SIEMENS

3⁰⁷⁰

RDH10RF   RCR10/433

Wireless room temperature controller with LCD

RDH10RF/SET

Non-programmable, for heating or cooling systems

- **Operating modes: Automatic, Comfort, Energy Saving, and Frost Protection**
- **LCD-Display 50 x 45 (W x H)**
- **RDH10RF transmitter, battery-powered**
- **RCR10/433 receiver, mains powered**
- **Communication of the set is bonded ex factory**

Use

The RDH10RF is used to control the room temperature in heating or cooling systems.

Typical applications:

- Homes
- Residential buildings
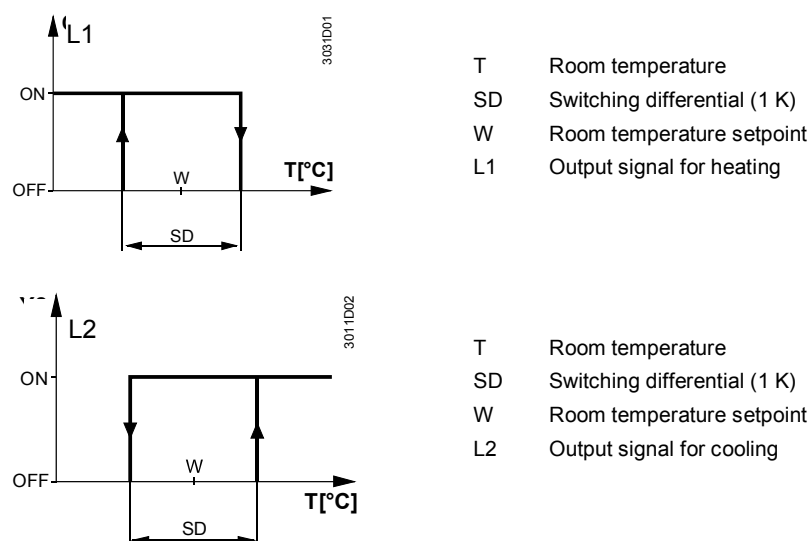- Schools
- Offices

The controller can be used together with the following equipment:

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

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Functions

The controller acquires the room temperature with its integrated sensor.

Function diagram

T	Room temperature
SD	Switching differential (1 K)
W	Room temperature setpoint
L1	Output signal for heating

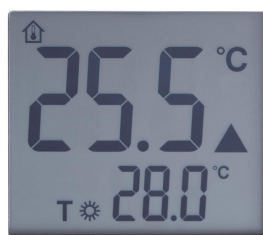|	
T	Room temperature
SD	Switching differential (1 K)
W	Room temperature setpoint
L2	Output signal for cooling

Temperature sensor

The RDH10RF provides room temperature control only.

Display

The digital display displays the actual room temperature and the comfort temperature setpoint. The triangle symbol appears when the heating output is active.

Backup

Setpoints and information required for operating mode changeover are retained when exchanging batteries. The values must be checked though.

Ordering

Please provide the name and product number when ordering: Room temperature controller RDH10RF/SET.
Valves and actuators are to be ordered as separate items.

Equipment combinations

Type of unit	Product number	Data sheet[*)]
Electromotoric actuator	**SFA21...**	4863
Electrothermal actuator (for radiator valves)	**STA21...**	4877
Electrothermal actuator (for small valves 2.5 mm)	**STP21...**	4878
2- or 3-port zone valve	**MXI/MVI421…**	4867
Electromotoric actuator for zone valves V..146..	**SUA21**	4830
Electric actuator	**SUA11/22**	4832
Air damper actuator	**GDB…**	4624
Air damper actuator	**GSD/GQD…**	4606
Air damper actuator	**GXD…**	4622

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

Room temperature controllers

The controller consists of 4 parts:

- Plastic housing with digital display accommodating the electronics, operating elements and built-in room temperature sensor

- Baseplate (mounting base)

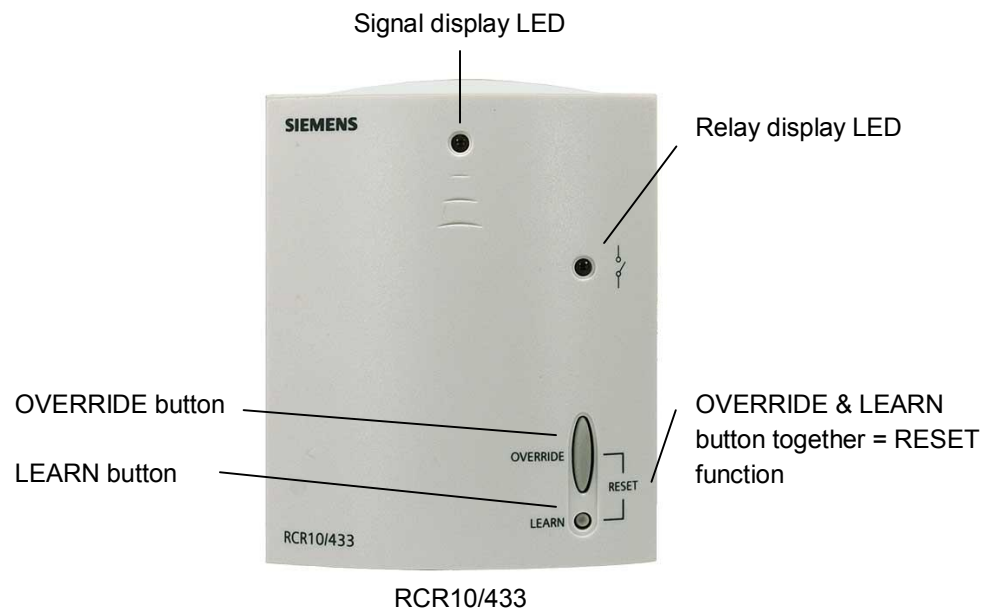- Removable battery compartment

- Fold-out stand

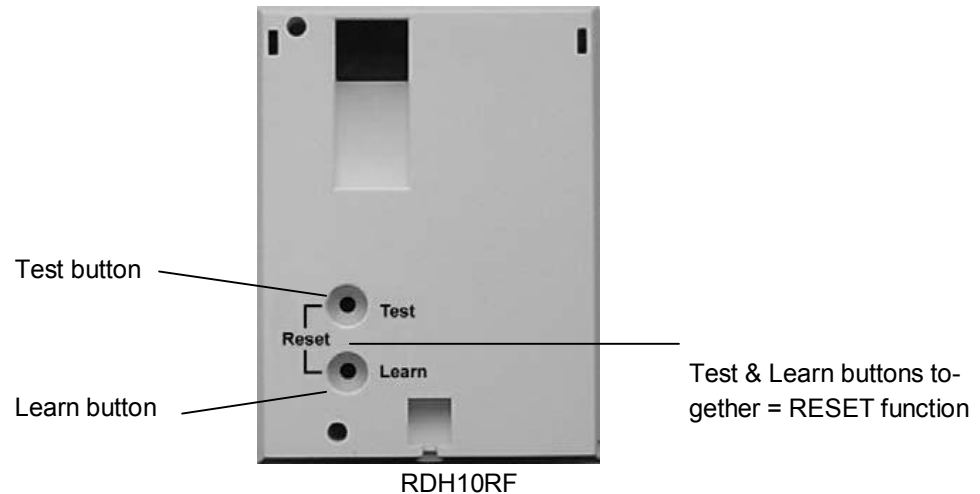The housing engages in the baseplate and snaps on. There is a reset button on the rear of the unit.
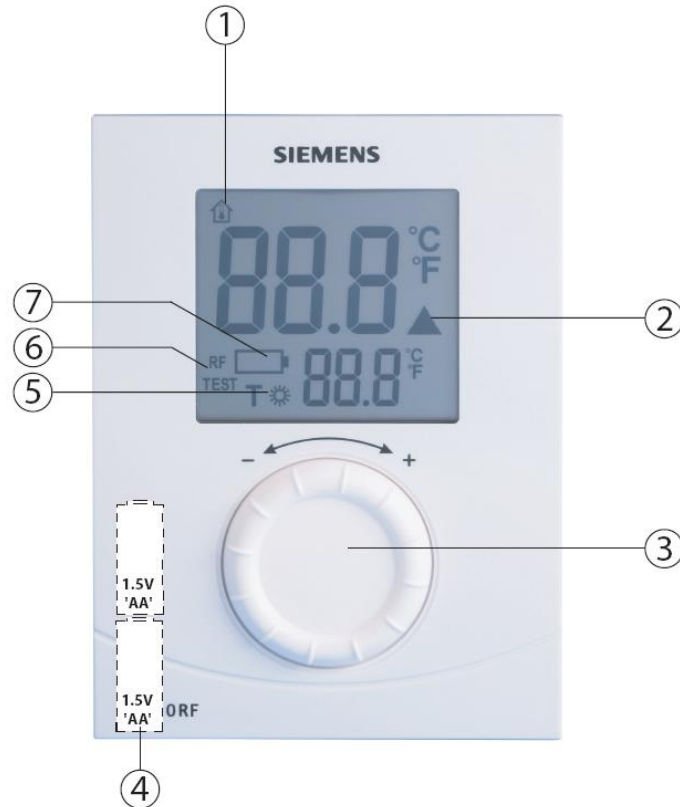
Key

1   🏠 Room temperature display in °C
2   ▲ Indicates a heat request
3   Temperature setting knob
4   Battery compartment
5   T☼ Comfort temperature setpoint
6   **RF**
     TEST Indicates RF signal test
7   ▭ Indicates low battery power; replace batteries

The RCR10/433 receiver is located in a plastic housing with LEDs and buttons.

Signal display LED

Relay display LED

OVERRIDE button

OVERRIDE & LEARN button together = RESET function

LEARN button

OVERRIDE

RESET

LEARN

RCR10/433

RCR10/433

The RDH10RF is located in a plastic housing. Two buttons are visible on the rear side when removing the baseplate.

Test button

Test

Reset

Learn

Test & Learn buttons together = RESET function

Learn button

RDH10RF

Mount the room temperature controller in a location where the air temperature can be measured as accurately as possible without being adversely affected by direct solar radiation or other sources of heat or cooling.

The controller is delivered with a fold-out stand and may be used as a "mobile" device (Note: Pay attention to mounting location).

Mounting height is approximately 1.5 m above the floor.
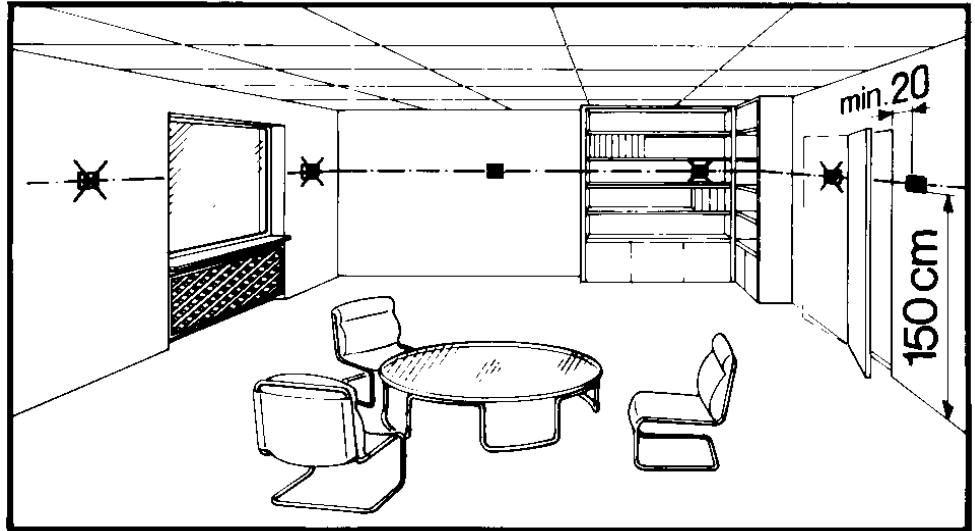
The unit can be fitted to a recessed conduit box.

Mounting, installation and commissioning

Fix the baseplate prior to mounting the controller. The receiver does not require a baseplate. Connect the electrical connections and fit and secure the receiver in compliance with local regulations (also refer to the separate mounting instructions).
Mount the controller on a flat wall.
If there are thermostatic radiator valves in the reference room, set them to their fully open position.

For commissioning please refer to the Operating Instruction CE1B3070xx

Maintenance

Controller and receiver are maintenance-free except for the controller battery.

Change of batteries

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

Reset

Simultaneously press the TEST and LEARN buttons on the rear side of the controller to reset it (reset function).
Simultaneously press the OVERRIDE and LEARN buttons to reset the receiver (reset function).
All individual settings are reset to the default values.

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Room temperature controllers

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OVERRIDE

Override allows for temporarily overwriting the active value from the sender. Override responds differently depending on the radio connection (normal or fault).

Example A: Normal connection between sender and recipient
Press the OVERRIDE button to overwrite the value for ca. 14 minutes. The value then returns to the setpoint.

Example B: Faulty connetion between sender and recipient

Press the OVERRIDE button to permanently overwrite the value. The value returns to the setpoint after the connection between sender and recipient works again.

RF LED

RF state	RF LED
Power up (First 5 seconds)	Flash RED + GREEN (Amber) (5 seconds)
Power up (After 5 seconds)	RED
Press OVERRIDE switch	Flash RED + GREEN (Amber) (5 seconds)
Learning period	No LED
Software reset	RED
RF receive	GREEN
No RF within last 25 minutes	RED
Manual override (RF receive)	Flash GREEN
Manual override (No RF receive)	Flash RED

Relay LED

Relay state	Relay LED
From OUT to ON (First 5 seconds)	Flash YELLOW
ON	YELLOW
From ON to OFF (After 5 seconds)	Flash YELLOW
OFF	OFF

Disposal

The devices are considered electronics devices for disposal in term of European Directive 2012/19/EU and may not be disposed of as domestic waste.

- Dispose of the device via the channels provided for this purpose
- Comply with all local and currently applicable laws and regulations.
- Dispose of empty batteries at designated collection points.

Technical data

Power supply	Operating voltage	DC 3 V (2 x 1.5 V AA alkaline batteries)
	Battery life	>1 year (AA alkaline batteries)
Sensor inputs	**Internal:**	
	Thermistor	10 kΩ ± 1% at 25 °C
Operational data	Switching differential SD	1 K (fixed)
	Setpoint setting range	5…30 °C
	Factory setting comfort setpoint	20 °C
	Resolution of settings and displays	
	Setpoints	0.5 °C
	Actual value displays	0.5 °C
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	EU Conformity (CE)	CE1T10886xx [*)]
	C-tick conformity to	
	Test standards and requirements	EN 61000-6-3, AS/NZS 4251.1
	Test standards for radio equipment	AS/NZS 4268
	Safety class	III as per EN 60950-1
	Pollution degree	2
	Degree of protection of housing	IP20
General	Weight (incl. package)	
	RDH10RF/SET	515 g
	Color of housing front	Signal-white RAL 9003
	Housing material	ABS (LCD lens: PC)

General unit data	Operating voltage	AC 230 V +10/−15%
	Power	<10 VA
	Frequency	50...60 Hz
	Switching capacity of relays	
	Voltage	AC 24...250 V
	Current	8 (3) A
Outputs	Relay contacts	
Switching outputs (LX, L1, L2)	Switching voltage	Max. AC 250 V
		Min. AC 24 V
	Switching current	Max. 8 A res., 3 A ind.
	At AC 250 V	Min. 200 mA
	Contact life at AC 250 V	Guide value:
	At 5 A res.	1×10^5 cycles
	Insulating strength	
	Between relay contacts and coil	AC 5,000 V
	Between relay contacts (same pole)	AC 2,500 V
Electrical connections	Connection terminals	Screw terminals
	For solid wires	$2 \times 1.5 \ mm^2$
	For stranded wires	$1 \times 2.5 \ mm^2$ (min. $0.5 \ mm^2$)
Environmental conditions	Operation	IEC 60 721-3
	Climatic conditions	Class 3K3
	Temperature	0...+45 °C
	Humidity	<85% r.h.
	Storage and transport	IEC 60 721-3
	Climatic conditions	Class 2K3
	Temperature	−25...+70 °C
	Humidity	<93% r.h.
	Mechanical conditions	Class 2M2
Standards	EU Conformity (CE)	CE1T10886xx [*]
	Safety class	II as per EN 60 730-1
	Degree of pollution	2
	Color	
	Unit front	Signal-white RAL 9003
	Base	Gray RAL 7035
	Dimensions	83x104x32 mm

[*] The documents can be downloaded from http://siemens.com/bt/download.

Connection diagram

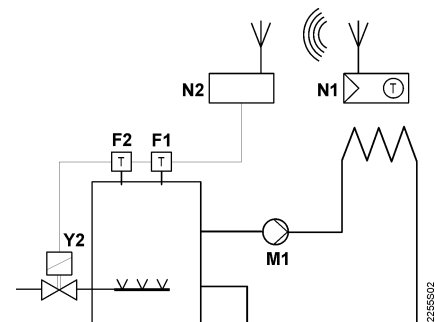|	
L	Live, AC 230 V
Lx	Live, AC 24…250 V
L1	N.O. contact, AC 24…250 V / 8 (3) A
L2	N.C. contact, AC 24…250 V / 8 (3) A
M1	Circulating pump
N	Neutral conductor
Nx	Neutral conductor
N2	Receiver RCR10/433
Y1	Actuating device

⚠ L – N AC 230 V / Lx – Nx AC 24…250 V
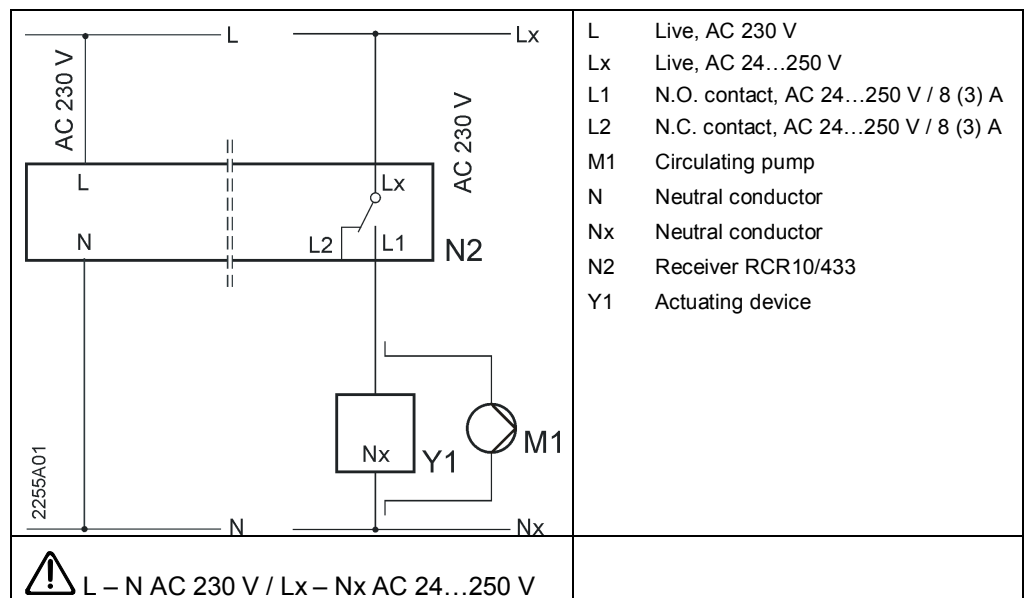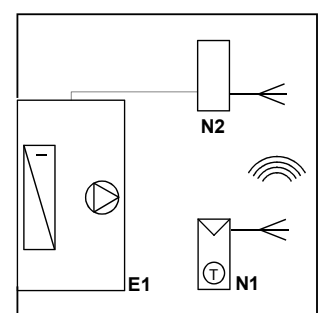
Application examples
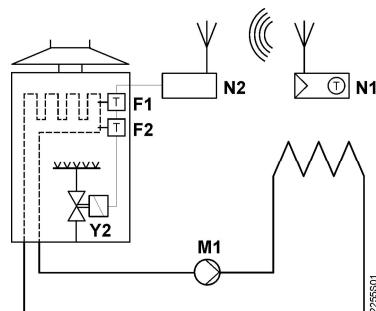
Wireless room temperature controller with receiver control of a gas-fired wall-hung boiler

Wireless room temperature controller with receiver control of atmospheric gas burner
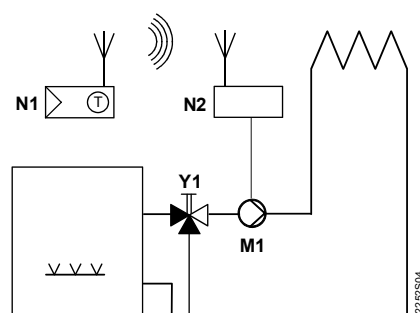
Wireless room temperature controller with receiver control of a heating circuit pump (precontrol by manual mixing valve)
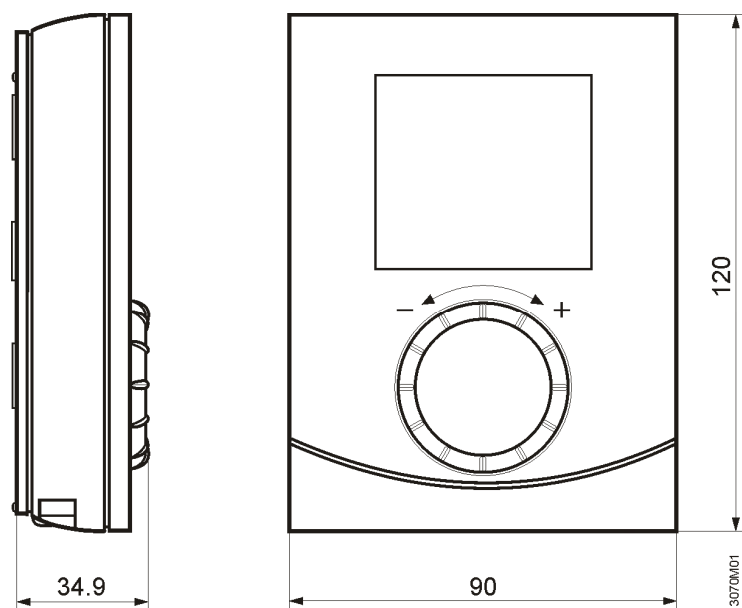

Wireless room temperature controller with receiver control of cooling equipment

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

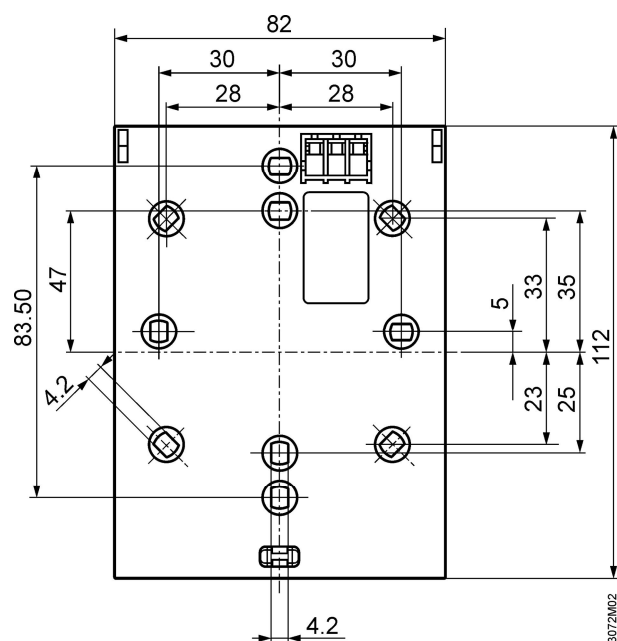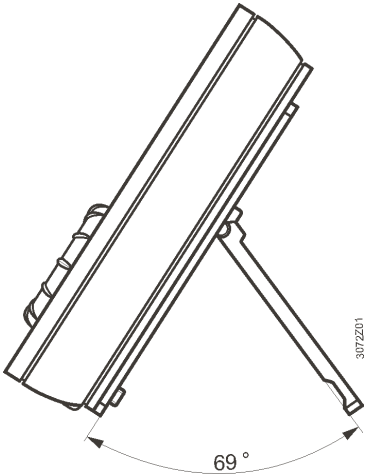|	
E1	Cooling equipment
N1	Room temperature controller RDH10RF
N2	Receiver RCR10/433
Y1	3-port valve with manual adjustment
Y2	Magnetic valve

Dimensions

Room temperature controller

34.9

90

120

Room temperature controller mounting plate

82

30　30

28　28

83.50

47

4.2

5

33

35

112

23

25

4.2

Room temperature controller with fold-out stand

69 °

Room temperature receiver with mounting plate

84

104

32

60

60

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Subject to change

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