

LCF

Electronic FanCoil Thermostat (flush mounting)
(from Firmware 1.7.3)

thermokon[®]
HOME OF SENSOR TECHNOLOGY

Datasheet

Subject to technical alteration
Issue date: 29.05.2024 • A140

» APPLICATION

The fan coil room thermostat has been designed for individual control of temperature in commercial, industrial and residential buildings. It is tailored for two-pipe and four-pipe fan coil with two-wire electric valves. With its flush mounted modern design the device combines digital technology with a large LCD display and additional buttons, which enables the 2-point-single room controller to be used intuitively.



» SECURITY ADVICE – CAUTION

The installation and assembly of electrical equipment should only be performed by authorized personnel.



The product should only be used for the intended application. Unauthorised modifications are prohibited! The product must not be used in relation with any equipment that in case of a failure may threaten, directly or indirectly, human health or life or result in danger to human beings, animals or assets. Ensure all power is disconnected before installing. Do not connect to live/operating equipment.



CAUTION! Risk of electric shock due to live components within the enclosure, especially devices with mains voltage supply (usually between 90..265 V).

Please comply with

- Local laws, health & safety regulations, technical standards and regulations
- Condition of the device at the time of installation, to ensure safe installation
- This data sheet and installation manual

» NOTES ON DISPOSAL



The crossed-out wheeled bin symbol indicates that the product or removable batteries must not be disposed of with household or commercial waste. Within the EU, you are legally obliged to dispose of the product separately and appropriately in accordance with the national laws of your country. Alternatively, please contact your supplier or Thermokon Sensortechnik GmbH. Further information can be found at: www.thermokon.com

» MOUNTING ADVISE ROOM SENSORS

The Accuracy of the room sensors are influenced by the technical specifications as well as the positioning and the installation type.

During Assembly:

- Seal mounting box (if present).
- Installation type, air draught, heat source, radiation heat or direct sunlight can affect the measurement.
- Bulding material specific properties of the installation place (*brick-, concrete-, partition wall, cavity wall, ...*) can affect the measurement.

Assembly not recommendet in...

- Air draught (e.g.: close to windows / doors / fans ...)
- Near heating sources,
- Direct sunlight
- Niches / between furniture / ...

» PRODUCT TESTING AND CERTIFICATION



Declaration of conformity

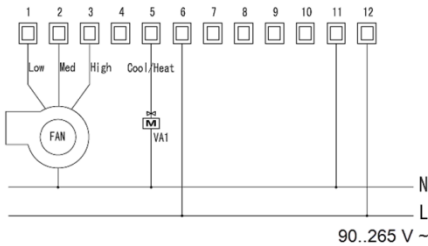
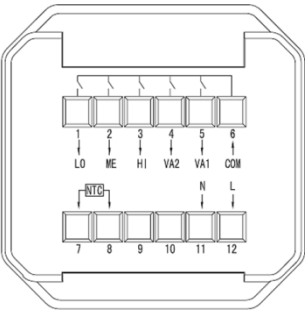
The declaration of conformity of the products are available on our website
<https://www.thermokon.de/direct/en-gb/categories/lcf>

» TECHNICAL DATA

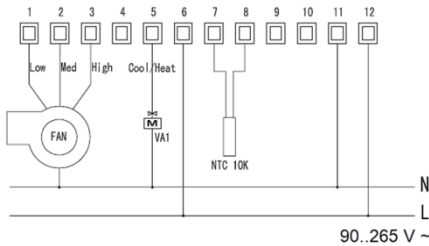
Measuring values	temperature
Output switch contact	5x contact NO (2x heating & cooling, 3x fan stages, 2-point-controller), 250 V ~ max. load 3 A fan stages switchover pause 0,5 s
Power supply	90..265 V ~
Power consumption	max. 0,9 W
Measuring range temp	+1..+50 °C
Accuracy temperature	±1 K (typ. a 21 °C)
Inputs	input for change-over sensor NTC10k, (optional)
Display	LCD 35,5x48,5 mm, white background lighting
Enclosure	ABS, pure white, scratch resistant acrylic glass
Protection	IP20 according to EN 60529
Cable entry	rear entry
Connection electrical	terminal block, max. 1,5 mm²
Ambient condition	-10..+50 °C, max. 85% rH non-condensing
Mounting	flush mounted in standard EU box (Ø=60 mm)

» TERMINAL CONNECTION PLAN

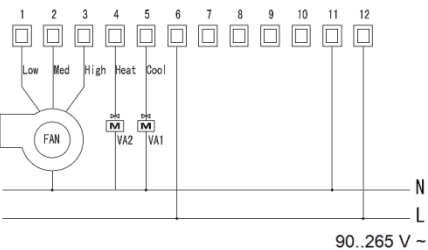
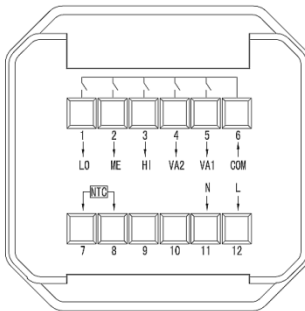
Wiring diagram for 2-pipe fan coil:



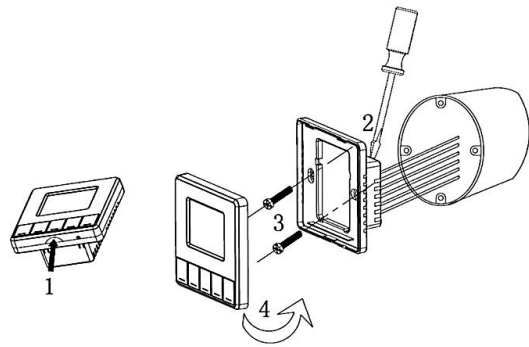
with external sensor:



Wiring diagram for 4-pipe fan coil



» MOUNTING ADVICES

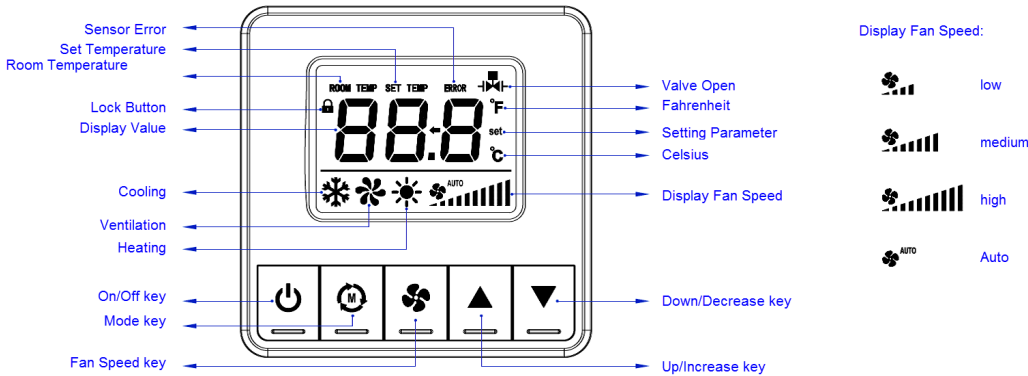


For Installing or repairing, please make sure the power is disconnected.
Insert the screw driver in the plastic teeth of thermostat. Clockwise rotation of the screwdriver will separate front cover from base plate. Please follow the wiring diagram to connect the wires.
Fix the thermostat base plate to the wall through the four screw holes with distance between axes of 60 mm.
Fasten base plate and front cover. Do not press the panel in order to protect LCD.

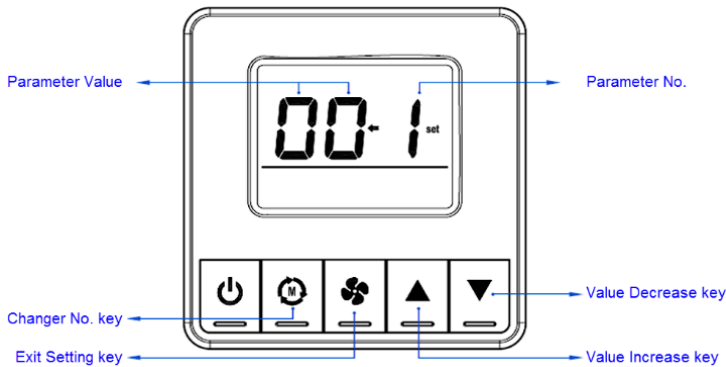
» CONFIGURATION

The firmware version is located on a label inside the device.

Display Panel



By pressing the MODE Button for more than 3 seconds, the parameter interface will appear.



i After parameter selection / setting, don't press any button for 3 seconds to save the settings.

No.	Name of parameter	Parameter definition	Default
1	Temp. correction	Range $\pm 10\text{ }^{\circ}\text{C}$	0
2	Key-lock	0 - unlocked 1 - lock on/off 2 - lock Mode 3 - lock fan speed 4 - lock temp setting 5 - lock all the keystrokes	0
3	not used		
4	Temp. upper limit	Range: $+1\text{...}+50\text{ }^{\circ}\text{C}$	30 $^{\circ}\text{C}$
5	Temp. lower limit	Range: $+1\text{...}+50\text{ }^{\circ}\text{C}$	16 $^{\circ}\text{C}$
6	LCD backlight	0 - without backlight 1 - with backlight	1
7	Fan chain setting (Fan Mode AUTO)	0 – Independent (AUTO OFF) 1 – Dependent (AUTO ON)	0
8	Fan coil selective	2 - 2-pipe system 4 - 4-pipe system	2
9	Polarity Outputs	0 - Valve de-energized closed 1 - Valve de-energized open	0
10	FAN-OFF-Delay	(if parameter 7 = 1) the fan continues running for x seconds after the valve has closed 0..99 (switch-off delay in seconds)	0

All parameters are stored within an EEPROM ensuring no data loss if the Thermostat is powered off.

Hysteresis: 1 K + 1 minute switching delay

» COMMISSIONING

Pressing the “▲” and “▼” key at the same time for more than 3 s, the units °C or °F can be selected. Temperature display range is 0..+50 °C or +32..+99 °F. Factory default is °C.

Select 2-pipe or 4-pipe systems (Parameter 8). In both modes the control sequences Cooling – Ventilating – Heating can be selected.

Using Parameter No.1. the temperature offset can be adjusted. This feature should be used if the temperature at the mounting place of the Room Thermostat is not accurate to the average room temperature.

Key lock selection (Parameter 2), LCD backlight (Parameter 6) and set point ranges (Parameter 4 and 5) can be set by parameters. Under Fan operation “INDEPENDENT” (parameter 7) the fan will always run according the selected or automatic selected fan stage; under Fan operation “DEPENDENT” the fan will be tuned off in case the valve is closed. If the valve is open, the fan will run according the selected or automatic selected fan stage. When the fan stages are changed, the fan remains in a no-current switchover pause (0.5 s).

Handling

By pressing “▲” or “▼” button the room temperature set point can be adjusted between +16..+30 °C (+60..+86 °F). See also parameter 4/5.

If an external temperature sensor is used in 2-pipe system to measure the temperature in the pipes, no change of mode is possible via MODE button. The system recognizes automatically, whether current mode is cooling or heating. When temperature is ≤ 19 °C cooling is active, when the temperature is ≥ 30 °C heating is active. The other mode is not available. A time delay between cooling/heating mode changes is implemented to ensure safe operation and ensures eco-friendly operation. When using a 4-pipe system no sensor is necessary. Both functions (heating and cooling) are available. The function can be selected via MODE button.

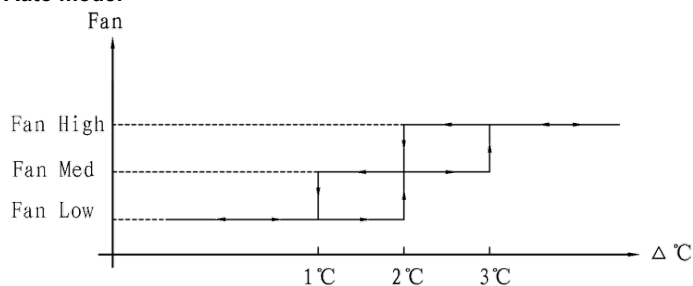
If no external sensor is used, the functions (heating-ventilation-cooling) can be selected using MODE button. In heating mode the valve will be opened, if temperature is below set point, in cooling mode it will be opened, if the temperature is above set point.

If the NTC room temperature sensor is out of range, thermostat will switch off the fan and close the valve, fault code “E01” will be shown.

Fan Stage selection

Cooling or Heating mode fan stage options: Low -> Med -> Hi -> Auto
Ventilation mode fan stage options: Low -> Med -> Hi

Auto mode:



» DIMENSIONS (MM)

