How do I know if my lights can be controlled with Zennio Dimmers?

① **Configure the Zennio Dimmer** as follows:

Both channels (only for DIMinBOX DX2/ DX4/Narrow DIM X):

- Independent Channel Control: if both channels are going to be used jointly for the control of a higher load, you should select *No* and join electrically both dimming outputs.

Channel Cn:

Load Type: LED or CFL (depending on the load).

- Dimming Pattern: Linear.
- Dimming Mode: Trailing Edge.

Dimming Speed

- Precise Dimming: At Once.
- Relative Dimming: Smooth 1

Maximum Dimming Value: 100%

Low Dimming Limit: 0%

Enable the **error objects** and link them to group addresses.

② **Link the communication objects, which will be used for testing** the different dimming modes and dimming patterns, to the test group addresses as shown below.

Object	Device	Sendi...	ACK (P...	Data Types	...	R	W	T	U	Length	Priority
0/0/1 TEST - DIMMING MODE											
43: [C1] Edge Select (Only for Test Purposes) - 0=Automatic; 1=Leading; 2=Trailing	1.1.1 DIMinBOX 2Ch	S	No	load type	C	-	W	-	-	1 Byte	Low
0/0/2 TEST - DIMMING PATTERN											
45: [C1] Dimming Pattern (Only for Test Purposes) - 0=Linear; 1=Curve 1; 2=Curve 2	1.1.1 DIMinBOX 2Ch	S	No		C	-	W	-	-	1 Byte	Low
0/0/3 TEST - PRECISE DIMMING											
5: [C1] Precise Dimming - 1 byte dimmer ctrl	1.1.1 DIMinBOX 2Ch	S	No	percentage (0..100%)	C	-	W	-	-	1 Byte	Low
0/0/4 TEST - RELATIVE DIMMING											
3: [C1] Dimming - 4 bits dimmer ctrl	1.1.1 DIMinBOX 2Ch	S	No	dimming control	C	-	W	-	-	4 bit	Low
0/0/5 TEST - ERROR Open Circuit											
9: [C1] Open Circuit - 0=No error; 1=Error	1.1.1 DIMinBOX 2Ch	S	No	alarm	C	R	-	T	-	1 bit	Low
0/0/6 TEST - ERROR Power Supply											
11: Power Supply Fault - 0=No error; 1=Error	1.1.1 DIMinBOX 2Ch	S	No	alarm	C	R	-	T	-	1 bit	Low
0/0/7 TEST - ERROR Overheating											
16: Overheating - 0=No error; 1=Error	1.1.1 DIMinBOX 2Ch	S	No	alarm	C	R	-	T	-	1 bit	Low
0/0/8 TEST - ERROR Overvoltage											
17: [C1] Overvoltage - 0=No error; 1=Error	1.1.1 DIMinBOX 2Ch	S	No	alarm	C	R	-	T	-	1 bit	Low
0/0/9 TEST - ERROR Anomalous Frecuency											
21: Anomalous Frequency - 0=No error; 1=Error	1.1.1 DIMinBOX 2Ch	S	No	alarm	C	R	-	T	-	1 bit	Low
0/0/10 TEST - ERROR Wrong Load Type Selection											
22: [C1] Load Type parameterization error - 0=No error; 1=Error	1.1.1 DIMinBOX 2Ch	S	No	alarm	C	R	-	T	-	1 bit	Low
0/0/11 TEST - ERROR Short Circuit											
12: [C1] Short Circuit - 0=No error; 1=Error	1.1.1 DIMinBOX 2Ch	S	No	alarm	C	R	-	T	-	1 bit	Low

Group Addresses
- Dynamic Folders
- 0 DIMinBOX 2CH
  - 0/0 LOADS TEST
    - 0/0/1 TEST - DIMMING MODE
    - 0/0/2 TEST - DIMMING PATTERN
    - 0/0/3 TEST - PRECISE DIMMING
    - 0/0/4 TEST - RELATIVE DIMMING
    - 0/0/5 TEST - ERROR Open Circuit
    - 0/0/6 TEST - ERROR Power Supply
    - 0/0/7 TEST - ERROR Overheating
    - 0/0/8 TEST - ERROR Overvoltage
    - 0/0/9 TEST - ERROR Anomalous Frecuency
    - 0/0/10 TEST - ERROR Wrong Load Type Selec...
    - 0/0/11 TEST - ERROR Short Circuit

③ **Connect the lamps to the Dimmer safely by disconnecting the main power supply.**
It is important to do the test with the number of lamps that will be controlled from a given circuit, as this may affect to the dimming limits.

④ **Download application to the Dimmer** to program the configuration made. **Connect the main power supply to the Dimmer.**

⑤ **Dimming Mode and Dimming Pattern selection**

Use the ETS group monitor (Diagnostics – Group Monitoring) to send the values corresponding to each one of the 6 configurations shown on the next table to the Dimmer. These values could also be sent from a touch panel with two control boxes configured to send the integer values: 0, 1 and 2.

Configuration	Dimming Mode		Dimming Pattern		Low Dimming Limit	Maximum Dimming Value
	Mode*	Value	Pattern	Value		
1	Trailing	2	Linear	0		
2	Trailing	2	Curve 1	1		
3	Trailing	2	Curve 2	2		
4	Leading	1	Linear	0		
5	Leading	1	Curve 1	1		
6	Leading	1	Curve 2	2		

* Important note: *When testing LED or CFL loads with transformer, select a trailing edge dimming mode for capacitive transformers, and a leading edge dimming mode for inductive transformers.*

⑥ Check the dimming with the Dimmer:

A. **SMOOTH RELATIVE DIMMING from 0% to 100%** to check if the dimming is stable within the whole range.

B. **SMOOTH RELATIVE DIMMING from 100% to 0%** to check if the dimming is stable within the whole range.

C. **Switch on at 100% with PRECISE DIMMING AT ONCE.**

Observe for about two minutes if flickering or errors appear at this dimming level.

If you observe flickering or errors at 100%, repeat the test by switching on the lights at 95%, and so on until you find the percentage value by which flickering or errors stop. This will be the **Maximum Dimming Value** that should be configured in the ETS parameter.

D. **Switch on at 1%, 2%,… with PRECISE DIMMING AT ONCE.**

Observe if the lamps are switched on simultaneously and there is no flickering.

If you observe undesired effects, increase the precise dimming value until you find the percentage value by which these effects disappear. This will be the **Low Dimming Limit** that should be configured in the ETS parameter.

Switch off the load and go back to the point 5 to continue testing the next configurations.