UNIVERSAL DIMMER

RE KNT 000

INSTRUCTIONS MANUAL

DINUY S.A. c/Auzolan 2, 20303 Irun (SPAIN)
Tel.: 943627988 – E-mail: knx@dinuy.com – Web: www.dinuy.com

General Description

1-channel universal (leading and trailing-edge) dimming actuator for R, L or C loads:

- Incandescent or 230V Halogen lamps.
- LV Halogen lamps with magnetic transformer.
- LV Halogen lamps with electronic transformer.
- Dimmable Fluo-compact lamps.
- Dimmable 230V LED lamps.
- Dimmable 12V~ LED lamps with electronic transformer.

Built-in potentiometer on the front of the dimmer, which allows checking manually the correct operation of the device without connecting the Bus:

- o Manual (any position above the minimum): with the potentiometer the lamps can be regulated without having to connect the Bus.
- o Automatic (at minimum): operation through the Bus.

Protected against overload and short circuit. Incorporates resettable heating protection.

Anti-panic input for safety systems: enabling this input, in an emergency the lamps will light at maximum ignoring the dimming.

Programming and commissioning by ETS3 or ETS4. It has standard connecting terminal.

Technical Data

Nominal voltage		230V~ 50Hz
Supply from KNX bus		21 ~ 32V_{DC}
Connection		Mediante terminal de conexión suministrado
Commissioning		ETS3 or ETS4
KNX Media		PT1
Channels		1
Configuration mode		System Mode
Insulation voltage		4KV_{AC} (bus/mains voltage)
Load	**Incandescence**	100 ~ 1.000W
	Halogens 230V	100 ~ 1.000W
	Halog. Ferromagnetic transfo.	100 ~ 800W
	Halog. Electronic transfo.	100 ~ 1.000W
	LED 230V	7 ~ 300W
	LED 12V~ Electronic transfo.	< 18 transfo. & 1lamp/transfo.
	Compact-fluorescence (CFL)	20 ~ 400W
Dimensions		5 modules, 87.5x65mm
Mounting		DIN 46277 rail
Working temperature		-5ºC ~ +45ºC
Storage temperature		-30ºC ~ +70ºC
Protection degree		IP20 (EN60529)
Directives		Low-voltage 73/23/EEC EMC 204/108/EC

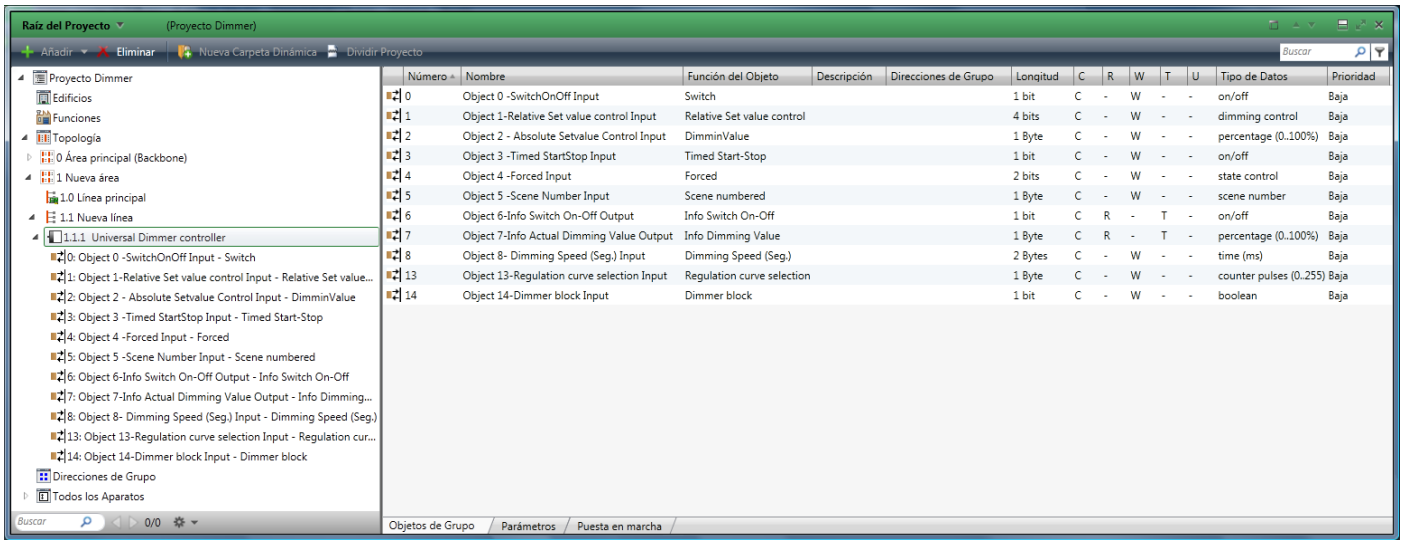
According to the Standards	KNX 2.0 EN60669-1, 2-1, 2-3
Marking	EIB/KNX

Project Development and Commissioning

I – Type of Dimmer

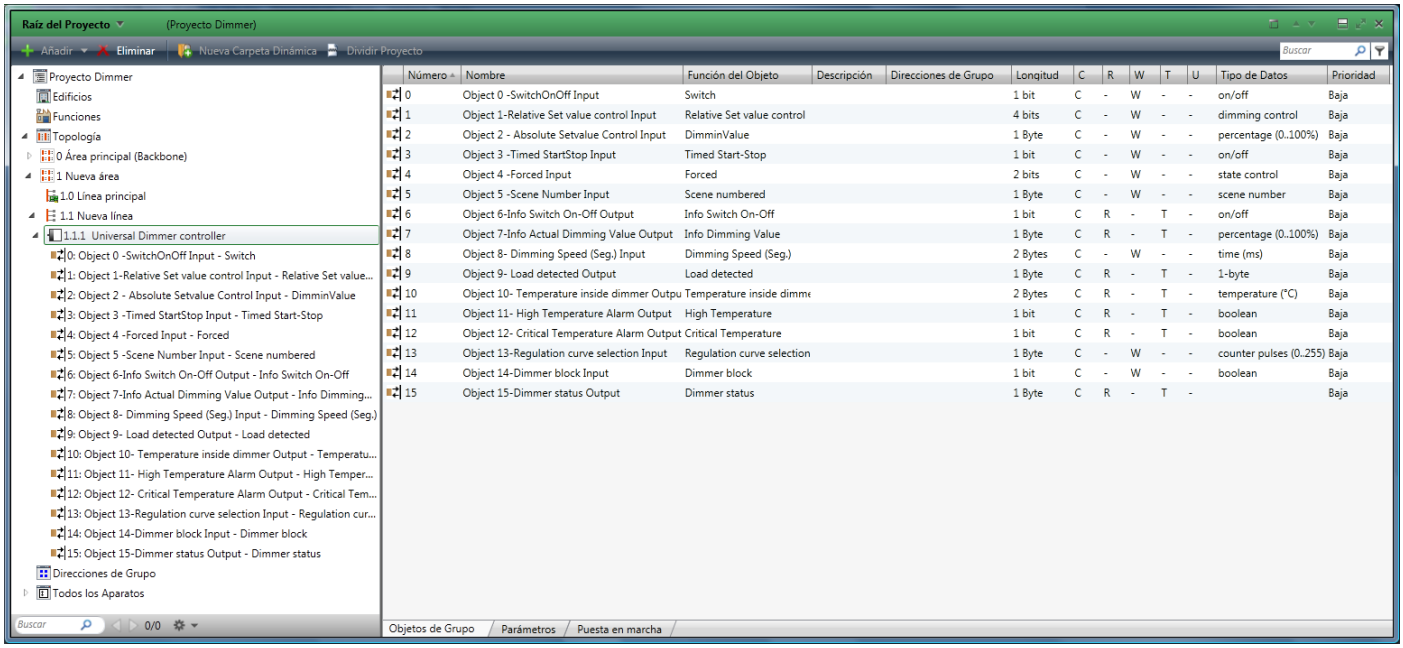
- ***Basic Dimmer***

  It has the following communication objects:



- ***Complex Dimmer***

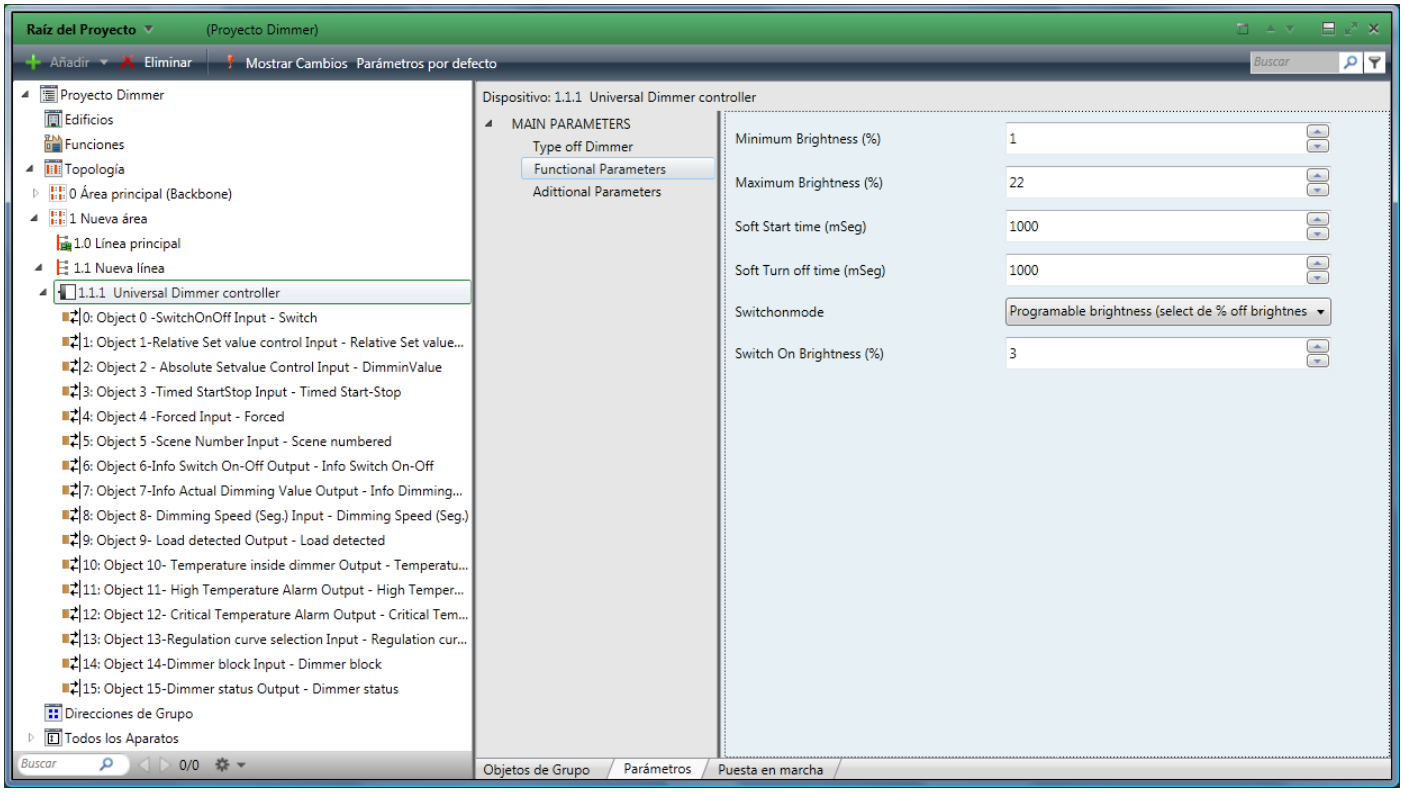
  Besides the communication objects of the "Basic Dimmer" has the following objects:



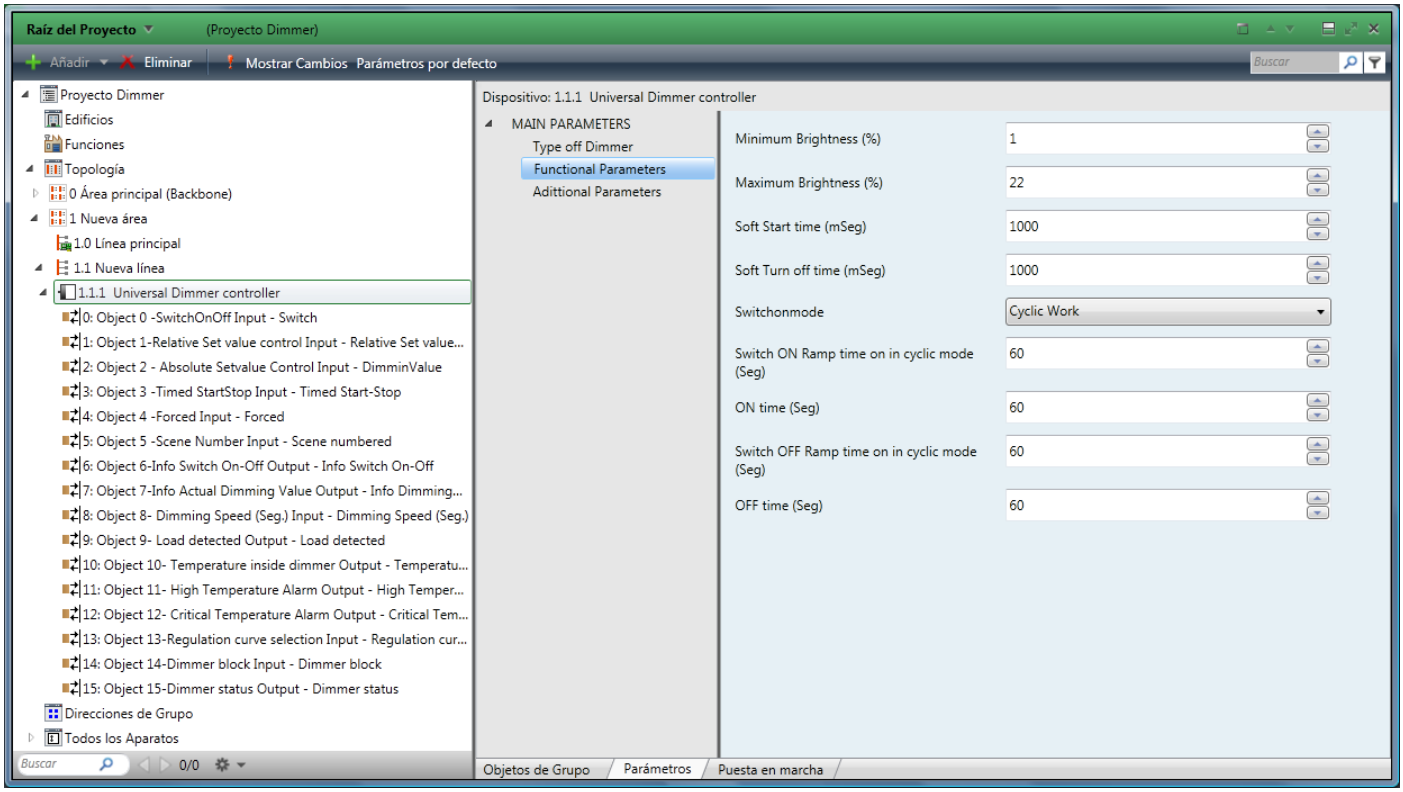
Nº	Name	Function	Length	C	R	W	T	U	Data Type	Priority	Description	Dimmer Type	
												Basic	Advanced
0	SwitchOnOff Input	Switch	1 bit	√	•	√	•	•	on/off	Low	Switch ON (1) or OFF (0)	√	√
1	Relative Set value control Input	Relative Set value control	4 bits	√	•	√	•	•	dimming control	Low	Relative dimming value (increase)	√	√
2	Absolute Set value control Input	Dimming Value	1 Byte	√	•	√	•	•	percentage (0…100%)	Low	Absolute dimming value (total)	√	√
3	Timed StartStop Input	Timed Start-Stop	1 bit	√	•	√	•	•	on/off	Low	Beginning or end of a timed switching	√	√
4	Forced Input	Forced	2 bits	√	•	√	•	•	state control	Low		√	√
5	Scene Number Input	Scene numbered	1 Byte	√	•	√	•	•	scene number	Low	Number of a Scene	√	√
6	Info Switch On-Off Output	Info Switch On-Off	1 bit	√	√	•	√	•	on/off	Low	Status information (ON or OFF)	√	√
7	Info Actual Dimming Value Output	Info Dimming Value	1 Byte	√	√	•	√	•	percentage (0..100%)	Low	Information of the dimming level (%)	√	√
8	Dimming Speed (Sec.) Input	Dimming Speed (Sec.)	2 Bytes	√	•	√	•	•	time (ms)	Low	Dimming speed (sec)	√	√
9	Load detected Output	Load detected	1 Byte	√	√	•	√	•	1-byte	Low	Information about the type of load detected (if automatic detection)	•	√
10	Temperature inside dimmer Output	Temperature inside dimmer	2 Bytes	√	√	•	√	•	temperature (ºC)	Low	Temperature inside the dimmer	•	√
11	High Temperature Alarm Output	High Temperature	1 bit	√	•	√	•	•	boolean	Low	High temperature alarm	•	√
12	Critical Temperature Alarm Output	Critical Temperature	1 bit	√	•	√	•	•	boolean	Low	Critical temperature alarm	•	√
13	Regulation curve selection Input	Regulation curve selection	1 Byte	√	•	√	•	•	counter pulses (0..255)	Low		√	√
14	Dimmer block Input	Dimmer block	1 bit	√	•	√	•	•	boolean	Low	Dimmer block	√	√
15	Dimmer status Output	Dimmer status	1 Byte	√	√	•	√	•		Low		•	√

- ***Load type***
  - **Universal:** the dimmer makes the automatic detection of the type of load. This mode can be set if the connected load is incandescent or halogen (R, L or C). *Do not mix L and C loads in the same dimmer.*
  - **R type:** the connected load is resistive: incandescence or 230V halogen lamps.
  - **L type:** the connected load is inductive: 12V~ halogen lamps with magnetic transformer.
  - **C type:** the connected load is capacitive: 12V~ halogen lamps with electronic transformer.
  - **LED 230V:** 230V dimmable LED lamp.
  - **LED 12V:** 12V~ dimmable LED lamp with electronic transformer.
  - **FCL:** dimmable Fluo-Compact lamps.

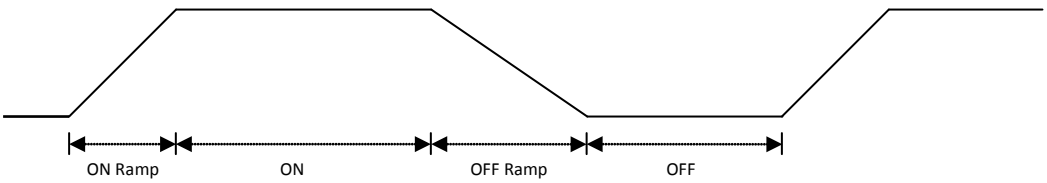
2 – Functional Parameters



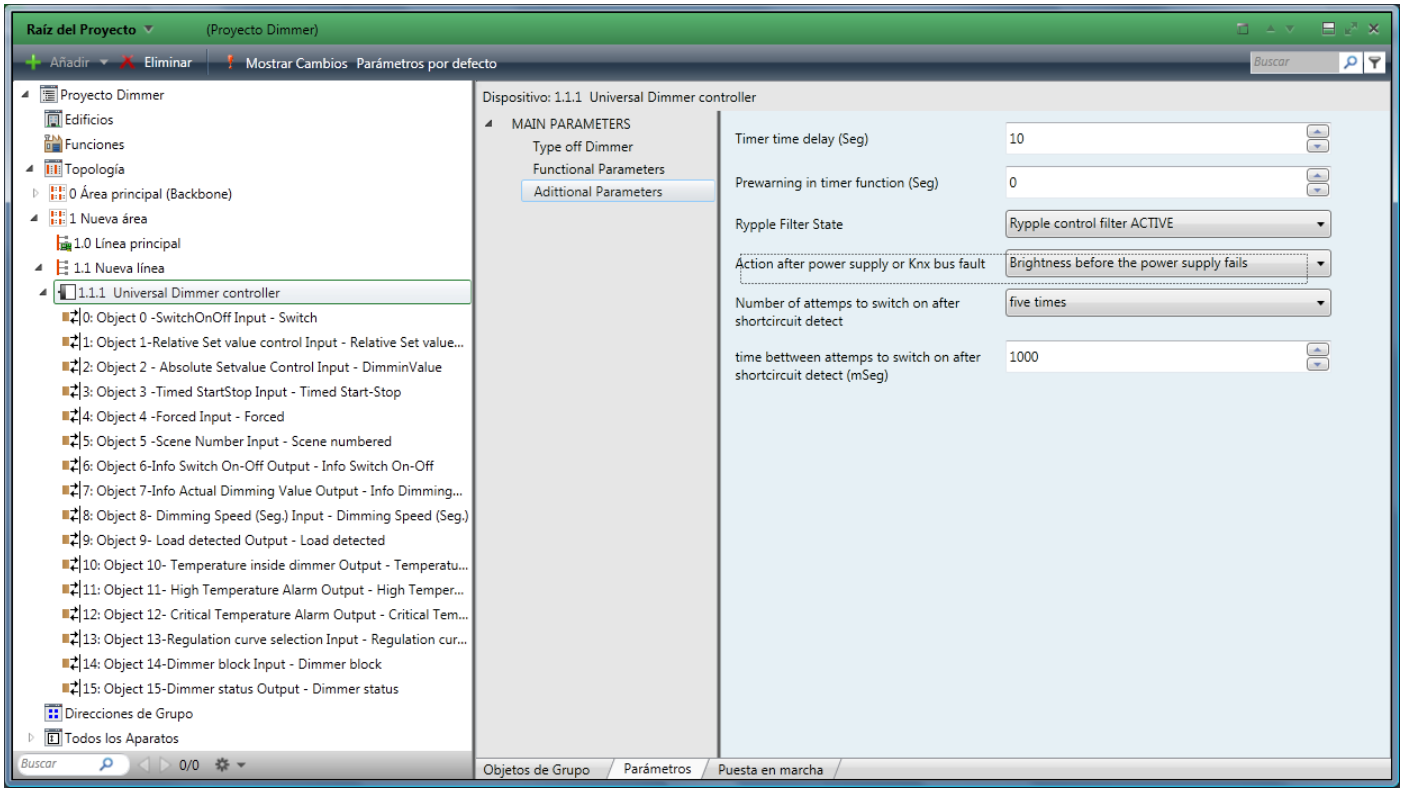
- **Minimum Brightness:** sets the minimum dimming level of the lamps in % (1% ~ 100%).
- **Maximum Brightness:** sets the maximum dimming level of the lamps in % (1% ~ 100%).
- **Soft Start time:** sets the time delay of the switching-on from the reception of the telegram until it reaches the end value. Among other features, allows to avoid damaging the lamps in case of incandescent or halogens. It also allows progressive switching like a light scene. This time can be set 0 and 65535msec.
- **Soft Turn off time:** sets the time delay of the switching-off from the reception of the telegram until it reaches the end value. It also allows progressive switching like a light scene. This time can be set 0 and 65535msec.
- **Switch On mode:** sets how the lamps are switched-on each time it receives an ON telegram.



- **Minimum Brightness:** it will be switched-on at the value set in the parameter "Minimum Brightness".
- **Maximum Brightness:** it will be switched-on at the value set in the parameter "Maximum Brightness".
- **Programmable Brightness:** it will be switched-on at the value set in the parameter "Switch On Brightness (%)": 0% ~ 100%.
- **Cyclic Work:** allows doing switching cycles:
  - **Switch ON Ramp time:** time delay since the telegram is received until it reaches the maximum set value: 0sec ~ 65535sec.
  - **ON time:** time that the lamps are turned-on to the maximum set value: 0sec ~ 65535sec.
  - **Switch OFF Ramp time:** time delay since the telegram is received until it reaches the minimum set value: 0sec ~ 65535sec.
  - **OFF time:** time that the lamps are turned-on to the minimum set value: 0sec ~ 65535sec.



3 – Additional Parameters



- **Timer time delay:** time delay in case of receiving a timing telegram: 0sec ~ 255sec.
- **Pre-warning in Timer:** can make a brief flickering of the lamps a time before the end of the set time: 0sec ~ 255sec.
- **Ripple Filter State:** the ripple is an effect on the supply voltage that can affect the right functioning of the Dimmer. This filter can be enabled or disabled.
- **Action after power supply or KNX bus fault:** sets the state the dimmer will come back after a fault on the power supply or KNX bus: ON, OFF or the same level before the failure ("Brightness before power supply fails").
- **Number of attempts to switch on after short-circuit detect:** sets the number of times that the dimmer tries to reset upon detection of a short-circuit.
- **Time between attempts to switch on after short-circuit detect:** sets the time between each attempt to reset upon detection of a short-circuit: 0sec ~ 65535msec.