

FEATURES

- 2 Channels for R L C loads and for dimmable CFL and LED lamps.
- Automatic detection of R L C load type.
- Automatic frequency detection.
- Dimming pattern selection for CFL and LED lamps.
- Optional manual dimming control.
- 2 analog/digital inputs.
- Total data saving on KNX bus failure.
- Integrated KNX BCU.
- Dimensions: 60 x 90 x 79mm (4.5 DIN rail units).
- DIN rail mounting (EN 50022), through pressure.
- Conformity with the CE directives (CE-mark on the right side).

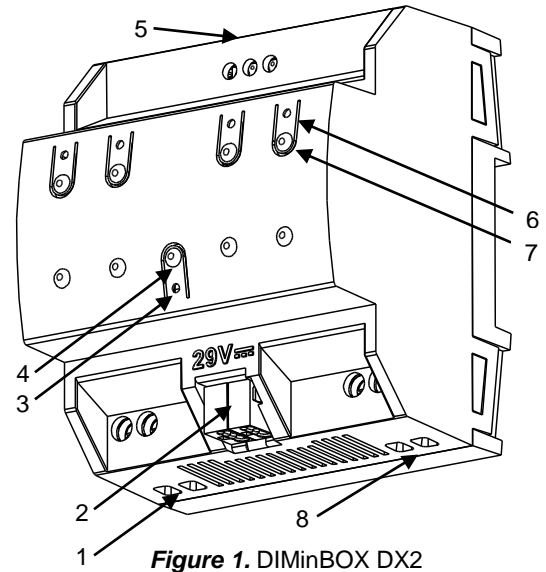


Figure 1. DIMinBOX DX2

1. Power supply input	2. KNX bus connection	3. Programming/Test LED	4. Programming/Test push button
5. Analog/Digital inputs	6. Output indicator LEDs	7. Manual control push buttons	8. Output channels

Programming/test button: short button press to set programming mode. If this button is held while plugging the device into the KNX bus, it enters into safe mode. If this button is held more than 3 seconds, the device enters into 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 start-up (reset or after KNX bus failure) and if the device is not in safe mode, it emits a red flash.

Output LED indicators: they will light while the load is dimming. Moreover, they indicate any errors present in the outputs. For further information, please consult the "error notifications" section.

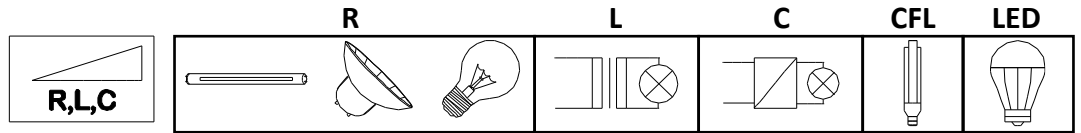
GENERAL SPECIFICATIONS

Device type		Electric operation control device		
KNX supply	Voltage (typical)	29VDC SELV		
	Voltage range	21...31VDC		
	Maximum Consumption	Voltage	mA	mW
		29VDC (typical)	11	319
24VDC ⁽¹⁾	15	360		
Connection type		Typical TP1 bus connector; 0.80mm ø		
External power supply		110-125VAC or 230VAC (50/60Hz)		
Operation temperature		0°C to +55°C		
Storage temperature		-20°C to +55°C		
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		IP 20, 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). Each output LED indicates its status (fixed = active output; flashing = error in the output)		
Weight		210g		
PCB CTI index		175V		
Housing material		PC FR V0, halogen free		

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

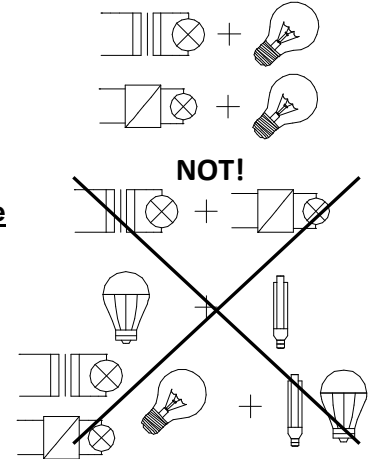
SUPPORTED LOADS

- R = Resistive
- L = Inductive
- C = Capacitive
- CFL = Dimmable Compact Fluorescent Lamps
- LED = Dimmable LED lamps

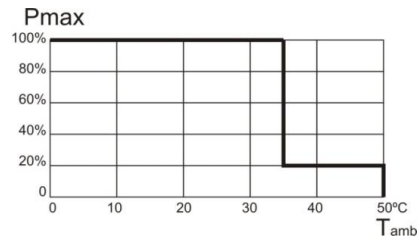


LOAD COMBINATION

- If combining resistive (R) with inductive (L) loads, please do not exceed a 50% share for the resistive load.
- If combining resistive (R) with capacitive (C) loads, please do not exceed a 50% share for the resistive load.
- **NEVER connect capacitive loads and electronic transformers with inductive loads in the same channel.**
- Do not combine in the same channel CFL or LED lamps with R L C loads.
- It is not advisable to combine different models of CFL lamps, LED lamps or transformers in the same channel since correct operation can be affected.



OVERHEATING PROTECTION

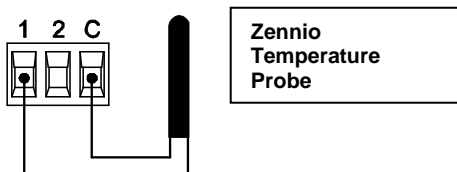


- When the ambient temperature is too high the universal dimmer actuator will regulate itself, at a maximum of 20%.
- Once the ambient temperature decreases, the dimmer will resume normal operation. Please, refer to user manual.

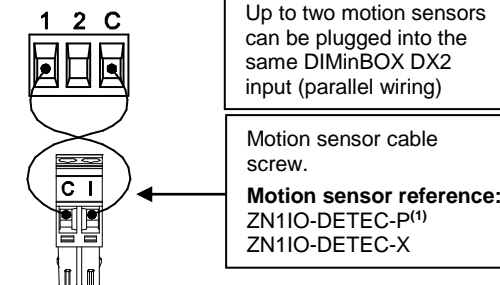
INPUTS SPECIFICATION AND CONNECTIONS	
CONCEPT	DESCRIPTION
Number of inputs	2
Inputs per common	2
Operation voltage	+3.3VDC in the common
Operation current	1mA @ 3.3VDC (per input)
Maximum impedance	Approx. 3.3kΩ
Switching type	Dry voltage contacts between input and common
Connection method	Screw terminal block
Maximum cable length	30m
NTC probe length	1.5m (up to 30m)
NTC accuracy (@ 25°C)	±0.5°C
Temperature resolution	0.1°C
Cable cross-section	0.5mm ² to 2.5mm ² (26-12 AWG)
Maximum response time	10ms

Any combination of the next **accessories** is allowed in the inputs:

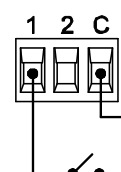
Temperature Probe



Motion Sensor

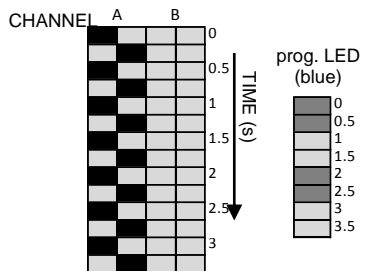
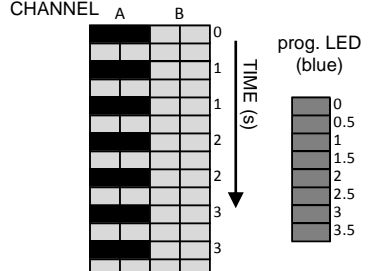
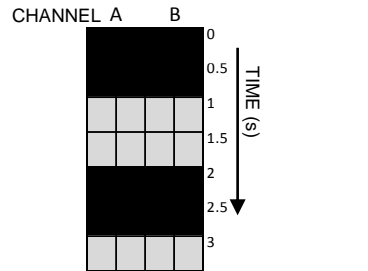
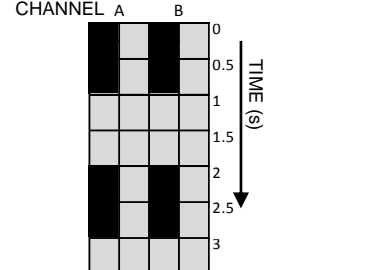
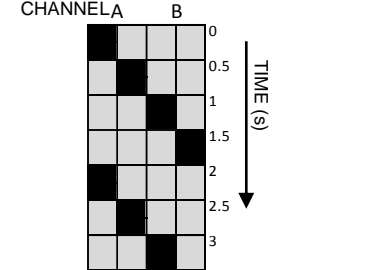
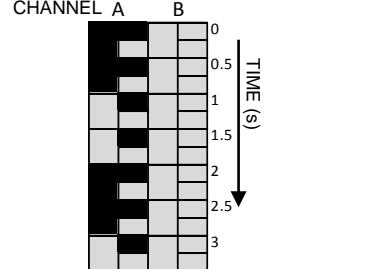


Switch/Sensor/ Push Button



(1) The micro switch number 2 in the ZN110-DETEC-P sensor **must be in Type B position** to work properly.

ERROR NOTIFICATIONS

ERROR	LED BEHAVIOR	VISUAL NOTIFICATION
Short circuit	<p>The two LEDs of the channel with the error blink alternately each 0.25 seconds.</p> <p>When the output is locked, the programming LED blinks in blue.</p>	
Voltage Surge	<p>The two LEDs of the channel with the error blink simultaneously each 0.25 seconds.</p> <p>When the output is locked, the programming LED lights in blue.</p>	
Overheating	<p>The four LEDs blink each second.</p>	
Supply Voltage Failure	<p>One LED of each channel blinks each second.</p>	
Anomalous Frequency	<p>All the LEDs of each channel blinks (during 1 second) sequentially</p>	
Parameterization Error	<p>One LED of the channel blink each second while the other LED blinks each 0.25 seconds.</p>	

SPECIFICATIONS AND CONNECTIONS OF EXTERNAL POWER SUPPLY		
Fuse protection of supply to power source	Voltage	250V
	Current	10A
	Response type	F (Fast acting)
Connection method	Screw terminal block	
Cable cross-section	0.5mm ² to 4mm ² (26-10 AWG)	

OUTPUTS SPECIFICATIONS AND CONNECTIONS	
Contact type	Solid state switching device
Load protection	Yes; overheating, voltage surge and short-circuit protection
Dropping voltage	Negligible
Connection type	Screw terminal block
Recommended cable section	0.5mm ² to 4mm ² (26-10 AWG)
Cable type	Stranded or solid wire
Response time	Negligible

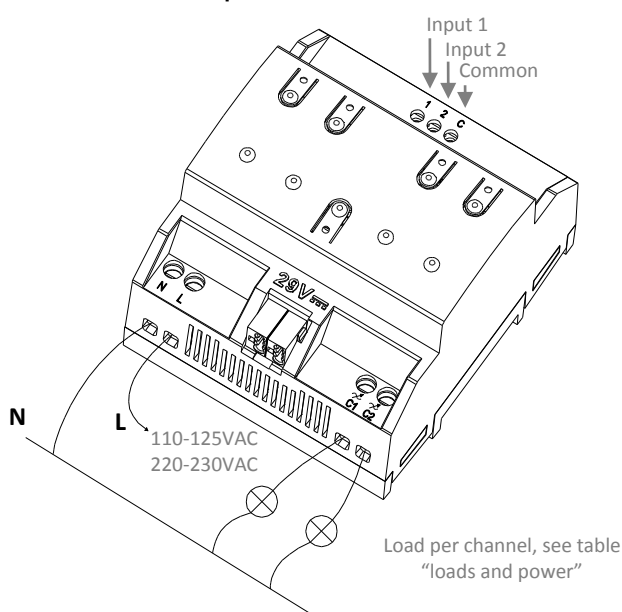
LOADS AND POWER (@ 25°C ambient temperature around the device)			
		230VAC	110-125VAC
RLC	Individual channel	Up to 310W	Up to 200W
	Common channel ⁽²⁾	Up to 600W	Up to 400W
CFL and LED ⁽¹⁾	Individual channel	Up to 310W	Up to 200W
	Common channel ⁽²⁾	Up to 600W	Up to 400W

⁽¹⁾ for leading edge, the maximum load could change depending on the load type. Please refer to the link

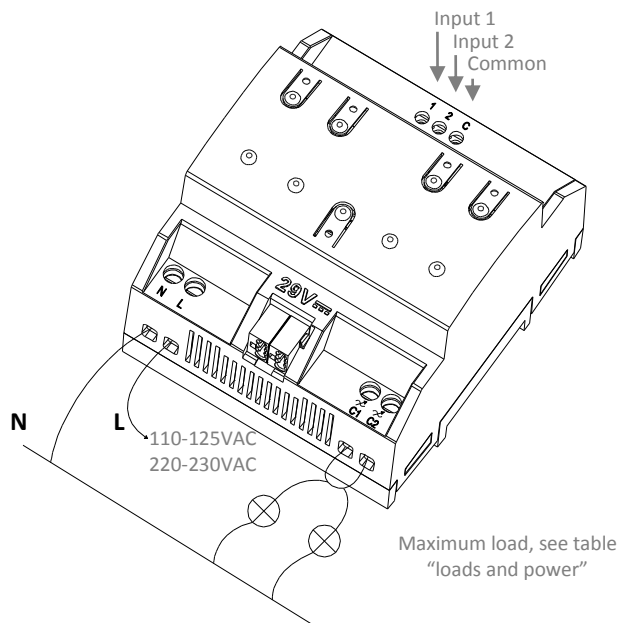
http://zennio.com/download/technical_note_diminbox-dx2_list_en.

⁽²⁾ it is mandatory to connect the load as shown in the "common channel connection" diagram and to choose "no" in the parameter "independent channel control" in ETS.

Independent channel connection



Common channel connection



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>