

Programming Guide

NDC Clock Discoverer

LAN TCP/IP

ver. 1.1



1. NDC Discoverer Software

This software application is used for programming basic configuration settings of the clock NDC 160/4 with Ethernet communication interface and TCP/IP communication protocol. This software allows to set the following clock parameters:

- IP Address
- Subnet Mask
- Gateway
- **IP Address of time synchronization NTP server**
- TCP port

1.1 Starting the Application

Software application can be started by executing the “ELEN NDC Discoverer.exe” file on your PC. Program will automatically search all clock devices connected to LAN and will show their IP addresses, name, MAC address and type.

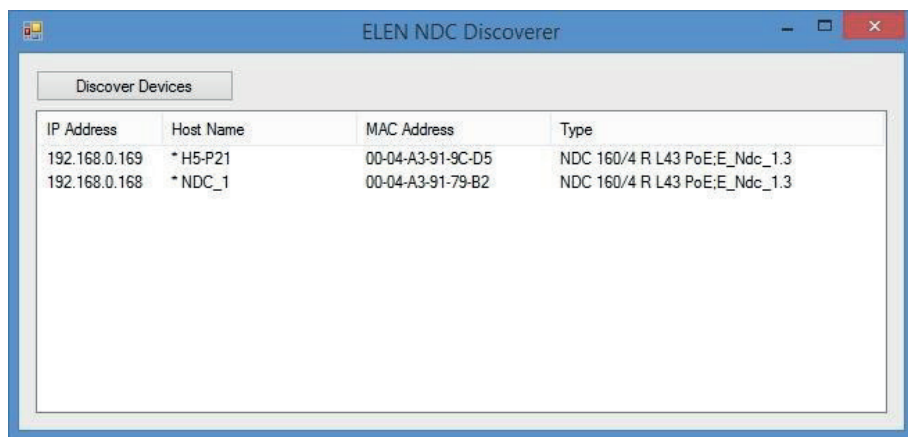


Fig. 1. Software application window

1.2 Programing Configuration Parameters

Select desired clock device from the list by double-clicking on its name or IP address. This will start the Internet browser and you will see window as on fig. 2, with information about the current clock settings.

NDC Configuration

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Welcome!

Breaks											
	Break 1	Break 2	Break 3	Break 4	Break 5	Break 6	Break 7	Break 8	Break 9	Break 10	
Time [HH:MM]	24:00	24:00	24:00	24:00	24:00	24:00	24:00	24:00	24:00	24:00	24:00
Period [min]	0	0	0	0	0	0	0	0	0	0	0
	Break 11	Break 12	Break 13	Break 14	Break 15	Break 16	Break 17	Break 18	Break 19	Break 20	
Time [HH:MM]	24:00	24:00	24:00	24:00	24:00	24:00	24:00	24:00	24:00	24:00	24:00
Period [min]	0	0	0	0	0	0	0	0	0	0	0

Siren Timing [0.1s]					
	T-on	T-off	T-on	T-off	T-on
Start	15	5	15	5	15
End	5	5	5	5	5
Work shift	15	5	15	5	15

Brightness level:

Volume level:

Host name:

☐ Enable DHCP

IP address:

Subnet mask:

Gateway IP:

Ntp server IP:

TCP/UDP port:

Display type:

Fig. 2. Information about clock settings

If you want to change these settings, click on **Configuration** in the top left menu. You will be asked to enter user name and password as in fig. 3. Default logging name is **"admin"** and password is **"admin"**.

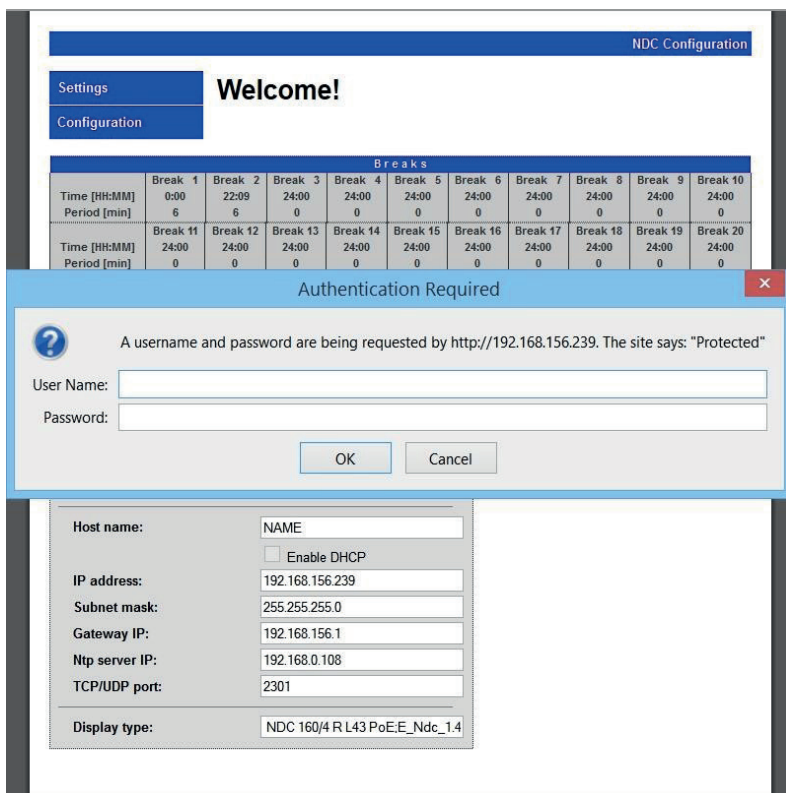


Fig. 3. Logging window

You will see a window as in Fig. 4. where you can enter desired parameters according to your LAN network settings. Please note, it is also possible to set the Daylight Saving Time and time offset against GMT, depending on your time zone location. When finished, click on the **Save Config** button.

Please Note!

Besides setting the clock IP address, it is also important to set the correct subnet mask and gateway according to your specific LAN setup. If the Gateway is not set, it will not be possible to synchronize the clock with external Ntp servers. In case of using local Ntp server, setting the Gateway might not be necessary.

For the "Ntp server IP:" field you must enter the IP address in numerical format. It is not possible to enter the URL address in textual format. If you do not have any local Ntp server, it is also possible to use time from Google free time, for example from Ntp server IP: 216.239.35.4. When finished, do not forget to click on the **"Save Config"** button for saving new parameters.

You can validate functionality of IP address of Ntp server from PC connected to the same subnet as the clock, using the cmd (command prompt) window under Windows and entering ping "ip address" command. For example: **ping 216.239.35.4** If it is working correctly you should get message like: "Reply from 216.239.35.4: bytes=xx time=xxx ms TTL=40", packets sent should equal packets received.

Time synchronization with Ntp server is indicated on the clock by the ":" character. If clock is synchronized correctly, double dot is blinking. If synchronization with Ntp server was not possible, double dot is on permanently (it is not blinking).

NDC Configuration

Settings

Configuration

Display Configuration

This page allows the configuration of the display's settings.

CAUTION: Incorrect settings may cause the display to lose network connectivity. Recovery options will be provided on the next page.

Enter the new settings for the display:

MAC address:	<input type="text" value="D8:80:39:D4:79:97"/>
Host name:	<input type="text" value="NAME"/>
<input type="checkbox"/> Enable DHCP	
IP address:	<input type="text" value="192.168.0.75"/>
Subnet mask:	<input type="text" value="255.255.255.0"/>
Gateway:	<input type="text" value="192.168.0.1"/>
Ntp server IP:	<input type="text" value="216.239.35.0"/>
<input checked="" type="checkbox"/> Daylight Saving Time	
Time zone GMT:	<input type="text" value="+01:00"/>
Time - UTC:	<input type="text" value="21.06.2018 06:47:05"/>
TCP/UDP port:	<input type="text" value="2301"/>
New login:	<input type="text" value="admin"/>
New password:	<input type="text" value="admin"/>
<input type="button" value="Save Config"/>	

Fig. 4. Clock configuration settings

