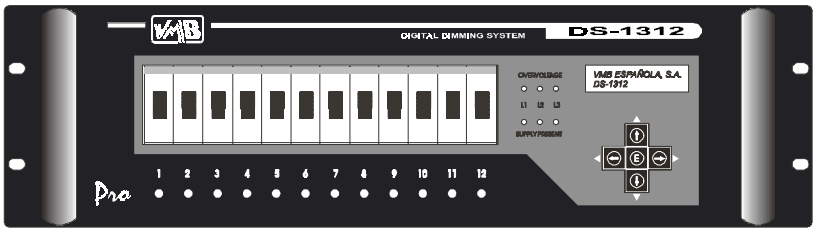


DS-1312

USER'S MANUAL

WELCOME

You have just come into contact with the new generation of digital dimmers from VMB.

Before you start working with the VMB Dimmer, you are advised to read carefully this instruction manual. You will find in the following pages the operating instructions, some programming examples and useful advice.

VMB Dimmers involved the latest advances in digital technology. They have been designed to come up to the requirements of the stage lighting professionals. These dimmers offer a very high level of precision and excellent reliability and performance.

We hope you will be satisfied with this dimmer that will make your job easier.

Welcome to VMB !

CONTENTS

1.- ***INTRODUCTION.***

Description of the Dimmer DS-1312 4
Technical specifications 4
Description of the front and rear panel of the Dimmer 5

2.- ***SETTING UP.***

Connectors and connections 7
Dimensions 8
Wiring/Connecting up 8

3.- ***FUNCTIONNING PRINCIPLES.***

Working process 9
Menu diagram 10
Display and function keys 11
Configuration Menus 12
1.-TEST 14
2.-PRE-HEAT 15
3.-CURVES 16
4.-PROGRAM 17
5.-DMX ADDRESS 18
6.- PATCH 19
7.-PASSWORD 20
8.-INPUT SIGNAL 22

4.- ***PROGRAMMING EXAMPLES.*** 23

5.- ***FUNCTIONNING DESCRIPTION.***

Functional diagram 26

6.- ***TROUBLESHOOTING.*** 27

7.- ***GUARANTEE.*** 28

1.- INTRODUCTION

The control system **DS-1312** combines the digital control precision with the quality and the sturdiness of **VMB dimmers**. One advantage of the Dimmer **DS-1312** lies in its convenience of control: a powerful interface with the user has been included which makes possible the configuration of operational parameters and the insertion of programs for stand-alone operating. All of this is very useful for any operation that does require regulation.

The reliability of the product has been overhauled in the worst conditions of working involving temperatures, voltage and electromagnetic interferences. All these parameters have been carefully studied to make them come up to the most demanding regulations.

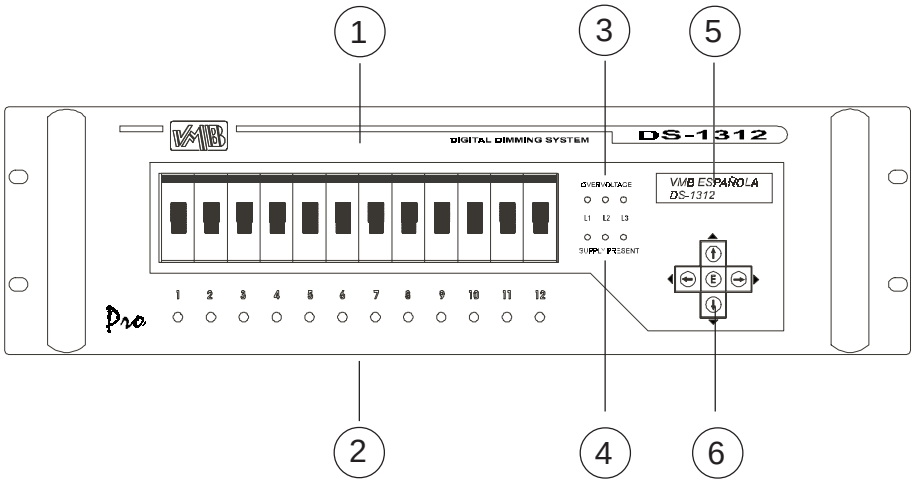
Description of the Dimmer DS-1312:

It´s a professional regulator of **digital control** for three-phase lighting of 220V, with **DMX-512** input and an option of analogical input **0-10V**.

TECHNICAL SPECIFICATIONS:

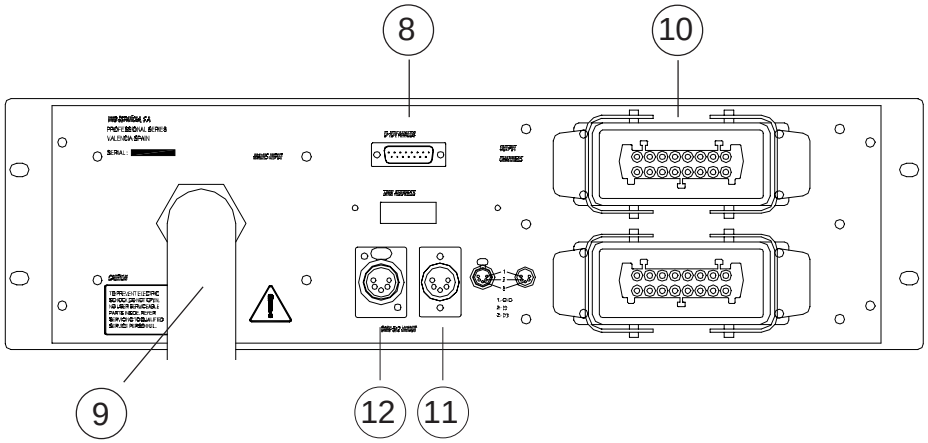
- Digital Control for 12 channels.
- Three-phase 380V / 220V (triangle) main supply.
- 26A triac per channel.
- Maximum nominal output power: 3000W
- Maximum inductive output power: 1800W
- dv/dt filtering.
- LC filter per channel.
- Soft start.
- Electronic safety Led for each channel on overvoltage.
- Independent microcontroller system for each phase.
- Double circuit breaker per channel.
- Fan speed controlled by temperature.
- Triple control power supply.
- DMX-512 input and analog 0-10V optional.
- DMX levels shown on LCD display.
- 4 programs included.

Description of front and rear panels.-

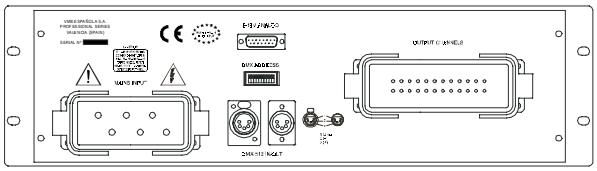


1.- DOUBLE MAGNETO SAFETY CHANNELS.
2.- OPENING MAGNETO LEDS.
3.- OVERVOLTAGE LEDS.
4.- SUPPLY PRESENCE.
5.- DISPLAY.
6.- CONTROL KNOBS.

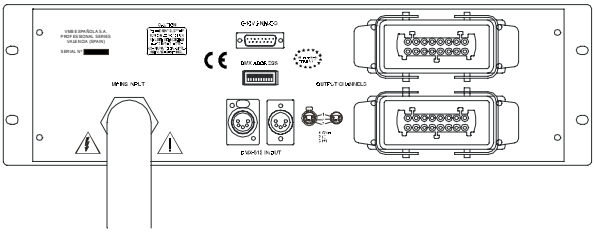
VMB Española, S. A. supplies diferent rear panels according to the needs of the customer. Next you will find the description of the standard rear and afterward the diverse options for the DS-1312.



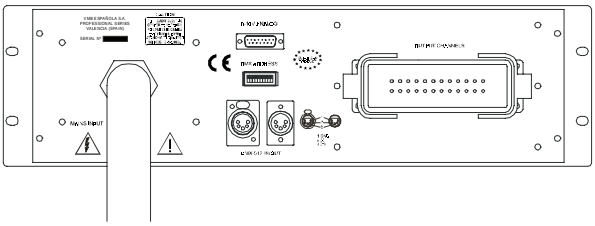
8.- ANALOG INPUT 0/10V.
9.- POWER SUPPLY INPUT.
10.- HARTING CHANNEL OUTPUT.
11.- DMX-512 INPUT.
12.- DMX-512 OUTPUT.



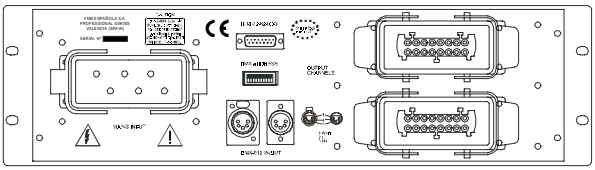
Ref.: **H6-H24** (Standard DS-Stage)
- Main input by 6 pin Harting.
- Channels output by 24 Harting.



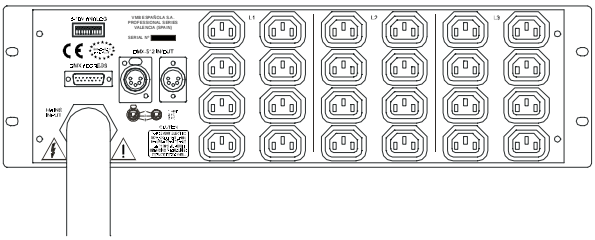
Ref.: **M-2H16** (Standard DS-Pro)
- Main input by wire.
- Channels output by two 16 pin Harting.



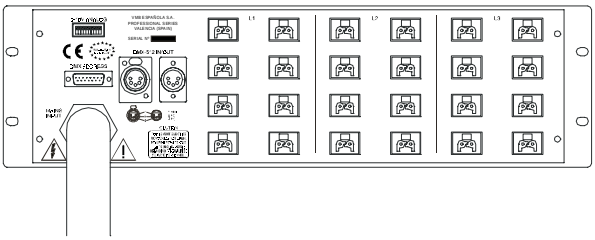
Ref.: **M-H24**
- Main input by wire.
- Channels output by 24 Harting.



Ref.: **H6-2H16**
- Main input by 6 pin Harting.
- Channels output by two 16 pin Harting.



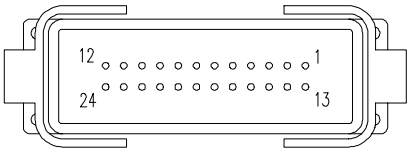
Ref.: **M-24IEC** (DS-1312)
- Main input by wire.
- Channels output by 24 IEC.



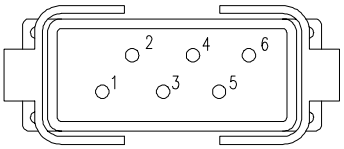
Ref.: **M-24W** (DS-1312)
- Main input by wire.
- Channels output by 24 Wieland ST-17.

2.- SETTING UP

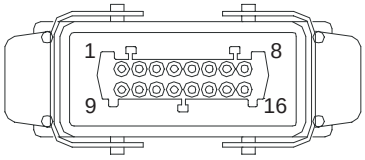
Connectors and connections.



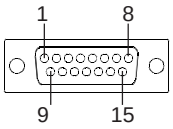
HARTING 24
(Channel output)
Pins 1 to 12: Channels 1 to 12
Pins 13 to 24: Neutral channels 1 to 12



HARTING 6
(Mains input)
Pins 1, 3, 5: Phases 1, 2, 3
Pins 2, 4, 6: Neutrals 1, 2, 3



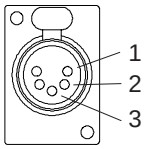
HARTING 16
(Channel output)
Pins 1 to 6: Channels 1 to 6 (7 to 12)
Pins 9 to 14: Neutrals channels 1 to 6 (7 to 12)



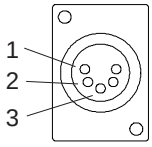
Male

15 PINS SUB-D
(Signal channels)

Pin 1 : Channel 1
Pin 2 : Channel 2
Pin 3 : Channel 3
Pin 4 : Channel 4
Pin 5 : Channel 5
Pin 6 : Channel 6
Pin 7 : Channel 7
Pin 8 : Channel 8
Pin 9 : Channel 9
Pin 10 : Channel 10
Pin 11 : Channel 11
Pin 12 : Channel 12
Pin 13 : **GND**
Pin 14 : **GND**
Pin 15 : **GND**

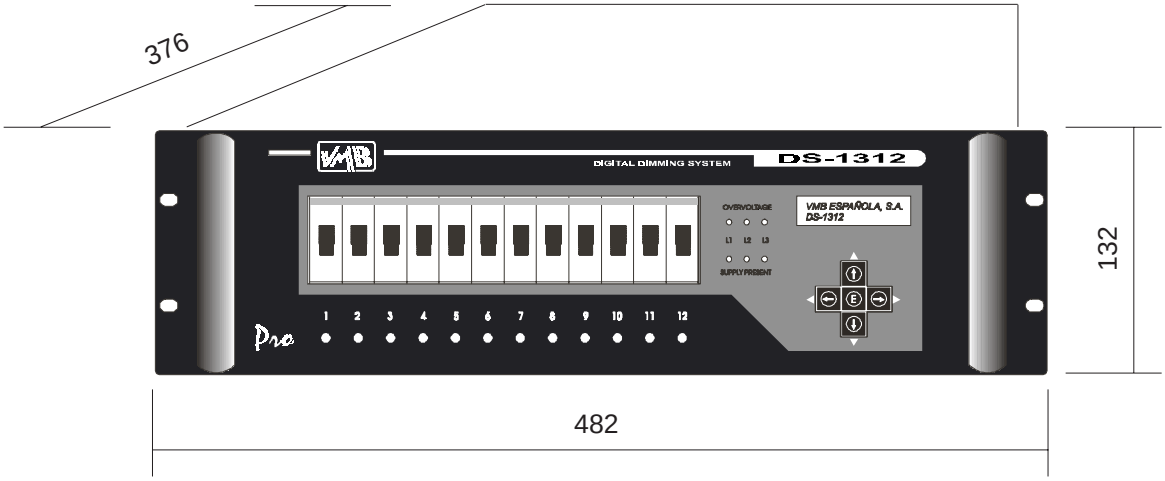


XLR 5P/H
1.- 0 - Ground
2.- (-)
3.- (+)
4.- N.C.
5.- N.C.

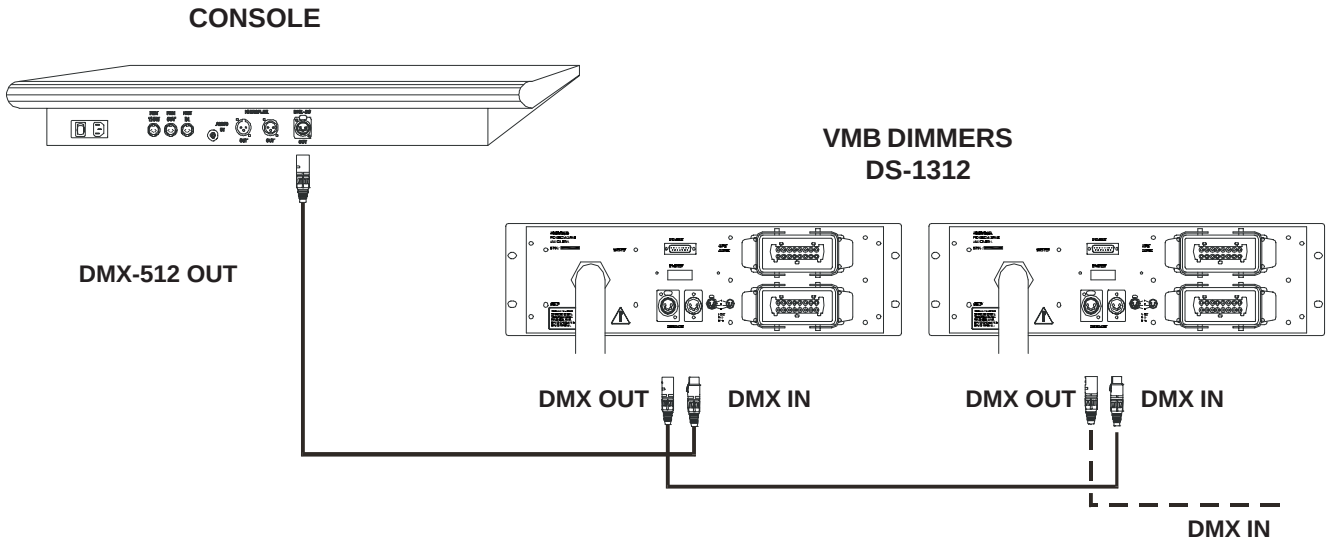


XLR 5P/M
1.- 0 - Ground
2.- (-)
3.- (+)
4.- N.C.
5.- N.C.

DS-1312 Dimensions.



DS-1312 Wiring/Connecting up.



3.- FUNCTIONNING PRINCIPLES.

Working process.-

a.- Before you switch on the Dimmer:

For a correct connection of the system, you are advised to install a triphasic differential of more than 40 A per phase in the main lead supply. Then, make sure that the neutral is connected otherwise safety device will start.

It is also advisable to set the lighting and audio systems on independent power supply lines so that both parts will be separately protected and interferences with other equipments avoided.

b.- Once the Dimmer is on:

Once the Dimmer is switched on, protection Leds briefly switch on to ensure a soft start. The Dimmer does not work during the first three seconds which are necessary for the power to set.

Next you have to select the DMX address and then configurate the other parameters according to your needs.When getting out of the configuration menu, all the parameters will be memorized until the next modification.

c.- Leds:

If the overvoltage Leds switch on when starting, you must overhaul the connection of the main supply because they indicate a defective connection due to a bad cable installation or a lack of neutral.

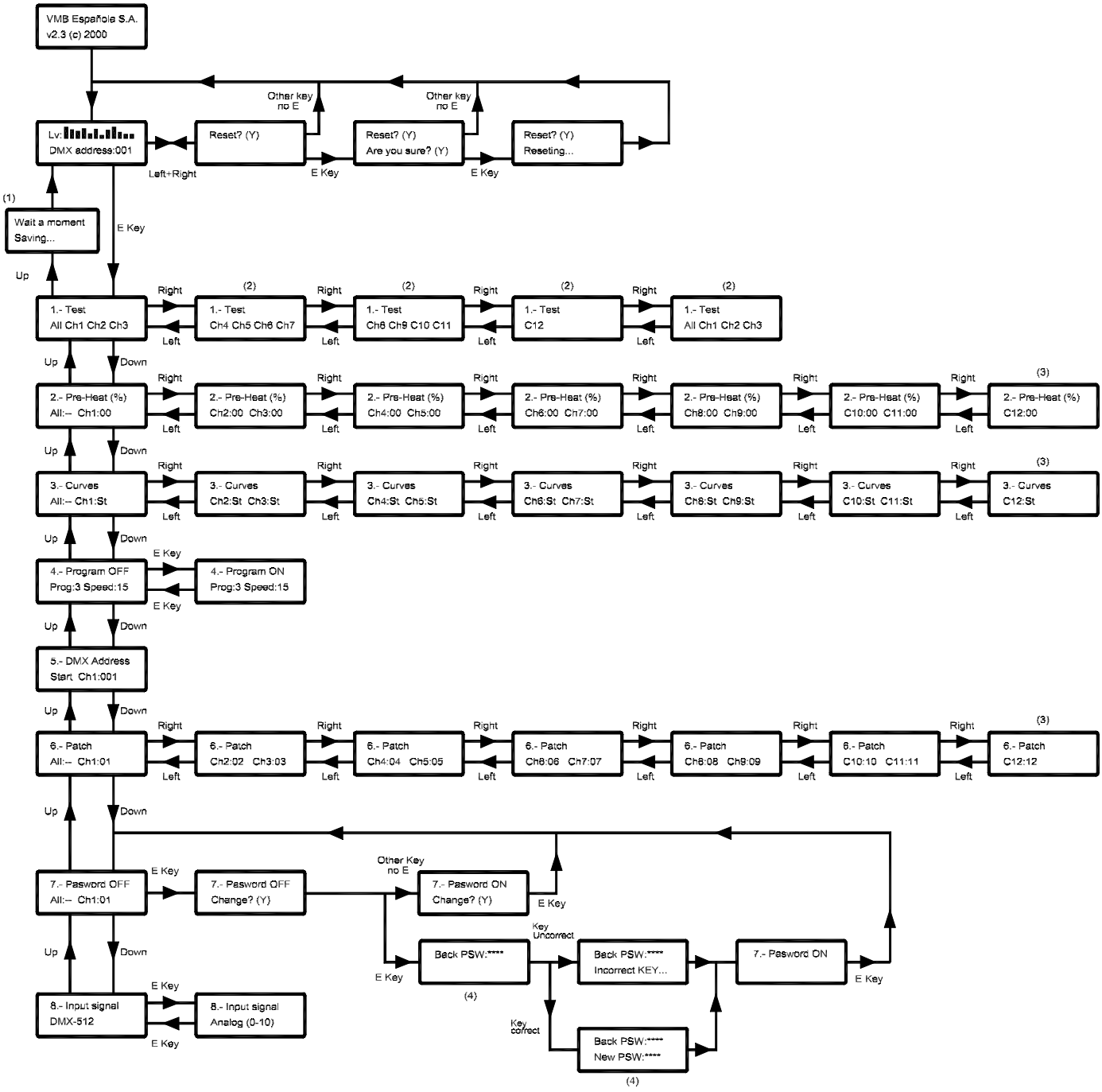
When working normally, the DMX signal is shown on the LCD display. If it doesn´t appear you must overhaul the signal source as well as the connection to the Dimmer. Sometimes, a defective element of the DMX bus (specially the line drivers) may lead to an excessive load of the bus and to a mistake in the signal that becomes more pronounced as and when the signal gets more distant.

The Dimmer DS-1312 is designed to supply a maximum of 3000W per channel. A superior power supply could damage specially the triacs which could blow laeving the bulb constantly switched on and causing the overheating of the components.

CAUTION

If you use and INDUCTIVE LOAD, do not exceed the maximum stated level.

Menu diagram.-



(1) = Save changes in non volatil memory
(2) = When you press the «Up» key, you pass to the previous step and when pressing the «Down» key to the next step.
(3) = The windows doesn´t change; the cursor moves on the inferior line of the display.
(4) = Combination of 4 keys.

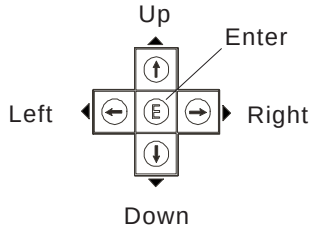
Display and function keys.-

To program its different functions the Dimmer is provided with an LCD display and a series of knobs for a precised configuration of the actions on the different menus.

Specific information about the options of the configuration menus is shown on display.

Description of function keys:

Function keys allow to change options of the menus as well as to surf between the different menus.



UP: To move up in the menus.

Also to confirm that you leave the menu.

DOWN: To move down in the menus.

RIGHT: To move right in the menus.

LEFT: To move left in the menus.

ENTER: To confirm the actions achieved in the menus.

To get to menus and submenus.

LEFT + RIGHT: Combination of keys that gives access to the RESET control of the Dimmer.

Configuration menus.-

The Dimmer **DS-1312** is provided with a LCD display that shows the diverse configuration menus. These menus allow to store and modify the functionning options of the Dimmer as well as to save data and have access to them.

Here are these menus:

- 1.- TEST
- 2.- PRE-HEAT
- 3.- CURVES
- 4.- PROGRAM
- 5.- DMX Address
- 6.- PATCH
- 7.- PASSWORD
- 8.- INPUT SIGNAL

Each one has a series of submenus allowing a complete and easy configuration of use of the Dimmer.

When switching on the Dimmer the sarting menus appear:

VMB Española, SA v2.3 (c) 2000	Menu of introduction
Lv: ▮▮▮▪▪▮▪▮▮▮▮▪ DMX Address: 001	Access programming menu: press Function key [E] to get to the detailed configuraton of the Dimmer´s functions.

When switching on the Dimmer, the elements of the (permanent) non volatil memory will be kept in the working memory. If for any reason this step was not done satisfactorily, an error message would appear:

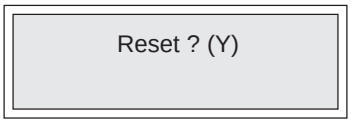
Memory ERROR DEFAULT system	The Dimmer will start with the configuration options of the manufacturer (DMX Address:001). If the Dimmer had some difficulties when saving data in the memory, the following message would appear:
Memory ERROR NO saving	The Dimmer will work but the modifications will not be kept in the memory.

If you want to leave a menu or a submenu, press the function key [↑] (UP), the next message will appear on the display:

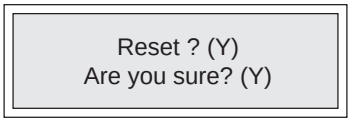
wait a moment Saving...	The fact that this message appear on the display means that the modifications will be kept in the Dimmer memory. You can go on working. The next menu window will be:
Lv: ▮▮▮▪▪▮▪▮▮▮▮▪ DMX Address: 001	

When being in the DMX Address display, press the right and left keys at the same time for few seconds. The Reset menu of the unit, which activates the working functions previously defined by the manufacturer, will appear.

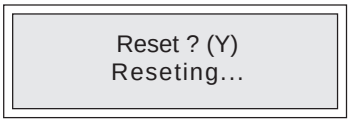
Press and keep pressed the following keys: ← →
Next message will appear:



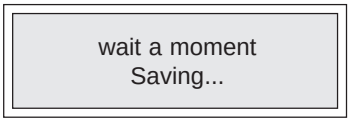
If you don´t press E , there will be no reset. But if you do press E , a message of confirmation will appear:



To confirm the reset of the Dimmer, press the function key E , and the next message will appear on display:



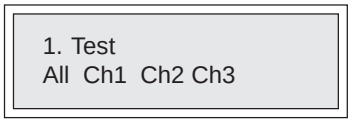
At the end of the reset process, the Dimmer working memory will be reinitialized but you should get out of the menu pressing the confirmation key ↑ . Next message will appear:



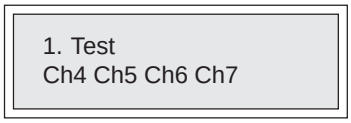
Thanks to this step, modifications are saved in the (permanent) non volatil memory of the Dimmer. At the end of the process, you will see on the display of the menu:

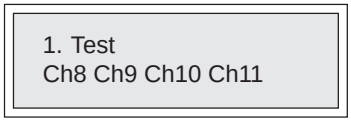
1.- TEST

This is the first menu you will find when pressing the function key E of the configuration setting. It allows the analysis of each channel separately or all the channels together with a progressive starting which avoids an overvoltage in the testing process.



Thanks to this menu you can check the good functionning of some or all the channels of the Dimmer (All or Ch1, Ch2, ...).

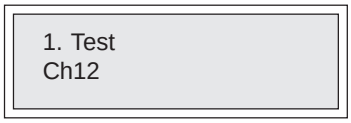


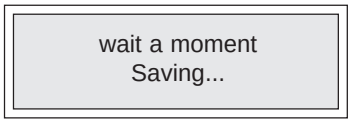


To move between the different channels just press the function keys:

RIGHT

LEFT



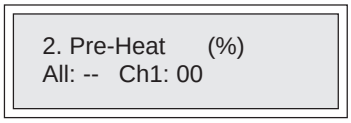


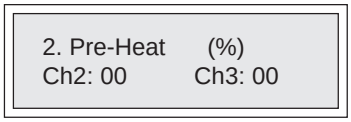
This process ends pressing the key UP. Then the display indicates that the dimmer is saving the latest modifications.

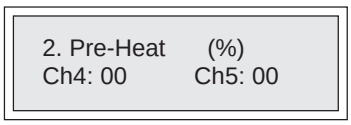
At the end of the saving process the main menu will appear on the display.

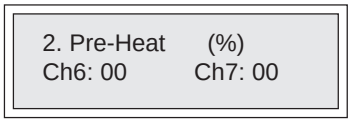
2.- PRE - HEAT

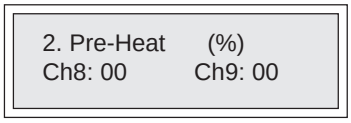
Press the function key ⬇, for the **PRE-HEAT** menu to appear. Channels are considered individually or globally. That provides a pre-heating from 0% to 99% for constant lighting applications. If you press the key E, you will get to this last submenu:

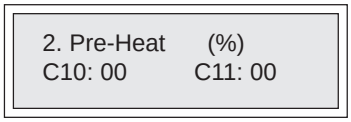


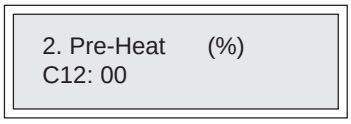












To move between the different submenus just press the function keys:

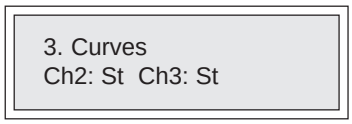
- ⬆ UP
- ⬇ DOWN
- ➡ RIGHT
- ⬅ LEFT

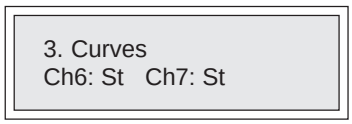
The option ALL alows the user to change the pre-heating of all the channels at the same time.
In the blanks filled in with «00», the user will find configurable numbers that go from 00 up to 99%.

To leave this option, just press E.

3.- CURVES

Press the function key ⬇ , and the **CURVES** menu will appear. Thanks to this menu you can access to the different modes of starting curves predefined by the manufacturer. These curves are the following:
Logarithmic (**Lg**), exponential (**Ex**) and linear (**Li**) as well as the switched off option (**No**).
Default acronyms **St** (standard) are displayed.
To get to this menu just press the key E





To move between the different channels just press the function keys:

➡ RIGHT

⬅ LEFT

If you want to change the curve , use the keys:

⬆ UP

⬇ DOWN

If a curve is assigned in **ALL**, it will therefore be defined for all the channels.
In spaces where **St** is displayed, the 5 kinds of curves can be placed:

Lg: Logarithmic starting curve option.

Ex: Exponential starting curve option.

Li: Potential linear starting curve option.

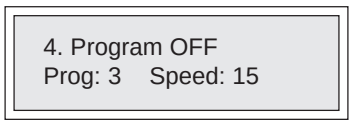
No: There is no curve activated.

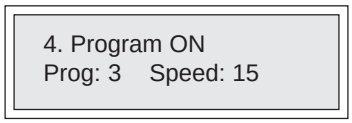
St: Standard starting curve option.

To leave this menu just press E

4.- PROGRAM

Press the function key ⬇ , and the **PROGRAM** menu will appear. Thanks to it, you can activate 4 menus which were pre-set by the manufacturer. Their speed can be modified by the user. To get to this submenu, just press E .





To change the parameters, press the function keys:

- ⬆ UP
- ⬇ DOWN
- ➡ RIGHT
- ⬅ LEFT

To leave the submenu, press E

5.- DMX ADDRESS

Press the function key ↓ and the **DMX ADDRESS** menu will appear. Thanks to it, you can assign the DMX starting address.
To get to this submenu, just press E

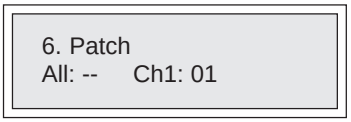
To modify the parameters, use the function keys:

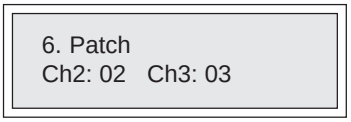
- ↑ UP
- ↓ DOWN
- → RIGHT
- ← LEFT

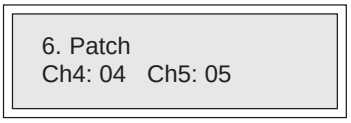
To leave this option, press E

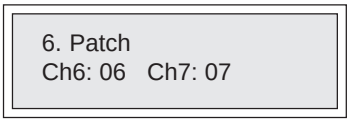
6.- PATCH

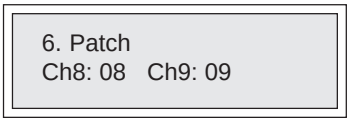
Press the function key ⬇ and the **PATCH** menu will appear. Thanks to it, you can assign, individually or globally, the physical channels of the Dimmer to any channel of the same Dimmer. To get to this menu, just press E

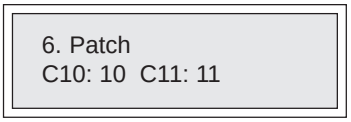


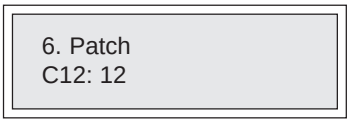












To surf between the different menus, use the function keys:

➡ RIGHT

⬅ LEFT

To change the present value, press the following keys:

⬆ UP

⬇ DOWN

To leave this menu, just press E

7.- PASSWORD

Press the function key ⬇ , and the **PASSWORD** menu will appear. It puts you through the protection key which locks the access to the diverse menus. This option which is supplied with the Dimmer, is desactivated and by default the key is E E E E .

7. Password OFF	This is the password key display. If you press the function key E , you will have access to the password key configuración. You will see on display:
7. Password ON Change (Y)?	The key has been activated by default. You are asked whether you want to change the present key. For that, you have to press the function key E . If you prefer to activate the present key without modifying it, press any other key but not E

If you have pressed the key E you will see on display:

Back PSW: ****	You are asked for the present key. When typing the password key, numbers are replaced by stars (****) so that any non-authorised person can discover it.
	DO NOT FORGET THE KEY AND DO NOT WRITE IT ON THE EQUIPMENT.
	If the password key is correctly written, you will see on display the following message:
Back PSW: **** New PSW: ****	In this new window, you will have to write a new key following the same warning a before.
Back PSW: **** Incorrect KEY...	If the key is not correctly written, you will see the the following error message: **Incorrect KEY** and after few seconds the starting menu will be shown on display.
7. Password ON	This message also appears when typing the key correctly and ending with the processing of this menu.

If you have not press the function key E you will also see on display:

When the message **Password ON**, press the function key E for this message to appear automatically:

8.- INPUT SIGNAL

With the **INPUT SIGNAL** menu we can select the mode of input of the signal:
DMX-512 or Analog 0-10V.

8. Input signal
DMX-512

To change the input signal from DMX-512 to Analog 0-10V, or viceversa, just press the function key E .

If you do not have the Analog option, you cannot change the signal input.

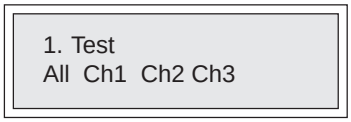
8. Input signal
Analog (0-10)

4.- PROGRAMMING EXAMPLES

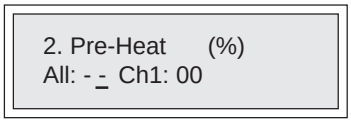
- How to get a general PRE-HEAT at 20% except on channels 8 and 9 where we don´t want any.

When you are on the main screen, press [E] to get to the diverse options; the first to appear is TEST.

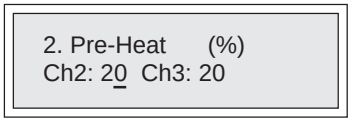
Press the arrow [↓] to get to the next option.

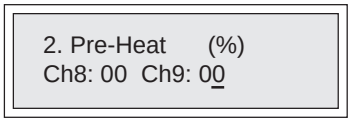


Once you are in the PRE-HEAT option, Press [E] . The cursor appears below the symbol `--'. This cursor indicates the channel in which you are (in this case: **All**). Pressing only once the [↑] key increases by 1% the pre-heating of all the channels. But if you maintain the key pressed, the pre-heating will go on increasing automatically. Let´s press the key until we reached a pre-heating at 20%.



Once all the channels have been pre-heated, let´s cancel the pre-heating of channels 8 and 9. For that, press once on the key [→] . The cursor passes from **All** to **Ch1**. If you press again the cursor passes to **Ch2**. Press the key until you get to **Ch8**. When on channel 8, press the key [↓] to get to 0%. Repeat this process to cancel channel 9: press the key [→] to move to channel 9, and then press again on [→] to get to 0%. When you have finished the process, press [E] to leave the edition menu and then press twice [↑] . Now the dimmer is ready to start again.

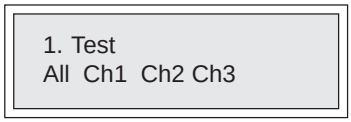




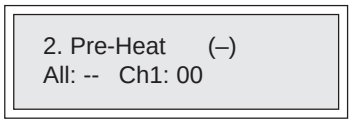
- How to change the DMX address to 359.

When being in the main screen, press [E] to get to the diverse options; the first to appear is TEST.

Press the arrow [↓] to the next option.



Press the arrow [↓] to get to next option.Repeat this process until you get to the DMX Address.



Once you are in the DMX Address option, press [E] . You can see that the cursor is located just under the digit of hundreds. If you press the key [↑] , you increase the hundreds by one unity and if you press it continuously the number will be automatically increased. In the present example maintain the key pressed until you get to 3.

Once the number of hundreds is set, press [→] to pass to the tens. Press the key [↑] until you get to number 5.

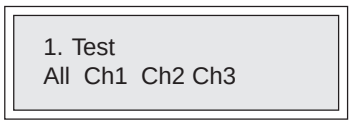
Now we pass to the unities by pressing the key [→] and we repeat the previous operation until we get to number 9. When the operation is finished, press the key [E] to quit the edition. You will get back to the main screen pressing 5 times [↑] . Now the Dimmer is ready to start working again.

NOTE: *The Dimmer constantly checks whether the introduced DMX address is correct or not in order to avoid the introduction of incorrect addresses. For instance, if the number for the hundreds is 4, the one for the tens is 1 and the one for the unities is 3, when we will try to increase the hundreds to number 5, as the channel 513 does not exist in the DMX directive, they will pass from 4 to 0 jumping over the number 5. When this will happen, you will have to changeany of these digits; in this case, the tens or the unities*.

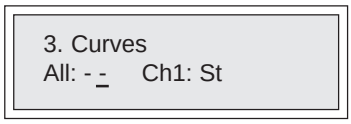
- How to cancel the functionning of the Dimmer´s channel 3 and change the starting curve channel 8 into a potentially lineal curve.

When in the main screen, press [E] to enter in the different options; the first one to appear is TEST.

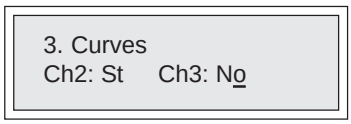
Press the arrow [↓] to get to the curves option.



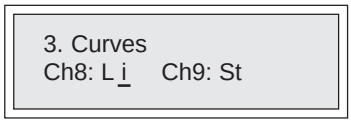
Once you are in the curves option, press [E] to get into it. The cursor appears just under -- which indicates which channel we are working with. (In this case **All**).



Press three times the key [→] to move to channel 3. The screen will change and channels 2 and 3 will be shown on display. Now press the key [↑] until the word No appears; (No start).

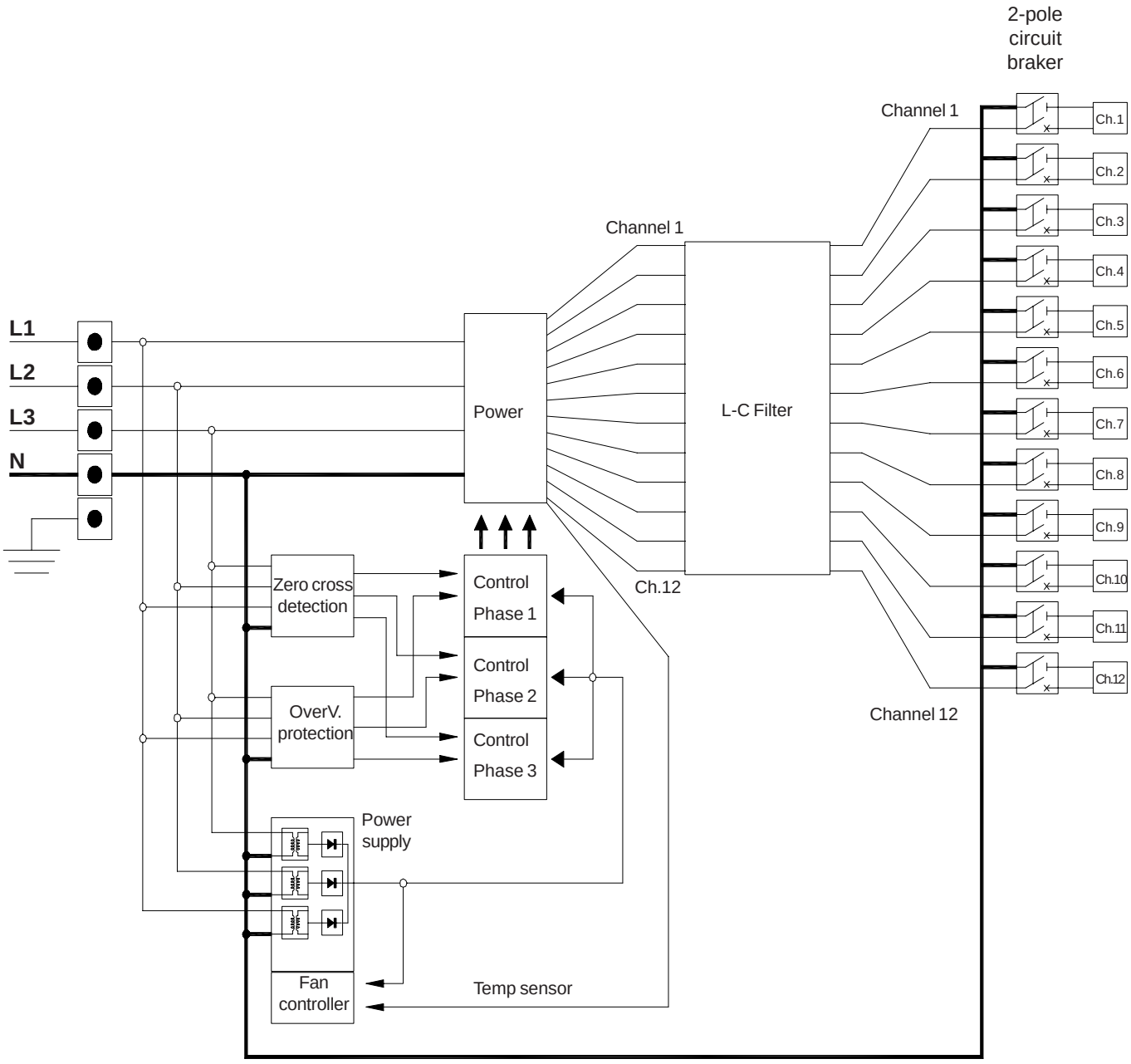


Afterward will move to the next channel pressing 5 times the key [→] . The cursor passes from **Ch3** to **Ch8**. Let´s press the key [↑] until **Li** (Lineal) appears on display. Once you have finished, press [E] to quit the edition. Then press three times [↑] to get the Dimmer ready to start working again.



5.- FUNCTIONNING DESCRIPTION

Block diagram DS-1312.



6.- TROUBLESHOOTING

Here you will find a series of measures which will allow you to solve some possible problems you may come across when using the Dimmer.

The Dimmer shows no sign of activity:

- Ckeck the power input wire to make sure it is in perfect working conditions and also ckeck that all the connections are correctly made.

The Dimmer tries to start but channel magnetotermic circuit breaker or .....

- There might be a DC drift in the input wire.
- A short circuit may have happened in the spot or the wire that leads to it.

The Dimmers is working but overtension red Leds do not switch off:

- Neutral is not correctly connected.
- Input wires do not match the phases and the neutral adequately.

The Dimmer starts correctly but during the channels test one of them does not work:

- Check that the corresponding magnetotermic circuit breaker is correctly connected.
- If it is so, make sure that associated lamp(s) is/are burn out.
- If not, the triac may be damaged.

One of the lamps stays alight without any reason:

- The associated triac may have suffer a shortcircuit.

The lamps test is all right but no DMX signal is detected:

- Check that the DMX source is working correctly.
- Also check that the DMX cable is not damaged.
- Connector pins must be correctly plugged in.

When using the analogical input one of the channels does not work:

- Check that the Dimmer has been selected in order to work with analogical input.
- Overhaul the cable conectors.

DMX signal is detected but the lamps do not work:

- Check that selected DMX address corresponds with the desired.

7.- GUARANTEE

VMB's products are guaranteed against every kind of manufacturing fault 1 year after the date of sale.

When products are under guarantee, the repairing and the free supplying of the device parts in order to correct any kind of defect are guaranteed by VMB.

In the case that the product could not be returned to the factory for checking and repairing, VMB would supply all the necessary parts after identification of the original owner of the product or the authorized seller.

VMB is not responsible for any damage or defect caused during the transport or caused by an undue or improper handling y a non-authorized person during the life of this guarantee.

VMB thanks you for relying on this product and hopes you will be completely satisfied with it.

VMB researches constantly in order to improve the quality of all its products. The specifications described in this catalogue are subject to change without notice. In all cases, a new VMB product will equalize or surpass the specifications of the previous model.

VMB ESPAÑOLA S.A.
Pol. Ind. Picassent - Calle 2, final - 46220 Picassent (VALENCIA) Spain
Tel.: +34 902 34 10 34 - Fax: +34 961 22 11 77
Web:www.vmb.es - E-mail: contact@vmb.es