HeatingBOX 230V 4X v2

Heating actuator for up to 4 outputs 230 VAC and 4 A/D inputs

ZCL4H230V2 **TECHNICAL DOCUMENTATION**

FEATURES

- 4 configurable outputs for 230 VAC valve control
- 4 thermostats
- 4 analog/digital inputs
- 10 logic functions
- Manual control through buttons and LED status indicators
- Common 230 VAC input supply for all the outputs
- Total data saving on KNX bus failure
- Integrated KNX BCU (TP1-256)
- Dimensions 67 x 90 x 36 mm (2 DIN units)
- DIN rail mounting according to IEC 60715 TH35, with fixing clamp
- Conformity with the CE, UKCA, RCM directives (marks on the right side)

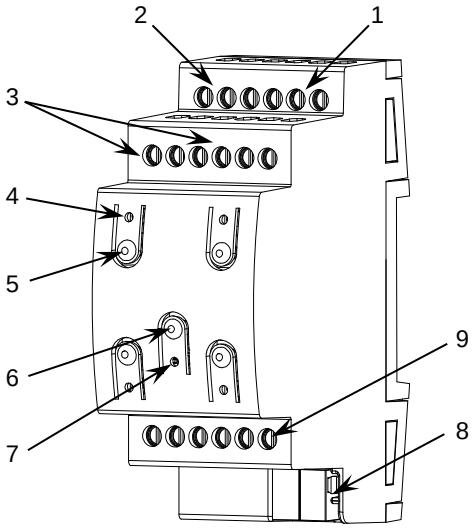


Figure 1: HeatingBOX 230V 4X v2

1. Valve outputs	2. 230 V input (phase)	3. 230 V input/output (neutral)	4. Output status LED	5. Output control button
6. Programming/Test Button		7. Programming/Test LED	8. KNX connector	9. Analog/Digital inputs

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 the 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 emits a red flash.

GENERAL SPECIFICATIONS

CONCEPT			DESCRIPTION	
Type of device			Electric operation control device	
KNX supply	Voltage (typical)		29 VDC SELV	
	Voltage range		21-31 VDC	
	Maximum consumption	Voltage	mA	mW
		29 VDC (typical)	7.9	229.1
		24 VDC[1]	10	240
	Connection type		Typical TP1 bus connector for 0.8 mm Ø rigid cable	
External power supply			230 V 50/60 Hz	
Operation temperature			0 .. +55 °C	
Storage temperature			-20 .. +55 °C	
Operation humidity			5 .. 95%	
Storage humidity			5 .. 95%	
Complementary characteristics			Class B	
Protection class / Overvoltage category			II / III (4000 V)	
Operation type			Continuous operation	
Device action type			Type 1	
Electrical stress period			Long	
Degree of protection / Pollution degree			IP20 / 2 (clean environment)	
Installation			Independent device to be mounted inside electrical panels with DIN rail (IEC 60715)	
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 (fixed=active output; flashing=overload or short-circuit). The blue blinking of the programming LED indicates a 3 minutes lock due to the suffering of 4 short-circuits in less than 3 minutes.	
Weight			115 g	
PCB CTI index			175 V	
Housing material / Ball pressure test temperature			PC FR V0 halogen free / 75 °C (housing) - 125 °C (connectors)	

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

OUTPUTS SPECIFICATIONS AND CONNECTIONS		
CONCEPT		**DESCRIPTION**
Number of outputs		4
Output type		Solid state switching device
Maximum recommended load per output (AC/DC)	Quantity of valves [2]	5
	Stationary current	200 mA (@ 35 °C)
	Maximum inrush current	2.5 A
Short-circuit protection		YES
Overload protection		YES
Connection method		Screw terminal block (0.4 Nm max.)
Cable cross-section		0.5-2.5 mm² (IEC) / 26-12 AWG (UL)

[2] It is allowed to connect up to 5 valves per output as long as the maximum stationary and inrush current of the output is not exceeded.

EXTERNAL POWER SUPPLY SPECIFICATIONS AND CONNECTIONS	
CONCEPT	**DESCRIPTION**
Voltage	230 VAC 50/60 Hz
Connection method	Screw terminal block (0.4 Nm max.)
Cable cross-section	0.5-2.5 mm² (IEC) / 26-12 AWG (UL)

INPUTS SPECIFICATIONS AND CONNECTIONS	
CONCEPT	**DESCRIPTION**
Number of inputs	4
Inputs per common	2
Operation voltage	+3.3 VDC in the common
Operation current	1 mA @ 3.3 VDC (per input)
Switching type	Dry voltage contacts between input and common
Connection method	Screw terminal block (0.4 Nm max.)
Cable cross-section	0.5-2.5 mm² (IEC) / 26-12 AWG (UL)
Maximum cable length	30 m
NTC accuracy (@ 25 °C) [3]	±0.5 °C
Temperature resolution	0.1 °C
Maximum response time	10 ms

[3] For Zennio temperature probes.

WIRING DIAGRAM

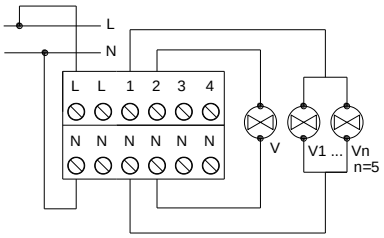


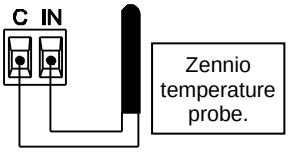
Figure 2: Wiring example: one valve per output and several valves per output.

⚠ Simultaneous connection of one valve to several outputs is not allowed.

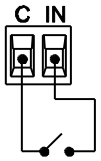
INPUTS CONNECTION

Any combination of the following accessories is allowed in the inputs:

Temperature Probe*



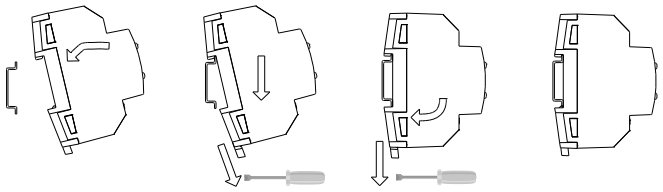
Switch / Sensor / Push button



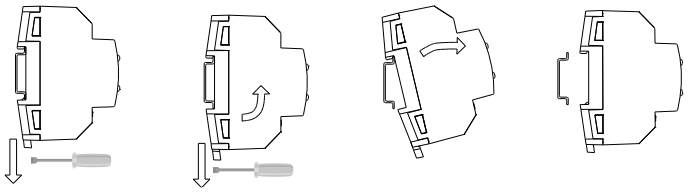
⚠ Commons of different devices must not be connected together.

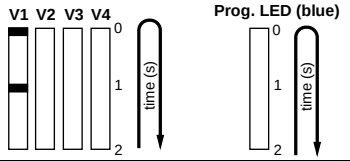
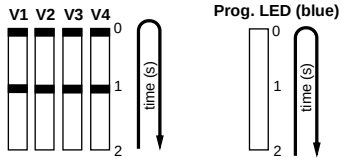
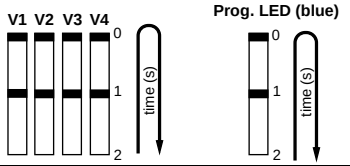
* Zennio temperature probe or any NTC with known resistance values at three points in the range [-55, 150 ºC].

Attaching HeatingBOX 230V 4X v2 to DIN rail:



Removing HeatingBOX 230V 4X v2 from DIN rail:



ERROR	VISUAL NOTIFICATION
Short circuit on V1	
Overload on V1-V4 group	
Lock due to short circuit / overvoltage	

⚠ SAFETY INSTRUCTIONS AND ADDITIONAL NOTES

- 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.
- The facility must be equipped with a device that ensures the omnipolar sectioning. Installation of a 10 A mini-circuit-breaker is recommended. To prevent accidents, it must remain open in case of manipulation of the device.
- Once the device is installed (in the panel or box), it must not be accessible from outside.
- Keep the device away from water (condensation over the device included) 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 https://www.zennio.com/en/legal/weee-regulation.