Operating and installation instructions

Lago FB digital remote control

Translation from the German

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Safety

Please read and keep in a safe place

Please read through these instructions carefully before installing or operating. Following the installation, pass the instructions on to the operator.

These instructions can also be found at www.docuthek.com.

Explanation of symbols

•, **1**, **2**, **3**... = Action

▷ = Instruction

Liability

We will not be held liable for damages resulting from non-observance of the instructions and non-compliant use.

Safety instructions

Information that is relevant for safety is indicated in the instructions as follows:

⚠ DANGER

Indicates potentially fatal situations.

⚠ WARNING

Indicates possible danger to life and limb.

! CAUTION

Indicates possible material damage.

All work and settings in the "Expert" chapters may only be carried out by a qualified technician. Electrical interventions may only be carried out by a qualified electrician. The heating system must be disconnected from the power supply before any electrical work is carried out on the unit.

Conversion

All technical changes are prohibited.

Transport

On receipt of the product, check that the delivery is complete. Report any transport damage immediately.

Storage

Store the product in a dry place. Ambient temperature: see Technical data.

Table of contents

Verify type of application

Digital remote control with integral room temperature sensor for connection to a heating control unit, e.g. Lago 0321.

The remote control allows various operating functions, e.g. heating based on heating program, setting of the desired individual room temperature and monitoring of the boiler data, to be moved to the living room.

The function is only guaranteed within the specified limits, see page 22 (Technical data).

Any other use will be deemed improper use.

Part designations
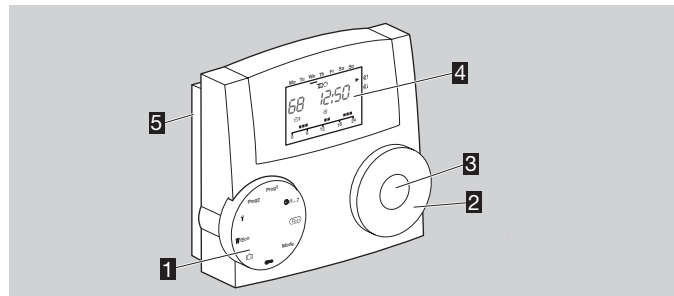
1	Selector switch
2	Rotary knob for changing the set values and displaying temperatures
3	OK button for displaying desired temperatures and confirming settings
4	Display
5	Base

Selector switch

(Run)	Standard
Mode	Operating mode selection
🌡	Desired daytime room temperature, Desired night-time room temperature (setback temperature), Desired hot water temperature
🛄	Holiday setting/holiday duration
☼/Eco	Heating time setting/Change duration
⚲	Parameter setting for User and Expert
Prg1	Heating program 1
Prg2	Heating program 2
⏱ 1...7	Setting the time and the day of the week

Display
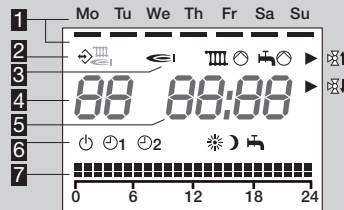
1 Days Monday–Sunday underlined
2 Communication to devices on the CAN bus (such as Lago 0321)
3 Status indications:
  Burner,
  Mixer circuit pump,
  Storage charging pump,
  Mixer open,
  Mixer close
4 Room temperature
5 Time

6 Operating modes:

☉ Operational readiness/OFF (Heating and hot water preparation OFF, frost protection operation only)

☉1 Automatic mode 1 (Heating according to heating program 1, hot water according to parameter 04)

☉2 Automatic mode 2 (Heating according to heating program 2, hot water according to parameter 04)

☀ Day mode (24 hour heating with desired daytime room temperature, hot water according to parameter 04)

☽ Night mode (24 hour heating with setback temperature, hot water according to parameter 04)

⌂ Summer mode (Heating OFF, hot water according to parameter 04)

7 Display of the heating times

User – Settings

Set time and day of the week

1 Turn selector switch to ⏲ 1...7.
▷ Minute display flashes.

Mo Tu We Th Fr Sa Su

10:00

⏲

2 Use the rotary knob to set the minutes.
3 Press the OK button to confirm.
▷ Hour display flashes.
4 Use the rotary knob to set the hours.
5 Press the OK button to confirm.
6 Use the rotary knob to set the week day.
7 Press the OK button to confirm.
▷ The new time and the day of the week is displayed.
▷ The clock continues to run for at least 10 min. without a power supply.
8 Turn selector switch back to (Run).

Set the desired temperature

The desired temperatures set the room temperatures for the heating phase (desired daytime temperature) and the setback phase (desired night-time temperature). The desired temperature for the hot water can be viewed.
▷ The desired hot water temperature can only be seen if the system has a storage tank.
▷ Factory setting:
Desired daytime room temperature: 20 °C,
Desired night-time room temperature: 10 °C
▷ The desired daytime room temperature cannot be lower than the desired night-time room temperature.
▷ The desired night-time room temperature cannot be greater than the desired daytime room temperature.
1 Turn selector switch to 🌡 .
▷ Desired temperature selection is displayed, ❄ flashes.

Mo Tu We Th Fr Sa Su

°C   20.0

❄ ☽ 🚰
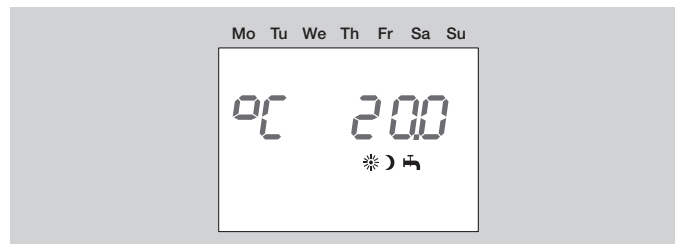
2 Press the OK button.
▷ The desired day-time room temperature flashes.
3 Use the rotary knob to select the desired daytime room temperature.
▷ The temperature can be set in 0.5 °C increments.
4 Press the OK button to confirm.

▷ The new desired temperature is displayed.

5 Turn the rotary knob clockwise.

▷ The desired temperature selection is displayed, ☽ flashes.

6 Press the OK button.

▷ The desired night-time room temperature flashes.

7 Use the rotary knob to select the desired night-time temperature.

▷ The temperature can be set in 0.5 °C increments.

8 Press the OK button to confirm.

▷ The new desired temperature is displayed.

9 Turn the rotary knob clockwise.

▷ The desired temperature selection is displayed ⊶ flashes, the current hot water temperature is displayed.

10 Finally, turn the selector switch back to ⓡⓤⓝ.

Display actual temperatures

1 Turn selector switch to ⓡⓤⓝ

2 Use the rotary knob to set one of the following temperature displays.

RF	Outside temperature
⊲▮*)	Heat source temperature
♨ *)	Flow temperature
⊶ *)	Hot water temperature

* The relevant desired temperature is displayed when the OK button is pressed.

▷ If a sensor is not connected, the display will show -- --.

▷ The display reverts to the standard indication after a few seconds without action.

Set operating mode

The operating mode determines how the heating controller works. Whether the heating system is to be controlled automatically or manually, during a party for example. Or how should the heating system be controlled during longer periods of absence such as holidays?

▷ The heating controller leaves the factory with the setting ⏻ Standby/OFF. The operating mode must be changed for normal operation.

You can set the following operating modes

⏻ Standby/OFF

Heating and hot water preparation are deactivated. Only the frost protection function remains active.

⊙1 Automatic mode 1

Heating occurs according to heating program 1: Heating occurs at identical times for Monday–Friday, as well as Saturday–Sunday. Hot water according to parameter 04, see page 8 (Set heating program 1).

⊙2 Automatic mode 2

Heating occurs according to heating program 2: You can set Individual heating times for each day. Hot water according to parameter 04, see page 9 (Set heating program 2).

▷ Toggling between Automatic mode 1 and 2 can be useful for shift workers. The times do not need to be entered for each shift - they only need to be switched over.

☀ Day mode

24 hour heating with desired daytime room temperature, see page 6 (Set the desired temperature). Hot water according to parameter 04

☾ Night mode (reduced night mode)

Heating is reduced to the setback temperature on a permanent basis. Hot water according to parameter 04, see page 15 (P04 Hot water according to program).

⊓ Summer mode

The heating system is switched off to save energy. Parameter 04 for hot water must be set to 1, 2 or 4, see page 15 (P04 Hot water according to program).

Select mode

1 Turn selector switch to "Mode"
▷ The new operating mode is displayed and flashes.
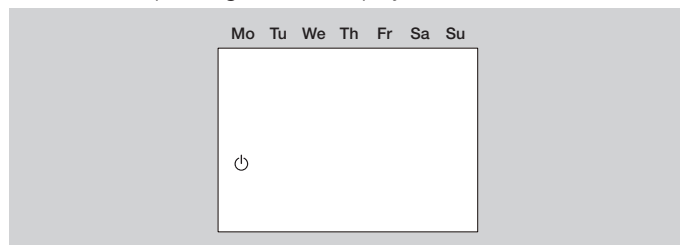
2 Select an operating mode using the rotary knob.
3 Press the OK button to confirm.
▷ The new operating mode is displayed.
▷ After you press the OK button, the current symbol is shown for 3 seconds before it starts flashing again.
4 Turn selector switch back to (Run)

Set heating program 1

Heating program 1 is assigned to automatic mode ⏲1. It is used to define the heating times for the working week (Mon–Fri) and the weekend (Sat–Sun). You can set three heating times per day.
▷ During heating times the controller heats to desired room temperature, between heating times to setback temperature.
▷ Factory setting:
Mon–Fri: 6:00 to 22:00
Sat–Sun: 7:00 to 23:00
1 Turn selector switch to "Prg1"
▷ This displays the heating program for the working week (Mon-Fri).

2 Press the OK button.
▷ The start time of the first heating time flashes.
3 Use the rotary knob to select the start time.
▷ The heating time can be set in 15 minute increments.
4 Press the OK button to confirm.
▷ The new start time is displayed.
5 Turn the rotary knob clockwise.
6 Press the OK button.
▷ The end of the first heating time flashes.
7 Use the rotary knob to select the end time.
8 Press the OK button to confirm.

▷ The new end time is displayed.

9 Turn the rotary knob clockwise.

10 Press the OK button.

▷ The start time of the second heating time flashes.

11 Continue with step 3 to set the second and third heating time.

12 Turn the rotary knob clockwise.

▷ This displays the heating program for the weekend (Sat-Sun).
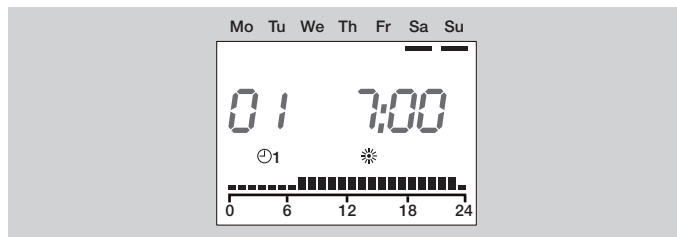
13 Continue with step 2 to set the three heating times for the weekend in the same order..

▷ If you want to delete an existing heating time, use the rotary knob to set the start or end time to "----".

14 Finally, turn the selector switch back to (Run)

▷ The heating program 1 has been set. In order to apply it, set the operating mode to "☉1 Automatic mode 1", see page 7 (Set operating mode).

Example: Display of the heating times for heating program 1

Heating takes place from Monday to Friday between 6:00 and 8:00 in the morning, from 11:30 to 13:00 at lunchtime and from 18:00 to 22:00 in the evening.
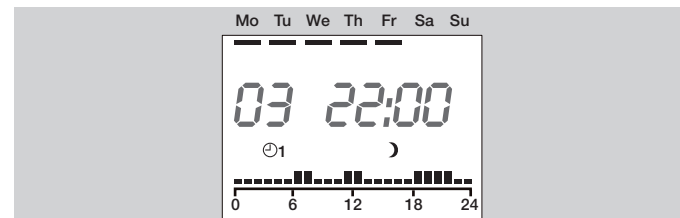
Set heating program 2

Heating program 2 is assigned to automatic mode ☉2. It can be used to set the heating times for each individual day. You can set three heating times per day.

▷ During heating times the controller heats to desired room temperature, between heating times to setback temperature.

▷ Factory setting:
Mon–Fri: 6:00 to 8:00, 16:00 to 22:00
Sa–Su: 7:00 to 23:00

1 Turn selector switch to "Prg2"

▷ The heating program for Monday is displayed.

2 Press the OK button.
▷ The start time of the first heating time flashes.
3 Use the rotary knob to select the start time.
▷ The heating time can be set in 15 minute increments.
4 Press the OK button to confirm.
▷ The new start time is displayed.
5 Turn the rotary knob clockwise.
6 Press the OK button.
▷ The end of the first heating time flashes.
7 Use the rotary knob to select the end time.
**8** Press the OK button to confirm.
▷ The new end time is displayed.
9 Turn the rotary knob clockwise.
10 Press the OK button.
▷ The start time of the second heating time flashes.
11 Continue with step 3 to set the second and third heating time for Monday.
12 Turn the rotary knob clockwise.
▷ The heating program for Tuesday is displayed.
13 Continue with step 2 to set the three heating times for each working day.
▷ If you want to delete an existing heating time, use the rotary knob to set the start or end time to "----".
Example: see page 8 (Set heating program 1).
14 Finally, turn the selector switch back to ⟨Run⟩
▷ The heating program 2 has been set. In order to apply it, set the operating mode to "☼2 Automatic mode 2", see page 7 (Set operating mode).

Holiday setting/holiday duration

In holiday mode, you can make a distinction between a "Present" holiday where you remain at home and an "Absent" holiday where you leave the home for between 1 and 99 days. The system automatically switches back to the previous mode at the end of the holiday.
▷ Factory setting:
  Desired room temperature for present holiday: 20 °C,
  Desired room temperature for absent holiday: 15 °C,
  Duration of holiday: 0 days
1 Turn selector switch to 🏠.
▷ Use the rotary switch to select between a "Present" and an "Absent" holiday.

Present holiday
▷ This displays heating program 1 for the weekend (Su), the temperature display flashes.
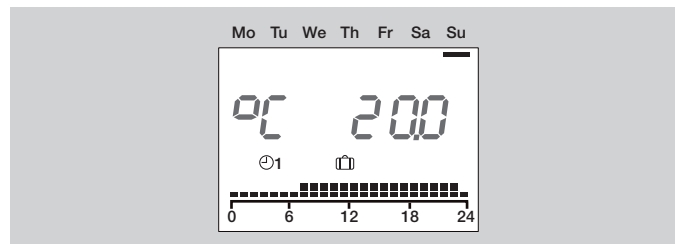
2 Press the OK button.
▷ Holiday duration is displayed, number of days flashes.
3 Use the rotary knob to set the duration of the holiday in days.
4 Press the OK button to confirm.
5 Finally, turn the selector switch back to ⟨Run⟩.
▷ The holiday function starts immediately. The display shows *H0* and the number of days of the holiday, *1* to *99*.

▷ The days are automatically counted down every 24 hours.

Absent holiday

▷ During the holiday, the room is heated to 15 °C.

Mo Tu We Th Fr Sa Su

°C   15.0

2 Press the OK button.

▷ Holiday duration is displayed, number of days flashes.

3 Use the rotary knob to set the duration of the holiday in days.

4 Press the OK button to confirm.

5 Finally, turn the selector switch back to Ⓡⓤⓝ.

▷ The holiday function starts immediately. The display shows *H0* and the number of days of the holiday, *1* to *99*.

▷ The days are automatically counted down every 24 hours.

Early end of holiday

If the holiday ends earlier than planned, holiday mode can be reset by setting the duration of the holiday to zero.

1 Turn selector switch to ⬛.

▷ This relevant holiday mode (present or absent) is displayed, the temperature display flashes.

2 Press the OK button.

▷ The duration of the holiday remaining is displayed and flashes.

3 Use the rotary knob to set number of days holiday to *0 d*.

4 Press the OK button to confirm.

5 Finally, turn the selector switch back to Ⓡⓤⓝ.

▷ The last operating mode selected is displayed.

Heating time setting/Change duration

The setting for this function depends on the current operating mode selected. It is used to heat or reduce (up to 24 h) outside the valid heating program without changing the operating mode.
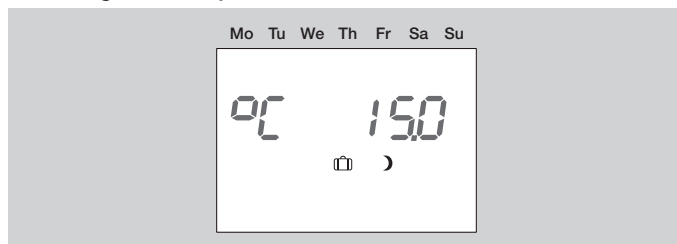
Example extension of heating time.

The valid heating program ends at 22:00. The heating time can be extended, e.g. for a party. After the set time, the heating automatically reverts to the desired night-time room temperature.

1 Turn selector switch to ⓦ/Eco.

2 Switch the rotary knob to "Heating".

▷ The current desired day-time temperature and the valid heating program are displayed, ❋ flashes.

Mo Tu We Th Fr Sa Su

°C   20.0

❋

0   6   12   18   24
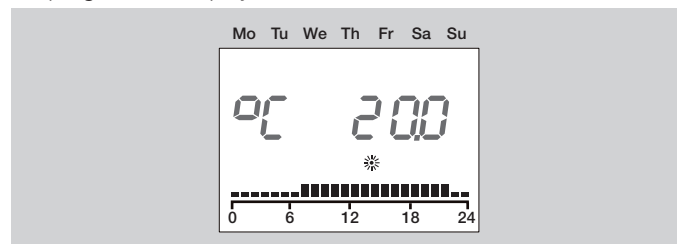
2 Press the OK button.

▷ Hour display flashes.

3 Use the rotary knob to select the heating time in hours.

4 Press the OK button to confirm.

▷ The heating time is extended immediately.

5 Finally, turn the selector switch back to Ⓡⓤⓝ.

Example interruption of heating time.

If you leave the house for a few hours, you can reduce the heating during an active heating program to save energy. Once the set time has ended, the system automatically reverts to the current heating program.

1 Turn selector switch to ⓦ/Eco.

2 Switch the rotary knob to "Reduce".

▷ The current desired night-time temperature and the valid heating program are displayed, ☽ flashes.

Mo Tu We Th Fr Sa Su

°C 10.0

☽

0   6   12   18   24
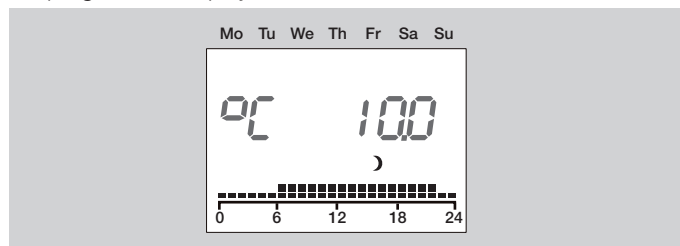
2 Press the OK button.

▷ Hour display flashes.

3 Use the rotary knob to select the reduction time in hours.

4 Press the OK button to confirm.

▷ Reduction starts straight-away.

5 Finally, turn the selector switch back to ⓡⓤⓝ.

Early ending of heating time.

1 Turn selector switch to ⓦ/Eco.

2 Press the OK button.

▷ The run-time remaining is displayed and flashes.

3 Use the rotary knob to set number of hours to _0 h_.

4 Press the OK button to confirm.

5 Finally, turn the selector switch back to ⓡⓤⓝ.

Load factory settings (Reset)

▷ All personal settings, switching times and the CODE-NO are reset to the factory defaults.

1 Take a note of all the settings you have made in these instructions, see page 13 (List of parameters P01 to P04).

2 Disconnect the device at the plug.

3 When switching the mains back on, keep the OK button pressed until _EE Pr_ appears in the display.

▷ The factory settings have been loaded.

User – Set parameters

You can change further parameters to adapt the heating system to your requirements.

1 Turn selector switch to � (parameter setting).

▷ The display shows *PL*.

2 Turn the rotary knob clockwise until the parameter you want to change appears in the left-hand side of the display: *01* to *04* (heat slope to hot water, based on program).

3 Press the OK button.

▷ Display flashes.

4 Use the rotary knob to set the desired value.

5 Press the OK button to confirm.

6 After you have made the setting, continue with step 2 if you want to change further parameters, or turn the selector switch back to (Run).

▷ The table - List of parameters P01 to P04 - shows the possible settings.

▷ Your remote control will only display those parameters for which there are sensors connected.

List of parameters P01 to P04

| P. no.	Parameter	Setting range	Factory setting	Own values
01	Heat slope	0.20–3.00	1.20	
02	Room sensor influence	OFF, 0–20	10	
03	Room sensor correction	-5 to +5 °K	0	
04	Hot water according to program	0 = Off 1 = "Heating program 1" 2 = "Heating program 2" 3 = 1 hour before heating 4 = 24 hours hot water	4	

Explanation of the parameters

P01 Heat slope

Selecting the correct heat slope saves energy because the heat sources only heat to the point required by the respective outside temperature.

The heat slope specifies the number of °C by which the flow temperature changes when the outside temperature rises or drops.

▷ Before you select the heat slope, set the room temperature to the desired value, see page 6 (Set the desired temperature).

▷ Ideally, the heat slope is set when the outside temperature is below 5 °C. Changes to the heat slope setting must be applied in small steps and long intervals (at least 5 – 6 hours between steps). The system must be allowed to adjust to the new value after each change to the heat slope.

▷ Select the heat slope so that the desired room temperature is achieved with the thermostat valves fully opened, and doors and windows closed.

▷ Increase the heat slope if the desired room temperature is not reached in combination with low outside temperatures.

▷ If the desired room temperature is not reached in combination with high outside temperatures, increase the desired room temperature.

● Now change the heat slope.

▷ Typical values:
Floor heating: 0.4 to 0.8
Radiators: 1.0 to 1.5
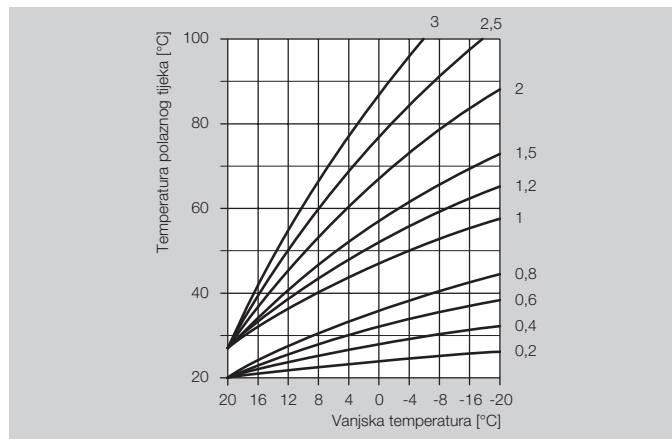
P02 Room sensor influence

It is possible to adjust the influence of the room sensor on the control process.

▷ The higher the set value the greater the influence of the room sensor on the calculated flow temperature.

P02 = OFF purely weather-guided control
P02 = 0: purely weather-guided control
P02 = 20 purely room temperature control

Within the range 0 – 20 the heatcircuit pump operates up to the next heating time if there is a heating requirement during the period of reduced temperature Night (e.g. frost protection of when the temperature drops below the setback temperature). This prevents the rooms from becoming too cool.

Example: P02 = 5

With this setting the desired temperature of the heat source is increased by 5 °C when the room temperature drops below the desired room temperature by 1 °C.

P03 Room sensor correction

This setting can be used to correct measurement errors of the connected room sensor, e.g. when the room sensor is influenced by incorrect positioning.
Setting range: P03 = -5 to +5 °C

Example: Room sensor correction

Your room sensor measures 20 °C. A reference thermometer, however, determines 22 °C. Now set parameter 11 = 2 so that the value 2 °C is added to the measured value.

P04 Hot water according to program

This parameter can be used to define the heating times for hot water.
P04 = 0: Off (no hot water preparation)
P04 = 1: hot water in line with heating program 1
P04 = 2: hot water in line with heating program 2
P04 = 3: 1 hour before the heating times of automatic mode 1 or 2. (The desired automatic mode is set via the operating mode.) With activated ⌂ HO Holiday mode the hot water preparation is not switched on.)
In "Summer" mode parameter 04 must be set to 1, 2 or 4.
P04 = 4: 24 hours hot water

Example: P04 = 3:

If "Automatic mode ☉1" was selected as the operating mode, the heating controller will always switch on the hot water one hour before switching on the heating. If ⌂ HO Holiday mode is activated, the hot water is not switched on.

User – Questions

How do I switch to summer/winter time?

To switch from summer to winter time and vice verse you need to reset the time, see "page 6 (Set time and day of the week).

How do I set the heating controller so that it gets warm sooner in the morning?

There are two heating programs to set the heating times.
Heating program 1 for setting the heating times Mon–Fri (working week) and Sat–Sun (weekend) for the week as a whole,
Heating program 2 for setting the heating times for each day of the week Mon, Tue, Wed, Thu, Fri, Sat and Sun.
Heating program 1 is assigned to operating mode ☉1 automatic mode 1.
Heating program 2 is assigned to operating mode ☉2 automatic mode 2.
First select automatic mode ☉1 or ☉2, see page 7 (Set operating mode).
Then adjust the associated heating program to suit your needs, see page 8 (Set heating program 1) or page 9 (Set heating program 2).

My heater does not get warm enough. What can I do?

You have two options.

First increase the desired room temperature Day, see page 6 (Set the desired temperature).

Wait for a few hours to give the heating system time to respond to the new setting.

Should the room(s) still not get warm enough, you can increase the heat slope for the direct heatcircuit or the mixing valve circuit, see page 14 (P01 Heat slope).

Should this measure not be sufficient, see page 21 (Troubleshooting) and contact your heating engineer.

How do I set the heating system for holidays?

If you want to go away for a number of days, you can set the heating controller to the operating mode "⌂ Holiday setting". The heating system will revert to automatic mode at the end of the holiday so that it will be warm when you come home, see page 7 (Set operating mode).

How can I switch the heating system off during the summer?

In summer you should set the heating controller to the operating mode "Summer mode". This mode deactivates heating and the system is only used for hot water, see page 7 (Set operating mode).

Is it possible to let the heating system run longer in the evening for special occasions such as a party?

For this purpose, set the operating mode to ⌶/Eco, see page 11 (Heating time setting/Change duration).

How do I set the heating controller to save energy?

Set the desired room temperature only as high as absolutely necessary. The energy consumption is increased by around 6% for every degree, see page 6 (Set the desired temperature).

Set your heating program so that it switches the heating off at night or at times when no-one is home.

Only open you windows briefly to let in fresh air. Avoid tilted windows over longer periods.

My heating system is not running

Check the selector switch position. The selector switch must be set to RUN (Run).

Check the operating mode. The display must indicate ☼ for Automatic mode 1, or ☼2 for Automatic mode 2, see page 7 (Set operating mode).

Expert - Installation

! CAUTION

The minimum distance from surrounding heat sources is to be chosen so that the permitted ambient temperature will not be exceeded during operation, see page 22 (Technical data).

▷ Installation location:
In the reference or main living space of the heatcircuit, on an internal wall in the living room
Not in the vicinity of radiators or other devices that give off heat
Anywhere if room sensor influence is switched off.

Remove remote control holder and use the drill holes to affix it to an internal wall in the living area.
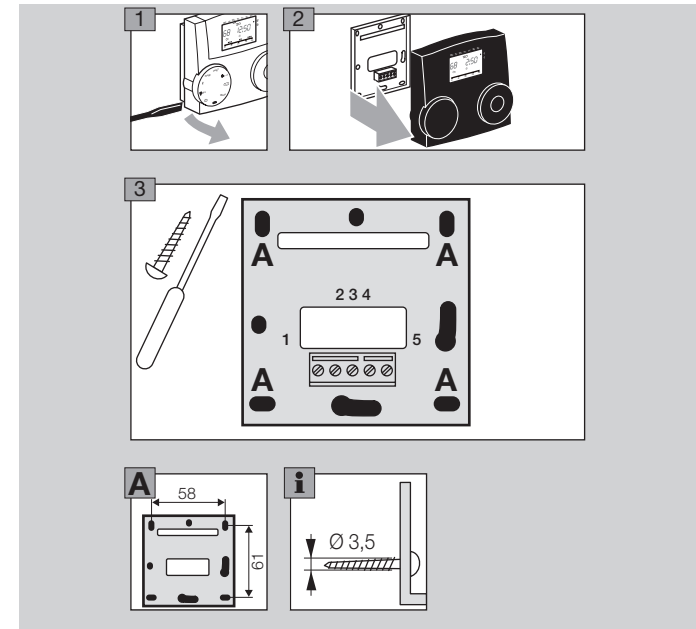
Expert - Electrical connections

⚠ WARNING

Possible life-endangering electrical shock! Switch the power off to electrical cables before working on power-carrying parts!

! CAUTION

For fixed devices, an isolating mechanism must be installed for shutting off from the network, in accordance with the installation guidelines and EN 60335, e.g. with a switch.
The insulation for line conductors is to protected against damage by overheating, e.g. insulating sleeve.

Electrical socket connection

1 2 3 4 5
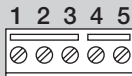
SELV, safety extra low voltage	
1	CAN BUS (H)
2	CAN BUS (L)
3	CAN BUS (-)
4	CAN BUS (+)
3 + 5	Telephone switch or external sensor

Phone switch

A telephone switch can be used to switch the heating into heating mode. If a short circuit is detected between terminal 3 and 5, the heatcircuit assigned switches into heating mode. Hot water preparation is also activated. Once the short circuit is removed, the heating automatically reverts to the previous operating mode.

Expert – Set parameters

▷ Parameters P01 to P04 for users, see page 13 (User – Set parameters)

⚠ WARNING

Incorrect settings can cause malfunctions and damage the heating installation! Only a qualified technician may change the parameters from no. 06.

▷ A code no. must be entered via parameter P05 to change parameters P06 and higher.

1 Turn selector switch to ⚡ (parameter setting).

▷ The display shows *PL*.

2 Turn the rotary know until the parameter you want to change or retrieve appears on the left in the display: *06* to *12*.

3 Press the OK button.

▷ Display jumps to *05 0000*. The first digit flashes.

4 Enter code no. (factory setting is 0000), set each digit with the rotary knob and press the OK button.

▷ The display jumps back to the parameter to be changed.

▷ The display flashes if the code no. is correct. (If the code no. was not entered correctly, the display does not flash. Continue with step 3.)

5 Use the rotary knob to set the desired value.

▷ A number of parameters can only be displayed.

6 Press the OK button to confirm.

7 After you have made your settings, continue with step 2 if you want to change further parameters (you do not need to enter the code no. again), or turn the selector switch back to (Run).

▷ The table - List of parameters P05 to P12 - shows the possible settings.

▷ Your remote control will only display those parameters for which there are sensors connected.

List of parameters P05 to P12

P. no.:	Parameter	Setting range	Factory setting	Own values
05	Code no. input	0000–9999	0000	
06	Code no. change	0000–9999	----	
07	Max. flow temperature	20.0–110.0 °C	85.0 °C	
08	Min. flow temperature	10.0–110.0 °C	30.0 °C	
09	Outside temperature Frost protection	----, -15.0 to +5.0 °C	0.0 °C	
10	Integral control section	----, 3:00 h to 0:15 min.	----	
11	CAN bus code	0–15	1	
12	Software version and index		Display only	

Explanation of the parameters

P05 Code no. input

Here the code no. defined via P06 is entered for adjustment of the Expert parameters.

▷ The default setting for the heating controller is 0000.

P06 Code no. change

Here you can specify your own code no. Remember this code well! The parameters 06–12 can not be changed without this code no. Should you forget the code no., the factory settings must be reloaded, and this means that all your settings will be lost, see page 12 (Load factory settings (Reset)).

● Change every digit of the four-digit code no. and confirm by pressing the OK button.

P07 Maximum flow temperature

P07 = 20.0–110.0 °C: The heating control unit limits the calculated desired flow temperature of the mixed heatcircuit to P07 to protect the consumer from overheating, e.g. when an underfloor heating system is installed.

P08 Minimum flow temperature

P08 = 10.0–110.0 °C: The heating control unit increases the calculated desired flow temperature of the mixed heatcircuit to P08, e.g. when air heating is installed.

P09 Outside temperature frost protection

P09 = ----: Frost protection is deactivated.

P09 = -15.0 to +5.0 °C: When the outside temperature drops below the set value, the heatcircuit controller switches the heatcircuit pumps on.

P10 Integral control section

Integral component for the flow temperature. Enter a time here. If the room does not reach the required temperature in the time set (from the start of heating), the flow temperature is gradually increased until it is sufficient to reach the desired room temperature.

P10 = ----: Function deactivated.

P10 = 3:00 h – 0:15 min: Time to reach desired room temperature after start of heating time.

P11 CAN bus ID (heatcircuit address)

P11 = 1 – 15: It is possible to assign an address from 1 to 15 to the heatcircuit.

▷   Do not assign a heatcircuit address more than once.

▷   When replacing a remote control, always set the same address as the original remote control.

P12 Software version and index (50.00)

P12 = 50.00 – 50.99:

50 = software number

00 – 99 = software index

▷   If you have questions about your remote control, always specify the software version.

Expert – Checklist for commissioning

❏ Remote control properly wired? See page 18 (Electrical socket connection).

❏ Are the sensors required for the application connected? Sensors that are not required are not connected.

❏ User parameters configured? Set at least time and day of the week, see page 13 (User – Set parameters).

❏ Expert parameters configured? See page 18 (Expert – Set parameters).

❏ Sensors tested for plausible values? See page 7 (Display actual temperatures).

❏ Operating mode set? See page 7 (Set operating mode).

❏ Selector switch turned to (Run)?

Troubleshooting

? **Fault**
! **Cause**
• **Remedy**

When a fault occurs, the associated error number is indicated in the display.

Fault	Error no.	Defective sensor (break / short-circuit)
The mixer does not start.	E 69	Flow sensor mixer circuit VF/VFAS
The heating circuit pumps do not switch off.	E 75	Outside sensor AF/AFS
No more hot water available.	E 76	Storage sensor SPF/SPFS
The flat does not get warm. No more hot water available.	E 77	Boiler sensor KF/KFS

• Check electrical connection. Replace sensor, if necessary.

? The display shows error no. E 81.
! EEPROM error. An invalid parameter has been replaced by the default value.
• Check parameter values.
• Switch mains power off and on again to reset the error no.

? The display shows error no. E 91.
! The set CAN bus address is already used by a different device.
• Set parameter 11 to a different address that is not yet in use.

? When displaying the actual values on the remote control, you realise that the indicated value does not match the real one. For example, the actual hot water temperature is 20 °C, but the display shows 65 °C (or vice versa).
! An incorrect sensor is connected.
• Only use sensors with identical characteristic curves.

? No actual values are displayed on the remote control.
! No bridge between terminal 16 and GND on Lago 0321 control unit.
• Check electrical connection, set bridge and load factory settings on the heating control unit (Reset).

? Although pumps and mixer are indicated on the display they are not actuated.
! No bridge between terminals 2 and 3 or terminal 1 and neutral block on Lago 0321 control unit.
• Check electrical connection.

? The hot water stays cold during summer mode.
! Parameter 04 = 3 set (hot water 1 h before heating)
• Set P04 = 1, 2 or 4.

Should the actions described above fail to help, please contact your heating engineer.
▷ Please have ready the software version (parameter P12).

Technical data

Voltage supply via BUS 10–20 V DC
Bus communication: CAN
Protection class according to DIN EN 60529: IP 40
Protection class according to DIN EN 60730: III
Reserve power of clock: >10 h.
Permissible ambient temperature during operation: 0 to 50 °C
Permissible ambient temperature during storage: -20 to 60 °C
Permissible relative humidity, not condensing: 95 % r. H.
Sensor resistances: NTC 5 kΩ (AF),
Tolerance in ohms: ±1 % at 25 °C,
Temperature tolerance: ±0.2 °K at 25 °C.

Glossary

Flow temperature

The flow temperature is the temperature to which the heat source heats the water that transfers the heat to the consumer (e.g. radiator).

Desired and actual temperature

The desired temperature (or setpoint temperature) describes the desired temperature for a room or for hot water.
The actual temperature denotes the actual temperature that prevails. The heating controller has the task to adjust the actual temperature to the desired temperature.

Setback temperature

The setback temperature is the desired temperature to which the heating system heats outside heating times (e.g. at night). It should be set so that the rooms do not cool down too much while saving energy.

Heat source

Heat source is generally the designation for the heating boiler. It may also be a buffer storage tank however.

Heating time

In the heating programs you can define up to three heating times per day, one for the morning, one for lunchtime, and one for the evening for example. During a heating time, the temperature is controlled to the desired room temperature. Between heating times the temperature is controlled to the setback temperature.

Declaration of conformity

$$C\,E$$

We the manufacturer declare the product Lago FB is in conformity with the fundamental requirements of the following directives and standards.
Directives:
– 2004/108/EC,
– 2006/95/EC
Standards:
– EN 60730-1
– EN 60730-2-9
The manufacture is subject to the quality management system in accordance with DIN EN ISO 9001.
Elster GmbH

Scan of the declaration of conformity (D, GB) –
see www.docuthek.com

Heating circuit allocation

For the installation expert

Please enter which rooms the heating circuits are assigned to here.

Direct heating circuit	Mixed heating circuit

Contact

If you have any technical questions, please contact your local branch office/agent. The addresses are available on the Internet or from Elster GmbH.
We reserve the right to make technical modifications in the interests of progress.

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