

## Room Thermostat Type AMFRc-1333

- IP54 protection
- 4-stage room thermostat in surface-mounting housing, switching in sequence
- electrical wiring on pcb
- setpoint adjustment from outside by turning the knob
- contact spacing permanently set in factory to customer specification



### Brief description

The room thermostat Type AMFRc-1333 is a 4-stage temperature controller with a high response accuracy. The wiring has been laid out for fan control by different speed stages. The contact spacing of the individual switching stages in °C is permanently set in the factory to customer specification. Room thermostats operate on the principle of liquid expansion, with a microswitch serving as the electrical switching device.

### Switching action

If the temperature at the temperature probe exceeds the selected setpoint, the microswitch is operated through a mechanism and the circuit is opened or closed. When the temperature falls below the selected setpoint (by the amount of the switching differential), the microswitch returns to its initial position.

### Technical data

#### Electrical data

Electrical connection	via terminal board, after removal of cover, temperature controller and terminal board are mounted on a pcb and electrically wired up in accordance with the connection diagram		
Switching device	4 single-pole snap-action switches with changeover contact		
Max. contact rating	Break contact:	10 (3) A, 230 V AC +10%, p.f. = 1 (0.6) max. current surge: 16 A, p.f. = 0.6	
	Make contact:	8 (1.5) A, 230 V AC +10%, p.f. = 1 (0.6) max. current surge: 10 A, p.f. = 0.6	

#### Operating data

Control ranges	-10 to +40°C or 0 to +50°C	
Switching point accuracy	setpoint: ± 0.75 °C at 20°C, contact spacing: ± 0.25 °C	
Contact spacing	The contact spacing is defined in °C relative to the setpoint (contact I). 10 °C max. / 0.5 °C min.	The switching stages are assigned to be below the setpoint. The contact spacing of the 3 switching stages is specified in °C relative to the setpoint. (For example, -1°C/-2°C/-3°C, i.e. with a setpoint selection +20°C and rising temperature, the first stage switches at +17°C, the second stage at +18°C, the third stage at +19°C and the fourth stage at the setpoint +20°C).
Switching differential	approx. 1.2 °C	
Permissible ambient temp.	in operation -20 to +60°C	
Permissible storage temp.	-50 to +50°C	
Nominal position (NL)	to DIN 16 257, NL 0 — NL 90 (other NL on request)	

#### Housing

Housing	plastic housing in impact-resistant polycarbonate color: cover pebble gray RAL 7032, base anthracite RAL 7016
Housing fixing	by 2 screws inside housing
Cable entry	standard: clamping gland M20 x 1.5, for 8 — 10 mm cable diameter
Enclosure protection	EN 60 529-IP54
Temperature probe	coiled probe, tinned copper
Weight	approx. 0.5 kg

**Note:**

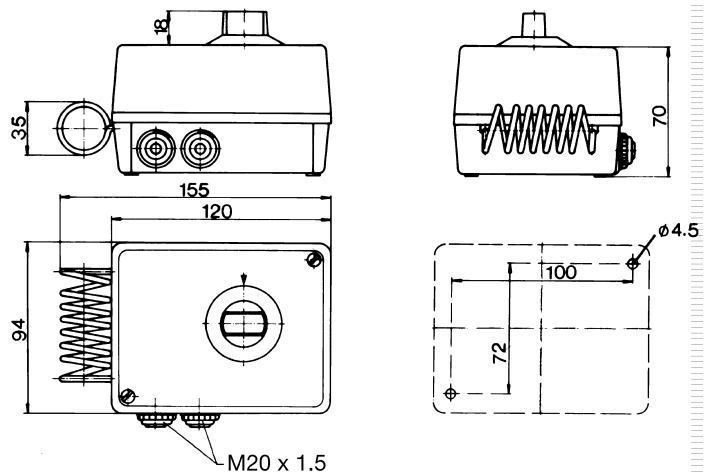
Physical and toxicological properties of the expansion fluid that may escape in the event of a system fracture.

Dangerous reactions	Fire / explosion hazard		Water contamination	irritant	Toxicological data	
	Ignition temperature °C	Explosion limit % v/v			danger to health	toxic
no	+ 280	1.2 — 7.5	yes	yes	1)	no

1) At present there is no restrictive statement from the health authorities concerning any danger to health over short periods and at low concentration, e.g. after a fracture of the measuring system.

Connection diagram	Switching action		
	<p>The setpoint is at contact I. If this setpoint is set to +28°C, for instance, and the room temperature is below +20°C, then the fan operates with the lowest transformer voltage. This lowest transformer voltage is on terminal 5. In this case, the current flows from terminal 5 via the contacts IV, III, II and I to terminal 6, or to the fan. If the room temperature rises to +20°C, then stage IV switches over and the next-higher transformer voltage, terminal 4, is switched through to the fan. On reaching +23°C, the voltage from terminal 3 is switched through, at +25°C from terminal 2 and at +28°C from terminal 1 (mains supply voltage). With falling temperature, the switchover takes place in reverse order, but lower than the corresponding setpoint by the amount of the switching differential of the thermostats (1.2°C).</p>		
<b>Switching sequence with rising temperature</b>			
Contact			
Follow-on contact      Setpoint			
IV	III	II	I
e.g. $\vartheta$ -8°C	e.g. $\vartheta$ -3°C	e.g. $\vartheta$ -1°C	$\vartheta$

**Dimensions**



**Order details:**

Available from stock

Sales No.	Type	Control range °C	Switching differential °C	Contact spacing
60/60000406	AMFRc-1333	0 to +50	1.2	-1°C, -2°C, -3°C

**Not available from stock**

<b>Order code</b>	<b>(1) Basic type</b>
604045-1333	AMFRc-1333 4-stage room thermostat in surface-mounting housing, factory-set to switching in sequence
	<b>(2) Control ranges</b>
16	-10 to + 40°C
21	0 to + 50°C
	<b>(3) Contact spacing</b>
.....	details in plain text (e.g. -2°C, -4°C, -6°C)

Order code

(1)  / (2)  (3)

**Order example**

/  -