



## Room Temperature Controller with independent DHW Control RDD10.1DHW

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- 2-position control with ON / OFF output for heating
- Independent ON / OFF control of DHW
- Operating modes: Normal operation, energy saving and frost protection
- Battery-powered DC 3 V (2 x 1.5 V AA)

### Use

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The RDD10.1DHW is used for the control of the room temperature in heating systems with independent control of DHW.

Typical applications:

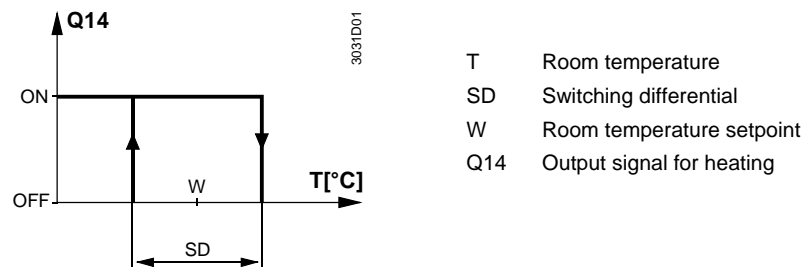
- Apartments

For the control of the following plant components and of DHW:

- Thermal valves or zone valves
- Gas or oil burners
- Fans
- Pumps
- Heat exchanger
- Continuous-flow water heater
- Small water heating systems

## Functions

The controller acquires the room temperature with its integrated sensor and maintains the setpoint by delivering control commands. The switching differential is 1 K.



## Operating modes

The RDD10.1DHW provides normal operation, energy saving (or OFF) or frost protection mode. The difference between normal operation, energy saving and frost protection mode is merely the room temperature setpoint. Changeover from normal operation to energy saving or frost protection mode, or vice versa, is made by pressing a button.

### Normal operation

When normal operation mode is activated, symbol ☀ appears on the display. The setpoint can be readjusted by pressing buttons  $\oplus$  and  $\ominus$ .

### Energy saving or OFF

When energy saving mode is activated, symbol ☾ appears on the display. The setpoint can be readjusted by pressing buttons  $\oplus$  and  $\ominus$ . When the energy saving setpoint is set to "0", the controller is switched OFF, that is, the controller is not active in energy saving mode. In that case, symbol ☾ does not appear.



Note: Frost protection is not active.

### Frost protection

When frost protection mode is activated, symbol ⏻ appears on the display.

### Display

The digital display shows the actual room temperature and the symbol of the operating mode currently active. When the heating output is activated, the triangle symbol ▲ appears. When DHW control is activated, symbol  $\rightarrow$  appears.



Display in normal operation  
Heating ON  
DHW ON



Display in energy saving mode  
Heating ON  
DHW ON

## Type summary

Type reference	Features
<b>RDD10.1DHW</b>	Battery-powered DC 3 V (2 x AA)

## Ordering

When ordering, please give name and type reference: **Room temperature controller RDD10.1DHW.**

Valve actuators are to be ordered as separate items.

## Equipment combinations

Type of unit	Type reference	Data Sheet
Electromotoric ON / OFF actuator	<b>SFA21...</b>	4863
Thermal actuator (for radiator valve)	<b>STA21...</b>	4893
Thermal actuator (for small valve 2.5 mm)	<b>STP21...</b>	4878

## Accessories

Description	Type reference
Adapter plate 120 x 120 mm for 4" x 4" conduit boxes	ARG70
Adapter plate 96 x 120 mm for 2" x 4" conduit boxes	ARG70.1
Adapter plate for surface wiring 112 x 130 mm	ARG70.2

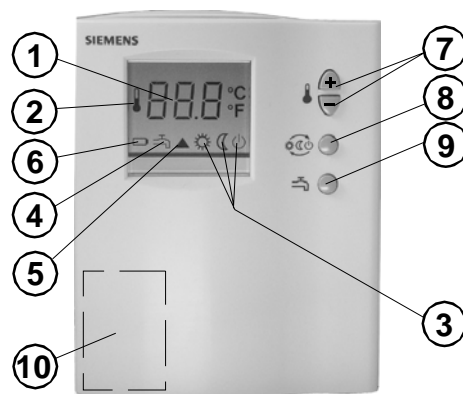
## Mechanical design

The controller consists of 2 parts:

- Plastic housing with digital display, which accommodates the electronics, the operating elements and the built-in room temperatures sensor
- Mounting base

The housing engages in the mounting base and snaps on.

The base carries the screw terminals.

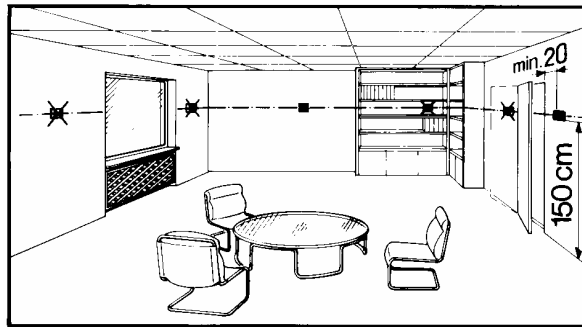


### Legend

- 1 Display of the room temperature, setpoints and operating modes
- 2 symbol when the actual room temperature is displayed
- 3 Normal operation  
 Energy saving mode  
 Frost protection mode
- 4 symbol is displayed when DHW heating is activated
- 5 heating ON
- 6 symbol indicating that batteries need to be replaced
- 7 Buttons for adjusting the setpoint
- 8 Button for operating mode changeover "Normal operation, energy saving and frost protection"
- 9 Button for switching DHW heating equipment ON / OFF
- 10 Battery compartment

The room temperature controller should be mounted in a location where the air temperature can be acquired as accurately as possible without getting adversely affected by direct solar radiation or other heat or refrigeration sources.

Mounting height is about 1.5 m above the floor.



The controller can be fitted to a recessed conduit box.



- Only authorized staff may open the unit.  
**Caution: AC 230 V**
- The cables used must satisfy the insulation requirements with regard to mains potential

### Mounting, installation and commissioning

When mounting the controller, fix the base first. Then, make the electrical connections and fit and secure the cover.

The controller must be mounted on a flat wall and in compliance with local regulations. If there are thermostatic radiator valves in the reference room, they must be set to their fully open position.



### Maintenance

The controller is maintenance-free.

### Sensor calibration

If the temperature on the display does not agree with the room temperature effectively measured, the temperature sensor can be recalibrated. For that purpose, both buttons




must be pressed simultaneously for 3 seconds. Then, the temperature displayed can be changed by a maximum of +/- 3 K by pressing the  and  buttons. 5 seconds after the last push of a button, the controller will automatically return to the normal operating state.

### Change of batteries

If the battery symbol appears, the battery power is almost exhausted and the batteries should be replaced.

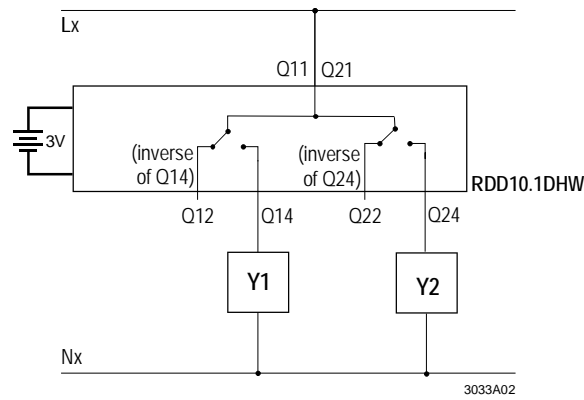
## Technical data

 Power supply	Operating voltage	DC 3 V (2 x 1.5 V AA Alkaline batteries)
	• RDD10.1DHW Battery life (RDD10.1DHW)	> 1 year (AA Alkaline batteries)
Control outputs	Heating valve or wall-hung boiler – Y1	
	Control output Q12 (NC contact)	
	Rating RDD10.1DHW	(AC 24...250 V) max. 5(2) A
	Control output Q14 (NO contact)	
	Rating RDD10.1DHW	(AC 24...250 V) max. 5(2) A
	DHW heating equipment – Y2	
Functional data	Control output Q22 (NC contact)	
	Rating RDD10.1DHW	(AC 24...250 V) max. 5(2) A
	Control output Q24 (NO contact)	
	Rating RDD10.1DHW	(AC 24...250 V) max. 5(2) A
	Switching differential SD	1 K
	Setpoint setting range	
Environmental conditions	Normal operation	5...35 °C
	Energy saving	0 (OFF) and 5...35 °C
	Resolution of settings and display	
	Setpoints	0.5 °C
	Actual temperature value display	0.5 °C
	Factory setting normal operation	20 °C
	Factory setting energy saving	8 °C
	Frost protection	5 °C (fixed)
	Operation	to IEC 721-3-3
	Climatic conditions	class 3K5
	Temperature	0...+50 °C
	Humidity	<95 % r.h.
	Transport	to IEC 721-3-2
	Climatic conditions	class 2K3
	Temperature	-25...+60 °C
	Humidity	<95 % r.h.
	Mechanical conditions	class 2M2
	Storage	to IEC 721-3-1
Climatic conditions	class 1K3	
Temperature	-25...+60 °C	
Humidity	<95 % r.h.	
Standards	<b>CE</b> conformity to	
	EMC directive	89/336/EEC
	Low-voltage directive	73/23/EEC and 93/68/EEC
	<b>C</b> <sup>N474</sup> <b>C-Tick</b> conformity to	
	EMC emission standard	AS/NSZ 4251.1:1994
	Product standards	
	Automatic electrical controls for household and similar use	EN 60 730 – 1 and EN 60 730 – 2 - 9
	Electromagnetic compatibility	
	Emissions	IEC/EN 61 000-6-3
	Immunity	IEC/EN 61 000-6-1
	Safety class	II to EN 60730
	Pollution class	normal
Degree of protection of housing	IP30 to EN 60529	

General

Connection terminals for	solid wires or prepared stranded wires 2 x 1.5 mm <sup>2</sup> or 1 x 2.5 mm <sup>2</sup> (min. 0.5 mm <sup>2</sup> )
Weight	0.20 kg
Color of housing front	white, NCS S 0502-G (RAL 9003)

**Connection diagram**

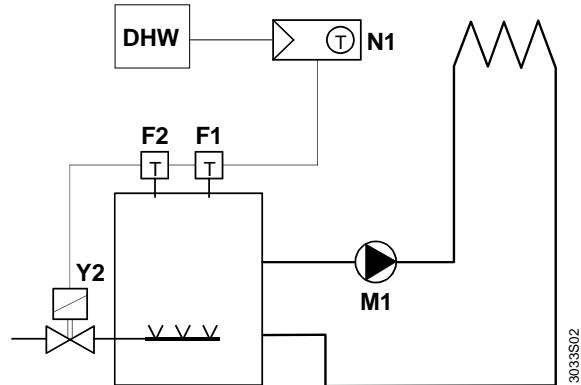
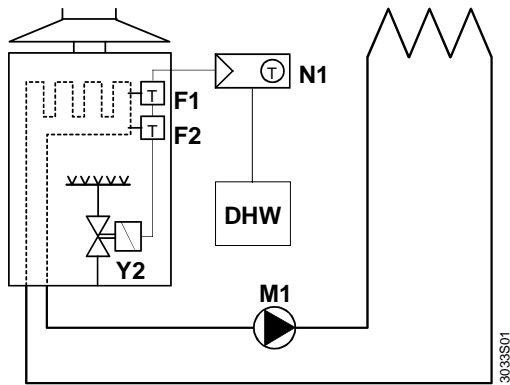


**Lx – Nx AC 24...250 V / max. 5(2) A**

Legend

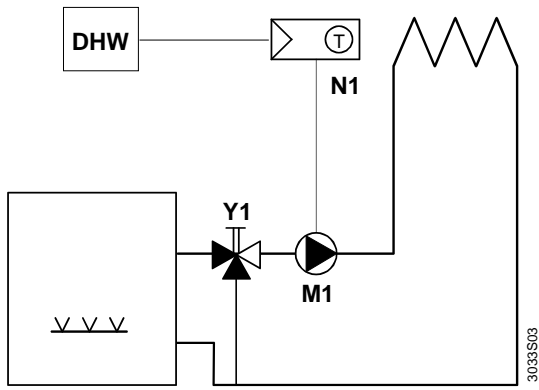
- Y1** Heating valve or wall-hung boiler
- Y2** DHW heating equipment

**Application examples**



Room temperature controller with direct control of a gas-fired wall-hung boiler with independent control of DHW

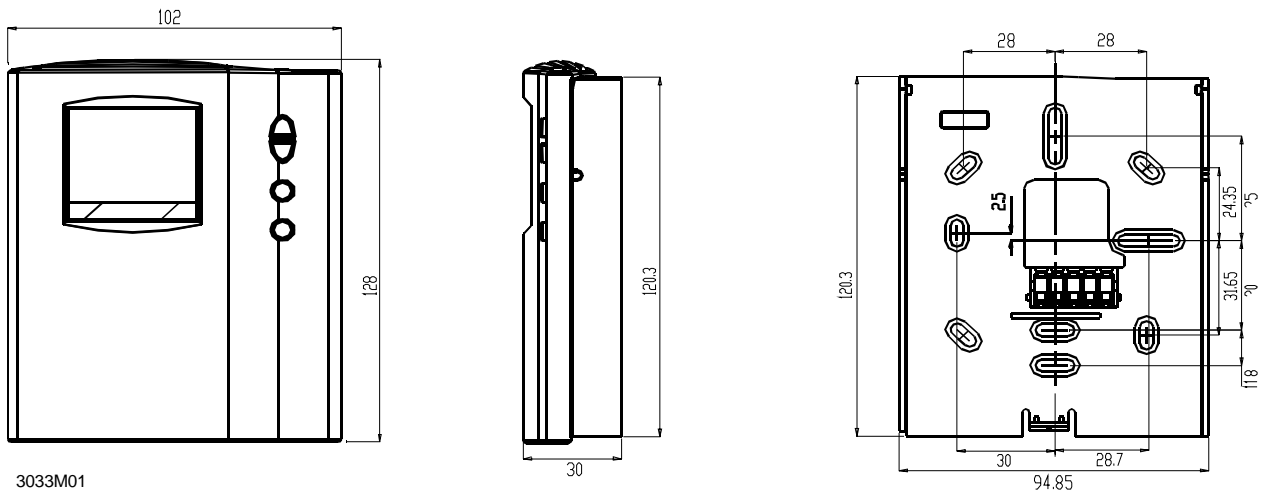
Room temperature controller with direct control of a gas-fired floor-standing boiler with independent control of DHW



- F1 Thermal reset limit thermostat
- F2 Safety limit thermostat
- M1 Circulating pump
- N1 RDD10... room temperature controller
- Y1 3-port valve with manual adjustment
- Y2 Magnetic valve
- DHW DHW heating equipment

Room temperature controller with direct control of a heating circuit pump (precontrol by manual mixing valve) with independent control of DHW

## Dimensions



3033M01