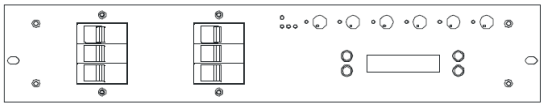
USER MANUAL

POWER 6-3 BN

POWER 6-3 BA



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1. General description

Power 6-3 BN and Power 6-3 BA have been developed for working in the hardest conditions, either in fix installations or in mobile ones.

They are 6-channel dimmer of 3 kW per channel which include 6 potentiometers and an LCD display in the front cover for independent level adjustment of each channel. They can work autonomously without control signal.

Power 6-3 BA differs from Power 6-3 BN in the fact that incorporates a power supply with three-independent neutral to protect separately the three phases and to avoid total turn off in case of one-phase failure. For this reason, Power 6-3 BA is ideal for controlling hall light installations and complies with the current legislation.

They are manufactured in 2 units of rack 19” standards.

1.1. Characteristics

- DMX-512 (1990) digital signal input.
- Autonomous working mode through a potentiometer per channel.
- The output charge channels are protected separately by a single-pole breaker per channel.
- DMX channel selection through LCD display in the front side.
- Output to the loads by guide terminals.
- Test function for checking signal and control power.
- There is a led per channel that indicates the output level.
- Load is duly controlled by 40Amp. triacs which are cooled by a black anodised aluminium radiator and a fan.
- Power 6-3 BN and Power 6-3 BA references are 07000077 and 07000078, respectively.

1.2. Technical data

Power supply	400V/230V 50Hz three-phase
Minimum load per channel	100W
Maximum load per channel	3.000W
Total maximum load	18.000W
Output breaker	16 Amp per channel
Digital input connector	XLR-5 pins
Window to fit	444x88 mm
Dimensions	482x88x390 mm
Weight	8 Kg.

It is recommended to use a 4-pole 32-Amp breaker (preferably type-D curve) in the three-phase 400V power supply input as general protection of the dimmer.

2. Dimensions

Both dimmers have the following dimensions:

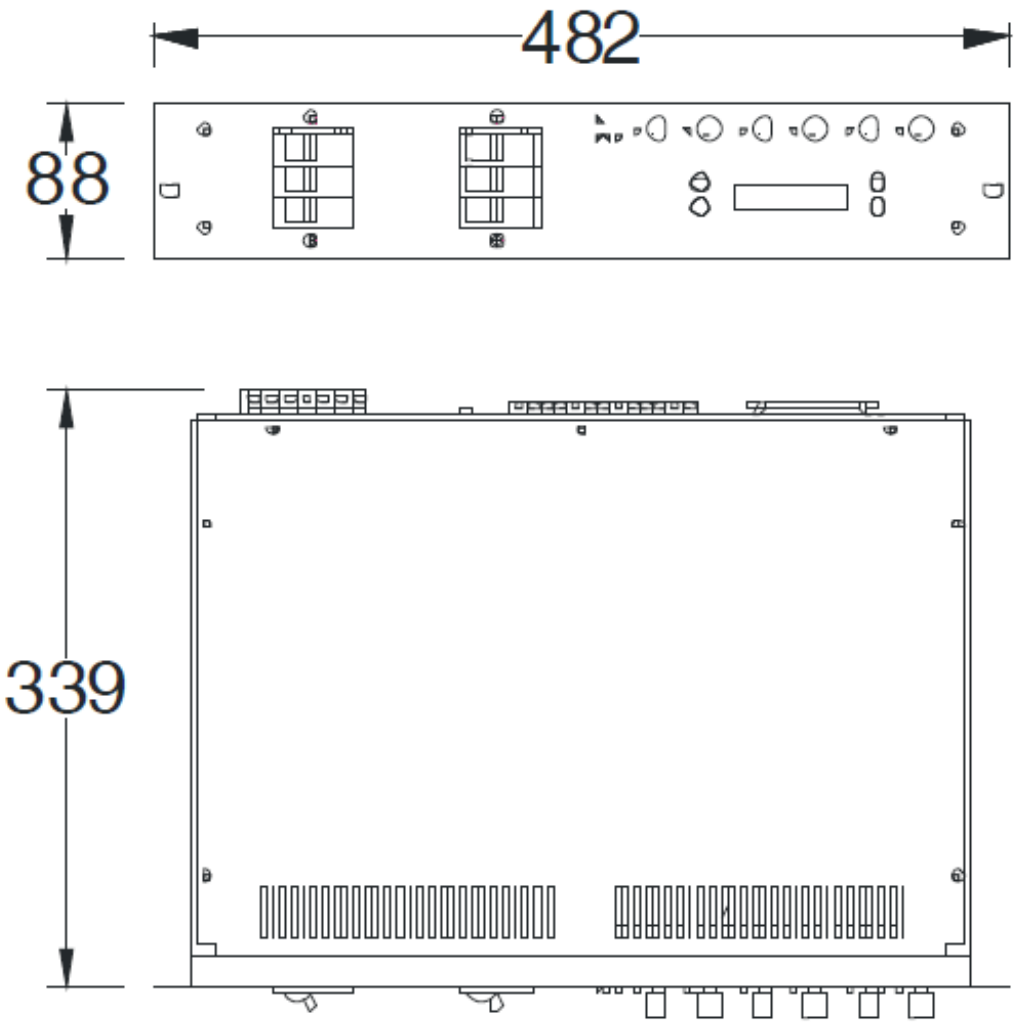


Fig.1: Dimmer dimensions

3. Installation

Power 6-3 BN and Power 6-3 BA can be mounted into a rack box. It must be taken into account that the place where they are installed must be ventilated for proper heat dissipation.

Neither surface orifices (upper, lower and lateral sides) nor ventilation output have to be covered.

4. Connection

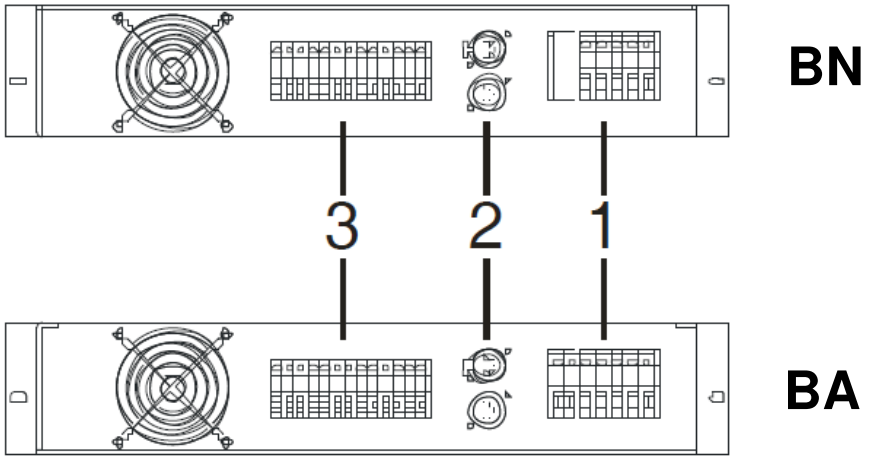


Fig. 2

1. Power supply terminals
2. DMX In and Out
3. Output terminals

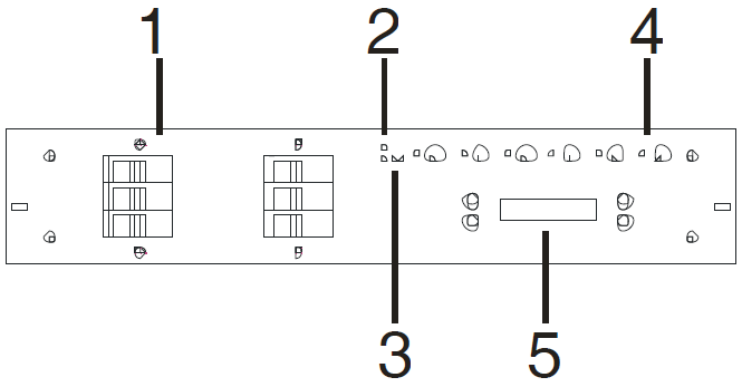


Fig. 3

1. Protection breakers
2. DMX signal indicative led
3. Power supply indicative led, RST
4. Manual regulation
5. LCD display

4.1. Power supply connection

The power unit can be connected to:

- Three-phase power supply with neutral (R, S, T and N) and earth with 400V between phases and 230V between any phase and neutral.

- 230-volt single-phase power supply in which case R, S and T inputs must be connected to the phase.

WARNING: In the second case, half the nominal power has not to be exceeded.

NOTE: It is very important for right working of the power units, to have a good earth connection. In other case, there could be voltage differences that would damage the dimmer.

Power 6-3 BN – Three-phase power supply

$V_{RS} = V_{RT} = V_{ST} = 400V$

$V_{RN} = V_{TN} = V_{SN} = 230V$

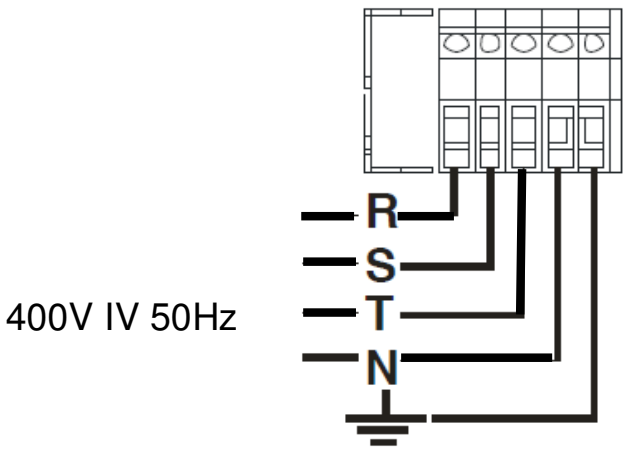


Fig. 4

Power 6-3 BN – Single-phase power supply

V_{RN} = 230V

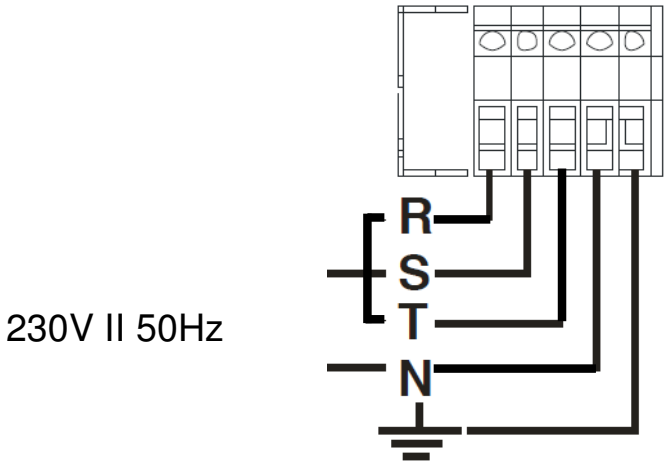


Fig. 5

Power 6-3 BA – Power supply with individual neutrals

$V_{RN1} = V_{SN2} = V_{TN3}$ = 230V

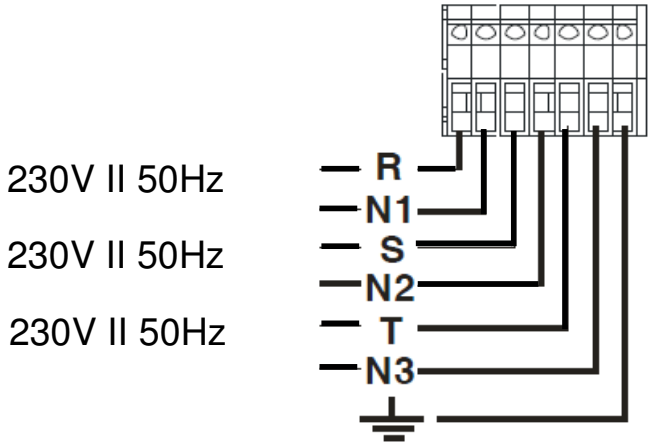


Fig. 6

4.2. DMX connection

The signal connectors are XLR of 5 pins. The signal control from the control unit must be connected to the DMX IN and the output signal to other elements in the DMX OUT. You must connect an end-of-line resistance in the output of the last serial device in order to avoid signal interferences (see figure 7).

The cables should be braided pair, shielded and low capacity, with a type 24AWG (0,2047mm^2) minimum calibre and an impedance of 120 Ohms. Please remember that the type of cable significantly conditions any problem that may arise due to parasites coming through the line.

Similarly, DO NOT USE shielded cables commonly used for connecting microphones.

The cables should be connected in such a way that pin 1 of the male connector coincides with pin 1 of the female one, and in the same way for pins 2 and 3. Pins 4 and 5 are not used.

The screen connected to pin 1 should NOT come in contact with the casing of the connector.

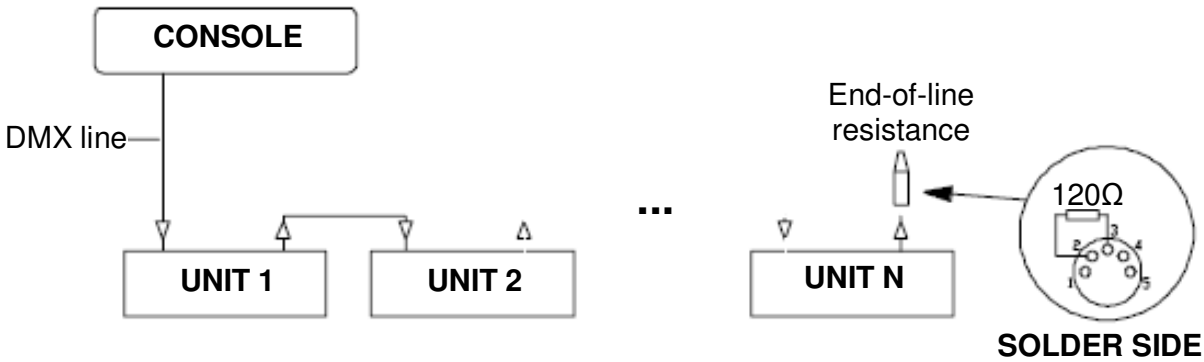


Fig.7: Signal connection net

The connection should be made exactly as shown in figure 7. You will see that a resistance of 120 Ohms 1/4W has been installed at the end of the line between pins 2 and 3. This corresponds to the end-of-line connector supplied with all projectors.

A maximum of 32 projectors may be linked up to a single line without using an amplifier. And the maximum cable length as far as the last projector is 1 Km, although it is advisable to use an amplifier for cables every 500 meters.

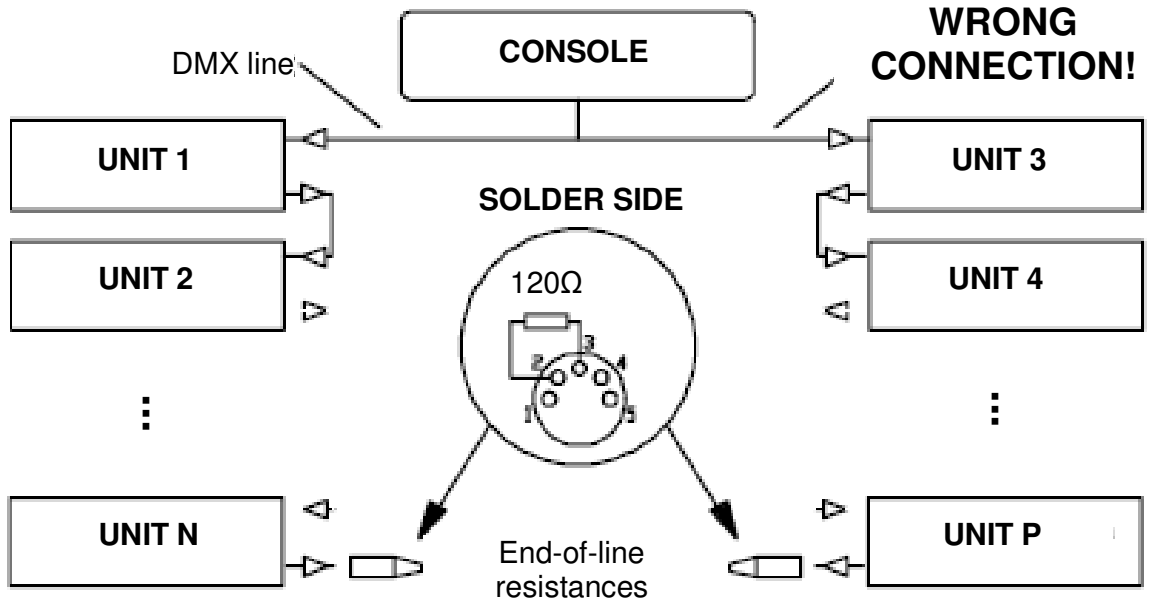


Fig.8: Wrong connection

Connection shown in figure 8 is INCORRECT. If an installation divided into several branches is required, splitters must be used. They distribute and amplify a single signal into several identical ones in different lines (see Figure 9).

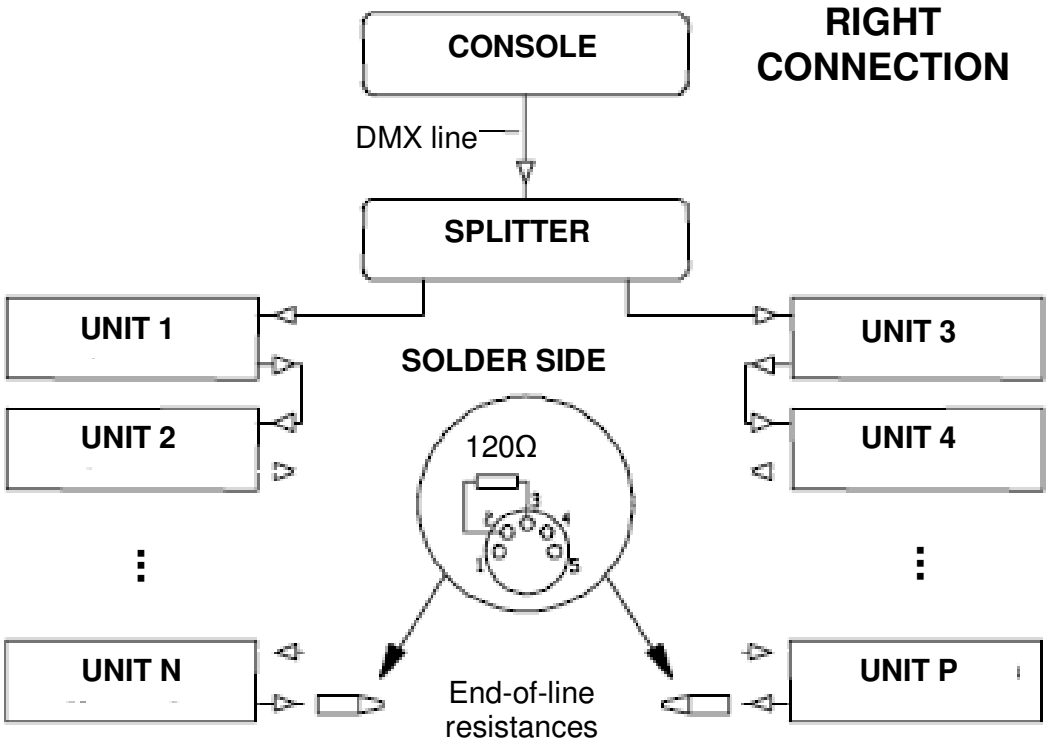
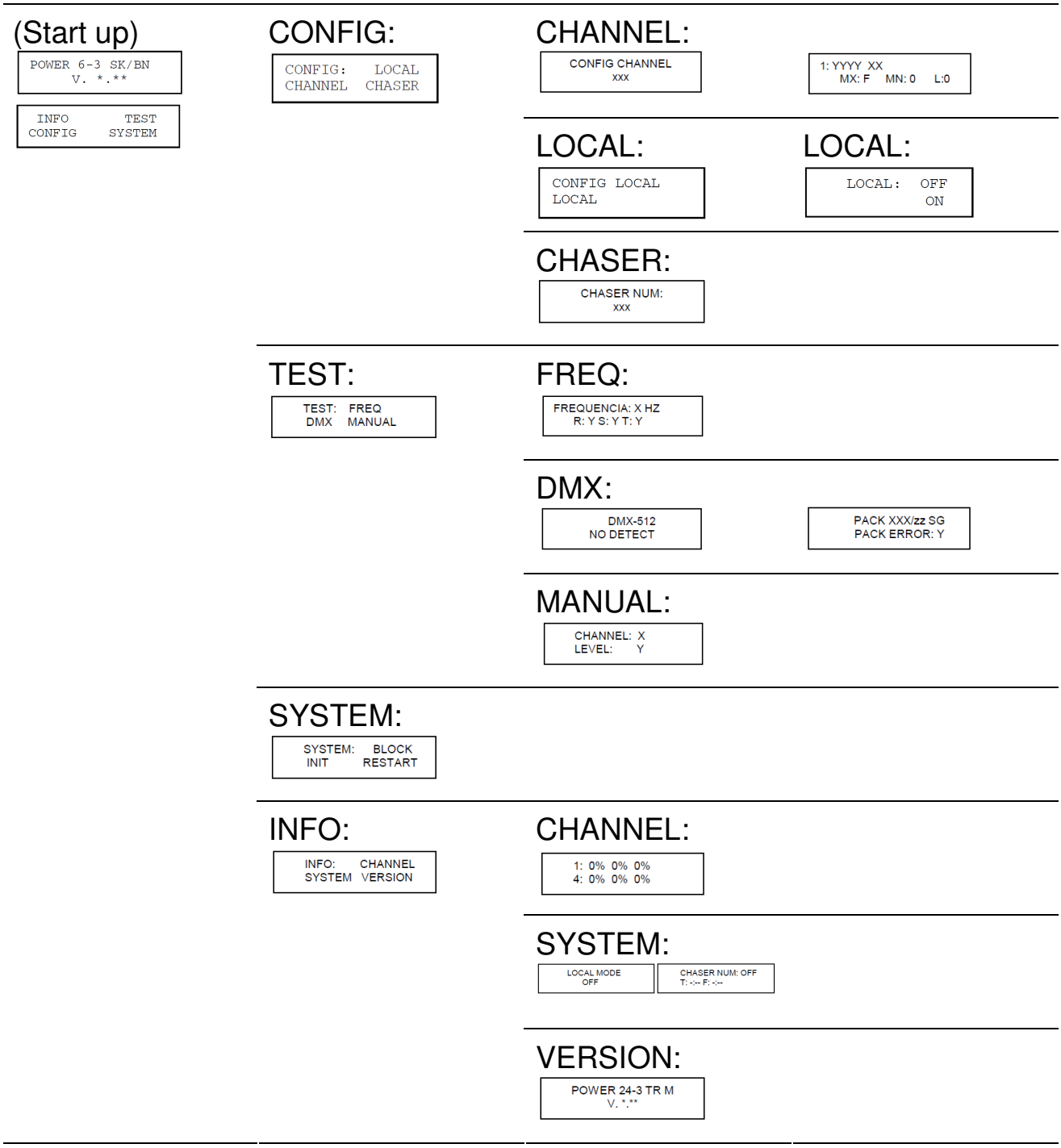


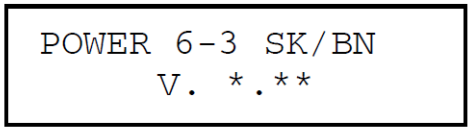
Fig.9: Right connection

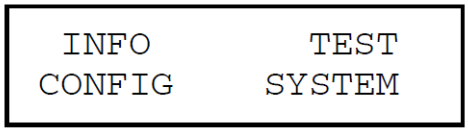
5. Programming

The following table shows a map of the dimmer menus and its options. You can move on the menus pressing “+” and “-” and select an option pressing “F2”.



When the dimmer is starting up, it displays these messages:

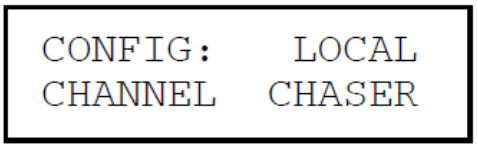




5.1. Configuration

To start with the configuration, you must enter to CONFIG menu. You can move on the menus pressing “+” and “-” and select an option pressing “F2”.

Once there, you can select among three options: channels, chasers and local mode.



Channel configuration

Select CHANNEL to configure the channels.

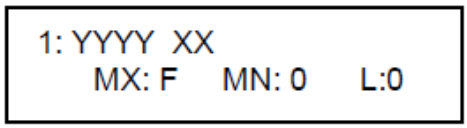
In this menu, you have two options: channel-per-channel configuration or all channels together.

XXX: It becomes “ALL” when configuring all the channels together or, alternatively, shows numbers from 1 to 6.

In the former case, parameterization (maximum, minimum, response curves, etc.) will be equal for all the channels, which starting by the first

channel will increase in one until the end of the total amount of channels of the dimmer.

When configuring the channels, either together or channel-per-channel, there will be this message:



YYY: Define the type of response curve.

LIN V – linear with voltage
LIN L - linear with light
FLUO – fluorescent
ON-OFF – Everything or nothing

XX: Address DMX channel to this dimmer channel.

MX: Maximum output value from 0 to F (100%).

MN: Minimum output value

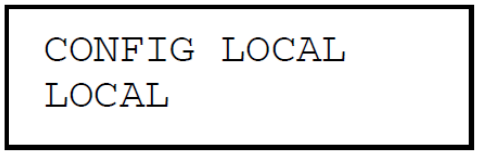
L: Channel value when working in local or PANIC mode.

For validating each option, you must press “F2”.

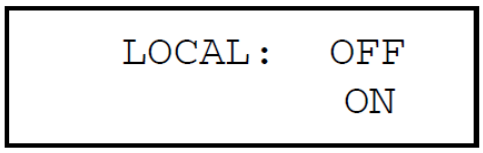
If you configure channel-per-channel, this process must be repeated for each channel. On the contrary, dimmer channels will be configured with the same options with the exception of the address.

Local mode configuration

To start this configuration, you must enter to LOCAL menu after selecting CONFIG.



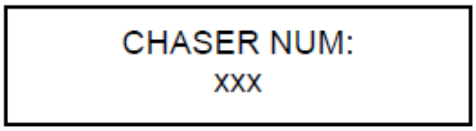
Then, you can select ON for activating local mode or OFF for deactivating it.



When working in local mode, channel values will be the ones configured before. Press “F2” for validating the selection.

Chaser configuration

First of all, you must enter to CHASER menu:



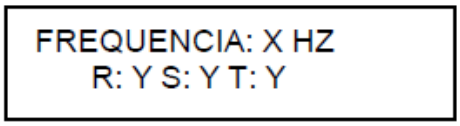
XXX: There are five options: “OFF” (chaser disconnected) or from 1 to 4 (different chasers).

Pressing “+” and “-”, you can select one of the 4 predefined chasers and then define FADE and TIME times which are from 0 to 8 minutes and 0 to 59 seconds, respectively.

5.2. Testing

This menu is for changing the output level of each channel and verifying the state of the inputs and outputs: DMX input and mains frequency.

Frequency test



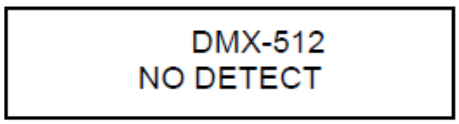
X: It indicates mains frequency value.

Y: It is “OK” if the signal is synchronised with the other phases and “Rf” for the phase used as reference. If there is no synchronism, it will be “?”.

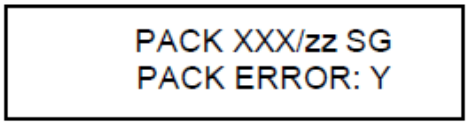
DMX test

This menu shows the DMX state and any data losing.

When DMX is not detected, it will show this message:



If DMX signal is received:



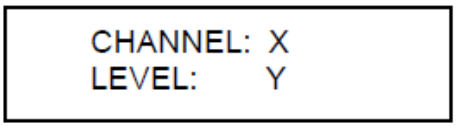
XX: Number of channels received.

ZZ: Number of packs received per second.

Y: If there is any error when receiving packs.

Manual test

This menu enables you to change manually channel level. The output level can be selected from 0 to F.

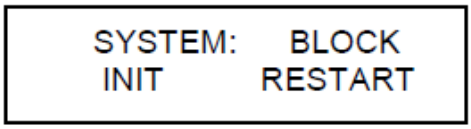


X: Number of channel to modify.

Y: Output level from 0 to F (0-100%).

5.3. System

This menu has three options: unit initialization, unit restoration and keyboard blockage.



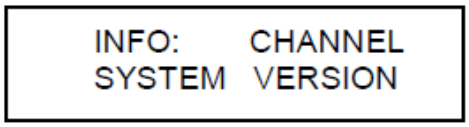
BLOCK: The four buttons are blocked. Press them altogether to unblock it.

INIT: The power unit is initialized with default values.

RESTART: Keeping the programmed parameters of the configuration, the power unit will be reset.

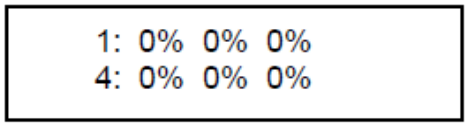
5.4. Unit information

This is a menu which informs about the state of the different parameters of the dimmer, there are three options: channel information, system menu and version menu.



Channel information

It shows the state of each channel.



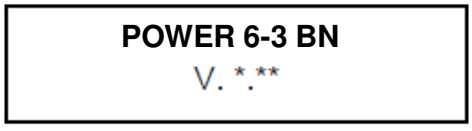
System menu

This is an information menu; consequently, no parameters can be modified.

If the power unit works in automatic mode (chasers), it will show the times of FADE and TIME. It will also show local mode state: on or off.

Version menu

It informs about the software version of the dimmer.



6. Maintenance

6.1. Regular cleaning

To prevent the growth of dust and dirt which may impair the proper operation of the equipment, it should be cleaned regularly.

For cleaning it, use a soft, slightly and damp cloth (if the equipment is very dirty, apply a little liquid detergent to the cloth).

WARNING: Do not use solvents or products containing alcohol. Make sure that no liquid get inside the equipment.

7. Most common problems

Problem	Usual cause	Solution
Unit does not start	No current reaching the unit	Check mains connections
Power unit does not give response in some channels	Breakers or differentials activated	Check breakers and differentials state
	Addressing problem	Address channels in free addresses See “Programming” section
	Wrong DMX line installation	Check the type of cable, connections, connectors, installation and 120Ω terminator resistance
Some channel remain permanently on, still without input signal	Potentiometer of the front panel in position different from 0.	Turn the potentiometer anticlockwise until left it in the wanted position
	Triac failure	Disconnect the unit and change it by a new one of the same characteristics

If the problem persists despite these measures, please contact to FRESNEL’s Technical Service Department.

Telf 34 93 274 54 28

Telf 34 93 360 02 30

Fax 34 93 274 47 47

If you want to do without this product, do not mix it with the ordinary waste. There are specific methods and systems for dividing electronic and electromagnetic used products that are described in 2002/96/EC directive, which is in force in the European Community countries.

	FRESNEL S.A.	DC-01
	STATEMENT OF COMPLIANCE	DATE: 01/01/12

We declare that the products:

Mark:

STRONG

Models:

POWER 6-3 BN

POWER 6-3 BA

Year of construction:

2012

Conforms to the following EC directives:

2006/95/EC: In relation to the safety requirements for material intended for use within specific voltage limits.

2004/108/EC: In relation to the electromagnetic compatibility of equipment, systems and installations.

Sole administrator

Ángel Torrecillas Redón Barcelona, January 1st of 2012

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