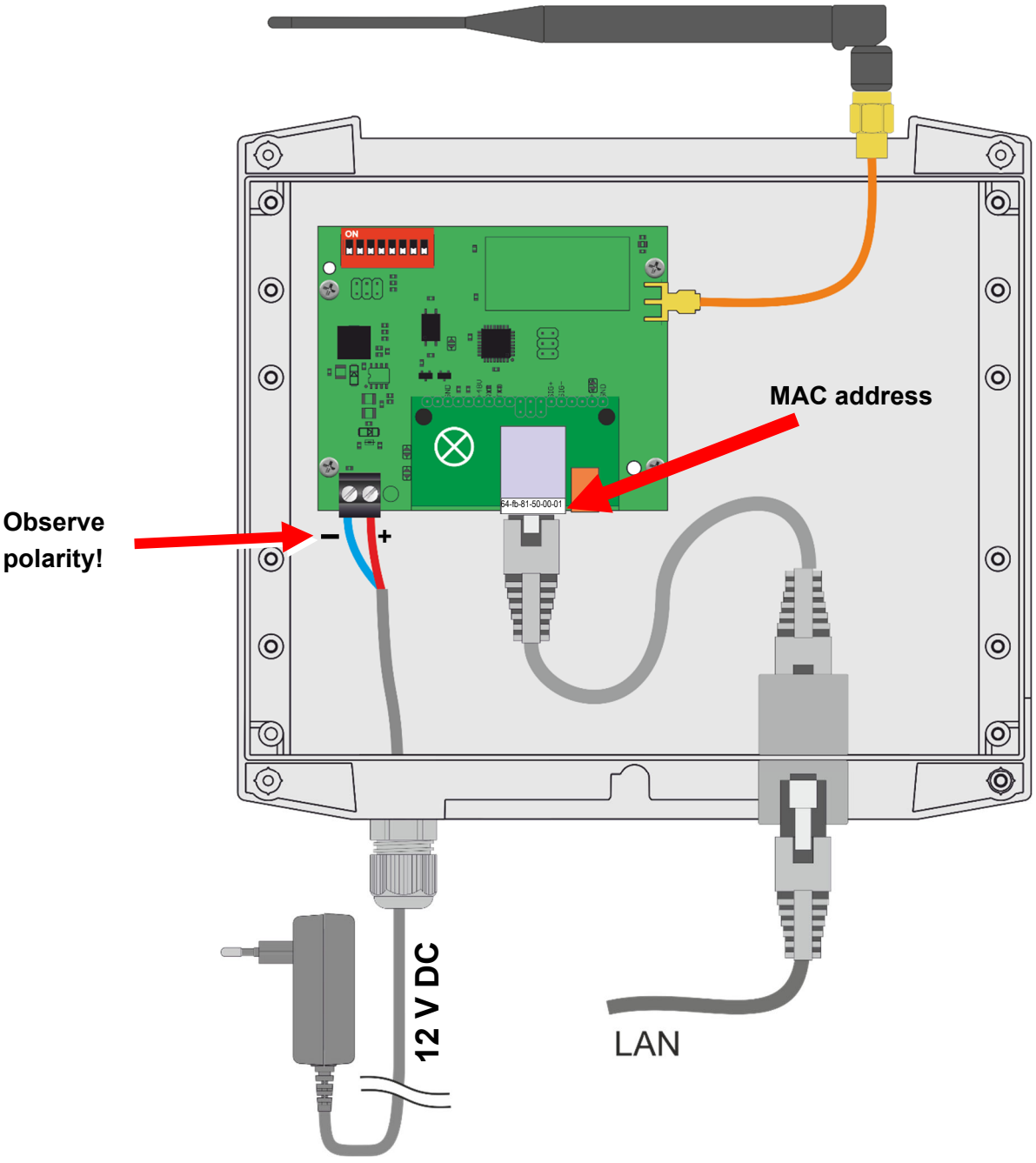
AirPort24 *transmitter*

with NTP synchronization

Art. no. 138333

- **Commissioning instructions**
- **Operating instructions**

Connection diagram



Introduction

The *AirPort24* transmitter receives the current time (UTC) from an NTP server via LAN, converts it into the local time (e.g. CET/CEST) and distributes the time information contained therein every second on the transmission frequency 869.525 MHz. Any number of *AirPort24 clocks* receive this time and synchronize with it.

Assembly / commissioning

1. Open the housing of the *AirPort24* transmitter.
2. Mount the lower housing to a wall.
3. Connect the network cable.
4. Close the housing using the 4 screws.
5. Plug the mains adapter into a 230 VAC/50 Hz socket.
6. The green "power" LED on the front of the *AirPort24* transmitter lights up.
7. Configure the network settings, page 4ff.
8. The yellow LED "signal in" in the front of the *AirPort24* transmitter flashes once, if not see page 4ff.
9. The yellow LED "signal out" in the front of the *AirPort24* transmitter flashes, the *AirPort24* transmitter is in transmission mode, installation is now complete.

Setting the transmission power

The transmission power can be set to different strengths in 3 stages.
Switches **1** and **2** of the left-hand DIP switch row are provided for this purpose.

Full power

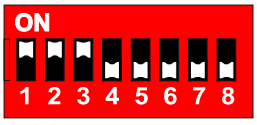
Reduced power

Transmitter off

Setting the address

AirPort24 transmitters and *AirPort24* repeaters in a system must have different addresses. if their transmission ranges overlap. The address space comprises the range 0 to 7. The address is set using DIP switches 3 to 5. Switches 6 to 8 of the DIP switch row are without function.

Address 0



Address 1

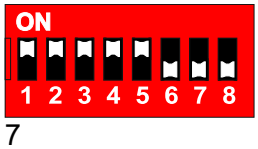
Address 2

Address 3

Address 4Address

5Address

6Address



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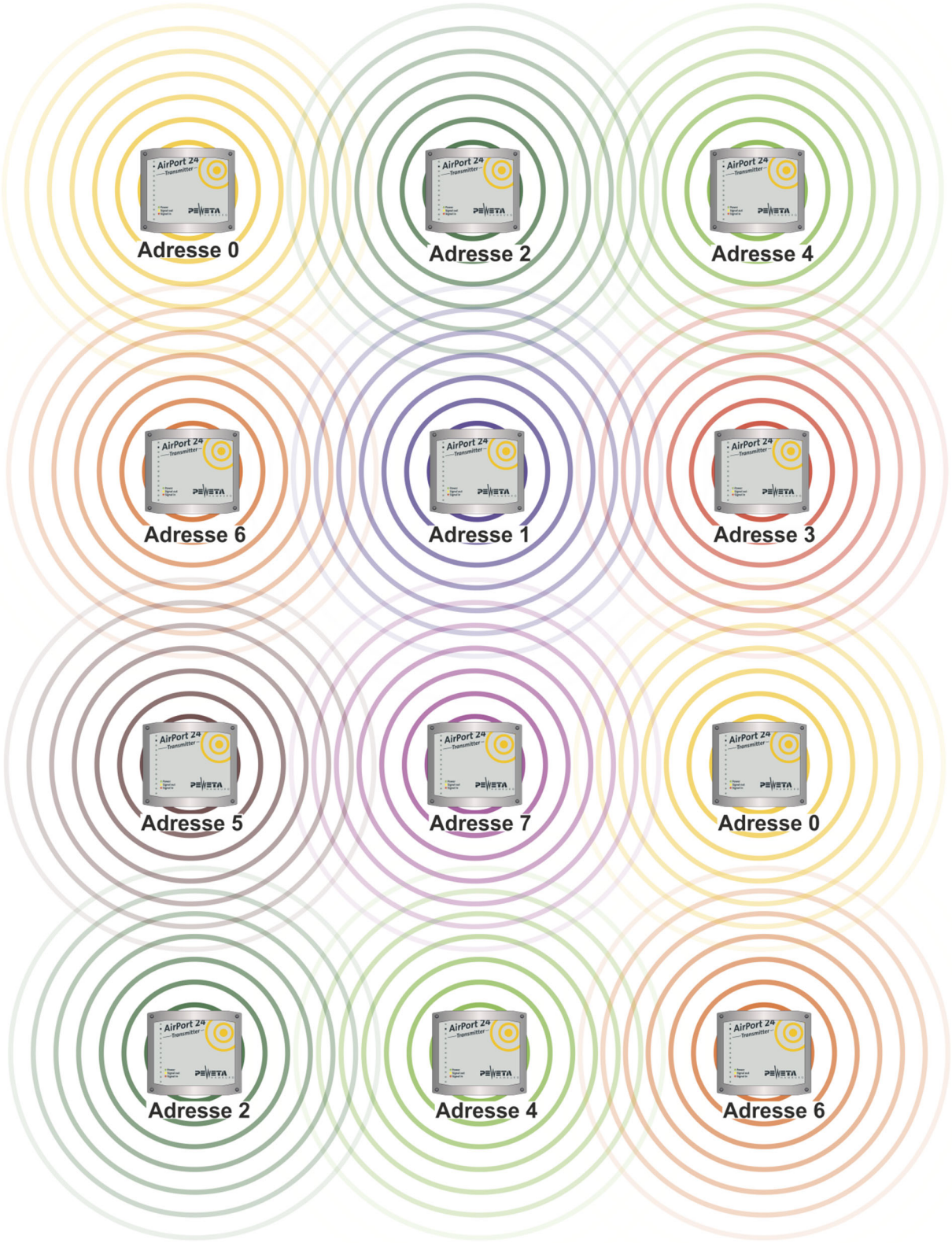
Spatial distribution of transmitters/repeaters

Transmission areas with the same address must not overlap
Consecutive addresses (0 and 1 ... 2 and 3) should be avoided, one value should always be skipped (0 and 2 ... 2 and 4)



Network connection

A network connection (RJ45) is located on the underside of the *AirPort24* transmitter.
The clock can synchronize to an NTP server located in the network and thus receive time and date from an NTP server. The *AirPort24* transmitter cannot synchronize other NTP clients (it is not an NTP server).

The network card of the clock is supplied as a DHCP client as standard.

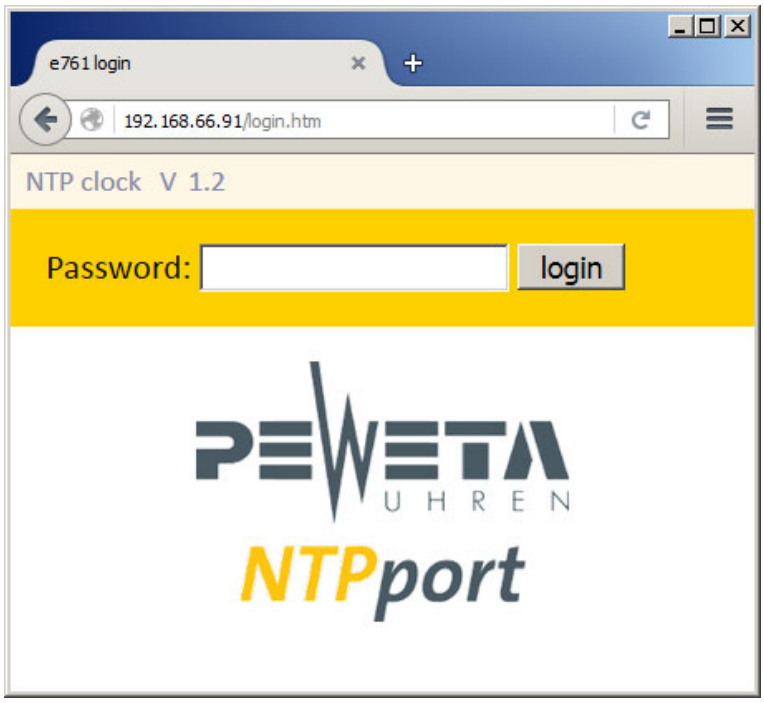
Configuration:

1. Set the network connection (LAN/RJ-45), see page 2.

2. The MAC address of the network card is stored above the connection socket.
   Determine the corresponding IP in your DHCP server.

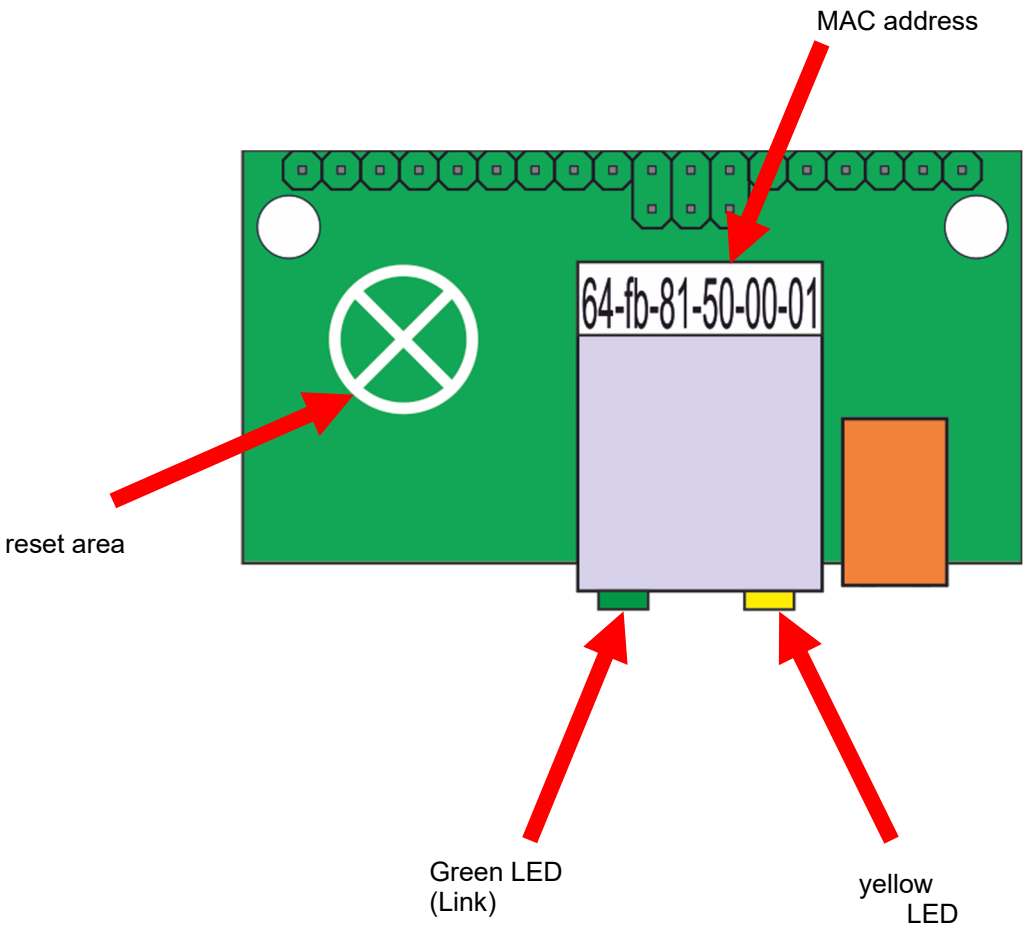
3. Open an HTML browser and enter the IP in the address bar, the login page will be displayed. If the IP is not known, the name can also be entered. The name (for DNS resolution) is composed as follows: "PWCLK", a minus sign, the last 6 digits of the MAC address, a dot and the domain.

   Example 1: IP known: 192.168.66.91
   Example 2: IP not known: PWCLK-123456.firma.local

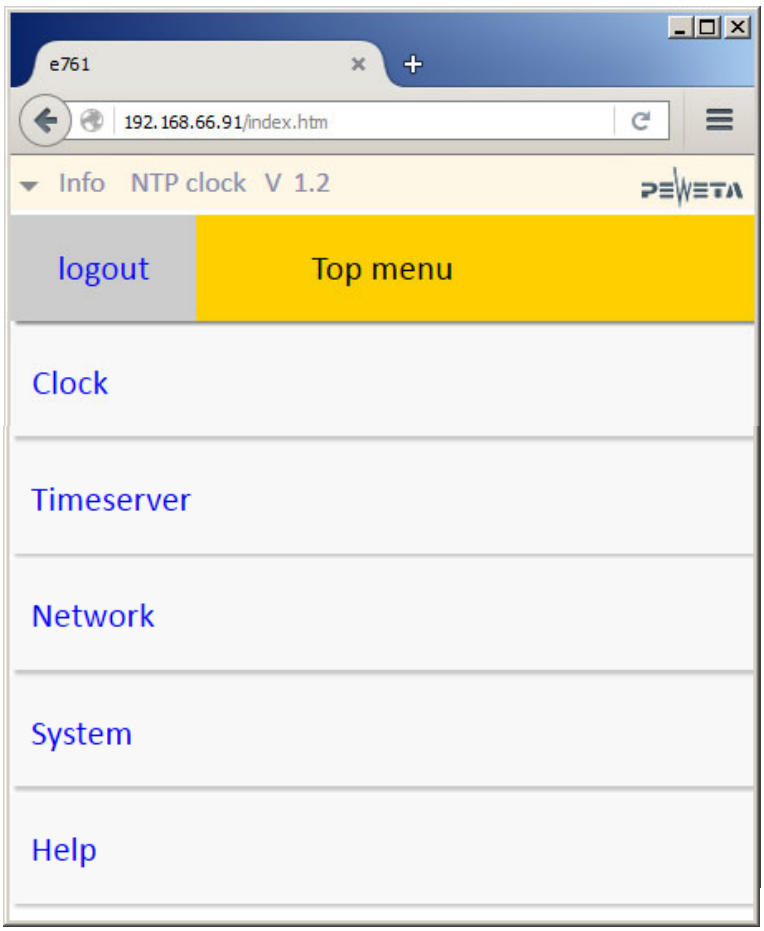


Commissioning without DHCP server:

1. Open the cover of the *AirPort24* transmitter
2. Unplug the mains adapter from the socket (disconnect 230 volts).
3. Press and hold the "reset button"
4. Plug the 230 V power supply unit into the socket.
5. The yellow LED in the network socket flashes. Wait until the yellow LED flashes at least 6 times and then release the "reset button".
6. The *AirPort24* transmitter now has the IP 192.168.1.100 and can be reached from a PC in the same network.



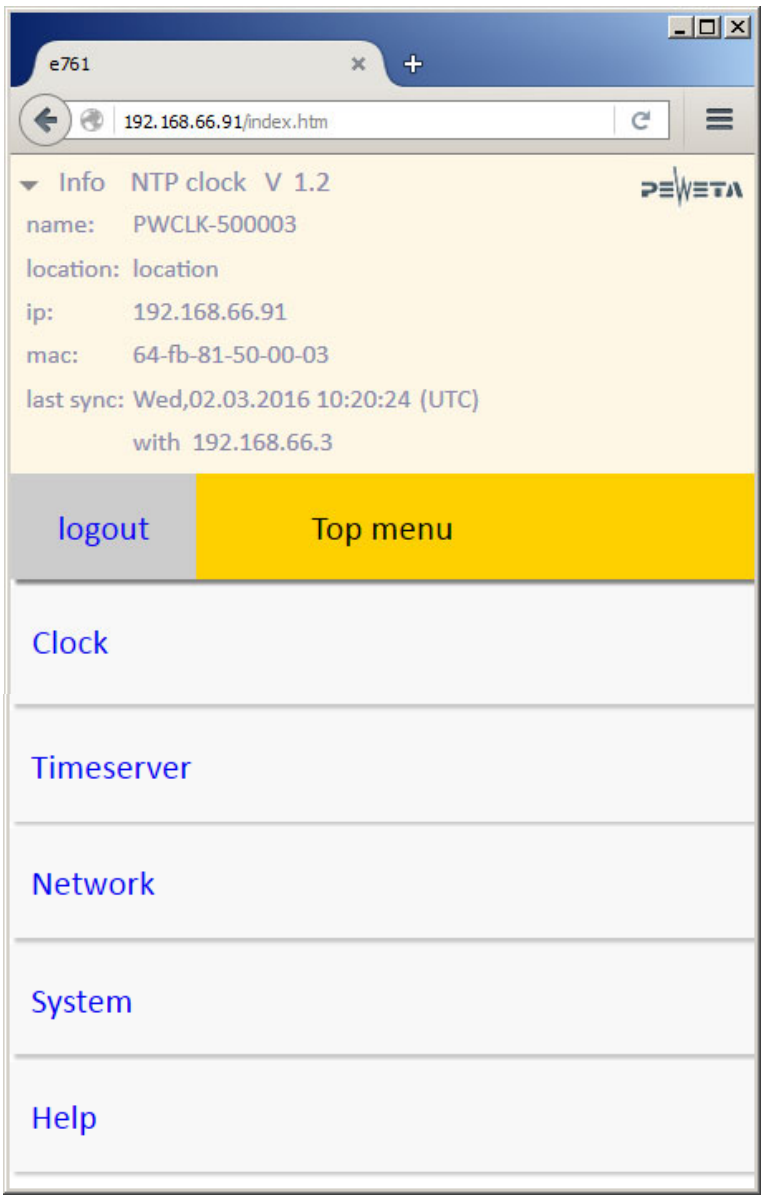
4. Enter the password "ntp" and click on the "login" button.
The "TOP MENU" appears:



Compatible with:

Mozilla	Firefox	Version 43.0.1 or higher
Apple	Safari	Version 9.0.2 or higher
Microsoft	Internet Explorer	version 11.0.9600 or higher
Microsoft	Edge	Version 25.10586 or higher

5. Click on the arrow in front of "Info" to display the current network parameters and the NTP synchronization status:

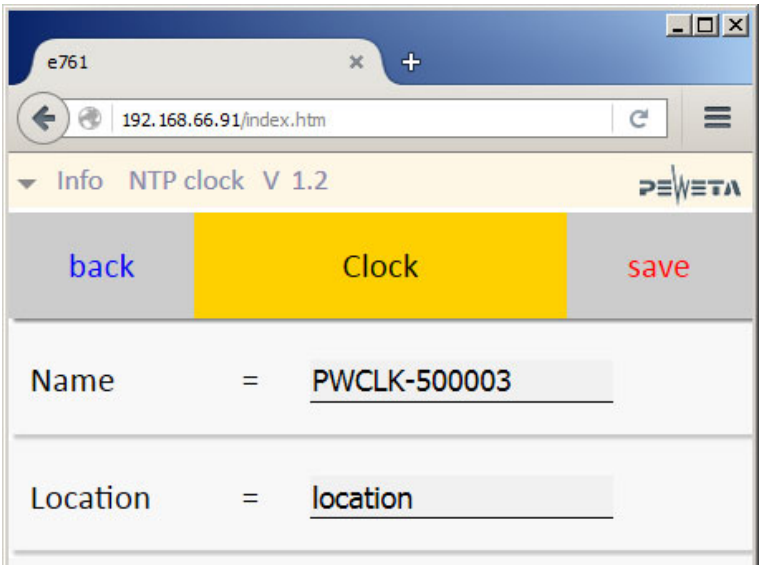


“Clock” menu:

Name: Enter the device name here. With the appropriate DHCP configuration, it can be used for DNS name resolution. 15 characters are permitted as:

- Letters: No distinction is made between upper and lower case, Umlauts, spaces and ß are not supported.
- Numbers: 0 to 9
- Special character: "-" character, must not be at the beginning or end

Location: Enter a value here that describes the clock for an identification (e.g. location)



Note:
Changes are only accepted if they are confirmed with "save"!

Use the "back" button to return to the "TOP MENU", do not use the back arrow key of the HTML browser as this will lead to a logout.

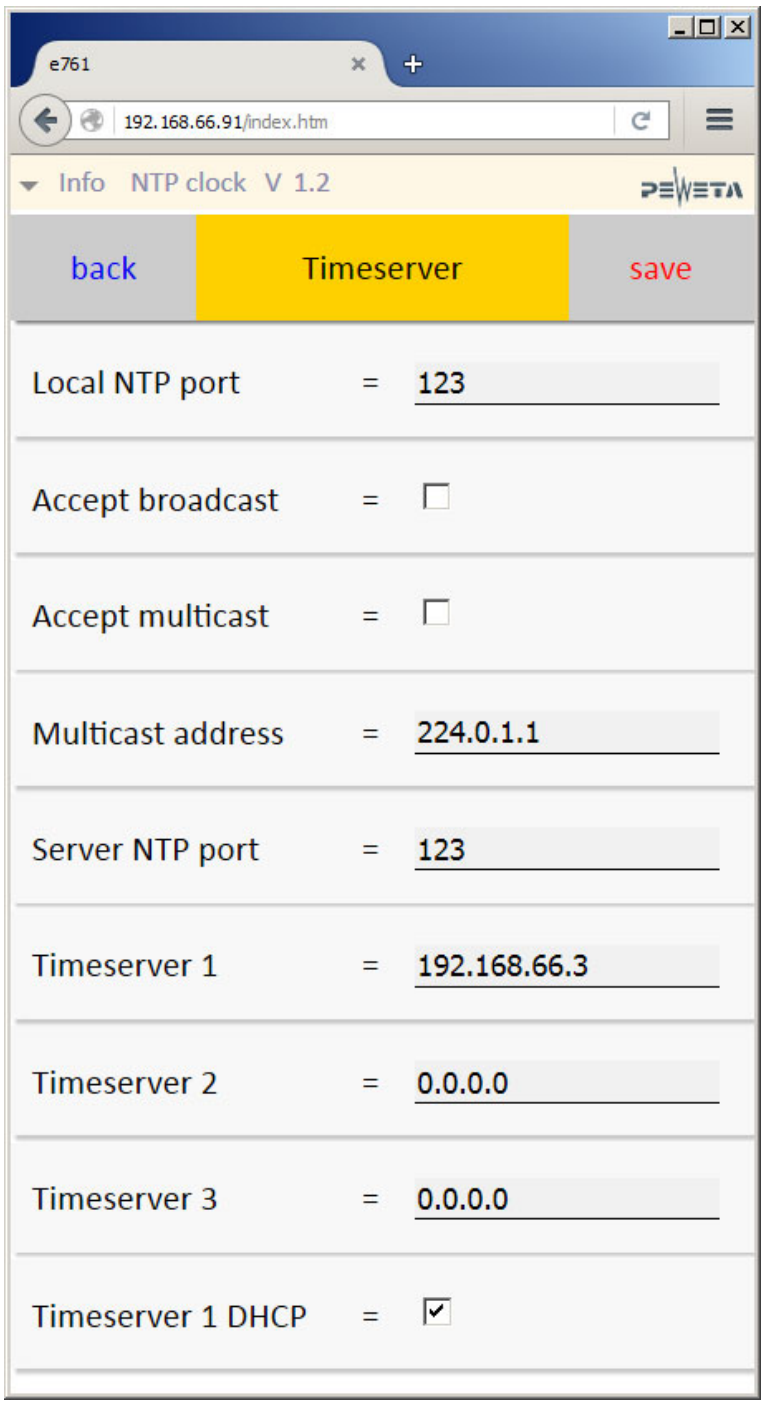
“Timeserver” menu:

Note:
Changes are only accepted if they are confirmed with "save"!

Use the "back" button to return to the "TOP MENU", do not use the back arrow key of the HTML browser as this will lead to a logout.

Local NTP port:	The port of the master clock for the NTP protocol can be changed here.
Accept broadcast:	If the check mark is set, the clock synchronizes to NTP boradcast packets.
Accept multicast:	If the check mark is set, the clock synchronizes to NTP multicast packets.
Multicast address:	Enter the multicast IP here.
Server NTP port:	The port of the NTP server for the NTP protocol can be changed here.
Timeserver 1	The standard NTP server is entered here.
Timeserver 2	An alternative NTP server can be entered here. If the NTP If timeserver 1 is not available, NTP timeserver 2 is requested.
Timeserver 3	Another alternative NTP server can be entered here. If the NTP timeservers 1 and 2 are not available, NTP timeserver 3 is requested.
Timeserver 1 DHCP:	If the check mark is set and the IP of an NTP server is transmitted via option 42 in the DHCP is transmitted, a time server manually entered under Timeserver 1 Timeserver overwritten.

See illustration on next page


e761
192.168.66.91/index.htm
Info NTP clock V 1.2
PEWETA
back
Timeserver
save
Local NTP port = 123
Accept broadcast =
Accept multicast =
Multicast address = 224.0.1.1
Server NTP port = 123
Timeserver 1 = 192.168.66.3
Timeserver 2 = 0.0.0.0
Timeserver 3 = 0.0.0.0
Timeserver 1 DHCP =

“Network” menu:

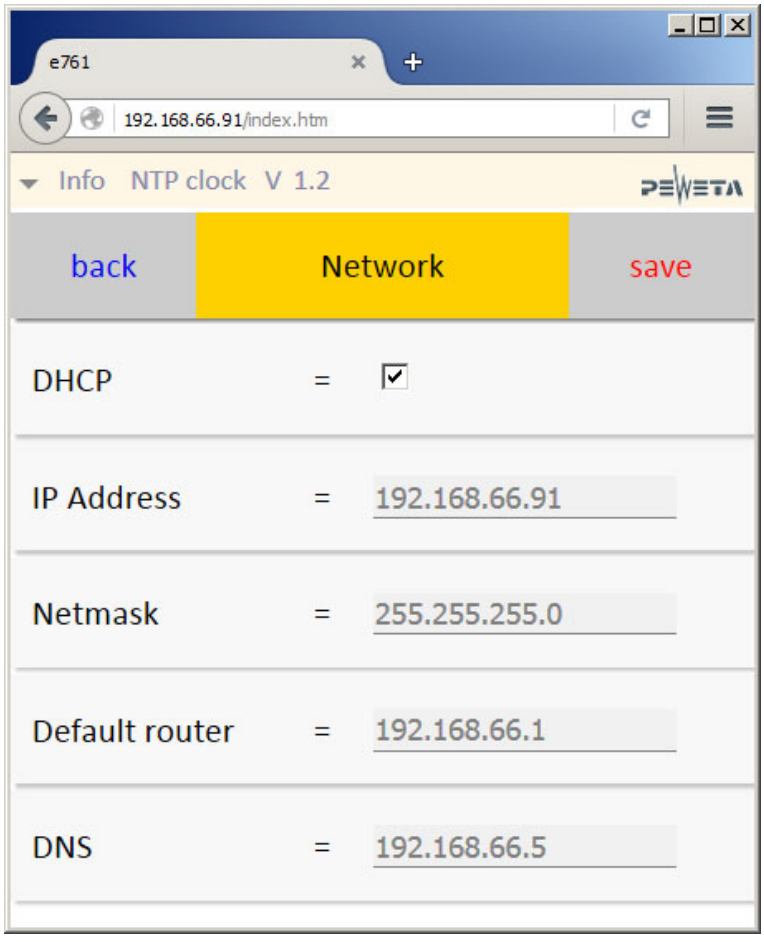
DHCP: If the check mark is set, the network card obtains the network parameters from a DHCP server

IP address, network mask, default router and DNS can be assigned/changed manually if the DHCP checkbox is not set.

Note:

Changes are only accepted if they are confirmed with "save"!

Use the "back" button to return to the "TOP MENU", <u>do not use</u> the back arrow key of the HTML browser as this will lead to a logout.

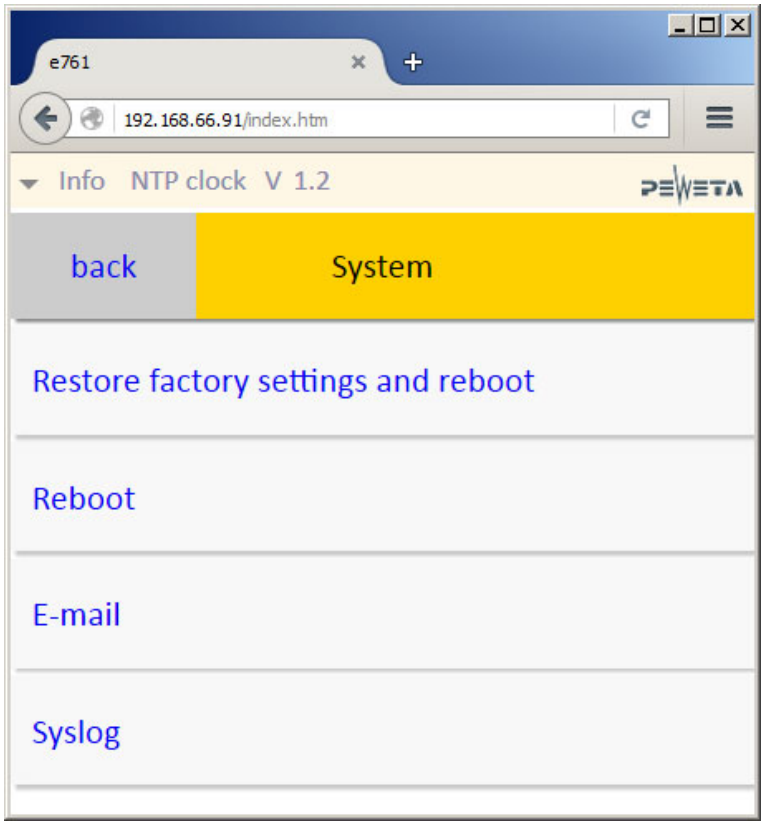


“System” menu:

Note:

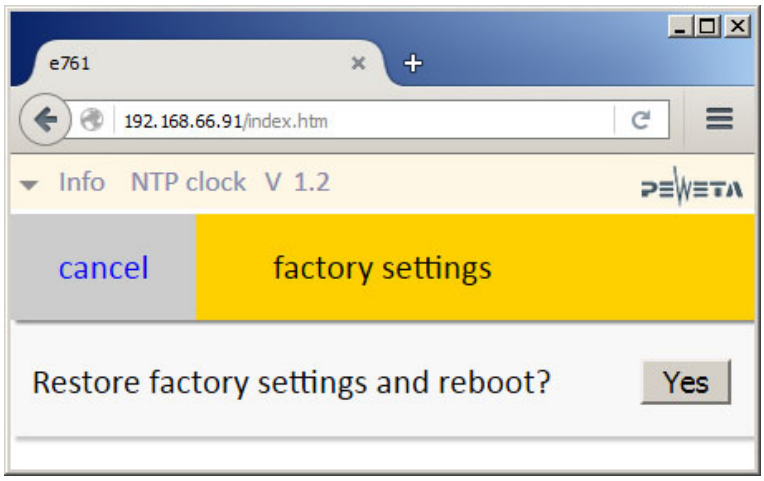
Changes are only accepted if they are confirmed with "save"!

Use the "back" button to return to the "TOP MENU", do not use the back arrow button of the HTML browser



Restore factory settings and reboot:

Resets the network parameters to the factory settings and restarts the network card.

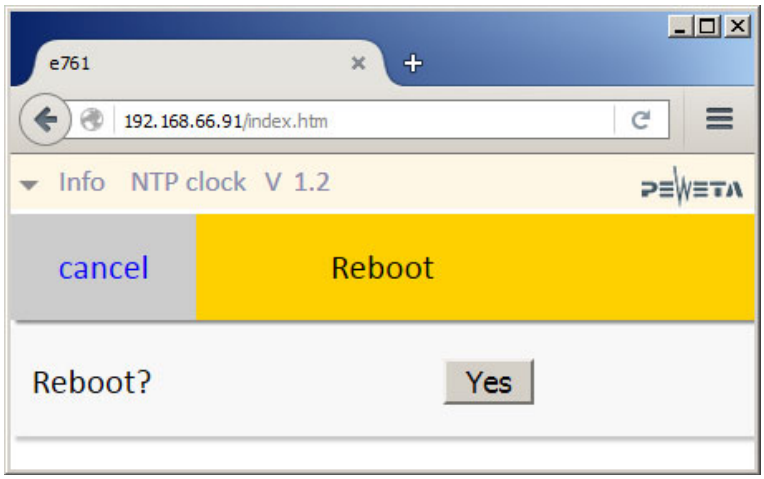


Restore factory settings and reboot on the clock:

1. Unplug the mains adapter from the socket.
2. Touch the "reset surface" with one finger
3. Reconnect the LAN cable with PoE or the external power supply.
4. The yellow LED on the RJ45 in the *AirPort24* transmitter flashes every second.
5. Release the reset button before the yellow LED has flashed 4 times.

Reboot:

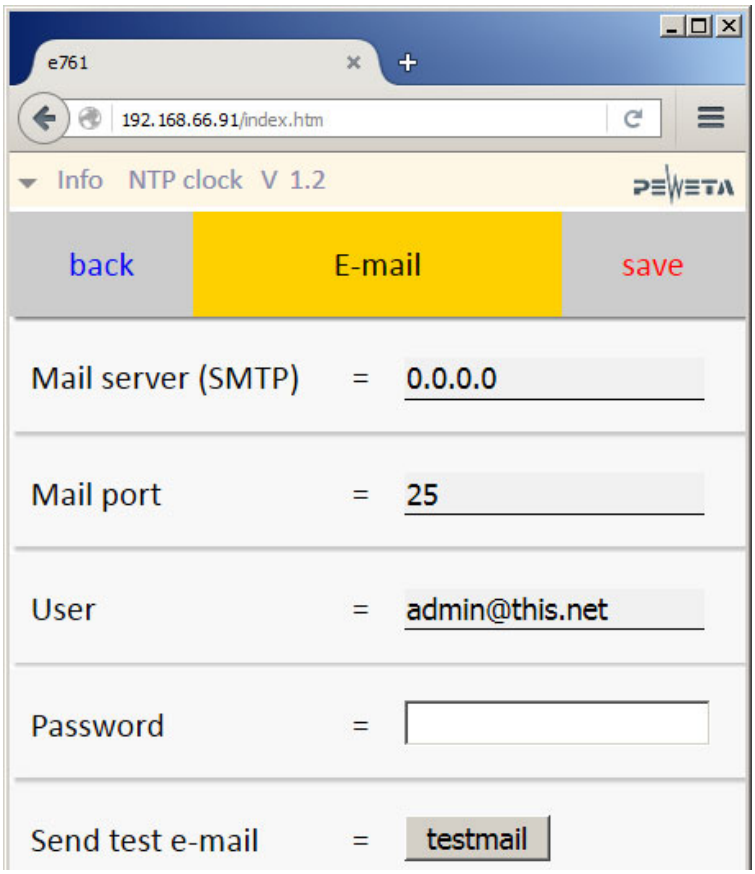
Restart the network card without resetting the factory settings.



E-mail:

Enter the e-mail parameters to receive error messages and system information.
The mail client supports SMTP with LOGIN authentication. Enter the IPv4 address of your mail server and the mail account information here and press "save". You can then check the connection by sending a test mail.

You will receive the following information by e-mail:
1. reset
2. no time synchronization for more than one hour
3. successful synchronization after reset or loss of synchronization.

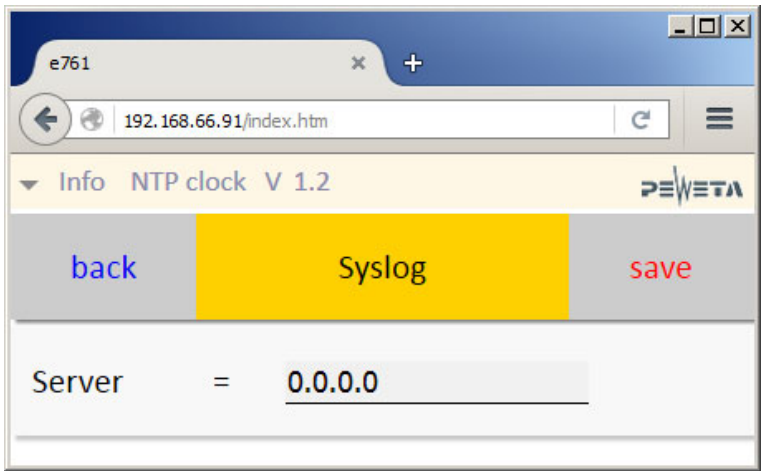


Syslog:

Store a syslog server to receive error messages and system information.

Enter the IPv4 address of your syslog server here.
The clock transmits via UDP/Port 514.

You receive the following information via syslog:
1. reset
2. no time synchronization for more than one hour
3. successful synchronization after reset or loss of synchronization.



Technical data network card

Connection	
Connector plug	RJ45
Cables	CAT5 or higher

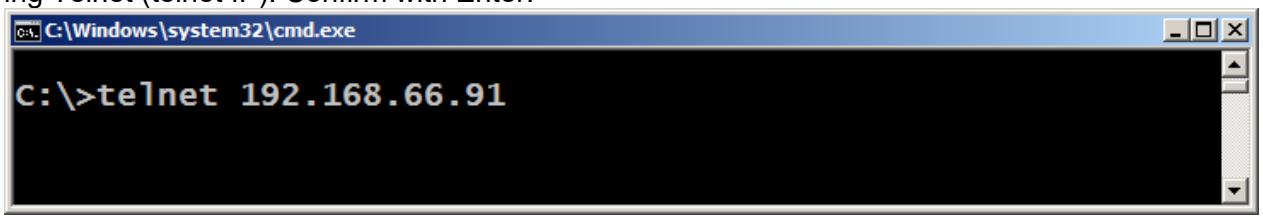
Electrical values	
Power supply	About the AirPort24 *transmitter*
Alternative supply voltage	./.
PoE	./.
Power consumption max.	./.

Performance features	
Network	Ethernet 10/100 BaseT Full/Half duplex, Auto negotiation, Auto MDI-X
Protocols	IPv4, TCP, UDP, ICMP, ARP, IGMP, DHCP, HTTP, SNTP client (uni-, multi- and broadcast), SMTP, Syslog

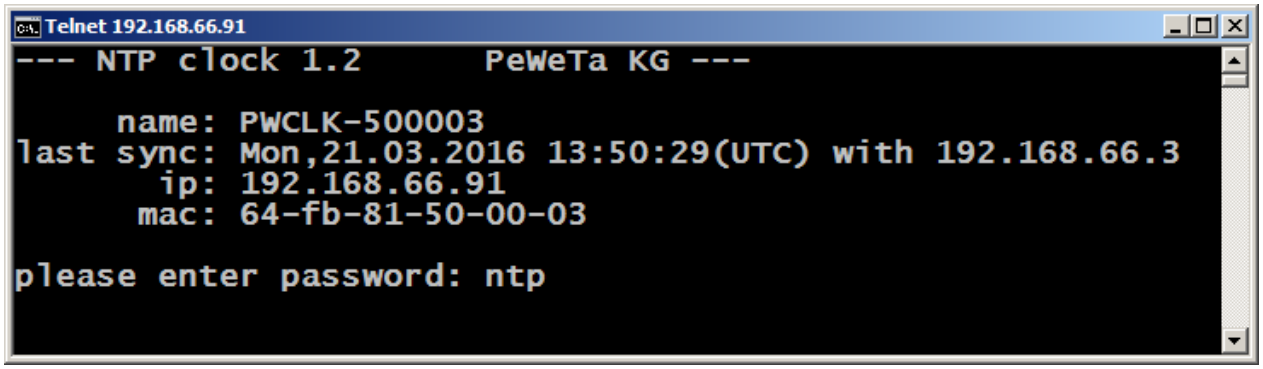
Ambient values	
Protection degree	IP 30 (EN 60 529)
Protection class	III
Climate	Operating temperature: 0 to 55°C Storage temperature: -40 to 70°C 10-95% relative humidity at 25°C, non-condensing

Firmware update network card

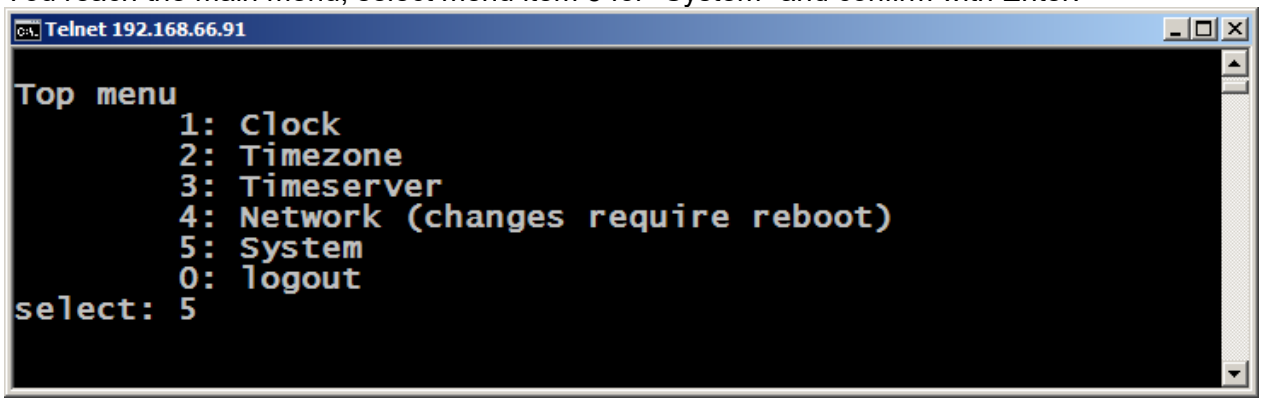
Open a command line (also known as a console or terminal) and establish a connection to the clock using Telnet (telnet IP). Confirm with Enter.



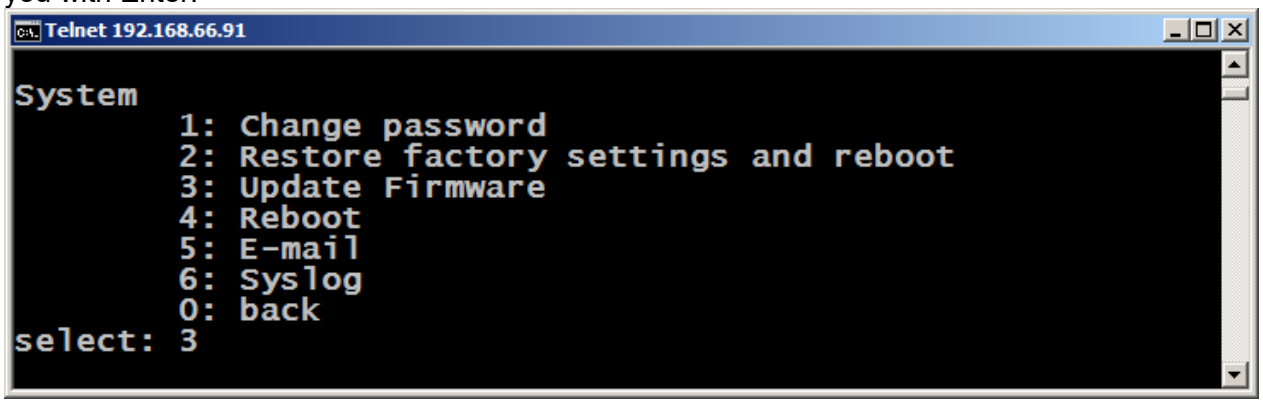
You will be asked for the password for the clock, the default value is "ntp". Confirm with Enter.



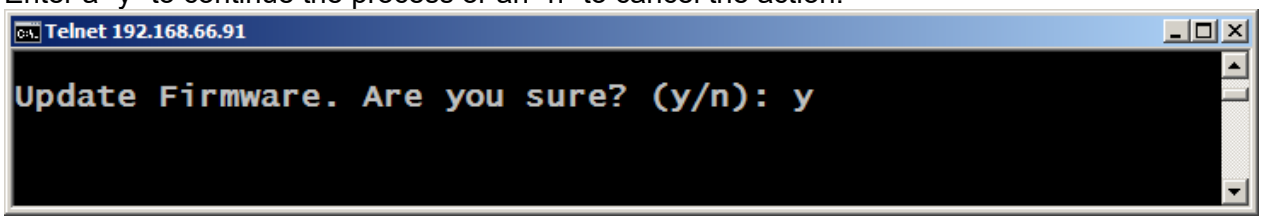
You reach the main menu, select menu item 5 for "System" and confirm with Enter:



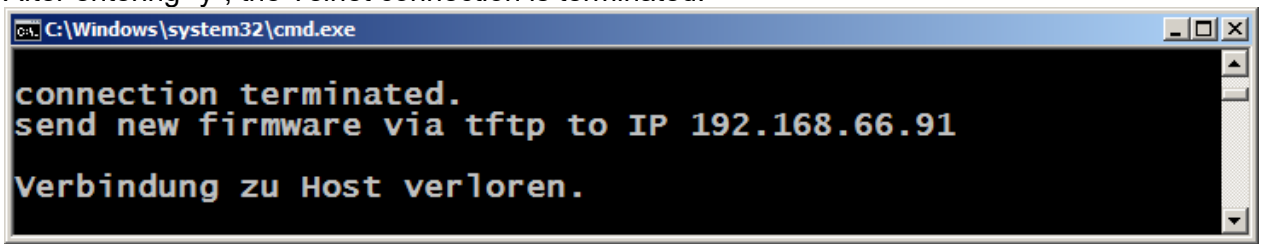
You access the system menu, select menu item 3 for "Update firmware" and confirm you with Enter:



Enter a "y" to continue the process or an "n" to cancel the action.

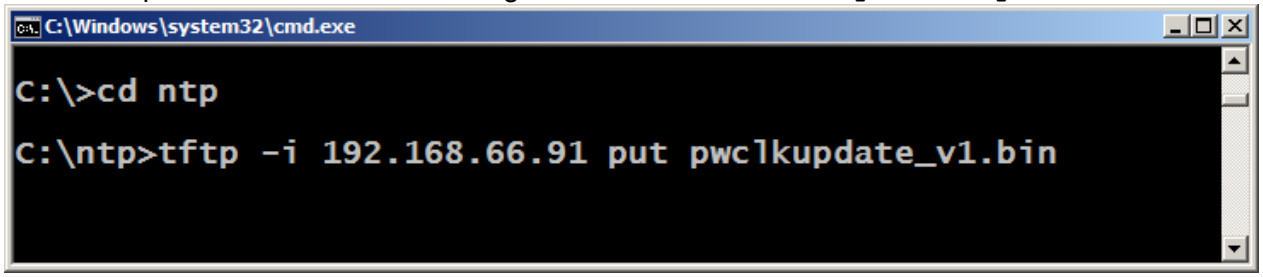


After entering "y", the Telnet connection is terminated.

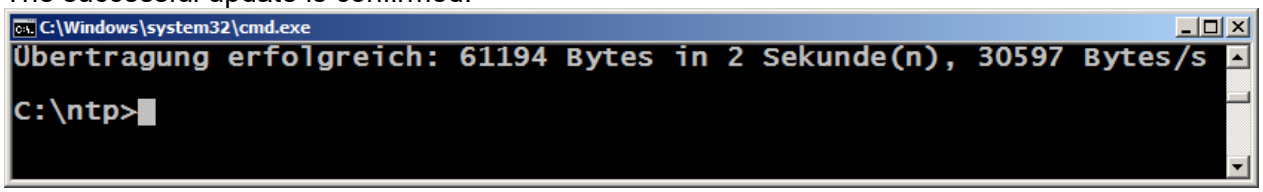


Copy the update file to a drive on your computer, open a command line and change to the same directory as the update file:

Load the update file into the clock using the TFTP command: `tftp -i IP put name.bin`



The successful update is confirmed:



Reset the clock to the factory settings: "Restore factory settings and reboot", see page 14 above. If the clock is no longer accessible via HTML after the firmware update, please carry out "Restore factory settings and reboot" **on the clock**, see page 14.

Technical data

Electrical values	
Power supply:	230 V AC 50 Hz via plug-in power supply unit
Power consumption max:	< 800 mA / 12V
Protection degree:	IP 30

Performance features	
Transmission frequency:	Center frequency: 869.525 MHz
Modulation:	FSK +/-25 kHz
Antenna:	Internal λ/4 antenna
Range:	up to 100 m inside buildings, depending on the condition
Transmission interval:	every second

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