Room controller Como

Operating and

Installation Instructions

Please follow the safety information and read through these Instructions carefully before placing the system into operation.

General

⚠ This attention symbol is used in these Instructions to point out risks and dangers to the life and limb of persons and/or damage to property.

Power connection regulations

Please note the connection conditions specified by your local electrical power supply utility and the VDE regulations. Your heating control system may be installed and serviced only by appropriately authorised specialists.

⚠ If the system is not installed professionally, this will involve a risk to life and limb.

Warranty conditions

If the system is not installed, commissioned, serviced and repaired professionally, this will render the manufacturer's warranty null and void.

Declaration of conformity

CE

Como

corresponds to the requirements of the relevant guidelines and standards, if the corresponding installation regulations and the manufacturer's instructions are complied with.

Descriptions of operating procedures

Certain operating sequences are explained using examples. The statuses of the controller are illustrated or described as boxes. The following status can be accessed by operating the operating controls as shown or by performing the operation described.

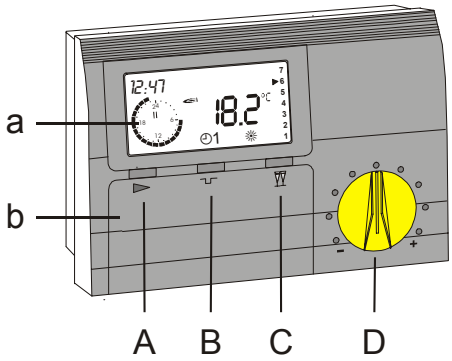
Key symbols:

- ► Operate mode-selector switch
- Press ECO key
- Press Party key
- Press Programming key
- Press Plus key
- Press Minus key

Notes

! Important information is highlighted with an exclamation mark.

Operating controls



a Display
b Hinged control panel cover

A Mode-selector switch
B ECO switch
(interrupting the heating time)
C Party switch
(prolonging the heating time)
D Rotary knob for desired value entry

Commissioning

! Please do not forget: Remove the protective film from the battery contacts (see Chapter Battery change).

After correct installation, it is first necessary to enter the language, the time and the day of the week in order to operate the controller:

1. Open the hinged front panel (b).
2. Press key .
3. Select the language with keys ▼/▲.
4. Press key twice.
5. Set the time with keys ▼/▲.
6. Press key .
7. Set the day of the week (1-7) with keys ▼/▲.
8. Press key .
9. Close the hinged front panel (b).

The controller is now ready for operation!

Correcting the desired room temperature

The rotary knob can be used to adjust the programmed desired room temperatures by ± 5°C. The set reduced temperature is not influenced. The corrected desired value is displayed as DES ROOMTEMP at level "Parameter" (is updated every 10 s).

Mode-selector switch

: Change the operating mode.
! Takes effect after 3 seconds.

⏻ Frost-protection mode

The controller is switched off. The desired value for the room temperature is set to 5°C.

◷ 1: Heating program 1

(Automatic 1) Automatic change of the desired room temperatures at the programmed switching times.

◷ 2: Heating program 2

(Automatic 1) Automatic change of the desired room temperatures at the programmed switching times.

☼ Heating mode

The controller constantly stabilises the system to desired room temperature 1.

☽ Reduced night operation

The controller operates constantly in ECO mode and stabilises the system to the set economy temperature.

Heating time changes ⊓ / ▽▽

The heating time change is terminated by pressing the mode-selector switch .

ECO key ⊓

In Heating mode:
Each time key ⊓ is pressed, the heating circuit switches to Reduced mode for 1 further hour.

In Reduced mode (ECO):
Each time key ⊓ is pressed, Reduced mode is prolonged by one hour.

Pressing the Party key ▽▽ shortens the set interruption by 1 hour.

Sleep mode:
If the ECO key ⊓ is pressed for longer than 3 seconds, the room controller switches to Reduced mode regardless of the heating program until the first heating time of the next day.

Display: ☽

Party key ▽▽

In Reduced mode (ECO):
Each time key ▽▽ is pressed, the heating circuit switches to Heating mode with the desired room temperature of the last heating time for one further hour.

In Heating mode:
Each time key ▽▽ is pressed, the heating period is prolonged by 1 hour.

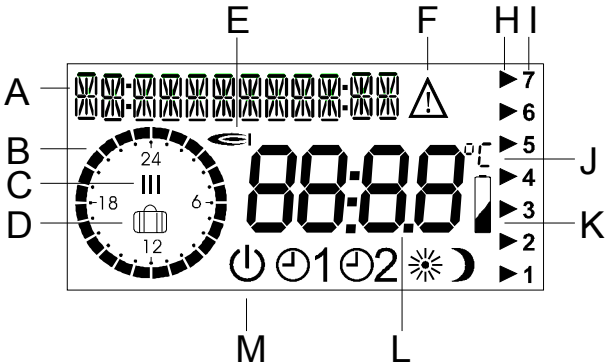
When the ECO key ⊓ is pressed, this shortens the set heating time extension by one hour.

Non-Stop mode:
If the Party key ▽▽ is pressed for longer than three seconds, the room controller switches to Heating mode with desired room temperature 1 regardless of the heating program until the first heating time of the next day.

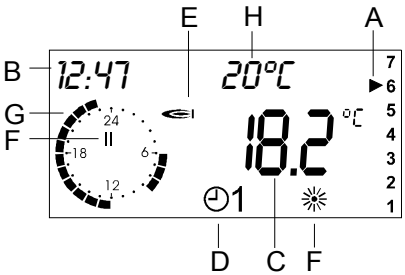
Display: ☼

Display

Como features a liquid-crystal display (LCD) displaying
all relevant data.



A Plain-text display and time
B 24h clock for display of the current heating times
C Display of the current heating time (1-3)
D Symbol for Holiday mode (frost protection)
E Symbol for burner in Heating mode
F Warning symbol: "Parameter may be adjusted“
G Symbol for cooling in Cooling mode
H Arrow points to current day of the week
I Days of the week (1-7 => Monday-Sunday)
J Degrees Celsius
K Note: "Change battery“
L Parameter value display
M Symbols for current operating mode:
[Standby (frost protection), Automatic 1, Automatic 2, Heating mode, Reduced (night) mode]



<u>The standard display shows the following information:</u>

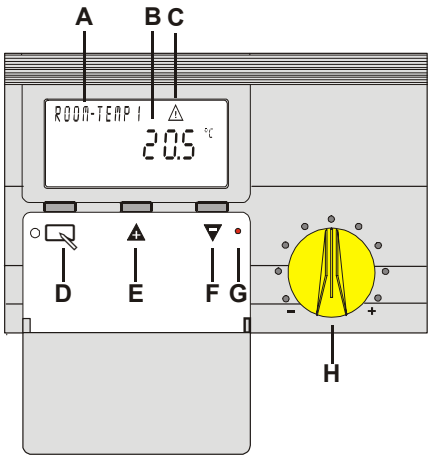
A: It is Saturday
B: The time is 12:47
C: The current room temperature is 18.2°C
D: The current operating mode of the control is Automatic 1
(Heating on the basis of the heating times in heating program 1)
E: The system is in Heating mode
(The relay is closed; the burner is on resp. the valve is open)
F: The system is in the second heating time
G: Heating mode on Saturdays (A): from 6 am to 9 am and from 12 am to 11 pm
H: Optional: TR 20°C => *The current desired room temperature is 20°C*
TA 20°C => *The current desired outside temperature is 20°C*

Changing the settings

Opening the hinged control panel cover causes the operation-control module to switch automatically to Information and Programming mode. The operating controls are assigned a new significance (which can be seen from the printed designations which will now appear beneath the keys).

All entries can be made on the basis of the same principle

1. Open the hinged cover on the front of the controller; the controller switches to INFO mode. The three keys are then assigned the function printed on the inside of the hinged cover.
2. Choose the required parameter of the current level or another level with keys +/-.
3. Press the Programming key.
4. If you press key and have selected a lower operating level -> continue at Point 2!
5. If you press key and have selected a setting, the controller changes to Programming mode (Programming indicator ⚠).
6. The parameter value can be changed with keys ▲ or ▼.
7. Press key again; this saves the new value.
8. If you close the hinged cover before pressing key , this quits Programming mode. The controller switches to the standard display (boiler temperature and time). The changed value is not saved.



A Designation of the entry or of the operating level.

B Entry

C Programming indicator (Warning triangle ⚠)

D Programming key

E ▲ key: Next setting / increment setting

F ▼ key: Previous setting / decrement setting

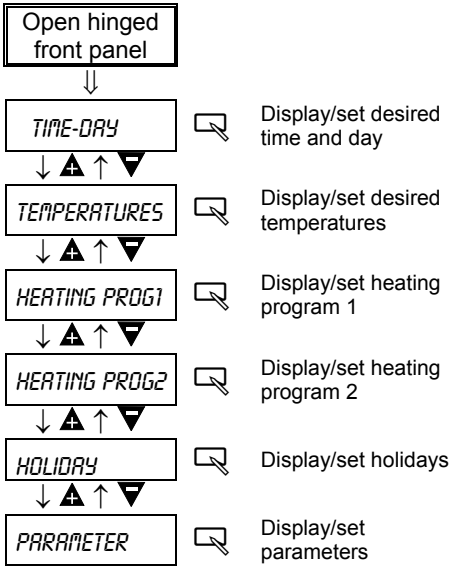
G RESET switch

H Desired room temperature correction

! You can branch up to the next operating level by pressing key and selecting the "RETURN" function.

Operating levels

After you open the hinged control panel cover (Info mode), you can choose six different operating levels with the +/- keys. You can activate the selected level by pressing the Programming key.



Heating Prog1 / Heating Prog2

The BM allows entry of two heating programs between which the user can select.

! If switching time entry in blocks (Mo-Fr, Sa-Su, Mo-Su) is activated, the current switching times of the first day of the block are displayed. The display does not show the switching times of the entire block. If you activate a switching time with the Programming key (Warning triangle ⚠) and then save the value by pressing the Programming key again. All switching values in the block are overwritten by the switching values of the first day in the block!

Recommended procedure

1) Enter all heating times for the period Monday-Sunday (overwrite all switching times of the week!).
2) Enter different switching times for the corresponding days.

Entry of the heating programs

1) Open the hinged front panel -> TEMPERATURES.
2) Select a heating program with keys ▲ ▼.
   (Press key ▲ 1x -> HEATING PROG1. Press key ▲ 2x -> HEATING PROG2.)
3) Press key .
4) Select the period for which the switching times are to be defined with keys ▲ ▼.
5) Press key .
6) Select the heating time to be changed with keys ▲ ▼.
7) Press key (Programming indicator ⚠).
8) Adjust heating time start with keys ▲ ▼.
9) Save new or unchanged heating time start with key .
10) Adjust heating time end with keys ▲ ▼.
11) Save new or unchanged heating time end with key .
12) Using keys ▲ ▼, select next heating time or "RETURN". Press key .RETURN => Next level up

Parameter

Room sensor adaptation

The actual display can be varied by ± 5 K in order to adapt the room temperature display to the installation conditions or other thermometers. The corrected display value is used in the calculations for all relevant functions.

Display

This parameter allows you to set whether the current desired room temperature or the outside temperature is shown on the display.

Outside temperature

After the program-sensor b and the ▲ ▼ sensors have been activated the max. and min. values of the outside temperature since day change can be read.

Warm-up optimisation

Warm-up optimisation determines the optimum advance time of start of heating. The time advance ensures that the heated rooms have reached their desired temperature at the switch-on times of the heating times.
Display: Last time advance required
Setting: Maximum time advance

Control I/0 <=> Proportional

Selection between two-point and proportional control.

CONTROL I/0

Heating mode starts if the actual temperature drops below the room temperature by the displayed amount [K]. If the temperature is exceeded by the amount [K], Heating mode ends. A minimum switch-on/switch-off time can be set with the delay setting.

PROPORTIONAL control

Heating mode is switched on for a percentage (50 %) of the adjustable cycle time as a function of the deviation between the measured and desired temperature of the room. The hysteresis setting allows you to set an allowable deviation from the desired temperature. This avoid short On times of the boiler.

CONTROL OFF

No control function. The relais switches only time dependent.

Heating/Cooling

The controller can also be used for controlled cooling of rooms. If the "Cooling" function is selected, the connected cooling system is closed if the desired temperature is exceeded by the set hysteresis and is opened if the actual temperature drops below the desired temperature. In Proportional mode, the relay is also switched as a function of the control deviation. The greater the set desired temperature is exceeded at the instant of computation, the longer the cooling system remains active.

Telephone switch/window contact

Telephone switch: The controller switches to Heating mode ☼ for as long as the contact between terminals 3/4 is closed.

Window contact: The controller switches to Frost-protection mode ⏻ for as long as the contact between terminals 3/4 is interrupted.

Settings			
Parameter	Designation	Adjustment range	Factory default
LANGUAGE	Parameter designation language	D GB F NL E I CZ	German
ADAP ROOMT	Room sensor adaptation	-5°C - +5°C	0°C
DES ROOMTEMP	Current desired room temperature (including correction)		Display only
ANNOUNCE ***)**	Choice of additional display	OFF/ROOM SET T/ OUTSIDE = 0/1/2	0 = OFF
OUTSIDE TEMP.	Actual outside temperature (24h MAX/MIN)		Display only
BURN TIME	Display of burner operating time in hours	Place backwards =0	Display only
BURN START	Display of burner starts	Place backwards =0	Display only
OPTIMIZAT	Display of last time advance required Setting of maximum time advance	0 (= Off) - 3 hours	2 hours
CONTROL I/O	Control I/0 or Proportional mode		Control I/0
- CONTROL I/O:	HYSTERESIS: Hysteresis for ON/OFF control DELAY: Delay for relay state	0.1 K - 2.0 K 0-30 min	0.4 K 0 min
- PROPORTIONAL:	HYSTERESIS: Dead band for proportional mode SAMPLING TIME: Cycle time for proportional mode	0 K – 2.0 K 0-30 min	0 K 10 min
- CONTROL OFF:	The relais switches only time dependent.	0/1	0
HEATING	Heating or cooling mode	H, K	Heating
TELEPHONE I-0	Telephone switch or window contact	T, F	Telephone I-0
RESET	Load factory default: 1) for heating program 1 or 2) for heating program 2 or 3) for all temperatures and all settings of this list (apart from language, time and date) 4) or for all values.		

***)** At connection of an outside sensor to the clamps 5+6 DISPLAY **must be** set to „2“ = outside temperature.

Temperatures

Display	Adjustment range	Factory setting
ROOM-TEMP 1	5°C - 40°C	20°C
ROOM-TEMP 2	5°C - 40°C	20°C
ROOM-TEMP 3	5°C - 40°C	20°C
ECONO TEMP	5°C - 40°C	10°C

Room temperature

This parameter allows you to program the required desired room temperature for the three heating times. The entered value is set by the control on the basis of the integrated room sensor.

ECO-TEMP

The reduced temperature or economy temperature represents the temperature to which the system stabilises outside the heating times, e.g. during the nighttime or during ECO mode.

Holiday

You can use the controller's Holiday program during the holiday period. The duration of the holiday and the holiday start are entered in days. The Holiday program is always activated at 12.00 hours and always ends at 24.00 hours of the last day of the holiday.

! If the holiday period is entered before 12.00 hours, the Holiday program starts on the day of entry (S-HOLIDAY=00; with S-HOLIDAY=05 in 5 days). If the holiday period is entered after 12.00 hours, the program starts on the next day at 12.00 hours. It thus also ends one day later.

The controller switches to Standby mode during the holiday. The Holiday symbol is shown on the display. Holiday mode is terminated by operating the Program switch.

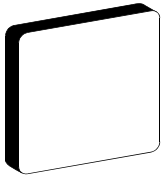
! Please check batteries!

External room sensor RFB

Not in combination with AF

Installation location:

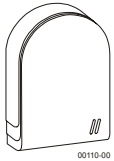
- In the main controlled zone of the heating circuit (on an interior wall in the living room).
- Not in the vicinity of radiators or other appliances emitting heat.



Installation:

Use a screwdriver to lever the cap off of the base; see illustration overleaf.

Outdoor sensor AF



Outdoor sensor AF not in combination with RFB

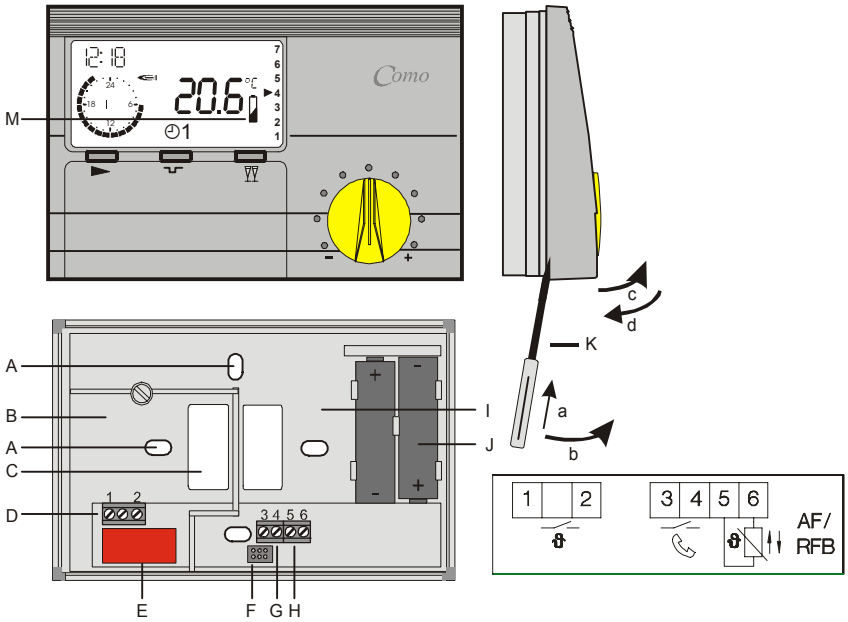
Battery change

⚠ When the batteries reach a low charge state (M), the system switches to Heating mode. (Relay contact is closed -> burner / pump is on resp. valve is open).

! Always dispose of spent batteries properly (spent battery collection point).

Swivel upper part of controller upwards „c“. The two batteries must be changed within 2 minutes. If the battery change should last longer, press the Reset button and reset time and weekday (see Reset function). Then re-engage the top section at the upper edge of the socket and swivel it back onto the base "d“. Press on until the top section engages in position.

Installation



A Hole for fastenings screw
B Terminal compartment for mains voltage
⚠ (always reclose the cover after connection)
C Break-out opening for cable
D Connection terminals for the relay (beneath the cover)
E 250 V AC 10(2) A relay
F Plug connection for controller
G Terminal 3+4 for telephone switch / window contact
H Terminal 5+6 for RFB external room sensor or Outdoor sensor AF
I Terminal compartment for extra-low voltage
J Batteries: 2 x 1.5 V round cell LR6 / AA / AM3

Errors

Error	Error designation
E 80	Room sensor /AF defective Discontinuity/short circuit
E 81	EEPROM error Check settings.

RESET function

In case of error function or to restore manufacturers set-up

⇨ RESET: The controller performs a restart. The controller will work with the adjusted values. Only time and weekday have to be reset.

⇨ RESET + ☜ : This overwrites all parameters with default values.

! You must press the additional key ☜ when you release the RESET key.

Sensor resistances (RFB, AF)

The sensor resistances must be measured in the base with the controller removed.

Temperature	-15°C	-10°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C
Resistance	36.465 Ω	27.650 Ω	16.330 Ω	12.700 Ω	9.950 Ω	7.855 Ω	6.245 Ω	5.000 Ω	4.030 Ω	3.265 Ω

Technical ratings

Supply voltage 2 ea. round cell batteries LR6/AA/AM3	3 V DC
Switching capacity of the relays	250V 10 (2) A
Enclosure to EN 60529	IP 40
Safety class to EN 60730	II, totally insulated
Power reserve of the timer (battery change)	> 2 min.
Permitted ambient temperature during operation	0 to 50°C
Permitted ambient temperature for storage	-20 to 60°C

Malfunctions attributable to incorrect operation or setting are not covered by warranty.

EN 1104 6.6701.196-02 Printed in Germany. Subject to modification.