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.

2		ELEN NDC Discov	rerer 🗕 🗆 💌
Discover De	vices		
IP Address	Host Name	MAC Address	Туре
192.168.0.169 192.168.0.168	*H5-P21 *NDC_1	00-04-A3-91-9C-D5 00-04-A3-91-79-B2	NDC 160/4 R L43 PoE;E_Ndc_1.3 NDC 160/4 R L43 PoE;E_Ndc_1.3

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.

								NI	DC Confi	guratior	
Settings W		We	Velcome!								
Configuratio	on										
				В	reaks						
Time [HH:MM] Period [min]	Break 1 24:00 0	Break 2 24:00 0	Break 3 24:00 0	Break 4 24:00 0	Break 5 24:00 0	Break 6 24:00 0	Break 7 24:00 0	Break 8 24:00 0	Break 9 24:00 0	Break 10 24:00 0	
Time [HH:MM] Period [min]	Break 11 24:00 0	Break 12 24:00 0	Break 13 24:00 0	Break 14 24:00 0	Break 15 24:00 0	Break 16 24:00 0	Break 17 24:00 0	Break 18 24:00 0	Break 19 24:00 0	Break 20 24:00 0	
							<u></u>	Lik.			
			S	iren T	iming	[0.1s]		T ((_	-	
	tart		I-on		1-0ff 5	1-on		1-011		1-on 15	
-	End		5		5	5		5		5	
Wo	rk shift		15		5	15		5		15	
Brightness level:			80 - automatic								
Volume level:			on								
Host name:			NAME								
			Enable	DHCP							
IP addres	s:		192.168.0.75								
Subnet m	ask:		255.255.25	55.0							

	Enable DHCP
IP address:	192.168.0.75
Subnet mask:	255.255.255.0
Gateway IP:	192.168.0.1
Ntp server IP:	216.239.35.0
TCP/UDP port:	2301
Display type:	NDC 160/4 R L43 PoE;E_Ndc1.5

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**".

Settings		Wel	come	e!						
Configuration										
				В	reaks					
Time [HH:MM] Period [min]	Break 1 0:00 6	Break 2 22:09 6	Break 3 24:00 0	Break 4 24:00 0	Break 5 24:00 0	Break 6 24:00 0	Break 7 24:00 0	Break 8 24:00 0	Break 9 24:00 0	Break * 24:00 0
Time [HH:MM] Period [min]	Break 11 24:00	Break 12 24:00	Break 13 24:00	Break 14 24:00	Break 15 24:00	Break 16 24:00	Break 17 24:00 0	Break 18 24:00	Break 19 24:00 0	Break 2 24:00
			Aut	hentica	tion Re	quired	-			
r Name:	sername i	and passv	vord are t	oeing req OK	uested by	http://19	2.168.156	5.239. The	site says:	"Prote
r Name:	sername a	and passv	NAME	OK	uested by	ncel	2.168.156	5.239. The	site says:	"Prote
A u: r Name: assword: Host name:	sername a	and passv	NAME	OK	uested by	ncel	12.168.156	5.239. The	site says:	"Prote
A u: r Name: issword: Host name: IP address:	sername a	and passv	NAME Enable 192.168.15	OK OK DHCP 6.239	Ca	http://19	2.168.156	5239. The	site says:	"Prote
A u: r Name: assword: Host name: IP address: Subnet mat	sk:	and passv	NAME Enable 192.168.15 255.255.25	OK OK 0HCP 6.239 5.0	Ca	ncel	2.168.156	5.239. The	site says:	"Prote
A u: r Name: isssword: Host name: IP address: Subnet mas Gateway IP	sk:	and passv	NAME Pable 192.168.15 255.255.25 192.168.15	OK OK DHCP 6239 5.0 6.1	Ca	ncel	2.168.156	5.239. The	site says:	"Prote
A us r Name:	sk: : P:	and passv	NAME Pable 192.168.15 255.255.25 192.168.01 192.168.01	OK OK DHCP 6.239 5.0 6.1 108	Ca	ncel	12.168.156	5.239. The	site says:	"Prote
A us r Name:	sk: ; P: prt:		NAME Enable 192.168.15 255.255.25 192.168.01 192.168.01 2301	OK OK DHCP 6.239 5.0 6.1 108	Ca	ncel	22.168.156	5.239. The	site says:	"Prote

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

Display Configuration Settings 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: D8:80:39:D4:79:97 Host name: NAME Enable DHCP IP address: 192.168.0.75 Subnet mask: 255.255.255.0 Gateway: 192,168.0.1 Ntp server IP: 216.239.35.0 Daylight Saving Time Time zone GMT: +01:00 Time - UTC: 21.06.2018 06:47:05 **TCP/UDP** port: 2301 New login: admin New password: admin Save Config

Fig. 4. Clock configuration settings