

## Room temperature controller with 24-hour time switch and large LCD

RDJ100



### Programmable, for heating (or cooling) systems

- Operating modes: Automatic, Comfort, Energy Saving, and Frost Protection
- Large LCD display
- Battery powered: 2 x alkaline type AA batteries, 1.5 V
- Two-position controller with TPI (PID) response

## Use

The RDJ100 is used to control the room temperature in heating (or cooling) systems.

Typical applications:

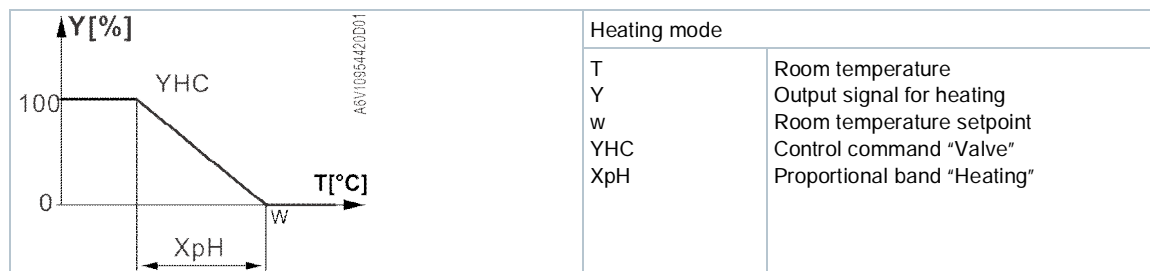
- Homes
- Residential buildings
- Schools
- Offices

The device is used together with the following equipment:

- Thermal valves or zone valves
- Combi boilers
- Gas or oil burners
- Pumps

## Functions

### Function diagram







### Temperature sensor

The RDJ100 provides TPI (PID) control of the room temperature only.

### Operating modes

The RDJ100 has the following modes: Automatic, Comfort, Energy saving and Frost protection. Move the operating mode slider to the respective position to changeover between the operating modes.

Automatic mode	Automatic mode is active when the symbol  appears on the display. The RDJ100 operates per the selected 24-hour time program.
Comfort mode	Comfort mode is active when the symbol  appears on the display. The RDJ100 controls to the temperature setpoint adjusted at $T_{\text{Sun}}$ . This setpoint can be adjusted by setting the programming slider to $T_{\text{Sun}}$ .
Energy saving mode	Energy saving mode is active when the symbol  appears on the display. The RDJ100 controls to the temperature setpoint adjusted at $T_{\text{Moon}}$ . This setpoint can be readjusted by setting the programming slider to $T_{\text{Moon}}$ .
Frost protection	Frost protection is active when the symbol  appears on the display. The RDJ100 controls to the fixed temperature setpoint for frost protection.

## Display

The digital display shows the actual room temperature, the ON / OFF times and the symbol of the operating mode which is currently active. When the heating output is active, the triangle symbol appears.



## Backup

When taking out the batteries, the setpoints and the information required for operating mode changeover are retained for maximum 2 minutes.

## Equipment combinations

Description		Product number	Data sheet *)
Electromotoric actuator		SFA21..	4863
Electrothermal actuator (for radiator valves)		STA23..	4884
Electrothermal actuator (for small valves 2.5mm)		STP23..	4884
Ball valve actuator		GDB..	N6150
Ball valve actuator		GSD..	N4655
Ball valve actuator		GQD..	N4659
Rotary damper actuator		GXD	4622

\*) The documents can be downloaded from <http://siemens.com/bt/download>.

## Ordering

When ordering, please give name and product number. Room temperature controller RDJ100. Valves and actuators are to be ordered as separated items.

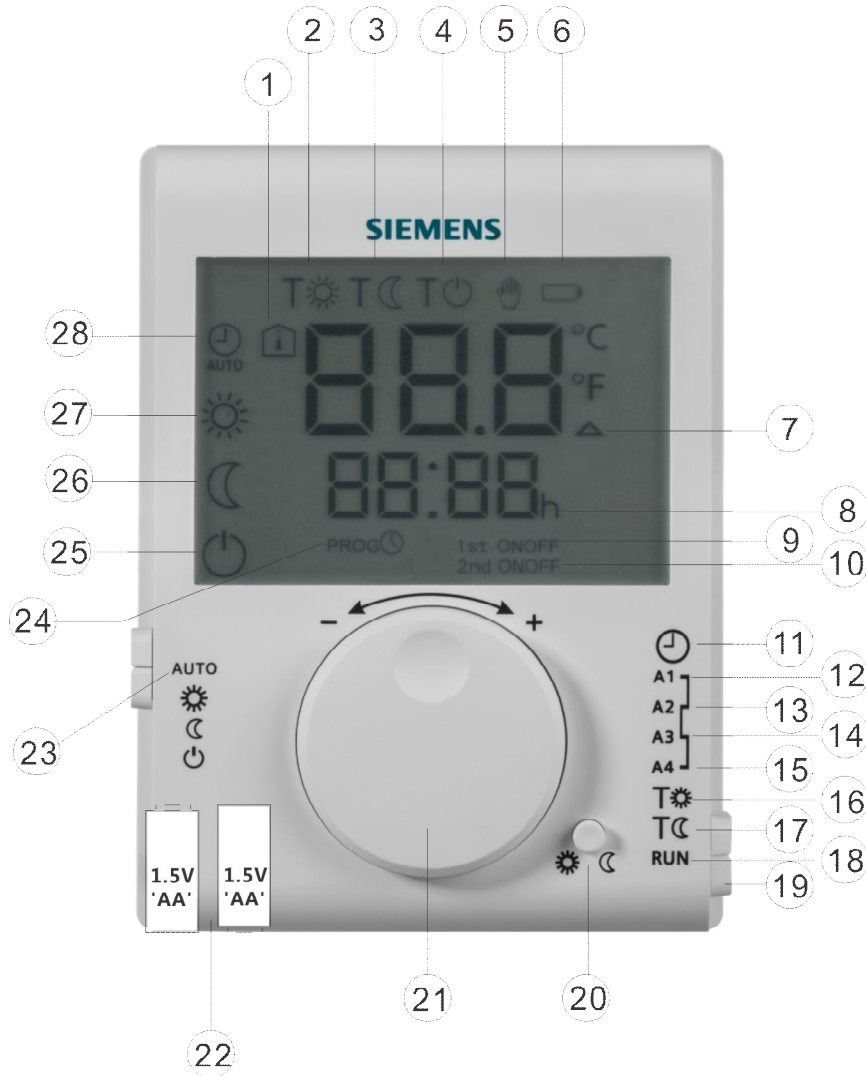
## Mechanical design

The unit consists of 3 parts:





- Plastic housing with digital display accommodating the electronics, operating elements and built-in room temperature sensor
- Baseplate (mounting base)

- Battery compartment

The housing engages in the baseplate and snaps on. The baseplate carries the screw terminals. There is a reset button on the rear of the unit.



RDJ100 Elements	Functions
1	Room temperature display in °C
2	The device controls over the adjusted comfort temperature setpoint
3	The device controls over the adjusted energy saving temperature setpoint
4	The device controls over the fixed frost protection temperature setpoint
5	Setpoint is temporarily overridden until the next switching time
6	Indicates low battery power; replace batteries
7	Indicates a heat request
8	Time of day (00:00...23:59 format)
9	Indicates first switch ON / OFF time

RDJ100 Elements	Functions
10	Indicates second switch ON / OFF time
11	Time setting position
12	First switch ON time
13	First switch OFF time
14	Second switch ON time
15	Second switch OFF time
16	Comfort temperature setting
17	Energy saving temperature setting
18	RUN position
19	Programming slider
20	Advance button (override / presence button)
21	Temperature setting knob
22	Battery compartment
23	Operating mode slider
24	Indicates that programming is taking place
25	 Frost protection; the device's control to a fixed temperature setpoint of 5 °C for frost protection
26	 Energy saving mode; the device's continuous control to the energy saving temperature setpoint
27	 Comfort mode; the device continuous control to the comfort temperature setpoint
28	 Automatic mode; the device operates per the selected time & temperature program

## Product documentation

Topic	Title	Document ID:
Operating	Operating instructions	A6V101035986
Installation	Mounting instructions	A6V10974419
CE declaration		
Product environmental declaration		

Related documents such as environmental declarations, CE declarations, etc., can be downloaded at the following address: <http://siemens.com/bt/download>.

## Notes

### Disposal



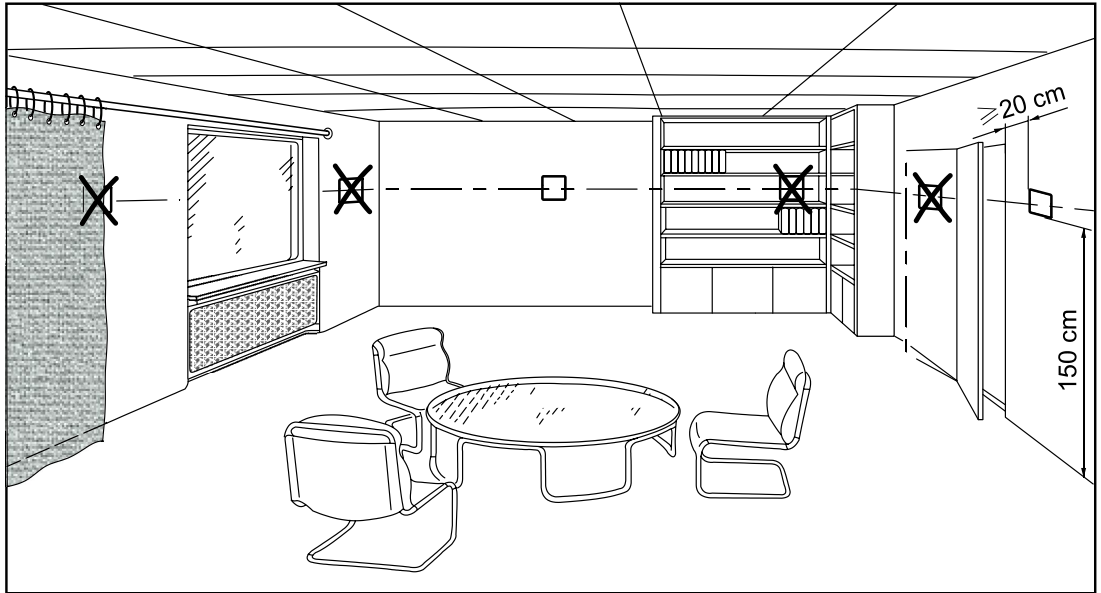
The device is considered an electronics device for disposal in terms of European Directive 2012/19/EU and may not be disposed of as domestic garbage.

- Dispose of the device through channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

## Mounting

When mounting the device, fix the baseplate first. Then, make the electrical connections, and fit and secure the device (refer to the separated mounting instructions A6V10974419). Mount the device on a flat wall and in compliance with local regulations.

If there are thermostatic radiator valves in the reference room, set them to their fully open position.



- The devices are suitable for wall mounting.
- Recommended height: 1.5 m above the floor.
- Do not mount the devices in recesses, shelves, behind curtains or doors, or above or near heat sources.
- Avoid direct solar radiation and drafts.
- Seal the conduit box or the installation tube if any, as air currents can affect sensor readings.
- Adhere to allowed ambient conditions.

## Installation

	<b>⚠ WARNING</b>
	<p><b>No internal line protection for supply lines to external consumers.</b> Risk of fire and injury due to short-circuits!</p> <ul style="list-style-type: none"><li>• Adapt the line diameters as per local regulations to the rated value of the installed overcurrent protection device.</li><li>• The power supply lines must have an external circuit breaker with a rated current of no more than 10 A.</li></ul>

## Change of batteries

If the battery symbol appears, the batteries are almost exhausted and must be replaced.

## Reset

To reset, press the reset button on the rear of the device. All individual settings are then reset to their default values.

## Maintenance

The device is maintenance-free.

## Technical data

### Power supply

Operating voltage	DC 3 V (2 x 1.5 V AA alkaline batteries)
Battery life	>1 year (with AA alkaline batteries)

### Internal sensor inputs

Thermistor	10 kΩ ± 1% at 25 °C
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### Switching outputs (Lx, L1, L2)

Relay contacts	Switching voltage	Max. AC 250 V Min. AC 24 V
	Switching current	Max. 5 A res., 2 A ind.
	At AC 250 V	Min. 200 mA
Insulating strength	Between relay contacts and coil	AC 3,750 V
	Between relay contacts (same pole)	AC 1,000 V



### ⚠ WARNING

#### No internal fuse

External preliminary protection with max. C 10 A circuit breaker in the supply line required under all circumstances.

### Operational data

Minimum Period Time	12 min	
Minimum pulse length	4 min	
Setpoint setting range	5...30 °C	
Factory setting comfort setpoint	20 °C	
Resolution of settings and displays	Temperature setpoint	0.5 °C
	Display of actual temperature value	0.5 °C

### Electrical connections

Connections terminals (via baseplate)	Screw terminals
For solid wires	2 x 1.5 mm <sup>2</sup>
For stranded wires	1 x 2.5 mm <sup>2</sup> (min. 0.5 mm <sup>2</sup> )

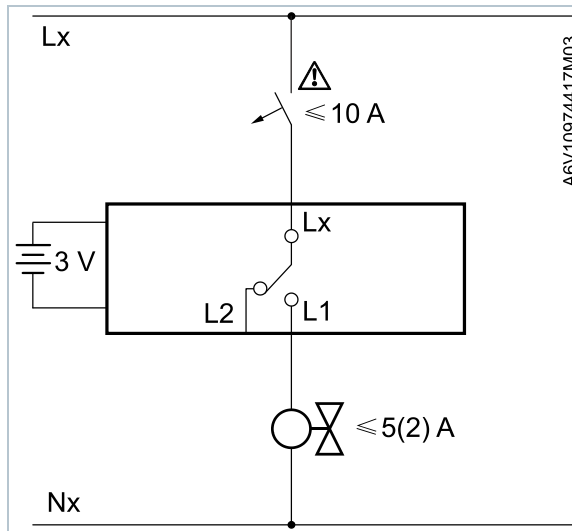
Environmental conditions	
Operation	IEC 60721-3-3
Climatic conditions	Class 3K5
Temperature	0...+40 °C
Humidity	<90% r.h.
Transport	IEC 60721-3-2
Climatic conditions	Class 2K3
Temperature	-25...+60 °C
Humidity	<95% r.h.
Mechanical conditions	Class 2M2
Storage	IEC 60721-3-1
Climatic conditions	Class 1K3
Temperature	-10...+60 °C
Humidity	<90% r.h.

Standards, directives and approvals	
EU conformity (CE)	
RCM conformity	
Safety class	II as per EN 60730-1
Pollution degree	2
Degree of protection of housing	IP20
Eco design and labeling directives	Based on EU Regulation 813/2013 (Eco design directive) and 811/2013 (Labeling directive) concerning space heaters, the following classes apply: PWM (TPI) room thermostat, for use with On/Off output heaters Class IV Value 2%

General	
Weight (including package)	
RDJ	
Color of housing front	Signal-white RAL9003
Housing material	ABS (LCD lens:PC)

## Connection diagram

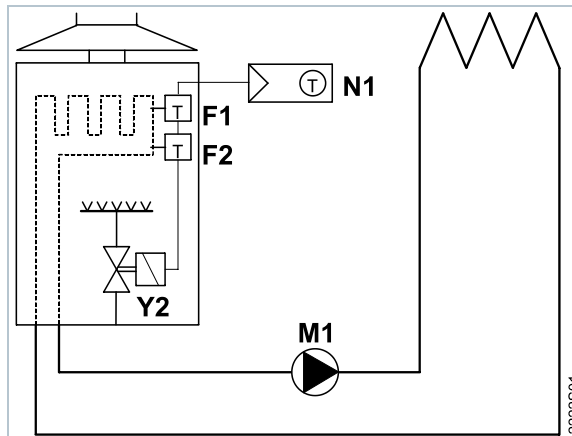




A6V10974417M03

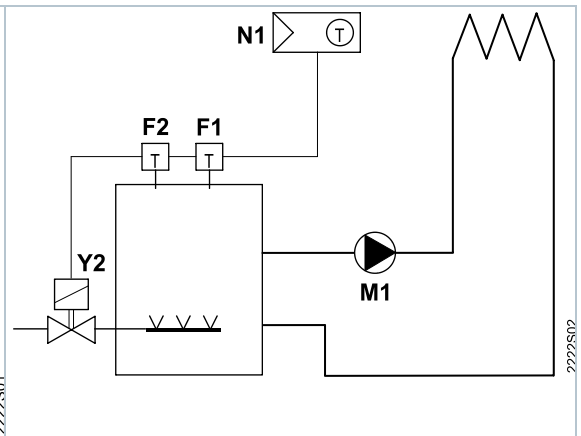
Lx, Nx Live, neutral conductor, AC 24...250 V  
 Lx, L2 N.C. contact (for N.O. valves)  
 Lx, L1 N.O. contact (for N.C. valves)

### Application examples



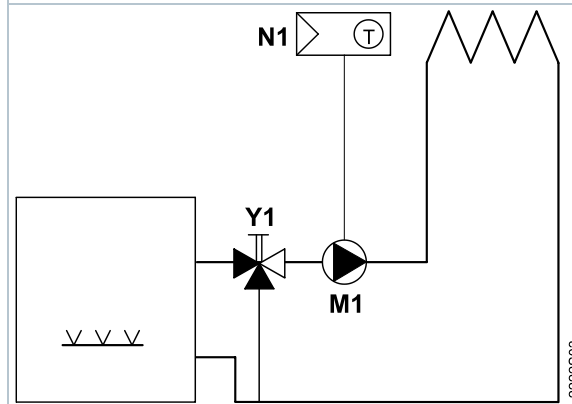
2222S01

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



2222S02

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



2222S03

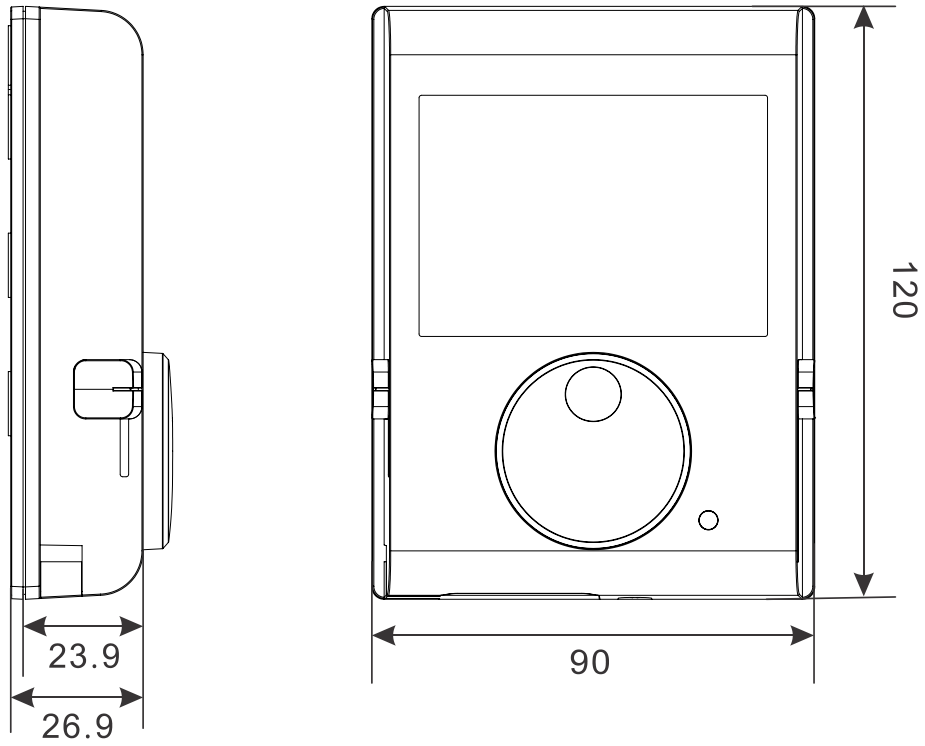
Room temperature controller with direct control of a heating circuit pump (pre-control by manual mixing valve)

F1 Thermal reset limit thermostat  
 F2 Safety limit thermostat  
 M1 Circulating pump

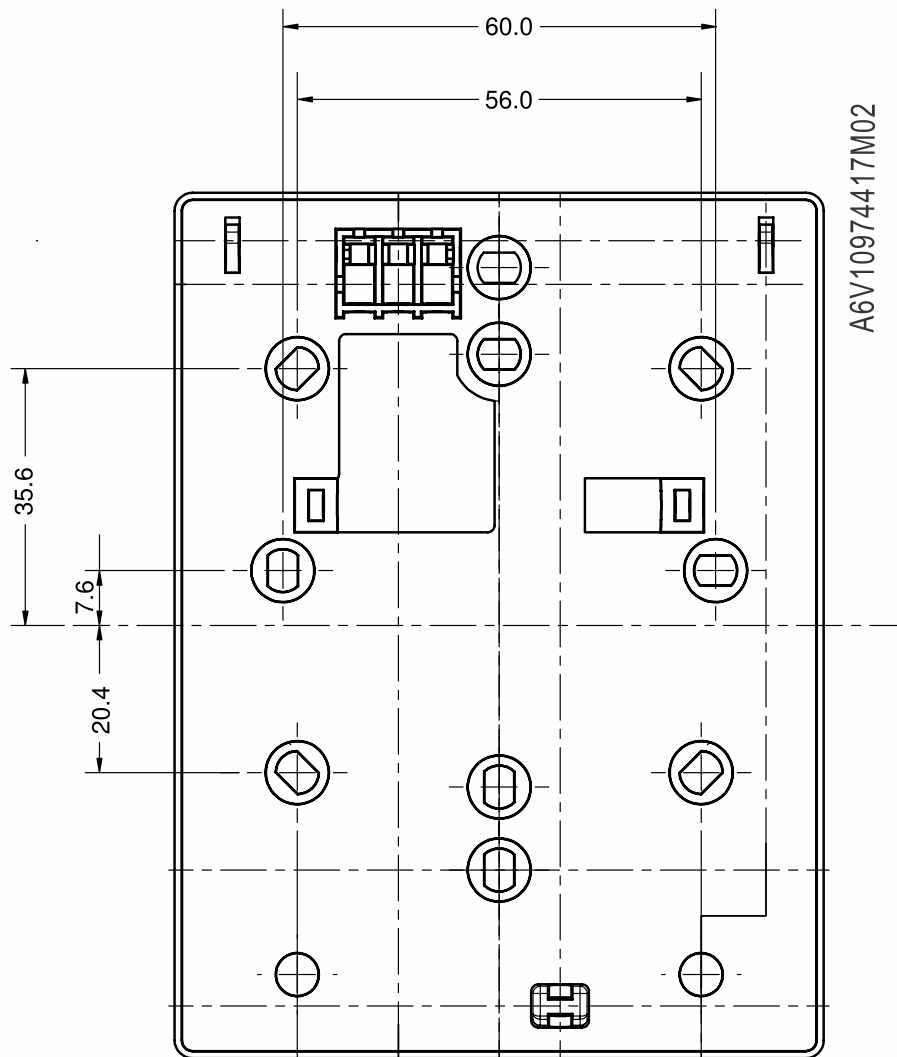
N1 Room temperature controller RDJ100  
 Y1 3-port valve with manual adjustment  
 Y2 Magnetic valve

# Dimensions

[mm]



A6V10954415D02



A6V10974417M02

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