SEIKO

NETWORK CLOCK

SLN-574RA, SLN-576RA
SLN-1004RA, SLN-1006RA

INSTRUCTION MANUAL

Thank you for purchasing SEIKO NETWORK CLOCK.
Before using your SEIKO NETWORK CLOCK, please read this manual carefully for its proper use and care.
Keep this manual handy for ready reference.

SEIKO TIME CREATION INC.

I-7942-1

Table of contents

1 Introduction

Thank you for choosing Seiko Time Creation digital clocks.

This instruction manual contains menu settings, description of synchronization types, all clock types including mounting and technical parameters tables and always up-to-date time zone table.

1.1 Safety instructions

- The information in this manual can be changed at any time without previous notice.
- This manual has been composed with utmost care, in order to explain all de-tails in respect of the operation of the product. Should you, nevertheless, have questions or discover errors in this manual, please contact us.
- We do not answer for direct or indirect damages, which could occur through incorrect use of this manual.
- Please read the instructions carefully before setting-up of the product, only once you have correctly understood all information for the installation and of the operation.
- Keep this instruction manual in a safe place to have it handy every time you need it.
- The installation must only be carried out by a skilled person.

1.2 Symbols used in this Instruction Manual

	**Caution!** Please observe this safety message to avoid damages to property and devices!

1.3 Observe operating safety!

- Do not modify your clock!
- If you cannot rectify the problems, contact your supplier from whom you have purchased the device. Any repairs must be carried out at the manufacturer’s plant.
- Disconnect the power supply immediately and contact your supplier, if liquid has entered your clock.

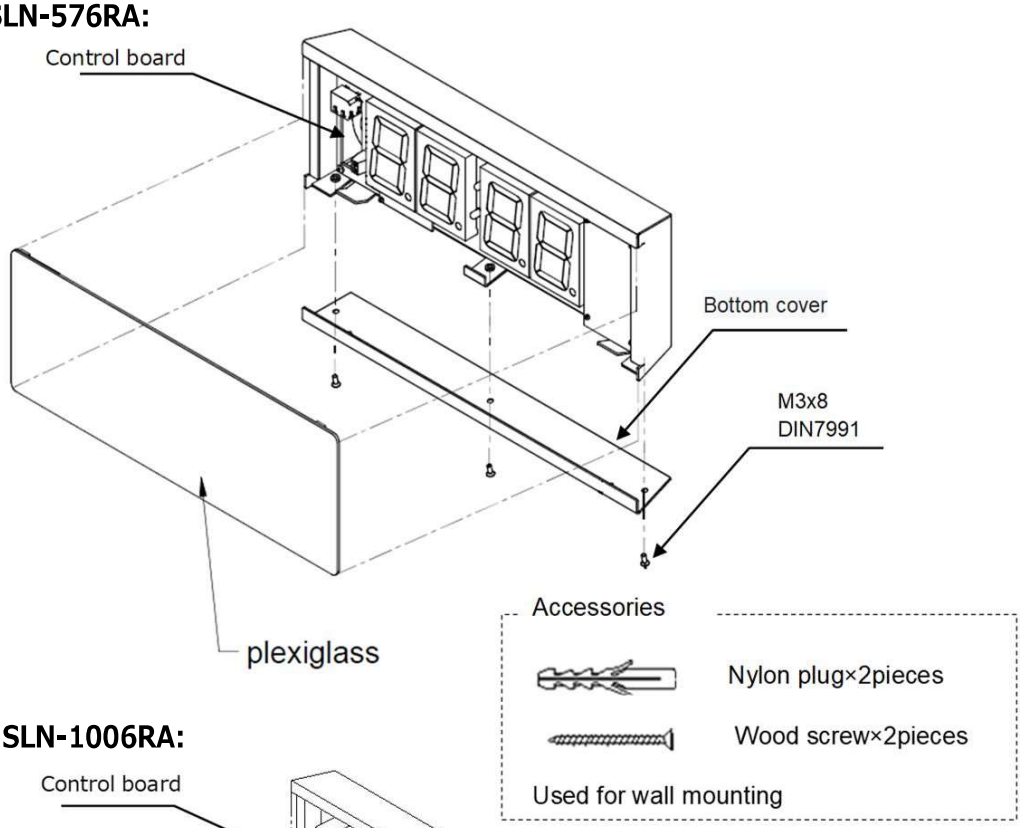
1.4 Consider the installation site!

- To avoid any operating problems, keep the clock away from moisture and avoid dust, heat, and direct sunlight.
- Through operation, the clock can warm up. Make sure to provide enough air circulation to divert the warmth.
- Please make sure that the structure of the attached structure can withstand the weight of this product. If installed in a place with low strength, products may fall due to wind pressure or vibration, resulting in injury to persons.

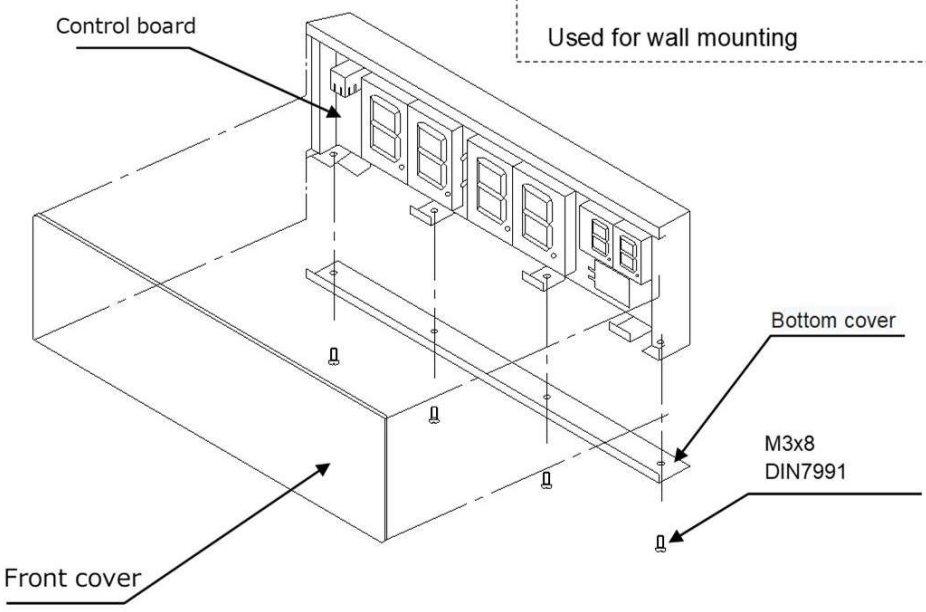
2 Mounting guidelines

2.1 Assembly diagram

SLN-574RA / SLN-576RA:

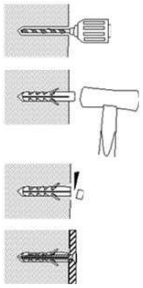


SLN-1004RA / SLN-1006RA:



2.2 Mounting

- Secure the screw to the wall. If the wall is concrete, Use the supplied nylon plug and wood screw.



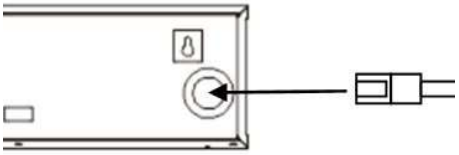
(1) Make a hole with a drill.

(2) Drive in the nylon plug.

(3) Cut off the excess nylon plug.

(4) Install the wood screws.

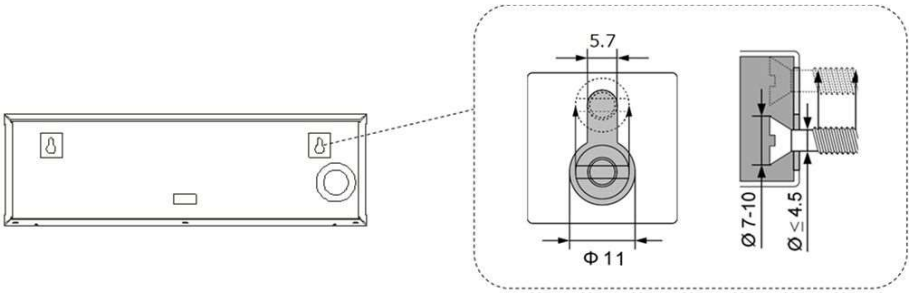
- Unscrew the bottom of the watch and remove the bottom and front covers.
- Pass the LAN cable through the grommet.



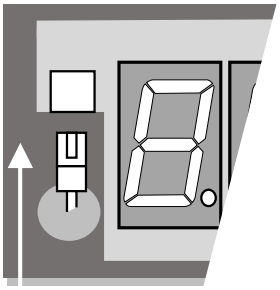
Make a small hole through which the LAN cable passes and keep the rubber in close contact with the cable.

Avoid cutting into crosses.

- Hang the clock on the screws prepared on the wall.



- Connect the LAN cable to the RJ45 connector on the control board.



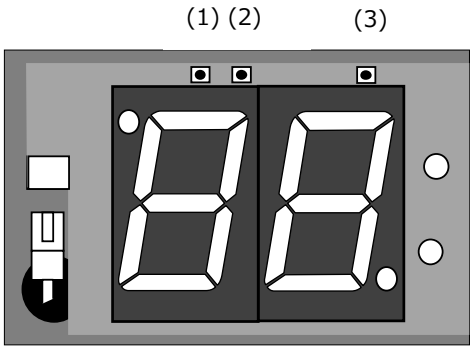
- Reattach the front cover and bottom cover to the watch, and tighten the screws.

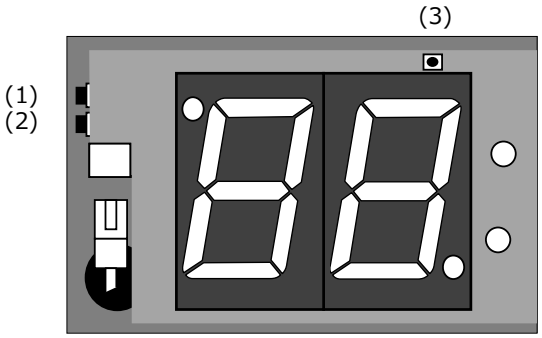
3 MENU

The clock is set and controlled by two push buttons.

Position of push buttons depends on the clock type. Mostly push buttons are located on the upper side of the frame.

Examples of buttons position:





Button name:

(1) S1
(2) S2
(3) RESET

Description of buttons:

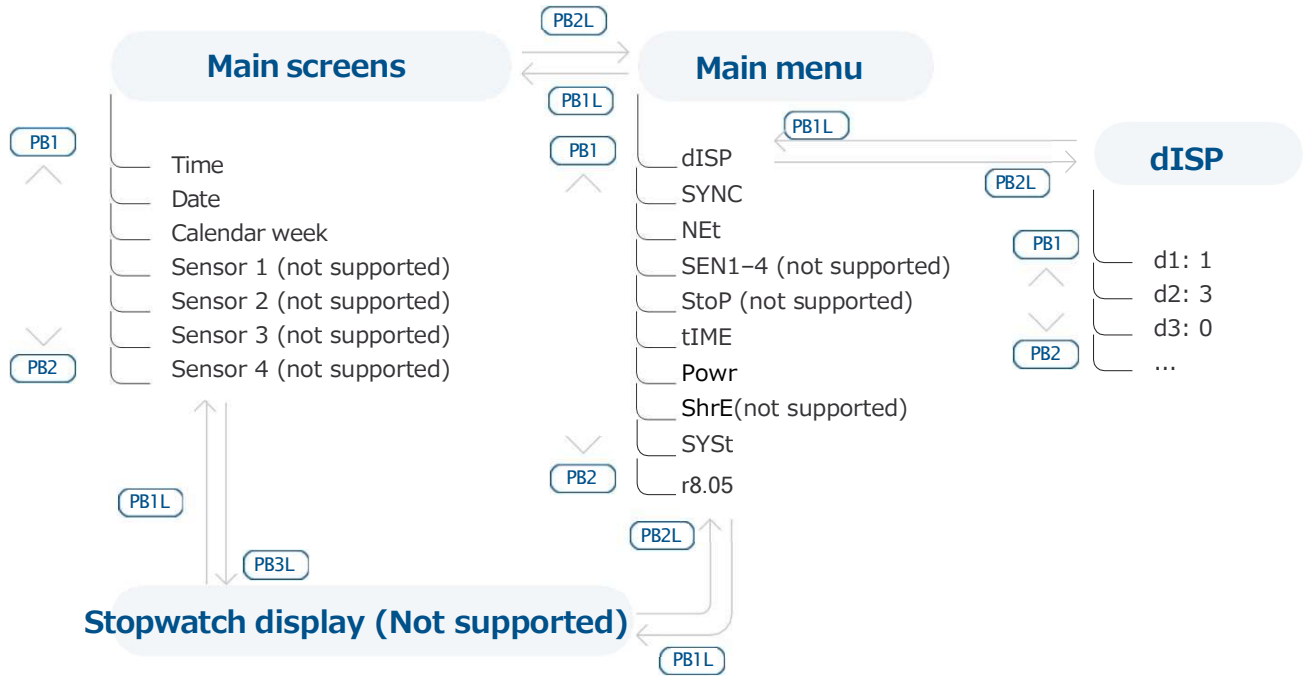
Button name	Press time	Operation name	Function
S1	short	PB1	• Moving “up” in menu / submenu • Decreasing of set value
	long	PB1L	• Exit from menu / submenu / set value • Exit without saving
S2	short	PB2	• Moving “down” in menu / submenu • Increasing of set value
	long	PB2L	• Entry into menu submenu / set value • Save and exit
S1 + S2 simultaneous	long	PB3L	• Entry into stopwatch display
RESET	short	RESET	• Restarting the device

Note:

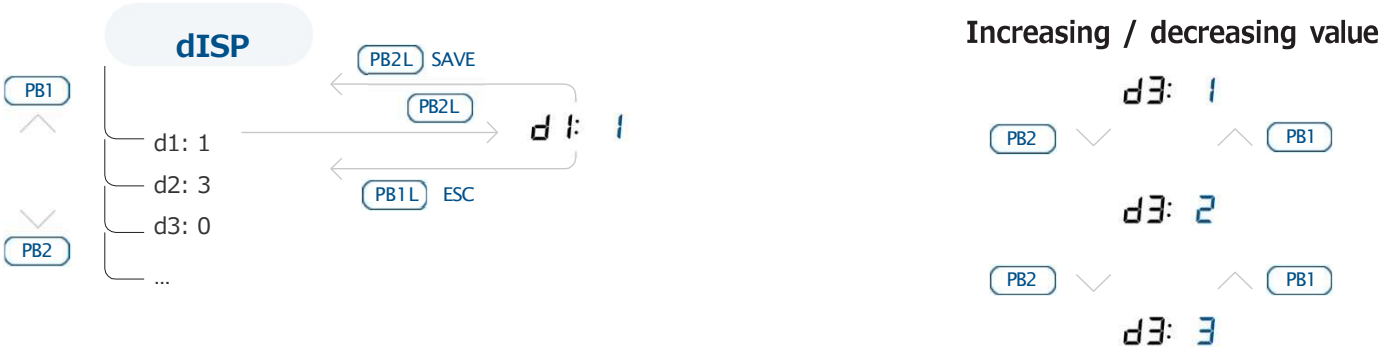
Short press is less than 1 second, long press is 1 second or more.

Setting of individual items in the submenu can be found in chapters 3.2

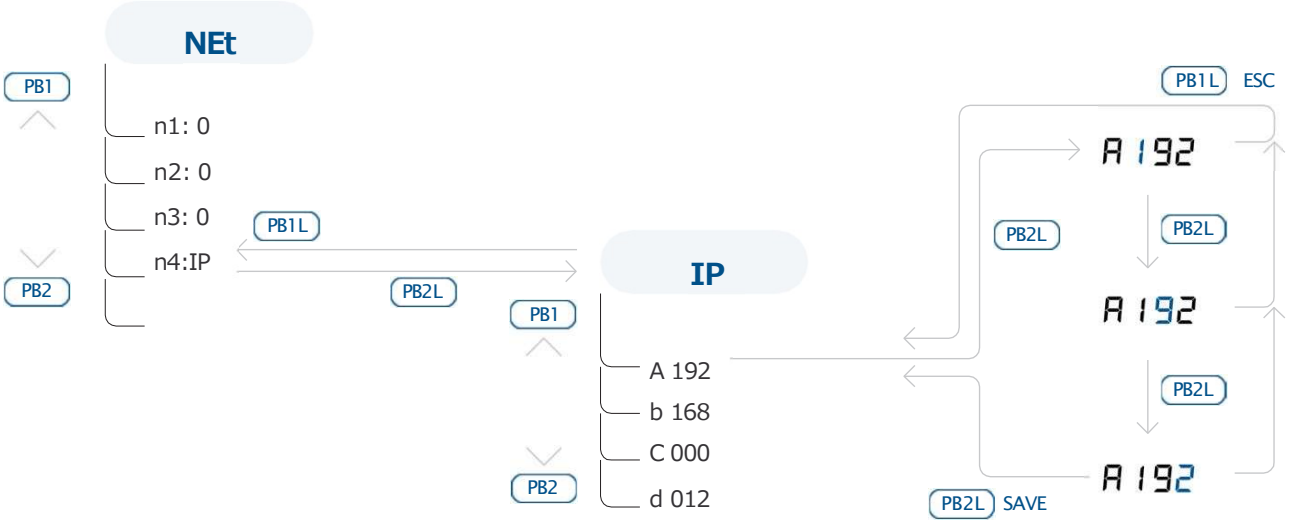
3.1 MENU navigation scheme using the push buttons



Example of setting dISP MENU:



Example of setting NEt MENU:



3.2 The clock MENU tables

3.2.1 MENU

Program item	Function	Description
dISP	display of time, date, temperature	enter the **d** submenu
SYNC	not supported	
Net	network parameters	enter the **n** submenu
SEN1-4 SEN3,4 only for DT	not supported	
StoP	not supported	
tIME	setting of time and date	enter the submenu for **time and date setting**
Powr	power modes	enter the **p** submenu
ShrE	not supported	
SYSt	system settings	enter the **c** submenu
r_._ (e.g. r8.05)		software version

If value in menu table contains *, submenu is accessible.

Example:

Item	Function	Range	
n4	IP address	IP*	edit IPv4 network parameters in manual setting mode or display parameters assigned by DHCPv4

Submenu for displaying and edit IPv4 address

A	1st octet IPv4 address	0-255 set digit by digit
b	2nd octet IPv4 address	0-255 set digit by digit
C	3rd octet IPv4 address	0-255 set digit by digit
d	4th octet IPv4 address	0-255 set digit by digit

3.2.2 Submenu for display setting – dISP

Item	Function	Range
d1	display brightness	1-30, **A (automatically)**
d2	time zone of displayed time and date	0-64, **A (automatically)**
		U1-U7(not supported)
d3	time constants for automatic data switching over	1-6, U, 8,0
		1 continuous display of time
		2 continuous display of date
		3 continuous display of temperature
		4 continuous display of stopwatch (not supported)
		5 display sequence: time 6 s, date 3 s
		6 display sequence: time 8 s, date 3 s, temperature 3 s (not supported)
		U time constants set up by user, in seconds for each specific displayed data
		8 continuous display of shared screen (not supported)
		0 automatic switching over disabled
d4	12hour format	**0 disabled**
		1 enabled
d5	time with leading zero	0 disabled
		1 enabled
d6	date with leading zero	**0 disabled**
		1 enabled
10	time constant for display of time	0–60 seconds **(6 s)**
11	time constant for display of date	0–60 seconds **(3 s)**
12	time constant for display of calendar week	0–60 seconds **(0 s)**
13-18	not supported	

d4 Note:

The 12-hour format is widely used convention to represent time within 12-hour cycle, typically with a.m. and p.m. designations. The time covers 12-hour period, starting from midnight (12:00 AM) end ending at noon (11:59 AM), then continuing from noon (12:00 PM) until just before midnight (11:59 PM).

12-hour cycle is indicated by a dot at first digit in upper left corner.

a.m.

p.m.

d5 Note:

Time with leading zero refers to representing hours, minutes and seconds in a time format with with zero before single-digit values. This ensures uniformity in time display and enhances readability.

Time without leading

Time with leading

d6 Note:

Date with leading zero refers to representing days, month and years in a date format with with zero before single-digit values. This ensures uniformity in time display and enhances readability.

Date without leading zero

Date with leading zero

3.2.3 Submenu for setting of network parameters – NEt

! Only for NTP and PoE.

Item	Function	Range	
n1	IP mode	**0**	**IPv4 / IPv6**
		1	IPv4
		2	IPv6
n2	communication mode	**0**	**unicast**
		1	multicast
n3	DHCPv4 mode	0	disabled
		1	**enabled**
n4	IP address	IP*	edit IPv4 network parameters in manual setting mode or display parameters assigned by DHCPv4 (possible to set if Net submenu item is set to n3: 0)
n5	subnet mask	Su*	
n6	gateway	Gt*	
n7	multicast address	Mc*	setting IPv4 of multicast group address
n8	unicast NTP address	Uc*	setting IPv4 of NTP unicast server address
n9	NTP poll interval	Pi*	setting of pool interval in range 10-999 seconds in submenu
10	address autoconfiguration (SLAAC)	0	disabled
		1	**enabled**
11	DHCPv6 mode	0	disabled
		1	**enabled**
12	not supported		
13	multicast mode for configuration of digital clock	0	disable multicast mode
		1	**enable multicast mode**

Item	Function	Range	
14	SNMP protocol	0	disable SNMP
		1	**enable SNMP**
15	web server	0	disable web server
		1	**enable web server**
16	web server security mode	**0**	**HTTP and HTTPS**
		1	HTTP only
		2	HTTPS only
		3	HTTP to HTTPS redirect
LOCL	Link Local Address	submenu for displaying IPv6 address	
SLAC	autoconfiguration SLAAC		
dHCP	first address from DHCPv6		
MANU	manually set IPv6 addres IPv6 address was manually set in a way other than via menu, e.g. web interface		
PrEF	prefix for manually set IPv6 address		
GAtE	gateway from autoconfiguration SLAAC		
MAC	MAC address	submenu for displaying MAC address	

3.2.3.1 NEt submenus

Submenu for displaying and edit IPv4 address

A	1st octet IPv4 address	0-255 set digit by digit
b	2nd octet IPv4 address	0-255 set digit by digit
C	3rd octet IPv4 address	0-255 set digit by digit
d	4th octet IPv4 address	0-255 set digit by digit

Submenu for setting the NTP polling interval

ddd	setting the polling interval for NTP	ddd = value of the polling interval set digit by digit, the range of each digit is 0–9 range: 10 - 999 seconds

Submenu for displaying IPv6 address (read only)

-b1-	name of the 1st block of the IPv6 address	
hhhh	hexadecimal value of the 1st block of the IPv6 address	cannot be edited
-b2-	name of the 2nd block of the IPv6 address	
hhhh	hexadecimal value of the 2nd block of the IPv6 address	cannot be edited
-b3-	name of the 3rd block of the IPv6 address	
hhhh	hexadecimal value of the 3rd block of the IPv6 address	cannot be edited
-b4-	name of the 4th block of the IPv6 address	
hhhh	hexadecimal value of the 4th block of the IPv6 address	cannot be edited
-b5-	name of the 5th block of the IPv6 address	
hhhh	hexadecimal value of the 5th block of the IPv6 address	cannot be edited
-b6-	name of the 6th block of the IPv6 address	
hhhh	hexadecimal value of the 6th block of the IPv6 address	cannot be edited
-b7-	name of the 7th block of the IPv6 address	
hhhh	hexadecimal value of the 7th block of the IPv6 address	cannot be edited
-b8-	name of the 8th block of the IPv6 address	
hhhh	hexadecimal value of the 8th block of the IPv6 address	cannot be edited

Submenu for displaying MAC address (only last two octets can be edited under special conditions; conditions not yet set)

L1	1st octet of MAC address	0x00
L2	2nd octet of MAC address	0x16
L3	3rd octet of MAC address	0x91
L4	4th octet of MAC address	0xFD, 0xFD
L5	5th octet of MAC address	0x00-0xFF
L6	6th octet of MAC address	0x00-0xFF

3.2.4 Submenu for time and date setting – tIME

Item	Function	Range
HH:MM	time	submenu for setting time
DD.MM.	date	submenu for setting date and year
20YY	year	

3.2.4.1 tIME submenus

Submenu for setting time

HH:MM	HH	setting of time, range 0–23
	MM	setting of minutes, range 0–59

Submenu for setting date and year

DD.MM.	DD	setting of day, range 1–31
	MM	setting of month, range 1–12
20YY	YY	setting of year, range 0–99

Note:

If the set date is out of valid range while saving the set year, it will be automatically corrected. The menu will not be saved, it will return back to the beginning of setting the day and it is necessary to go through the entire setting menu again to confirm or modify the suggested date changes.

3.2.5 Submenu for Power modes – Powr

Item	Function	Range	
P1	power off	**0**	**no function**
		1	immediately switching off the clock display
P2	power save	**0**	**power save mode disabled**
		1	power save mode enabled
P3	power save mode start timer	St	submenu for setting time
P4	power save mode end timer	Ed	

P1 Note:

Entry into this mode is indicated by displaying OFF for 1 second. After confirmation, the display will immediately switch to Power OFF mode and turn off. The mode is exciting by long pressing **PB1** or **PB2**. The display is then switched on again.

P2 Note:

An automatic mode where the clock display is switched off at set time interval. If one of the push-buttons is pressed, the display is briefly switched on. At this time the clock can be operated normally. After 10 seconds have elapsed since the last press of the button or push-button, the clock display will switch off again. Entry into this mode is indicated by the display of **SLP** for 1 second.

P3, P4 Note:

Following start and end time submenus are accessible only if the Power save mode is activated.

3.2.5.1 Powr submenus

Submenu for setting time

HH:MM	HH	setting of time, range 0–23
	MM	setting of minutes, range 0–59

3.2.1 Submenu for System Settings – SYSt

Item	Function	Range	
c1	not supported		
c2	factory reset	**0**	**no function**
		1	invoke factory reset, proceeds to enter submenu for factory reset
c3-c4	not supported		
c5	display current derating	**0**	**display brightness derating 0%**
		-1	display brightness derating -10%
		-2	display brightness derating -20%
		-3	display brightness derating -30%
		-4	display brightness derating -40%
		-5	display brightness derating -50%
c6	light measurement correction	5	light sensor correction 50%
		4	light sensor correction 40%
		3	light sensor correction 30%
		2	light sensor correction 20%
		1	light sensor correction 10%
		0	**light sensor correction 0%**
		-1	light sensor correction -10%
		-2	light sensor correction -20%
		-3	light sensor correction -30%
		-4	light sensor correction -40%
		-5	light sensor correction -50%

3.2.1.1 SYSt submenus

Submenu for factory reset

FAC	**FAC** inscription flashes, confirming the **PB2L** push-button will restart the clock to factory settings

4 NTP and PoE clock operation

Clocks support IPv4 and IPv6 protocols. You can disable individual protocols by setting parameter **n1**. The default clock setting allows both protocols at the same time (**n1: 0**).

For IPv4 mode, DHCPv4 is enabled by default (**n3: 1**).

IPv6 mode allows up to 4 different priority IP addresses in downward order:

- DHCPv6
- manually configured IP address (fix)
- autoconfiguration (SLAAC / RA)
- local address link

By setting parameter **n11** you can disable DHCPv6 and / or auto-configuration (SLAAC) by setting parameter **n10**.

For IPv6 mode, DHCPv6 and auto-configuration (SLAAC) are enabled by default:

1 for DHCPv6 menu item **n11: 1**

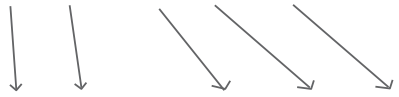
2 for SLAAC menu item **n10: 1**

Calculation of Link Local Address:

fe80 :: 2 [2nd octet MAC]: [3rd octet MAC] ff: fe [4th octet MAC]: [5th octet MAC] [6th octet MAC]

Example:

- MAC: 00: 16:91 : 12:34:56



- IPv6: fe80 :: 216: 91ff: fe12: 3456

4.1 Unicast mode

The clock is synchronized to UTC (Universal Time Coordinated) from a NTP server (up to four IPv4 / IPv6 addresses for NTP server configurable) and must have assigned its own IPv4 / IPv6 address. The clock requests in defined intervals (adjustable in menu item **n9**) the actual time from the NTP server. If the server is not available, the clock tries to contact the other defined servers in cyclic way until the valid response from the NTP server is received.

This operating mode supports the monitoring and configuration of the movement via the network connection by means of the web interface (**n15: 1**) or SNMP (**n14: 1**).

Default network parameters:

IP mode	IPv4 / IPv6
IPv4 address	0.0.0.0
IPv4 subnet mask	0.0.0.0
IPv4 default gateway	0.0.0.0
NTP server address 1	0.0.0.0 / 0:0:0:0:0:0:0:0
NTP server address 2	0.0.0.0 / 0:0:0:0:0:0:0:0
NTP server address 3	0.0.0.0 / 0:0:0:0:0:0:0:0
NTP server address 4	0.0.0.0 / 0:0:0:0:0:0:0:0
NTP request time [s]	10
DNS server	0.0.0.0 / 0:0:0:0:0:0:0:0
SNMP manager 1	0.0.0.0 / 0:0:0:0:0:0:0:0
SNMP manager 2	0.0.0.0 / 0:0:0:0:0:0:0:0
multicast config address	239.192.54.1 / FF38::EFC0:3601 (FF38:239.192.54.1)
alive notification interval [min]	30
configuration port number	65532
time zone client port number	65534
DHCPv4	enabled
SNMP	enabled
multicast support	enabled
IPv6 fix address / prefix	0:0:0:0:0:0:0:0 / 64
IPv6 link local address	fe80::2[2nd octet MAC]:[3rd octet MAC]ff:fe[4th octet MAC]:[5th octet MAC][6th octet MAC]
DHCPv6	enabled
autoconfiguration (SLAAC)	enabled
web server	enabled
web server password	stsclock

4.1.1 Network parameters assigned by DHCP

IP clock mode must be set to IPv4 mode (**n1: 0/1**). The NEt menu item **n3** must be set to value **1**. Network parameters are automatically obtained from a DHCPv4 server.

The following DHCP options will be evaluated automatically:

[50] IP address

[3] gateway address

[1] subnet mask

[42] list of up to four NTP server addresses / time zone address (usually the same as the NTP server address)

[6] DNS servers

[26] MTU

[60] vendor Class ID

[43] additional options or [223]

The network administrator must configure the DHCPv4 options accordingly. Assigned parameters can be checked in the submenu of items **n4**–**n6**.

4.1.2 Manual setting through setup menu

The NEt menu parameter **n3** must be set to value **0** (DHCPv4 set to disabled).

- Enter the item **n4** submenu for setting the clock's IP address.
- Enter the item **n5** submenu for setting the subnet mask.
- Enter the item **n6** submenu for setting default gateway.
- Enter the item **n7** submenu for setting multicast group address.
- Enter the item **n8** submenu for setting unicast NTP server address.

4.1.3 Setting network parameters over DHCPv6

IP clock mode must be set to IPv6 mode (**n1: 0/2**). The NEt menu item **n11** must be set to value **1**. The network parameters are automatically retrieved from the DHCPv6 server.

The following DHCPv6 options can be processed:

[3] non-temporary addresses

[16] vendor class

[17] vendor options

[23] DNS servers

[24] DNS domains

[25] identify association for prefix delegation

[31] SNTP

The network administrator must set the DHCPv6 options accordingly.

4.1.4 Setting network parameters over autoconfiguration (SLAAC)

IP clock mode must be set to IPv6 mode (**n1: 0/2**). The NEt menu item **n10** must be set to value **1**. The network parameters are automatically retrieved from the DHCPv6 server.

The following SLAAC options can be processed:

[3] prefix info

[5] MTU

[24] route info

[25] RDNSS

The network administrator must set the SLAAC options accordingly.

4.1.5 Setting network parameters over DHCPv6

IP clock mode must be set to IPv6 mode (**n1: 0/2**). The NEt menu item **n11** (DHCPv6 Mode) must be set to value **1**. The network parameters are automatically retrieved from a DHCPv6 server.

The following DHCPv6 options can be processed:

[3] Identity Association for Non-temporary Addresses (IA_NA)

[16] vendor class

[17] vendor options

[23] DNS servers

[24] DNS domains

[25] identify association for prefix delegation

[31] SNTP servers

The network administrator must configure DHCPv6 options accordingly.

4.1.6 SNMP

The clock supports SNMP version 1, version 2c and version 3 for reading and setting parameters using SNMP GET and SET commands. Only SNMP v2c is supported for SNMP trap notification. SNMP support allows the clock to be integrated into the system for monitoring network elements. The clock (SNMP agent) can send alarms or notifications to the SNMP manager. The IP address of the SNMP manager can be set in the clock via DHCP, web interface or SNMP.

The supported SNMP protocol version and other necessary parameters for user authentication and communication encryption can be set in the clock via the web interface or SNMP. The SNMP version can be set in combinations:

- v3, v2c, v1
- v3, v2c
- v3
- v2c, v1

The structure of the supported parameters is defined in the MIB file. In addition, the clock supports the parameters defined by the “system” node in the MIB-2 definition (RFC-1213). Alarm notifications are asynchronous messages and are intended to inform the SNMP manager about the occurrence or disappearance of an alarm. Alive notifications are sent periodically to inform about availability and clock status. The sending interval can be set.

Alarm notifications are asynchronous messages and are intended to inform the SNMP manager about the occurrence or disappearance of an alarm.

Default SNMPv2c Community Strings:

read community	rostsclock
read / write community	rwstsclock
notification (trap) community	trapstsclock

4.1.6.1 SNMPv3

SNMPv3 includes user authentication and communication encryption. Security is provided using a Security name, Authentication password, and Privacy password. During authorization, communication can be encrypted using MD5 or SHA (SHA-1), and the actual communication can be encrypted using DES or AES (AES 128). The security level can be configured.

The clock allows you to set up two user profiles with different access rights within SNMPv3. Each user has their own combination of Security name, Authentication password and Privacy password along with the appropriate encryption and access rights, which together form a profile.

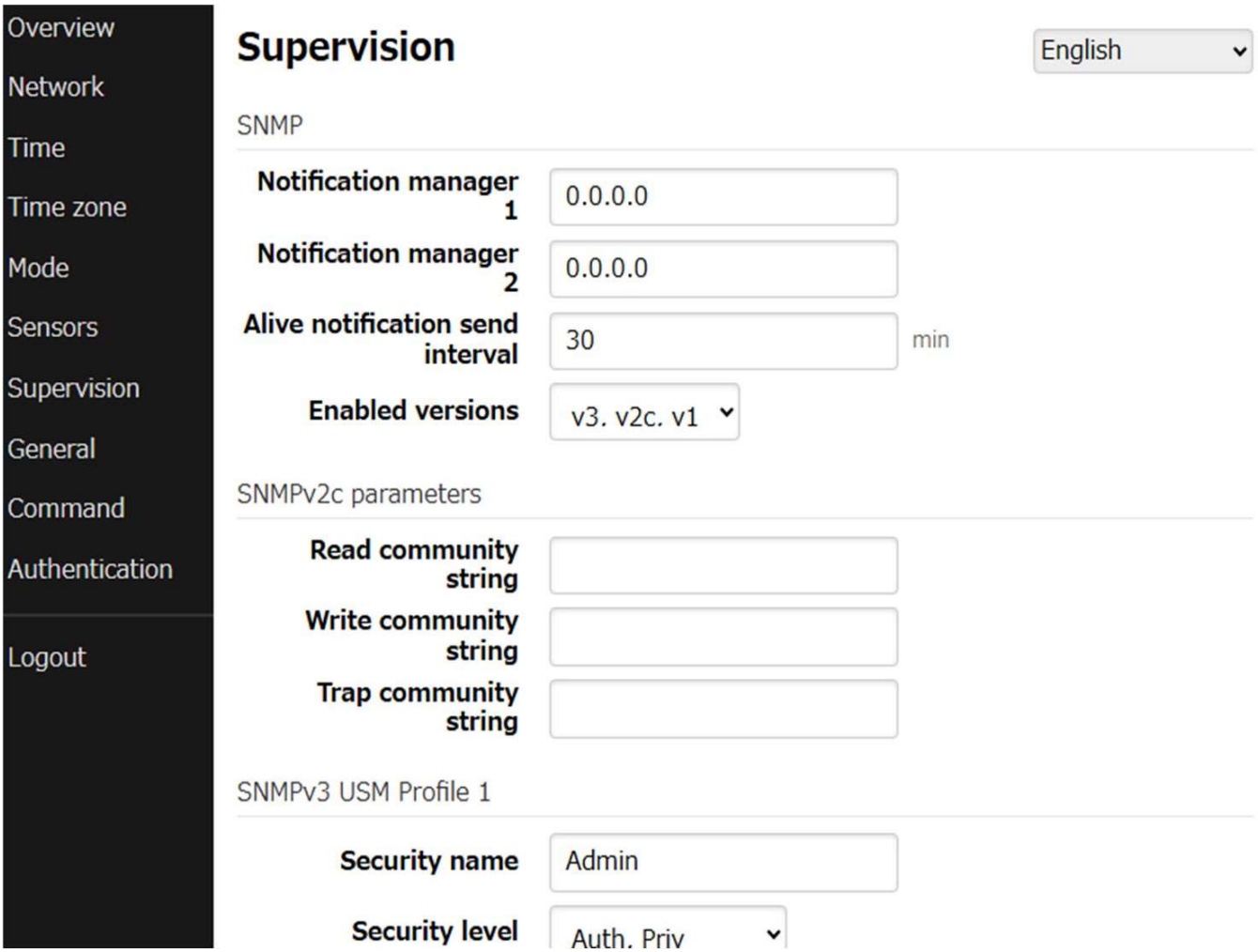
Default parameters for SNMPv3 USM Profile 1:

Security Name	admin
Security Level	authentication, privacy
Authentication Protocol	SHA
Authentication Password	rwstsclock
Privacy Protocol	AES
Privacy Password	rwstsclock
Access Control	read & write

Default Parameters for SNMPv3 USM Profile 2:

Security Name	user
Security Level	authentication, privacy
Authentication Protocol	SHA
Authentication Password	rostsclock
Privacy Protocol	AES
Privacy Password	rostsclock
Access Control	read only

4.1.6.2 Web Interface



4.2 Multicast mode

The clock is synchronized to UTC (Universal Time Coordinated) from a NTP server. The clock receives NTP multicast packets transmitted by the NTP server in a specified time cycle. This type of synchronization requires no clock's own IP address and is therefore suitable for an easy commissioning of the large systems of Slave clocks.

The multicast operating mode signifies only a minimum amount of configuration work for a network administrator.

It is necessary to set appropriate time-zone via web interface for correct displaying of local time and date.

Default network parameters:

IPv4 multicast group address	239.192.54.1
IPv4 multicast config address	239.192.54.0
IPv6 multicast group address	FF38::EFC0:3601 (FF38::239.192.54.1)
IPv6 multicast config address	FF38::EFC0:3600 (FF38::239.192.54.0)
configuration port number	65532
time-zone client port number	65534

The NEt menu item **n2** must be set to value **1**.

5 Web interface

For supervision and configuration, you can access the web interface.

5.1 Login

- To access the web interface, assign an IP address to the clock using a DHCP server, or set the IP address in the NEt MENU via the two push buttons on the clock board.

  Example (IPv4: 192.168.0.22):

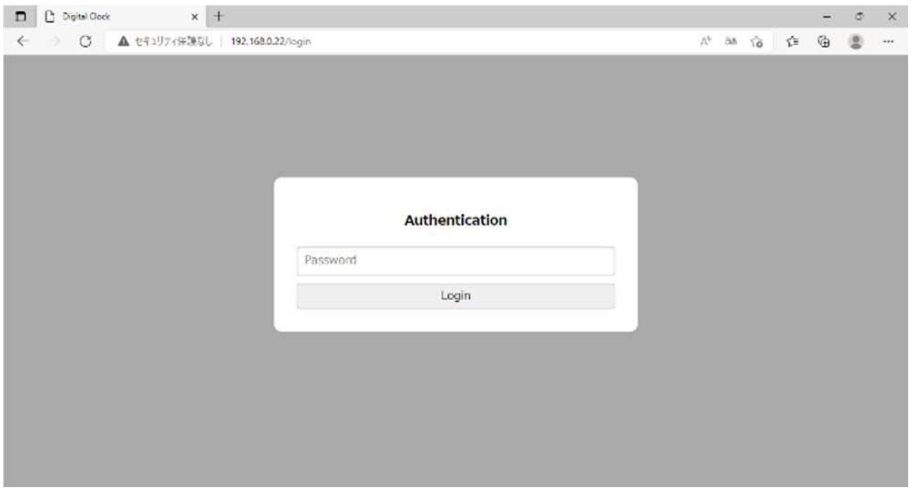
  http://192.168.0.22/

- This can be either an IPv4 address or the IPv6 Link Local Address.

  Example (IPv6: fe80::216:91ff:fe12:3456):

  http://[fe80::216:91ff:fe12:3456]/

- Enter the password. Default: stsclock

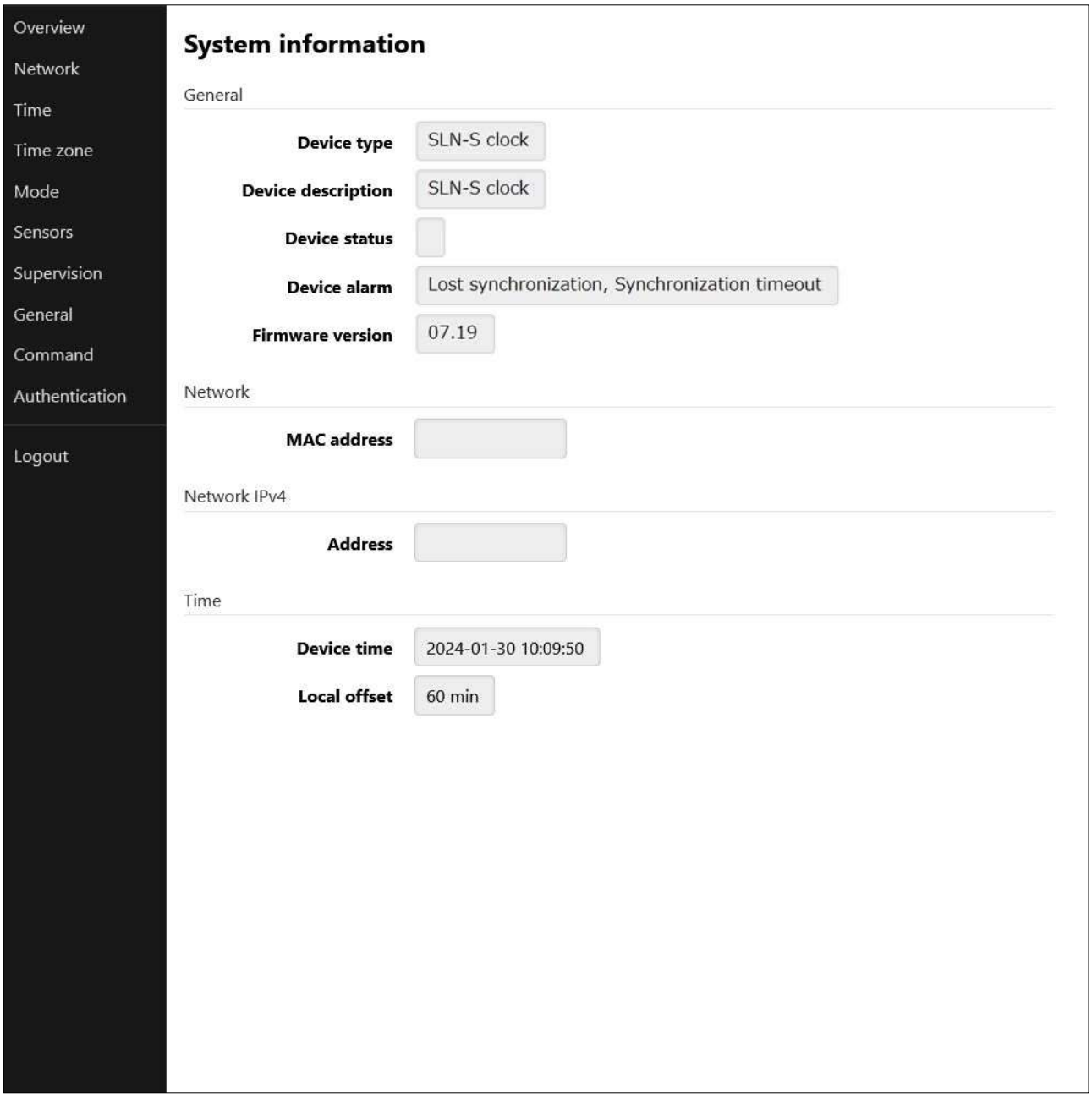


- Once logged in, navigate to the desired section to perform further actions.

5.2 Overview

This is the front page of web interface. Here you can see system basic system information such as Device type, description, Firmware version, Time, MAC and IPv4 address.

Nothing at this tab cannot be edited.



General parameters:	
Device type	Displays the type of the clock.
Device description	Displays a brief description of the clock.
Device status	Displays the current operational status of the clock.
Device alarm	Displays any active alarms on the clock.
Firmware version	Displays the version of the firmware currently running on the clock.

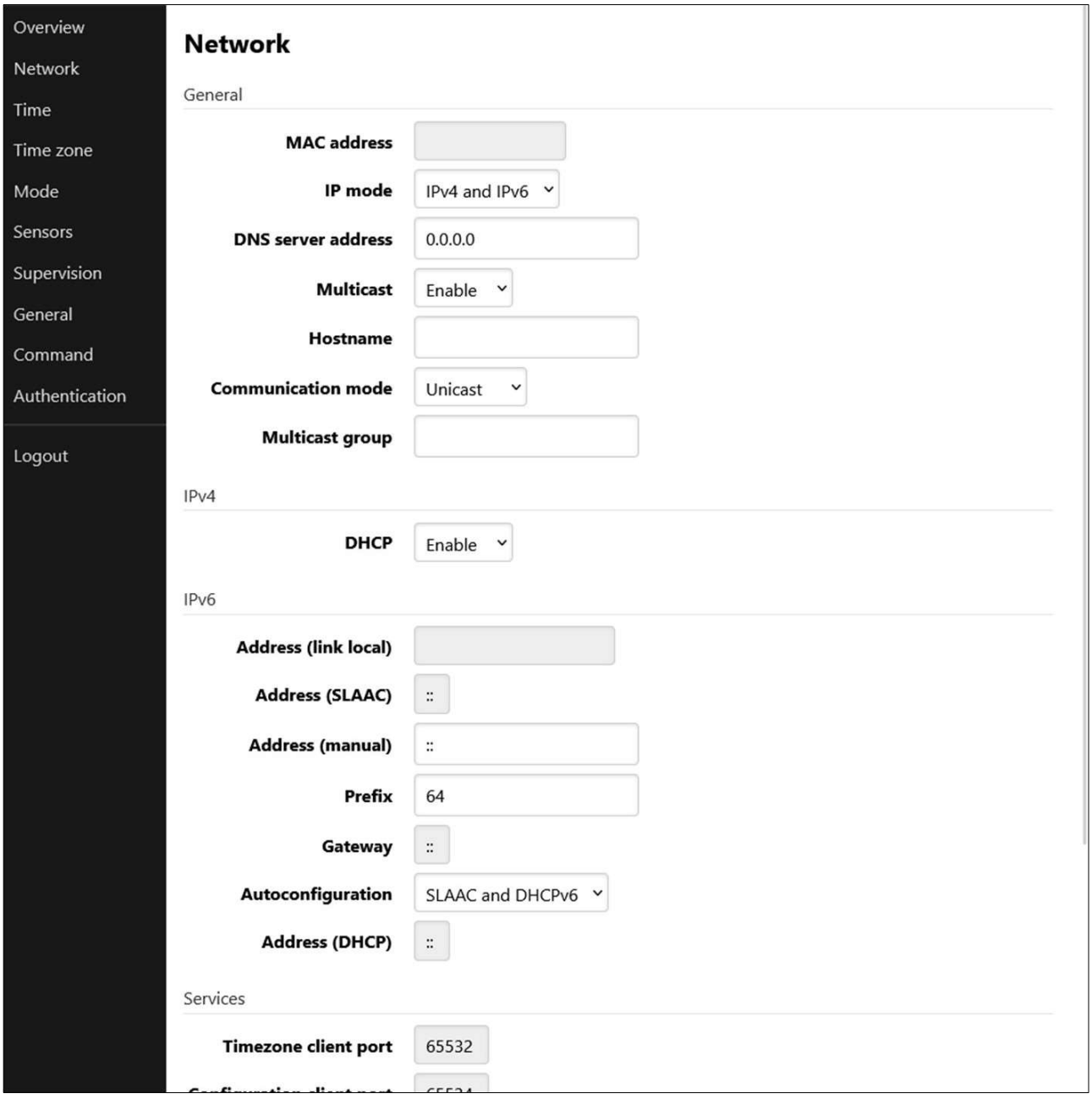
Network parameters:	
MAC address	Displays the MAC address of the clock.

Network IPv4 parameters:	
Address	Displays the IPv4 address assigned to the clock.

Time parameters:	
Device time	Displays the current time of the clock.
Local offset	Displays the time offset from UTC in minutes.

5.3 Network

This tab serves as network setting of clock parameters. You can almost set any network-related settings, such as IP mode, multicast enable or disable, IPv4 and IPv6 address.



General parameters:

MAC address	Displays the MAC address of the clock.
IP mode	Select the IP mode for the clock, either IPv4 or IPv6.
DNS server address	Enter the address of the DNS server.
Multicast	Enable or disable multicast features.
Hostname	Specify a name to identify the clock on the network.
Communication mode	Select the communication mode, either Unicast or Multicast.
Multicast group	Enter the multicast group address.

IPv4 parameters:

Address	Enter the IPv4 address for the clock.
Subnet mask	Enter the subnet mask for the IPv4 address.
Gateway	Enter the IPv4 address of the gateway.
DHCP	Enable or disable DHCP for automatic IP address assignment.

IPv6 parameters:

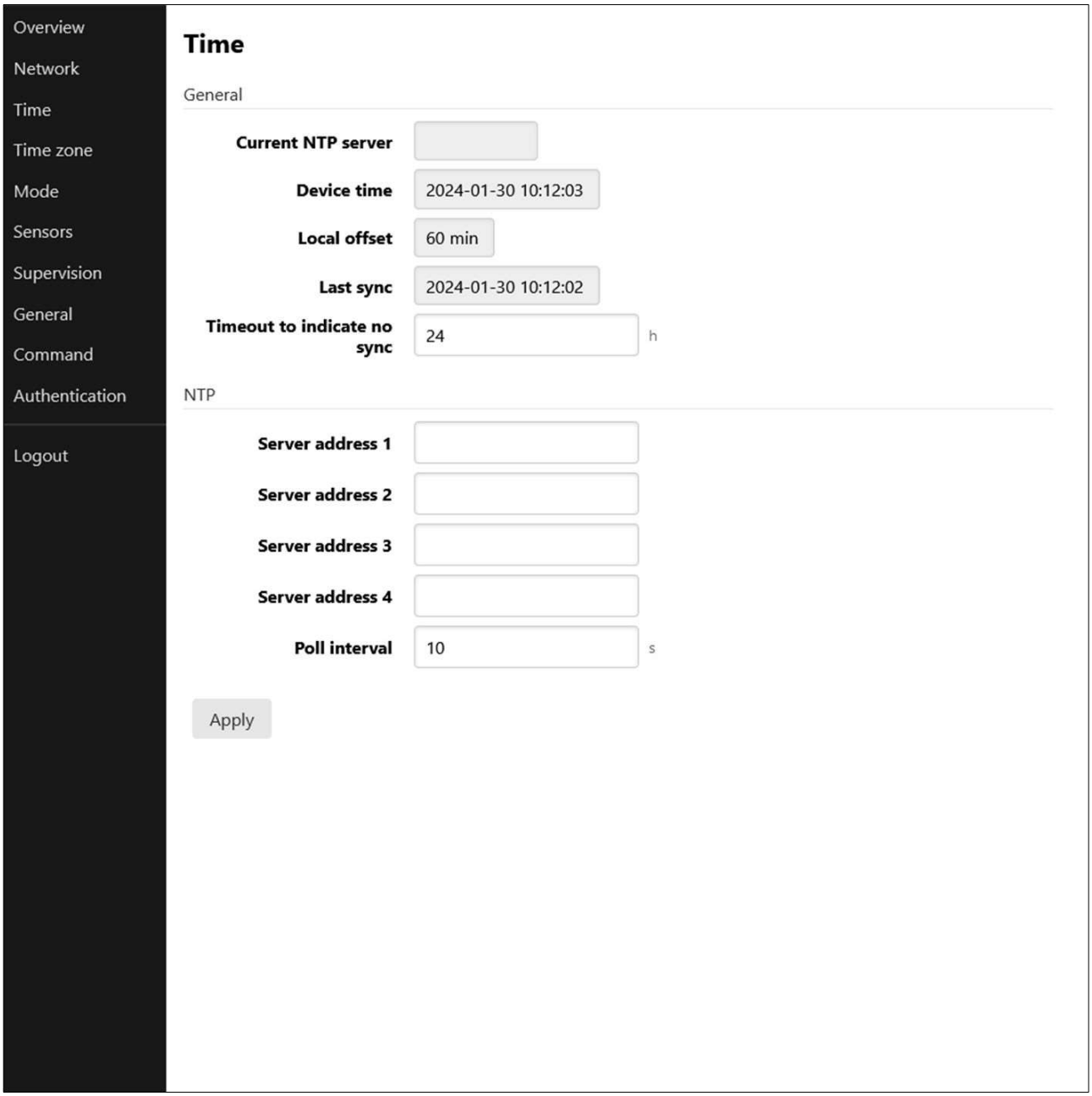
Address (link local)	Displays the link-local IPv6 address of the clock.
Address (SLAAC)	Displays the IPv6 address assigned by SLAAC.
Prefix	Enter the prefix length for the IPv6 address.
Gateway	Enter the IPv6 address of the gateway.
Autoconfiguration	Select the method for IPv6 autoconfiguration.
Address (DHCP)	Displays the IPv6 address assigned by DHCPv6.

Service parameters:

Timezone client port	not supported
Configuration client port	not supported
SNMP	Enable or disable SNMP for configuring and monitoring the clock on the network.
Web server	Enable or disable the web server that provides an easy way to set up, view, and monitor the digital clock via the web interface.

5.4 Time

This tab serves as the setting for time synchronization parameters. You can configure various NTP-related settings, such as server addresses, poll intervals, and view synchronization status.



General parameters:

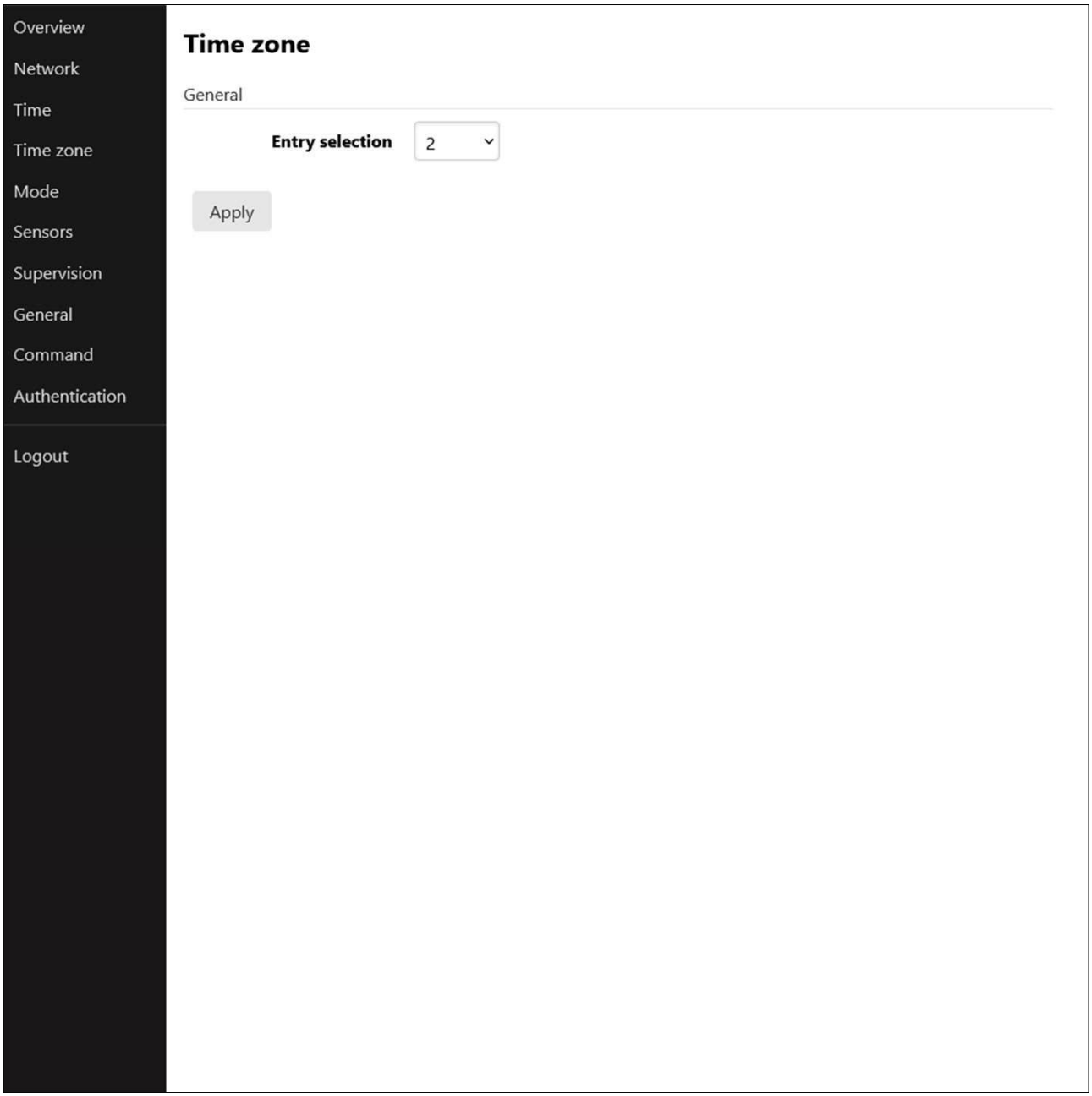
Current NTP server	Displays the address of the current NTP server being used for time synchronization.
Device time	Displays the current time of the clock.
Local offset	Displays the time offset from UTC in minutes.
Last sync	Displays the last time the clock successfully synchronized with the NTP server.
Timeout to indicate no sync	Specify the duration after which the device will indicate a loss of synchronization if it fails to synchronize with the NTP server.

NTP parameters:

Server address 1-4	Enter the address of the NTP server for time synchronization.
Poll interval	Set the interval in seconds at which the device polls the NTP servers for time synchronization.

5.5 Time zone

This tab serves as the setting for time zone parameters. You can select the desired time zone from the internal time zone table of the NTP clock.



General parameters:	
Entry selection	Specify the number of the desired time zone from the internal time zone table of the clock.

5.6 Mode

This tab serves as the setting for various display and power configurations of the NTP clock. You can adjust display brightness, time and date formats, and power-saving options to suit your preferences.

General parameters:

Display brightness	Adjust the brightness of the display.
IR auto lock time	not supported
Display current derating	Select whether to adjust the brightness of the display based on specific conditions or user preferences.
Light measurement correction	Select whether to apply light sensor correction to optimize the accuracy and performance of the light sensor used to automatically adjust the display brightness.
Stopwatch keyboard connected	not supported

Display1 parameters:

Time display format	Select between 12-hour or 24-hour time format.
Display alternating mode	Select how the display alternates between time and date.
Time display zeros	Select whether to display leading zeros in the time.
Date display zeros	Select whether to display leading zeros in the date.

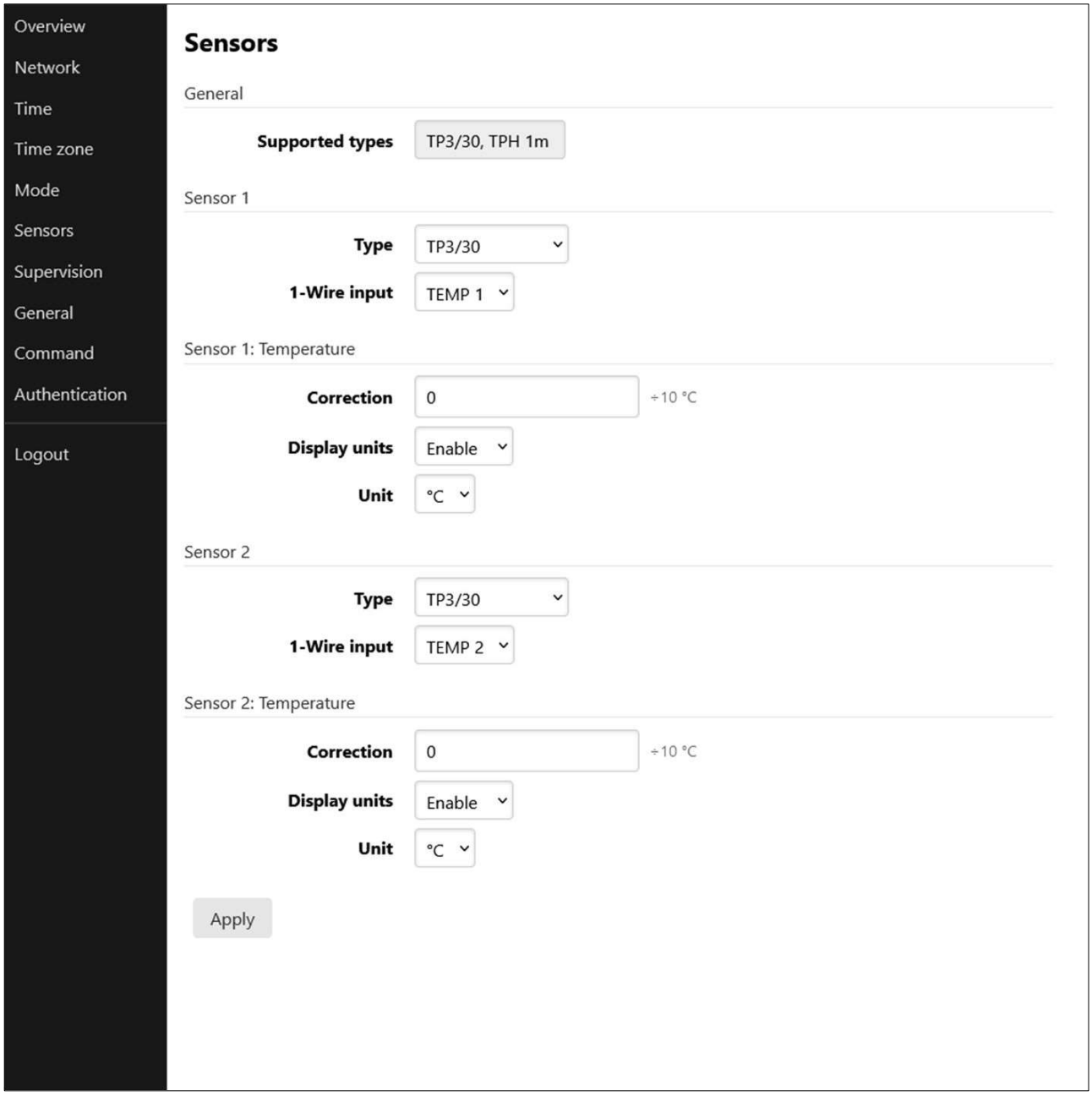
Display1 - User intervals of Display alternating mode:

Time	Set the interval for displaying the time.
Date	Set the interval for displaying the date.
Calendar week	Set the interval for displaying the calendar week.
Temperature 1	not supported
Humidity 1	not supported
Pressure 1	not supported
Temperature 2	not supported
Humidity 2	not supported
Pressure 2	not supported

Power parameters:

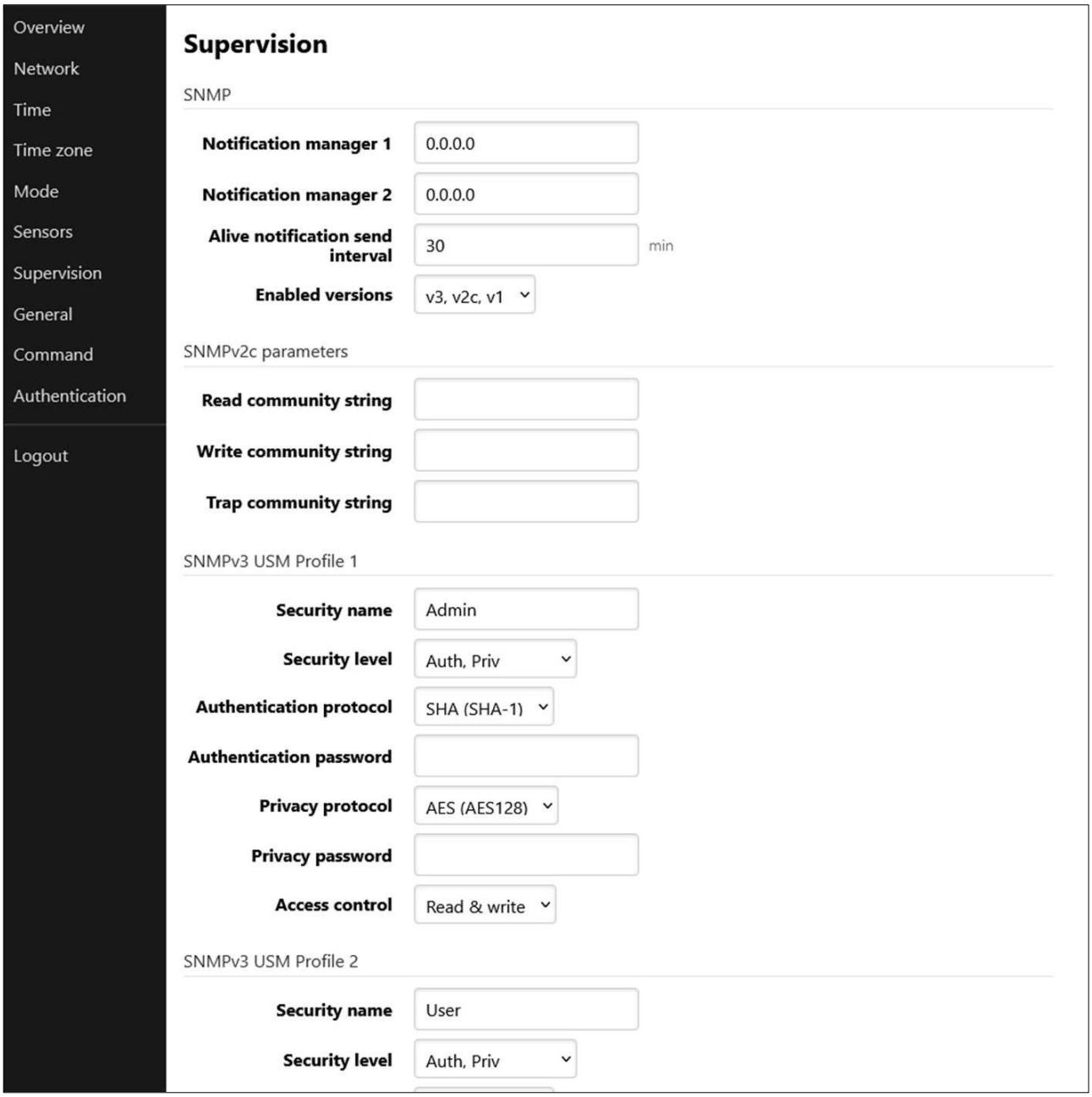
Power off	Select whether to turn off the power.
Power save mode	Enable or disable power-saving mode. If enabled, you can specify the start and end times for the save mode.

5.7 Sensors (not supported)



5.8 Supervision

This tab serves as the setting for various SNMP and service configurations of the NTP clock. You can manage SNMP notifications, community strings, security profiles, and web server settings to ensure proper monitoring and secure communication.



SNMP parameters:

Notification manager 1-2	Enter the address of the SNMP manager to receive notifications.
Alive notification send interval	Set the interval in minutes for sending alive notifications.
Enabled versions	Select the SNMP versions that are enabled for use.

SNMPv2c parameters:

Read community string	Set the community string for read-only access.
Write community string	Set the community string for read-write access.
Trap community string	Set the community string for SNMP traps.

SNMPv3 USM profile 1 parameters:

Security name	Set the security name for the SNMPv3 user.
Security level	Select the desired security level for the SNMPv3 user, which determines the authentication and privacy requirements.
Authentication protocol	Select the authentication protocol (SHA, MD5).
Authentication password	Set the password for authentication.
Privacy protocol	Select the privacy protocol (AES, DES).
Privacy password	Set the password for privacy.
Access control	Configure access control settings.

SNMPv3 USM profile 2 parameters:

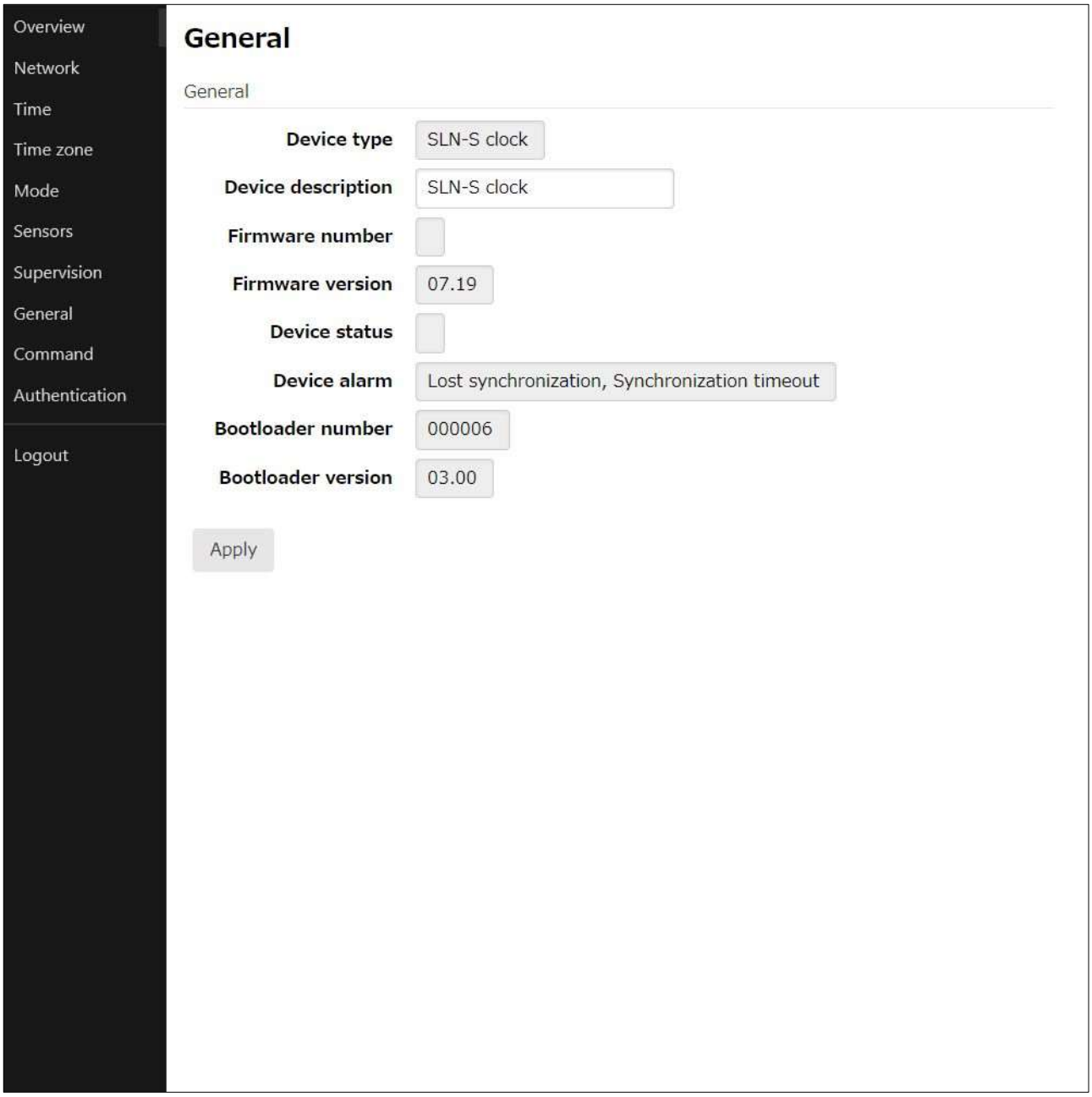
Security name	Set the security name for the SNMPv3 user.
Security level	Select the desired security level for the SNMPv3 user, which determines the authentication and privacy requirements.
Authentication protocol	Select the authentication protocol (SHA, MD5).
Authentication password	Set the password for authentication.
Privacy protocol	Select the privacy protocol (AES, DES).
Privacy password	Set the password for privacy.
Access control	Configure access control settings.

Services parameters:

Web server mode	Select the mode for the web server (HTTP, HTTPS).
HTTPS server key password	not supported
HTTPS server certificate upload	not supported
HTTPS server certificate manage	not supported

5.9 General

This tab serves as the setting for viewing basic device information and status of the clock.

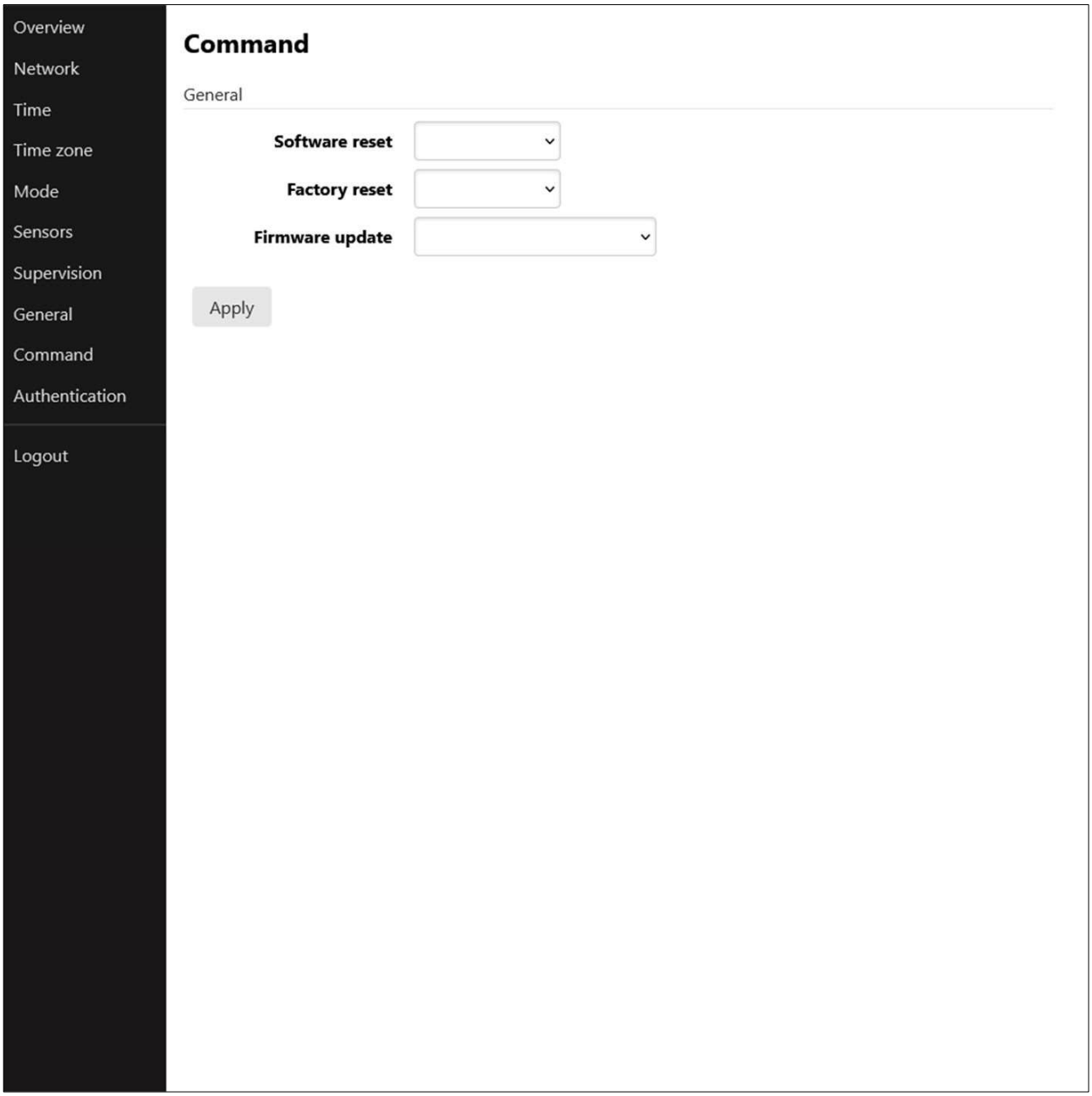


General parameters:

Device type	Displays the type of the clock.
Device description	Enter a description for the clock.
Firmware number	Displays the number of the firmware currently running on the clock.
Firmware version	Displays the version of the firmware currently running on the clock.
Device status	Indicates the current operational status of the clock, such as whether it is synchronized with the NTP server.
Device alarm	Displays any active alarms or alerts for the clock, indicating issues such as synchronization problems.
Bootloader number	Displays the number of the bootloader installed on the clock.
Bootloader version	Displays the version of the bootloader installed on the clock.

5.10 Command

This tab serves as the interface for executing important commands such as resetting the device or updating the firmware.

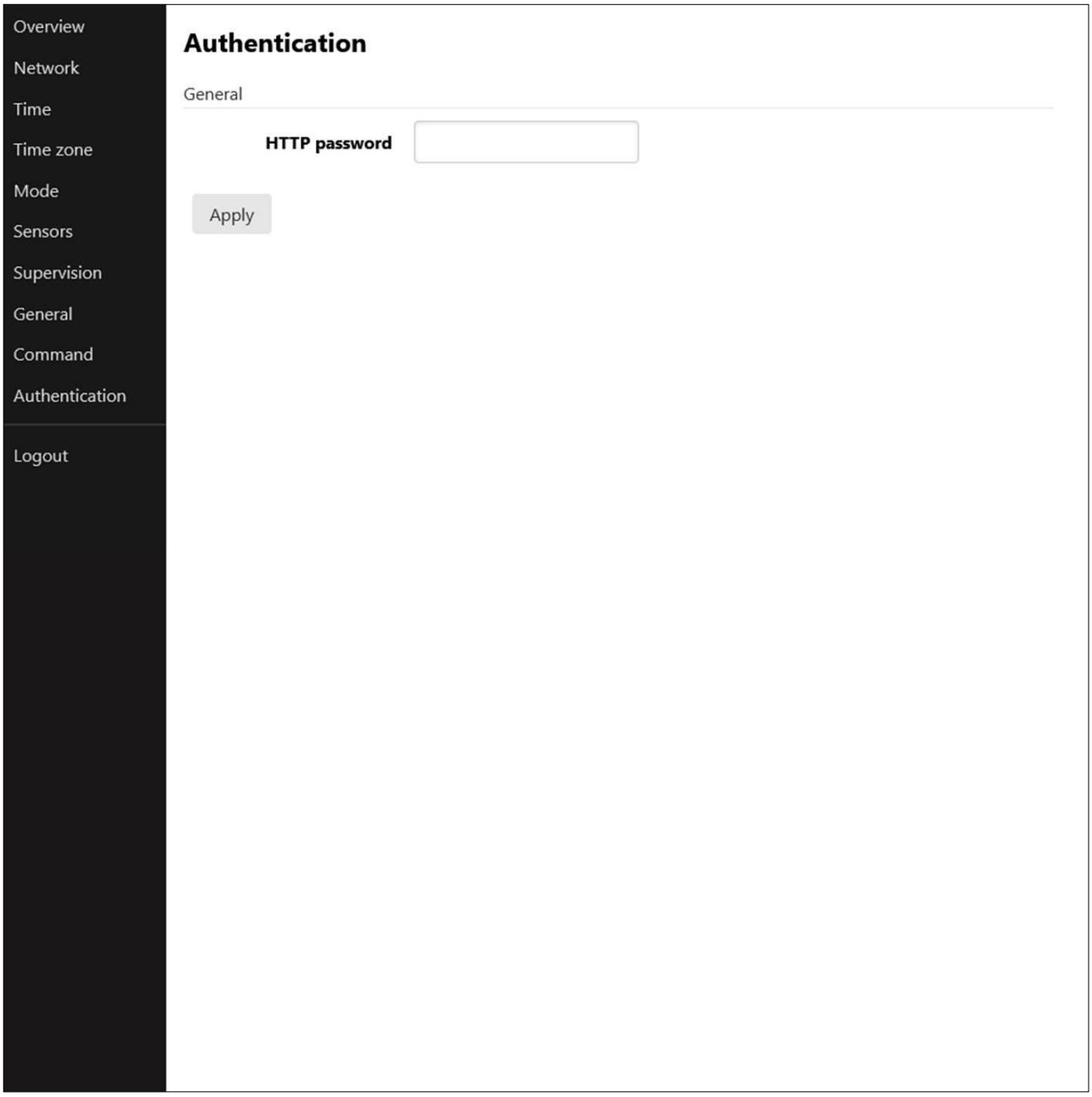


General parameters:

Software reset	Select "Perform Reset" and apply to restart the clock.
Factory reset	Select "Perform Reset" and apply to restore the settings to factory defaults and restart the clock.
Firmware update	Select "Perform update over TFTP" and apply to download and update the firmware from the specified TFTP server IP.

5.11 Authentication

This tab serves as the setting for the login password required to access the web interface.



General parameters:

HTTP password	Set the login password required to access the web interface.

6 Factory reset

6.1 Factory reset using menu

In an event that the clock gets to state that it does not work properly due to incorrect configuration, or it is not possible to connect to the clock via Ethernet, the situation can be solved by invoking the factory settings from the clock menu Factory Reset (**SYSt** menu item **c1**).

6.1.1 Procedure

1. Enter the digital clock menu using the **PB2L** push-button.
2. Use **PB2** push-button to navigate to the **SYSt** menu. To enter, press the **PB2L** push-button.
3. Use **PB2** push-button to navigate to the menu item **c1**. To enter, press the **PB2L** push-button.
   Set value is flashing.
4. Use the **PB2** push-button to **1**. **FAC** inscription flashes.
5. Confirming the **PB2L** push-button will restart the clock to factory settings.

6.2 Factory reset via Web interface

If your clock is synchronized using the NTP protocol and has access to the web interface, it is possible to invoke the default values through the web interface (**Command Tab**).

6.2.1 Procedure

1. Access the web interface.

   ! For instruction on accessing the web interface, please refer to the How to Access the Web Interface chapter.
2. Navigate to **Command tab**.
3. Set the field **Factory reset** to **Perform reset** and click on **Apply**.
4. The clock restarts to factory settings.

6.3 Factory reset using Push-Buttons

In extreme cases where misconfiguration causes the clock to enter a reset loop, the clock menu becomes inaccessible, and it is impossible to invoke the default values through the menu.

The issue can be resolved by using a specific combination of push-button presses to perform a factory reset.

6.3.1 Procedure

1. Connect the clock to power supply.
2. Press and hold **PB1** and **PB2** push-buttons at the same time.
3. Restart the clock by briefly pressing the **reset button** while holding **PB1** and **PB2** push-buttons at the same time.
4. Hold both **PB1** and **PB2** push-buttons until **FAC** appears on the clock display (in approx. 5 seconds).
5. Release **PB1** and **PB2** push-buttons. The clock restarts to factory settings.

Note:

If the clock's ':' is blinking at intervals of about 0.5 seconds, short press **PB1** and **PB2** simultaneously until the ':' stops blinking and stays lit. Then, briefly press the **reset button** and follow the steps for No.1 again.

7 Firmware update

Firmware update can be done in several ways, such as:

- WEB server
- SNMP

7.1 Firmware update via WEB server

- Install TFTP server (e.g. ***tftpd64***).
- Allow access in Windows security window after opening TFTP server file.

The IP address of clock can be found in NEt menu table. → item n4

Type IP address of clock to the URL bar of your browser.

- In the web interface, please navigate to section **Command**.
- Update will be invoked by pressing **Apply**.
- In dependence of your TFTP server, information about update progress is displayed.
- Wait about 1 minute after firmware download.
- Check whether the firmware version is correct.

! If the firmware version is not correct, it is necessary to repeat procedure.

7.2 Firmware update via SNMP

- Install TFTP server (e.g. ***tftpd64***).
- Allow access in Windows security window after opening TFTP server file.
- Place firmware file with name ***device.upd*** to folder from which your TFTP server serve files.
- Open your SNMP manager software and load MIB file.
- Find variable ***stsscCommandFirmwUpd*** and set it to ***device.upd***.
- In dependence of your TFTP server, information about update progress is displayed.
- Wait about 1 minute after firmware download.
- Check whether the firmware version is correct.

! If the firmware version is not correct, it is necessary to repeat procedure.

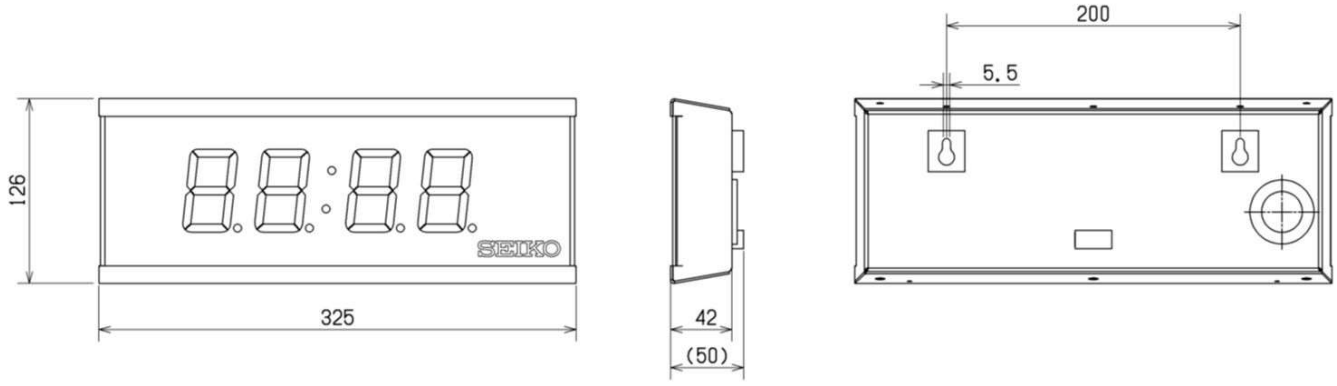
8 Specifications

8.1 SLN-574RA

Technical data:

Mounting	Wall Mounting
Type	Single-sided
Display (color)	LED (Red)
Size of digits	57mm (Hour/Minute)
Number of digits	4 (HH:MM)
Time accuracy	Synchronized: < ±100ms Unsynchronized: < ±1 seconds/day (Reference value)
Case	Aluminum black
Cover glass	Plastic black
Synchronization	Network Time Protocol
Synchronization rate	10 - 999s
Power supply	LAN (PoE)
Power consumption	Max. 7W
Temperature range	-5 to +50°C
Humidity range	20 to 90%RH (@+40℃) ※ No condensation
Dimension	325mm(W) x 126mm(H) x 42mm(D) ※ Excluding protruding parts
Weight	Approx. 1.0kg

Dimensions

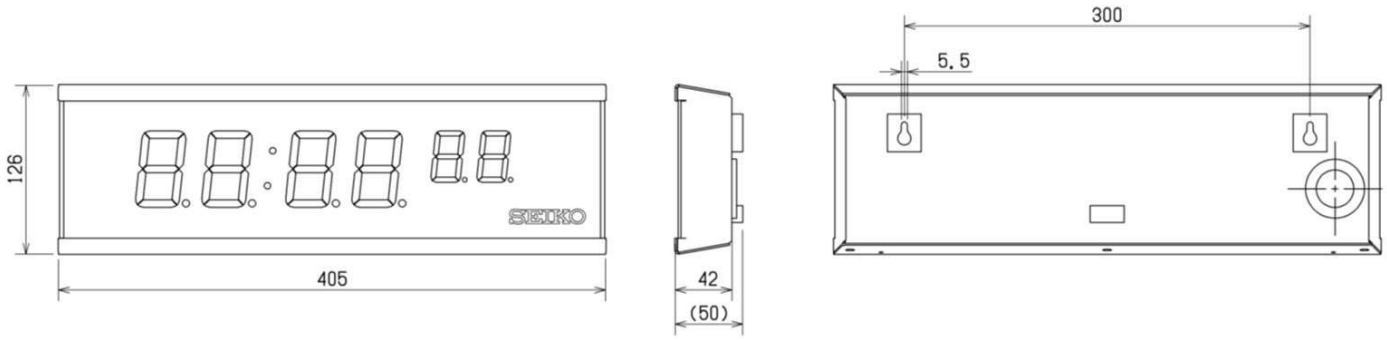


8.2 SLN-576RA

Technical data:

Mounting	Wall Mounting
Type	Single-sided
Display (color)	LED (Red)
Size of digits	57mm (Hour/Minute), 38mm (Second)
Number of digits	6 (HH:MM ^{SS})
Time accuracy	Synchronized: < ±100ms Unsynchronized: < ±1 seconds/day (Reference value)
Case	Aluminum black
Cover glass	Plastic black
Synchronization	Network Time Protocol
Synchronization rate	10 - 999s
Power supply	LAN (PoE)
Power consumption	Max. 7W
Temperature range	-5 to +50°C
Humidity range	20 to 90%RH (@+40℃) ※ No condensation
Dimension	405mm(W) x 126mm(H) x 42mm(D) ※ Excluding protruding parts
Weight	Approx. 1.2kg

Dimensions

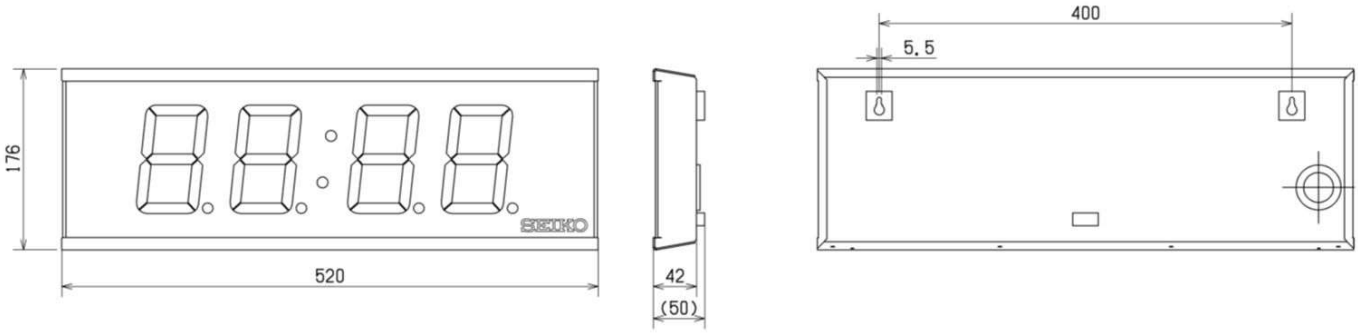


8.3 SLN-1004RA

Technical data:

Mounting	Wall Mounting
Type	Single-sided
Display (color)	LED (Red)
Size of digits	100mm (Hour/Minute)
Number of digits	4 (HH:MM)
Time accuracy	Synchronized: < ±100ms Unsynchronized: < ±1 seconds/day (Reference value)
Case	Aluminum black
Cover glass	Plastic black
Synchronization	Network Time Protocol
Synchronization rate	10 - 999s
Power supply	LAN (PoE)
Power consumption	Max. 7W
Temperature range	-5 to +50°C
Humidity range	20 to 90%RH (@+40℃) ※ No condensation
Dimension	520mm(W) x 176mm(H) x 42mm(D) ※ Excluding protruding parts
Weight	Approx. 1.8kg

Dimensions

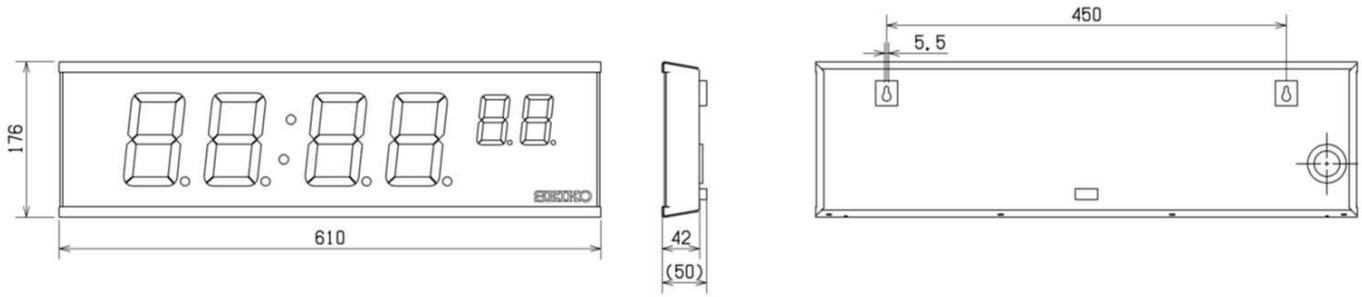


8.4 SLN-1006RA

Technical data:

Mounting	Wall Mounting
Type	Single-sided
Display (color)	LED (Red)
Size of digits	100mm (Hour/Minute), 57mm (Second)
Number of digits	6 (HH:MM SS)
Time accuracy	Synchronized: < ±100ms Unsynchronized: < ±1 seconds/day (Reference value)
Case	Aluminum black
Cover glass	Plastic black
Synchronization	Network Time Protocol
Synchronization rate	10 - 999s
Power supply	LAN (PoE)
Power consumption	Max. 7W
Temperature range	-5 to +50°C
Humidity range	20 to 90%RH (@+40℃) ※ No condensation
Dimension	610mm(W) x 176mm(H) x 42mm(D) ※ Excluding protruding parts
Weight	Approx. 2.0kg

Dimensions



9 Time zone table

Time zone	City / state	UTC Offset	DST Change	Standard → DST	DST → Standard
00	UTC (GMT) Monrovia, Casablanca	0	No		
01	London, Dublin, Edinburgh, Lisbon	0	Yes	last Sunday March (01:00)	last Sunday October (02:00)
02	Brussels, Amsterdam, Berlin, Bern, Copenhagen, Madrid, Oslo, Paris, Rome, Stockholm, Vienna, Belgrade, Bratislava, Budapest, Liubliana, Prague, Sarajevo, Sofia, Vilnius, Warsaw, Zagreb	+1	Yes	last Sunday March (02:00)	last Sunday October (03:00)
03	Athens, Helsinki, Riga, Tallinn	+2	Yes	last Sunday March (03:00)	last Sunday October (04:00)
04	Bucharest	+2	Yes	last Sunday March (03:00)	last Sunday October (04:00)
05	Pretoria, Harare, Kaliningrad	+2	No		
06	Amman	+2	Yes	last Thursday March (23:59)	last Friday October (01:00)
07	UTC (GMT)	0	No		
08	Istanbul, Kuwait City, Minsk, Moscow, Saint. Petersburg, Volgograd	+3	No		
09	Praia, Cape Verde	-1	No		
10	UTC (GMT)	0	No		
11	Abu Dhabi, Muscat, Tbilisi, Samara	+4	No		
12	Kabul	+4,5	No		
13	Adamstown (Pitcairn Is.)	-8	No		
14	Tashkent, Islamabad, Karachi, Yekaterinburg	+5	No		
15	Mumbai, Kolkata, Chennai, New Delhi, Colombo	+5,5	No		
16	Astana, Thimphu, Dhaka, Novosibirsk	+6	No		
17	Bangkok, Hanoi, Jakarta, Krasnoyarsk	+7	No		
18	Beijing, Hong Kong, Singapore, Taiper, Irkutsk	+8	No		
19	Tokyo, Seoul, Yakutsk	+9	No		
20	Gambier Island	-9	No		
21	South Australia: Adelaide	+9,5	Yes	1st Sunday October (02:00)	1st Sunday April (03:00)
22	Northern Territory: Darwin	+9,5	No		
23	Brisbane, Guam, Port Moresby, Vladivostok	+10	No		

Time zone	City / state	UTC Offset	DST Change	Standard → DST	DST → Standard
24	Sydney, Canberra, Melbourne, Tasmania: Hobart	+10	Yes	1st Sunday October (02:00)	1st Sunday April (03:00)
25	UTC (GMT)	0	No		
26	UTC (GMT)	0	No		
27	Honiara (Solomon Is.), Magadan, Noumea (New Caledonia)	+11	No		
28	Auckland, Wellington	+12	Yes	last Sunday September (02:00)	1st Sunday April (03:00)
29	Majuro (Marshall Is.), Anadyr	+12	No		
30	Azores	-1	Yes	last Sunday March (00:00)	last Sunday October (01:00)
31	Middle Atlantic	-2	No		
32	Brasilia	-3	Yes	3rd Sunday October (00:00)	3rd Sunday February (00:00)
33	Buenos Aires	-3	No		
34	Newfoundland	-3,5	Yes	2nd Sunday March (02:00)	1st Sunday November (02:00)
35	Atlantic Time (Canada)	-4	Yes	2nd Sunday March (02:00)	1st Sunday November (02:00)
36	La Paz	-4	No		
37	Bogota, Lima, Quito	-5	No		
38	New York, Eastern Time (US & Canada)	-5	Yes	2nd Sunday March (02:00)	1st Sunday November (02:00)
39	Chicago, Central Time (US & Canada)	-6	Yes	2nd Sunday March (02:00)	1st Sunday November (02:00)
40	Tegucigalpa, Honduras	-6	No		
41	Phoenix, Arizona	-7	No		
42	Denver, Mountain Time	-7	Yes	2nd Sunday March (02:00)	1st Sunday November (02:00)
43	Los Angeles, Pacific Time	-8	Yes	2nd Sunday March (02:00)	1st Sunday November (02:00)
44	Anchorage, Alaska (US)	-9	Yes	2nd Sunday March (02:00)	1st Sunday November (02:00)
45	Honolulu, Hawaii (US)	-10	No		
46	Midway Islands (US)	-11	No		
47	Mexico City, Mexico	-6	Yes	1st Sunday April (02:00)	last Sunday October (02:00)
48	Adak (Aleutian Is.)	-10	Yes	2nd Sunday March (02:00)	1st Sunday November (02:00)
49	UTC (GMT)	0	No		
50	UTC (GMT)	0	No		

Time zone	City / state	UTC Offset	DST Change	Standard → DST	DST → Standard
51	UTC (GMT)	0	No		
52	UTC (GMT)	0	No		
53	UTC (GMT)	0	No		
54	Ittoqqortoormiit, Greenland	-1	Yes	last Sunday March (00:00)	last Sunday October (01:00)
55	Nuuk, Qaanaaq, Greenland	-3	Yes	last Saturday March (22:00)	last Saturday October (23:00)
56	Myanmar	+6,5	No		
57	Western Australia: Perth	+8	No		
58	Caracas	-4,5	No		
59	CET standard time	+1	No		
60	not used				
61	not used				
62	Baku	+4	Yes	last Sunday March (04:00)	last Sunday October (05:00)
63	UTC (GMT)	0	No		
64	UTC (GMT)	0	No		

Legend:

UTC ..... Universal Time Coordinate, equivalent to GMT

DST ..... Daylight Saving Time

DST Change..... Daylight Saving Time changeover

Standard → DST ..... time change from standard time (Winter time) to Summer time

DST → Standard ..... time change from Summer time to Standard time (Winter time)

Example:

2nd last Sunday March (02:00) → switch over on the penultimate Sunday in March at 02:00 hours local time

If you have any question, inquiry or request for repair regarding the Clock, please contact your SEIKO dealer or agent.

SEIKO TIME CREATION INC.

https://www.seiko-stc.co.jp