



	Outputs	0.8mm <sup>2</sup> Clamp, 1.5mm <sup>2</sup>
Operating elements	LED	1 - Activity
Enclosure:	Material: Color: Dimensions:	Polyamide Gray 36(W)x91(H)x56(L) mm
Usage temperature:	0C ... +45C	
Storage temperature:	-15C ... +55C	
Weight:	50g	
Warranty:	2 years	
Relative Humidity:	10...95 % without condensation	



### **Caution Security advice**

The installation and assembly of electrical equipment may only be performed by skilled electrician. The devices must not be used in any relation with equipment that supports, directly or indirectly, human health or life or with application that can result danger of people, animals or real value

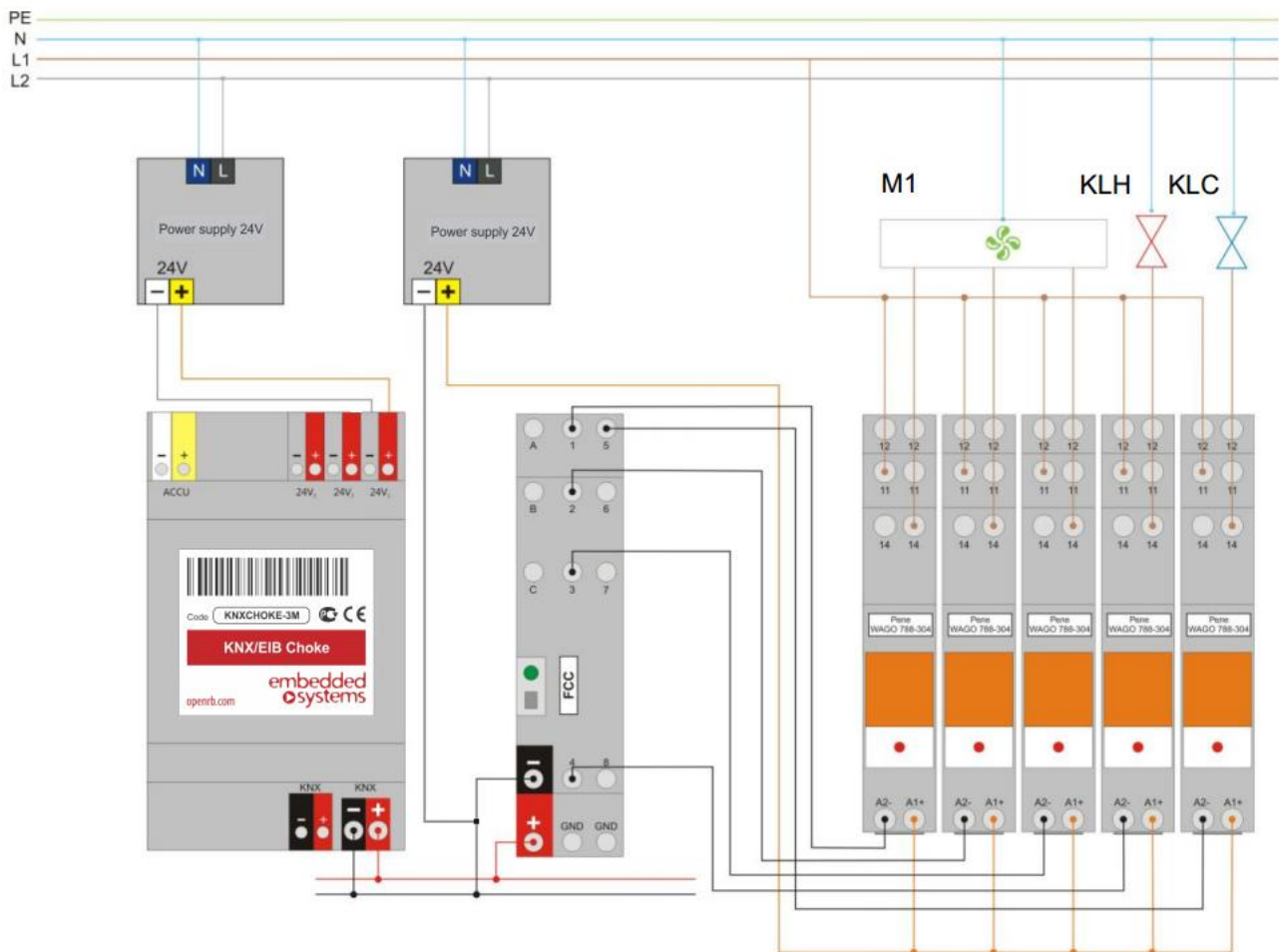
### **Mounting advice**

The devices are supplied in operational status. The cables connections included can be clamped to the housing if required.

### **Electrical connection**

The devices are constructed for the operation of protective low voltage (SELV). Grounding of device is not needed. When switching the power supply on or off, power surges must be avoided.

# 1. Connection diagram



**M1** – fan

**KLH** – heating valve

**KLC** – cooling valve

## **2. Fancoil requirements**

Following inputs are necessary on Fancoil:

- Heating valve (or other similar device)
- Cooling valve (or other similar device)
- Fan, low speed
- Fan, medium speed
- Fan, high speed

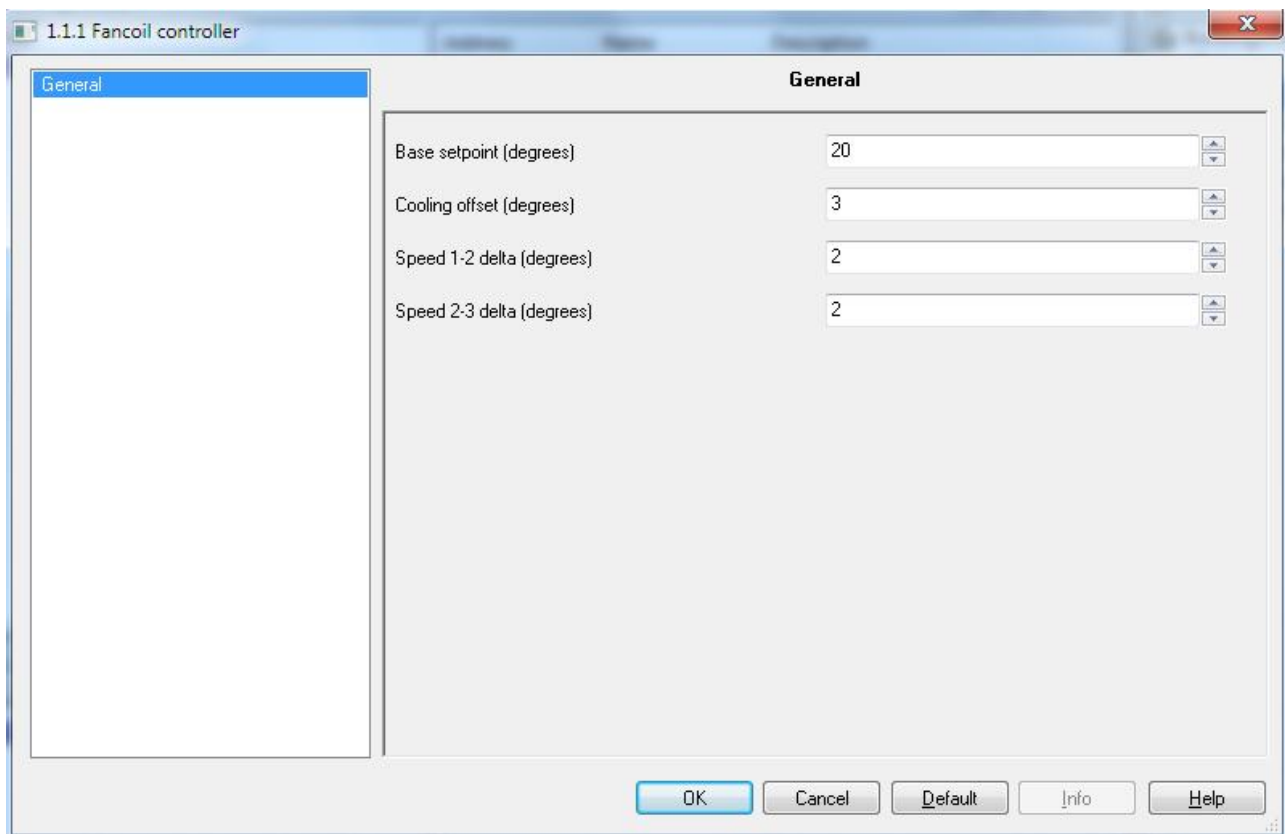
## **3. Default settings**

To reset the device to default settings, press and hold programming button for more than 10 seconds. Programming LED will blink several times after releasing the programming button. The device will restart automatically after the reset is complete.

## **4. Default state of the device**

Factory-new devices have the physical address 1.1.255, no group addresses.

## 5. ETS configuration



- **Base setpoint (degrees; 15..25)** – default temperature
- **Cooling offset (degrees; 2..10)** – Hysteresis when switching modes Heating-Cooling
- **Speed 1-2 delta (degrees; 1..5)** – Temperature delta between current and set temperatures at which outputs Speed 1 and Speed 2 are switching
- **Speed 2-3 delta (degrees; 1..5)** – Temperature delta between current and set temperatures at which outputs Speed 2 and Speed 3 are switching

## 6. Objects

Nr.	Object	Name	Type	Priority	Read	Write	Transmit
0	Fancoil control	Input. Enable fancoil. 0 – disable all outputs	1.* Boolean (1.001 switch)	Low	-	W	-
1	Setpoint	In: Temperature	9.* 2-Byte Float (9.001 temperature C)	Low	-	W	-
2	Current temperature	In: External sensor	9.* 2-Byte Float (9.001 temperature C)	Low	-	W	-
3	Speed 1	Out: Status	1.* Boolean (1.001 switch)	Low	R	-	T
4	Speed 2	Out: Status	1.* Boolean (1.001 switch)	Low	R	-	T
5	Speed 3	Out: Status	1.* Boolean (1.001 switch)	Low	R	-	T
6	Heating output	Out: Status	1.* Boolean (1.001 switch)	Low	R	-	T
7	Cooling output	Out: Status	1.* Boolean (1.001 switch)	Low	R	-	T

## 7. Algorithm of the device operation

- FCC2M automatically excludes possibility to work at the same time:
  - Two or more Fan Speed outputs
  - Both outputs Heating and Cooling
- When 0 is received on *Fancoil control* object, all outputs are set to inactive state
- When 1 is received on *Fancoil control* object and known *Current temperature*, FCC2M activates the outputs according to the *Setpoint*
- Operation of FCC2M depends on current and *Setpoint* temperature ratio
- When the device is switched on *Setpoint* is set equal to *Base setpoint*
- After Fancoil operation is enabled and first telegram of *Current temperature* is received (which is lower than *Setpoint*), FCC2M starts device operation in Heating mode
- Heating valve is On until *Current temperature* reaches *Setpoint* temperature. Fan speed is chosen depending of the *Setpoint* and *Current Temperature* difference e.g. If the *Setpoint* is 23 degrees, *Current temperature* is 17 degrees, *Speed 2-3 delta* is 2 and *Speed 1-2 delta* is 2 → *Speed 3* will be ON while *Current temperature* reaches 19 degrees, then *Speed2* is ON until the *Current temperature* reaches 21 degrees, then *Speed 1* is used until *Current temperature* reaches *Setpoint*. When this happens, the *Fancoil control* is automatically set to 0 / disabled. And enabled again once the hysteresis limit is exceeded again (*Current Temperature* +/- *Cooling offset* / 2).