Versatronik®COMO OT
OpenTherm
Room Temperature Controller

KWE Technologies Group

Installation and Operating Manual

Cautionary Statement
Please observe the safety instructions and read through this manual carefully before commissioning the equipment.

This is not a safety control.

CONTROL

IMPORTANT

Read and save these instructions for future reference

Table of Contents

Caution, Warning and Trademark Information

About these instructions

Take note of all symbols and notations intended to draw attention to potential hazards or important product information. These include "WARNING", "CAUTION" and "IMPORTANT". See below.

! WARNING

Indicates an imminently hazardous situation which, if not avoided, could result in death, serious injury or substantial product/property damage.

→ *Warnings draw your attention to the presence of potential hazards or important product information.*

! CAUTION

Indicates an imminently hazardous situation which, if not avoided, may result in minor injury or product/property damage.

→ *Cautions draw your attention to the presence of potential hazards or important product information.*

CAUTION

Static sensitive components may be damaged by improper handling or work within the control. Ensure all possible measures are taken to eliminate build-up of static electricity.

IMPORTANT

→ *Helpful hints for installation, operation or maintenance which pertains to the product.*

Caution, Warning and Trademark Information

Important Regulatory and Installation Requirements

Codes

The installation of this unit must be in accordance with local codes.

All electrical wiring is to be done in accordance with the latest edition of CSA C22,1 Part 1 and/or local codes. In the U.S. use the National Electrical Code ANSI/NFPA 70.

The installing contractor must comply with the Standard of Controls and Safety Devices for Automatically fired Boilers, ANSI/ASME CSD-1 where required by the authority having jurisdiction.

Working on the equipment

The installation, adjustment, service and maintenance of this unit must be done by a licensed professional heating contractor or persons who are qualified and experienced in the installation, service, and maintenance of similar products. There are no user serviceable parts on this control.

Power supply
Install power supply in accordance with the regulation of the authorities having jurisdiction or in absence of such requirements, in accordance with National Codes.

→ *Please carefully read this manual prior to attempting installation. Any warranty is null and void if these instructions are not followed.*

→ *The completeness and functionality of field supplied electrical controls and components must be verified by those installing the device.*

⚠️ **WARNING**

More than one live circuit. See wiring diagram in this manual. Turn off power supply to control and damper/blower before servicing. Contact with live electrical components can result in serious injury or death

Caution, Warning and Trademark Information

Information

Warranty Conditions

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

Important Text

! Important information is highlighted with an exclamation mark.

⚠ This attention symbol indicates dangerous situations.

Installation

Information regarding the installation and commissioning of this equipment is found in following sections.

Declaration of Conformity

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

Trademark Information

®Versatronik is a registered trademark of K-W Electronic Service Inc.

† All other products listed are trademarks of their respective companies

®Viessmann and Vitodens are trademarks of Viessmann Werke GmbH & Co KG registered in the United States and other countries.
Please visit: **www.viessmann.ca**
www.viessmann.us

Power Connection Regulations

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

⚠ If the system is not installed properly, there is a risk of fatal or severe personal injury.

Section 1

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Control Installation Information

Control Installation

Mounting Wall Base and Room Controller
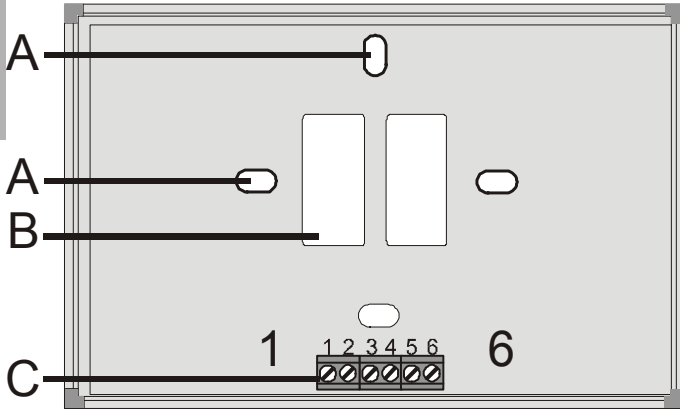
Dimensions: 147 mm x 97 mm x 33 mm
5.75 in. x 3.82 in. x 1.3 in.

A: Retention holes (for assembly on switch socket)

B: Cutout for cable entry

C: Connection terminals (PIN 1 is on the left)

1. Secure the base to the wall (approx. at eye-level).
2. Connect terminals 1+2 on the base with the terminals on the OT-BUS of the boiler. The BUS connector is designed to prevent reversed poling. The connections can be swapped over.
3. Connect the remote telephone switch [Terminals 3+4],
   if required.
4. Connect the outdoor sensor [Terminals 5+6],
   if required.
5. Snap on the top part of the controller, position and hook in at the center of the top edge, use a little pressure to pivot it down onto the base and press on.
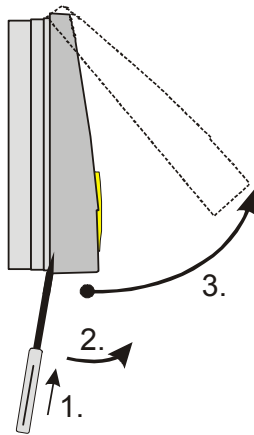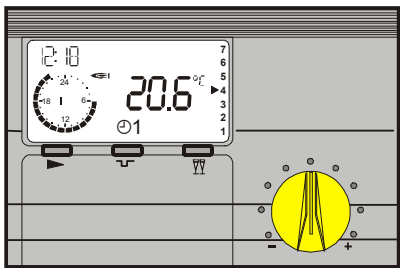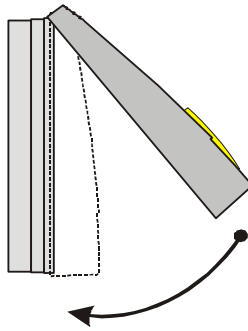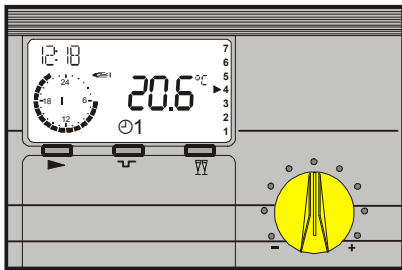
Connection terminals
PIN 1+2 OT-BUS
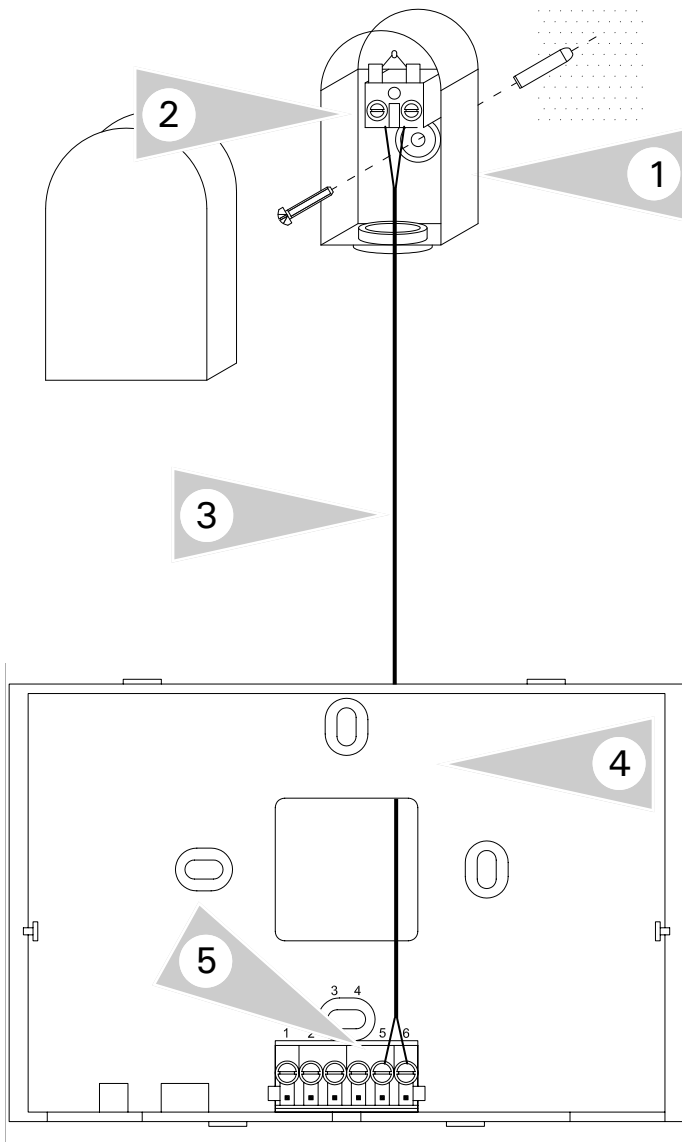PIN 3+4 remote telephone switch
PIN 5+6 outdoor sensor

Disassembly
Insert a screwdriver in the opening on the underside and lever off. Take hold of the underside and pivot upwards.

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Control Installation

Outdoor Temperature Sensor Connections

Wiring Steps

1. Install outdoor temperature sensor on outside of structure.
2. Connect field supplied wiring to terminals inside of sensor. Ensure wiring is run through strain relief at bottom of sensor housing. Reinstall sensor cover onto sensor backing.
3. Run field supplied wiring between sensor and controller sub-base.
4. Locate wiring connections on sub-base of Versatronik COMO OT Room Controller.
5. Wire to terminals 5 and 6 in sub-base of Versatronik COMO OT.
   Install Versatronik Como OT onto sub-base for programming or adjustments.

Important

The outdoor temperature sensor should be mounted 2 to 2.5 metres above ground level on the north or north-west facing wall of the building. In the case of multi-storey buildings, it should be mounted in the upper half of the second storey. Make sure that the sensor is not located over windows, doors and air vents, nor immediately beneath a balcony or guttering. Do not paint over the outdoor temperature sensor housing.
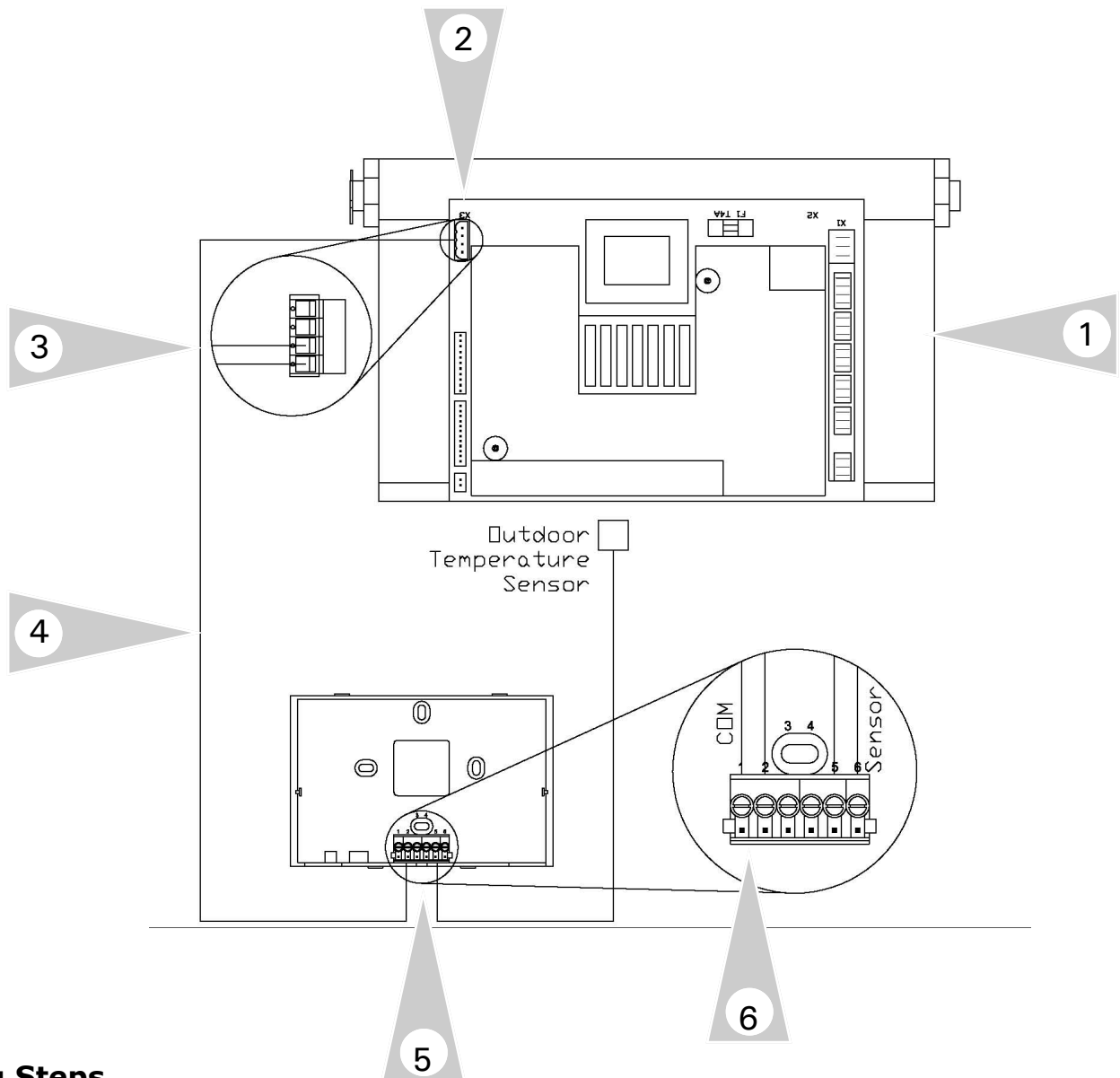
⚠ WARNING

When extending wire there is the possibility of exposure to electromagnetic interference. Avoid running wires beside or near high voltage 120/240 VAC conductors. If proximity to high voltage conductors cannot be avoided, use stranded, twisted pair of shield design wire. Ensure that only one end of the shielding is grounded.

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Control Installation

Wiring Room Controller to Viessmann Vitodens 100-W, WB1A

Outdoor Temperature Sensor

COM   3 4   Sensor
1 2   5 6

Wiring Steps

1. Flip down control of Vitodens 100 boiler. Refer to the boiler manual outlining procedure.
2. Locate 4 pole plug in upper left hand corner on backside of control.
3. Wire into 4 terminal plug to terminals 3 and 4.
4. Field supplied wire between boiler and Versatronik COMO OT Room Controller.
5. Locate wiring connections in sub-base of Versatronik COMO OT Room Controller.
6. Wire two wire communication wiring into terminals 1 and 2 of sub-base.

Please note:
If the 4 pole plug referenced in step 2 is missing from the boiler, please contact your Viessmann representative or wholesaler.
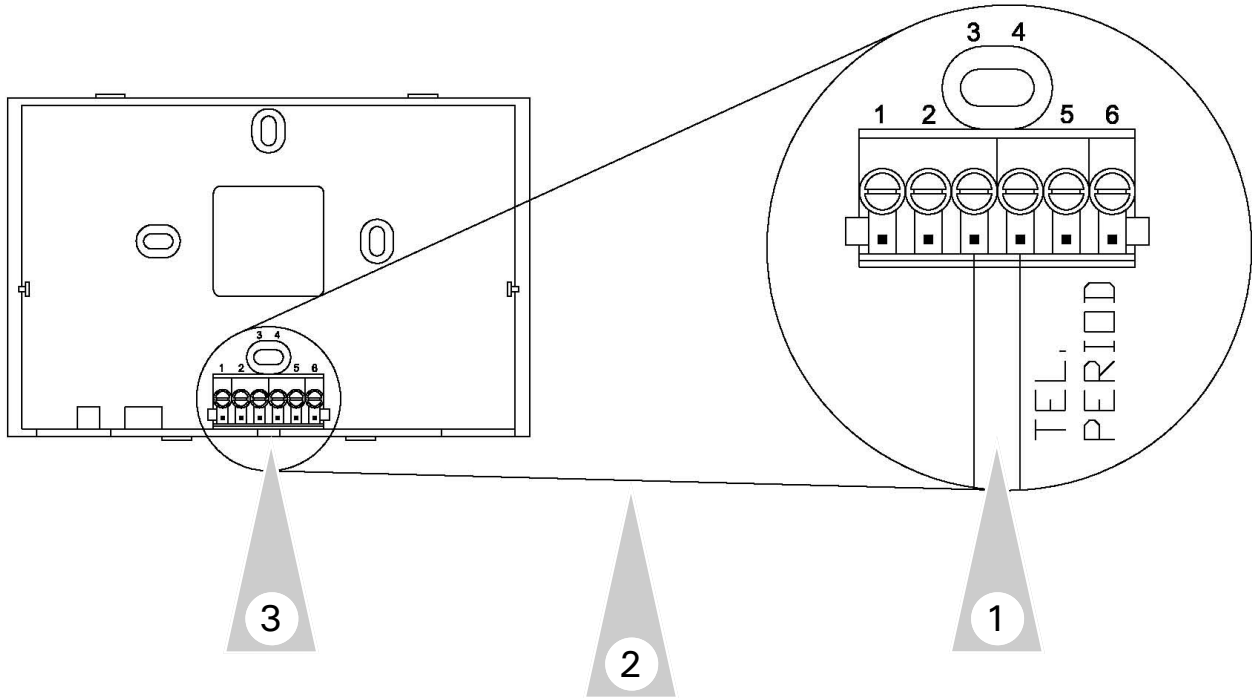
⚠ WARNING

When extending wire there is the possibility of exposure to electromagnetic interference. Avoid running wires beside or near high voltage 120/240 VAC conductors. If proximity to high voltage conductors cannot be avoided, use stranded, twisted pair of shield design wire. Ensure that only one end of the shielding is grounded.

Control Installation

Wiring Room Controller to Viessmann Vitodens 100-W, WB1B
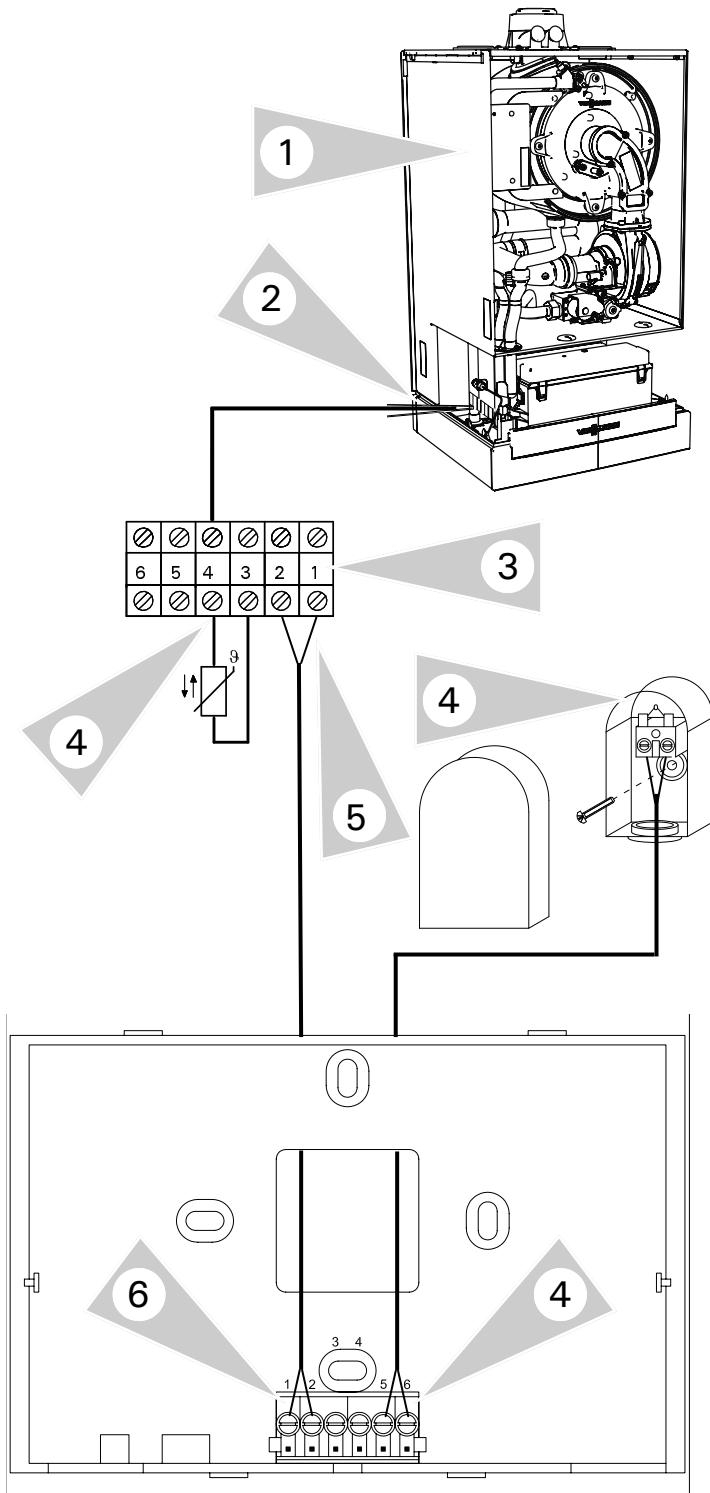
Installation Instruction

1. Refer to boiler manual and remove cover from boiler and set aside.
2. Locate the wiring harness with the 6 pole terminal block attached.
3. Locate the wire marker denoting terminal 1.
4. If the outdoor temperature sensor has not been previously installed, the outdoor temperature sensor can be wired to one of two locations. It can be wired to the 6 pole connector from the boiler or directly to the Versatronik Como OT. If wiring to the Como wall mounting plate, connect to terminals 5 and 6.
   Refer to previous pages regarding the mounting of the outdoor temperature sensor.
5. Connect Versatronik Como OT to terminals 1 and 2 of the 6 pole termination block from the Vitodens 100-W, WB1B.
6. Terminate the OT communication wires at the sub-base of the Versatronik Como OT. Connect wires to terminals 1 and 2. These wires are not polarity sensitive.

⚠ **WARNING**

When extending wire there is the possibility of exposure to electromagnetic interference. Avoid running wires beside or near high voltage 120/240 VAC conductors. If proximity to high voltage conductors cannot be avoided, use stranded, twisted pair of shield design wire. Ensure that only one end of the shielding is grounded.

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Remote Telephone Switch Wiring

Wiring Steps

1. Wire dry contact (potential free) from switch/ relay/contact.
2. Field supplied wiring between contact and controller sub-base.
3. Wire to terminals 3 and 4.

Important

Ensure the contact is potential free. Do not apply voltage as damage to the controller will occur.

⚠ WARNING

When extending wire there is the possibility of exposure to electromagnetic interference. Avoid running wires beside or near high voltage 120/240 VAC conductors. If proximity to high voltage conductors cannot be avoided, use stranded, twisted pair of shield design wire. Ensure that only one end of the shielding is grounded.

Control Operation Overview

Section 3.0

Control Operation

Operation Overview

The Versatronik COMO OT Room Temperature Control is designed to operate with OpenTherm enabled boilers to provide efficient operation of the boiler's burner. This is achieved by maximizing burner modulation, instead of demand ON/OFF/ON operation from standard room thermostats.

The control allows operation with or without an outdoor temperature sensor. When used without the sensor, outdoor reset operation is not possible. As such, some of the settings will not be available. When the outdoor sensor is installed and wired to the control, it is immediately recognized.

Room temperature feedback may also be enabled in an effort to maximize occupant comfort. When the control is programmed for room temperature feedback, the room influence factor adjustment can be set to modify the operation/ response of the boiler/ burner. Depending on the type of heating (eg. Baseboard, panel radiators or radiant floor), room temperature feedback may not provide the desired result. This is due to low mass versus high mass systems and the response of each system.

When the controller is operating in outdoor reset mode, it is possible to program the control for up to three desired normal room temperature settings. This is based on the timers 1, 2 and 3. Setting T-Room Des at the same values allows consistent normal room temperatures from timer to timer. When the control is not in normal temperature mode, it operates in reduced mode. The reduced mode temperature set point can also be set.

The slope adjustment operates in conjunction with the normal mode and reduced mode settings. Adjustment of the heating slope is based on providing the heat necessary from the boiler/ system to overcome the heat loss of the structure. By making adjustments to the slope and room temperature mode settings, a boiler water temperature will be calculated. Heating curve settings of 0.8 and below are generally suited to lower temperature systems where a setting of 1.0 and above may be better suited for higher water temperatures. When adjusting the heating curve from 0.8 to 1.0, there is a 12C/ shift.

The dial on the front of the control allows the user to make minor adjustments, which effects the end calculation of boiler water temperature set point. Each dot equates to a +/- 1 degree C or 2.5 degrees F.

The pump operation of the boiler will be guided by the selection of room temperature feedback. If the room feedback is turned ON, the pump will operate based on whether the actual room temperature is above or below the set point. If the actual room temperature is above the set point value, the pump will remain off until the room temperature drops sufficiently to create a call for heat.

If the room feedback is switched off, the pump will continue to operate until the control enters warm weather shut down. The warm weather shut down mode takes place when the out door temperature is greater than the normal and reduced mode temperatures. As the outdoor air temperature drops below the normal and/or reduced room temperature set points, the pump will again continue to operate.
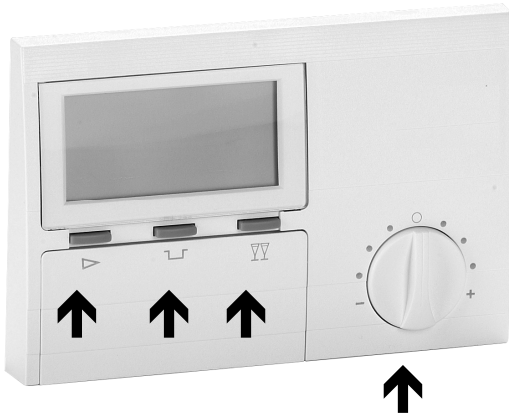
Important

DHW production with the Versatronik Como is not possible unless the boiler supports a DHW function. With the OpenTherm communications, the DHW production is possible just as long as the boiler supports the functionality.

Control Operation

▷ Mode selector switch

(Hinged control cover closed)

▷   Operating mode selector switch

⊓⌐   ECO key (interruption of heating time)

▽▽   Party key (heating time extension)

⬡   Modification of set room temperature

Press the key as often as necessary to set the operating mode required. The selected operating mode is represented by a symbol in the display. It takes effect when the selected setting remains unchanged for 5 sec.

The following operating modes are available for selection:

⏻   Standby / OFF
(heating OFF, only frost protection function active)

🕑1   Automatic mode
(heating according to time program 1)

🕑2   Automatic mode
(heating according to time program 2)

🚰   Summer mode
(heating OFF, only hot water preparation active)

☀   Day mode (Normal mode)
(24 hour heating at comfort temperature 1)

☽   Night mode (Reduced mode)
(24 h heating at economy temperature)

Display in normal mode
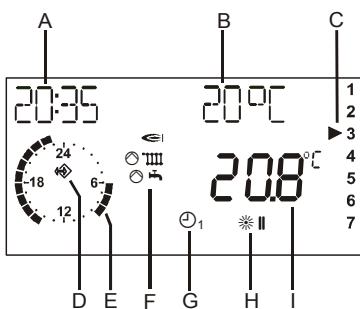
!   Due to inertia of the room temperature, deviations of +/- 1°C/ 2°F to the required room temperature are normal. During transition from reduced operation and heating operation, greater deviations are possible at times.

A Current time
B Set room temperature (represented in degrees Celsius)
C Day (1=Monday, 2=Tuesday, ..., =Sunday) (as shown, 3 = Wednesday)
D Bus symbol (if this symbol does not appear, check the data cable to the boiler)
E Indicates the active heating program (as shown 6:00 to 9:00 and 14:00 to 23:00)
F Status indicator: ⇥ burner ON; ○ ▥ heating operation; ○ 🚰 hot water preparation
G Mode selector switch (as shown 🕑 1 => Heating according to time program 1)
H Mode indicator and current status (here: ☀ II => Heating with set room temperature 2)
I Display of the current room temperature

Control Operation

⛤⛤ Party key (heating time extension)

```
20:35        20°C      1
                       2
            ↘         ►3
    24                 4
  -18    6-  01.00     5
                       6
    .12.          ☼    7
```
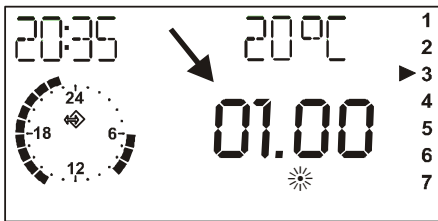
Displays (for approx. 3 sec.) the set extension of the heating time => Heating at comfort temperature [☼]

Use ⛤⛤ to start setting/display / set extension of heating time

⛤⛤   press => + 1 hour for each actuation

⊓⊏   press => - 1 hour for each actuation

⛤⛤   press 3 seconds:
       Heating circuit heats until the next day.
       Display switches briefly to "PARTY"

End the set PARTY function by pressing the Mode selector switch ▷

⊓⊏ ECO key (heating time interruption)

```
20:35        10°C      1
                       2
            ↘         ►3
    24                 4
  -18    6-  01.00     5
                       6
    .12.          ☽    7
```

Displays (for approx. 3 sec.) the set interruption of the heating time => Heating at economy temperature [☽]

Use ECO Key to start setting/display / set duration of heating time interruption

⊓⊏   press => + 1 hour for each actuation

⛤⛤   press => - 1 hour for each actuation

⊓⊏   press 3 seconds:
       Heating circuit switches to economy mode for the rest of the day.
       Display switches briefly to "ECO"

End the set ECO function by pressing the Mode selector switch ▷

Modifying the set room temperature
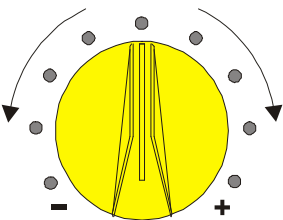
In Normal mode, the heating system operates according to the set room temperature (default, 20°C/68 °F)

Use the rotary knob to adjust the set room temperature by ± 5 °C/9°F . The nighttime temperature (economy temperature) set on the controller is not affected.

Turn clockwise => Warmer (~ 1°C/2°F per dot)
Turn counterclockwise => Colder (~ 1°C/2°F per dot)

Control Operation

Changing the Settings

⌨ Programming key
a) Select a value level
b) Select a value to be changed
c) Saving the new value

➕ Plus key
(Search for or change value)

▼ Minus key
(Search for or change value)

**⎘ Operating and changing modes are accessed directly by opening the control panel cover.
=> USER in the display**

▼ / ➕   Use the Plus/Minus keys to select the level in which the value to be changed is located
=> Overview on the following pages

⌨   Press the Prog key => Open / Select the level

▼ / ➕   Use the Plus/Minus keys to locate the value
=> Overview on the following pages

⌨   Press the Prog key => Select the value
Warning triangle appears in the display
=> Value can be changed

▼ / ➕   Use the Plus/Minus keys to change the value

either => **Do not** save the value

⎘   Close the control panel cover =>
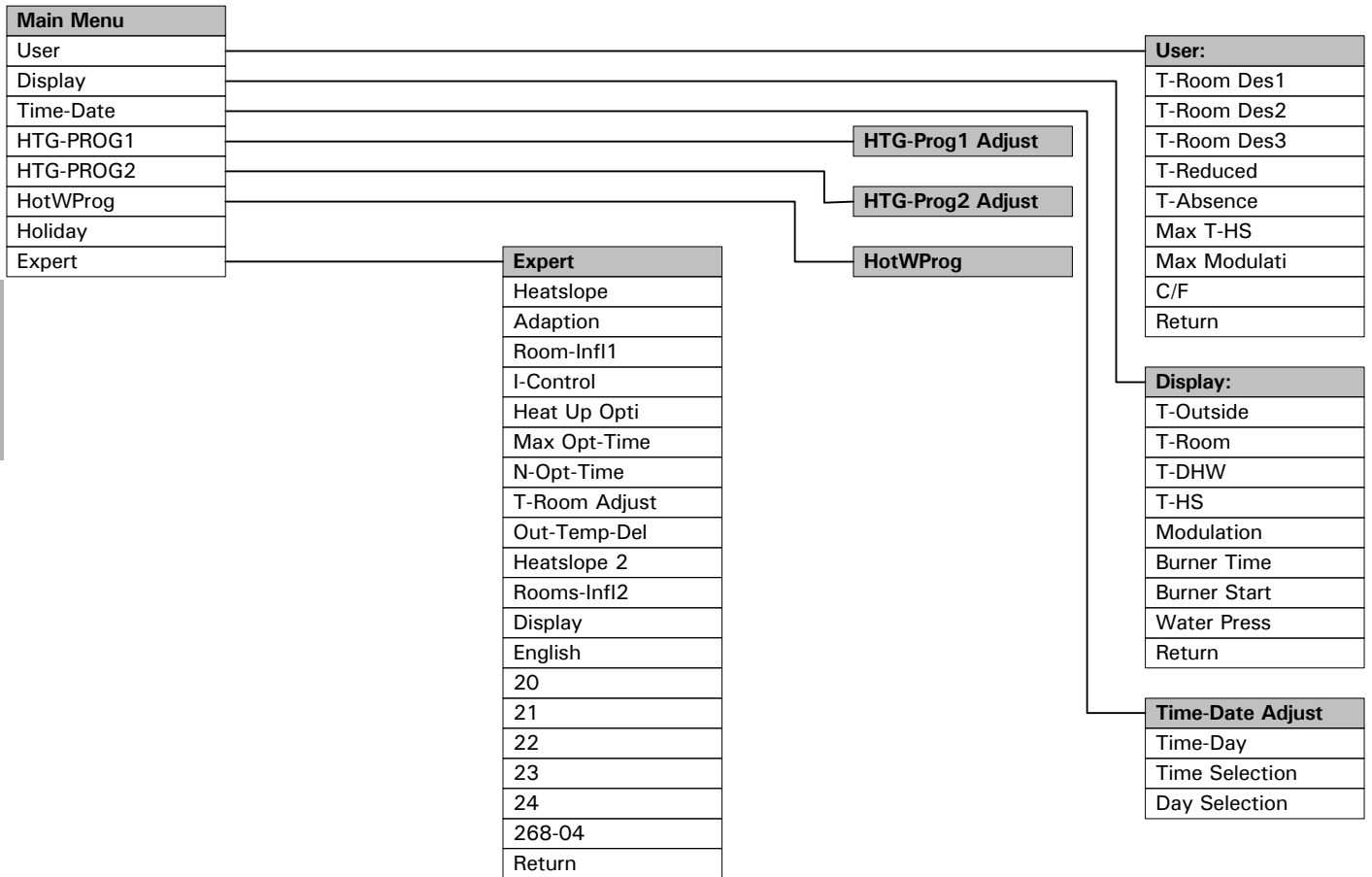⚠ Caution! The changed value is not saved

or => Save the value

⌨   Press the Prog key => Value is saved
Warning triangle disappears from the display and then

⎘   Close the control panel cover

Section 3.1

Control Operation

Menu Structure Overview

Main Menu
User
Display
Time-Date
HTG-PROG1
HTG-PROG2
HotWProg
Holiday
Expert

HTG-Prog1 Adjust

HTG-Prog2 Adjust

HotWProg

Expert
Heatslope
Adaption
Room-Infl1
I-Control
Heat Up Opti
Max Opt-Time
N-Opt-Time
T-Room Adjust
Out-Temp-Del
Heatslope 2
Rooms-Infl2
Display
English
20
21
22
23
24
268-04
Return

User:
T-Room Des1
T-Room Des2
T-Room Des3
T-Reduced
T-Absence
Max T-HS
Max Modulati
C/F
Return

Display:
T-Outside
T-Room
T-DHW
T-HS
Modulation
Burner Time
Burner Start
Water Press
Return

Time-Date Adjust
Time-Day
Time Selection
Day Selection

⌨ Programming key
a) Select a value level
b) Select a value to be changed
c) Saving the new value

✚ Plus key
(Search for or change value)

▼ Minus key
(Search for or change value)

Control Operation

Overview of levels menu structure

⏏ OPEN cover ➔ search for level using ▽ / △

Main Menu Selections	Page Reference	Description
User	18	Selection of base control settings
Display	19	Review of current temperatures
Time-Day	20	Programming of time and day
HTG Prog 1	21	Programming of timer programs
HTG Prog 2	21	Programming of timer programs
Hotwprog	N/A	
Holiday	23	Programming of holiday programs
Expert	24	Programming of higher level settings

Section 3.2

Control Operation

Overview of user values

When USER shown in screen, press ⌨

Move within User level with ▽ / △ keys

User Settings	Range	Default Value	Description
T-ROOM DES1	5ºC – 40ºC 41ºF – 104ºF	20C/68F	**T-ROOM DESIRED1-3** Set room temperature for the 1., 2. or 3. heating periods
T-ROOM DES2	5ºC – 40ºC 41ºF – 104ºF	20C/68F	
T-ROOM DES3	5ºC – 40ºC 41ºF – 104ºF	20C/68F	
T-REDUCED	5ºC – 40ºC 41ºF – 104ºF	10C/50F	**T-REDUCED** Set room temperature for the night
T-ABSENCE	5ºC – 40ºC 41ºF – 104ºF	15C/59F	**T-ABSENCE** Set room temperature for the holiday period
MAX T-HS	30ºC –110ºC 86ºF – 230ºF	85C/185F	**MAX T-HS** Maximum temperature of the boiler in heating operation: Limitation for saving energy possible
MAX MODULATI	0—100%	80%	**MAX MODULATION** Maximum modulation factor of the boiler in heating operation: Output limitation of the boiler for saving energy
ºC / ºF	ºC - ºF	C	Temperature Selection
RETURN			Return to Main Menu

Control Operation

Overview of display messages

🔳 OPEN cover ➔ search for level using ▼ / ▲

When DISPLAY shown in screen, press 🔲

Move within User level with ▼ / ▲ keys

Display Setting	Description
T-OUTSIDE	**T-OUTSIDE** (only with outdoor sensor connected [Terminals 5+6]) Display of the current outside temperature [°C/°F] 🔲 => Max. value with time; ▼ => Min value with time; ▲ => Max. value with time; 🔲 => RETURN
T-ROOM	**T-ROOM DES** Display of the current room temperature [°C/°F] 🔲 => Current set temperature; ▼ => Min value with time; ▲ => Max value with time; 🔲 => RETURN
T-DHW	**T-DHW** Display of the current hot water temperature [°C/°F] (only in hot water tank mode) 🔲 => Current set temperature; 🔲 => RETURN
T-HS	**T-HS** Display of the current boiler temperature [°C/°F] 🔲 => Current set temperature; 🔲 => RETURN
MODULATION	**MODULATION** Display of the current boiler output [%]; 00 = OF or value is not being sent
BURNER TIME	**BURNER TIME** Display of the current burner operating hours [h] 🔲 => Set value to ZERO; 🔲 => RETURN
BURNER START	**BURNER START** Display of the current burner start of the boiler [x] 🔲 => Set value to ZERO; 🔲 => RETURN
WATER PRESS	**WATER PRESS** Display of the current water pressure in the boiler (0.0 => value is not being sent)
RETURN	**RETURN** 🔲 =>RETURN to main menu

Control Operation

Overview of expert values

| EXPERT	Value Range	Description
HEATSLOPE	0-3 +> 1.2	Only with outdoor sensor connected [Terminals 5+6]) 1 => for Heating circuit 1; 2 => for Heating circuit 2
ADAPTION	0/1 => 0	**Heat slope adaptation** Only with outdoor sensor connected [Terminals 5+6]) Activation for automatic adjustment of the heat slope => Only with weather-dependent control.
ROOM-INFL1	——, 0-20 => 0	**Room sensor influence** Sets the speed of the room temperature controller
I-CONTROL	OFF, 03:00h- 00-15h => OFF	Integrative part (e.g. 30 min) If there is a deviation of the room temperature of 1 K for the adjusted time period, the flow temperature is increased by the value "room sensor influence". Usual value: "30 min"
HEAT UP OPTI	0/1 => 0	Activate the function to automatically advance the start of the heating time.
MAX OPT-TIME	0-3 => 2:00h	Heating starts in advance maximally the amount of time set here.
N- OPT-TIME	Display only	Heating will start in advance, today, the amount of time set here.
T-ROOM ADJUST	(-5°C)-5°C => 0.0°C (23°F)- 41°F => 32°F	Only with outdoor sensor connected [Terminals 5+6]) Correction of the integrated room sensor's measured value – adaptation at installation site (inside wall, outside wall.
OUT-TEMP-DEL	30°C – 110°C => 85°C 86°F – 230°F => 185°F	In the case of well insulated walls -> Enter a high value.
HEATSLOPE 2	0—100 => 100% 0-3 => 0	Not Used
ROOMS-INFL 2	——, 0-20 => 0	Not Used
DISPLAY	0/1 => 0	(1= display set room temperature)
ENGLISH	=>GB	Set the language used by the
* Continued on next page		

Section 3.2

Control Operation

Overview of code-protected values

* continued from previous page

Move within Expert level with ∇ / $\triangle$ keys

EXPERT			Description
....	Expert values	(see Page 23)	
20	Enter code no.	——-	**Entry of code no** Enter the correct code number to enable the following values to be changed
21	Code no.	1234	Reselect a code number
22	Frost protection temperature	(-5°C)-(+5°C) => 0.0^{o}C (23°F) - (41°F) => 32°F	(only with outdoor sensor) When the outside temperature has dropped below the set limit value, the heating circuit is switched on and set to the room temperature of 5° C/41°F. The hot water temperature is set to 10° C/50°F. The boiler is heated to the value "24 = minimum boiler temperature".
23	Hot-water short-time heating	0/1 => 1	
24	Min. boiler temperature	10°C – 80°C => 30°C 50°F –176°F =>86°F	Used to set a minimum boiler temperature for the heating operation.
RETURN			⌨ =>RETURN to main menu

Section 3.2

Control Operation

Enter time and weekday

⏏ OPEN cover ➜ search for level using ▽ / ▲
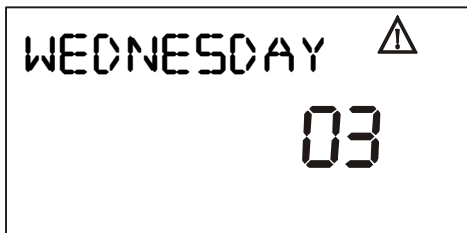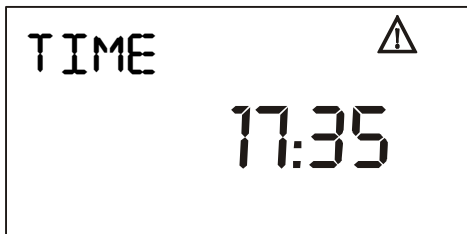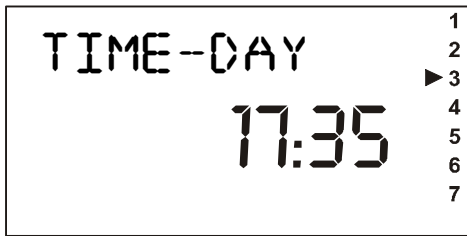
```
TIME-DAY        1
                2
              ►3
   17:35        4
                5
                6
                7
```

⏏ **Operating and changing modes are accessed directly by opening the control panel cover. =>**
USER in the display

▲ ▲   2x Plus key => "TIME-DAY"

▭ Press the Prog key => "Time" and "⚠"

```
TIME          ⚠

   17:35
```

▽ / ▲   Use the Plus/Minus keys to change the value

Press and hold the key to scroll the value
From the minute 00, 15, 30 or 45 in steps of 15 minutes

▭ Press the Prog key => "Day" and "⚠"

```
WEDNESDAY     ⚠

        03
```

▽ / ▲   Use the Plus/Minus keys to change the value

▭ Press the Prog key => Save => "TIME-DAY"

Section 3.3

24

Enter heating Timer programs

Symbols:

I ON   = First switch-on time
      (I OFF = first switch-off time)

20°C/68°F

     = Set room temperature for displayed
      heating time

Clock = Approximate program display [full hours]

▥   = Program for heating circuit 1

$\oplus_2$ = Heating program 2,

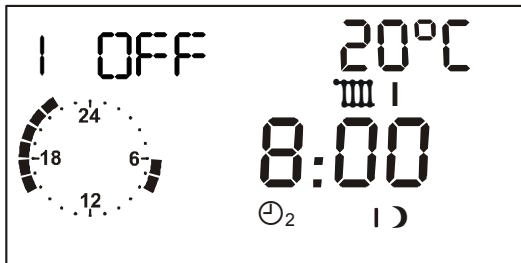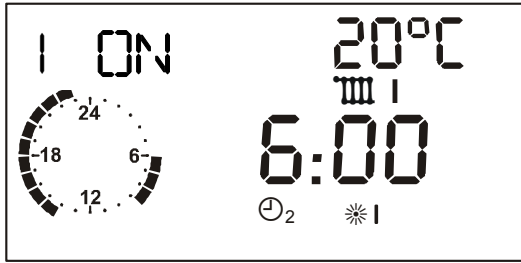$\oplus_1$ = Heating program 1

☀I   = Start time 1,

I☾   = Stop time 1,

☀II = Start time 2,

II☾ = Stop time 2,

☀III = Start time 3,

III☾ = Stop time 3

▲ ▲ ▲ 3 x Plus key => "HTGPROG "

▽ / ▲ Select weekday (Mo-Su) or block
(MO-FR => Monday-Friday, SA-SU => Saturday-Sunday, MO-SU => Monday-Sunday)

▱ Open weekday/block (see left)
=> "I ON   20°C/68°F " First switch-on time –
set value I = 20°C

▲ Set first switch-on time => for example 6:00 hrs

▱ Confirm first switch-on time
=> "I OFF   20°C/68°F " First switch-off time –
set value I = 20°C/68°F

▲ Set first switch-off time => for example 8:00 hrs

▱ Confirm first switch-off time
=> "II ON   20°C/68°F " First switch-off time –
set value II = 20°C/68°F

▽ / ▲ / ▱ Switch-on and switch-off times 2 and 3 are entered in the same way - please enter all values!

▽ / ▲ Select another weekday/block for entry or exit heating program 2 with "RETURN" and set another program.

!   The heating times are not saved until all the times for a weekday/block have been entered.

"- - - -" for a switch-on/switch-off time => The relevant heating timer is deactivated.

Section 3.3

Control Operation

Heating program 1

🖉	Heating time 1		Heating time 2		Heating time 3	
Mo.						
Tu.						
We.						
Th.						
Fr.						
Sa.						
Su.						

Factory Setting:
Mo. to Fr.:   06:00 to 22.00
Sa. to Su.:   07:00 to 23:00

Heating program 2

🖉	Heating time 1		Heating time 2		Heating time 3	
Mo.						
Tu.						
We.						
Th.						
Fr.						
Sa.						
Su.						

Factory Setting:
Mo. to Fr.:   06:00 to 08:00,
                16:00 to 22.00
Sa. to Su.:   07:00 to 23:00

Timer/heating program adjustment

🖉	Heating time 1		Heating time 2		Heating time 3	
Mo.						
Tu.						
We.						
Th.						
Fr.						
Sa.						
Su.						

Factory Setting:
Mo. to Fr.:   05:00 to 21.00
Sa. to Su.:   06:00 to 22:00

Control Operation

Enter holiday program

⌁ OPEN cover ➔ ⏶ ⏶ ⏶ ⏶ ⏶ ⏶ ➔ 🗅 ➔ change value with ▽ / ⏶

For the holiday program, the following are entered **in days**:

▶ the start of the holiday
▶ the duration of the holiday

```
HOLIDAY

          00
```

⌁ **Operating and changing modes are accessed directly by opening the control panel cover.**
=> USER in the display

⏶ ⏶ ⏶ ⏶ ⏶ ⏶
6x Plus key => Display: "HOLIDAY" and "remaining days, e.g. 00"

```
START-HOLIDAY

          00
```

🗅 Prog key => Display: "START-HOLID" and "⚠"

▽ / ⏶

Enter the number of days in which the holiday starts.
The start is always assumed at 12:00 pm

! Please do not enter the day of travel as the start date, but the first day of the holiday (no more heating from this day)

```
HOLIDAY-DUR

          00
```

🗅 Prog key => Display: "HOLIDAY-DUR" and "⚠"

▽ / ⏶

Enter the duration of the holiday in days
The end is always assumed at 12:00 pm

End the holiday programming function => " ▷ " Press Mode selector switch.

Control Operation

Heating Curve Selection

Heat slope: Relationship between outside temperature and flow temperature (for floor heating approx. 0.6) => (only with outdoor sensor connected [Terminals 5+6])

The following graph provides a guideline to setting the heat slope.

Note on setting:

In the case of cold outside temperatures and too low room temperature => Increase the heat slope setting. In case of high outside temperatures (e.g. 16°C/61°F) and too low room temperature => Correction via the set room temperature value.
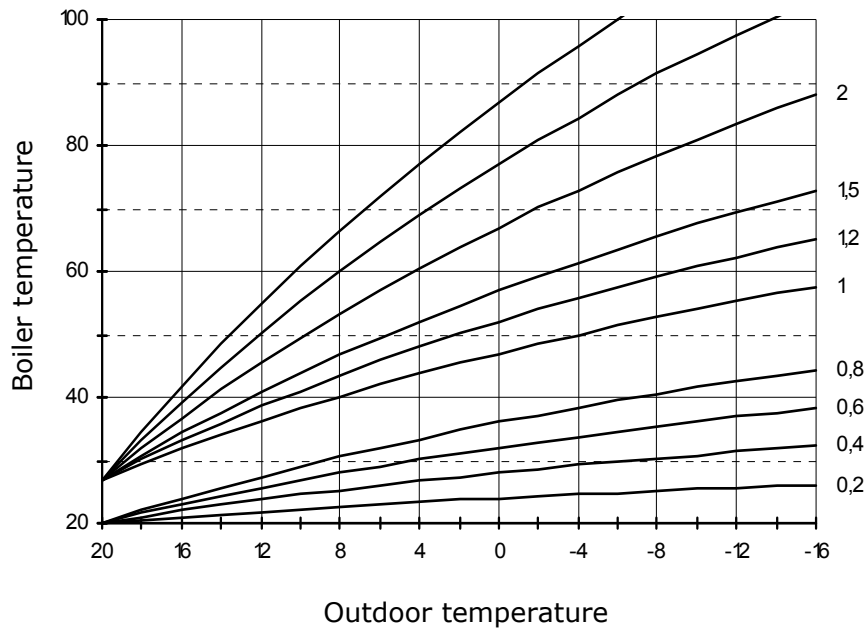
Heat slope adaptation: ON/OFF
Function for automatic adjustment of the heat slope => (only with outdoor sensor connected [Terminals 5+6])

The adaptation is only activated at outside temperatures below 8°C/46°F and when the room temperature is below 18°C/64°F.

During the adaptation, warm-up of the living room begins after 3 hours at reduced operation (nighttime). Room temperature regulation is performed with a set value of 21°C/70°F. As soon as the room temperature exceeds 20°C/68°F, the room is regulated a further ½ hour at 20°C/ 68°F.

The supply and outside temperatures are then measured.

The optimum gradient is determined from these values and is then assumed in the regulation. The calculation is made once following activation. The smallest possible heat slope for radiator heating is set to "1". Large surface heating (floors, walls, ceiling, ...) should have heat slopes less than "1".

If the required room temperature has not been reached during 4 hours of the adaptation, it is canceled (warning indicator flashes). If the adaptation is canceled, it is repeated on the next day.

Control Operation

Explanation of Settings

Room sensor influence
The boiler temperature is increased by the set value when the room temperature is 1°C/ 1.8°F below that required. As a result, high values lead to fast regulation with high fluctuations in the boiler temperature.

A setting of 0 allows pure weather-dependent control during the normal daytime operation with room temperature dependent activation of the heating during the night reduction.

When the room influence is set to ---- pure weather-dependent control is programmed for both normal daytime operation as well as reduced operation

Warm-up optimization:
Activate the function for the automatic advance of the time set for starting heating.

Example:
Heating program 6:00 a.m. – 10:30 p.m.

OFF: Heating of the accommodation is set to begin at 6:00 a.m.

ON: Heating is actually started earlier, depending on the weather and the current room temperature, so that the accommodation has just reached the set room temperature at 6:00 a.m.

Maximum time advance: This is the maximum time heating can be started in advance.

Required time advance: This is the time the start of heating has been advanced for today (display only).

Adaptation of room sensor: This value can reduce the following disturbance variables for measuring the room temperature:
- Production-related deviation of the sensor
- Influence of the temperature of the room wall
- Operating temperature

Outside temperature delay: In the case of extremely well insulated walls, a change in the outside temperature affects the room temperature after a correspondingly longer delay. In the case of weather-dependent control, this parameter can prevent a premature activation of the heat generator. (only with outdoor sensor connected [Terminals 5+6])

Displays: O entering a "1", the room temperature <u>and</u> set room temperatures are displayed when the control panel cover is closed.

Demand-dependent pump control : The pumps and heating system are switched off if there is no heating demand. The pumps are reactivated if frost protection is triggered.

Switch off heating and pumps :
Room regulation: Room temperature > Set temperature + 1K
Regulation according to outside temperature:
Outside temperature > Set room temperature + 1K
Switch on:
Room temperature < Set room temperature
or Outside temperature < Set room temperature

Section 3.4

Reset

Reset
Press carefully using a pointed instrument
(straightened paper clip)
=> Restart the equipment.

✎ Press Prog key and Reset button
simultaneously, release Reset button and keep
Prog key pressed until "EEPROM" appears
=> All set values are reset to their default values
(except heating programs and hot water
program).

▶   Restart => Press Reset
▶   Load default settings => Press Reset + Prog

Control Operation

General error list

Display	Description
LOCKOUT	No flame development (gas, flame)
OVERHEATING	STB deactivation
AIR PRESSURE	Pressure cell / Exhaust thermostat open
WATER PRESS	Insufficient water (pressure under 1 bar)
SERVICE	Complete service work on boiler

Display/ Error no.	Description (please compare to boiler manual)
75	Outdoor sensor = Check
80	Room sensor = Check
81	EEPROM error = Check set values

Error 81

This error indicates a change in the controller memory (e.g. due to EMC). Please check all the set values.

Other error numbers

Other error numbers may appear in the controller display as a result of the boiler. Please refer to the boiler documents for their respective significance.

Communication with the boiler " ⬦ "

When the communication symbol appears in the display, data exchange with the boiler is possible!
If this symbol does not appear (in the clock), check the data cable to the boiler.

Unlocking the boiler

Some boilers enable boiler errors to be reset via remote control. To activate this function, press the "ECO" and "PARTY" keys simultaneously for several seconds in the event of a fault.

When the function has been activated, the error message disappears.

⚠ If a fault occurs repeatedly, call the installation technician to check the system.

Pump runs/ runs not => automatic Pump switching

Switch off heating and pumps :
Room temperature > Set temperature + 1K
Outdoor temperature > Set room temperature + 1K

Switch off heating and pumps :
Room temperature > Set temperature + 1K
Outside temperature > Set room temperature + 1K

Control Operation

Start-up and Commissioning

General error list

" ⇔ "   Does the symbol appear - in the clock => If not, check the data cable to the boiler

Set language

⊞ OPEN flap ➔ "ENGLISH"

▢ Select ➔ △ = Change mode

▽ / ▲ Select language ➔ " ENGLISH "

▢ Save ➔ "USER SETTING"

Set time and weekday

▲ ▲ ➔ "TIME+DAY"

▢ Select ➔ "TIME" + △ = Change mode

▽ / ▲ Set the time

▢ Save ➔ "WEEKDAY" + △ = Change mode

▽ / ▲ Set the weekday

▢ Save ➔ "TIME+DAY"

⊞ CLOSE cover ➔ Default display

▷ Operating mode ➔ ☉ 1

Start up procedure

1. Please read through this manual carefully before starting up the equipment.
2. Install the controller and switch on the boiler.
3. Wait until the display appears in the operating unit.
4. Wait until communication to the boiler is established.
5. Set the language:
   The first time the control panel cover is opened after switching on the power supply, the language appears in the display.
   (=> It is only displayed once! The language appears again when the unit is briefly removed from the base.)
6. Set the time and weekday.
   A detailed description of how to set the time and weekday in provided in operating section of this manual.
7. Close hinged control panel cover.
8. Set the program switch to the required operating mode, e.g. Automatic 1
   (see page 4)

Control Operation

Switching on the heating via telephone

The controller can be switched to heating operation ✻ by means of a telephone switch.

Connecting a telephone switch:
Connection terminals 3+4.

As soon as these terminals detect a closed circuit, the controller switches to heating operation (with set room temperature I).

When the short circuit is cleared, heating resumes according to the set mode of operation or the set heating program.

The Versatronik COMO OT Room Temperature Controller can be programmed to allow full time operation in reduced mode. Upon contact closure of the telephone input, the room temperature set point is controlled by the normal room temperature settings. Typical applications such as this would include weekend homes/cottages.

Control Operation

Technical data

Supply voltage (OT)	15 V DC with current limitation (13 mA)
Current consumption	< 5mA
Type of protection complying to EN 60529	IP 40
Protection Class II complying to EN 60730	III
Power reserve of the timer	**>** 10 hours
Permitted ambient temperature during operation	0 to 50°C / 32 to 122°F
Permitted ambient temperature for storage	-20 to 60°C/ -4 to 140°F

Room sensor
  Tolerance in Ohms
  Temperature tolerance
	Precision resistor NTC 5 Kohm
	±-1% at 25°C/ 77°F
	+/- 0.2 K at 25°C/ 77°C

Temperature		5Kohm NTC	1Kohm PTC
-60°C	-76°F	698961	470
-50°C	-58°F	333908	520
-40°C	-40°F	167835	573
-30°C	-22°F	88340	630
-20°C	-4°F	48487	690
-10°C	14°F	27648	755
0°C	32°F	16325	823
10°C	50°F	9952	895
20°C	68°F	6247	971
25°C	77°F	5000	1010
30°C	86°F	4028	1050
40°C	104°F	2662	1134
50°C	122°F	1801	1221
60°C	140°F	1244	1312
70°C	158°F	876	1406
80°C	176°F	628	1505
90°C	194°F	458	1607
100°C	212°F	339	1713
110°C	230°F	255	1823
120°C	248°F	194	1936

Section 3.7
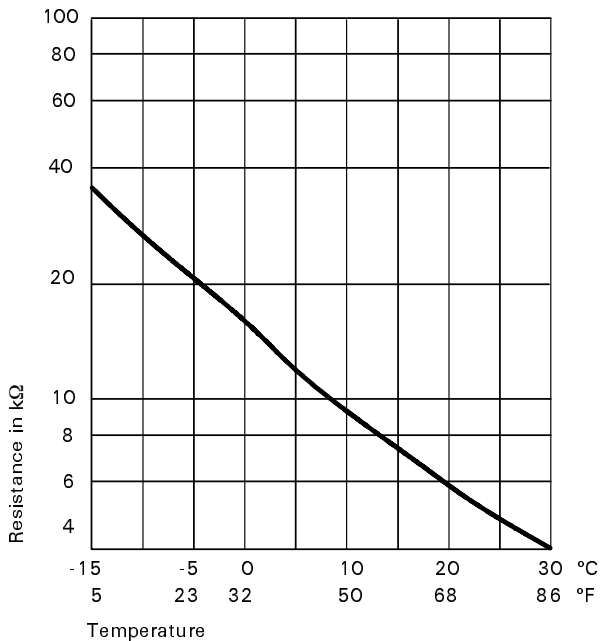
Malfunctions due to improper operation or settings are not covered by the warranty.

Control Operation

Notes

KWE Technologies Group
750 McMurray Road
Waterloo, Ontario, Canada
N2V 2G5
Tel: (519) 747-5042
Fax: (519) 747-4448
www.kwe-tech.com
info@kwe-tech.com