



The world-wide standard for home and building control



Heating and cooling the flexible and convenient way

GAMMA room temperature controllers featuring reliable operation and individual parameterization – designed for use in future-oriented electrical installations

Energy-efficient room temperature control

Room temperature controllers (RTC) UP 237K and UP 254K make it easy to efficiently heat and/or cool spaces. LEDs indicate the plant's operating and fault states including their causes, enabling room users to respond quickly to reestablish energy-optimal operation. Automatic changeover of the system to energy-efficient protection mode in case a window was left open saves heating or cooling costs. Also, if a dew point alarm is set off in cooling mode, the cooling valve is closed, preventing condensation on the chilled ceiling.

Totally flexible

The RTC are very flexible when it comes to room usage. Two interchangeable setpoint setting knobs are available, one with a scale in °C and one with a wide-ranging line +/- . The control function can be parameterized to provide heating,

cooling or heating/cooling. What's more, two-stage heating and/or cooling is possible. The RTC can operate in 2-position or modulating mode. The bus signal for the actuator can be adapted. KNX as an open communication standard facilitates integration into building automation and control systems.

Simply convenient to use

The RTC are easy to install and compatible with the DELTA frames*. The large, interchangeable setpoint setting knob ensures reliable, intuitive operation. Operating mode and manual actions that prevent efficient operation are indicated by LEDs. The setting knob shows whether the setpoint is changed in °C or +/- . If a window is left open, the operating mode changes automatically to protection.

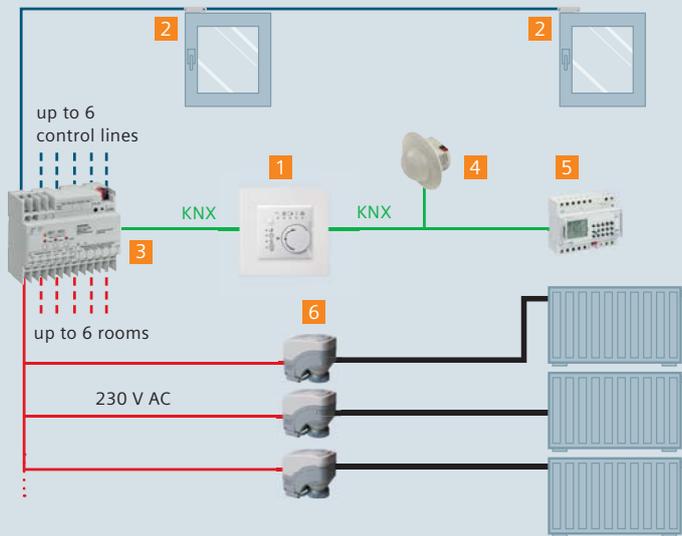
Highlights

- Energy-efficient operation thanks to protection mode when window is left open, including display of cause
- Flexibility thanks to interchangeable setpoint setting knob (absolute/relative), parameter settings, and integration into building automation and control systems
- Reliable and convenient operation thanks to indication of manual interventions
- Straightforward installation – matching DELTA frame program

* i-system and DELTA style

Application examples

Application 1: Individual room temperature control – decentral room solution



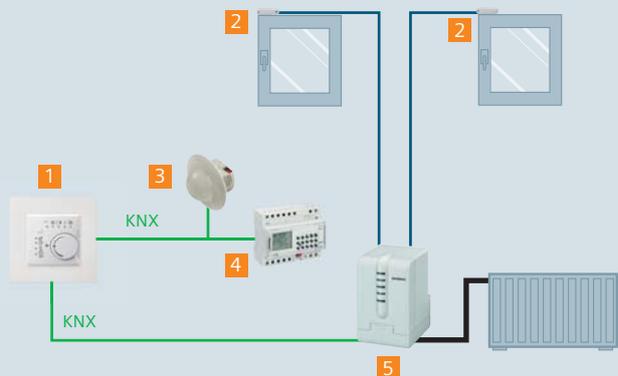
This application is recommended for all types of spaces where more than three radiators are controlled simultaneously by one actuator – e.g. in halls, large conference rooms or wide-span offices. On this application, a thermal actuator is combined with other simple actuators.

Caption*

- 1 Room temperature controller UP 237K
- 2 Window contact S 290
- 3 Thermal actuator N 605 for 6 control loops (with 6 binary inputs for window contacts or dew point detector)
- 4 Motion detector UP 258/E11
- 5 Time switch
- 6 Electrothermal valve actuators STA21 (up to 4 per room)

*Proposed combination of components

Application 2: Individual room temperature control – central room solution



In small offices and spaces with only one or two radiators, the use of regulating actuators with no thermal actuators is an optimum solution.

Caption*

- 1 Room temperature controller UP 237K
- 2 Window contact S 290
- 3 Motion detector UP 258/E11
- 4 Time switch
- 5 Electromotric valve actuator with integrated bus link AP 562/02 (2 binary inputs for window contacts or presence contacts)

*Proposed combination of components

Installation note: Ideal location for energy-efficient operation



To ensure optimum acquisition of the room temperature and thus energy-efficient operation and enhanced room comfort, the following rules should be followed when mounting GAMMA room temperature controllers:

- About 1.5 m above the floor at a distance of at least 50 cm from the next door
- Not on outside walls, not in niches and not behind curtains
- Not in the vicinity of heat sources, such as lamps
- Not exposed to direct solar irradiance

Important: When using conduits, it must be made certain that the end by the controller is sealed to ensure that drafts through the conduit will have no impact on the acquisition of room temperature.

Devices for Special Applications

Heating, Cooling, Ventilation, Air-Conditioning

Room temperature controllers

Technical specifications

	i-system	DELTA style
Dimensions		
• Height	mm 55	68
• Width	mm 55	68
• Depth	mm 16	16

Type	Description
 UP 237K UP 254K	UP 237K, UP 254K room temperature controllers <ul style="list-style-type: none"> Integrated room temperature sensors Control configurable as two-step control and / or continuous control (P or PI algorithm), for exclusive heating operation, exclusive cooling operation or heating and cooling operation Operating modes comfort, pre-comfort, energy-savings and frost or heat protection, selectable over the KNX Presence pushbutton for local switch over between comfort and pre-comfort mode or between comfort and energy-savings mode and for time-limited extension of comfort mode after activation of energy-savings or protection mode Pushbutton for local switch over between manual- and automatic mode Configurable shifting of the room temperature setpoint value for comfort mode, using an exchangeable rotary knob (+/-) on the controller and via the KNX Setpoint value of the room temperature for comfort mode, which can be set via the KNX Adjustable room temperature setpoint value in °C for comfort mode, using an exchangeable rotary knob on the controller Adjustable dead zone between the heating setpoint value and the cooling setpoint value for comfort mode Two-level heating or cooling Transmission of controller output(s) either as On / Off switching commands or as control commands in the range of 0 ... 100 % 5 LEDs for display manual operation and the current room operating mode 4 LEDs for display whether the heating or cooling valve is open, for dew point alarm and open window Mounting on a UP 117 bus transceiver module (BTM)

Selection and ordering data

Type	Version	DT	Order No.	PU (UNIT, SET, M)	PS* / P. unit	PG	Weight per PU approx. kg
i-system							
	UP 237K	UP 237K room temperature controller¹⁾²⁾ for bus coupling unit (BTM), titanium white	A	5WG1 237-2KB11	1	1 unit	0.030
DELTA style							
	UP 254K	UP 254K room temperature controller¹⁾²⁾ for bus coupling unit (BTM), titanium white/metallic silver	A	5WG1 254-2KB13	1	1 unit	0.040

5WG1 254-2KB13

1) The UP 117 bus transceiver module (BTM) must be ordered separately.

2) The matching design frame must be ordered separately.

* You can order this quantity or a multiple thereof.

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The information in this document contains general descriptions of technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.

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Answers for infrastructure.

Our world is undergoing changes that force us to think in new ways: demographic change, urbanization, global warming and resource shortages. Maximum efficiency has top priority – and not only where energy is concerned. In addition, we need to increase comfort for the well-being of users. Also, our need for safety and security is constantly growing. For our customers, success is defined by how well they manage these challenges. Siemens has the answers.

“We are the trusted technology partner for energy-efficient, safe and secure buildings and infrastructure.”