

PEGASUS[®] WM12

12-channel Architectural Dimmer

User's manual

Third edition

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Dear Customer!

Thank you for chose PLS Electronics product. If you have any technical question or you looking for other equipments, don't hesitate to take up the contact with our sales representative or with the manufacturer at the www.pls.hu web site.

This apparatus is a twelve channel wall mountable digital dimmer/relay with DMX 512/1990 or 0-10V control (optional) with additional control possibilities. The light control is produced by a phase angle control technology.

Safety first! Please read carefully and understand the user manual!



The wrapper of the unit is NOT baby toy!

Keep it away form babies!



For technical questions and *original spare parts* please take up the contact with our sales representative or with the manufacturer at the www.pls.hu web site.



ATTENTION!

DON'T USE WITHOUT PROTECTIVE GROUND!



Not allowed to make a parallel connection between any outputs (phases or neutrals) to increase the output current capability of the unit! Otherwise the unit can be damaged!



CAUTION!

Do not cover any air inlets and fan outlets of the dimmer!



Take care to have proper airflow in and out to let cooling the unit.



CAUTION!

Disconnect mains before open the dimmer for service!



Service allowed only for technicians who had technical course by the sales representative or by the manufacturer!

1. Installation of the unit

On the Figure 1 you can find the positions of the mounting holes.

Consider to the weight of the dimmer pack when you chose the mounting fastens!

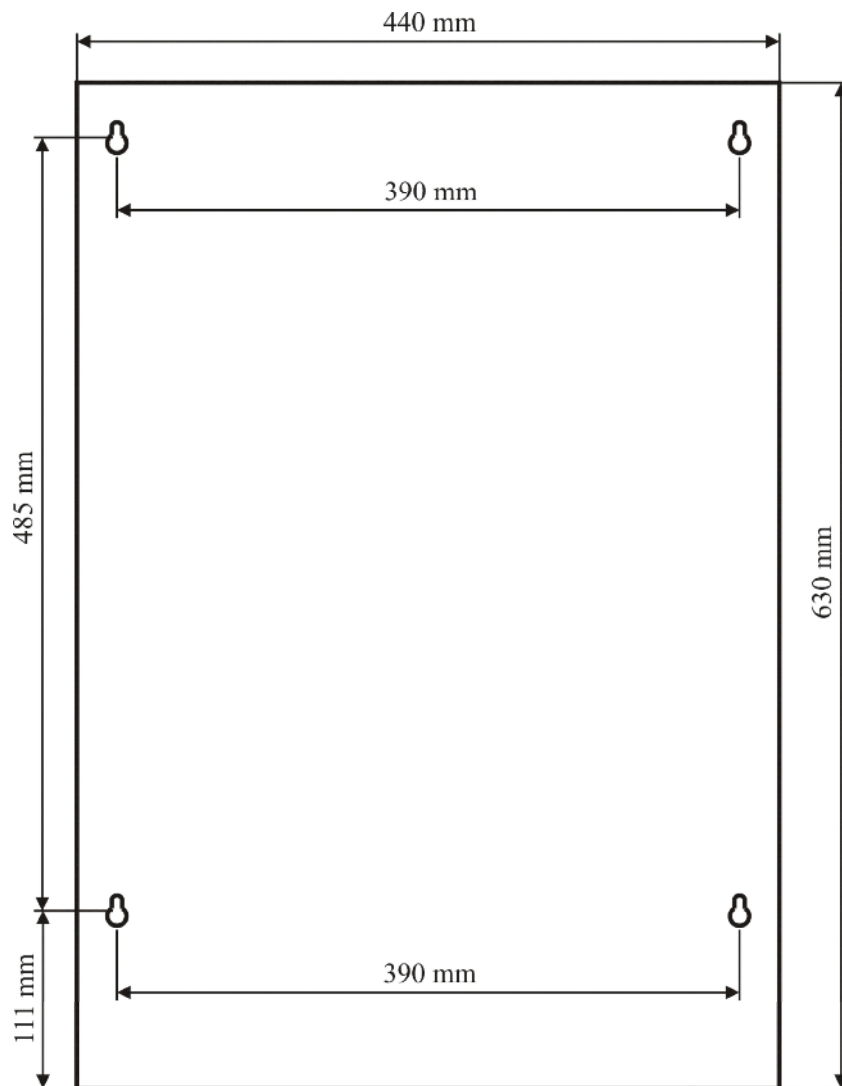


Figure 1. Positions of the mounting holes

CAUTION!

The apparatus is NOT waterproof! Protect it from liquids!

Not to use outdoors without appropriate preventive measures.

If water or other liquid getting into it, dry up, and take to technician!

Working with wet apparatus is PERILOUS!

On the following figure you can find out of the screw terminal blocks what you can reach after open the upper part of the dimmer front cover.

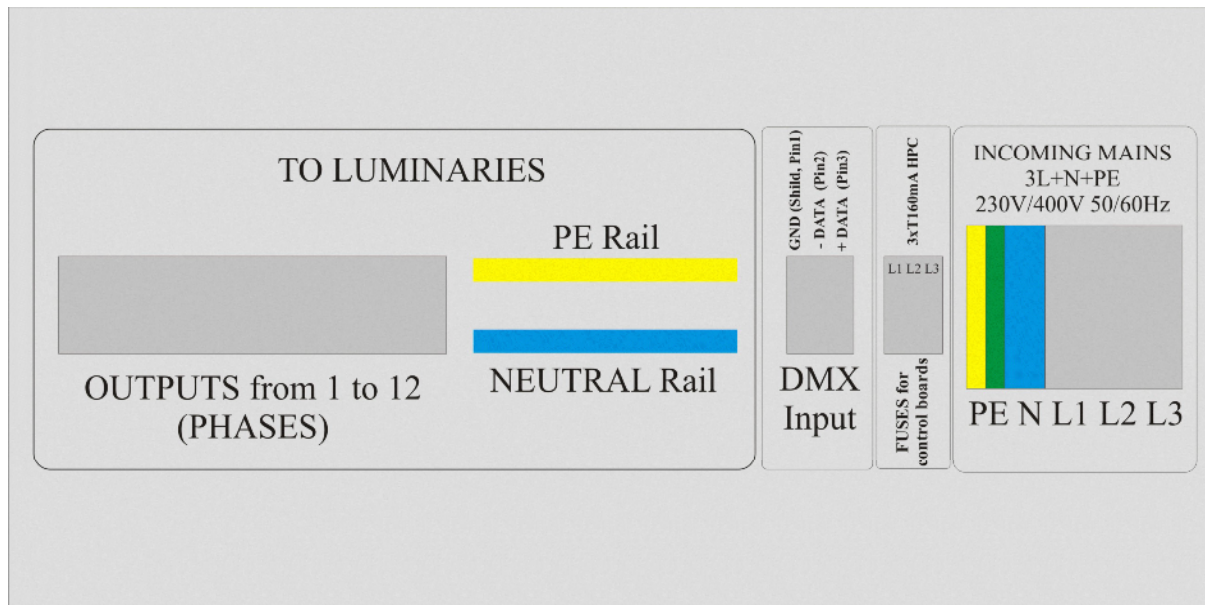


Figure 2. Screw terminal blocks inside the dimmer pack (1-pole MCB version)

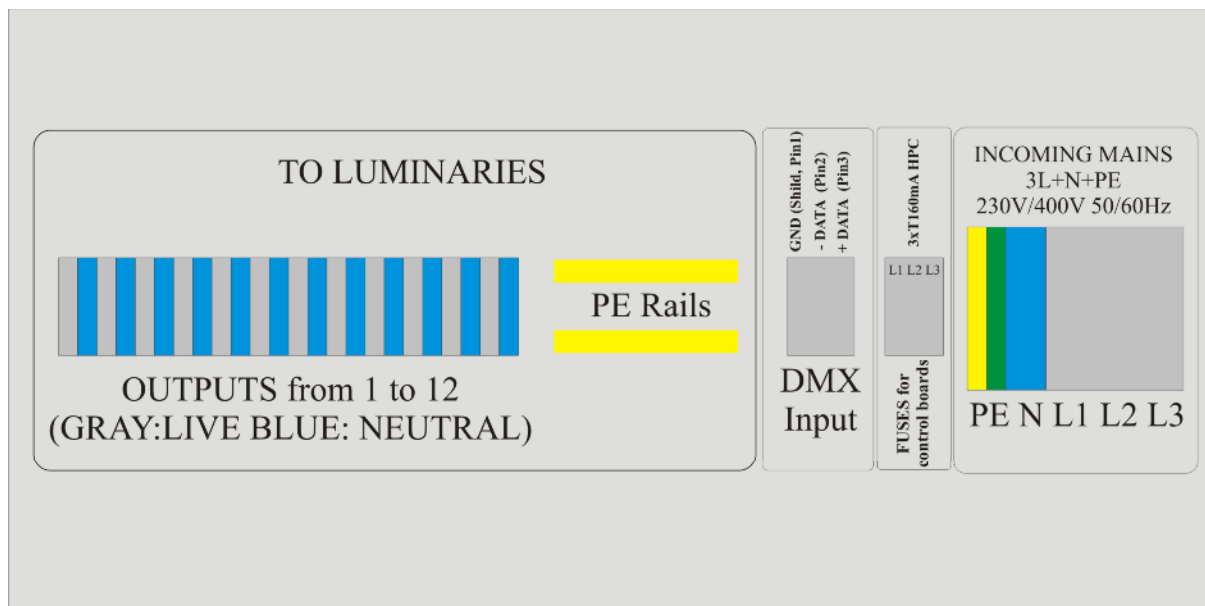


Figure 3. Screw terminal blocks inside the dimmer pack (1P+N MCB version)

CAUTION!

Installation of this dimmer version needs a trained service person.

Take extra care at the installation of the PE, Live and Neutral connections.

The Grey terminals always for LIVE (Line voltage)

Blue ones for the NEUTRAL

Green/Yellow ones for the Protect Earth!



Wrongly connected input mains or outputs can damage the dimmer and the loads!

CAUTION!

The manufacturer **doesn't responsible** if the installer/user connect the cable wrongly! The **guaranty will be void** if the connection order is wrong and the unit can damage too!

Before power up, **always control** the right connection of the Lines

Neutral and the Protect Earth!

Consult with the manufacturer or

with trained service person if you need help in installation!



The unit is able to control 12x6A, 12x10A, 12x13A or 12x16A (depends on the dimmer model). The input L1, L2 and L3 lines are connected to the channels as the follow:

Channel 1-4 to **L1**; Channel 5-8 to **L2**; channel 9-12 to **L3**

If necessary the dimmer can be powered from only one phase (L1, L2 and L3 inputs are powered from the same phase). Please consider that in this case the maximum input power is change as follows:

-12x6A model: **1 x 24A** - 12 x 10A model: **1 x 40Amps**

- 12 x 13A model: **1 x 52Amps**- 12 x 16A model: **1 x 63Amps**



These are the absolute maximum ratings!

If you overdrive, the dimmer can **DAMAGE!**



2. Front panel parts

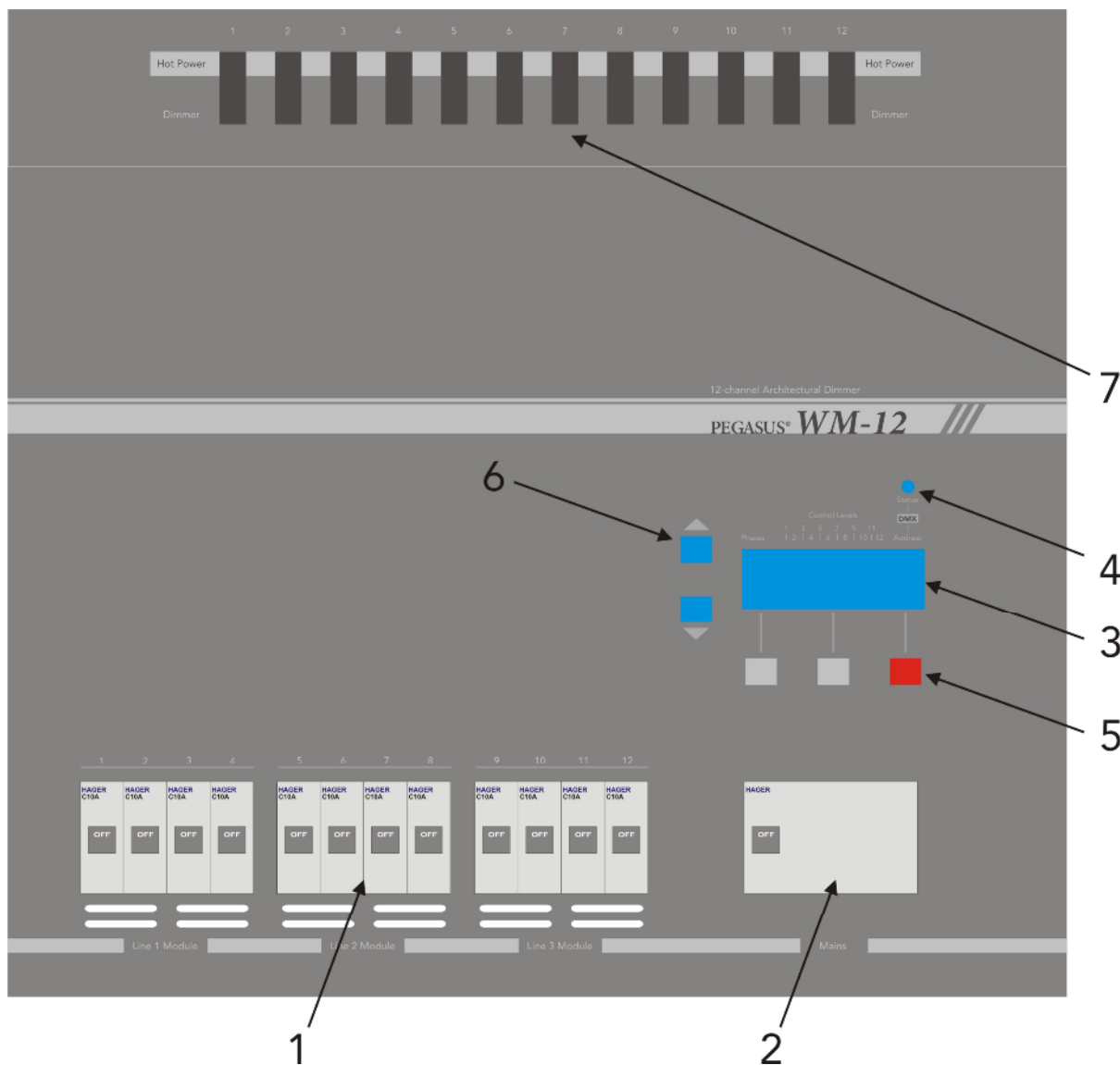


Figure 4. Front panel parts

1. MCBs for output protection
2. Mains input switch (A and C version) or RCD protector (B and D version)
3. LCD
4. DMX status LED
5. Menu selector buttons (interactive, functions of them are depends on the displayed text on the LCD)
6. Up/Down buttons
7. Optional HotPower/Dimmer selector switches per channel. With this switches you can select direct hot power (upper position of the switch) or dimmed output per channel. In hot power position the output is connected directly to the corresponding MCB of the output.

3. DMX Input

The DMX input signal must be connect to the DMX Input marked screw terminal blocks. If this unit is the **last one on the DMX** network chain you must take a termination resistor (120 Ohm 1/2W) between the data lines (2-3). If the dimmer receives correct DMX pockets the DMX LED on the front panel is starts to blinking. The blinking speed can be different regarding the refresh rate of the control desk.

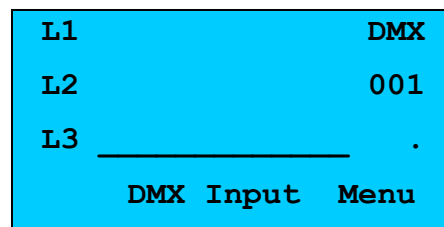
The DMX input of the dimmer is power and opto isolated from the internal electrical boards!

NOT recommended to connect the Pin 1 to the Protect Earth (PE)!

4. Functions of the dimmer, menu items and setups

Note: These parameters have affect to the dimmer functionality only if the channel output is **not Hot Power!**

After power on the following screen (referring as a main screen) will present on the LCD (depends on the last sets and the incoming data):



On the left side of the LCD the **L1**, **L2** and **L3** labels are indicate the modules are working (if one of them is blinking, the corresponding module is not working [e.g. phase not presents]).

On the right side of the LCD you can get information about the DMX configuration like follows:

- **DMX**
0 0 1

This indicates the **normal** DMX addressing mode.
The number means the first receiving DMX channel.

- **DMX**
P o n

This indicates the DMX **patch** is selected (softpatch).
Go to the DMX address menu to see the configuration.

On the center of the LCD the incoming **DMX Input** or **Light levels** presented by twelve bar graphs. **To change the display mode press the middle button.** The DMX incoming mode is a good way to check the DMX data for problem fixings.

If the incoming DMX data stops, the dimmer is hold the last valid DMX data. After the DMX data stop, a “**CLR**” label will be appearing on the left-down side of the LCD. In this case press the left button to clear the control signals (and the output light levels will be set to zero).

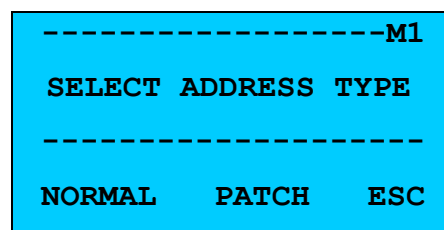
On the right-down side of the LCD the “**Menu**” label is indicate the function of the right button. Press it to enter the system setup. The dimmer has 8 menu items which ones can be scrolled by the up and down buttons:

1. DMX Addressing (Setup for the DMX addresses like normal and softpatch)
2. PreHeat Levels (Setup for the PreHeat light levels to each or all channels)
3. Maximum Levels (Setup for the Maximum Light levels to each or all channels)
4. Curve Types (Setup for the light curves to each or all channels)
5. Edit User’s Curve (Setup to edit the user’s light control curve)
6. EDIT Scenes (Edit the internal scene memory)
7. PLAY Scenes (Play the internal scene memory)
8. RECORD DMX (Store the actual DMX level to a selected scene memory)
9. Factory Restore (Restore the factory settings like DMX setup, channel attributes, etc)

To enter one of the setups press the left button (marked with “**Select**” on the LCD) or press the left button to exit from the menu.

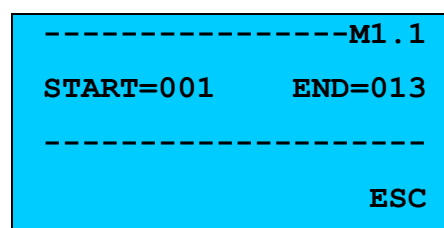
4.1. DMX Addressing

The start address method of the dimmer can be set in the DMX addressing menu. After enter the following screens are present (toggle with the UP /DOWN buttons):



4.1.1. Normal DMX

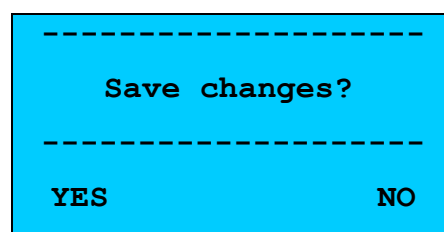
To select the **Normal DMX**, press the left button. After enter, the following screen is presented (*the sets could be different than the example*):



In the Normal DMX address set the start address can be set by the Up and Down buttons. This is a standard and simple DMX start address set for the dimmer (from the selected address the dimmer receive twelve DMX data and the corresponding channels will be controlled with them).

On the LCD the dimmer show the selected start address and the first free DMX address too which is called END. The END is calculated by the dimmer $\{END=StartAddress + 12\}$. This is useful information for the DMX network setup. If the calculated END is over than 512 the dimmer will prompt an **ERR** message here but you can save this set. With this features you can use less than twelve cannels at the end of the DMX data line (e.g.: 6 channels at the end of the DMX line, START is set to 507.).

If the set is okay press the left button which is marked at the LCD as „**ESC**”. After it the following screen will present:

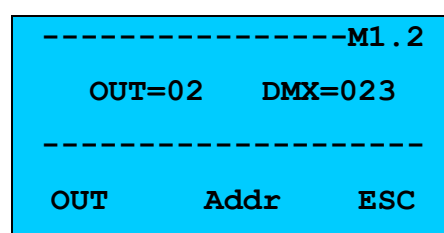


Press the “**YES**“ button (left) to save the changes to the selected memory location (see later) and exit, or press the “**NO**“ button (right) to exit without save.

Note: If a SoftPatch DMX mode was enabled before enter to the **Normal DMX** set, the dimmer disable them and works as a standard addressed unit. If at the exit question you chose NO, the dimmer loads back the previous DMX settings.

4.1.2. DMX Softpatch

To select the **DMX Softpatch**, press the middle button. After enter, the following screen is presented (*the sets could be different than the example*):



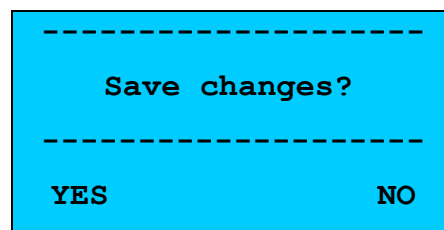
In the Patch DMX mode you can set the DMX address of the output channels separately.

To set do the follows:

1. Press the left button (marked with “**OUT**” on the LCD) to select the output channel number with the Up and Down buttons (from **1** to **12** plus **ALL**).
2. Press the middle button (marked with “**Addr**” on the LCD) to select the address of the DMX data which will control the selected output. The address is selectable with the Up and Down buttons (from **1** to **512**).
3. Repeat the step 1 and 2 until all channels is not set.

Note: Two or more output channel could have the same DMX address. It allows controlling more than one dimmer outputs with the same DMX data. If you select “**ALL**” at the output, all channels will be controlled with the selected DMX data.

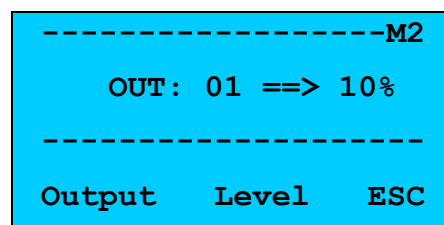
If the set is okay press the left button which is marked at the LCD as „**ESC**”. After it the following screen will present:



Press the “**YES**” button (left) to save the changes to the selected memory location (see later) and exit, or press the “**NO**” button (right) to exit without save.

4.2. PreHeat Levels

After enter, the following screen is presented (*the sets could be different than the example*):



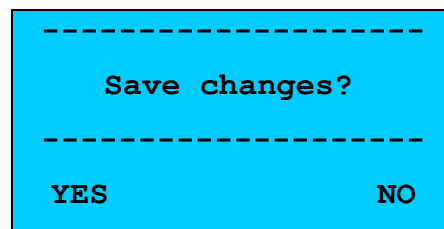
In this setup you can select the PreHeat levels to the output channels separately.

To set do the follows:

1. Press the left button (marked with “**Output**” on the LCD) to select the output channel number with the Up and Down buttons (from **1** to **12** plus **ALL**).
2. Press the middle button (marked with “**Level**” on the LCD) to select the PreHeat level to the selected output with the Up and Down buttons (from **0%** to **100%**).
3. Repeat the step 1 and 2 until all channels is not set.

Note: If you set preheat for the outputs the lamps life can be longer. If you select “**ALL**” at the output, all channels will have the selected PreHeat Level.

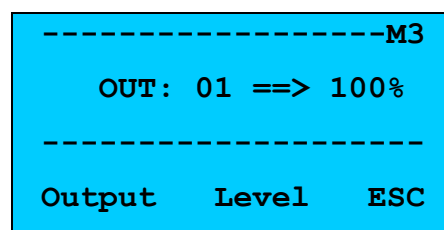
If the set is okay press the left button which is marked at the LCD as „**ESC**”. After it the following screen will present:



Press the “**YES**” button (left) to save the changes to the selected memory location (see later) and exit, or press the “**NO**” button (right) to exit without save.

4.3. Maximum Levels

After enter, the following screen is presented (*the sets could be different than the example*):



In this setup you can select the maximum output levels to the output channels separately.

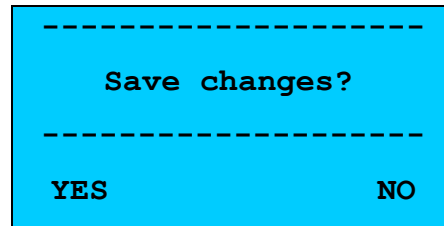
To set do the follows:

1. Press the left button (marked with “**Output**” on the LCD) to select the output channel number with the Up and Down buttons (from **1** to **12** plus **ALL**).

2. Press the middle button (marked with “**Level**” on the LCD) to select the Maximum Level to the selected output with the Up and Down buttons (from **0%** to **100%**).
3. Repeat the step 1 and 2 until all channels is not set.

Note: If you want to use a **115V bulbs**, we recommend to go and select **120V** characteristic for the channel in the **CURVE Types** menu.

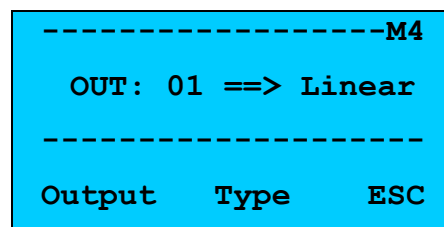
If the set is okay press the left button which is marked at the LCD as „**ESC**”. After it the following screen will present:



Press the “**YES**” button (left) to save the changes to the selected memory location (see later) and exit, or press the “**NO**” button (right) to exit without save.

4.4. Curve Types

After enter, the following screen is presented (*the sets could be different than the example*):



In this setup you can select five different light level curves to each channel. You can chose from the following curves:

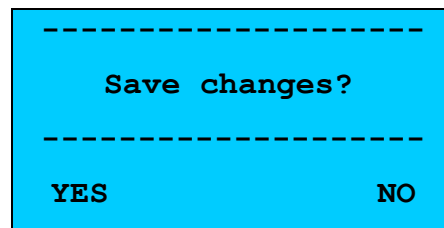
1. Linear {*The output voltage (V_{rms}) and the incoming DMX level are in linear relationship.*}
2. Logarithmic {*The output voltage and the incoming DMX level are in logarithmic relationship.*}
3. Square {*The output voltage and the incoming DMX level are in square relationship.*}
4. Switch {*If the incoming DMX between 0 and 127 the channel is **OFF**. Otherwise it is **ON**.*}
5. User {*There is one user editable light control curve. See it later.*}

To set do the follows:

1. Press the left button (marked with “**Output**” on the LCD) to select the output channel number with the Up and Down buttons (from **1** to **12** plus **ALL**).
2. Press the middle button (marked with “**Types**” on the LCD) to select the control Curve Type to the selected output with the Up and Down buttons (**Linear**, **Log**, **Square**, **Switch** and **User**).
3. Repeat the step 1 and 2 until all channels is not set.

Note: If you select “**ALL**” at the output, all channels will have the selected control curve.

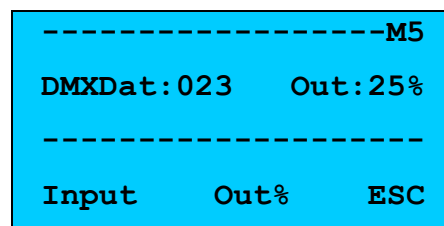
If the set is okay press the left button which is marked at the LCD as „**ESC**”. After it the following screen will present:



Press the “**YES**” button (left) to save the changes to the selected memory location (see later) and exit, or press the “**NO**” button (right) to exit without save.

4.5. Edit User’s Curve

After enter, the following screen is presented (*the sets could be different than the example*):



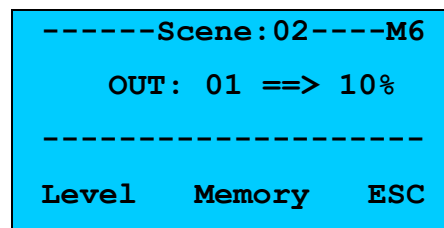
In the WM dimmer you can make an own DMX Data–Output Level relationship curve. The DMX data can be stepped from 0 to 255 and for all DMX data you can set an output light level in percent (%). This curve called in User’s Curve in the curve select setup.

To edit do the follows:

1. Press the left button (marked with “**Input**” on the LCD) to select the incoming DMX data level with the Up and Down buttons (from **1** to **255**).
2. Press the middle button (marked with “**Out %**” on the LCD) to select the output light level with the Up and Down buttons (from **0%** to **100%**).
3. After when you changed the output level, with the right button press (now marked with “**SAVE**”) you can save the changed value (only for the selected DMX data). If you don’t want to save just simple press the left button (now the right button will be marked with “**ESC**”). If you want to exit this setup press now the right button (marked with “**ESC**”).
4. Repeat the step 1 to 3 until all requested changes are not set.

4.6. EDIT Scenes

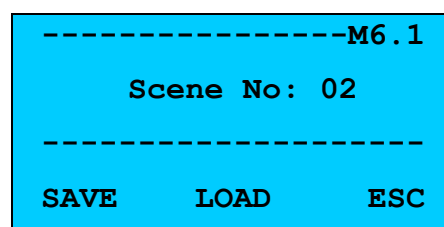
After enter, the following screen is presented (*the sets could be different than the example*):



In the scene setup you can edit internal scenes up to 40. These edited scenes will be playable in the PLAY Scenes menu. When you enter to this menu the DMX data reception is disabled.

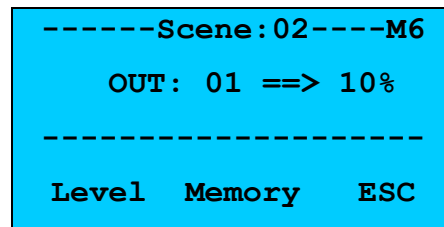
To edit do the follows:

1. Press the middle button (marked with “**Memory**” on the LCD) to select the scene what you want to edit. After it, the following screen is presented (*the sets could be different than the example*):

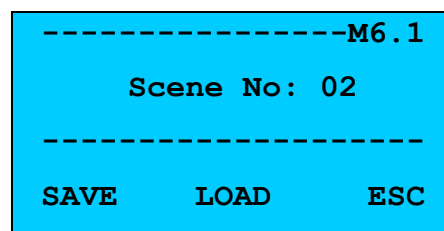


- With the Up and Down buttons select the scene number. If you want to load the selected scene to edit press the middle button marked with “**LOAD**”.

- On the top of the LCD a “**Loading...**” message will prompt you the loading is being proceeded. (The loaded levels will be present on the outputs of the dimmer).
 - When the message is gone press the right button (marked with “**ESC**”) to go back the previous edit screen.
 - If you don’t want to load the selected scene, press down only the right button (marked with “**ESC**”) to go back the previous edit screen.
2. When you are in the edit screen with the left button (marked with “**Level**”) you switch between the number of the output and the level of the output what you step by the Up and Down buttons. The cursor is flashing text to the selected data. The actual scene number is indicated on the top of the LCD.



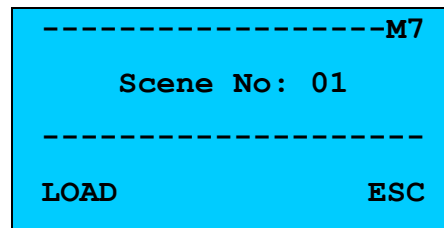
3. When you finished the scene edit press the middle button (marked with “**Memory**” on the LCD) to go back the save/load menu.



- If you want to save the edited scene to the selected scene position just press the left button marked with “**SAVE**”.
 - On the top of the LCD a “**Saving...**” message will prompt you the saving is being proceeded.
 - When the message is gone press the right button (marked with “**ESC**”) to go back the previous edit screen or you can load another scene to edit as described above.
4. Repeat the step 1 to 3 until all requested changes are not set.

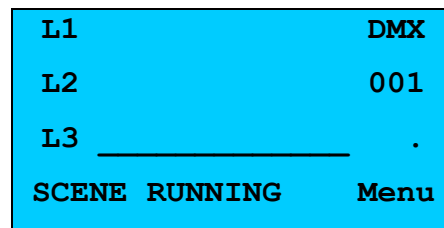
4.7. RUN Scenes

After enter, the following screen is presented (*the sets could be different than the example*):



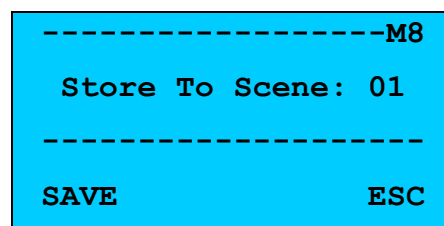
In this setup you can load and play the edited scenes with selectable speed. To run the selected scenes press down the left button (marked with “**LOAD**”). When the scenes are running a message (“**Running...**”) on the top of the LCD appears. If you exit this setup (with the right button, marked with “**ESC**”) the scenes are running continuously.

On the main screen an “**SCENE RUNNING**” message prompt you the scenes are running. If you press down the left button the program run is stops and the dimmer goes back to the previous operation (DMX or analog data reception is enabled).



4.8. RECORD Scenes

After enter, the following screen is presented (*the sets could be different than the example*):

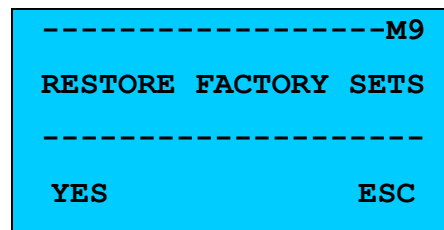


In this setup the actual DMX value can be stored to the selected scene memory location (1-40). With the Up/Down buttons select the memory location and press the left button (marked with “**SAVE**”) to store the actual DMX level.

Note: This store make fix level recording not continuous DMX changes! It’s not possible to use this feature to record DMX level changes to play it back as a show!

4.8. FACTORY Restore

After enter, the following screen is presented (*the sets could be different than the example*):



In this setup all dimmer parameters can be restored to the factory setup (such as DMX address, preheat levels, maximum levels, control curves). Press the left button to start the restore process. This selection can not be undo!

Technical information

Power supply:	TN-S 3x230V/400VAC ±10%
	(3 x 40A or 3x 63A)
Power draw without load:.....	10W
Output connectors:.....	12 x 4mm ² screw terminal blocks (STB)
Input connectors:.....	5x10mm ² STB (mains); 3x2,5mm ² STB (DMX)
Noise filters:.....	A and B model: tr=100us ±5%
	6A and 10A C and D model: tr=225us ±5%
	13A and 16A C and D model: tr=250us ±5%
Output protection:.....	C6A, C10A, C13A or C16A circuit breakers (1P, 1P+N or 2P depends on the model)
Input protection:	TVS and ESD diodes, opto- and power isolation on DMX input
Operating temperature:.....	10°C to 35°C
Storage temperature:.....	-10°C to 60°C
Dimensions:	440x630x140 (in mm)
Weight:.....	23Kg



Declaration of Conformity

We, PLS Electronics Limited declare under sole responsibility that the product:

Product name:..... Pegasus® WM12 architectural dimmer series
Product model (*output current variations*): 12x6A, 12x10A, 12x13A and 12x16A
Main switch or RCD input protection
Serial Number:..... n/a
Lot:..... n/a
Item number:..... One

to which this declaration relates is in conformity with the following standards:

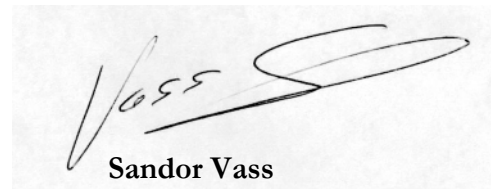
- **EN 55015-1** (Electromagnetic compatibility. Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment (CISPR 15:2000+CISPR 15:2000/A1:2001+ CISPR 15:2000/A2:2003)
- **EN 61000-6-2** (Immunity for industrial environments)
- **EN 60439-1** (Low-voltage switchgear and controlgear assemblies. Part 1: Type-tested and partially type-tested assemblies)

Therefore the upper indicated product **qualifies** the EU 73/23/EWG LV directive and the 89/33/EWG EMC directive, considering 93/465/EWG directive for CE.

Place of issue:
Szekesfehervar, HUNGARY

Date of issue:
01.03.2014

Signature of authorised person:



Sandor Vass
Managing Director of PLS Ltd

Notes:

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