MAXinBOX Hospitality

Fan-Coil controller for 2/4-pipe units with 2 individual outputs and 6 A/D inputs
ZCL-HP126   **Technical Documentation**

FEATURES

- 7 outputs:
    - 3 fan speed control outputs.
    - 2 open/close valves or one 3-point valve* control outputs.
    - 2 individual outputs**.
    - 1 shutter channel**.

    * *Version 2.0 of application program or later is needed.*
    ** *Suitable for capacitive loads, maximum **140µF**. Possibility to connect different phases in adjoining outputs.*
- 6 analog/digital inputs.
- Manual output operation with push button and LED status indicator.
- Logical functions.
- Output timing functionality.
- Total data saving on KNX bus failure.
- Dimensions: 67 x 90 x 79mm (4.5 DIN units).
- Integrated KNX BCU.
- DIN rail assembly (EN 50022), though pressure.
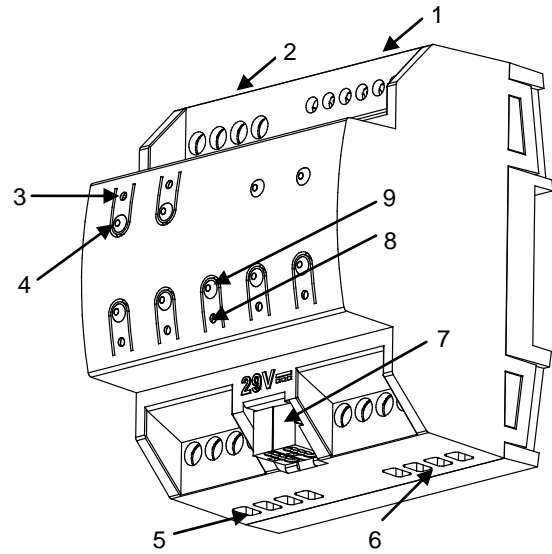- Conformity with the CE directives (CE-mark on the right side).

***Figure 1.** MAXinBOX Hospitality*

1. Analog/Digital inputs	**2**. Fan outputs	**3**. Output status LED indicator	**4**. Output control button	**5**. Valve outputs
6. Individual outputs	**7**. KNX connector	**8**. Programming/Test LED	**9**. Programming/Test button	

Programming/test button: short press to set programming mode. If this button is held while plugging the device into the KNX bus, it enters the safe mode. If this button is held for more than 3 seconds, the device enters the test mode.

Programming/Test LED: programming mode indicator (red). When the device enters into safe mode, it blinks (red) every half second. The manual mode is indicated by the green color. During the start-up (reset or after KNX bus failure) and if the device is not in safe mode, it starts a blue blinking sequence.
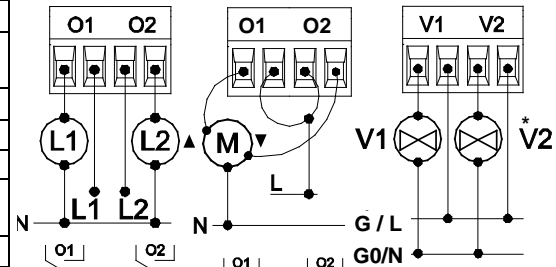
GENERAL SPECIFICATIONS

CONCEPT			DESCRIPTION	
Type of device			Electric operation control device	
KNX supply	Voltage (typical)		29VDC SELV	
	Voltage range		21…31VDC	
	Maximum consumption	Voltage	mA	mW
		29VDC (typical)	10	290
		24VDC[1]	12.5	300
	Connection type		Typical TP1 bus connector for rigid cable 0.80mm Ø	
External power supply			Not required	
Operation temperature			from 0ºC to +55ºC	
Storage temperature			from -20ºC to +70ºC	
Operation humidity			5 to 95% RH (no condensation)	
Storage humidity			5 to 95% RH (no condensation)	
Complementary characteristics			Class B	
Protection class			II	
Operation type			Continuous operation	
Device action type			Type 1	
Electrical stress period			Long	
Degree of protection			IP20, clean environment	
Installation			Independent device to be mounted inside electrical panels with DIN rail (EN 50022)	
Minimum clearances			Not required	
Response on KNX bus failure			Data saving according to parameterization	
Response on KNX bus restart			Data recovery according to parameterization	
Operation indicator			The programming LED indicates programming mode (red) and test mode (green). Each output LED indicates its status	
Weight			251g	
PCB CTI index			175V	
Housing material			PC FR V0 halogen free	

[1] Maximum consumption in the worst case scenario (KNX Fan-In model)

WIRING AND ASSEMBLY DIAGRAMS

* In case of 2-pipe fancoil (only one open/close valve), V2 can be used as an individual output (up to 8A and not capacitive load). For 4-pipe fancoil, V1 is the cooling valve and V2 is the heating one.
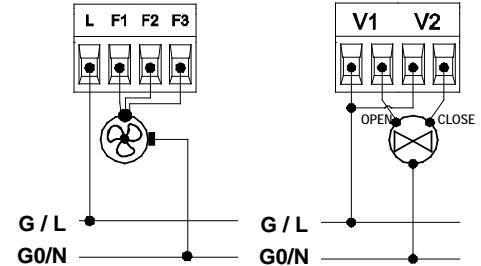

Figure 2: (From up to down and from left to right) Two individual outputs with different phases, shutter, two valve fan-coil, three-speed fan and three-point valve**.

***Version 2.0 of application program or later is needed. Before the start-up of the device it must be assured that the valve is completely closed.*

⚠ In order to ensure the expected status of the relays, please check that the device is connected to the KNX bus before energizing the power circuit.

OUTPUTS SPECIFICATIONS AND CONNECTIONS

Contact type		Potential free outputs through bistable relays with tungsten pre-contact.
Disconnection type		Micro-disconnection
Outputs per common	Individual/Valve outputs	1 output per common
	Fan outputs	3 outputs per common
Different phase connection (valve and individual outputs)		Possibility to connect different phases in adjoining outputs
Connection type		Screw terminal block
Recommended cable section		0.5mm² to 4mm² (26-10 AWG)
Cable type		Stranded or solid wire
Maximum response time		50ms

INDIVIDUAL OUTPUTS

Rated current by output		$\sim$16A (6) * 250VAC (4000VA) $=$16A (6) * 30VDC (480W)
Maximum Power	Resistive load	4000W
	Inductive load	1500VA
Maximum inrush current		800A/200µs or 165A/20ms
Expected life	Mechanical	3 million operations (60cpm)
	Electrical	100.000 cycles (6cpm/resistive load)

FAN AND VALVE OUTPUTS

Rated current by output		$\sim$8A (4) * 250VAC (2000VA) $=$8A (4) * 30VDC (240W)
Maximum Power	Resistive load	2000W
	Inductive load	1000VA
Expected life	Mechanical	1 million operations (180cpm)
	Electrical	50.000 cycles (6cpm/resistive load)

INPUT SPECIFICATIONS AND CONNECTIONS

CONCEPT	DESCRIPTION
Number of inputs	6
Inputs per common	6
Input voltage	+3.3VDC for the common
Input current	1.0mA @ 3.3VDC (each input)
Input impedance	Aprox. 3.3kΩ
Switching type	Dry voltage contacts between input and common
Connection method	Screw terminal block
Max. cable length	30m
NTC probe length	1.5m (up to 30m)
NTC accuracy (@ 25ºC)	±0.5ºC
Temperature resolution	0.1ºC
Cable cross-section	0.5mm² to 2.5mm² (26-12 AWG)
Maximum response time	10ms

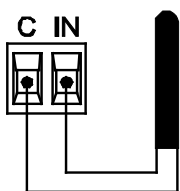**Attaching MAXinBOX Hospitality to DIN rail:**
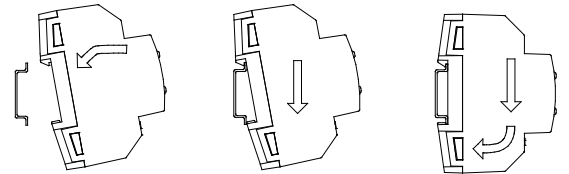
Removing MAXinBOX Hospitality from DIN rail:
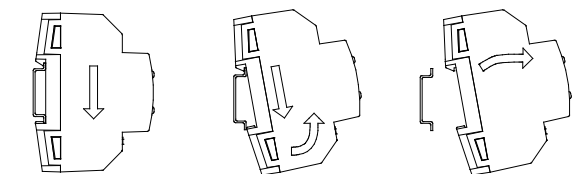
Any combination of the next **accessories** is allowed in the inputs:

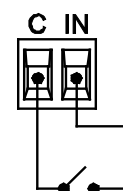**Temperature Probe**

Zennio Temperature Probe

Motion Sensor

Up to two motion sensors can be plugged into the same device input (parallel wiring)

Motion sensor screw terminal.

Motion sensor references:
ZN1IO-DETEC-P[2]
ZN1IO-DETEC-X

Switch/Sensor/Push button

(2) The micro switch number 2 in the ZN1IO-DETEC-P sensor **must be in Type B position** to work properly.

⚠ SAFETY INSTRUCTIONS

- Installation should only be performed by qualified professionals according to the laws and regulations applicable in each country.
- Do not connect the mains voltage nor any other external voltage to any point of the KNX bus; it would represent a risk for the entire KNX system. The facility must have enough insulation between the mains (or auxiliary) voltage and the KNX bus or the wires of other accessories, in case of being installed.
- Once the device is installed (in the panel or box), it must not be accessible from outside.
- Keep the device away from water and do not cover it with clothes, paper or any other material while in use.
- The WEEE logo means that this device contains electronic parts and it must be properly disposed of by following the instructions at http://zennio.com/weee-regulation.