



## Operating manual

**CETA 104**

Heating circuit controller with burner control  
and DHW charging control

Version 1308-22  
Art. 0450021016

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## Scope of delivery

1. 1x Central unit CETA 104
2. 1x Outside sensor AF200
3. 1x Boiler immersion sensor KVT 20/2/6
4. 1x Tank immersion sensor KVT 20/2/6
5. 8x Screw, plate 2,9x19 mm
6. 3x Screw assembly 4x35 mm
7. 3x Plug U6
8. 2 x Cable clamp

## General

Systems with unmixed heating circuit are controlled via the heating circuit controller. Required heating circuit temperature is determined in the flow, depending on outside temperature.

The burner control adjusts the heat generator temperature via a switching contact at the boiler immersion sensor.

The DHW control is accessing a DHW charging pump and controls the DHW requirement in a DHW tank at the tank immersion sensor.

## Intended use

The unit is manufactured in accordance with state of the art technology and approved safety regulations. Nevertheless, using the unit can cause danger to the user or third persons, or damage to the unit and other assets. The unit must be used exclusively as heating circuit controller with burner control and DHW charging control.

## Safety

All electrical connections, safety measures and protections have to be carried out by an authorised professional electrician according to the valid standards and VDE-guidelines, as well as the local regulations. The electrical connection must be a fixed connection according to VDE 0100.

## General key functions

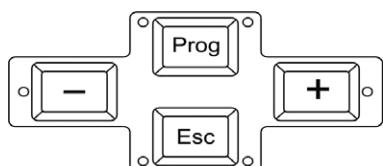
### Hazard symbols in this operating manual



**Hazard!**

*This symbol indicates information that warns of possible safety risks or severe and fatal injuries!*

## 1. General key functions



### Prog

- Change selected submenus
- Change (parameter) setting
- Save value

### + (Plus) or - (Minus)

- Change parameter
- Change menu item

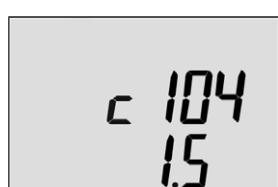
### Esc

- Exit setting
- Keep old value
- Select next higher menu level

### Esc-Lang

- Return to basic display

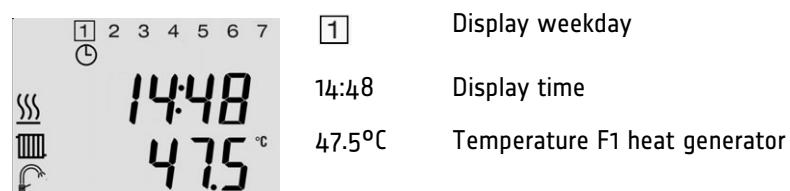
## 2. Version display (when starting)



c 104= Type designation Ceta 104

1.5= Version display (due to update it can differ from example shown)

### Basic display



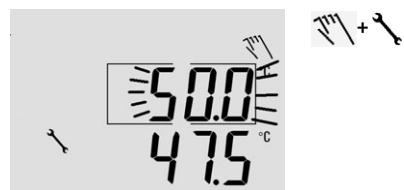
### Explanation of symbols

- Display heat generator in operation
- Display pump function heating circuit
- Display pump function tank loading
- Automatic mode heating circuit after timer program I or II
- Heating mode heating circuit  
(Operating mode AUTOMATIC or HEATING)
- Reduced mode heating circuit  
(Operating mode AUTOMATIC or RED. HEATING)
- Standby heating circuit
- Summer switch-off heating circuit
- Frost protection heating circuit

## Functions with direct access

### 4. Functions with direct access

#### Manual operation



Controller is in manual mode

- Activate by pressing and holding button
- Change heat generator setpoint via buttons and
- end function by pressing button

Function: Manual operation allows manual start-up of the system, e.g. to perform emission measurement.  
The heat generator adjusts the temperature to the set value

- The heating circuit pump runs continuously
- The DHW charging pump runs continuously



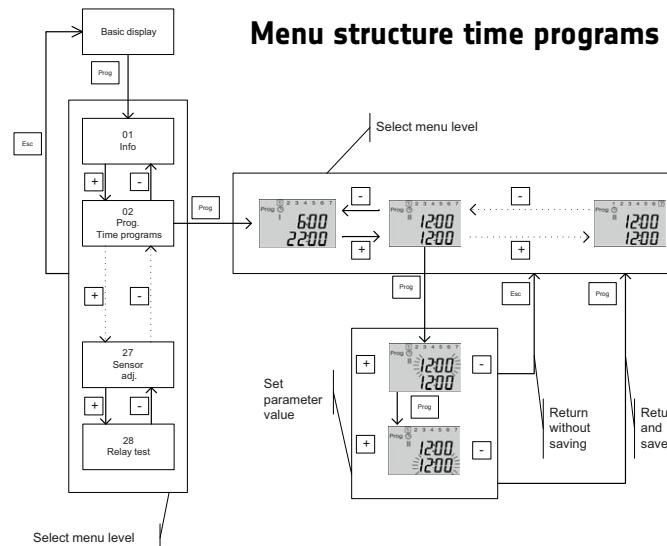
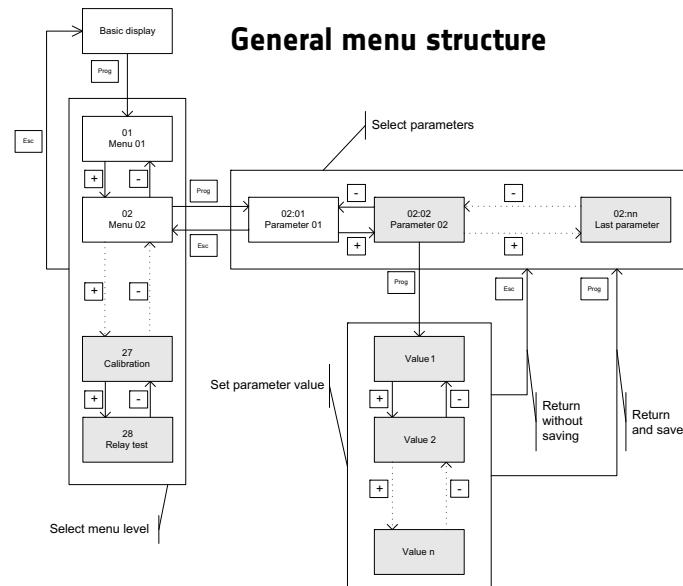
**Important!**  
**This function shall only be used by an authorised professional. Heating circuit temperatures are not monitored during measurement of emission. Faulty operation or unsupervised operation of this function may result in damages to the heating system.**

#### Adjustment room setpoint

Press buttons and in the basic display to directly set room day temperature. Such a variation changes the parameter 06:02 (see parameter description).

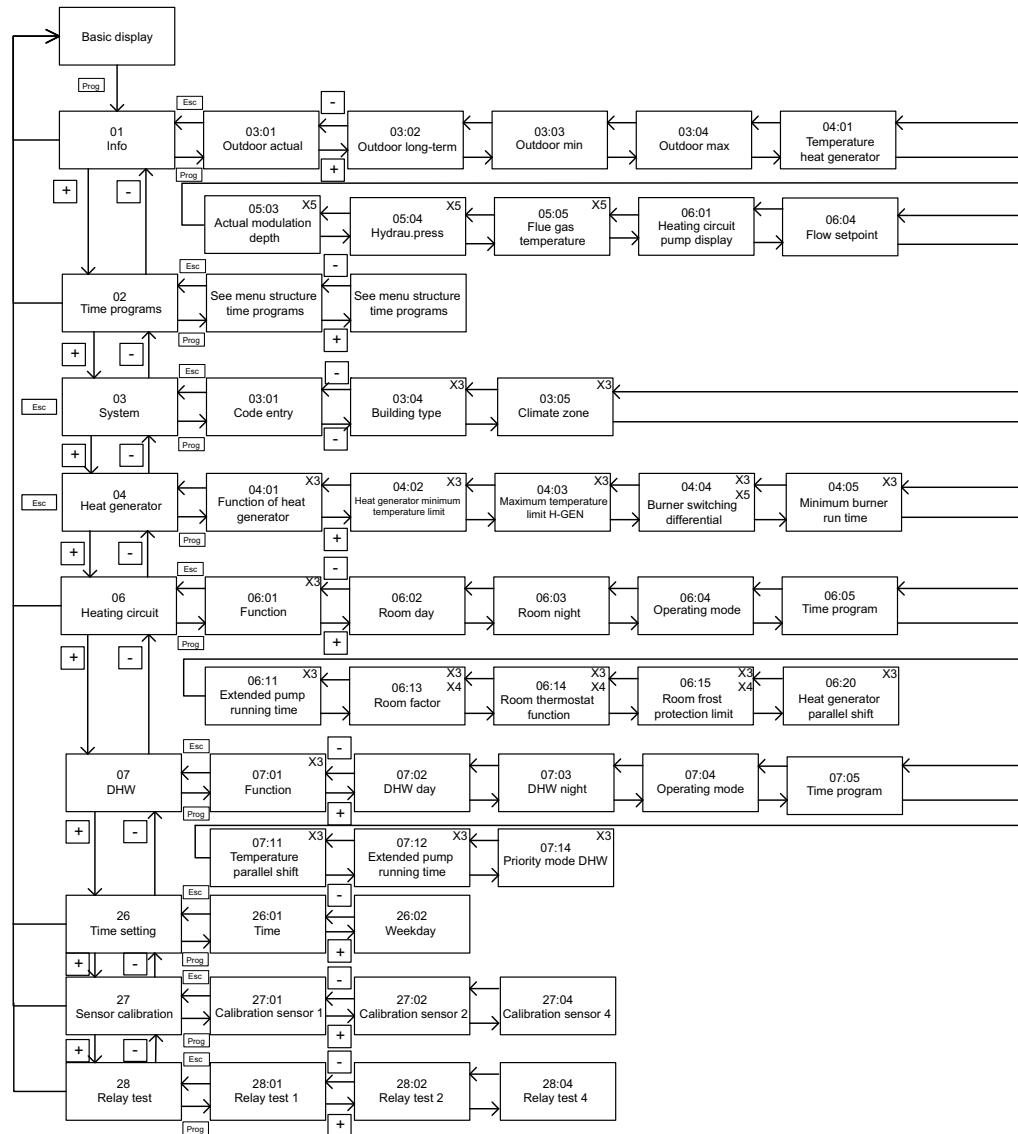
## Menu level

### 5. Menu level

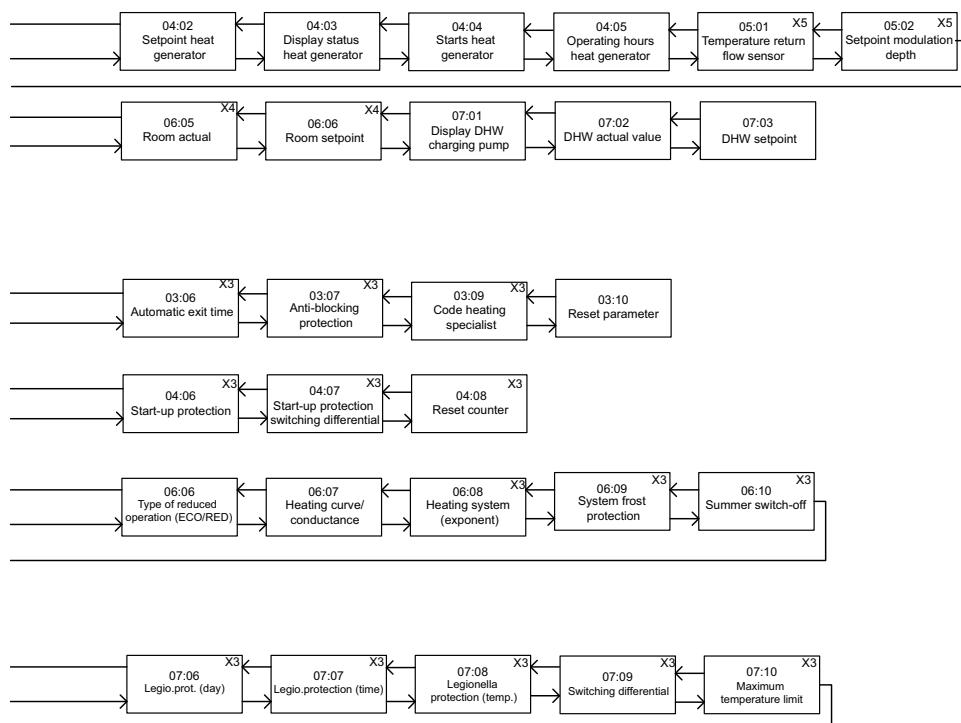


## Menu level

### Overview of menu level



**Menu level**



X2: Function only in bus connection

X3: Are hidden when activating code 03:09

X4: Only when connecting CETA RC

X5: Only in conjunction with heat generator connection via OpenTherm, and when supported by heat generator

## Parameter description

### 6. Parameter description

#### 01 Information level

Display	Designation	Description	
03:01	Outdoor actual	Current outside temperature	
03:02	Outdoor long-term	Average long-term value of outside temperature. Depending on set building type (03:04), the value is averaged longer or shorter.	
03:03	Outdoor min	Minimum outside temperature value (0.00 to 24.00 h)	
03:04	Outdoor max	Maximum outside temperature value (0.00 to 24.00 h)	
04:01	Temperature heat generator	Actual temperature on heat generator sensor	
04:02	Setpoint heat generator	Setpoint temperature for heat generator	
04:03	Display status heat generator	0: Heat generator outlet is switched off 1: Heat generator outlet is switched on	
04:04	Starts Heat generator	Number of heat generator starts	
04:05	Operating hours Heat generator	Number of heat generator operating hours	
05:01	Temperature Return flow sensor	Actual temperature heat generator return	X5
05:02	Setpoint Modulation depth	Setpoint heat generator-modulation depth (only if system contains information)	X5
05:03	Actual value Modulation depth	Actual value heat generator-modulation depth (only if system contains information)	X5
05:04	Hydrau.press	Water pressure in heating system in bar (only if system contains information)	X5
05:05	Flue gas temperature	Flue gas temperature of heat generator (only if system contains information)	X5
06:01	Display heating circuit pump	0: Heating circuit pump is switched off 1: Heating circuit pump is switched on	
06:04	Flow heating circuit setpoint	Flow setpoint temperature for heating circuit	
06:05	Room actual	Actual temperature in room	X4
06:06	Room setpoint	Room setpoint temperature for heating circuit	
07:01	Display DHW charging pump	0: Pump is switched off 1: Pump is switched on	
07:02	DHW actual value	Sensor mode: Actual temperature on DHW sensor Thermostat mode: 0 = Input open 1 = Input closed	

Parameter description

Display	Designation	Description
07:03	DHW setpoint	Setpoint temperature for DHW tank

**02 time programs**

Weekday	Cycle of operation	Switch-on time	Switch-off time
1	I	06:00	22:00
1	II	12:00	12:00
2	I	06:00	22:00
2	II	12:00	12:00
3	I	06:00	22:00
3	II	12:00	12:00
4	I	06:00	22:00
4	II	12:00	12:00
5	I	06:00	22:00
5	II	12:00	12:00
6	I	06:00	22:00
6	II	12:00	12:00
7	I	06:00	22:00
7	II	12:00	12:00

Note: When switch-on and switch-off time are the same, cycle of operation is switched off. Observe menu heating circuit parameter 06:05 (time program)!

## Parameter description

### 03 Parameter system

Display	Designation	Description
03:01	Code entry	Setting range: 0 ... 999 Factory setting: 0 Function: Show parameters marked with X3 if they are hidden by the "Code heating specialist" 03:09.
03:04	Building type	Setting range: 1: light construction (mean value over 6 hours) X3 2: Medium construction (mean value over 24 hours) 3: Heavy construction (mean value over 72 hours) Factory setting: 2 Function: This parameter considers the building type by adapting the calculation of the outside temperature mean value according to its setting.
03:05	Climate zone	Setting range: -50°C ... 0°C X3 Factory setting: -12°C Function: The climate zone is the coldest outside temperature value to be expected.
03:06	Automatic exit time	Setting range: 0,5 ... 10 Min X3 Factory setting: 2 min Function: When unit is not operated during the set time, the display returns to basic display.
03:07	Anti-blocking protection	Setting range: 0 = OFF X3 1 = ON Factory setting: OFF Function: Pump is switched on 20 s daily during extended shutdown (> 24h) as protection against blocking when function is activated.
03:09	Code heating specialist	Setting range: 0 ... 999 Factory setting: 0 Function when setting is greater than 0: Hide parameters marked with X3.
03:10	Total reset	Reset to factory settings

## Parameter description

### 04 Parameters heat generator

Display	Designation	Description
04:01	Function of heat generator	<p>Setting range: 0 = OFF X3 1 = H-GEN single stage 2 = H-GEN OpenTherm</p> <p>Factory setting: 1</p> <p>Function:</p> <ul style="list-style-type: none"> <li>0: OFF</li> <li>1: Control of a single-stage heat generator via a relay output</li> <li>2: Control of a heat generator with standardised OpenTherm interface via setpoint transfer</li> </ul>
04:02	Minimum temperature limit H-GEN*	<p>Setting range: 5°C ... 95°C X3</p> <p>Factory setting: 38°C</p> <p>Function:</p> <p>To protect the heat generator against aggressive condensate, the minimum temperature limit specified by the manufacturer of the heat generator must be set.</p> <ul style="list-style-type: none"> <li>- Forced switch-on of DHW when value drops below limit</li> <li>- Switch-off DHW at set value + burner switching differential</li> </ul> <p>If there is no demand from heating system or DHW, the boiler will be switched off. If the temperature in the heat generator drops below the heat generator frost protection temperature of +5°C, the burner will be switched on and the heat generator is heated to the minimum temperature limit.</p> <p>Note: for condensing boilers, this value may need to be lowered.</p>
04:03	Maximum temperature limit H-GEN*	<p>Setting range: 5°C ... 100°C X3</p> <p>Factory setting: 95°C</p> <p>Function:</p> <ul style="list-style-type: none"> <li>- Forced switch-off of DHW when value is exceeded</li> <li>- H-GEN is switched on again at set value - ½SD - 2K</li> </ul>
04:04	Burner switching differential (SD) *	<p>Setting range: 2...30K X3, X5</p> <p>Factory setting: 6K</p> <p>Function:</p> <p>On multiple stage heat generators, the setpoint on heat generator sensor is controlled by the burner switching differential.</p> <ul style="list-style-type: none"> <li>- Switch-on of heat generator at setpoint temperature - ½ SD</li> <li>- Switch-off of heat generator at setpoint temperature + ½ SD</li> </ul>

\*  **This function shall only be used by an authorised professional.  
Incorrect settings can result in system damages.**

### Parameter description

Display	Designation	Description
04:05	Minimum burner run time	Setting range: 0...20 Min Factory setting: 2 min Function: After starting the heat generator, at least the set time must lapse before the heat generator is deactivated again. Note: The maximum temperature limit takes priority over this function.
04:06	Start-up protection	Setting range: 5 ... 95°C Factory setting: 36°C Function: Start-up protection of heating circuits helps in preventing condensate discharge when heating up in cold condition. <ul style="list-style-type: none"><li>• Switch-off of heating circuits (unmixed circuits, mixed circuits, DHW loading) when heat generator temperature drops below the value</li><li>• Heating circuits are enabled when heat generator temperature exceeds the value + start-up prot.switching differential.</li></ul>
04:07	Start-up protection switching differential	Setting range: 2 ... 20K Factory setting: 4K Function: See description of parameter 04:06.
04:08	Reset counter	Reset counter of heat generator starts and operating hours

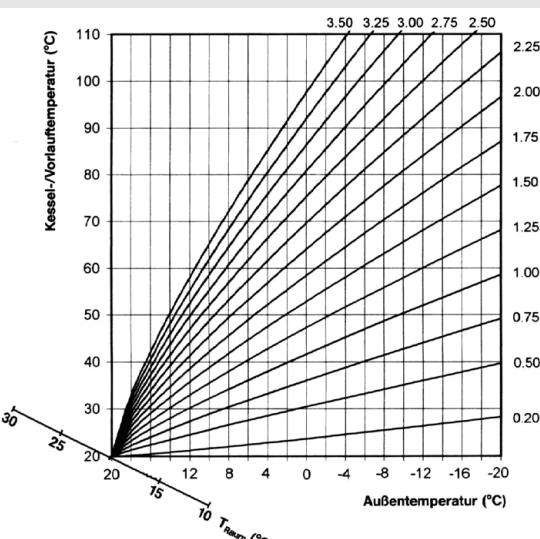
### 06 Parameter heating circuit

Display	Designation	Description
06:01	Function	Setting range: 0=OFF 1=Unmixed circuit Factory setting: 1
06:02	Room day	Setting range: 5 ... 30°C Factory setting: 20°C Function: The set temperature is the room setpoint during active cycles of operation in AUTOMATIC mode and during HEATING mode.
06:03	Room night	Setting range: 5 ... 30°C Factory setting: 16°C Function: The set temperature is the room setpoint between the cycles of operation in AUTOMATIC mode and during RED. HEATING mode.

### Parameter description

Display	Designation	Description				
06:04	Operating mode	<p>Setting range: 1: Automatic 2: Heating 3: Red. heating 4: Standby</p> <p>Factory setting: 1</p> <p>Function:</p> <ul style="list-style-type: none"> <li>Automatic: Heating circuit operates in Heating or Red. heating mode according to the time program assigned under 06:05</li> <li>Heating: Heating circuit operates continuously according to set room day temp. [06:02]</li> <li>Red. heating: Heating circuit operates continuously set room night temp. [06:03] under consideration of 06:06</li> <li>Standby: Frost-protected switch-off of heating circuit</li> </ul>				
06:05	Time program	<p>Setting range: 1: Time program 1 2: Time program 2 3: Time program 1 and 2</p> <p>Factory setting: 1</p> <p>Function:</p> <p>Depending on the setting, the heating circuit operates according to time program 1, 2 or both, as set in menutree 02 [time programs].</p>				
06:06	Type of reduced operation (ECO/RED)	<p>Setting range: 0: ECO 1: RED</p> <p>Factory setting: 0</p> <p>Function:</p> <p>The settings are effective in Reduced operating mode.</p> <table> <tr> <td>ECO</td> <td>Frost-protected switch-off mode</td> </tr> <tr> <td>RED:</td> <td>Reduced mode</td> </tr> </table>	ECO	Frost-protected switch-off mode	RED:	Reduced mode
ECO	Frost-protected switch-off mode					
RED:	Reduced mode					

## Parameter description

Display	Designation	Description
06:07	Heating curve/ conductance	<p>Setting range: 0.05 ... 3.50        Factory setting: 1.50        Function:        Determines the heating curve for the heating circuit.</p> 
06:08	Heating system (exponent)	<p>Setting range: 1.00...10.00 X3        Factory setting: 1.30        Function:        Curvature of heating circuit's heating curve.        Recommendation:          1,0: Floor or other panel heating systems          1,30: Radiator heating          2,00: Convector and baseboard heating          &gt;3,00: General ventilator applications with high start temperatures</p>
06:09	Frost protection	<p>Setting range: OFF (----)        -50 °C ... +10 °C X3        Factory setting: 3°C        Function:        To keep the heating system from freezing in switch-off mode, the controller is equipped with electronic frost protection.        Caution: Faulty operation can result in damages to building!</p>

## Parameter description

Display	Designation	Description
06:10	Summer switch-off	<p>Setting range: OFF [---] X3 10 °C ... 30 °C</p> <p>Factory setting: 20°C</p> <p>Function:</p> <p>Switch-off of heating operation at outside temperatures above the desired outside temperature.</p>
06:11	Extended pump running time	<p>Setting range: 0.0...60.0 Min X3</p> <p>Factory setting: 5 min</p> <p>Function:</p> <p>This function determines extended run time of heating circuit pump after heating circuit is switched off by time programs.</p>
06:13	Room factor	<p>Setting range: 0...500% X3, X4</p> <p>Factory setting: 100%</p> <p>Function:</p> <p>This function determines to what extent a deviation of the room temperature from the setpoint affects the control of boiler flow temperature.</p> <p>Corrected room setpoint = set room setpoint - (deviation x room factor) / 100</p>
06:14	Room thermostat function	<p>Setting range: Off [---] X3, X4 0.5 ... 5K</p> <p>Factory setting: Off [---]</p> <p>Function:</p> <p>This function determines a room temperature limit; if limit is exceeded, heating is turned off.</p>
06:15	Room frost protection limit	<p>Setting range: 5...30°C X3, X4</p> <p>Factory setting: 10°C</p> <p>Function:</p> <p>This function determines the room setpoint of the corresponding heating circuit during switch-off mode with frost protection activated.</p>
06:20	Heat generator parallel shift	<p>Setting range: 0 ... 20K X3</p> <p>Factory setting: 0K</p> <p>Function:</p> <p>The demand value of the heating circuit, plus the shift value, is transmitted to the heat generator.</p>

## Parameter description

### 07 DHW parameters

Display	Designation	Description
07:01	Function	<p>Setting range: 0 = OFF 1 = Sensor mode 2 = Thermostat mode 3 = Automatic mode DHW</p> <p>Factory setting: 1</p> <p>Function:</p> <p>Sensor mode: Control via temperature sensor in domestic hot water tank</p> <p>Thermostat mode: Alternatively, DHW heating can also be controlled via a mechanical temperature controller (thermostat switching contact) In this case a DHW thermostat is connected instead of a DHW sensor and set to the desired DHW setpoint. If the contact is closed, DHW loading takes place at the set DHW maximum temperature until the contact is opened again.</p>
07:02	DHW day	<p>Setting range: 5 ... 65°C</p> <p>Factory setting: 50°C</p> <p>Function:</p> <p>The set temperature is the DHW setpoint during active cycles of operation in AUTOMATIC mode and during HEATING mode.</p>
07:03	DHW night	<p>Setting range: 5 ... 65°C</p> <p>Factory setting: 20°C</p> <p>Function:</p> <p>The set temperature is the DHW setpoint between the cycles of operation in AUTOMATIC mode and during RED. HEATING mode.</p>
07:04	Operating mode	<p>Setting range: 1: Automatic 2: Heating 3: Red. heating 4: Standby</p> <p>Factory setting: 1</p> <p>Function:</p> <p>Automatic: DHW operates in Heating or Red. heating mode according to the time program assigned under 07:05</p> <p>Heating: DHW operates continuously according to set DHW day temperature [07:02]</p> <p>Reduced: DHW operates continuously according to set room night temp. [07:03]</p> <p>Standby: Frost-protected switch-off of DHW</p>

## Parameter description

Display	Designation	Description
07:05	Time program	<p>Setting range: 1: Time program 1 2: Time program 2 3: Time program 1 and 2</p> <p>Factory setting: 1</p> <p>Function:</p> <p>Depending on the setting, the DHW operates according to time program 1, 2 or both, as set in menutree 02 (time programs).</p>
07:06	Legionella protection (day)	<p>Setting range: 0: OFF X3 1 ... 7: Monday ... Sunday 8: All</p> <p>Factory setting: 1</p> <p>Function:</p> <p>A legionella protection function can be activated to eliminate the legionella germs in the tank. In order to completely kill all germs, the Legionella protection temperature should be set at least at 60-65°C. The legionella protection function is activated for 1 hour.</p> <p>OFF: Function is not active 1 ... 7: Function is performed once a week on the set weekday All: Function is performed each weekday</p>
07:07	Legionella protection (time)	<p>Setting range: 00:00 ... 23:00 o'clock X3</p> <p>Factory setting: 02:00 o'clock</p> <p>Function:</p> <p>This value is used to set the time at which the legionella protection function is to be started on the set weekday (see 07:06).</p>
07:08	Legionella Protection (temperature)	<p>Setting range: 10 ... 65°C X3</p> <p>Factory setting: 60°C</p> <p>Function:</p> <p>This value is used to specify setpoint temperature for legionella protection function (see 07:06).</p>
07:09	Switching differential	<p>Setting range: 2 ... 20K X3</p> <p>Factory setting: 5K</p> <p>Function:</p> <p>To prevent frequent loading of the DHW tank, the DHW setpoint temperature is adjusted under consideration of a switching differential.</p> <ul style="list-style-type: none"> <li>- Activation of DHW loading at setpoint temperature - 1/2 switching differential</li> <li>- Termination of DHW loading at setpoint temperature + 1/2 switching differential</li> </ul>

## Parameter description

Display	Designation	Description
07:10	Maximum temperature limit	<p>Setting range: 20 ... 80°C X3            Factory setting: 65°C</p> <p>Function:            This function serves as protection of the DHW tank.            Irrespective of parameter settings 07:02, 07:03 and 07:08, at most the set value will be adjusted.            If exceeded, the charging pump is switched off immediately.            CAUTION: observe operating instructions of DHW tank before making any changes. Excessive maximum temperatures can result in damages on DHW tank.</p>
07:11	Exceeded load temperature	<p>Setting range: 0 ... 20K X3            Factory setting: 10K</p> <p>Function:            This function determines the lead value for the tank load temperature through the heat generator, compared to the set DHW setpoint.  <math>\text{Heat generator setpoint} = \text{DHW setpoint} + \text{Loading temperature excessive increase}</math></p>
07:12	Extended pump running time	<p>Setting range: 0...60 Min X3            Factory setting: 5 min</p> <p>Function:            After switching off the heat generator, the tank loading pump is stopped after a time delay to prevent a safety switch-off in case of high temperatures.</p>
07:14	Priority mode DHW	<p>Setting range: 0: Parallel mode X3            1: Priority mode            Factory setting: 1</p> <p>Function:            Parallel mode: During tank loading the heating circuits remain operative            Priority mode: During tank loading the heating circuits are shut down. They are restarted after the extended running time of the pump [07:12].</p>

## Parameter description

### 26 Time setting

Display	Designation	Description
26:01	Time	Setting range: 00:00 ... 23:59 Factory setting: Current time Function: Setting of current time. Note: Daylight saving time must be adjusted manually.
26:02	Weekday	Setting range: 1 ... 7 Factory setting: Current weekday Function: Setting of current weekday.

### 27 Sensor calibration

Display	Designation	Description
27:01	Calibration F1	Setting range: -5K ... +5K Factory setting: 0K Function: Correction of measured sensor value at input of heat storage tank F1
27:02	Calibration F2	See 27:01 on input DHW sensor F2
27:04	Calibration F4	See 27:01 on input outside sensor F4

### 28 Relay test

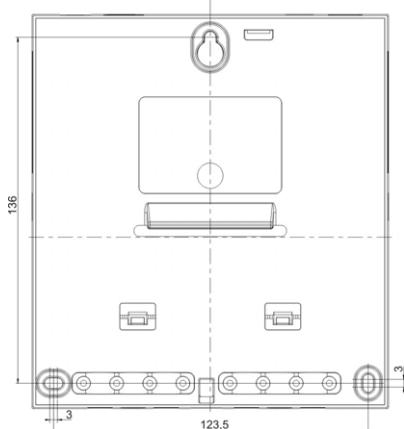
Display	Designation	Description
28:01	Test output 1	Setting range: 0 = OFF 1 = ON Factory setting: 0 Function: By changing the value, the output switches heat circuit pump on and off (test function), independent of function.
28:02	Test output 2	See 28:01 for output DHW charging pump
28:04	Test output 4	See 28:01 for output DHW charging pump

## Mounting



**Hazard!**

**Installation must be performed only by an authorised professional electrician! Ensure that unit is de-energised before opening it!**

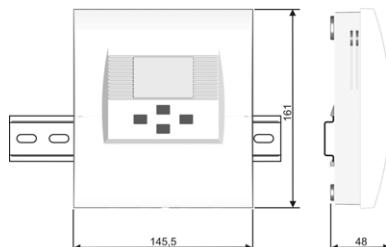


### Drilling pattern for wall fastening

1. Remove terminal area cover from casing.
2. For mounting, first put a screw into the wall.
3. Hang controller into the opening.
4. Use controller as template for the other screw holes.

### Rail mount

1. Insert mounting feet into rail mount opening.
2. Lock hook in place by pushing down.



Terminal diagram

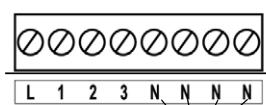
## 8. Terminal diagram



Hazard!

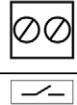
**Connection must be performed only by an authorised professional electrician! Ensure that unit is de-energised before opening it!**

### 230V connections



L 1 2 3 N N N

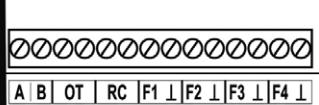
N=Neutral 230V mains, pumps  
Connection without function  
2=L1 [230V] pump connection DHW charging pump [DHW-P]  
1=L1 [230V] pump connection unmixed circuit pump [HC-P]  
L=Phase 230V mains



L -

Connection H-GEN [isolated]

### Low voltage connections



A B OT RC F1 ⊥ F2 ⊥ F3 ⊥ F4 ⊥

F4=Sensor outside temperature [AF200]  
Connection without function  
F2=Sensor DHW tank [KVT20/2/6]  
F1=Sensor heat generator [KVT20/2/6]  
RC=Connection CETA RC [option]

Connection OpenTherm  
Bus connections for networking

F4=Sensor outside temperature [AF200]

Connection without function

F2=Sensor DHW tank [KVT20/2/6]

F1=Sensor heat generator [KVT20/2/6]

RC=Connection CETA RC [option]

Connection OpenTherm

Bus connections for networking

## Fault clearance

### 9. Fault clearance

To allow an accurate diagnosis in case of malfunction, the unit is equipped with a fault display system. The faults are shown on the basic display of the unit in form of an error code.

Fault overview:

Fault code	Cause	Repair
11-0	Interruption sensor F1	Check cable and plug connection, replace if necessary
11-1	Short circuit sensor F1	Replace tank sensor
12-0	Interruption sensor F2	See 11-0
12-1	Short circuit sensor F2	See 11-1
13-0	Interruption sensor F3	See 11-0
13-1	Short circuit sensor F3	See 11-1
14-0	Interruption sensor F4	See 11-0
14-1	Short circuit sensor F4	See 11-1
71-6	Data bus OpenTherm no signal [terminal OT]	Repair malfunction on data bus to heat generator
72-6	Data bus CETA RC no signal [terminal RC]	Repair malfunction on data bus to room unit CETA RC
73-2	Unit bus address collision [Terminal AB]	Set controls of the same type to different bus addresses (parameter 03:03)
73-6, 74-0 to 74-9	Unit bus error communication [Terminal AB]	Check bus connection between the units
5-00	General errors on heat generator (only for OpenTherm)	Purely display function in CETAsystem, troubleshooting on heat generator
5-00	Locking errors on heat generator (only for OpenTherm)	Purely display function in CETAsystem, troubleshooting on heat generator
6-00	Blocking errors on heat generator (only for OpenTherm)	Purely display function in CETAsystem, troubleshooting on heat generator

## Sensor resistance values

### 10. Sensor resistance values

Depending on temperature:

**PT1000**

T [°C]	R (kOhm)
40	1,155
50	1,194
60	1,232
70	1,271
80	1,309
90	1,347
100	1,385
110	1,423
120	1,461
130	1,498
140	1,536
150	1,573
160	1,611
170	1,648
180	1,685
190	1,722
200	1,758
210	1,795
220	1,832
230	1,868
240	1,905
250	1,941

**KVT20/2/6, AF200**

T [°C]	R (kOhm)
10	1,783
12	1,812
14	1,840
16	1,869
18	1,898
20	1,928
25	2,002
30	2,078
35	2,155
40	2,234
45	2,314
50	2,395
55	2,478
60	2,563
65	2,648
70	2,735
75	2,824
80	2,914
85	3,005
90	3,098
95	3,192
100	3,287

## Declaration of conformity

### 11. Declaration of conformity

**EbV** Elektronikbau- und Vertriebs- GmbH  
Heisternerweg 8-12, 57299 Burbach

#### EC Declaration of Conformity



**Product identification:** Heating controller

**Type designation:** CETA 104

**Manufacturer:** EbV Elektronikbau- und Vertriebs-GmbH  
Heisternerweg 8-12  
57299 Burbach

The product described is in full compliance with the following European directives:

**89/336/EEC** „Council directive on the approximation of the laws of the member states relating to Electromagnetic Compatibility“

**73/23/EEC** „Council directive on the approximation of the laws of the member states relating to electrical equipment designed for use within certain voltage limits“ (low voltage directive)

Compliance of the designated product with the rules of the directive is proven by complete adherence to the following standards:

EMV: Requirements for household appliances, electric tools and similar devices  
DIN EN 55014-1:2003 Part1: Transient emission  
DIN EN 55014-2:2002 Part 2: Immunity

EMV: Limit values  
DIN EN 61000-3-2:2002 Part 3-2: Limit values for harmonic current emissions  
DIN EN 61000-3-3:2002 Part 3-3: Limitation of voltage fluctuations and flicker

Automatic electrical controls for household use and similar applications  
DIN EN 60730-1:2002 Part 1: General requirements  
DIN EN 60730-2-9:2004 Part 2: Particular requirements for temperature sensing controls

We declare that the described product - as independent device - is in conformity with the standards, directives and/or technical specifications listed above.

EbV Elektronikbau- und  
Vertriebs-GmbH

  
Burbach, 20.02.2009

Wolfgang Höse  
Managing Director

## Technical Data

### 12. Technical Data

Power supply voltage:	230V +6% / -10%
Rated frequency:	50...60Hz
Power input:	max. 2.1VA
Fuse:	6.3A
Output relay contact load:	2 [2]A
Ambient temperature:	-10...+50°C
Storage temperature:	-25...+80°C
Degree of protection:	IP 30
Protection class according to EN 60730:	II
CE compliance:	89/336/EEC
Casing dimensions:	145.5 x 161 x 48 mm (W x H x D)
Casing material:	ABS V0
Weight:	420g
Mains connection technology:	Screw terminals 1.5 mm <sup>2</sup>
Sensor connection technology:	Screw terminals 1.0 mm <sup>2</sup>

### 13. Liability

Our general terms and conditions of business are generally applicable. Any liability claims based on failure to observe operating manual as well as safety instructions contained therein, are excluded. Subject to technical modifications.

### 14. Disposal

Dispose of all replaced parts, and eventually the controller itself, in an environmentally sound manner in compliance with applicable statutory regulations of the corresponding country.

**Disposal**

Company stamp: