Nabertherm
MORE THAN HEAT 30-3000 °C

Operating Instructions

Controller

R8

M03.0026 ENGLISCH

Made
in
Germany

www.nabertherm.com

Reg: M03.0026 ENGLISCH
Rev: 2025-03

1 General Settings

1.1 Device Description

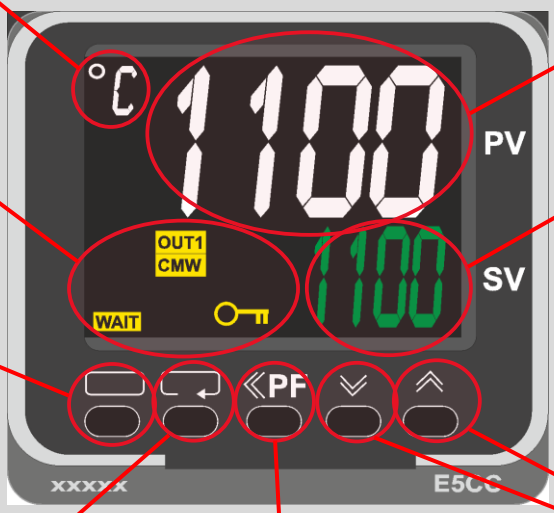
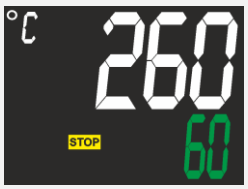
	Description	
Temperature Unit		Actual value or parameter name
Status notifications		Setpoint or parameter value
Menu button		Change parameter value
Change parameter	Start and stop button	

Fig. 1: Controller E5CC (R8) (similar to picture)

1.2 Setting the Setpoint

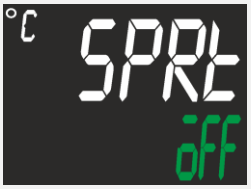
Button	Description	Display
	Press  in the main display to increase or decrease the setpoint.	
Note	On delivery, this controller is set as a controller with a constant temperature setpoint. For many processes it can be important to reach the target temperature slowly for the first firing. To do this, use the ramp function on the E5CC (R8) controller.	

2 Extended Settings

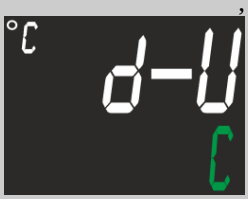
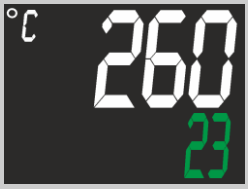
2.1 Information about the Functions

	Description	
	When the device is delivered, the extended settings are hidden. They can be managed in a password-protected level. Refer to Section 3.	

2.2 Creating a Temperature Ramp

Button	Description	Display
	For many processes it can be important to reach the target temperature slowly for the first firing. To do this, use the ramp function on the E5CC (R8) controller.	
	Press  to open the operator level.	
	Press the  button repeatedly to change to “SPRt”.	
	Press the  buttons to set the required heating ramp. The unit (°C/min) or (e.g. °F/h) is a result of the settings “d-U” and “t-U”. The device is preset to °C/min.	
	Press  to go back to the main display.	
	Press  to change to “SP-M”. If the controller is started with the specified ramp, the “SP-M” parameter shows the current setpoint.	

2.3 Setting the Temperature Unit

Button	Description	Display
	The temperature displays and entries are set to Celsius in the factory. To change the device to Fahrenheit, do the following:	
	Press  for approx. 3 seconds to open the settings level. “d-U” is shown in the display.	
	Press  to change the temperature unit to Fahrenheit. Press  to change the temperature unit from Fahrenheit back to Celsius.	
	Press the  button for 3 seconds to exit the settings level. The device restarts.	

2.4 Switching on a Temperature Offset

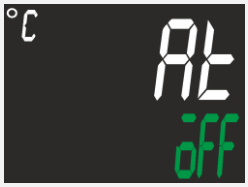
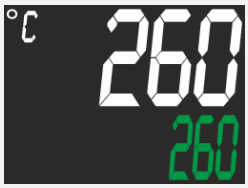
Button	Description	Display
	If you discover a difference between the measured and actual temperature, you can correct this by creating an offset. The device has an offset that affects the entire temperature range.	
	Press  to open the operator level. The parameter “iNS” is displayed if the controller is in “StoP” mode.	
	Depending on the status of the controller, you may have to press  again to call up the required parameter.	

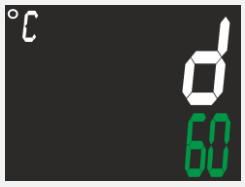
Button	Description	Display
	Press  to increase or decrease the offset.	

Notice

Once you have created an offset, you should always carry out a comparison measurement with an independent measuring device. Nabertherm recommends that you document and store changed parameters and comparison measurements.

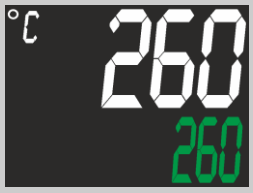
2.5 Adjusting the Control Parameters to the Process Characteristic

Button	Description	Display
	Control parameters define the behavior of the controller. The control parameters influence the speed and accuracy of control, for example. This allows users to adjust the controls. This controller provides a PID controller. Before changing pre-set parameters, you have to document them.	
	Automatic adjustment to the process characteristic:	
	The E5CC (R8) can determine the control parameters automatically. Press  to open the operator level. The parameter “At” is displayed only if the controller is in “RUN” mode.	
	Press the  buttons to select the function. With “oFF”, the function is disabled. “AT-2” and “AT-1” are different optimization processes. If the function is enabled, the “TUNE” status lamp is illuminated.	
	The furnace now heats up to the setpoint. Once the process is complete, it ends automatically, the “TUNE” status lamp goes out and the determined values are saved. Note: For this to happen, temperature control must be started.	
	Manual adjustment of the control parameters:	
	Press  to open the operator level.	

Button	Description	Display
	Press  repeatedly until the parameter “P” appears	
	Press  to set the required value	
	Press  repeatedly until the parameter “i” appears	
	Press  to set the required value	
	Press  again until the parameter “d” appears	
	Press  to set the required value	

Note
The results of a firing should be checked after the control parameters have been changed.

2.6 Setting the Time Unit

Button	Description	Display
	The time unit of ramps is set to minutes in the factory. The duration of the ramp is set with this time.	
	Press  for approx. 3 seconds to open the settings level. “d-U” is shown in the display.	
	Press  repeatedly to show “AMoV” in the display.	
	Use the  buttons to set the value -169 to display more parameters.	
	Press  repeatedly to show “SPRU” in the display.	
	Press  to change the value from minutes (“M”) to hours (“H”). Press  to change the value from hours (“H”) back to minutes (“M”).	
	Press  for approx. 3 seconds to exit the extended parameters level.	
	Press  for approx. 3 seconds to exit the settings level.	

2.7 Error Display

The E5CC (R8) can display various error statuses.

	Description	Display
	The thermocouple is faulty.	
	Maximum furnace temperature exceeded.	
	Acknowledging errors:	
	When the cause of the error has been rectified, errors can be acknowledged by restarting the E5CC. This can be done by switching off the power supply via the power switch. Caution: With some furnace models the power supply may be disconnected only when the furnace is cold.	

2.8 Parameter Overview

Parameters	Function
AMoV	Password entry for extended parameters
At	Mode selection for self-optimization of the control parameters
d	Adjustment of the control parameters to the process characteristic
d-U	Setting the temperature unit
í	Adjustment of the control parameters to the process characteristic
íNS	Switching a temperature offset on
P	Adjustment of the control parameters to the process characteristic
SP-M	Setpoint specified by the temperature ramp
SPRt	Setting a temperature ramp
SPRU	Setting the time unit for temperature ramps

3 Configuration Level

3.1 Displaying Functions

Button	Description
	The hidden functions can be made visible in the password-protected configuration level.
	Press and simultaneously for approx. 3 seconds to open the configuration level. The password query “PMoV” is displayed.
	Enter the password with the buttons.
	If it is entered correctly, access to the configuration level is granted. Three parameters are available here: “oAPT”, “íCPT, and “PRLP”. Use the button to switch between the parameters.
	The values of “ìCPT” and “oAPT” determine which functions are shown and which are hidden. The values can be changed with the buttons. A smaller value enables more functions.
	To exit the configuration level, press and simultaneously.

Setting	Function
“oAPT” = 2 “ìCPT” = 2	Setting the setpoint
“oAPT” = 1 “ìCPT” = 2	User rights: All previous rights
“oAPT” = 0 “ìCPT” = 2	User rights: All previous rights + switching a temperature offset on + manual adjustment of the control parameters to the process characteristic
“oAPT” = 0 “ìCPT” = 1	User rights: All previous rights + adjustment of the control parameters to the process characteristic + setting a temperature ramp + setting the temperature unit
“oAPT” = 0 “ìCPT” = 0	User rights: All previous rights + setting the time unit

3.2 Changing the Password

Button	Description	Display
	The password that is queried in the parameter “PMOV” when entering the configuration level is “1” It can be changed as follows:	
	Enter the password with the buttons.	
	If it is entered correctly, the configuration level is enabled. Change by pressing the button repeatedly to the parameter “PRLP”.	
	Press and hold the button to assign a new password with the and buttons.	
	To exit the configuration level, press and simultaneously.	

Note
If a changed password is lost, Nabertherm Service cannot provide any support.

4 Warranty and Liability

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As regards warranty and liability, the normal Nabertherm warranty terms apply, unless individual terms and conditions have been agreed. However, the following conditions also apply:

Warranty and liability claims for personal injury or damage to property shall be excluded if they are attributable to one or more of the following causes:

- All persons involved in operation, installation, maintenance, or repair of the furnace must have read and understood the operating instructions. No liability will be accepted for damage or disruption to operation resulting from non-compliance with the operating instructions.
- Not using the furnace as intended
- Improper installation, start-up, operation, or maintenance of the furnace,
- Operation of the furnace with defective safety equipment or improperly installed or non-functioning safety and protective equipment

- Not observing the information in the operating instructions with respect to transportation, storage, installation, start-up, operation, maintenance, or equipping the furnace
- Making unauthorized changes to the furnace
- Making unauthorized changes to the operating parameters
- Making unauthorized changes to the parameterization, the settings, or the program
- Nabertherm accepts absolutely no liability for damage caused by using parts that are not original Nabertherm parts. Original parts and accessories are designed especially for Nabertherm furnaces. Replace parts only with original Nabertherm parts. Otherwise the warranty will be void.
- Catastrophes due to third-party causes and force majeure

5 General Cautions and Warnings

Note

The PID parameters are pre-set by Nabertherm. Special processes may presuppose special parameters because of the loading and temperature program.

Note

The user must modify the temperature in such a way that the charge, furnace and surroundings are not damaged. Nabertherm GmbH provides no guarantee for the process.

Note

Heating contactors, if installed, are wearing parts. They must be checked regularly depending on the ambient conditions and the frequency with which they are used and must be replaced at least every year.

Note

The electrical equipment of the system is designed for operation at air temperatures of +5 °C to 40 °C. Air humidity at 40 °C must not exceed 50 %. At lower temperatures, the air humidity may be higher (up to 80 %) but must be noncondensing.

Note

Climate control units must be used for the switchgear cabinets at higher temperatures. Heating units must be used for very low temperatures and high humidity.

Note

Make sure that the switchgear and control system are always closed and locked. Otherwise, dirt may shorten the useful life of the installed electrical switching components.

Note

For safe installation of upright control cabinets, we recommend that you anchor them firmly to the floor with the base. Control cabinets delivered by Nabertherm have holes in the base for this purpose.

Warning – Danger, high voltage!

Work on electrical equipment may be done only by qualified, authorized electricians.

6 For Your Notes