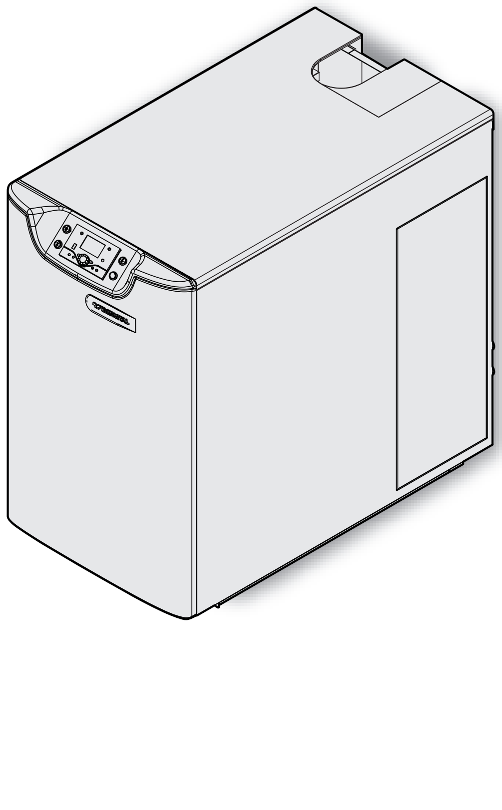
THERMITAL

USER PARAMETERS MANUAL

# THC V E OIL BLU



# CONTENTS



The following symbols are used in this manual:

⚠ = Identifies actions that require caution and adequate preparation.

⛔ = Identifies actions that you MUST NOT do

This manual, Code 20100579 Rev. 1 (05/17) is made up of 28 pages.

# LIST OF END USER LEVEL PARAMETERS

| Opera-ting line | User level | Function | Default value | Min | Max | Unit |
|---|---|---|---|---|---|---|
| | | **Time of day and date** | | | | |
| 1 | E | Hours/minutes | - | 00:00 | 23:59 | hh:mm |
| 2 | E | Day / month | - | 1,01 | 31,12 | dd.MM |
| 3 | E | Year | - | 2004 | 2099 | yyyy |
| | | **Operator unit** | | | | |
| 20 | E | Language<br>German ¦ … | German | - | - | - |
| 29 | E | Units<br>(°C,bar ¦ °F,PSI) | °C,bar | - | - | - |
| 32 | E | Basic setting | Compatible | - | - | - |
| 39 | E | Commissionig menù (On¦Off) | Off | - | - | - |
| | | **Time prog heating circuit 1** | | | | |
| 500 | E | Preselection<br>Mo - Su ¦ Mo - Fr ¦ Sa - Su ¦ Mo ¦ Tu ¦ We ¦ Th ¦ Fr ¦ Sa ¦Su | Mo - Su | - | - | - |
| 501 | E | 1st phase on | 6:00 | 00:00 | 24:00 | hh:mm |
| 502 | E | 1st phase off | 22:00 | 00:00 | 24:00 | hh:mm |
| 503 | E | 2nd phase on | 24:00 | 00:00 | 24:00 | hh:mm |
| 504 | E | 2nd phase off | 24:00 | 00:00 | 24:00 | hh:mm |
| 505 | E | 3rd phase on | 24:00 | 00:00 | 24:00 | hh:mm |
| 506 | E | 3rd phase off | 24:00 | 00:00 | 24:00 | hh:mm |
| 516 | E | Default values<br>No ¦ Yes | No | - | - | - |
| | | **Time prog heating circuit 2** | | | | |
| 520 | E | Preselection<br>Mo - Su ¦ Mo - Fr ¦ Sa - Su ¦ Mo ¦ Tu ¦ We ¦ Th ¦ Fr ¦ Sa ¦Su | Mo - Su | - | - | - |
| 521 | E | 1st phase on | 6:00 | 00:00 | 24:00 | hh:mm |
| 522 | E | 1st phase off | 22:00 | 00:00 | 24:00 | hh:mm |
| 523 | E | 2nd phase on | 24:00 | 00:00 | 24:00 | hh:mm |
| 524 | E | 2nd phase off | 24:00 | 00:00 | 24:00 | hh:mm |
| 525 | E | 3rd phase on | 24:00 | 00:00 | 24:00 | hh:mm |
| 526 | E | 3rd phase off | 24:00 | 00:00 | 24:00 | hh:mm |
| 536 | E | Default values<br>No ¦ Yes | No | - | - | - |
| | | **Time program 3/HC3** | | | | |
| 540 | E | Preselection<br>Mo - Su ¦ Mo - Fr ¦ Sa - Su ¦ Mo ¦ Tu ¦ We ¦ Th ¦ Fr ¦ Sa ¦Su | Mo - Su | - | - | - |
| 541 | E | 1st phase on | 6:00 | 00:00 | 24:00 | hh:mm |
| 542 | E | 1st phase off | 22:00 | 00:00 | 24:00 | hh:mm |
| 543 | E | 2nd phase on | 24:00 | 00:00 | 24:00 | hh:mm |
| 544 | E | 2nd phase off | 24:00 | 00:00 | 24:00 | hh:mm |
| 545 | E | 3rd phase on | 24:00 | 00:00 | 24:00 | hh:mm |
| 546 | E | 3rd phase off | 24:00 | 00:00 | 24:00 | hh:mm |
| 556 | E | Default values<br>No ¦ Yes | No | - | - | - |
| | | **Time program 4/DHW** | | | | |
| 560 | E | Preselection<br>Mo - Su ¦ Mo - Fr ¦ Sa - Su ¦ Mo ¦ Tu ¦ We ¦ Th ¦ Fr ¦ Sa ¦Su | Mo - Su | - | - | - |
| 561 | E | 1st phase on | 6:00 | 00:00 | 24:00 | hh:mm |
| 562 | E | 1st phase off | 22:00 | 00:00 | 24:00 | hh:mm |
| 563 | E | 2nd phase on | 24:00 | 00:00 | 24:00 | hh:mm |
| 564 | E | 2nd phase off | 24:00 | 00:00 | 24:00 | hh:mm |
| 565 | E | 3rd phase on | 24:00 | 00:00 | 24:00 | hh:mm |
| 566 | E | 3rd phase off | 24:00 | 00:00 | 24:00 | hh:mm |
| 576 | E | Default values<br>No ¦ Yes | No | - | - | - |
| | | **Time program 5** | | | | |
| 600 | E | Preselection<br>Mo - Su ¦ Mo - Fr ¦ Sa - Su ¦ Mo ¦ Tu ¦ We ¦ Th ¦ Fr ¦ Sa ¦Su | Mo - Su | - | - | - |

| Opera-ting line | User level | Function | Default value | Min | Max | Unit |
|---|---|---|---|---|---|---|
| 601 | E | 1st phase on | 6:00 | 00:00 | 24:00 | hh:mm |
| 602 | E | 1st phase off | 22:00 | 00:00 | 24:00 | hh:mm |
| 603 | E | 2nd phase on | 24:00 | 00:00 | 24:00 | hh:mm |
| 604 | E | 2nd phase off | 24:00 | 00:00 | 24:00 | hh:mm |
| 605 | E | 3rd phase on | 24:00 | 00:00 | 24:00 | hh:mm |
| 606 | E | 3rd phase off | 24:00 | 00:00 | 24:00 | hh:mm |
| 616 | E | Default values<br>No ¦ Yes | No | - | - | - |
| **Holidays heating circuit 1** | | | | | | |
| 641 | E | Preselection<br>Period 1 … Period 8 | Period 1 | 1 | 8 | - |
| 642 | E | Start | --.-- | 01.01 | 31,12 | dd.MM |
| 643 | E | End | --.-- | 01.01 | 31,12 | dd.MM |
| 648 | E | Operating level<br>Frost protection ¦ Reduced | Frost protection | - | - | - |
| **Holidays heating circuit 2** | | | | | | |
| 651 | E | Preselection<br>Period 1 … Period 8 | Period 1 | 1 | 8 | - |
| 652 | E | Start | --.-- | 1,01 | 31,12 | dd.MM |
| 653 | E | End | --.-- | 1,01 | 31,12 | dd.MM |
| 658 | E | Operating level<br>Frost protection ¦ Reduced | Frost protection | - | - | - |
| **Holidays heating circuit 3** | | | | | | |
| 661 | E | Preselection<br>Period 1 … Period 8 | Period 1 | 1 | 8 | - |
| 662 | E | Start | --.-- | 1,01 | 31,12 | dd.MM |
| 663 | E | End | --.-- | 1,01 | 31,12 | dd.MM |
| 668 | E | Operating level<br>Frost protection ¦ Reduced | Frost protection | - | - | - |
| **Heating circuit 1** | | | | | | |
| 700 | E | Operating mode<br>Protection ¦ Automatic ¦ Reduced ¦ Comfort | Comfort | - | - | - |
| 710 | E | Comfort setpoint | 20,0 | OL 712 | OL 716 | °C |
| 712 | E | Reduced setpoint | 16 | OL 714 | OL 710 | °C |
| 714 | E | Frost protection setpoint | 4,0 | 4 | OL 712 | °C |
| 720 | E | Heating curve slope | 1,50 | 0,10 | 4,00 | - |
| 730 | E | Summer/winter heating limit | 18 | - - - / 8 | 30 | °C |
| **Cooling circuit 1** | | | | | | |
| 901 | E | Operating mode<br>Off ¦ Automatic | Automatically | - | - | - |
| 902 | E | Comfort setpoint | 24,0 | 15 | 40 | °C |
| 907 | E | Release<br>24h/day ¦ Time progr HC ¦ Time program 5 | 24h / day | - | - | - |
| **Heating circuit 2** | | | | | | |
| 1000 | E | Operating mode<br>Protection ¦ Automatic ¦ Reduced ¦ Comfort | Automatically | - | - | - |
| 1010 | E | Comfort setpoint | 20,0 | OL 1012 | OL 1016 | °C |
| 1012 | E | Reduced setpoint | 16 | OL 1014 | OL 1010 | °C |
| 1014 | E | Frost protection setpoint | 10,0 | 4 | OL 1012 | °C |
| 1020 | E | Heating curve slope | 1,50 | 0,10 | 4,00 | - |
| 1030 | E | Summer/winter heating limit | 18 | - - - / 8 | 30 | °C |
| **Heating circuit 3** | | | | | | |
| 1300 | E | Operating mode<br>Protection ¦ Automatic ¦ Reduced ¦ Comfort | Automatically | - | - | - |
| 1310 | E | Comfort setpoint | 20,0 | OL 1312 | OL 1316 | °C |
| 1312 | E | Reduced setpoint | 16 | OL 1314 | OL 1310 | °C |

| Operating line | User level | Function | Default value | Min | Max | Unit |
|---|---|---|---|---|---|---|
| 1314 | E | Frost protection setpoint | 10,0 | 4 | OL 1312 | °C |
| 1320 | E | Heating curve slope | 1,50 | 0,10 | 4,00 | - |
| 1330 | E | Summer/winter heating limit | 18 | - - - / 8 | 30 | °C |
| **Domestic hot water DHW** | | | | | | |
| 1600 | E | DHW operating mode<br>Off ¦ On | On | - | - | - |
| 1601 | O | Optg mode selection Eco<br>None ¦ Instantaneous water heater ¦ DHW storage tank ¦ Inst water heater + st tank | None | - | - | - |
| **Service / special operation** | | | | | | |
| 7120 | E | Economy mode<br>Off ¦ On | Off | - | - | - |
| 7130 | E | Chimney sweep function<br>Off ¦ On | Off | - | - | - |
| 7140 | E | Manual control<br>Off ¦ On | Off | - | - | - |
| **Diagnostics, heat generation** | | | | | | |
| 8526 | E | 24-hour yield solar energy | 0 | 0 | 999,9 | kWh |
| 8527 | E | Total yield solar energy | 0 | 0 | 9999999.9 | kWh |
| 8570 | E | Hours run solid fuel boiler | 0 | 0 | 65535 | h |

## SETTING FUNCTIONING PARAMETERS

### TIME PROGRAMS

A number of programs are available for setting the CONTINUOUS COMFORT and REDUCED COMFORT operating modes for central heating and DHW.

On and off times can be set in common for groups of days (MO-FR or SA-SU) or for each day individually.

| Line no. | | | | | Default setting | Preimpostazione |
|---|---|---|---|---|---|---|
| **HC1** | **HC2** (not active) | **HC3** (not active) | **4/DHW** | **5** | | |
| **500** | **520** | **540** | **560** | **600** | **Preselection**<br>Mo - Su<br>Mo - Fr<br>Sa - Su<br>Mo ... Su | **Mo - Su** |
| **501** | **521** | **541** | **561** | **601** | **1st phase on** | **6:00** |
| **502** | **522** | **542** | **562** | **602** | **1st phase off** | **22:00** |
| **503** | **523** | **543** | **563** | **603** | **2nd phase on** | **24:00** |
| **504** | **524** | **544** | **564** | **604** | **2nd phase off** | **24:00** |
| **505** | **525** | **545** | **565** | **605** | **3rd phase on** | **24:00** |
| **506** | **526** | **546** | **566** | **606** | **3rd phase off** | **24:00** |

All programs can be reset to their default (factory) settings. Each program has a line for restoring default settings.

| Line no. | | | | | Default setting | Preimpostazione |
|---|---|---|---|---|---|---|
| **HC1** | **HC2** (not active) | **HC3** (not active) | **4/DHW** | **5** | | |
| **516** | **536** | **556** | **576** | **616** | **Default values** | **No** |

### HEATING CIRCUITS

Various functions are available for each individual heating circuit.

The operating mode for circuits 1 and 2 (not active) is selected directly by means of the button on the control panel. The operating mode of circuit 3/P is selected by means of parameter 1300.

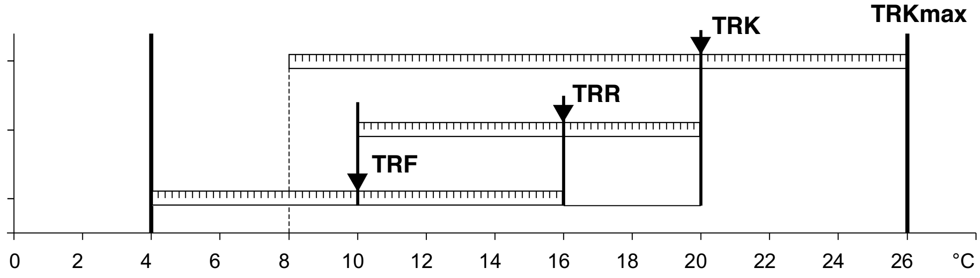
| Line no. | Description | Default setting |
|---|---|---|
| **700-1000-1300** | **Operating mode**<br>Protection<br>Automatic<br>Reduced<br>Comfort | **Automatic** |

The various setpoints are entered on the corresponding lines of the table.

| Line no. | | | Description | Default setting |
|---|---|---|---|---|
| **HC1** | **HC2** (not active) | **HC3** (not active) | | |
| **710** | **1010** | **1310** | **Comfort setpoint** | **20.0** |
| **712** | **1012** | **1312** | **Reduced setpoint** | **16** |
| **714** | **1014** | **1314** | **Frost protection setpoint** | **4.0** |
| **716** | **1016** | **1316** | **Comfort setpoint max** | **35.0** |

## ROOM TEMPERATURE

Room temperature can be set to different setpoints, according to operating mode. The following figure illustrates the relationships between the various room temperature setpoints.




**TRKmax** Comfort setpoint max
**TRK** Comfort setpoint
**TRR** Reduced setpoint
**TRF** Frost protection setpoint

In protection mode, room temperature is not allowed to fall below the setpoint in order to stop the system freezing.

## HEATING CURVE

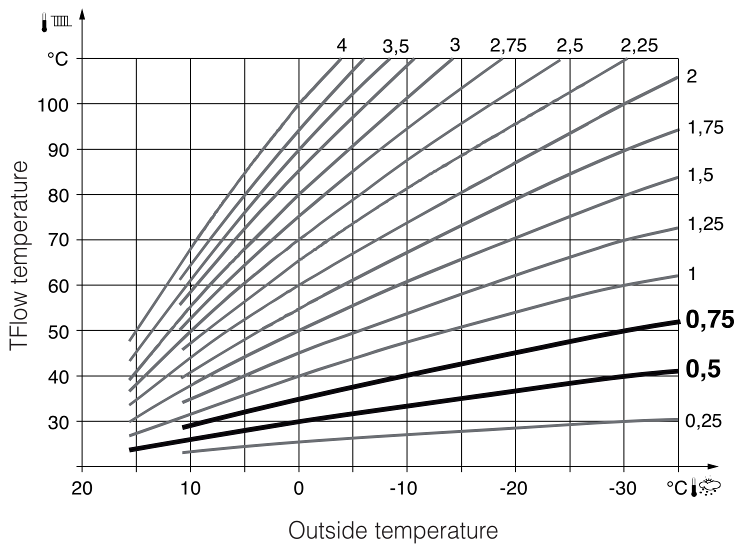
**Heating curve slope**

The heating curve is used to generate temperature setpoints according to prevailing weather conditions. The heating curve can be adapted by a number of settings according to user requirements.

| Line no. | | | Description | Default setting |
|---|---|---|---|---|
| HC1 | HC2 (not active) | HC3 (not active) | | |
| **720** | **1020** | **1320** | **Heating curve slope** | **1.5** |
| **721** | **1021** | **1321** | **Heating curve displacement** | **0.0** |
| **726** | **1026** | **1326** | **Heating curve adaption** | **Off** |

**Increase slope:** You can use this function to increase heating flow temperature, especially in low outside temperatures.
**Reduce slope:** You can use this function to reduce heating flow temperature, especially in high outside temperatures.

**CHARACTERISTIC HEATING CURVE SLOPE**

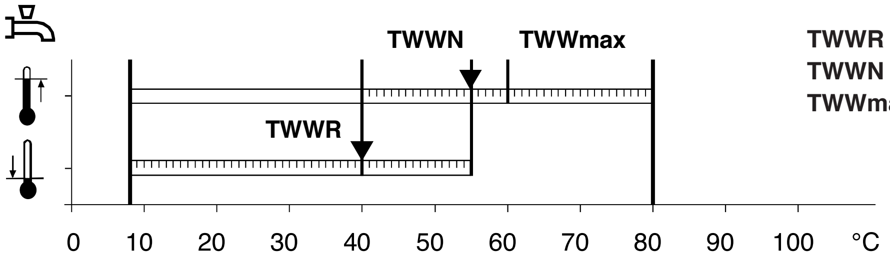


## SETTING DHW PARAMETERS

### SETPOINTS

| Line no. | Description | Default setting |
|---|---|---|
| **1610** | **Nominal setpoint** | **55** |
| **1612** | **Reduced setpoint** | **40** |

Domestic hot water can be heated to different setpoints. These are activated on the basis of the selected operating mode and take the storage cylinder to different temperatures.

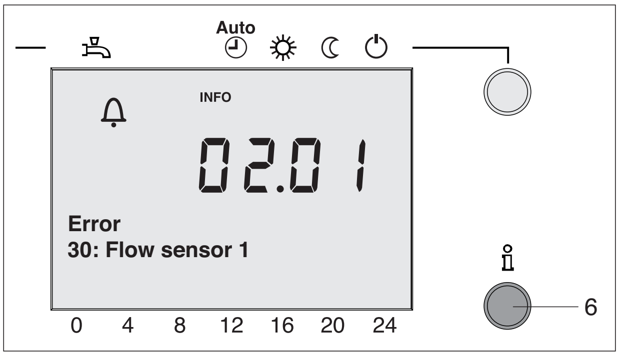



**TWWR** DHW reduced setpoint
**TWWN** DHW nominal setpoint
**TWWmax** DHW nominal setpoint maximum

DHW charging begins when DHW temperature drops below the switching differential setpoint (parameter 5024) and stops again when the DHW temperature reaches the nominal setpoint.

# ERROR/MAINTENANCE CODES

When the alarm symbol warns of an error, press the button (6) to display a description.
The message on the display describes the cause of the error.




⚠ **If one of these alarms appears, contact RIELLO's Technical Assistance Service or an authorised heating engineer to restore the normal functioning of the boiler.**

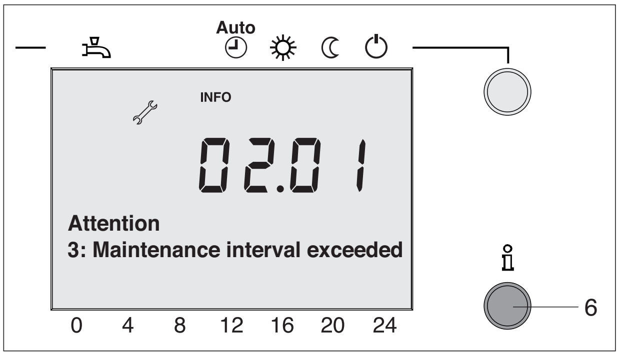
## ERROR LIST

| Error code | Description |
|---|---|
| **0** | No error |
| **10** | Outside sensor |
| **20** | Boiler sensor 1 |
| **25** | Boiler sensor solid fuel |
| **26** | Common flow sensor |
| **28** | Flue gas sensor |
| **30** | Flow sensor 1 |
| **31** | Flow temperature 1 cooling, sensor error |
| **32** | Flow sensor 2 |
| **38** | Flow sensor primary controller |
| **40** | Return sensor 1 |
| **43** | Solid fuel boiler return sensor |
| **46** | Return temperature cascade sensor error |
| **47** | Common return temperature sensor error |
| **50** | DHW sensor 1 |
| **52** | DHW sensor 2 |
| **57** | DHW circulation sensor |
| **60** | Room sensor 1 |
| **65** | Room sensor 2 |
| **68** | Room sensor 3 |
| **70** | Buffer storage tank sensor 1 |
| **71** | Buffer storage tank sensor 2 |
| **72** | Buffer storage tank sensor 3 |
| **73** | Collector sensor 1 |
| **74** | Collector temperature 2 sensor error |
| **76** | Special sensor 1 |
| **81** | LPB short-circuit/comm |
| **82** | LPB address collision |
| **83** | BSB short-circuit |
| **84** | BSB address collision |
| **85** | Radio communication |
| **98** | Extension module 1 |
| **99** | Extension module 2 |
| **100** | 2 clock time masters |
| **102** | Clock reserve missing |
| **103** | Communication error |

| Error code | Description |
|---|---|
| **105** | Maintenance message |
| **109** | Boiler temperature supervision |
| **110** | Lockout by SLT |
| **117** | Water pressure too high |
| **118** | Water pressure too low |
| **121** | Flow temperature HC1 |
| **122** | Flow temperature HC2 |
| **123** | Flow temperature too low |
| **126** | DHW charging supervision |
| **127** | Legionella temperature |
| **131** | Fault burner |
| **140** | Invalid LPB address |
| **141** | LPB not configured |
| **142** | No LPB device |
| **146** | Sensor/controlling element config |
| **171** | Alarm contact 1 active |
| **172** | Alarm contact 2 active |
| **174** | Alarm contact 4 active |
| **176** | Water pressure 2 too high |
| **177** | Water pressure 2 too low |
| **178** | Temperature limiter heating circuit 1 |
| **179** | Temperature limiter heating circuit 2 |
| **207** | Error, cooling circuit |
| **217** | Sensor error common message |
| **218** | Pressure supervision common message |
| **241** | Flow sensor, solar sensor error |
| **242** | Return sensor, solar sensor error |
| **243** | Swimming pool temperature sensor error |
| **320** | DHW charging temperature sensor error |
| **321** | Instantaneous DHW heater outlet temperature sensor error |
| **322** | Upper pressure limit 3 (crossed) |
| **323** | Critical lower pressure limit 3 (crossed) |
| **324** | BX same sensors |
| **325** | BX/extension module same sensors |
| **326** | BX/mixing valve group same sensors |
| **327** | Extension module same function |
| **328** | Mixing valve group same function |
| **329** | Extension module / mixing valve group same function |
| **330** | Sensor BX1 no function |
| **331** | Sensor BX2 no function |
| **332** | Sensor BX3 no function |
| **333** | Sensor BX4 no function |
| **334** | Sensor BX5 no function |
| **335** | Sensor BX21 no function |
| **336** | Sensor BX22 no function |
| **337** | Sensor BX1 no function |
| **338** | Sensor BX12 no function |
| **339** | Collector pump Q5 missing |
| **340** | Collector pump Q16 missing |
| **341** | Collector sensor B6 missing |
| **342** | Solar DHW sensor B31 missing |
| **343** | Solar integration missing |
| **344** | Solar controlling element buffer K8 missing |
| **345** | Solar controlling element swimming pool K18 missing |
| **346** | Solid fuel boiler pump Q10 missing |
| **347** | Solid fuel boiler comparison sensor missing |
| **348** | Solid fuel boiler address error |
| **349** | Buffer return valve Y15 missing |

| Error code | Description |
|---|---|
| **350** | Buffer storage tank address error |
| **351** | Primary controller / system pump address error |
| **352** | Pressureless header address error |
| **353** | Cascade sensor B10 missing |
| **354** | Special sensor 2 |
| **357** | Flow temperature cooling circuit 1 monitoring |
| **365** | Q34 instantaneous heating error |
| **366** | Room temperature Hx sensor error |
| **367** | Relative room humidity Hx sensor error |
| **371** | HC3 flow temperature |
| **373** | Expansion module 3 |
| **388** | DHW sensor no function |

When the symbol appears, a maintenance alarm is present or the boiler has entered a special operating mode.
Press button (6) for further information.




| Line no. | Description |
|---|---|
| **7040** | **Burner hours interval** |
| **7041** | **Burner hrs since maintenance** |
| **7042** | **Burner starts interval** |
| **7043** | **Burn starts since maint** |
| **7044** | **Maintenance Interval** |
| **7045** | **Time since maintenance** |

As soon as the number of burner operating hours or the number of burner starts exceeds the values set here, an alarm message is displayed.

## MAINTENANCE CODE

| Maintenance code | Description |
|---|---|
| **1** | Burner hours run exceeded |
| **2** | Burner starts exceeded |
| **3** | Maintenance interval exceeded |
| **5** | Water pressure heating circuit too low (pressure dropped below lower limit 1) |
| **18** | Water pressure 2 heating circuit too low (pressure dropped below lower limit 2) |
| **10** | Replace battery of outside sensor |

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