

Data Sheet for KM-RD50xx temperature controller

Compact wall-mounted electronic thermostat with FAT control algorithm, hybrid and wide-range technology



Short Description

With the completely newly developed temperature controller of the KM-RD50xx series, we have successfully combined an extremely durable hybrid technology switch element with ease of use - extended multilingual menu control with only a few setting parameters, **now new with password protection and other features**. The temperature controller uses FAT algorithm. FAT stands for Fast Adaptive Tuning, a completely innovative control algorithm that independently manages its control behaviour and continuously adapts it to the control system. Heating with different control behaviour is therefore always operated optimally. Setting parameters or initiating an auto-tuning process as with PID controllers are not required.

The temperature controller has a wide-range power supply and comfort functions like a partial automatic detection of connected temperature sensors. Through the multi-coloured LEDs, it is possible to view the thermostat's status even from afar.

Technical Data

Casing:	Polycarbonate with undetachable transparent cover UL 94-VO. Manually operated hinge locks <input type="checkbox"/> Open without tools Dimensions: 151 x 125 x 60 mm (width x height x depth) (Depth 90 mm for KM-RD5012).
Power Supply:	Wide-Range 90V...250 VAC 50/60Hz
Switching Current:	For KM-RD5012R/T models max. 16 A ohmic load without built-in safety fuse For KM-RD5002R/T models up to 10 A ohmic load is secured across a built-in safety fuse
Thermal Protection:	+85 °C (Electronic temperature, self-resetting)
Sensor Inputs:	R version: PT100 (2, 3 or 4-wire), PT1000, Ni120 and NTC100K and NTC10K T version: thermocouples K, J, E and N models All floating inputs with sensor short circuit protection (only R version) and sensor breakage protection
Set Point Range:	depending on the sensor type for example Pt100 -120...+850°C
Control Behaviour:	FAT control algorithm (Fast Adaptive Tuning)
Circuit Breaker:	Hybrid relays (life span > 2,5 mio. cycle of operation) with safety-break-relay (break the heating circuit in fault)
Display:	illuminated multilingual LCD graphic display
Operation:	by keyboard with multilingual menu control optional: via IR-Bedienteil 65502000 control unit

Languages:	English, German, Spanish, French, Japanese
Status Display:	4-coloured LED to represent the operating status Flashing red = excessive temperature Flashing blue = insufficient temperature (heating phase) Green = target = actual temperature Rapid yellow flashing = sensor error (probe break/short circuit) Rapid red flashing = device error
Signal Output:	Turnkey 50mA max. 45V (floating) Access by cable gland
Ambient Temperature:	-20°C... +50°C
Relative humidity:	< 90% noncondensing
Protection Class:	1
Protection Type:	IP65 (cover closed)
Weight:	ca. 0.70 kg with flange receptacle

Device Models:

Model KM-RD5002R/T	Model No.: 65015002 = R and 65025002 =T Mains connection via 1.5 m cable with shock-proof plug (CEE 7/7) Heating connection via flange receptacle 6+PE switching current max. 10 A Selectable resistance sensor (R) or thermocouple (T)
Model KM-RD5012R/T	Model No.: 65015012 = R and 65025012 =T Mains connection via 1.5 m cable with shock-proof plug (CEE 7/7) Heating connection via flange receptacle 4+PE switching current max. 16 A Selectable resistance sensor (R) or thermocouple (T)

Heating connections with other connector systems can be provided via appropriate adapter cables - see the corresponding Data sheet.

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