

Electronic cooling ceiling controllers KTRRB

Surface-mounted installation – Design Berlin 2000



Technical data

Operating voltage:	24 V ~ / ≈ approx. 1 VA safety extra low voltage
Sensor:	internal, NTC (47 kΩ) external flow sensor, NTC (47 kΩ) (changeover sensor), external dew point sensor (TPS)
Switching current:	1 A / 24 V ~
Switching contact:	relay/Contact
Setting ranges:	5 ... 30 °C; 21 ° ± 8 K
Switching difference:	approx. 1 K
Degree of protection:	IP 30
Protection class:	III
General equipment:	mechanical range reduction
Indicators (LEDs):	see "Equipment"
Switch:	see "Equipment"
Admissible humidity:	max. 95 % r.h., non condensing
Storage temperature:	-20 ... +70 °C
Safety and EMC:	acc. to DIN EN 60730
Ambient temperature:	0 ... 40 °C
Housing colour:	pure white, similar to RAL 9010
Housing material:	plastic (ABS)
Mounting/installation:	surface- / wall-mounted
Weight:	approx. 130 g
Electrical connections:	terminal screws


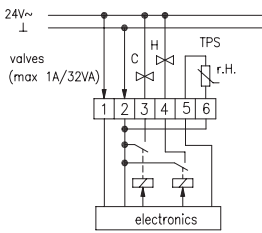
Application

Control of temperatures that exist at cooling ceilings and walls and/or in warm water heating systems.

Up to 4 valve drives (24 V ~, normally closed types) can be actuated per output.


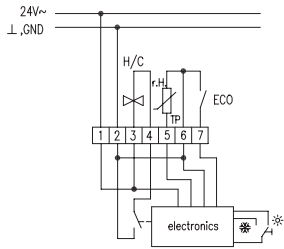

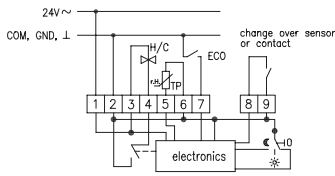
For flush-mounted cooling ceiling controllers see page 60–65.

Both the dew point sensor (see page 67–68) and the changeover sensor "2" (see "Sensor Technology" as of page 133) **need to be ordered separately.**

Model/Picture	Item No.	Equipment	Sensor	Circuit diagram	PG
KTRRB-042.211 	DA 420000	<p>Setting range (turning knob): 21 °C ± 3 K The factory preset "zero" (21 °C) can be changed internally by ± 5K.</p> <p>Outputs: Relay output "cooling and heating". Heating/cooling hysteresis: approx. 1 K.</p> <p>Inputs: Internal sensor (NTC 47 kΩ) Dew point sensor (TPS) for cooling mode interruption (max. 5 dew point sensors can be operated in parallel).</p> <p>Scale: Relative scale (set value 21 °C with "0" marking and swelling arrows ("+" for warmer and "-" for colder)</p> <p>Indications: Two-colour LED indicator on the left: red for "heating" or green for "cooling" Two-colour LED indicator on the right: red for "dew point" or green for "ON"</p> <p>Functions: Heating and cooling with adjustable neutral zone. Cooling mode interrupted in the event the dew point sensor detects the condensation of humidity.</p> <p>Adjustments: neutral zone ± 0.25 ... 3 K (± 0.5 K, factory setting)</p> <p>Application: Control of temperatures in individual rooms. The device is equipped with a relay output for the actuation of the valves which are employed for the control of climates produced by 4-pipe systems (with adjustable neutral zone and interruption of the cooling operation in the event the external dew point sensor detects the condensation of humidity).</p>	internal dew point sensor		I

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Model/Picture	Item No.	Equipment	Sensor	Circuit diagram	PG
	DA 420100	<p>Control range: 5...30°C Output: Relay output “cooling or heating”. Heating/cooling hysteresis: approx. 1 K Inputs: Internal sensor (NTC 47 kΩ), Dew point sensor (TPS) for cooling mode interruption (max. 5 dew point sensors can be operated in parallel). External contact for ECO function triggering. Switch: “Cooling/heating changeover”. Scale: 5...30°C, mechanical range reduction Indications: Two-colour LED indicator on the left: red for “heating” or green for “cooling” Two-colour LED indicator on the right: red for “dew point” and green for “ECO” Functions: Heating or cooling (can be switched over manually); ECO function (temperature decrease when heating and temperature increase when cooling), can be triggered via an external contact (terminal 7). Interruption of the cooling operations in the event of humidity condensation. Adjustments: ECO zone ±0.25...3 K (±1 K, factory setting) Application: Control of the temperatures in individual rooms. The device is equipped with a relay output for the control of the related valves (manually switchable cooling/heating control).</p>	internal dew point sensor		I
	DA 420200	<p>Setting range (turning knob): 21°C ±3 K, the factory preset “zero” (21°C) can be adjusted internally by ±5 K. Outputs: Relay output “cooling or heating”. Cooling/heating hysteresis: approx. 1 K Inputs: Internal sensor (NTC 47 kΩ). Dew point sensor (TPS) for cooling mode interruption (max. 5 dew point sensors can be operated in parallel). Changeover sensor or changeover contact for cooling/heating changeover. External contact for ECO function triggering. Switch: “OFF (forced switch off)/day/ECO” Scale: Relative scale (set value 21°C with “0” marking and swelling arrows (“+” for warmer and “-” for colder) Indications: Two-colour LED indicator on the left: red for “heating” or green for “cooling” Two-colour LED indicator on the right: red for “dew point” and green for “ECO” Functions: Switchable between heating or cooling via an external changeover sensor or changeover contact. ECO function (temperature decrease when heating, temperature increase when cooling), can be triggered via an external contact (terminal 7). Forced switch off can be activated via switch operation (position “0”). Frost protection monitoring of rooms at approx. 5°C. Interruption of the cooling operations in the event of humidity condensation. Adjustments: ECO zone ±0.25...3 K (±1 K, factory setting) Application: Control of temperatures in individual rooms. The device is equipped with a relay output that enables to trigger the changing between the cooling and heating control operations through the operation of a changeover sensor or a changeover contact. Additionally equipped with an “ECO and forced switch off function” switch and an external contact for the triggering of the ECO function.</p>	internal dew point sensor / change over sensor, e.g. HF-2, ALF-2		I

