SIEMENS

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

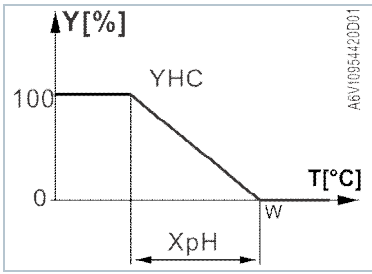
The device is used together with the following equipment:

- 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.



Heating mode	
T	Room temperature
Y	Output signal for heating (PWM)
w	Room temperature setpoint
YHC	Control command “Valve”
XpH	Proportional band “Heating”

Backup

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

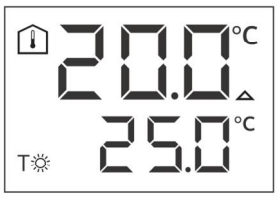
Equipment combinations

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.

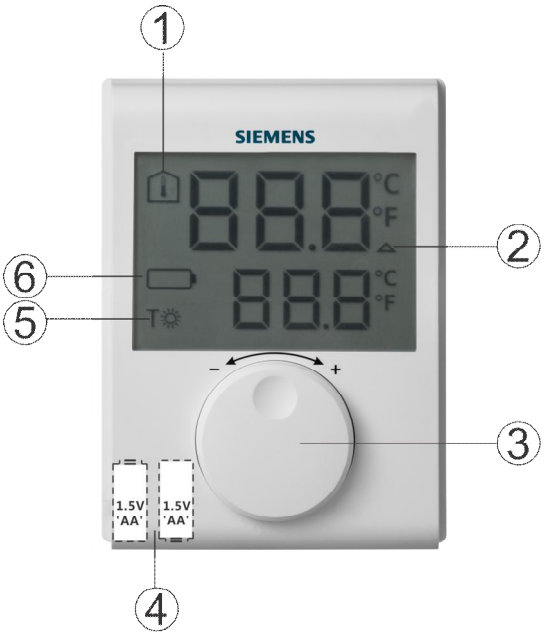
Order valves and actuators as separate items.

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	T	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

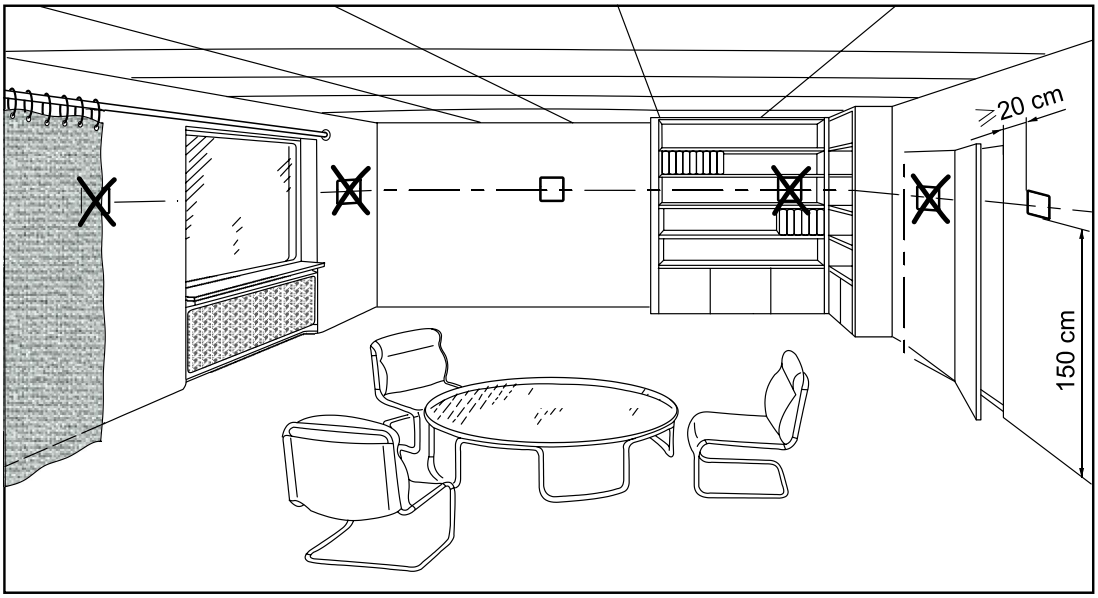
Related documents such as CE declaration, etc., can be downloaded at the following address: http://siemens.com/bt/download.

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 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.

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

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		
TPI control: Minimum period Minimum pulse length		 12 min 4 min
RDH100 Setpoint setting range Factory setting comfort setpoint		 5…30 °C 20 °C
RDH100/SPL Setpoint setting range Factory setting comfort setpoint		 15…30 °C 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 Climatic conditions Temperature Humidity	IEC 60721-3-3 Class 3K5 0…+40 °C <90% r.h.
Transport Climatic conditions Temperature Humidity Mechanical conditions	IEC 60721-3-2 Class 2K3 -25…+60 °C <95% r.h. Class 2M2
Storage Climatic conditions Temperature Humidity	IEC 60721-3-1 Class 1K3 -10…+60 °C <90% r.h.

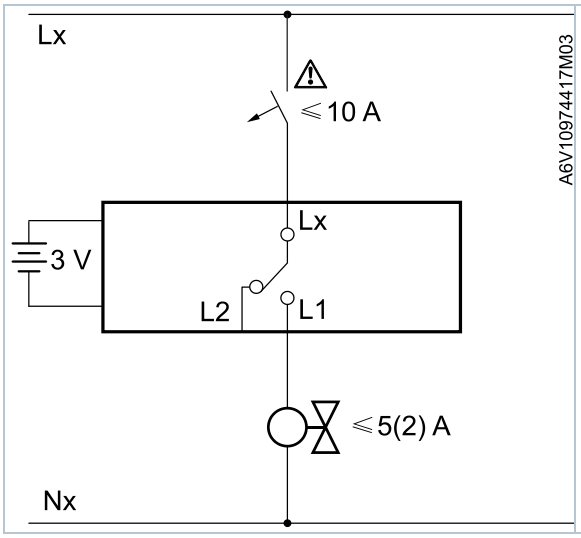
Standards, directives and approvals	
EU conformity (CE)	A6V101123363 *)
RCM conformity	A6V11161600 *)
Safety class	II as per EN 60730-1
Pollution degree	2

Standards, directives and approvals	
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.

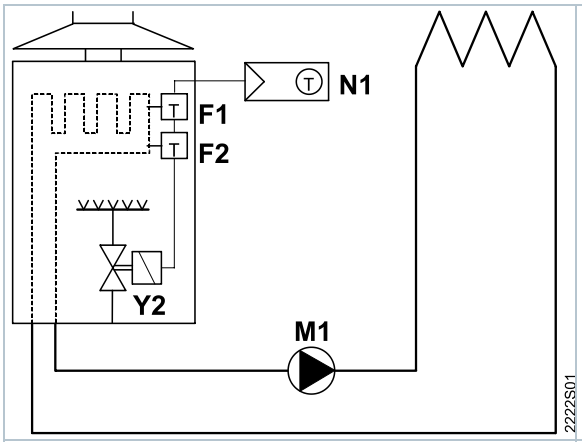
General	
Weight (including package)	350 g
Color of housing front	Signal-white RAL9003
Housing material	ABS (LCD lens:PC)

Connection diagram

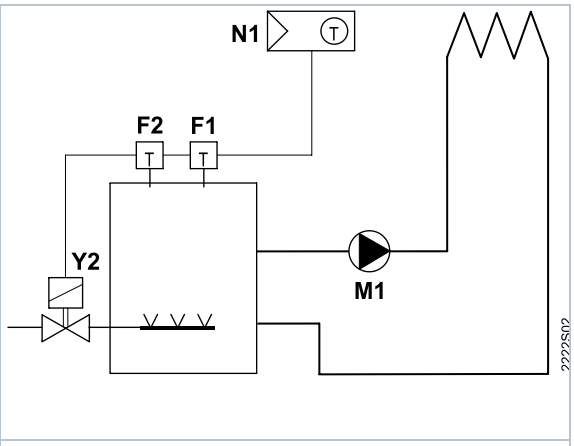


Lx, Nx Live, neutral conductor, AC 24…250 V
Lx, L2 N.C. contact (for N.O. valves)
Lx, L1 N.O. contact (for N.C. valves)

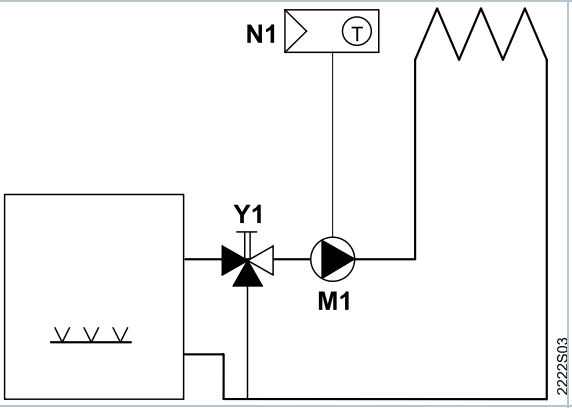
Application examples



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



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



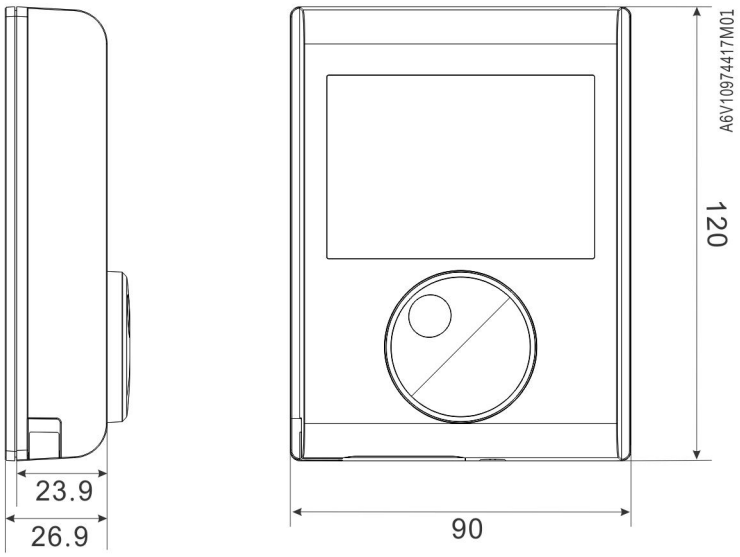
Room temperature controller with direct control of a heating circuit pump (pre-control by manual mixing valve)

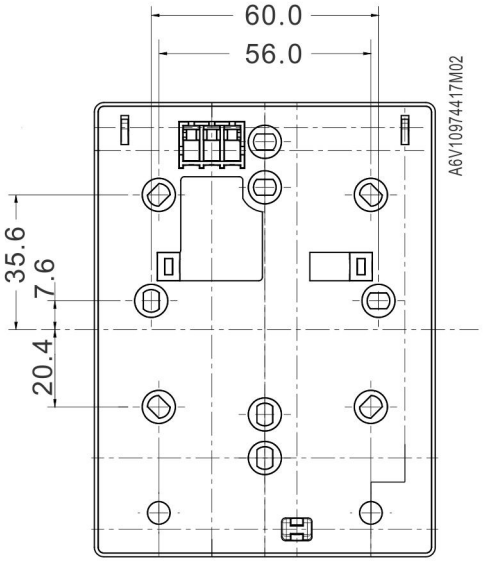
F1 Thermal reset limit thermostat
F2 Safety limit thermostat
M1 Circulating pump

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

Dimensions

[mm]





Issued by
Siemens Switzerland Ltd
Building Technologies Division
International Headquarters
Gubelstrasse 22
CH-6301 Zug
Tel. +41 41-724 24 24
www.siemens.com/buildingtechnologies

Document ID A6V10954413_en--_c
Edition 2017-06-08