius / Fahrenheit**
Display color	Sets the color of display's LEDs to red/green/yellow. *Valid for displays with color LEDs only (version RG).*
Alarms	Allows visual signalization when values exceed limit values.
Upper limit	Sets the upper limit value for the alarm.
Lower limit	Sets the lower limit value for the alarm.
Color temperature	**On/Off**, special feature used with color LEDs. Display's LED color will change automatically in dependence on displayed temperature value.



Number of color levels (1 to 100)
Sets the number of color levels during transition from lower limit (green) to upper limit (red) and wise versa when color temperature function is ON.

Temperature blinking **On/Off**, enables or disables blinking (flashing) of display when the upper or lower limit is exceeded.

Relay No. 1 Display can be equipped with two optional relays offered as optional accessory.

Relay No. 1 function **Enabled / Disabled**
Enables or disables Relay No. 1.

Function of relay No. 1 **Thermostat / Hygrostat / Temperature Alarm**
Sets the function of relay No. 1 according to your application.

OFF if temperature is higher than
Relay No. 1 is OFF when temperature is above than this value.

ON if temperature is lower than
Relay No. 1 is ON when temperature is below this value.

HUMIDITY

Humidity Similar options as described for the temperature menu above are possible for humidity as well.

Display settings

Display mode **Sensor No. 1 / Sensor No. 2 / Average from 2 sensors**

Sensor No. 1
Display will show measured value from sensor No. 1 as configured above.
Sensor No. 2
Display will show measured value from sensor No. 2 as configured above.
Average from 2 sensors
Display will show average value from 2 sensors, if two sensors are connected.

Brightness mode **Automatic** / **Direct**

Automatic Automatic control of brightness according to ambient light conditions, via built-in light sensor.
Direct Direct control of brightness via fixed brightness level entered by user. Default factory setup is automatic.

Brightness level (1 – 100)
If **Direct** mode is selected above, this value sets fixed LED brightness level from 1 to 100.

Curve slope (1 – 100)
If **Automatic** mode is selected above, this value sets the slope of brightness regulation curve.

Display ID **1 – 247**
Designates internal RS485 address ID number of display.
(MODBUS slave address.)

USB virtual serial COM port settings

Baud Rate 1200, 2400, 4800, 9600, 14400, 19200, 38400, 57600, 115200.
Baud rate for USB communication interface (default: 19200 Bd)

Parity None, Even, Odd
Parity type settings for USB interface (default: EVEN)

MODBUS RS-485 Serial Settings

Baud Rate 1200, 2400, 4800, 9600, 14400, 19200, 38400, 57600, 115200.
Baud rate for RS485 communication interface (default: 19200 Bd)

Parity None, Even, Odd
Parity type settings for RS485 interface (default: EVEN)

MODBUS TCP/IP Settings

MAC Shows MAC address of connected display.
User cannot change this field.

IP address Shows IP address of display (same IP address as in the URL field of the browser).
Factory default IP address is on the label located on the back panel of display.
Enter new IP address according to your LAN setting.

Subnet mask Shows factory default Subnet mask of connected display.
Enter new Subnet mask according to your LAN.

Gateway address Shows factory default Gateway address of connected display.
Enter new Gateway address according to your LAN.

TCP/IP port for MODBUS
Shows MODBUS TCP/IP port.
Enter new MODBUS TCP/IP port according to your LAN.
Default factory value is **502**.

TCP/IP port for factory services
Shows TCP/IP port for factory services.
Enter new TCP/IP port for factory services according to your LAN.
Default factory value is **10001**.

Sensor No. 1 settings

This menu allows user to configure the type of sensor used and its parameters.

Sensor No.1 connection
Internal, RS-485, Ethernet, MODBUS slave, None
Select what type of sensor is paired with display.
Internal – display is equipped with plug-in internal sensor.
RS485 – external sensor is attached to display via cable.
Ethernet – LAN type sensor is paired with display.
MODBUS slave – LED display is used as a displaying unit for a control system (e.g. PC, PLC, etc.), which sends it's temperature and humidity data.
None – no sensor is connected

Sensor No. 1 ID Sensor No. 1 ID number or MODBUS slave address.

If MODBUS TCP/IP External Sensor is Connected

Sensor No. 1 IP address
IP address of sensor No. 1, if **Sensor No. 1 connection:** is set to Ethernet.

Sensor No. 1 TCP/IP port
TCP/IP port number of sensor No. 1, if Sensor No. 1 connection: is set to Ethernet.
Default: 502. (MODBUS standard default.)

If MODBUS RS485 External Sensor is Connected

Baud Rate **1200, 2400, 4800, 9600, 14400, 19200, 38400, 57600, 115200**
Baud rate for sensor No. 1, if Sensor No. 1 connection: is set to RS-485.
Default: 19200. (MODBUS standard default.)

Parity **None, Even, Odd**
Parity type of sensor No. 1, if Sensor No. 1 connection: is set to RS-485.
Default: EVEN. (MODBUS standard default.)

Baud rate and Parity of sensor No. 1 and No. 2 have the same settings because they are on the same RS485 bus.

MODBUS Settings for Sensor No.1

Sensor No. 1 Function

3, 4
Function number, which is used for reading temperature and humidity values.
Default: 4. (Default for ELEN sensors.)

Sensor No. 1 Register address for temperature

0 to 65535
Address of register, which contains temperature value.
The temperature value must be signed int and in tenths of °C.
Default: 0. (Default for ELEN sensors.)

Sensor No. 1 Register address for humidity

0 to 65535
Address of register, which contains humidity value.
The humidity value must be signed int and in tenths of %RH.
Default: 10. (Default for ELEN sensors.)

Sensor No. 2 settings

This menu allows user to configure the type of sensor used and its parameters.

Sensor No.2 connection

RS-485, Ethernet, None
Select what type of sensor is paired with display.
RS485 – external sensor is attached to display via cable.
Ethernet – LAN type sensor is paired with display.
None – no sensor is connected

Sensor No. 2 ID Sensor No. 2 ID number or MODBUS slave address.

If MODBUS TCP/IP External Sensor is Connected

Sensor No. 2 IP address

IP address of sensor No. 2, if **Sensor No. 2 connection:** is set to Ethernet.

Sensor No. 2 TCP/IP port

TCP/IP port number of sensor No. 2, if Sensor No. 2 connection: is set to Ethernet.
Default: 502. (MODBUS standard default.)

If MODBUS RS485 External Sensor is Connected

Baud Rate **1200, 2400, 4800, 9600, 14400, 19200, 38400, 57600, 115200**
Baud rate for sensor No. 2, if Sensor No. 2 connection: is set to RS-485.
Default: 19200. (MODBUS standard default.)

Parity **None, Even, Odd**
Parity type of sensor No. 2, if Sensor No. 2 connection: is set to RS-485.
Default: EVEN. (MODBUS standard default.)

Baud rate and Parity of sensor No. 1 and No. 2 have the same settings because they are on the same RS485 bus.

MODBUS Settings for Sensor No.2

Sensor No. 1 Function

3, 4
Function number, which is used for reading temperature and humidity values.
Default: 4. (Default for ELEN sensors.)

Sensor No. 2 Register address for temperature

0 to 65535
Address of register, which contains temperature value.
The temperature value must be signed int and in tenths of °C.
Default: 0. (Default for ELEN sensors.)

Sensor No. 2 Register address for humidity

0 to 65535
Address of register, which contains humidity value.
The humidity value must be signed int and in tenths of %RH.
Default: 10. (Default for ELEN sensors.)

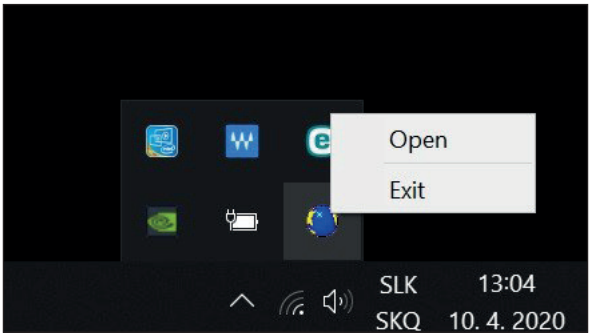
*Note: Do not forget to press the **Set** button after making each change.*
*Otherwise the change will be discarded. When finished with settings, click the **Refresh** button.*

Stop bits are set automatically according to parity settings as per MODBUS protocol specifications.
(Valid for all communication interfaces of display.)

It is possible to reset the IP address back to factory default value by pressing and holding the **RESET** button for **5** seconds. The **RESET** button is located near the external sensor connector P1 on the back panel.

4. Exiting the Program

To complete the setup be aware that there are two software applications running in parallel on the computer. First application is the **Config_NDA.exe** and the second application is the default Internet browser. To complete the setup, it is therefore necessary to first close the Internet browser window, in which the setup web server itself is running. Then, right-click the icon in the notification area, which is usually located in the lower-right corner of the Windows screen. Select "**Exit**" from the menu to end the program.



© **ELEN, s.r.o.**, Lubochnianska 16, 080 06 Lubotice, Slovakia
Phone: +421 51 773 3700, Mobile: +421 905 637 717, +421 911 637 716
E-mail: sales@elen.sk, http://**www.elen.eu**