ZoningBOX 6

Ducted Air Zoning Actuator for up to 6 Zones

ZCL-ZB6 **TECHNICAL DOCUMENTATION**

FEATURES

- 6 outputs for 12 or 24V motorised grilles*
- Zoning module allowing the control of up to 12 zones and up to 2 zone groups
- Total data saving on power failure
- Manual control through buttons and status indicator LED
- 230V supply required for feeding of the 4 outputs
- KNX BCU integrated
- Size 67 x 90 x 80 mm (45 DIN units)
- DIN rail unit assembly (EN 50022), with snap fit clamp
- CE directives compliant (CE-mark on the right side)

* Before connecting the device to the facility, it must be assured that the switch position agrees with the grille's voltage.

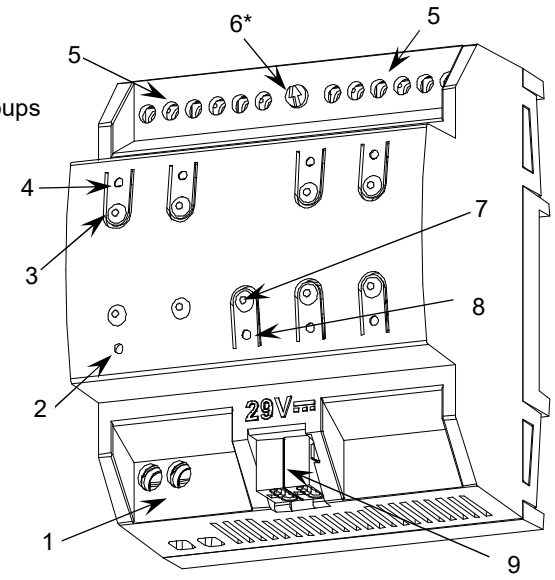


Figure 1: ZoningBOX 6

1. 230V input	2. Power indicator LED	3. Grille control button	4. Grille status indicator LED	
5. Grille outputs	6. 12/24V switch	7. Programming button	8. Programming LED	9. KNX connector

Programming 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.

Programming LED: programming mode indicator (red). When the device enters the safe mode, it blinks (red) every half second. 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)		29VDC SELV	
	Voltage range		21..31VDC	
	Maximum consumption	Voltage	mA	mW
		29VDC (typical)	6	174
		24VDC[1]	10	240
	Connection type		Typical TP1 bus connector for 0.80mm Ø rigid cable	
External power supply			230VAC 50/60Hz	
Operation temperature			-5°C .. +45°C	
Storage temperature			-20°C .. +55°C	
Operation humidity			5 .. 95%	
Storage humidity			5 .. 95%	
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			Programming LED indicates programming mode (red) and test mode (green). Power indicator LED (green) represents correct feeding. Each output LED indicates its status (fixed = open grille/dumper; off = closed grilled/dumper; flashing = error, see Fig. 2)	
Weight			201g	
PCB CTI index			175V	
Housing material			PC FR V0 halogen free	

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

OUTPUTS SPECIFICATIONS AND CONNECTIONS		
CONCEPT		**DESCRIPTION**
Number of outputs		6
Output type / Voltage		Solid state switching device / 12 or 24VDC (selected by switch)
Maximum values per output	Quantity of grilles[2]	2
	Current (RMS)	750mA
Short-circuit protection		YES
Overload protection		YES
Connection method		Screw terminal block
Cable cross-section		0.5-2.5mm² (IEC) / 26-12AWG (UL)

[2]This value could be more restrictive depending on the current consumed by the grille.

EXTERNAL POWER SUPPLY SPECIFICATIONS AND CONNECTIONS		
CONCEPT		**DESCRIPTION**
Power supply protection fuse	Voltage	250V
	Current	4A
	Response type	F (Fast acting)
Connection method		Screw terminal block
Cable cross-section		1.5-4mm² (IEC) / 26-10AWG (UL)

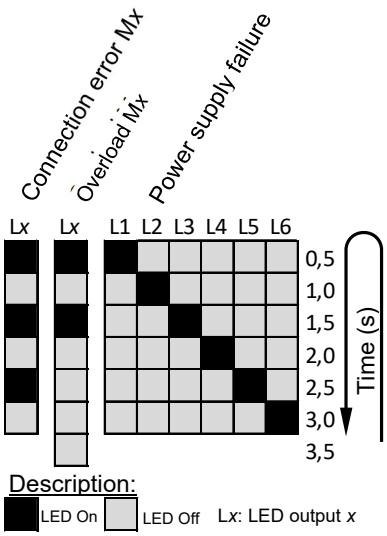
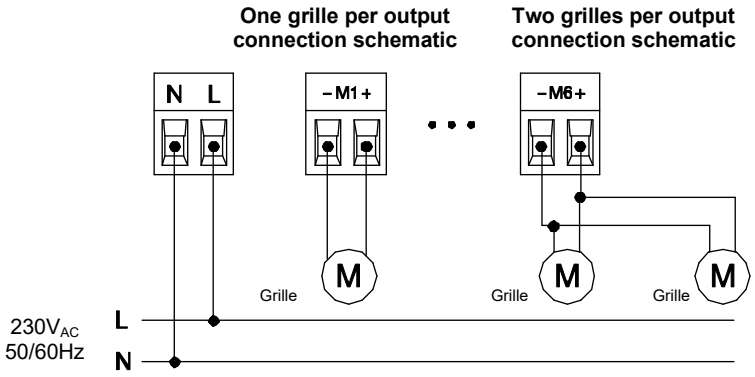
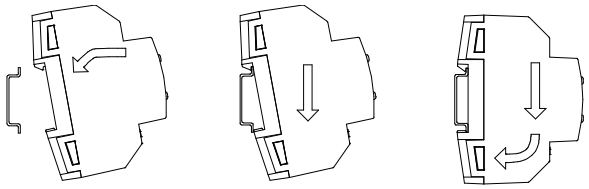


Figure 2: Error notification through grille status LED

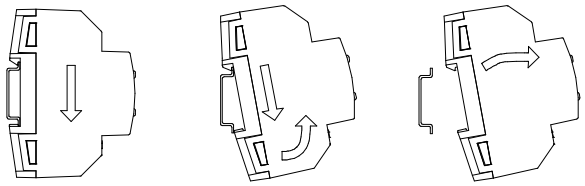
WIRING DIAGRAMS



Attaching ZoningBOX 6 to DIN rail:



Removing ZoningBOX 6 from DIN rail:



Notes:

- The simultaneous connection of a grille to several outputs nor the connection of 12VDC and 24VDC grilles at the same time is not allowed.
- In case of connecting two grilles to an output, those must have similar consumption characteristics.
- The polarity of the connection must be checked. This can be done, under the Test On mode, through the grille control buttons: the first press should imply an attempt to open the grille, while the second press should cause an attempt to close it. Once the device is parameterized, switched-on LEDs should correspond to open grilles.
- After connecting a grille, a synchronisation must be provoked (for example, disconnecting and connecting the KNX bus).
- Compatibility of grilles must be checked following the next steps for a complete verification:
  1. The grille must be connected to an enabled output, without other grilles in that output, (Please be careful to ensure the polarity is respected).
  2. The device must be fed with auxiliary power and then connected to the KNX bus.
  3. The grilles connected to outputs try a sequential opening movement. In positional mode, a maximum time of 25.5s to complete the opening movement is allowed. In open/close mode, the maximum time is 3.5s to complete the opening movement.
  4. Next, the grilles connected to outputs try a sequential closing movement. If the grille does not complete the closing movement, it is not suitable for ZoningBOX.

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 10A mini-circuit-breaker is recommended. To prevent accidents, it must remain open in case of manipulation of the device.
- The device has a short-circuit protection fuse that, in case of activation, should only be rearmed or replaced by the Zennio technical service.
- This device contains a security short-circuit proof transformer.
- 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.