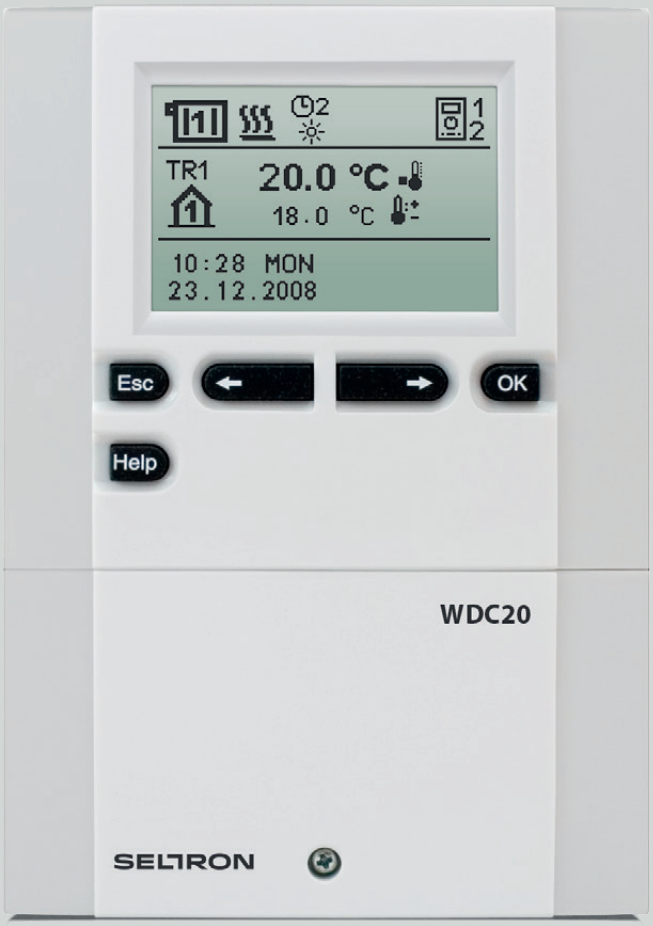
www.seltron.eu

March
2019

SELTRON
SMART HEATING

WDC
Catalogue



Heating controllers
WDC10B | WDC10 | WDC20

WDC weather-compensated controllers regulate space heating and hot water production. In addition to multiple user-friendly functions, they also provide protection of the entire heating system.

Heating controllers WDC



Presentation

WDC weather-compensated controllers are intended for the regulation of room heating and hot water production in single-family houses.
They allow for the regulation of one or two heating circuits, switching between heating sources, and the protection of the return line during the charging of the supply device.
They are used for heating systems with one or two furnaces, a heat pump, a hot water buffer tank, and a solar system.

Application

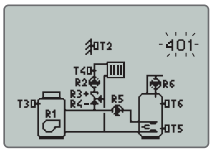
- Regulating the radiator space heating system.
- Regulating floor heating or cooling system.
- Regulating convector heating or cooling system.
- Regulating wall or ceiling heating or cooling system.
- Hot water preparation.

Capacities

- 52 preset hydraulic circuit diagrams.
- Space heating or cooling according to the time program.
- Hot water heating according to the time program.
- Solar hot water heating.
- Regulating heating systems with a supply device.
- The possibility of connecting 2 room units.
- BOOST function for space heating.
- Built-in solar heating system protection features.
- 13-language user interface.
- Wizard for an easy and quick device start-up.
- Operational diagnostics featuring error and excessive temperature warnings.
- Remote control with the help of the SeltronHome system.



Step 1



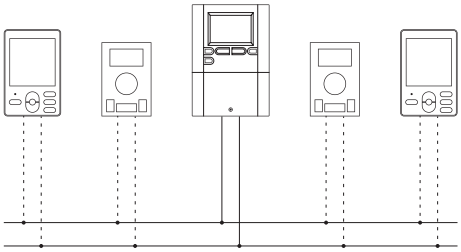
Step 2



Step 3 and 4

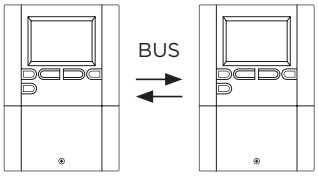
Start-up wizard

The WDC controller is equipped with a start-up wizard, which takes you through the initial settings of the controller in 3 or 4 steps.
Step 1: language selection.
Step 2: hydraulic circuit diagram selection.
Step 3: setting the heating curve for the first heating circuit.
Step 4: setting the heating curve for the second heating circuit.



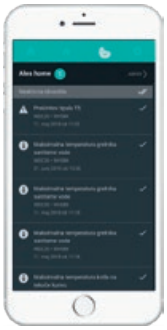
Possibility of connection of a Seltron room unit

The WDC controller allows the connection of DD2+ and RCD room units. The room unit allows measurements of room temperature, selection of operation mode and setting of day-time and night-time temperature. Up to two room units may be connected to one WCD controller.



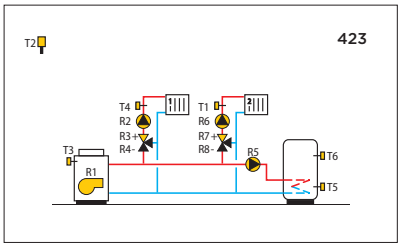
BUS connection of multiple controllers

A random number of WDC controllers can be interconnected with the BUS connection. The main controller controls heat sources and heating circuits, while the subcontrollers control only heating circuits. The outdoor sensor and the boiler temperature sensor are connected to the main controller.



Remote control with the help of the SeltronHome system

The WDC controllers may be connected to the SeltronHome platform, which allows remote control of the heating using a smartphone or tablet.
Remote control is enabled through the CLAUSIUS application for the final user, and the KELVIN application for the service personnel.
The CLAUSIUS application allows us to adapt heating to our lifestyle, which leads to greater comfort and reduced heating expenses.



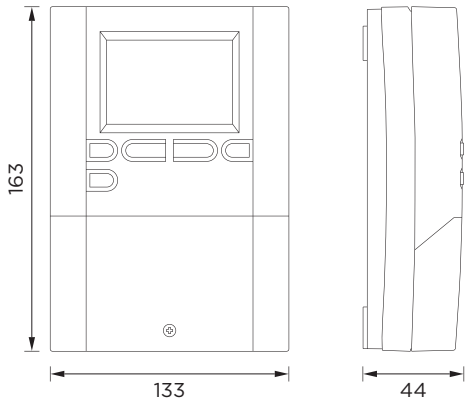
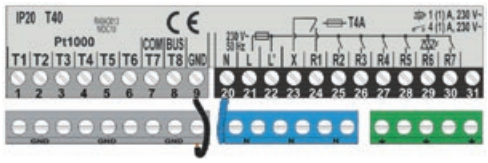
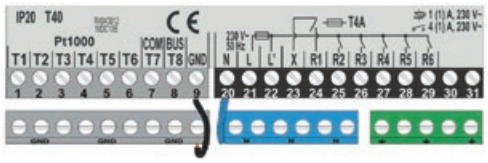
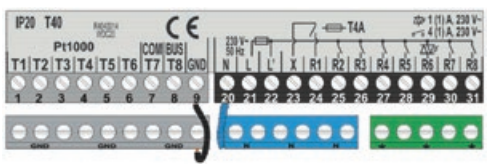
Typical hydraulic circuit diagram

The WDC20 controller independently regulates two heating circuits, each heating circuit having its own room unit. The controller also provides the hot water preparation and regulates the heat source.

Example: hydraulic circuit diagram 423.

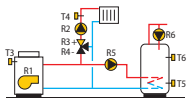
Application	WDC10B	WDC10	WDC20
Regulating radiator space heating system	●	●	●
Regulating floor heating or cooling system	●	●	●
Regulating convector heating or cooling system	●	●	●
Regulating wall or ceiling heating or cooling system	●	●	●
Hot water preparation	●	●	●
Technical characteristics			
No. of preset hydraulic circuit diagrams	7	17	52
No. of room units	2	2	2
No. of mechanical relays	6	6	7
No. of solid state relays	—	1	1
No. of temperature sensor inputs	7	7	7
Possibility to make an interconnection between several WDC controllers and also other Seltron controllers with a BUS connection	●	●	●
Regulation of heating systems			
Heating system with radiators	●	●	●
Floor heating system	●	●	●
Convector heating system	●	●	●
Wall and ceiling heating systems	●	●	●
Hot water heating system	●	●	●
Regulation of heating circuits			
Direct heating circuit	●	●	●
Mixing heating circuit	●	●	●
Direct and mixing heating circuit	—	●	●
Two mixing heating circuits	—	—	●
Hot water heating	●	●	●
Switching between direct heating circuit and hot water heating	●	●	●
Hot water circulation	●	●	●
Automatic switching between heat sources	—	—	●
Regulation of the stand-pipe temperature constant	●	●	●
Single-stage supply device charging	—	—	●
Heat source control			
Solid fuel boiler	●	●	●
Solid fuel boiler with pellet burner	—	—	●
Liquid fuel boiler	●	●	●
Liquid fuel boiler with two-stage burner	●	●	●
Combined boiler	—	—	●
Gas flow boiler	—	—	●
Heat pump	—	—	●
Supply device	●	●	●
Additional heating using electricity	●	●	●
Solar collectors	—	●	●
Hot water preparation			
Using a primary heating source	●	●	●
With heat supply device	●	●	●
Using a solar heating system	—	●	●
User functions			
Space heating or cooling according to the time program	●	●	●
Automatic winter/summer mode switching	●	●	●
PARTY function – a simple prolonging of comfort heating	●	●	●
ECO function – activation of the economy operation mode	●	●	●
HOLIDAY function – activation of the operation mode during the holiday season	●	●	●
Hot water heating according to the time program	●	●	●
One-off – instantaneous switching on of hot water heating	●	●	●
BOOST function for space heating	●	●	●
Function for floor foundation drying	●	●	●

Heating system protection	WDC10B	WDC10	WDC20
Protection against Legionella bacteria (at the controlled energy source)	●	●	●
Supply device protection when overheating	●	●	●
Boiler protection against overheating	●	●	●
Protection against the freezing of collectors	—	●	●
Forced pump start with the highest collector temperature	—	●	●
Switching off of the collectors when the safety temperature has been exceeded	—	●	●
Solar heating system protection when collectors are overheating	—	●	●
Supply device protection when overheating	—	●	●
Supply device re-cooling to the desired temperature	—	●	●
Periodic starting up of pumps and mixing valves during a period of inactivity	●	●	●
Data display			
A comprehensive overview of the heating system operation	●	●	●
Graphic display of temperatures according to days of the last week	●	●	●
Detailed display of temperatures for the current day	●	●	●
Operational self-diagnostics featuring error warnings and notifications regarding excessive temperatures	●	●	●
Remote access			
Possibility of USB connection with PC	●	●	●
Connectivity with the SeltronHome platform allowing remote control using a smart phone or tablet	●	●	●
Setup and assembly			
Wizard for an easy and quick device start-up	●	●	●
13-language user interface: Languages: EN, DE, FR, NL, PL, ES, SL, IT, CS, LT, GR, HU, HR	●	●	●
Setting up the operation by selecting the hydraulic circuit diagram	●	●	●
“Help” button for quick help with settings	●	●	●
Graphically adjustable time programs	●	●	●
The option for simulating system operation	●	●	●
Logging and display of changes made to settings	●	●	●
Option for retrieval of basic settings in the event of data loss or unwanted changes	●	●	●
Option for programming free outputs	●	●	●
Possibility of mounting to a wall or DIN rail	●	●	●
Simple installation and connection	●	●	●

Technical specifications	WDC10B	WDC10	WDC20
Illuminated graphic display	•	•	•
Operating hours meter	•	•	•
Weekly program clock	•	•	•
Mains voltage	230V ~, 50Hz		
Own consumption	2.5VA		
Energy consumption in stand-by	Max. 0.5VA		
No. of inputs	7 temperature sensors (Pt 1000)		
No. of outputs	6 pcs mechanical	6 pcs mechanical 1 pc electronic	7 pcs mechanical 1 pc electronic
Relay outputs	4 (1)A ~, 230V ~		
Triac output	1 (1)A ~, 230V ~		
Hour power supply	Battery CR2032 (Li-Mn) 3V		
Hour accuracy	+/- 1s (24h) at 20°C		
Protection grade	IP20 according to EN 60529		
Protection class	I according to EN 60730-1		
Operation mode	1B according to EN 60730-1		
Type of temperature sensors	Pt1000 or KTY10		
Operation mode	3-point PID		
Housing material	ASA – thermoplastic		
Permissible ambient temperature	5–40°C		
Storage temperature	-20°C up to +65°C		
Weight	412g	412g	419g
No. of pieces in the packaging unit	12 pcs		
Dimensions (W×H×D): 113×163×48mm			
Electrical connection	WDC10B  WDC10  WDC20 		

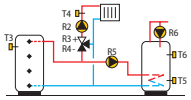
Hydraulic connections for WDC10B, WDC10, WDC20

401



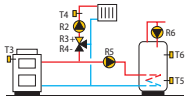
Oil boiler, mixing circuit, water heater.

401b



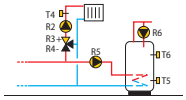
Heat supply device, mixing circuit, water heater.

401c



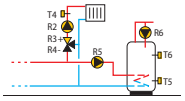
Solid fuel boiler, mixing circuit, water heater.

401d



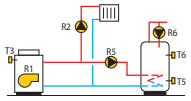
No-boiler system – mixing circuit, water heater.

401e



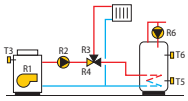
Extension circuit diagram – mixing circuit, water heater.

402



Oil boiler, direct circuit, water heater.

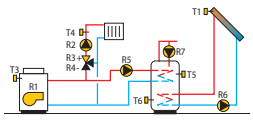
403



Oil boiler, direct circuit, water heater.

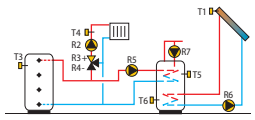
Hydraulic connections for WDC10, WDC20

404



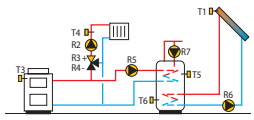
Oil boiler, mixing circuit, water heater, solar collectors.

404b



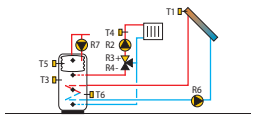
Heat supply device, mixing circuit, water heater, solar collectors.

404c



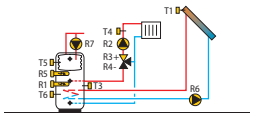
Solid fuel boiler, mixing circuit, water heater, solar collectors.

404d



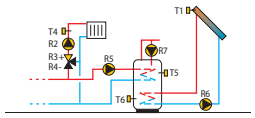
Heat supply device with integrated water heater, mixing circuit, solar collectors.

404e



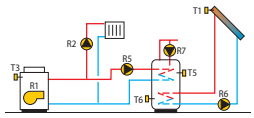
Heat supply device with integrated water heater, mixing circuit, additional heating with electricity, solar collectors.

404f



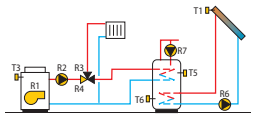
Extension circuit diagram – mixing circuit, water heater, solar collectors.

405



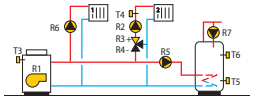
Oil boiler, direct circuit, water heater, solar collectors.

406



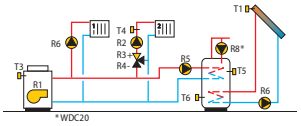
Oil boiler, direct circuit, water heater, solar collectors.

407



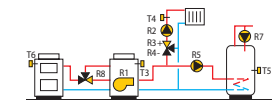
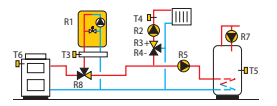
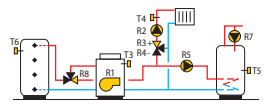
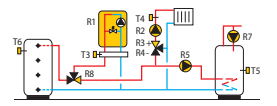
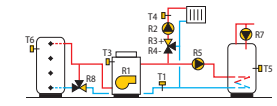
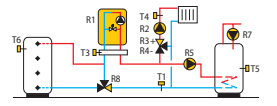
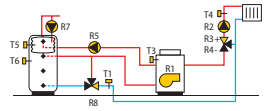
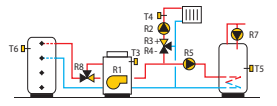
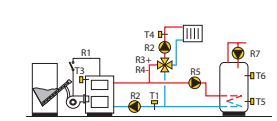
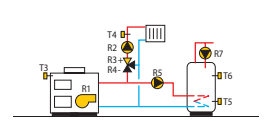
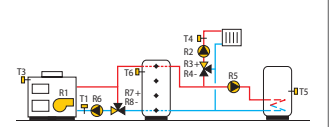
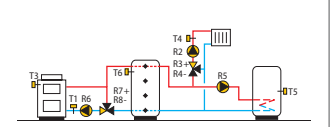
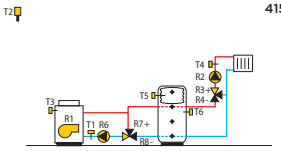
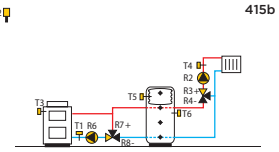
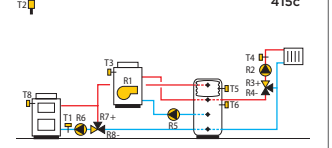
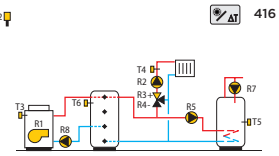
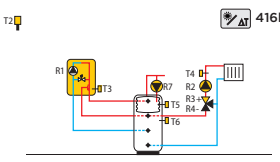
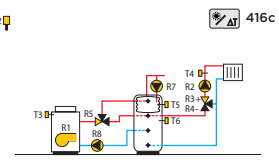
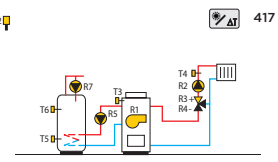
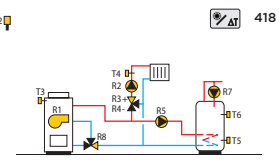
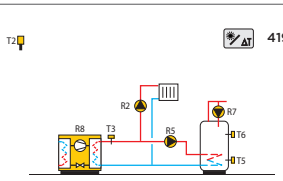
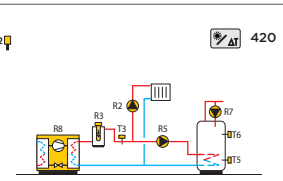
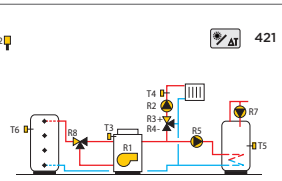
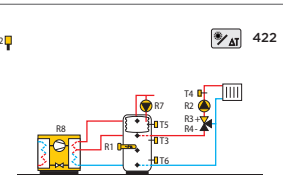
Oil boiler, mixing circuit, direct circuit, water heater.

407b



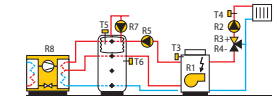
Oil boiler, mixing circuit, direct circuit, water heater, solar collectors.

Hydraulic connections for WDC20

408  Solid fuel boiler, oil boiler, mixing circuit, water heater.	408b  Solid fuel boiler, gas boiler, mixing circuit, water heater.	409  Heat supply device, oil boiler, mixing circuit, water heater.	409b  Heat supply device, gas boiler, mixing circuit, water heater.
410  Heat supply device, oil boiler, mixing circuit, water heater.	410b  Heat supply device, gas boiler, mixing circuit, water heater.	410c  Heat supply device with integrated water heater, oil boiler, mixing circuit.	411  Heat supply device, oil boiler, mixing circuit, water heater.
412  Pellet boiler, mixing circuit, water heater.	413  Combined boiler (solid fuel/oil), mixing circuit, water heater.	414  Combined boiler (solid fuel/oil), heat supply device, mixing circuit, water heater.	414b  Solid fuel boiler, heat supply device, mixing circuit, water heater.
415  Combined boiler (solid fuel/oil), heat supply device with integrated water heater, mixing circuit.	415b  Solid fuel boiler, heat supply device with integrated water heater, mixing circuit.	415c  Solid fuel boiler, oil boiler, heat supply device with integrated water heater, mixing circuit.	416  Oil boiler, supply device, mixing circuit, water heater.
416b  Gas boiler, heat supply device with integrated water heater, mixing circuit.	416c  Oil boiler, heat supply device with integrated water heater, mixing circuit.	417  Combined boiler (solid fuel/oil), mixing circuit, water heater.	418  Combined boiler (solid fuel/oil), mixing circuit, water heater.
419  Heat pump, direct circuit, water heater.	420  Heat pump, additional heating with electricity, direct circuit, water heater.	421  Oil boiler, heat supply device, mixing circuit, water heater.	422  Heat pump, heat supply device with integrated water heater, additional heating with electricity, mixing circuit.

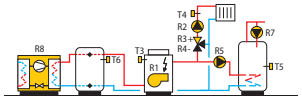
Hydraulic connections for WDC20

422b



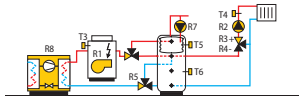
Heat pump, oil boiler, heat supply device with integrated water heater, mixing circuit.

422c



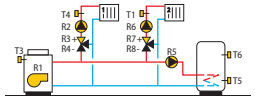
Heat pump, oil boiler, heat supply device, mixing circuit, water heater.

422d



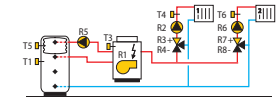
Heat pump, oil boiler, heat supply device with integrated water heater, mixing circuit.

423



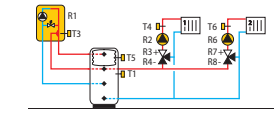
Oil boiler, 2 mixing circuits, water heater.

423b



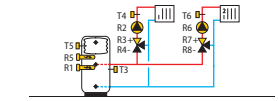
Heat supply device with integrated water heater, oil boiler, 2 mixing circuits.

423c



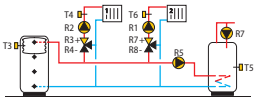
Gas boiler, heat supply device with integrated water heater, 2 mixing circuits.

423d



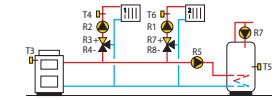
Heat pump, heat supply device with integrated water heater, additional heating with electricity, 2 mixing circuits.

423e



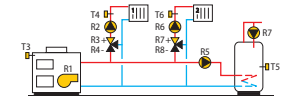
Heat supply device, 2 mixing circuits, water heater.

423f



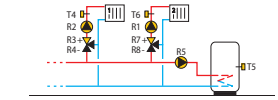
Solid fuel boiler, 2 mixing circuits, water heater.

423g



Combined boiler (solid fuel/oil), 2 mixing circuits, water heater.

423h



Extension circuit diagram, combined boiler (solid fuel/oil), water heater, 2 mixing circuits.

Item	Code for ordering	Description
	1WDC10B00000-SL0	Heating controller SELTRON WDC10B
	1WDC1000000-SL0	Heating controller SELTRON WDC10
	1WDC2000000-SL0	Heating controller SELTRON WDC20
	1WDC10B21100-SL0	Heating controller SELTRON WDC10B with sensors (2×TF, 1×VF, 1×AF)
	1WDC1041100-SL0	Heating controller SELTRON WDC10 with sensors (4×TF/Pt, 1×VF/Pt, 1×AF/Pt)
	1WDC2041100-SL0	Heating controller SELTRON WDC20 with sensors (4×TF/Pt, 1×VF/Pt, 1×AF/Pt)
Accessories		
	1TFPT-000	Submersible temperature sensor SELTRON TF/Pt
	1VFPT-000	Contact temperature sensor SELTRON VF/Pt
	1AFPT-000	Outdoor temperature sensor SELTRON AF/Pt
	1AVC0532M210-030	Actuator SELTRON AVC 05, 3-point, 5Nm, 2min, 230V ~, neutral
	1AVC0521M210-030	Actuator SELTRON AVC 05, 2-point, 5Nm, 1min, 230V ~
	1RCD2W-050	Digital room unit SELTRON RCD2, white
	1GWD2-040	Communication module SELTRON GWD2

Simplicity solutions

SELTRONHOME

WXD controllers can be connected into the SeltronHome environment for comprehensive remote control and operation regulation. Remote access is provided by the Clausius application for end users and the Kelvin application for installers and servicemen.

SETUP WIZARD

The controller leads you in 3 or 4 steps through the first commissioning; all other parameters are preset.

SYSTEM SIMULATION

The simulation program is a special function which allows temperature sensor simulation, and thereby enables the user to test the system operation.

INTERACTIVE HELP

HELP

Fast and easy access to short manuals, notifications, warnings, software version, etc.