



FEATURES

- AC DIMMER + FADER
- AC Input: 230V AC
- Command:
 - N.O. Push button
 - Analog Signal 0/1-10V and Potentiometer 10KOhm
- Command Bus:
 - DMX
 - DALI
- Output channel for R – C Loads
- Adjusting the brightness of white light
- Four channel dimmer output phase-cut (trailing edge) for LED Lamp dimmable and Halogen Lamp dimmable.
- Typical efficiency > 95%
- Minimum value of dimming adjustable
- Soft Start and Soft Stop
- Optimized output curve
- Memory function
- 100% Functional test – 5 Years warranty

➤ **APPLICATION: Dimmer at phase-cut**

CODE	Supply Voltage	Output	Channel	Local Command	Bus Command
DAC230-4CH-DMX	230Vac	4 x 200W/ch max	4	N° 4 N.O. Push Button	DMX
DAC230-4CH-DALI	230Vac	4 x 200W/ch max	4	N° 4 N.O. Push Button	DALI

Memory Function: memorize the last minimum level of the device in case of power-off.

L'AC Dimmer is a single channel dimmer output phase-cut and adjusting the brightness of dimmable LED Lamp dimmable halogen lamp and AC phase-cut power supply.

➤ REFERENCE STANDARD

EN 61347-1	Lamp controlgear - Part 1: General and safety requirements
EN 55015	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
EN 61000-3-2	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)
EN 61000-3-3	Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection
EN 61547	Equipment for general lighting purposes - EMC immunity requirements

➤ TECHNICAL SPECIFICATIONS

		230Vac Variant	
INPUT	Nominal Voltage	230 Vac	
	Voltage Range	210...240 Vac	
	Mains Frequency	50Hz	
	Efficiency ⁴⁾	>95%	
	Power loss in stand by mode @230Vac	<500mW	
OUTPUT	Nominal Output Voltage	210...240 Vac	
	Nominal Output Current	max 0.8 A/ch	
	Type of Load	R+C	
	Minimum load power @230V	0 W	
	Nominal Power @230V ²⁾	1 Channel 200 W/ch	4 Channel 800W tot
DIMMING	Dimming Resolution	16bit	
	Dimming method	Trailing Edge	
	Dimming Range	0 – 100 % ²⁾	
ENVIRONMENTAL	Storage Temperature	min: -40 max: +60 °C	
	Ambient Temperature ³⁾	min: -10 max: +40 °C	
	Protection Grade	IP20	
	Wiring	2.5mm ² solid - 2.5mm ² stranded - 30/12 AWG	
	Wire preparation length	6 mm	
	Mechanical dimensions (LxWxH)	143 x 91 x 62 mm – DIN RAIL 8M	
	Packaging dimensions (LxWxH)	156 x 124 x 71 mm	
	Casing material	Plastica	
Product Weight	210g		

¹⁾ Maximum value, dependent on ventilation conditions

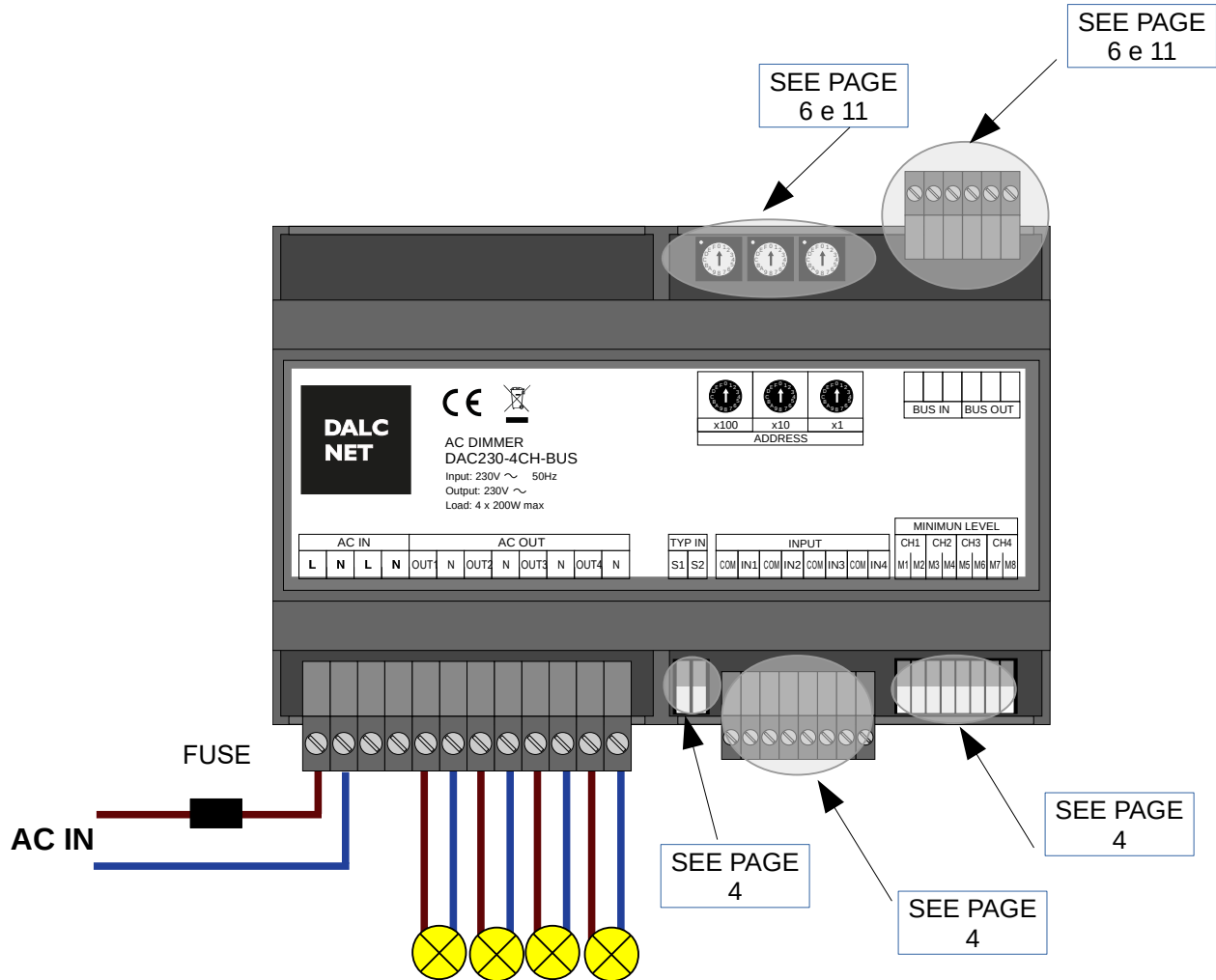
²⁾ It depends on the type of lamp connected

⁴⁾ At full load

INSTALLATION

As shown in the scheme below, proceed as follows to install the product.:

- 1) Installation and maintenance must be performed only by qualified personnel in compliance with current regulations.
- 2) Isolate the mains supply before the installation or adjusting the switches. The external supply must be protected. The product must be protected by fuse and /or by a Circuit Breaker with overcurrent protection correctly dimensioned.
- 3) Connect the Lamp Load to the "AC OUT" terminal blocks.
- 4) Connect the local command of the terminal blocks "INPUT" or the Bus command of the terminal block "BUS IN" and/or "BUS OUT".
- 5) Connect a Fuse into "Line" cable. The fuse must be correctly dimensioned. Connect the cable of supply mains to "AC IN" terminal blocks.



Technical Note:

Installation:

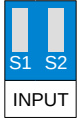
- Isolate the mains supply before the installation or adjusting the switches. Installation and maintenance must be performed in the absence of AC Voltage.
- Installation and maintenance must be performed only by qualified personnel in compliance with current regulations.
- The product must be installed inside an electrical cabinet protected against overvoltages.
- The external supply must be protected. The product must be protected from Fuse and/or Circuit Breaker with overcurrent protection correctly dimensioned.
- The product must be installed only in a vertical or horizontal position with the cover / label pointing upwards or vertically; No other positions are allowed. Bottom-up positive is not permitted (downward label).
- The use of the product in harsh environments could limit the output power.
- Keep the circuits at 230V (LV) and the no SELV circuits separated from extra low voltage circuits (SELV)

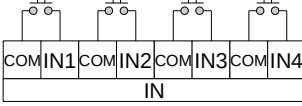

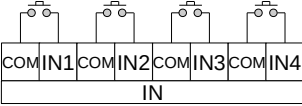

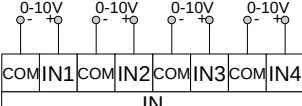

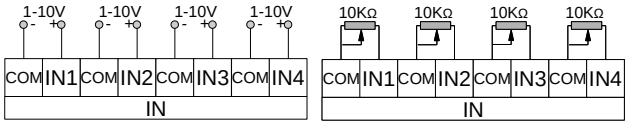

Commands and Outputs:

- The connecting cables length between the local commands (N.O. Push button or other) and the product must be less than 25m; the cables must be dimensioned correctly.
- The connecting cables length between the product and the LED modules must be less than 25m; the cables must be dimensioned correctly.

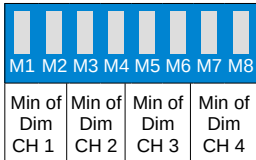
➤ **SETUP & INSTALLATION**

➤ **LOCAL INPUT TYPE**





Function		• Switches from 1 to 2: Load Type
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In Type	Description	Connections	Settings
Push	N.O. Pushbutton, with memory		
	N.O. Pushbutton, NO MEMORY		
0-10V	Analogic 0-10V		
1-10V	Analogic 1-10V & Potentiometer		





➤ **SETTING THE MINIMUM VALUE OF DIMMING**

Function		<ul style="list-style-type: none"> • Switches from 1 to 2: Minimum of dimming, channel 1 • Switches from 3 to 4: Minimum of dimming, channel 2 • Switches from 5 to 6: Minimum of dimming, channel 3 • Switches from 7 to 8: Minimum of dimming, channel 4 				
	<table border="1"> <tr> <td>Min of Dim CH 1</td> <td>Min of Dim CH 2</td> <td>Min of Dim CH 3</td> <td>Min of Dim CH 4</td> </tr> </table>	Min of Dim CH 1	Min of Dim CH 2	Min of Dim CH 3	Min of Dim CH 4	
Min of Dim CH 1	Min of Dim CH 2	Min of Dim CH 3	Min of Dim CH 4			





CHANNEL 1

Minimum of Dimming 0%		Minimum of Dimming 5%		Minimum of Dimming 10%		Minimum of Dimming 20%	
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

CHANNEL 2

Minimum of Dimming 0%		Minimum of Dimming 5%		Minimum of Dimming 10%		Minimum of Dimming 20%	
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CHANNEL 3

Minimum of Dimming 0%		Minimum of Dimming 5%		Minimum of Dimming 10%		Minimum of Dimming 20%	
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CHANNEL 4

Minimum of Dimming 0%		Minimum of Dimming 5%		Minimum of Dimming 10%		Minimum of Dimming 20%	
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DAC-230-4CH
PRELIMINARY
Datasheet PRO AC FW 1.0



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 Rev. 08/02/2019
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➤ **PUSH DIMMER FEATURE**

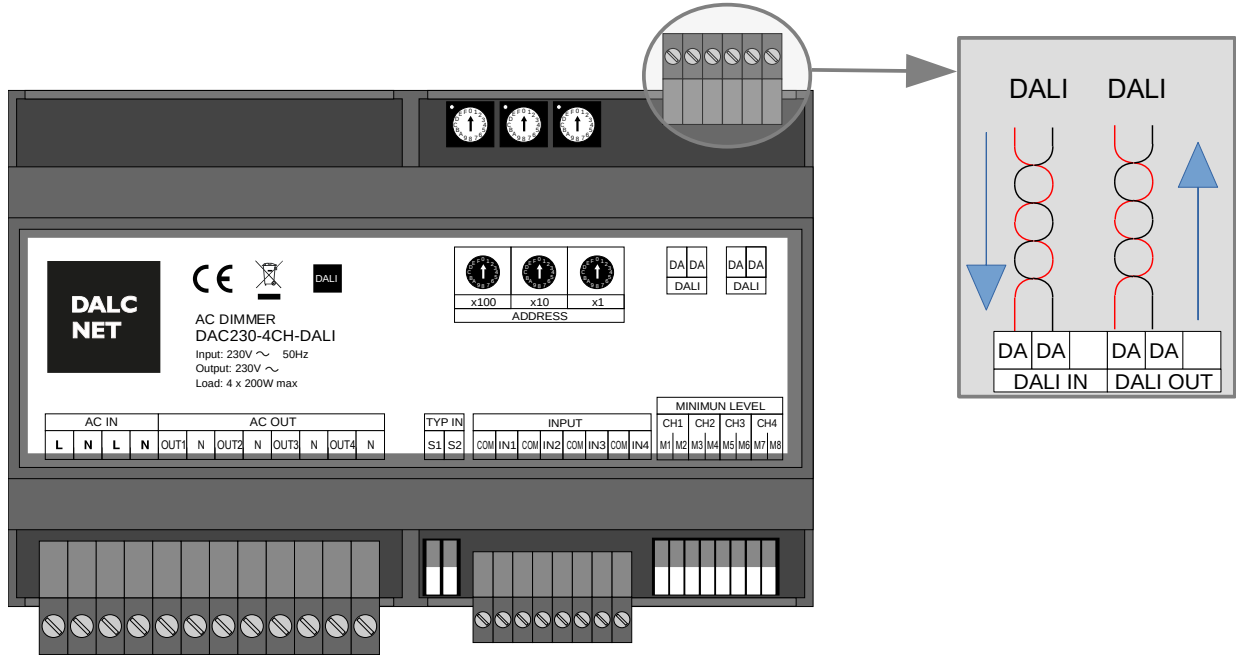
The intensity and the status change (ON/OFF) are controlled by the N.O. push button.

N.O. Push Button	Intensity
Click Double Click Long pressure (>1s) from ON Long pressure (>1s) from OFF	On/Off Maximum intensity Dimmer up/down Turn ON at 1% (Nightly Time), then dimmer up/down

0-10V	Intensity
0÷10V 1÷10V Potentiometer	Dimmer: 0-1V=0% 10V=100%

➤ **BUS DALI SETUP**

In **DALI BUS SETUP** all the leds are controlled by an external DALI controller.



Onboard led:

- In the case of no bus power detected, or bus error, the led blinks fast (2 pulsed per second).
- In the case of bus power but no data, led blinks slow (1 pulse per second).
- In the case of data link active, the led stands on.

Relation with local commands

- At power-up, in case of absence of connection to the BUS, local control is active.
- When the BUS is detected, the control passes to the BUS. It remains to the BUS until there is signal.
- In the absence of signal:
 - if the local command is N.O. PUSH BUTTON, the control passes to local command in the event of a N.O. push button pressure.
 - if the local command is 0-10V or 1-10V the control passes immediately to the local command.

Addressing

By selectors	✓
Simplified method (One ballast connected at a time)	✓
Random Address Allocation	✓

DALI	000 (default):		Address defined by DALI
	from 001		to 064
	FFF		(riservato)

CHANNELS MAP – DALI

○ Load Type: White - up to 4 loads

Addr	Function	Map: Dimmer
+0	Dimmer 1	Dimmer (Brightness Value) 0 .. 254
+1	Dimmer 2	Dimmer (Brightness Value) 0 .. 254
+2	Dimmer 3	Dimmer (Brightness Value) 0 .. 254
+3	Dimmer 4	Dimmer (Brightness Value) 0 .. 254

DALI COMMANDS

COMANDI STANDARD	
DIRECT ARC POWER	✓
OFF	✓
UP	✓
DOWN	✓
STEP UP	✓
STEP DOWN	✓
RECALL MAX LEVEL	✓
RECALL MIN LEVEL	✓
STEP DOWN AND OFF	✓
ON AND STEP UP	✓
GOTO SCENE (0 to 15)	✓
RESET	✓
STORE ACTUAL LEVEL IN THE DTR	✓
STORE THE DTR AS MAX LEVEL	✓
STORE THE DTR AS MIN LEVEL	✓
STORE THE DTR AS SYSTEM FAILURE LEVEL	✓
STORE THE DTR AS POWER ON LEVEL	✓
STORE THE DTR AS FADE TIME	✓
STORE THE DTR AS FADE RATE	✓
STORE THE DTR AS SCENE (0 to 15)	✓
REMOVE FROM SCENE (0 to 15)	✓
ADD TO GROUP (0 to 15)	✓
REMOVE FROM GROUP (0 to 15)	✓
STORE DTR AS SHORT ADDRESS	✓
ENABLE WRITE MEMORY	✗
QUERY STATUS	1)
QUERY BALLAST	✓

COMANDI STANDARD	
QUERY LAMP FAILURE	1)
QUERY LAMP POWER ON	✓
QUERY LIMIT ERROR	✓
QUERY RESET STATE	✓
QUERY MISSING SHORT ADDRESS	✓
QUERY VERSION NUMBER	✓
QUERY CONTENT DTR	✓
QUERY DEVICE TYPE	2)
QUERY PHYSICAL MINIMUM LEVEL	✓
QUERY POWER FAILURE	✓
QUERY CONTENT DTR1	✓
QUERY CONTENT DTR2	✓
QUERY ACTUAL LEVEL	✓
QUERY MAX LEVEL	✓
QUERY MIN LEVEL	✓
QUERY POWER ON LEVEL	✓
QUERY SYSTEM FAILURE LEVEL	✓
QUERY FADE TIME / FADE RATE	✓
QUERY SCENE LEVEL (0 to 15)	✓
QUERY GROUPS 0-7	✓
QUERY GROUPS 8-15	✓
QUERY RANDOM ADDRESS H	✓
QUERY RANDOM ADDRESS M	✓
QUERY RANDOM ADDRESS L	✓
READ MEMORY LOCATION	✗
QUERY EXTENDED VERSION	✗

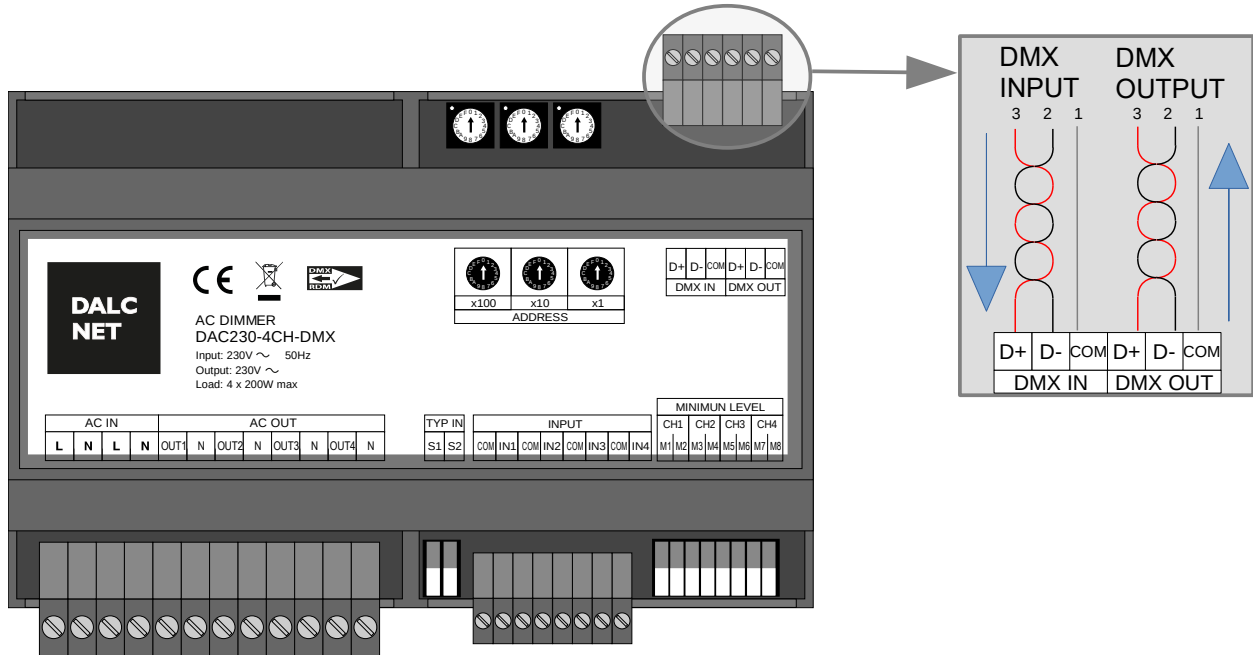
1) Lamp failure returns always No.

2) Query device type returns DT6 but "Enable device type" is not enabled.

COMANDI SPECIALI	
TERMINATE	✓
DATA TRANSFER REGISTER	✓
INITIALIZE	✓
RANDOMIZE	✓
COMPARE	✓
WITHDRAW	✓
SEARCHADDR H	✓
SEARCHADDR M	✓
SEARCHADDR L	✓
PROGRAM SHORT ADDRESS	✓
VERIFY SHORT ADDRESS	✓
QUERY SHORT ADDRESS	✓
PHYSICAL SELECTION	✗
ENABLE DEVICE TYPE	✗
DATA TRANSFER REGISTER 1	✓
DATA TRANSFER REGISTER 2	✓
WRITE MEMORY LOCATION	✗

➤ **DMX+RDM BUS SETUP**

With the **DMX+RDM BUS SETUP** in the “slave” condition the output are manages by an external DMX controller. In the “master” condition, the DMX+RDM allows the communications between devices.



Onboard led:

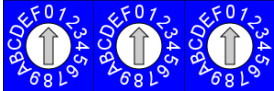


In the case of bus error, the led blinks fast (2 pulsed per second).
 In the case of no bus detected, led blinks slow (1 pulse per second).
 In the case of data link active, the led stands on.

Relation with local commands

At power-up, in case of absence of connection to the BUS, local control is active.
 When the BUS is detected, the control passes to the BUS. It remains to the BUS until there is signal.
 In the absence of signal:
 - if the local command is N.O. PUSH BUTTON, the control passes to local command in the event of a N.O. push button pressure.
 - if the local command is 0-10V or 1-10V the control passes immediately to the local command.

Addressing

RDM	✓
By selectors	✓

DMX	000 (default):		Address defined by RDM
	from 001	 to 	First channel address, from 1 to 512



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CHANNELS MAP – DMX512

Load Type: White - up to 4 loads

Ch.	Function	Map: Dimmer
1	Dimmer 1	Dimmer (Brightness Value) 0 .. 255
2	Dimmer 2	Dimmer (Brightness Value) 0 .. 255
3	Dimmer 3	Dimmer (Brightness Value) 0 .. 255
4	Dimmer 4	Dimmer (Brightness Value) 0 .. 255

RDM COMMANDS

REQUIRED PARAMETERS	
DISC_UNIQUE_BRANCH	✓
DISC_MUTE	✓
DISC_UN_MUTE	✓
SUPPORTED_PARAMETERS	✓
PARAMETER_DESCRIPTION	✓
DEVICE_INFO	✓
SOFTWARE_VERSION_LABEL	✓
DMX_START_ADDRESS	✓
IDENTIFY_DEVICE	✓

SUPPORTED PARAMETERS	
PRODUCT_DETAIL_ID_LIST	✓
DEVICE_MODEL_DESCRIPTION	✓
MANUFACTURER_LABEL	✓
DEVICE_LABEL	✓
BOOT_SOFTWARE_VERSION_ID	✓
BOOT_SOFTWARE_VERSION_LABEL	✓
DMX_PERSONALITY	✓
DMX_PERSONALITY_DESCRIPTION	✓
SLOT_INFO	✓
SLOT_DESCRIPTION	✓
DEFAULT_SLOT_VALUE	✓