

Room thermostat with large LCD

RDH100..



Non-programmable, for heating systems

- Large LCD
- Battery-powered: 2 x alkaline batteries type AA, 1.5 v
- TPI control for use with ON/OFF heating systems

Use

The RDH 100 is used to control the room temperature in heating systems.

Typical applications:

- Homes
- Residential buildings
- Schools
- Offices

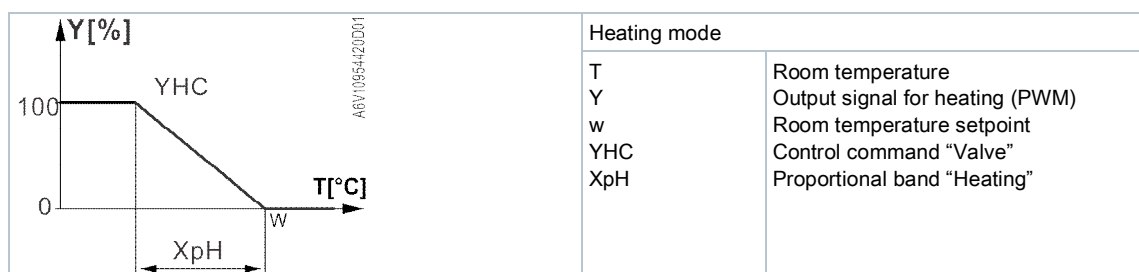
The device is used together with the following equipment:

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

Functions

Temperature control

The device uses a TPI (Time proportional integral) control algorithm to periodically switch on and off the heating system. The period time and pulse length of the control signal (PWM) are determined by setpoint and the measured room temperature via its built-in sensor.



Backup

When removing the batteries, the setpoints and information required for operating mode changeover are retained for max. 2 minutes.

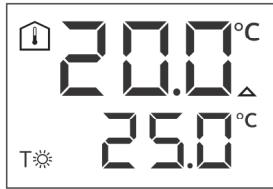
Equipment combinations

Description		Product number	Data sheet *)
Electrothermal actuator (for radiator valves)		STA23..	4884
Electrothermal actuator (for small valves 2.5mm)		STP23..	4884

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

Display

The digital display shows the current room temperature and the comfort temperature setpoint. When the heating output is active, the triangle symbol is displayed.



Ordering

When ordering, specify both name and product number, e.g. room temperature controller RDH100.

Order valves and actuators as separate items.





Mechanical design

The device consists of 3 parts:

- Plastic housing with digital display containing 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 device.



Elements	1		Display of the room temperature in °C / °F
	2		Indicates a request for heating
	3		Temperature setting knob
	4		Battery compartment
	5		Comfort temperature setpoint
	6		Indicates low battery power; replace batteries

Product documentation

Topic	Title	Document ID:
Operating	Operating instructions	A6V101035984
Installation	Mounting instructions	A6V10974417
CE declaration		A6V101123363

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

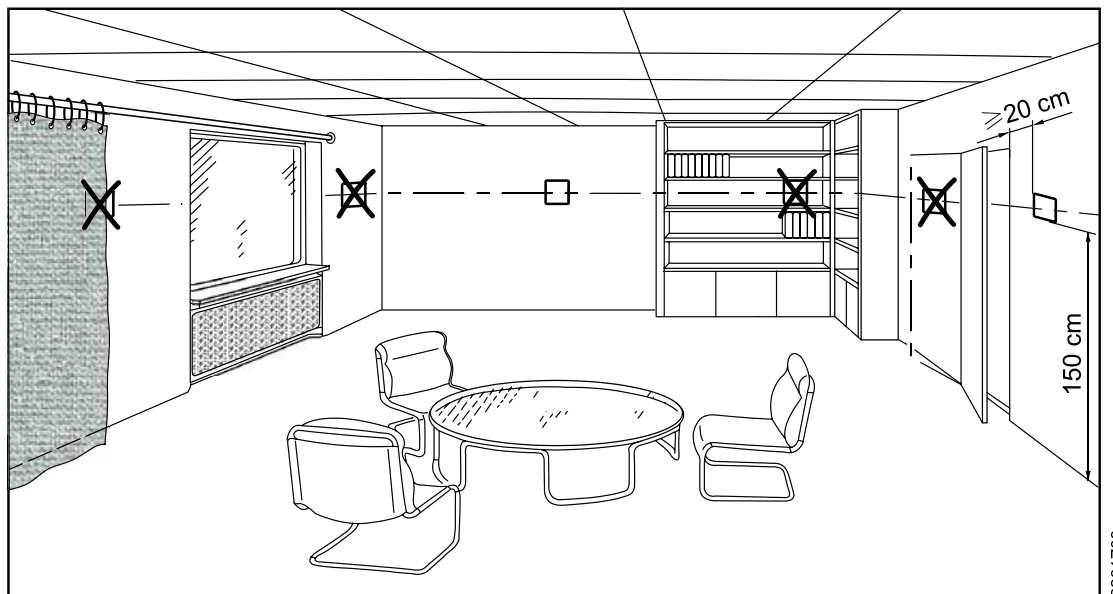
Notes

Mounting

When mounting the device, attach the baseplate first. Then, make the electrical connections, and fit and secure the device (refer to the separated mounting instructions A6V10974417).

Mount the device on a flat wall and in compliance with local regulations.

If the reference room contains thermostatic radiator valves, 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



⚠ WARNING

No internal line protection for supply lines to external consumers.

Risk of fire and injury due to short-circuits!

- Adapt the line diameters as per local regulations to the rated value of the installed overcurrent protection device.
- The power supply lines must have an external circuit breaker with a rated current of max. 10 A.

Change of batteries

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

Reset

To reset, press the reset button on the rear of the device. This resets all individual settings to their default values.

Maintenance

The device is maintenance-free.

Disposal



The device is considered an electronic device for disposal in accordance with the European Guidelines 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.
- Dispose of empty batteries in designated collection points.

Instructions for the replacement of alkaline batteries



⚠ WARNING

Explosion due to fire or short-circuit, even with discharged batteries

Risk of injury due to flying parts

- Prevent the batteries from coming into contact with water.
- Do not recharge batteries.
- Do not damage or disassemble batteries.
- Do not heat batteries over 85°C.



⚠ WARNING

Leakage of electrolyte

Severe burns

- Handle damaged batteries only wearing suitable protective gloves.
- In case of contact with electrolyte, rinse eyes immediately with plenty of water. Consult a doctor.

Observe the following:

- Use only a battery of the same type and from the same manufacturer as a replacement.
- Observe the polarities (+/-).
- The batteries must be new and undamaged.
- Do not mix new and used batteries.
- Store, transport and dispose of the batteries in compliance with local requirements, regulations and laws. Also observe the instructions of the battery manufacturer.

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. 8 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

TPI control:	
Minimum period	12 min
Minimum pulse length	4 min
RDH100	

Operational data		
Setpoint setting range		5...30 °C
Factory setting comfort setpoint		20 °C
RDH100/SPL		
Setpoint setting range		15...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 ²
For stranded wires	1 x 2.5 mm ² (min. 0.5 mm ²)

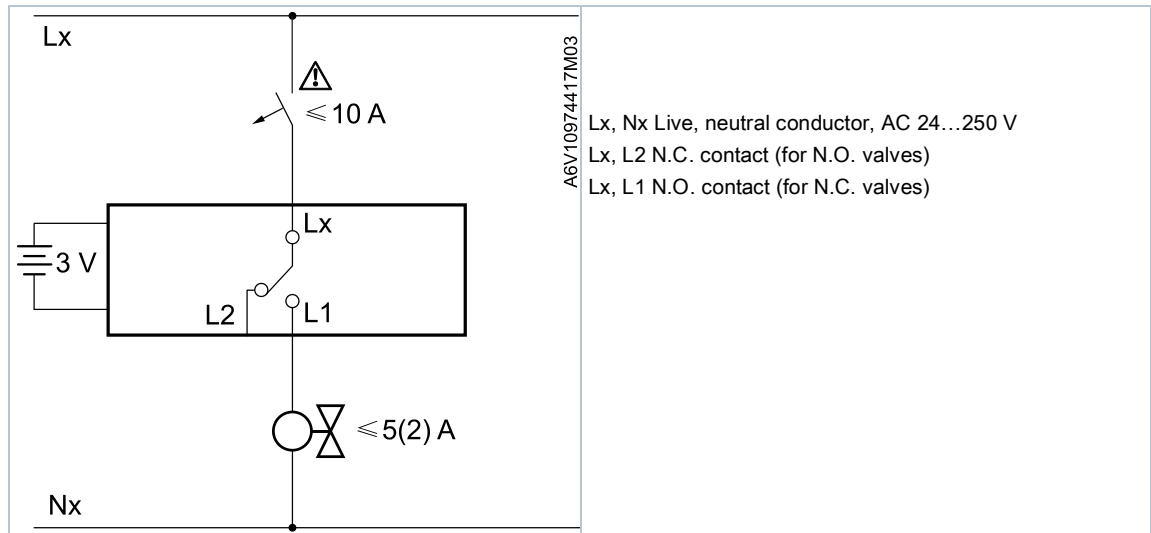
Environmental conditions	
Operation	IEC 60721-3-3
Climatic conditions	Class 3K5
Temperature	0...+40 °C
Humidity	<90% r.h.
Transport	IEC 60721-3-2
Climatic conditions	Class 2K3
Temperature	-25...+60 °C
Humidity	<95% r.h.
Mechanical conditions	Class 2M2
Storage	IEC 60721-3-1
Climatic conditions	Class 1K3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

Standards, directives and approvals	
EU conformity (CE)	A6V101123363 *)
RCM conformity	A6V11161600 *)
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: TPI (PWM) room thermostat, for use with On/Off output heaters Class IV Value 2%
Environmental compatibility	The product environmental declaration (A6V101123358 *) contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).

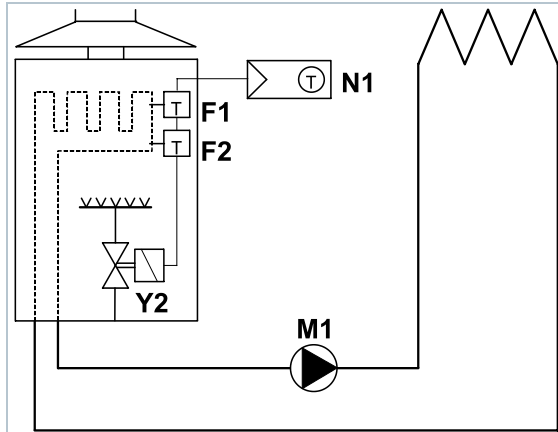
*) The documents can be downloaded from <http://siemens.com/bt/download>.

General	
Weight (including package)	350 g
Color of housing front	Signal-white RAL9003
Housing material	ABS (LCD lens:PC)

Connection diagram

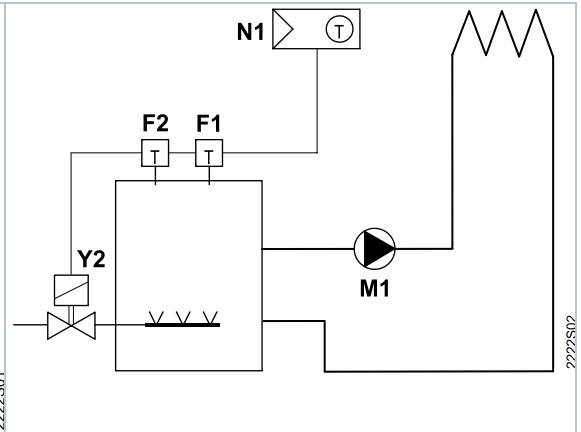


Application examples



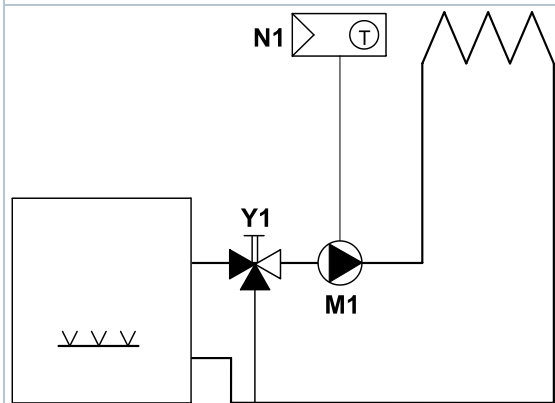
2222S01

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

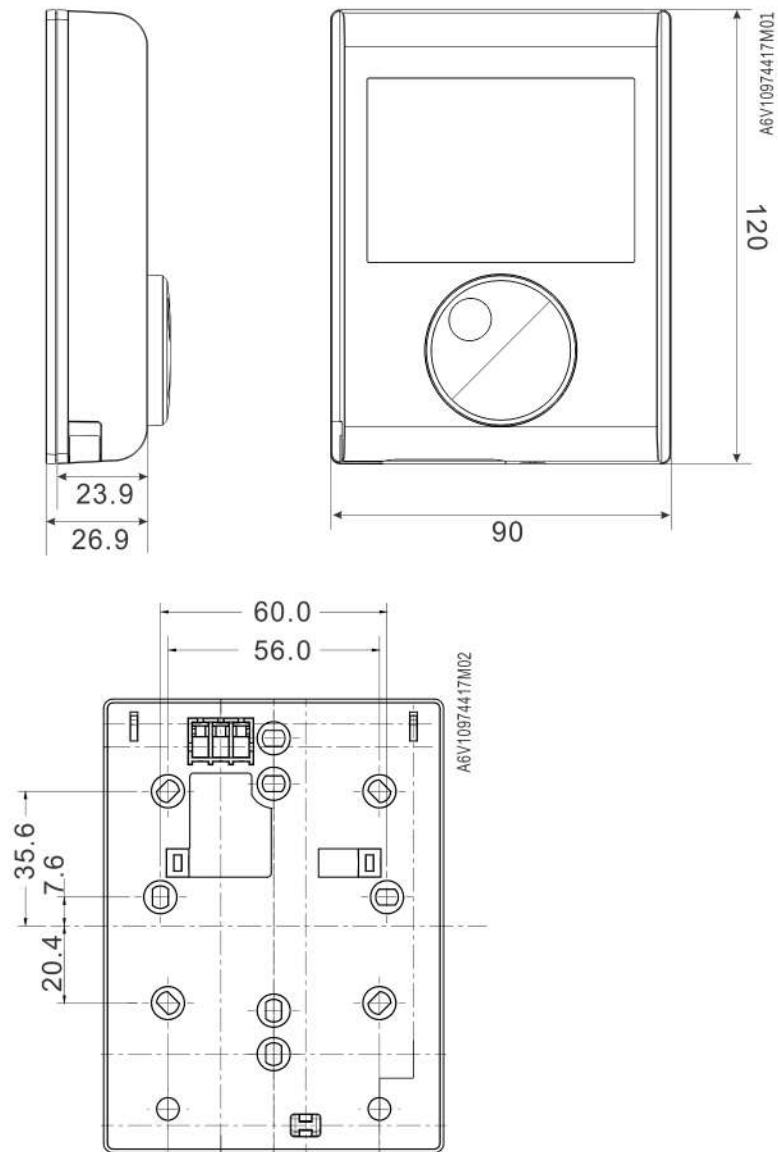
Room temperature controller with direct control of a heating circuit pump (pre-control by manual mixing valve)

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

N1 Room temperature controller RDH100
 Y1 3-port valve with manual adjustment
 Y2 Magnetic valve

Dimensions

[mm]



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