

Heating or Cooling Thermostat

RDQ200



For heating or cooling units

- For universal heating or cooling applications
- LCD backlit display
- Keylock function
- Display of either room temperature or setpoint
- Operating mode button: Comfort, Protection, and Economy (3-second long-press in Comfort)
- Minimum and maximum setpoint limitation
- Return to previous operating mode, Protection or Comfort upon power failure
- Internal sensor calibration
- Surge protection at power-up
- Adjustable commissioning and control parameters
- Support of Chinese standard conduit boxes (max. 78×78) ≥ 45 mm (± 2) deep and British metal standard conduit boxes (max. 75×75) ≥ 47 mm (± 2) deep

Use

To control the room temperature in individual rooms using:

- Heating or cooling only equipment

The thermostat controls:

- 2-wire or 3-wire On/Off valve actuator

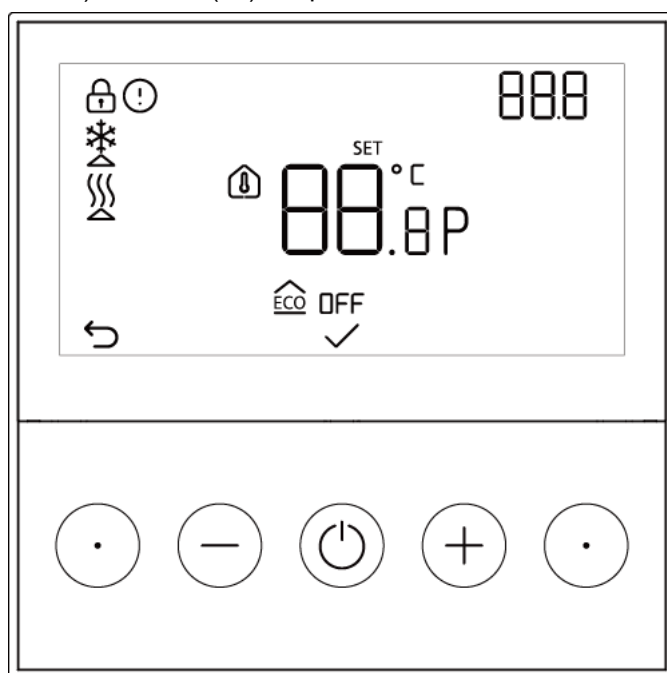
Functions











- Maintaining the room temperature via built-in temperature sensor
- Operating mode selection via the operating mode button: Comfort, Protection, and Economy (3-second long-press in Comfort)
- Temperature sensor calibration (P05)
- Display of either room temperature value or setpoint value (P06)
- Minimum and maximum setpoint limitation (P09 & P10)
- Operating mode settings upon power failure (P27)
- Reload factory settings for commissioning and control parameters (P71)








Mechanical design

The thermostat consists of:

- Control unit with one LCD display and five key buttons.
- Mounting bracket to fit onto a square conduit box with Chinese standard conduit boxes (max. $78 \times 78 \geq 45 \text{ mm}$ (± 2) deep and British metal standard conduit boxes (max. $75 \times 75 \geq 47 \text{ mm}$ (± 2) deep).



Symbol	Description	Symbol	Description
	Keylock		Fault warning
	Cooling mode		Valve On
	Heating mode		Return to previous level
	Temperature range: 0...50 °C Parameter entry		Parameter values
SET	Temperature setpoint adjustment	°C	Temperature unit
✓	<ul style="list-style-type: none"> Confirm access to present option Confirm present value 		Indoor temperature
OFF	Protected mode	P	Parameter icon
	Economy mode		

Button	Description	Button	Description
 (Left)	Return to previous level		Operating mode button for: <ul style="list-style-type: none"> Comfort / Protection Economy (3-second long-press in Comfort) Confirm access to present option Confirm present value
 (Right)	Screen unlock (3-second long-press)		
	<ul style="list-style-type: none"> Scroll through parameter list and value Change Comfort setpoint 		Enter parameter setting
			

Operating mode

The following operating modes are available:

Comfort mode

In Comfort (ON), the thermostat displays the room temperature value, available user selection and thermostat status. It also maintains the setpoint that can be adjusted via the +/- button.



To save energy, the minimum (P09) and maximum (P10) setpoints can be set to limit the available setpoint range.

Protection mode OFF


In Protection, the thermostat is turned off and the related heating or cooling setpoint is maintained and can be adjusted via control parameters P65 and P66.

Economy mode

When Economy is selected, the thermostat runs in an energy saving mode and maintains the setpoint (P11 or P12), thus saving energy.

NOTICE



If P11 or P12 is set to "Off", the thermostat cannot enter Economy after a 3-second long-press on  in Comfort.

Operating mode setting upon power failure

If the thermostat is disconnected from AC 230 V and reconnected:

- If P27 = 0, the unit returns to the operating mode before power failure.
- If P27 = 1, the unit is in Protection mode.
- If P27 = 2, the unit resumes Comfort mode (On).

Type summary

Product no.	Stock no.	Operating voltage	Control outputs		Fan type	Description
			On/Off	On/Off (3-wire)		
RDQ200	S55770-T519	AC 230 V	✓	✓	-	Heating or cooling only equipment






Ordering

When ordering, specify both product number / stock number and name: e.g., RDQ200 / S55770-T519 Room thermostat.

Order valve actuators and external sensors separately.

Equipment combinations

On/Off actuators

Type of units		Product number	Data sheet*
Electromotive On/Off valve and actuator (only available in AP, UAE, SA and IN)		MVI.../MXI...	A6V11251892
Electromotive On/Off actuator		SFA21...	N4863
Thermal actuator (for radiator valves) AC 230 V or AC/DC 24 V, NO		STP..21..	A6V12986007
Thermal actuator (for small valves 2.5 mm) AC 230 V or AC/DC 24 V, NC		STA..21..	A6V12986007
Zone valve actuator (only available in AP, UAE, SA and IN)		SUA...	A6V10446174

*) All documents can be downloaded from www.siemens.com/bt/download.

Product documentation


Title	Document ID
Mounting instructions	A6V15113725
CE declaration	A5W00769645A
UKCA declaration	A5W00769646A
RCM declaration	A5W00769647A
Environmental declarations	A5W01944065A

Related documents such as environmental declarations, CE declarations, etc., can also be downloaded at the following Internet address:

www.siemens.com/bt/download

Notes

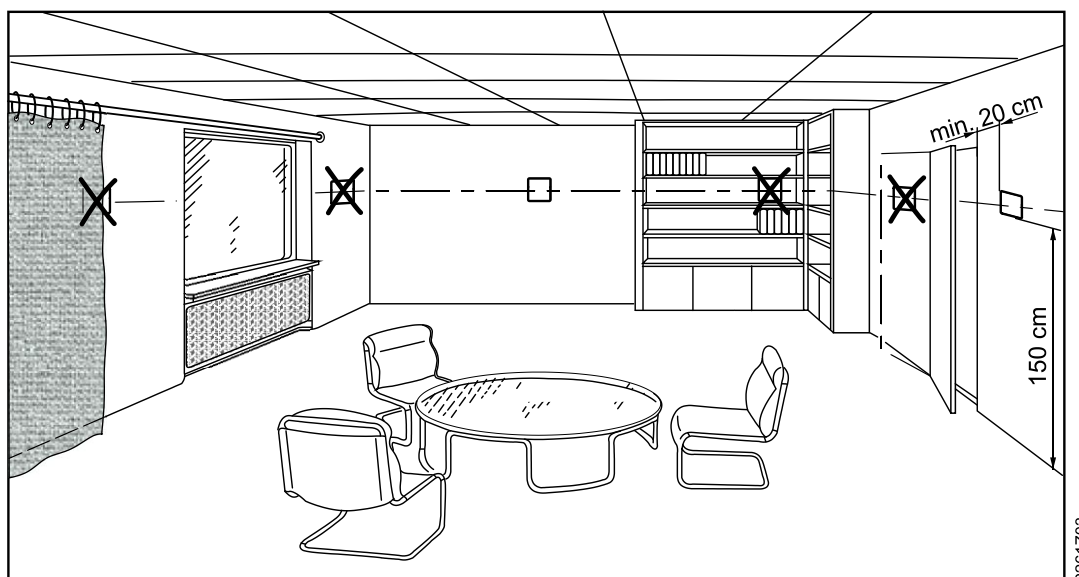
Security

⚠ CAUTION	
	National safety regulations Failure to comply with national safety regulations may result in personal injury and property damage <ul style="list-style-type: none"> Observe any national provisions and comply with the appropriate safety regulations.

Mounting and installation

Do not wall-mount in niches or bookshelves, behind curtains, above or near heat sources, wind outlets or inlets, and do not expose to direct solar radiation. Mount about 1.5 m above the floor.


Mounting




A mounting bracket is provided for fitting onto a square conduit box with 60 mm fixing centers.

A conduit box of at least 50 mm in depth to accommodate all wire connections is recommended.

After installing the mounting bracket, wire all terminals of the thermostat. Secure the unit to the mounting bracket as described in the mounting instructions (Document ID: A6V15113725) enclosed with the thermostat.

⚠ WARNING	
	<p>Device damage</p> <p>Carefully read all wiring diagrams prior to installation to avoid damage to the device caused by incorrect wiring of high or low voltages.</p>

Wiring

⚠ WARNING	
	<p>Wire, protect and earth in compliance with local regulations.</p> <p>Risk of fire and injury due to short-circuits!</p> <ul style="list-style-type: none">• Adapt the line diameters to the rated value of the installed overcurrent protection device as per local regulations.• The AC 230 V mains supply line must have an external circuit breaker with a rated current of no more than 10 A.• Disconnect from power supply before removing the unit from its mounting bracket.• Do not connect terminals Q12 and Q14 to either L or N.• Do not use terminals Q12 and Q14 as AC 230 V power supply.

Commissioning

After power-up, the thermostat resets and all LCD segments light up for about 3 seconds. Afterwards, the room temperature is displayed (factory setting).

Surge protection at power-up

When the thermostat is started up, the LCD display and key buttons work normally except all valve outputs, e.g., Q12, Q14.

The thermostat outputs start up at random to protect mains against overload. It may take a while before all outputs work properly.

Sensor calibration

The thermostat is equipped with an internal sensor for accurate temperature display. If the temperature display is influenced by its mounting location, calibrate the sensor via parameter P05 to adjust the readings.

Setpoint and range limitation

For comfort and to save energy, we suggest reviewing the setpoints (P11, P12, P65 and P66) and setpoint range (parameters P09 and P10) and change them as needed.

Other control parameters


The thermostat's control parameters can be adjusted to ensure optimum performance of the entire system (see "Control parameters [► 7]").

Error handling

Temperature out of range

When the room temperature is out of range, i.e. above 50 °C or below 0 °C, the temperature displays and flashes at "0 °C" or "50 °C". The thermostat continues to work.

Sensor error

When the internal sensor is not working properly,  is displayed. The thermostat enters Protection mode.












Note: See D00 for error information, but in the case of multiple errors, only the error type of the highest priority is displayed.

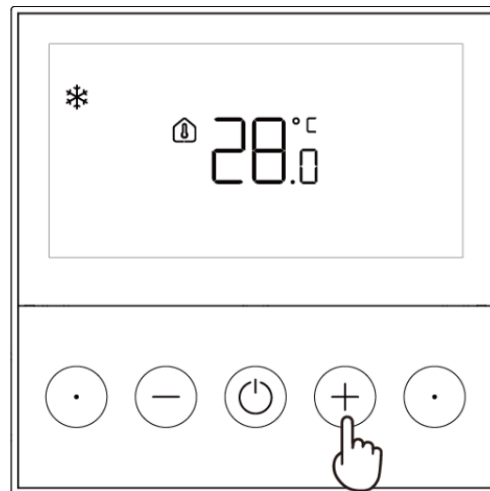
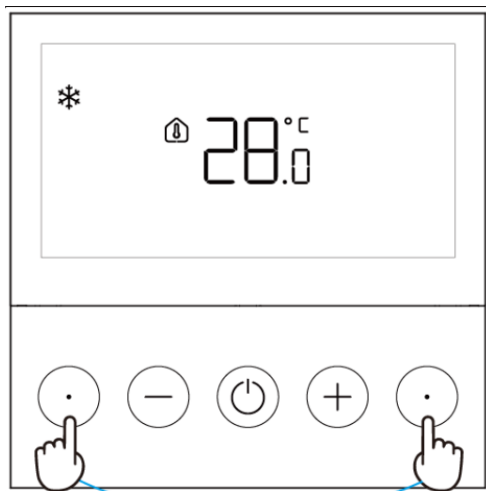
Control parameters

Parameter settings

Use the local HMI to adjust control parameters and optimize control performance. All control parameter settings are retained after power failure.


Proceed as follows to adjust the control parameters:

1. Press and hold down  and  at the same time for more than 3 seconds.
2. Press  or  within 2 seconds.
⇒ P01's serial number flashes on the screen.
3. Press  or  to select a desired parameter for adjustment, and then press  to confirm selection.
⇒ Once a desired parameter is selected, the parameter's value begins to flash on the screen.
4. Press  or  to select a desired parameter value, and then press  to confirm selection.
5. Repeat the above two steps to adjust other parameters.
6. Press  on the left to exit parameter setting adjustment.



Control parameters

Parameter	Description	Factory setting	Setting range
P01	Application	0	0 = heating only
			1 = cooling only
P05	Sensor calibration	0 K	-5...+5 K (resolution: 0.5 K)
P06	Standard temperature display	0	0 = Room temperature
			1 = Setpoint
P09	Minimum setpoint in Comfort mode	5 °C	5...P10 (not included)

Parameter	Description	Factory setting	Setting range
P10	Maximum setpoint in Comfort mode	35 °C	P09 (not included)...40 °C
P11	Heating setpoint in Economy (WheatEco)	15 °C	Off, 5 °C...WcoolEco
P12	Cooling setpoint in Economy (WcoolEco)	30 °C	Off, WheatEco...40 °C
P14	Keylock function	0	0 = No lock
			1 = Full lock (only the  button is unlocked)
			2 = Full lock (all buttons are locked)
P27	Operating mode settings upon power failure	0	0 = Return to previous operating mode or user settings
			1 = Protection
			2 = Comfort
P65	Protection heating setpoint	8 °C	Off, 5 °C...P66 or 40°C (when P66 = Off)
P66	Protection cooling setpoint	OFF	Off, P65 or 5 °C (when P65 = Off)...40 °C
P71	Reload factory setting	OFF	Off = Disable
			On = Reload start “...” is displayed for 3 seconds while reloading
D00	Fault Information	-	1 = No fault
			3 = Internal sensor
D01	Hardware version		xxx is displayed
D02	Software version		xxx is displayed

Operation

Temperature control

The thermostat acquires the room temperature via its built-in sensor and maintains the setpoint by delivering 2-position valve control commands.


The switching differential is 1 K in both heating and cooling modes.

Setpoint adjustment and limitations

The Comfort setpoint can be adjusted via the +/- button. For comfort and to save energy, limit the setpoint range between the minimum (P09) and maximum (P10) values.

Keylock and unlock

Keylock can be activated or deactivated via parameter P14. See “Control parameters [► 7]” for details.

If the screen is locked, press and hold down  on the right for 3 seconds to unlock the screen. The thermostat remains unlocked (P14 is reset to "0") afterwards.

Disposal



This symbol or any other national label indicate that the product, its packaging, and, where applicable, any batteries may not be disposed of as domestic waste. Delete all personal data and dispose of the item(s) at separate collection and recycling facilities in accordance with local and national legislation.

For additional details, refer to [Siemens information on disposal](#).

Open source software (OSS)

Software license overview

The device uses Open Source Software (OSS). All Open Source Software components used in the product (including copyrights and licensing agreement) are available at <http://siemens.com/bt/download>

OSS document ID	Device
A6V15299914	RDQ200

Cyber security disclaimer

Siemens provides a portfolio of products, solutions, systems and services that includes security functions that support the secure operation of plants, systems, machines and networks. In the field of Building Technologies, this includes building automation and control, fire safety, security management as well as physical security systems. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art security concept. Siemens' portfolio only forms one element of such a concept.

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<https://www.siemens.com/cert/> => 'Siemens Security Advisories'

Warranty

Technical data on specific applications are valid only together with Siemens products listed under "Equipment combinations". Siemens rejects any and all warranties in the event that third-party products are used.

Power supply	
Operating voltage	AC 230 V (+10 %, -15 %)
Frequency	50/60 Hz
Power consumption (without load)	Max. 5 VA / 3 W

Internal fuse*	
Fuse type	Slow blow fuses
Voltage rating	AC 230 V
Current rating	1 A
External preliminary protection with max. 10 A circuit breaker in the supply line required under all circumstances.	

*) Internal fuse only protects internal circuit.

Outputs	
Valve output Q12 (N.C.)/Q14 (N.O.) Rating	AC 230 V 5 mA...4(2) A

Operational data	
Switching differential - Heating mode - Cooling mode	1 K 1 K
Setpoint setting range* - Comfort mode - Economy mode - Protection mode	5...40 °C Off, 5...40 °C Off, 5...40 °C
Built-in room temperature sensor - Measuring range - Accuracy at 25 °C - Temperature calibration range	0...50 °C < ±0.5 K - 5.0...+5.0 K
Resolution of settings and display - Temperature setpoints - Current temperature value displayed	0.5 °C 0.5 °C

*) The standard range is 5...40 °C. Customization is available upon request (e.g. 0...50 °C).

Ambient conditions and protection classification	
Classification of protection against electric shock	Device suited for use with equipment of protection class II.
Degree of protection of housing to EN 60529 (after mounting in position)	IP30
Classification as per EN 60730	
Function of automatic control devices	Type 1
Degree of pollution	2
Overvoltage category	III
Operation altitude	Max. 3,000 m above sea level
Climatic ambient conditions	
Storage as per EN 60721-3-1	<ul style="list-style-type: none"> • Temperature: -5...+50 °C • Ambient humidity: 5...95 % r.h. (non-condensing)
Transport (packaged for transport) as per EN 60721-3-2	<ul style="list-style-type: none"> • Temperature: -25...+70 °C • Ambient humidity: 5...95 % r.h. (non-condensing)
Operation as per EN 60721-3-3*	<ul style="list-style-type: none"> • Temperature: 0...50 °C • Ambient humidity: 5...95 % r.h. (non-condensing)
Mechanical ambient conditions	
Storage as per EN 60721-3-1	Class 1M2
Transport as per EN 60721-3-2	Class 2M2
Operation as per EN 60721-3-3	Class 3M2

*) No condensation is allowed.

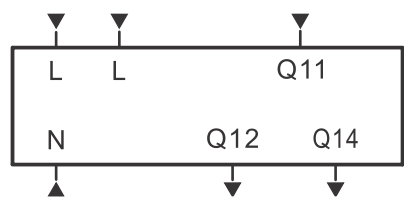
Standards, directives and approvals	
EU conformity (CE)	A5W00769645A*
UKCA declaration	A5W00769646A*
RCM declaration	A5W00769647A*
Environmental compatibility	The product environmental declaration (A5W01944065A*) contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).

*) All documentation can be downloaded from www.siemens.com/bt/download.

General	
Connection terminals	1 × 0.5...1.5 mm ²
Weight (Without box and user document)	142 g
Color of housing	White RAL9016

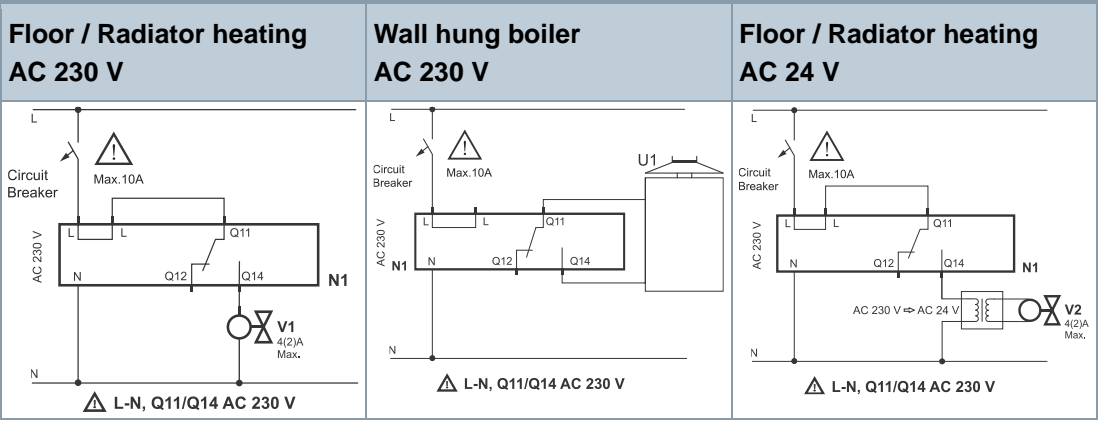
Diagrams

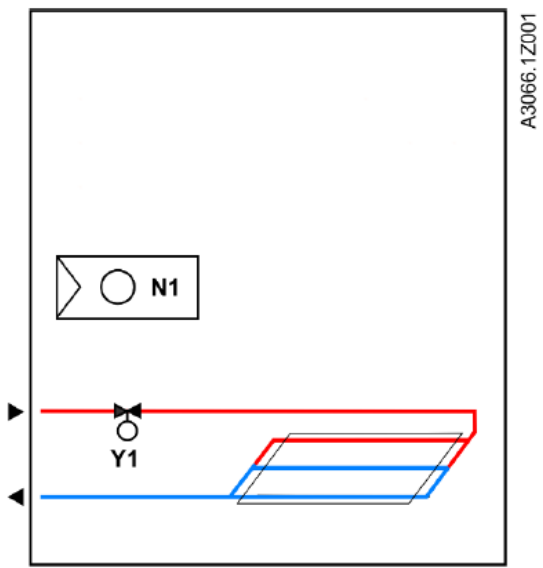
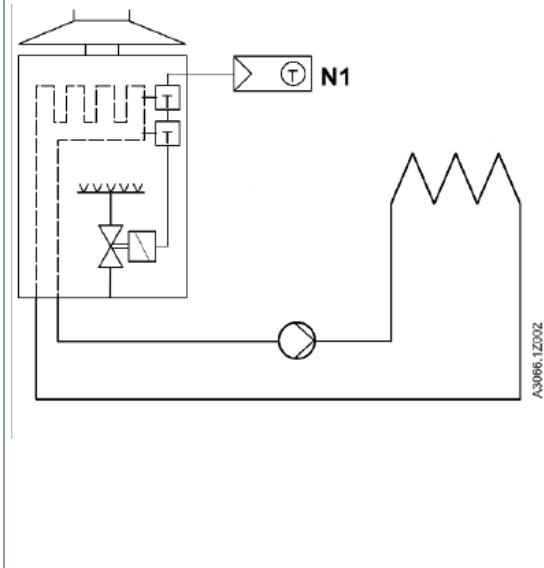
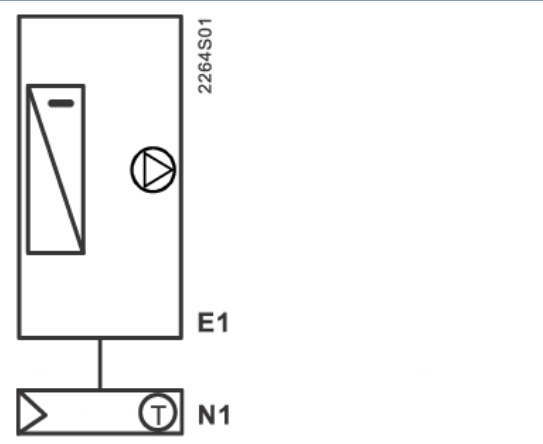
Connection terminals



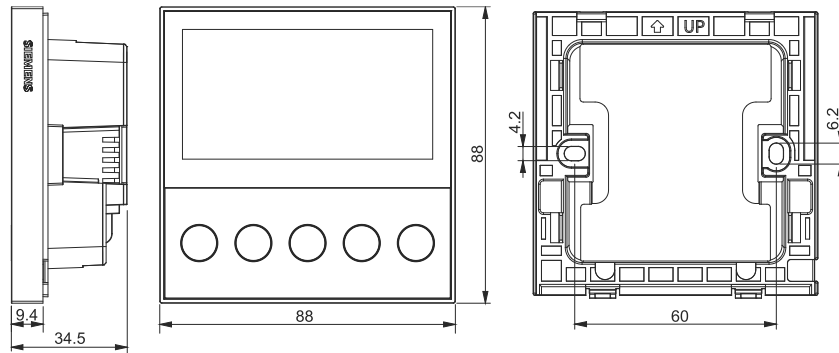
L, N	Operating voltage AC 230 V
Q11	SPDT relay input, dry contacts, AC 230 V
Q12	SPDT relay output, normally close (NC), AC 230 V
Q14	SPDT relay output, normally open (NO), AC 230 V

Connection diagrams



Heating					
					
Room thermostat controls the valve of the floor heating or radiator application			Room thermostat directly controls a gas-fired wall-hung boiler		
Cooling					
					
Room thermostat directly controls cooling equipment					
N1	Room thermostat	Y1	2-port valve	E1	Cooling equipment

Dimensions (mm)



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