

# Centrometal

## HEATING TECHNIQUE

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### Technical instructions for install and use of CMNET cascade manager

Technical instructions only for authorized servicers of hot water boiler EKO CKS P UNIT.

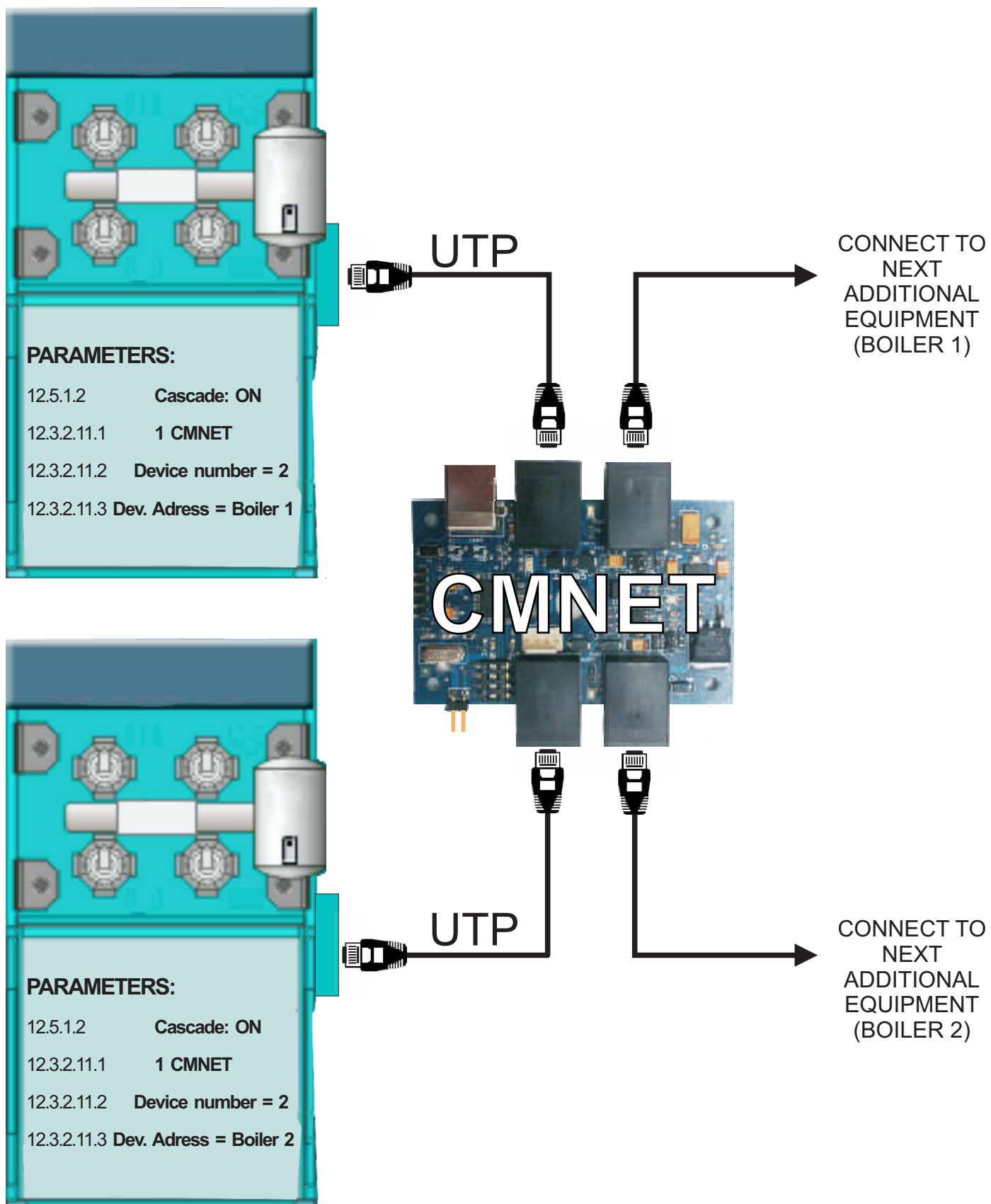
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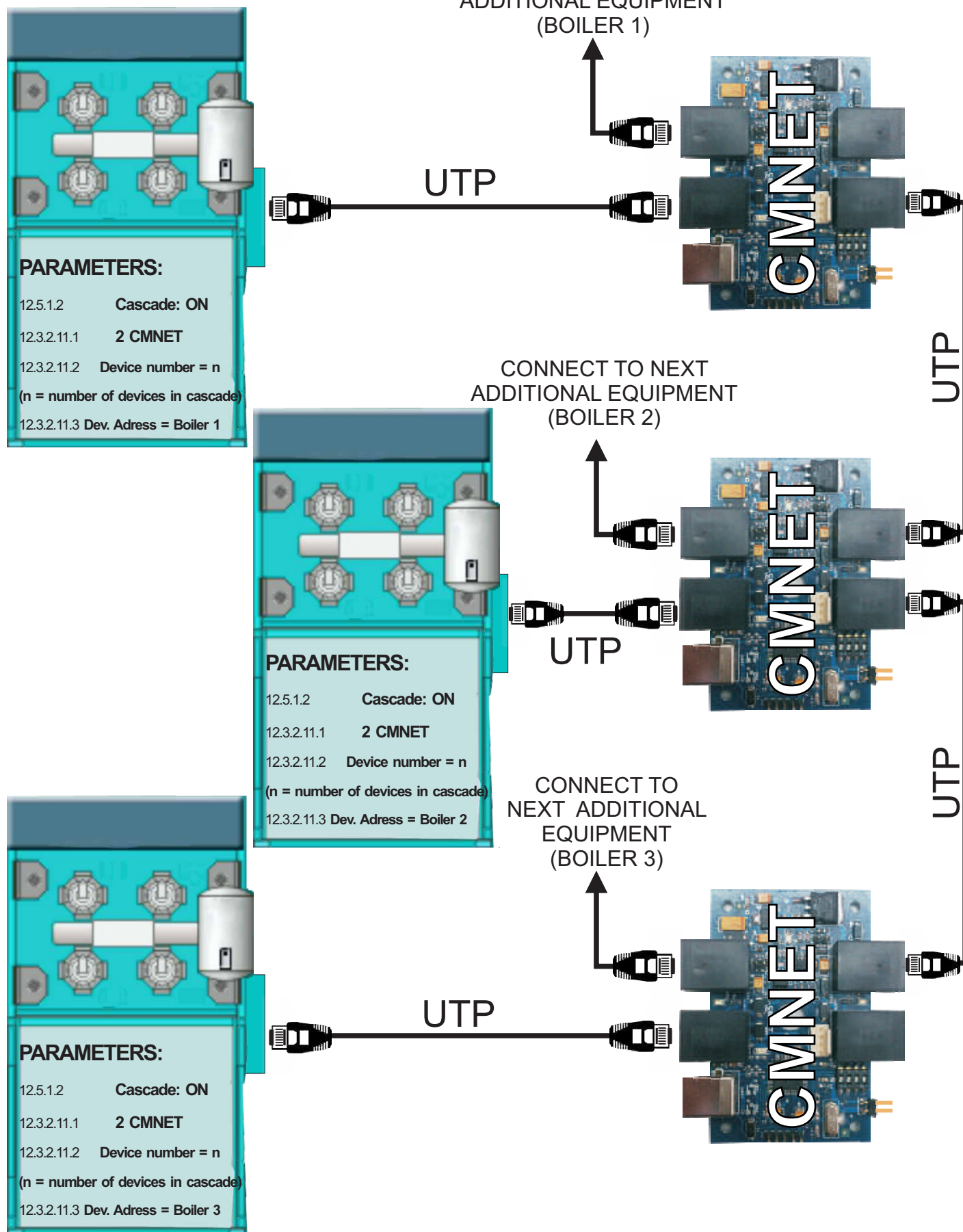
# CMNET

## SCHEMES OF BOILER CASCADE CONNECTION

### CASCADE 2 boilers



## CASCADE 2-8 boilers



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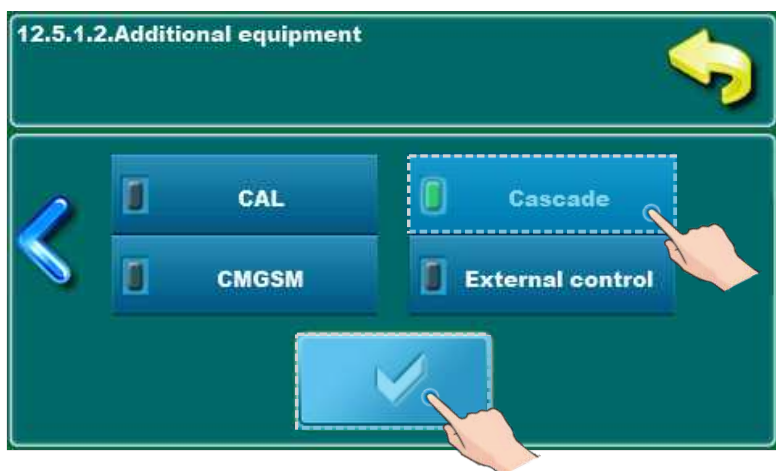
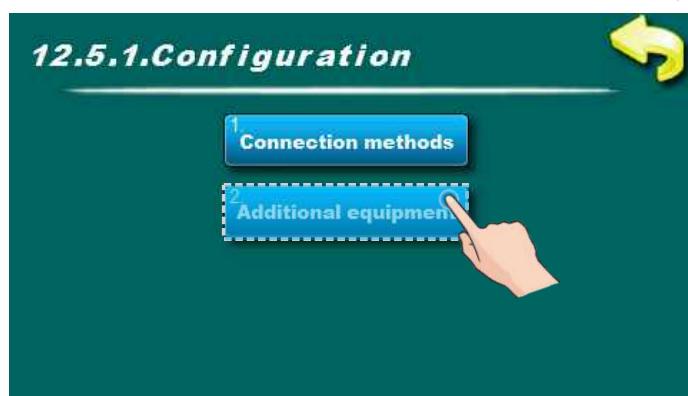
## CASCADE OPERATION

Boiler\_1 is „Master” (boiler which operate with cascade work). If is boiler\_1 turns out from cascade (or switch off on main switch (0/1), power outage on boiler) boiler\_2 (next by the order number) automatic become „Master”. When boiler\_1 become again part of cascade then it automatic become „Master” again.

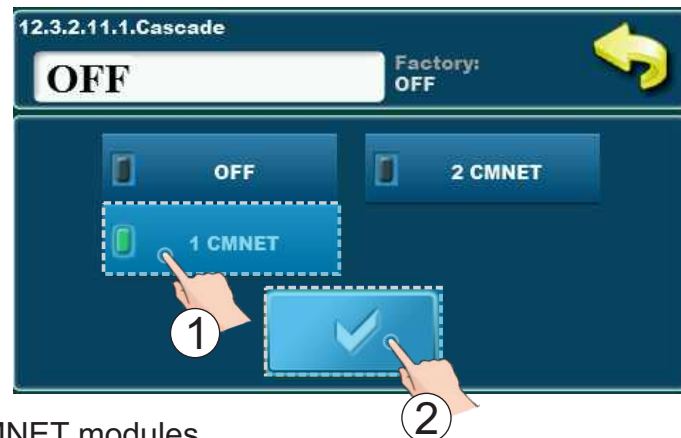
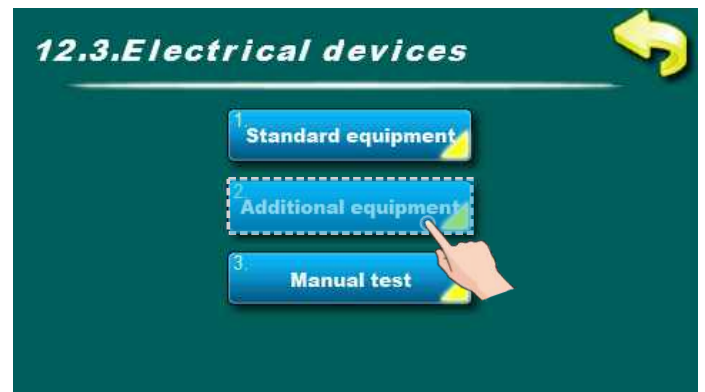
Buffer tank / hydraulic crossover sensors must be connected to junction box of boiler\_1 but if boiler\_1 turns off from cascade additional sensors off buffer tank / hydraulic crossover must be connected to junction box of boiler\_2.

The same case applies to cascade parameters adjustment on boiler\_2 where is also needed adjust all parameters like on boiler\_1 for the reason that he could properly lead cascade in case that boiler\_1 turns off from cascade and boiler\_2 become „Master”.

## 12.5.1.2 CASCADE ON



## 12.13.2.11 CASCADE (CMNET)



- 1 - select number of CMNET modules  
2 - confirm selection by pressing „SELECT” button

**Factory settings:** OFF

**Possible selection:** OFF, 1 CMNET, 2 CMNET

**OFF:** Cascade is not turned ON

**1 CMNET: cascade 2 boilers** - 2 boilers in cascade with 1 CMNET device.

**2 CMNET: cascade 2-8 boilers**

- 2 boilers in cascade with 2 CMNET devices.
- 3 boilers in cascade with 3 CMNET devices.
- 4 boilers in cascade with 4 CMNET devices.
- 5 boilers in cascade with 5 CMNET devices.
- 6 boilers in cascade with 6 CMNET devices.
- 7 boilers in cascade with 7 CMNET devices.
- 8 boilers in cascade with 8 CMNET devices.

### 12.3.2.11.2 DEVICE (BOILER) NUMBER



**Factory settings:** 2

**Possible selection:** min. 2, max. 8

With this parameter we define number of devices in cascade. If is selected „1 CMNET” than number of devices must be 2. If is selected „2 CMNET” than number of devices must be as much as is devices in cascade (2-8). It adjust on each boiler separately and must be the same number.

### 12.3.2.11.3 DEVICE (BOILER) ADRESS



**Factory settings:** 1

**Possible selection:** min. 1, max. 8

This parameter define which boiler will be which in cascade. It is adjust in each boiler separately and each boiler must have different adress.

### 12.3.2.11.3 BOILER GROUPS



| Boiler groups |                             |               |    |
|---------------|-----------------------------|---------------|----|
|               | Winter                      | Summer        |    |
| 1             | Boiler 1 attached to group: | * Main 1      | C  |
| 2             | Boiler 2 attached to group: | Not used      |    |
| 3             | Boiler 3 attached to group: | * Auxiliary 1 |    |
| 4             |                             |               | 2x |
| 5             |                             |               |    |
| 6             |                             |               |    |

A - depend about number of boilers in cascade (device number, n)

B - possible selection of adjustment for Winter or Summer mod

C - boiler role in cascade work

By pressing on menu „C” on display will be opened menu for choice boiler role in cascade work. Boiler role is adjusted for Winter and Summer work mode separately (menu „B”).

Possible selection of boiler role:

#### **Not used:**

Boiler not be used in cascade work.

#### **Main 1:**

- boiler will be work in cascade with other main boiler(s) by factory programmed cascade work mode

#### **Main 2:**

- boiler will be work in cascade with other main boiler(s) by factory programmed cascade work mode

#### **Auxiliary 1:**

- boiler will be work in cascade only if work all main boilers in cascade and there is a need for additional boiler(s) for heating

#### **Auxiliary 2:**

- boiler will be work in cascade only if work all main boilers in cascade and there is a need for additional boiler(s) for heating

Number of offered selections for main and auxiliary boilers depend about number of boilers in cascade (device number, n).

#### **Important:**

More than one boiler can be selected in same main or auxiliary group (e.g. boiler 1 and boiler 2 can have main 1 role for work in cascade.)

### 12.3.2.11.5 TIME TO ON

a) for connection method BUF (buffer tank)



**Factory settings:** 300s

**Possible selection:** min. 0s, max. 18000s

**Note:** Please adjust this parameter to 3600s.

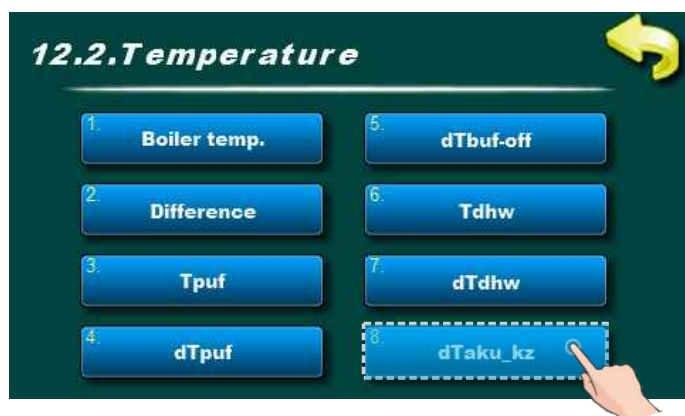
This parameter defines after how long of work previous boiler (group), with temperature difference in buffer tank higher than Taku\_kz will be turned on next boiler (group).

$Taku\_kz = Taku\_adjusted - Taku\_up\_measured$

Below is described where Taku\_kz can be adjusted.

**Taku\_kz adjustment:**

- go to: „12. Installation” menu (must be entered installer pin), „2. Temperature” menu



**Factory settings:** 6°C

**Possible selection:** min. 1°C, max. 15°C

a) for connection method CRO + sensor (Hydraulic crossover + sensor)



**Factory settings:** 300s

**Possible selection:** min. 0s, max. 18000s

**Note:** Please adjust this parameter to 3600s.

This parameter define after how long of work previous boiler (group), with temperature difference in hydraulic crossover higher than  $Thsu\_kz$  will be turned on next boiler (group).

**$Ths\_kz = Ths\_adjusted - Ths\_measured$**

Below is described where  $Ths\_kz$  can be adjusted.

**$Ths\_kz$  adjustment:**

- go to: „12. Installation” menu (must be entered installer pin), „2. Temperature” menu



**Factory settings:** 6°C

**Possible selection:** min. 1°C, max. 15°C

a) for connection method CRO (Hydraulic crossover)



**Factory settings:** 300s

**Possible selection:** min. 0s, max. 18000s

**Note:** Please adjust this parameter to 3600s.

This parameter define after how long of work previous boiler (group), on nominal power will be turned on next boiler (group).

### 12.3.2.11.6 TIME TO OFF

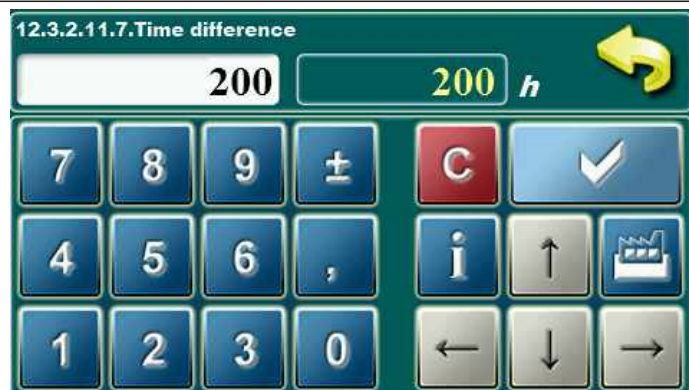


**Factory settings:** 300

**Possible selection:** min. 0, max. 18000

This parameter define time after which, if is first boiler (group) in pause, last boiler (group) go to extinction phase.

### 12.3.2.11.6 TIME DIFFERENCE



**Factory settings:** 200h

**Possible selection:** min. 0h, max. 500h

This parameter defines after how many hours of work boilers change priority of work. It is adjusted in each boiler separately and each boiler can have different values.

### 12.3.2.11.8 COUNTER RESET



This parameter enables reset of boiler work time counter. It can be reset on each boiler separately.

[illegible]



Centrometal d.o.o. assumes no responsibility for possible inaccuracies in this book originated typographical errors or rewriting, all the pictures and diagrams are principal and it is necessary to adjust each actual situation on the field, in any case the company reserves the right to enter their own products such modifications as considered necessary.

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