CLK-20(-i)

TIMER CONTROL FOR 20 TIMER FUNCTIONS

Table of contents

Copyright

1 General introduction

The manual is intended for the user of this device. It contains all the information necessary for operating and cleaning this product. Please read all information and instructions carefully before using the product.

Symbols mark warnings, important notes, tips, etc. in this manual.

Stienen has compiled this manual with all due care. If you find any errors, please let us know.

1.1 Symbols and definitions


Risk of injury by dangerous electric shock. Danger to people and animals.


Warning indicating danger to product, people and animals if procedures are not strictly complied with.


Warning indicating damage to products if procedures are not strictly complied with.


Pressure cleaning is not allowed.


Collect as separate flows


Important note


Additional information


Example of a concrete application of the functionality described.


Example calculation


Manual control


Tips and advice


Screenshot


Application note

1.2 Customer service

If you have any questions, please contact your installer. Be sure to have all the necessary data handy. You should also always write down the cause of a fault and the circumstances that occurred during the fault. This will enable you to avoid any ambiguities and it will enable your installer to deal with any faults quickly and effectively.

2 Safety instructions and warnings

Read the general safety instructions in this chapter carefully before using the device. A certified installer must install the device and resolve any faults, in accordance with the applicable guidelines. If this product is installed and used in any other way, the warranty will not apply.

2.1 Sound, independent alarm system

Although we have designed and built our control equipment with the greatest care possible, technical faults can never be ruled out. Insurance requirements in many countries are becoming increasingly stringent. This requires the alarm contacts of the various control computers to be connected a central alarm unit.


We recommend also installing a sound independent alarm system, for example a min/max thermostat.


We advise you to manually test the alarm at least once a week.

2.2 During use

The people who operate the device have read the manual carefully. They are aware of potential hazards that may arise from improper use and maintenance of the product.


The device must only be opened by authorized personnel.


Do not switch off the control computer while the house is empty, but switch it to *Off* mode. This will prevent condensation caused by the equipment cooling down.


Check the device for any damage at regular intervals. A damaged device is unsafe. Always report any damage to your installer.


Electronic equipment is splash-proof and must not be cleaned using a pressure cleaner.


If any emergency has occurred, write down: the circumstances under which the emergency occurred, installation settings, software date, software version number and possible causes.

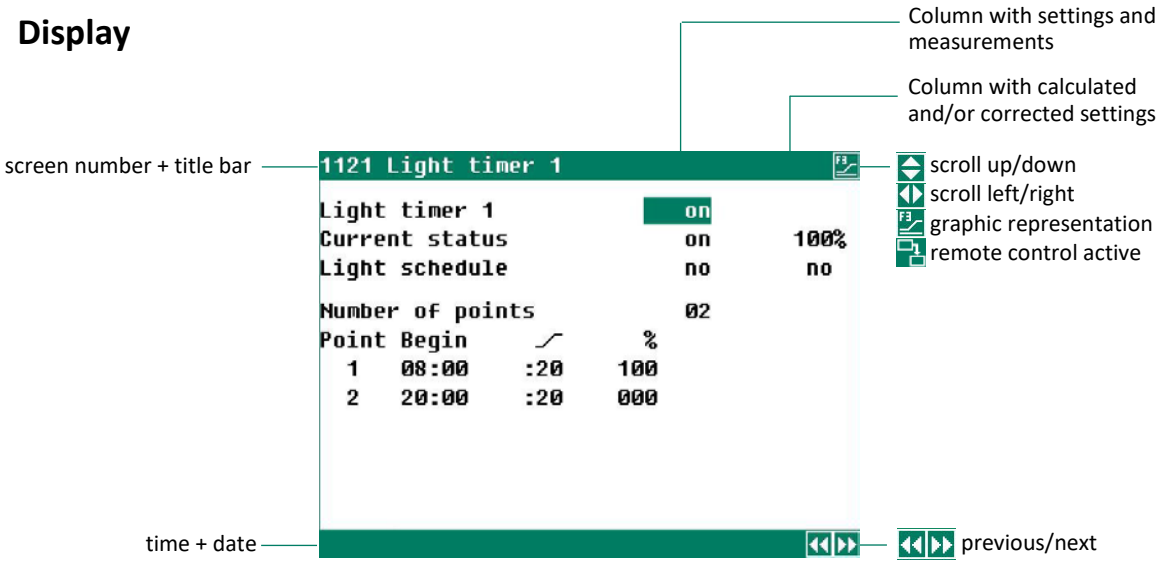
2.3 Disposal

The EU has set up systems for the separate collection of waste electrical and electronic equipment and batteries (Directive 20212/19/EU). If you do not dispose of the device properly, you risk a fine.


Electrical and electronic equipment must be collected separately at the end of its life.

3 Operation

3.1 Display

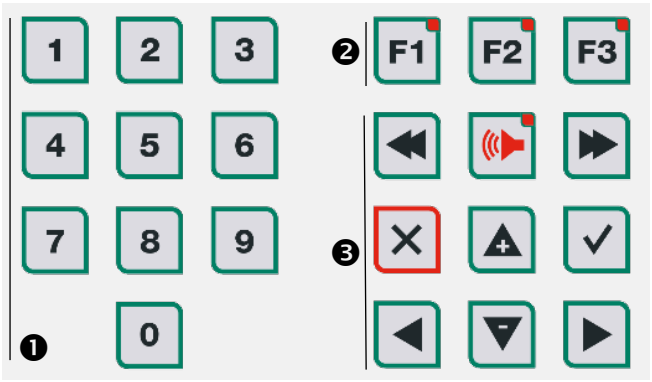


If the last lines of text fall outside the screen, appears in the title bar. With , you then reach the remaining settings/measurements.

If is shown in the title bar and you press function key F3, the settings are displayed graphically. The dot (●) in the graph indicates the calculated value. Press F3 again to switch off the graphic display.

The calculated setting may differ from the value set by the user, due to the growth curve and/or compensations.

3.2 Keyboard



❶ numeric keys
❷ function keys
❸ navigation keys and control keys

Whenever a key is pressed, the screen will be lit for a couple of minutes so that you can also see the settings and measurements in a dark animal house.

Only press the keys with the tip of your finger. Sharp objects can damage the keyboard.

Numeric keys

Use the numeric keys to enter a screen number, value or text.

Key	Character
0	_0
1	.,1'-:+
2	abcàâæç2ABCÀÂÆÇ
3	deféèêë3DEFÉÈÊË
4	ghiîï4GHIÎÏ
5	jkl5JKL
6	mnoñôöœ6MNOÑÔÖŒ
7	pqrs7PQRS
8	tuvû8TUVÛ
9	wxyz9WXYZ

Text input

The keys 2 ... 9 can be used to change the name of a timer or alarm. The maximum text length is 15 characters (including spaces. The character appears in a block. Press the numeric key repeatedly until the desired character appears. For a punctuation mark, press 1 repeatedly. Use 0 to insert spaces.

Press once for a, twice for b and so on. Use the keys ◀ and ▶ to move the text cursor.

Function keys F1, F2 and F3

F1 Function key for changing language. Hold down this key and press ◀ and ▶ to select the previous/next language.

F2 Function key to display the room status.

F3 Function key for calling up the graph. If the LED in the function key is on, the graph function is active. You can switch off this function by pressing F3 again. The LED in the key will then turn off. The values in a graph are linked to the screen on the basis of which the graph was drawn up. The graph is updated automatically when you change the details on the screen. The position of the graph on the screen is determined automatically. As a result, some data may no longer be visible.

Navigation keys

▶ ◀ In control mode, press and hold to move cursor right or left.
In edit mode, move cursor left or right.

▲ ▼ In control mode, move cursor up or down.
In edit mode, increase or decrease value.

⏩ ⏪ In control mode, select next or previous screen.

Control buttons

✓ Confirm menu selection, enter edit mode and confirm change.

✕ Abort menu selection or change. Press and hold to return to the main menu.

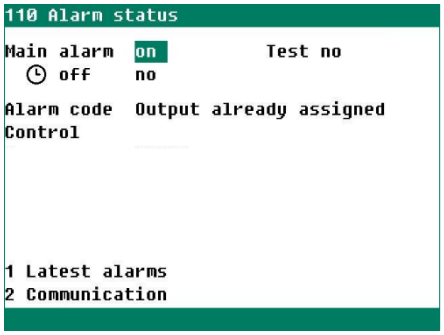
Shortcut to alarm screen.

3.3 Inserting or removing breakpoint or period

1. Press ✓ (enter key) to enter edit mode.
2. Hold F1 and press ▲ to add a breakpoint/period (provided that the maximum value for periods/ breakpoints has not been reached).
3. Press and hold F1 and press ▼ to remove a breakpoint/period (provided that there is at least one period/breakpoint).
4. The number of breakpoints/periods is adjusted automatically.

3.4 Alarm key

Shortcut key for alarm screen.



Set *Test* to *yes* to test the alarm relay (siren) for 10 seconds. Set *Test* to *no to* clear the alarm test time.

Off = Option for temporarily disabling the alarm (siren). You cannot temporarily disable hardware alarms. The main alarm is switched off for 30 minutes; the LED flashes unevenly. After 30 minutes, the main alarm switches back on automatically. If the cause of the alarm is not remedied, the alarm relay will de-energize again.

Set *Off* to *no* to clear the alarm delay time.

You can clear all alarms by setting *Reset* to *yes*. First, all alarms are cleared, then all active alarms are re-enabled.

When the alarm relay is de-energized (alarm delay time has elapsed), the alarm cause appears on the screen. You can turn the main alarm on and off. When the main alarm is off, the LED in the alarm key flashes. The LED in the alarm button is on when there is an alarm in one of the rooms and/or central controls. In addition to the alarm cause, the relevant control and the room number are displayed.

After resolving a fault, remember to turn the alarm back ON.
Preferably use the *Off* function for troubleshooting.

4 Main menu

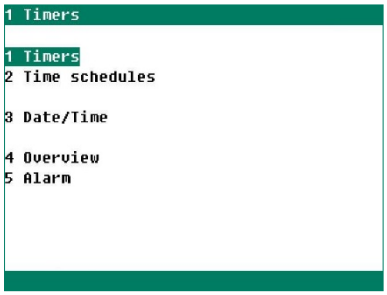
4.1 Access code

An access code (four digits) can be set to prevent unauthorised persons from changing settings. Your installer can set up to two access codes for you.
A separate access code can be set for the status screen. If you set an access code only for the status screen, it applies to all user screens.

If you use an access code, write it down and keep it in a safe place. You cannot change settings without an access code. The access code remains active until you select the Overview screen. After that, you must enter the access code again to change settings.

5 Timers

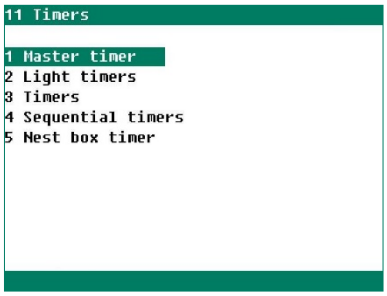
5.1 General



A maximum of 24 periods can be set on a timer. All times have to be consecutive times. The difference in time between any two times should be at least 1 minute. If you are using a growth curve (*growth curve schedule*), you can automatically activate another schedule, depending on the ages of the animals. You can also link the timer to the *master timer*.

The master timer synchronises the *slave clocks*. If you set a timer to *slave* instead of *on,* the times are related to the *master clock.* Then you can correct the start and end times locally, per timer.

5.2 Standard timer and Master timer



The *Standard timer* switches based on its own, local times, which are not linked to a time schedule; The *Master timer* uses time schedules. The times are linked to a time schedule.

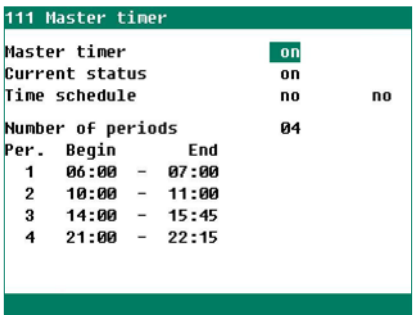
Standard timer The number of periods and times are set locally (in the timer screen itself).

Master timer

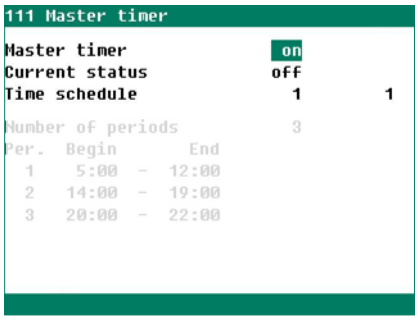
Fixed time schedule number
Both, the number of periods and the period times, cannot be changed locally. These settings are copies of the schedule number entered (time, light or dosing schedule). You can choose from up to six different schedules.

Variable time schedule number
Both, the number of periods and the period times, cannot be changed locally. These settings are copies of the current schedule number from the growth curve (time, light or dosing schedule). If you have not set any under *Time schedule* in the growth curve, the local times are used again.

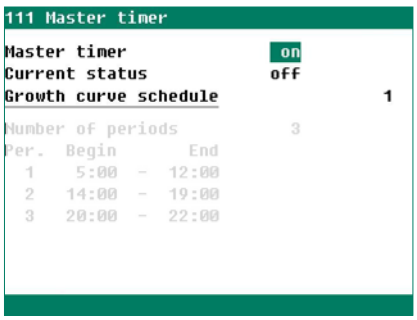
Master timer



Standard timer (not linked to a time schedule number)

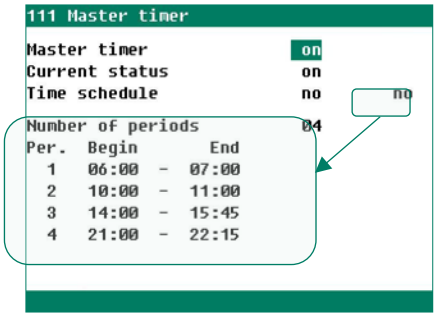


With *fixed* time schedule number

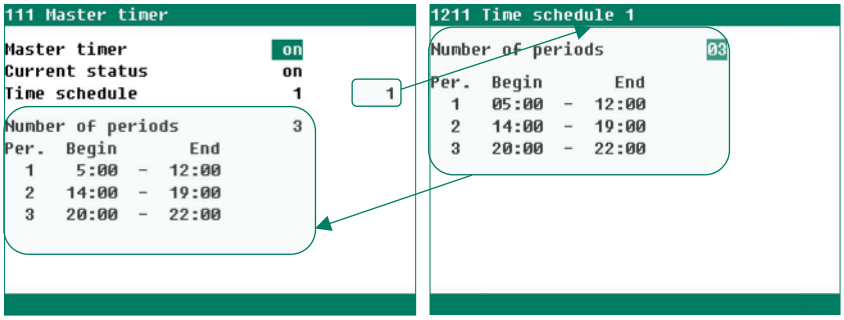


With *variable* time schedule number

Standard timer

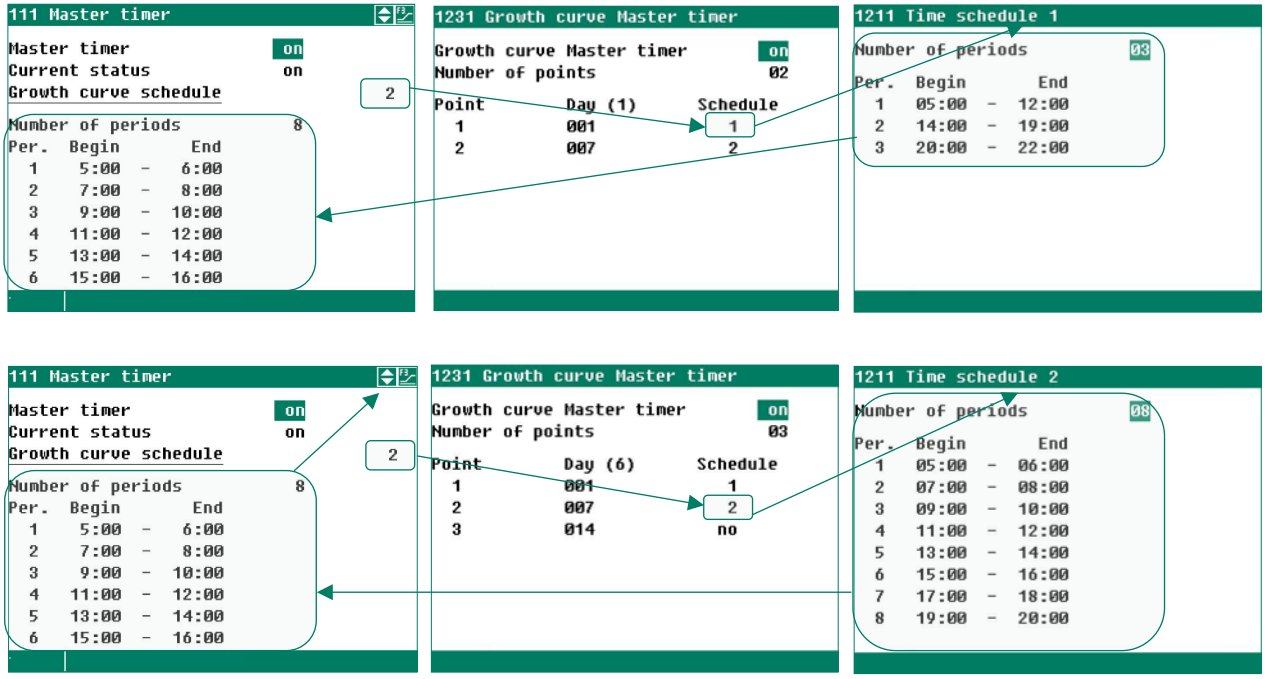


Fixed time schedule number



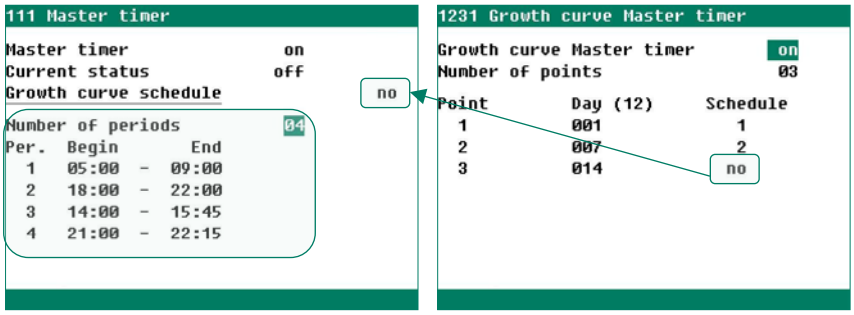
You cannot change the number of periods and period times locally. These are copies of the preset time schedule number.
You can change the number of periods and period times only in the preset time schedule.
In example: *Time schedule 1.*

Variable time schedule number



In the above two examples, the settings are copied from the curve-derived central time schedule.

! If Time *schedule* is set to *no* in the growth curve, local times are used.



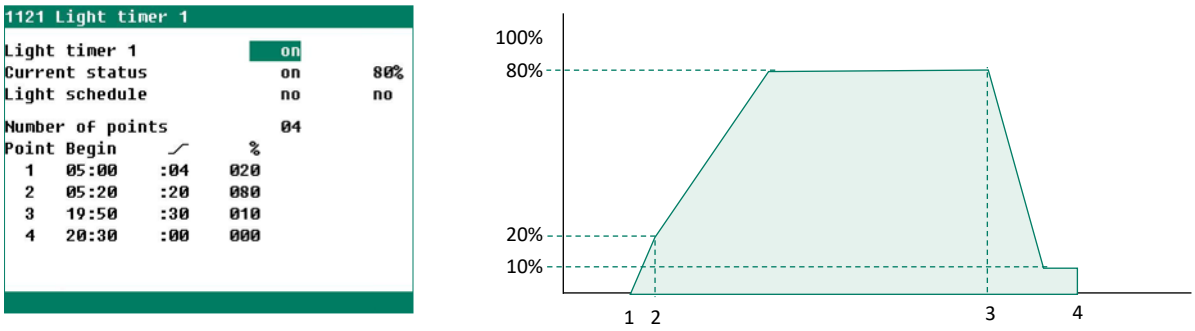
Local times

5.3 Light timers

Lighting control

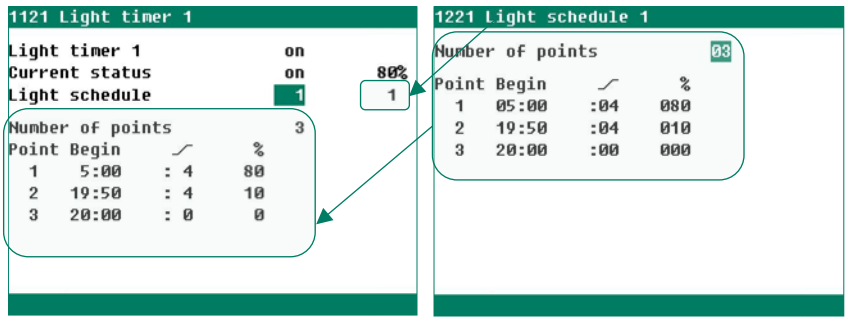
With a lighting control system, you can have lighting gradually switched on and off and create ideal day and night conditions (dawn switching).

Standard light schedule

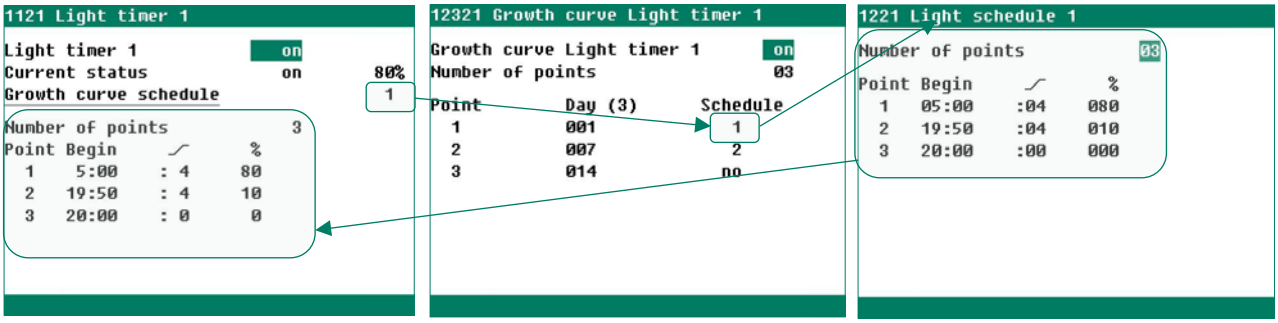


1. At the time entered at point 1 (05:00), the lighting comes on and the intensity is controlled to 20% in 4 minutes (/ :04).
2. At the time entered at point 2 (05:20), the intensity is controlled to 80% in 20 minutes (/ :20).
3. At the time entered at point 3, dimming of the lighting starts. In 30 minutes (/ :30), the lighting is reduced to 10% and the after-run time starts.
4. At the time entered at point 4, the lighting switches off.

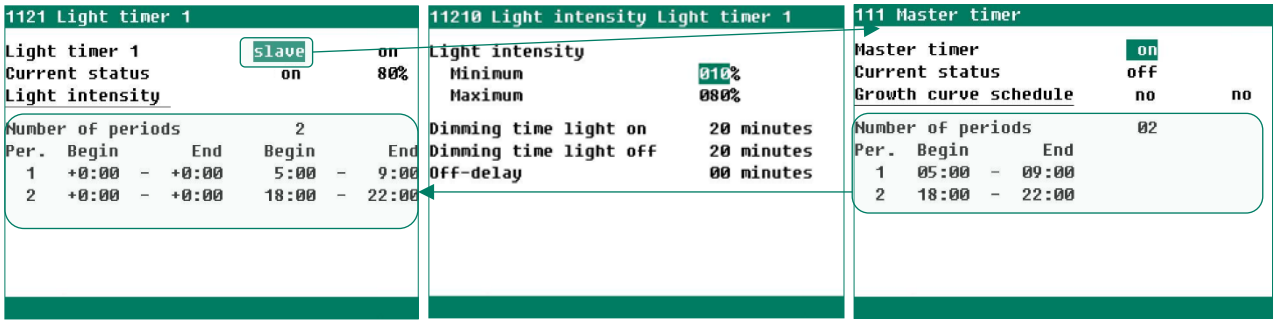
Fixed light schedule number

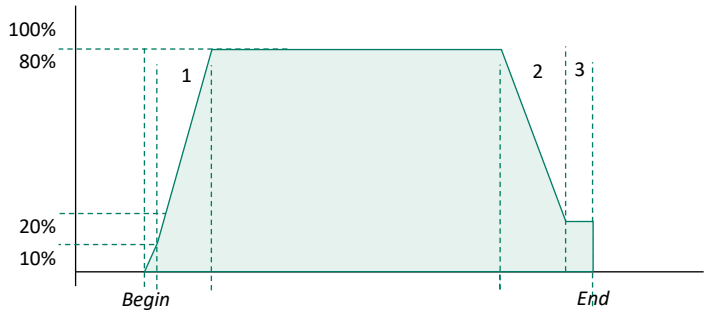


Variable light schedule number



Lighting control in combination with the master timer

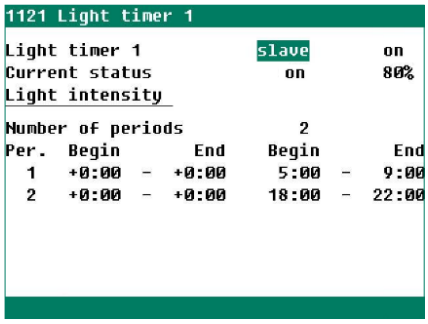




1 = Dimming time light on
2 = Dimming time light off
3 = After-run time

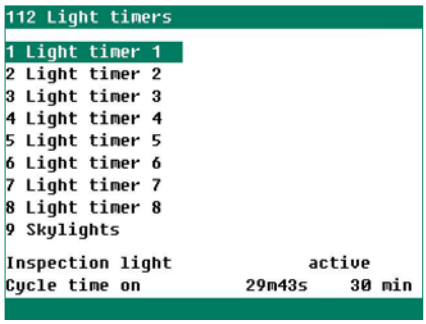
If you set more than 1 period for the master timer, the *Light intensity* settings apply to all periods of the master timer.

Correction of start and end times



You can correct the actual *Begin* and *End* times (last column) by entering a correction under *Begin* and *End* times (first column). The maximum correction allowed is + or - 8:00 hours. You do this, for example, when you want to use the master timer for several time processes with the same number of periods.

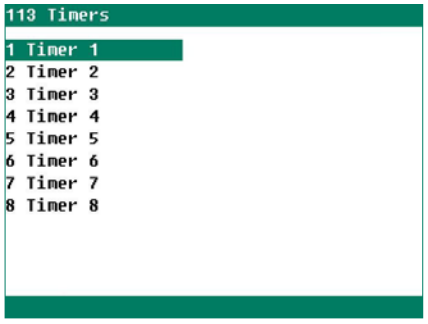
Inspection light

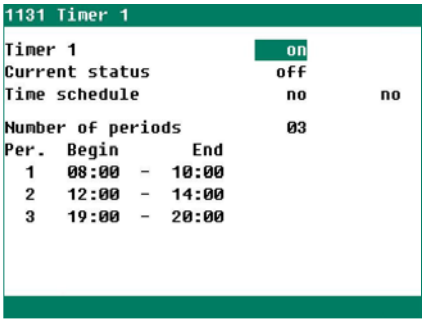


The light can be switched on manually, using a pushbutton, in order to inspect the houses. The light will then be switched on for a certain time (this can be set by the installer). If the pushbutton is pressed again during the *Cycle time on* period, the lights will switch off again immediately.

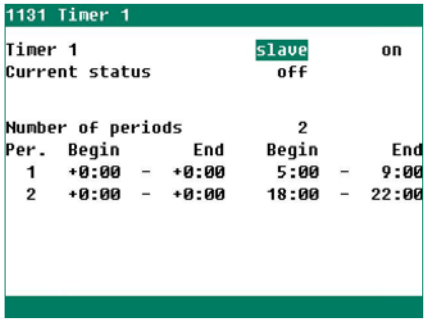
5.4 Timers

These are on/off timers. If you have a master clock installed, you can link these clocks to the master clock (*slave* mode clock). If the clock is not linked to the master clock, you can use time schedules (possibly from a growth curve).





Standard timer

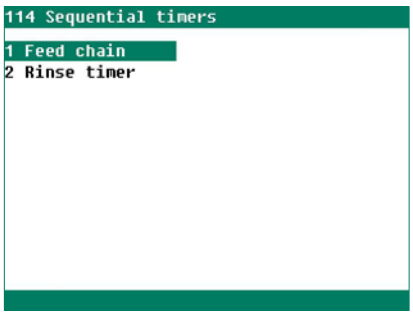


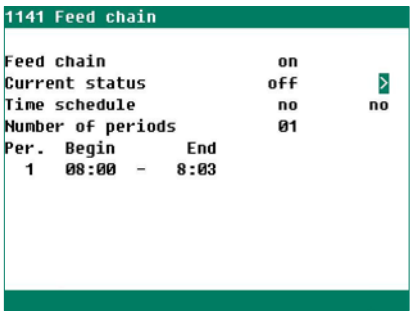
The Timer is linked to the Master timer

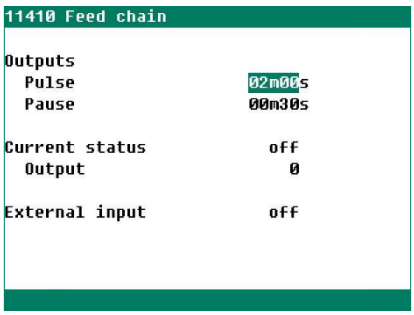
You can correct the actual *Begin* and *End* times (last column) by entering a correction under *Begin* and *End* times (first column). The maximum correction is + or - 8:00 hours. You do this, for example, if you want to use the master timer for several time processes with the same number of periods.

5.5 Sequential timers

These timers are used to control feed chains or rinse water pipes, among other things. You can only set the begin time. The end time is calculated from the total pulse/pause time and the number of outputs.

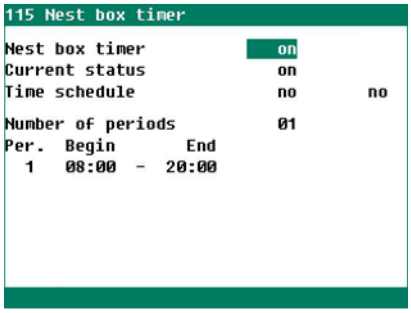






In case of a sequential timer, the different outputs assigned to the timer are activated in sequence, after each other. An output is not activated until the previous output is no longer active. The different actions that are carried out in sequence are also called phases or steps.

5.6 Laying nest timer

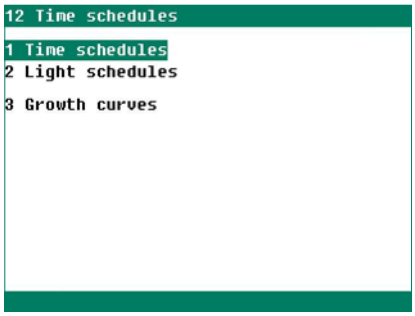


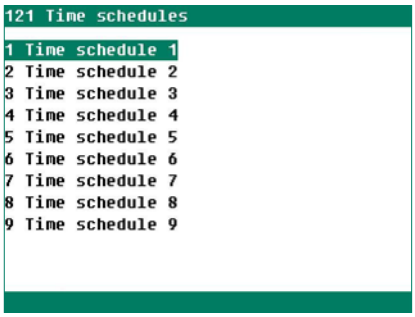
The CLK-20 has a timer with on/off times for opening or closing the laying nests. The laying nest can even be opened and closed with intervals (according to a pulse/pause principle). Your installer sets the pulse/pause times, so that the laying nest will open or close at the speed you require.

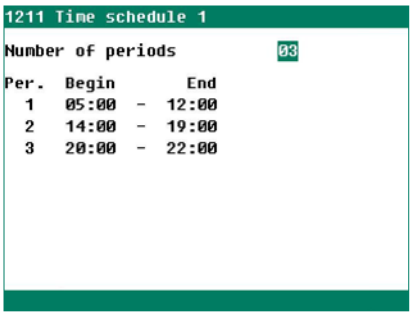
The laying nest timer (*Nest box timer*) is set according to a standard timer, see *Timers*.

5.7 Time and lighting schedules

Time schedules

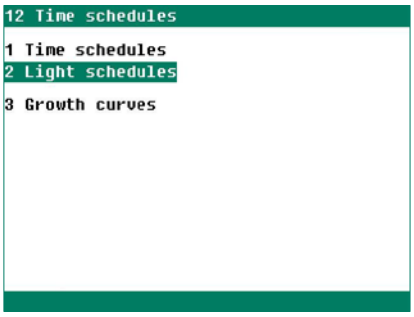


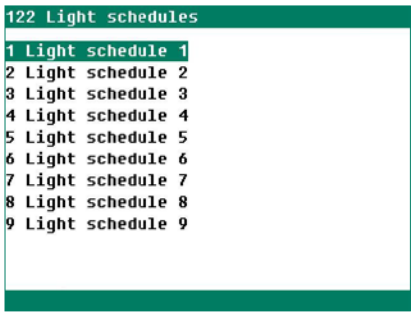


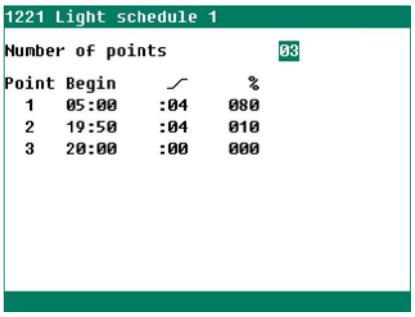


You can enter up to nine different time schedules, each consisting of up to 24 periods.

Lighting schemes



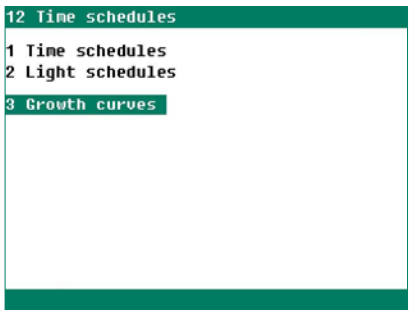


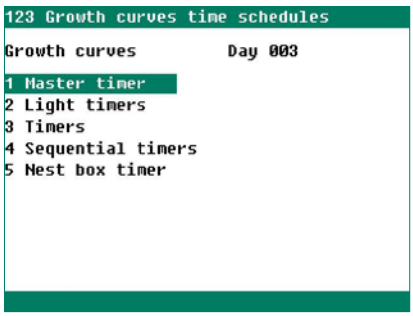


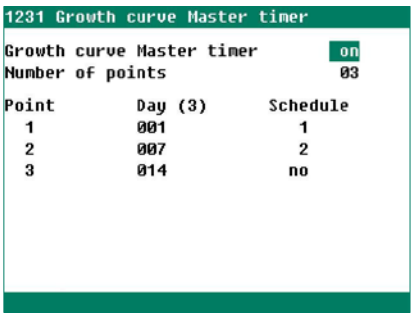
You can enter up to nine different lighting schemes, each consisting of up to 48 periods

Growth curves

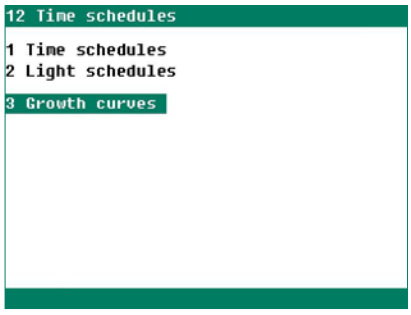
One-day number for all curves

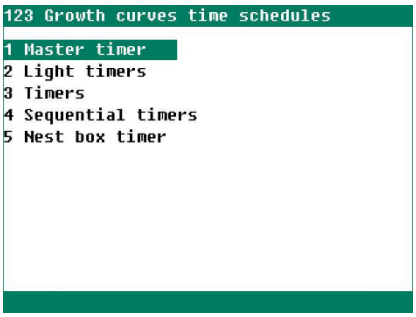


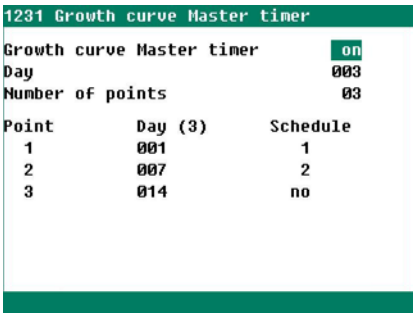




Each curve with a separate day number







You can record the time schedules in a growth curve. When the day number is reached, another time schedule is selected. If *no* is written after a breakpoint, the times of the original timer are used.

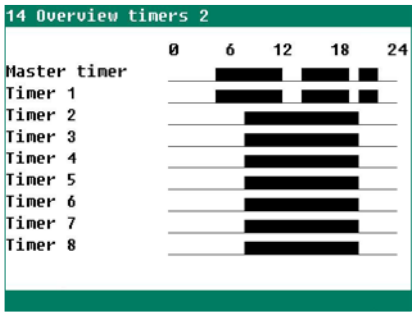
! Day numbers in the growth curve should be consecutive.
If the day number of the first breakpoint is greater than 1, the setting of the first breakpoint is taken up to the set day number.

5.8 Date and time

In addition to the date and time, you can enter the start time of a new day at *Beginning new day*.

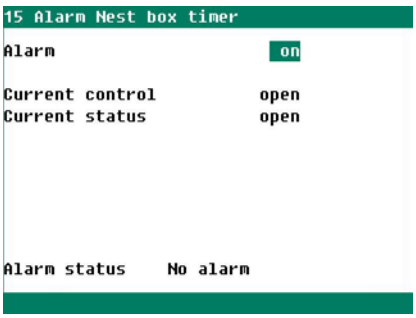
! Be careful when changing the *Beginning new day* setting. If this time is in a dosing period, the error message *Conflicting periods* appears.

5.9 Timer overview



Graphical overview of the timers

5.10 Alarm

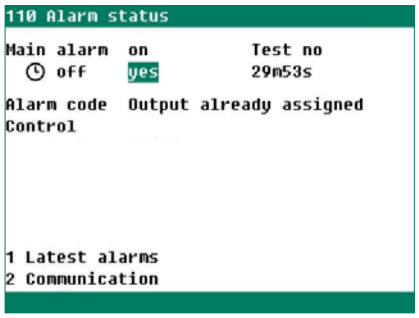


Besides the alarm status, the current control signal sent to the laying nest and the laying nest status are displayed.

Menu 5 (*Alarm*) appears only if the laying nest timer has been installed.

6 Alarm

6.1 Alarm status



You can switch the main alarm on or off in this screen. The LED will blink at a steady frequency if the main alarm is off. No alarms will be generated then.

Test
- *yes* This enables you to test the operation of the alarm relay (siren). If *Test* is set to *yes*, the alarm relay (siren) will be switched on for 10 seconds.
- *no* You can clear the alarm test time by setting *Test* back to *no*.

off — *Temporarily disabling the alarm*

This function allows you to temporarily disable the alarm (siren), except for hardware alarms. The main alarm is switched off for 30 minutes; the alarm LED flashes irregularly. After 30 minutes, the main alarm switches back on automatically. If the alarm cause is not found, the alarm relay will be de-energized again (alarm).

You can clear the alarm setting time by setting *off* to *no*.

Remember to switch the alarm back on after resolving the fault. Therefore, preferably always use the *off* function

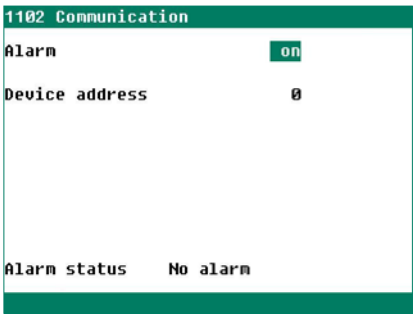
Installation errors such as *Output already assigned, Incorrect output type, Input already assigned* etc. must be resolved first, before putting the system into operation.

6.2 Latest alarms

The last five alarm causes are stored. In addition to the cause of the alarm, date and time are also displayed.

Alarm The cause of the *most recent alarm* along with time until which the alarm is/was active is displayed at *Alarm 0*. Pressing ▼ displays the details of previous alarms.

6.3 Communication alarm



Here you can enable and disable the communication alarm. This screen appears only on the master device.

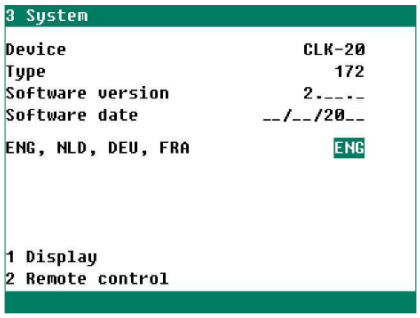
Device address The address from which the master device did not receive any data.

6.4 Alarm codes

Alarm code	Description
Alarm unknown (xxx)	This alarm code cannot be translated into a text. Note down the number that is displayed and contact your supplier.
Beginning day in period	The *Beginning new day* time is in a period; this is not allowed. The *Beginning new day* time must be before the first period.
Module x changed	Module configuration (inputs/outputs etc.) changed. Read in the module number again.
Wrong input type	The input type set does not match the input type based on which the control can control.
Wrong output type	The output type set does not match the output type that the control can control.
Unknown terminal type	Faulty assignment. The function that you assign to the terminal is not supported by the module.
No communication address	Device address CLK-20 is missing.
Invalid period	▪ The times set for a timer must be ascending and the difference between *Begin* and *End* must be at least 1 minute. ▪ The following applies to a lighting control: *Begin time + Run time* must not be after the next begin time (but the time is allowed to be at the same time as the next begin time).
No input assigned	No input terminal number entered.
No info from houses	▪ Software version in CLK-20 is not up to date, update software. ▪ The house is not in use.
No output assigned	No output terminal number entered.
Input already assigned"	The input has been assigned to two or more controls.
Module not found	The module number set for the terminal does not exist.
Module not found	Module address not found, check the settings on the module.
Module x reset alarm	Module continues to reset due to a fault, check the module.
Unknown terminal type	The selected type of terminal does not exist.
Invalid input	The input number does not exist on the module.
Invalid output	The output number does not exist on the module.
Conflicting periods	The *Conflicting periods* error message occurs if 1 or more feed dosing timers have to be active at the same time.
Output already assigned	The output has been assigned to two or more controls.

7 System

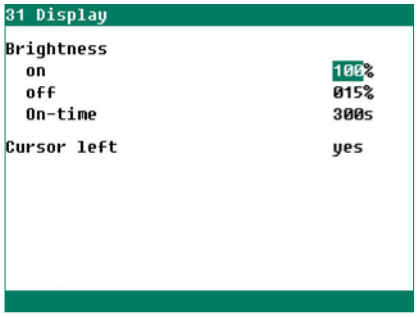
7.1 General



This screen shows the device name, the device type (*172 = CLK-20*), the program version, program date and other information.

Set the language to *ENG* (English) for this manual. You can also change the language by pressing and holding functional key F1 while simultaneously pressing the left or right cursor key.

7.2 Display

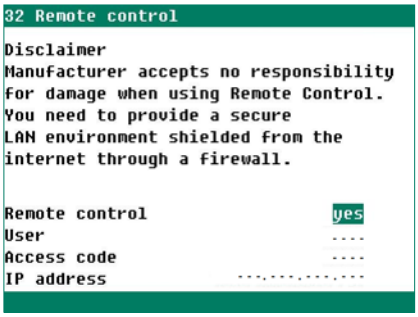


Brightness Backlight settings

on	Setting the brightness for the active situation (operating mode).
off	Setting brightness for sleep mode.
On-time	Number of seconds the backlight stays on after the last key press. *000s* = backlight does not switch off.

Cursor left *yes* = during editing, the cursor is placed in front (leftmost position).
no = during editing, the cursor is placed at the back (rightmost position).

7.3 Remote control



ANote-Remote-N-ENxxxxx