

PEGASUS[®] *CUTE*

**12-channel Digital Dimmer/Mains
Distributor**

User's manual

First edition

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 digital dimmer / mains distributor with DMX 512/1990 with a lot additional control possibilities. The light control is produced by a phase angle control technology at the dimmer outputs. The hot power outputs are fixed lines from the MCBs.

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.

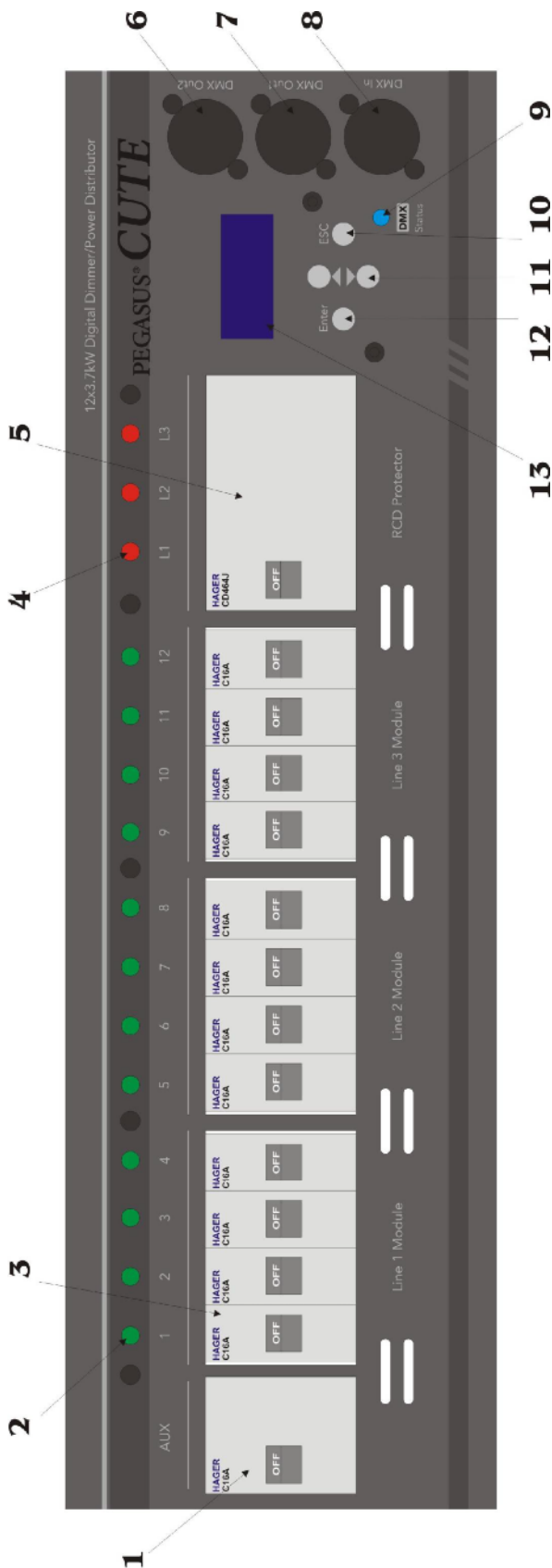


CAUTION!

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!



Front parts

1. AUX Output RCBO protector (combined MCB/RCD 30mA)
2. These green LEDs show the control level of each channel.
3. Output protector MCBs (C16A) which protects the corresponding dimmer/hot power outputs
4. Phase / Module state indicators. If it's ON, the corresponding phase unit is working.
5. RCD protector for dimmer/hot power outputs (exclude the AUX output, AUX is protected with separated RCBO)
6. Opto and power isolated DMX output 1
7. Opto and power isolated DMX output 2
8. DMX input (isolated)
9. DMX control LED (If it's flashing, the DMX pocket is correct; when OFF, the DMX pocket is incorrect or not present
10. ESCAPE button. use to exit from the menu or discard the modification of the selected parameter
11. UP/DOWN buttons, use to scroll up/down on the menu list or increase the value/level of the selected parameter
12. ENTER button, use to enter to the menu, select item and confirm the modification of the selected parameter
13. LCD display

Figure 1. Handling units of front part

Outlet of the backside connectors of **CUTE-H** dimmer:

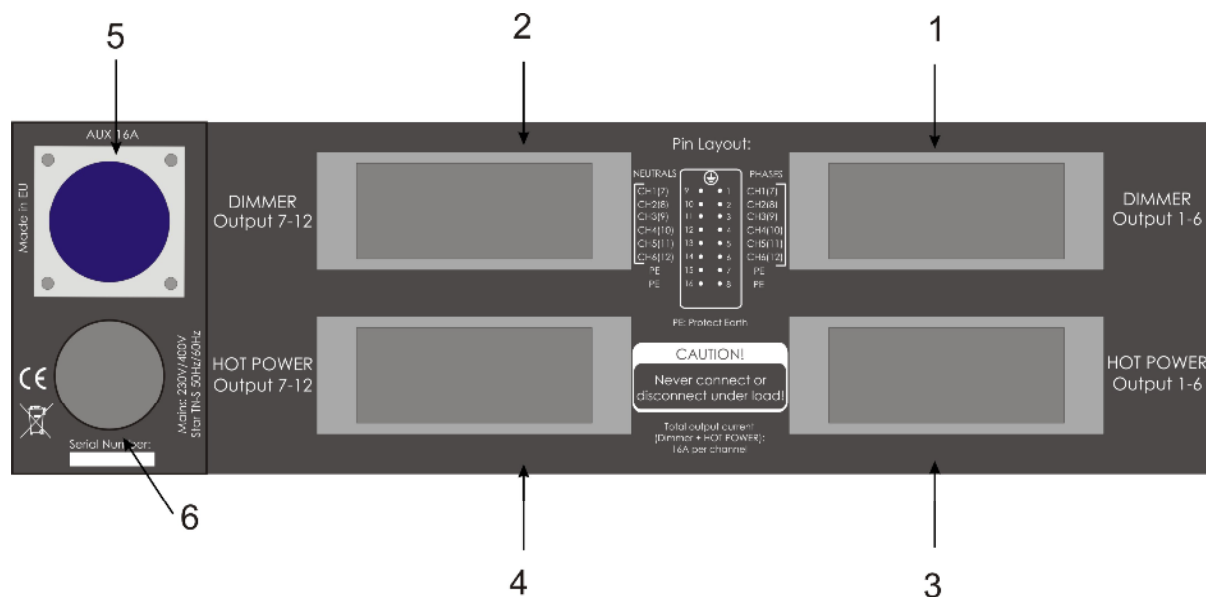


Figure 3. Back part connectors

1. DIMMER Outputs for the channels 1 to 6. This connector referred in the future as **Socket-A**. These outputs are coming from the dimmer circuits.
2. DIMMER Outputs for the channels 7 to 12. This connector referred in the future as **Socket-B**. These outputs are coming from the dimmer circuits.
3. HOT POWER Outputs for the channels 1 to 6. This connector referred in the future as **Socket-C**. These outputs are coming directly after the corresponding MCB.
4. HOT POWER Outputs for the channels 7 to 12. This connector referred in the future as **Socket-D**. These outputs are coming directly after the corresponding MCB.
5. AUX output (230V/16A, protected by RCBO)
6. Mains input via H07 5G10 rubber cable

The pin outlet the 16-pole ‘Harting’ type connectors in **H version** are the follows:

Pin number	Function
1, 2, 3, 4, 5, 6	Output <u>phases</u> for channel 1,2,3,4,5,6 respectively at Socket A&C and output <u>phases</u> for channel 7,8,9,10,11,12 respectively on the Socket B&D .
9, 10, 11, 12, 13, 14	Output <u>neutrals</u> for channel 1,2,3,4,5,6 respectively at Socket A&C and output <u>neutrals</u> for channel 7,8,9,10,11,12 respectively on the Socket B&D .
7, 8, 15, 16 and the side connectors	PROTECTIVE EARTH (PE)

The pin outlet of the 16-pole ‘Harting’ type connectors in **HD version** are the follows:

Pin number	Function
1, 3, 5, 7, 9, 11	Output <u>phases</u> for channel 1,2,3,4,5,6 respectively at Socket A&C and output <u>phases</u> for channel 7,8,9,10,11,12 respectively on the Socket B&D .
2, 4, 6, 8, 10, 12	Output <u>neutrals</u> for channel 1,2,3,4,5,6 respectively at Socket A&C and output <u>neutrals</u> for channel 7,8,9,10,11,12 respectively on the Socket B&D .
13, 14, 15, 16 and the side connectors	PROTECTIVE EARTH (PE)

Recommended 16-pole male plug (optionally orderable form PLS):

Male insert: HDC HE 16 MT (Tension clamp, Weidmüller order no.: 1745840000)

or HDC HE 24 MS (Screw connection, Weidmüller order no.: 1207500000)

House: HDC 16B TOBU 1M25G (M25 cable gland Weidmüller order no.: 1788210000)

Outlet of the backside connectors of **CUTE-SX** dimmer:

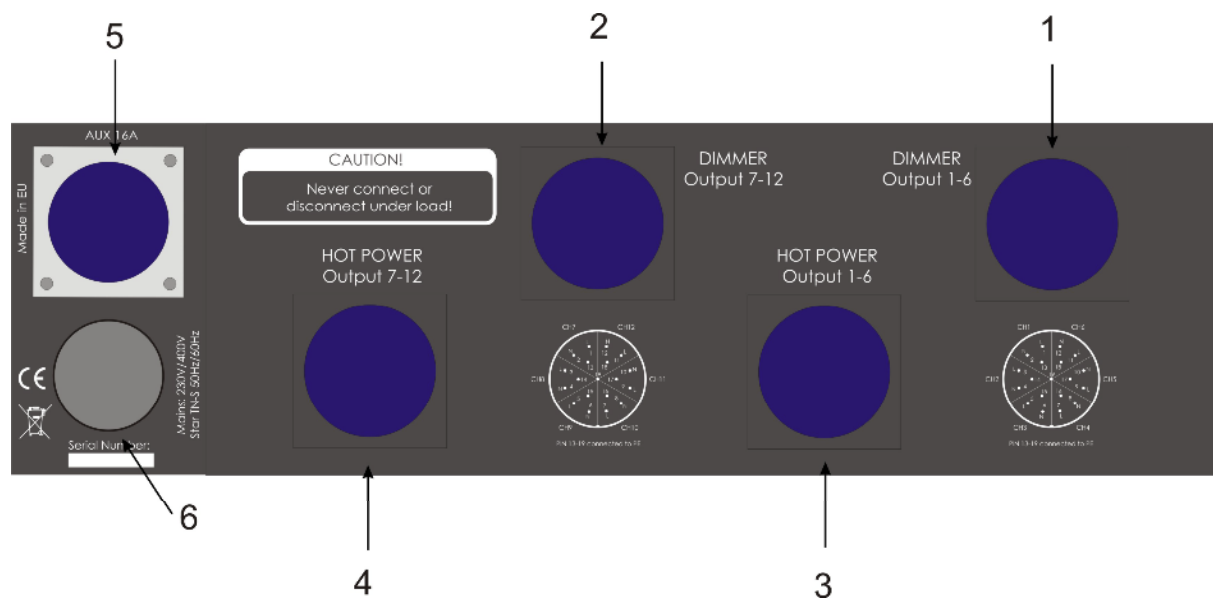


Figure 4. Back part connectors

1. DIMMER Outputs for the channels 1 to 6. This connector referred in the future as **Socket-A**. These outputs are coming from the dimmer circuits.
2. DIMMER Outputs for the channels 7 to 12. This connector referred in the future as **Socket-B**. These outputs are coming from the dimmer circuits.
3. HOT POWER Outputs for the channels 1 to 6. This connector referred in the future as **Socket-C**. These outputs are coming directly after the corresponding MCB.

4. HOT POWER Outputs for the channels 7 to 12. This connector referred in the future as **Socket-D**. These outputs are coming directly after the corresponding MCB.
5. AUX output (230V/16A, protected by RCBO)
6. Mains input via H07 5G10 rubber cable

The pin outlet the 19-pole ‘Socapex’ type connectors is the follows:


Pin number	Function
1, 3, 5, 7, 9, 11	Output <u>phases</u> for channel 1,2,3,4,5,6 respectively at Socket A&C and output <u>phases</u> for channel 7,8,9,10,11,12 respectively on the Socket B&D .
2, 4, 6, 8, 10, 12	Output <u>neutrals</u> for channel 1,2,3,4,5,6 respectively at Socket A&C and output <u>neutrals</u> for channel 7,8,9,10,11,12 respectively on the Socket B&D .
13, 14, 15, 16,17,18,19	PROTECTIVE EARTH (PE)

Recommended male plug (optionally orderable form PLS):

Male inline plug: P19-LM-S-M40A (solderable, for cable OD 16-28mm)

2. Installation of the unit

After unpacking the apparatus is ready for use. **Not to make the cable longer! If it is short, use standard extension. Operating with injured cable is perilous!**




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!



The unit has been shipped with 5x10mm² H07 rubber cable without CEE male plug (except CUTE-SX-R and CUTE-H-R where the unit supplied with rack and CEE plug). The correct order of the power cable is the follows:

Cable color	Function
Grey	Line 1 (L1 or R)
Black	Line 2 (L2 or S)
Brown	Line 3 (L3 or T)
Blue	NEUTRAL (N)
Green/Yellow	Protect Earth (PE)



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!

The unit is able to control 12 x 16Amps. The input L1, L2 and L3 lines are connected to the channels as the follow:

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

You can use the unit from two or one phase too (for example the L1 and L2 are the same phase). If change the numbers of phases the maximum output power is change like this:

At 3 phases $\Sigma 3 \times 63\text{Amps}$; at 2 phases $\Sigma 2 \times 63\text{Amps}$; at 1 phase $\Sigma 1 \times 63\text{Amps}$



These are the absolute maximum ratings!
If you overdrive, the dimmer can **DAMAGE!**



4. Digital Control

4.1 DMX input

The DMX input signal must be connect to the DMX In marked connector, which can be found on the front side of the unit.

Pin Number	Function
1	Ground (Shield)
2	Data (-)
3	Data (+)
4	Spare Data (-) NC
5	Spare Data (+) NC

Table 1. Functions of XLR pins

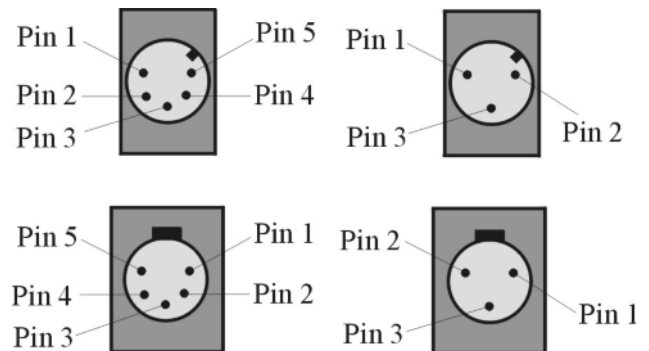


Figure 5. Outlet of the connectors (front view, the male connectors in the upper line)

The DMX input of the dimmer is power and opto isolated!
Not recommended to connect the Pin 1 to the Protect Earth (PE)!
 The DMX Output 1 and 2 are **isolated** from the DMX input and **refreshed!**

4.2 Menu specification

After pressing the SET button on the dimmer you can reach the following menu points (use UP/DOWN keys to scroll on the menu list) which ones have **affect ONLY for the dimmer** outputs (no affect for direct Hotpower outputs):

1. Start Address
2. Test Outputs
3. Run Chaser
4. DMX Patch
5. Dimmer Curves
6. Dimmer Preheats
7. Dimmer MaxLevel
8. Memories
9. If DMX Fails
10. Factory Defaults
11. Dimmer Settings

To enter to the selected menu press the SET button again, otherwise press the ESC to go back the standby display.

4.2.1. Start address set

In this menu point you can set the global start address of the dimmer (from the set address the dimmer receives twelve DMX data and control the outputs from 1 to 12). Use the UP/DOWN keys to change the address (from 001 to 512). To save the setting, press SET, otherwise press ESC to go back into the menu list.

If the dimmer is in softpatch mode you have to disable it before you select global DMX address. For it the dimmer ask back when you go into this menu point. To disable the softpatch, press SET after this question displayed

The factory default is 001.

4.2.2. Test the outputs of the dimmer

After entering this menu you have to select the testing way, **blinking** (the output blinks on/off in each 1sec) or **steady** (the output in stable). Press SET for selection and now you can select with UP/DOWN keys which channel you want to test (from 1 to 12). Press SET to modify the light output level by the UP/DOWN keys; to choose another output press SET again. Press ESC to exit from this menu.

4.2.3. Chaser

The dimmer has 9 preprogrammed (non-modify able) scenes / chaser effects. After enter to this menu, select with the UP/DOWN keys which chaser you want to play on the output. The first three are fix light outputs (30%, 60% and 100%) for each channel; the last 6 are running chasers. Press SET after selection and the chaser now present on the outputs. To modify the light level (grand master) use the UP/DOWN keys. To select another chaser press SET, to exit from the menu press ESC.

4.2.4. DMX Softpatch

You can select different DMX addresses for each output in this menu. First with the UP/DOWN keys select the output, after press the SET and now select the DMX address for that channel. Press the SET to chose another output and repeat the steps described before.

To exit from this menu press the ESC. Here the dimmer asks back, to enable this settings. If you want to enable, press SET, otherwise ESC. If you choose SET, the global DMX address which selected in the first menu point is now disabled. If you select ESC the selected addresses are stored but not enabled (the global DMX address is enabled).

4.2.5. Dimmer PreHeat

To give preheat level for output enter into this menu point. With the UP/DOWN keys select the output and after press SET. Now you can set the preheat level by the UP/DOWN keys. A star (*) indicated next to the level that the data has been changed. Press SET and the level will be stored into the memory and you can select another output or press ESC to exit from this menu without saving you modification.

If you press ESC after pressing the SET (you don't want to adjust more channels) the dimmer stores the data and exit from the menu.

The factory default is 0% for each output.

4.2.6. Dimmer MaxLevels

To set limitation for the output level, enter into this menu point. (Here actually the adjusted level limits the DMX input value to the selected level.) **DON'T use this feature to handle 115V bulbs! Choose 120V control curve in the next menu point for those channels!**

With the UP/DOWN keys select the output and after press SET. Now you can set the maximum level by the UP/DOWN keys. A star (*) indicated next to the level that the data has been changed. Press SET and the level will be stored into the memory and you can select another output or press ESC to exit from this menu without saving you modification.

If you press ESC after pressing the SET (you don't want to adjust more channels) the dimmer stores the data and exit from the menu.

The factory default is 100% for each output.

4.2.7. Dimmer Curves

To select different control curves for each output, enter into this menu point. With the UP/DOWN keys select the output and after press SET. Now you can set the control curve by the UP/DOWN keys. A star (*) indicated next to the level that the data has been changed. Press SET and the level will be stored into the memory and you can select another output or press ESC to exit from this menu without saving you modification.

If you press ESC after pressing the SET (you don't want to adjust more channels) the dimmer stores the data and exit from the menu.

The factory default is RMS Linear for each output.

4.2.8. Memories

Here you can play/record and edit dimmer scenes up to 16 memories. After enter with the UP/DOWN keys select, which function you want to enter.

4.2.8.1. Play Memories

With the UP/DOWN keys select a memory what you want to play and press SET. With the selected Fade In time the dimmer starts to fade (display) the memory. By pressing the ESC you can fade back from the memory.

If the HTP is selected in the PRIORITY menu point (see three sections later) the dimmer continues receiving DMX signal and handle the memory in Highest Takes Precedence priority. Otherwise the DMX data receiving is disabled (but the LED on the front panel still indicate that the DMX is present or not).

4.2.8.2. Edit Memories

With the UP/DOWN keys select the memory location what you want to edit and press SET. After it the stored data is present on the outputs of the dimmer and you can edit it.

With the UP/DOWN keys select the output and press SET to change the value of that output. Press the SET to store the set value or press ESC to exit without saving from this menu point.

Repeat the steps above to adjust the other channels if necessary.

If the selected memory location is not empty the dimmer prompt you that the location is contain stored data. Press Ok to accept it and you overwrite the existing data or press ESC to choose another location.

4.2.8.3. Record Memories

With this feature you can store DMX data into the memory.

Use the UP/DOWN keys to select memory location where you want to save the DMX input and press SET.

If the selected memory location is not empty the dimmer prompt you that the location is contain stored data. Press Ok to accept it and you overwrite the existing data or press ESC to choose another location.

4.2.8.4. *Priority of Memories*

If you want to add the DMX input data with the memory (at playing) chose with the UP/DOWN keys the HTP (highest takes precedence). Otherwise select No DMX to disable the DMX input while memory playing is in progress.

4.2.9. **If DMX Fails**

Here you can set how the dimmer react if the DMX signal is fails. You can choose from the following possibilities:

1. **Keep DMX value** (the dimmer keep the output levels infinitely till a new valid DMX pocket not arrive)
2. **Fade Out** (with the selected wait and fade out time the dimmer fade back to zero level after DMX data fails; you can set it in the Dimmer Settings menu section)
3. **Play memory** (The dimmer plays the selected memory location if the DMX fails. You can set after pressing the SET button by the UP/DOWN keys. Press SET to store the selected memory number and ESC to exit to the main menu.)

After change of these setting a valid DMX pocket MUST to receive or you have to restart the dimmer (disconnect-reconnect) to have effect for the next DMX fail.

4.2.10. **Factory defaults**

To store back the factory settings you can choose from three alternatives by the UP/DOWN keys:

1. **Clear Settings** (DMX addressing, softpatch, PreHeat and Maximum levels, Control curves)
2. **Clear Mem** (Clear only the stored memories, not modify the other settings)
3. **Clear ALL** (Clear the setting, the memories and set back the defaults for the dimmer settings as well)

Press the SET at the chosen function or press ESC to exit from this menu point.

4.2.11. Dimmer Settings

By pressing the SET button **three times within two seconds** you enter into the dimmer setting menu point where you can adjust the following preferences:

1. **User Control Curve**

For each DMX input data (0-255) you can set output level (from 0%-100%) to give freedom for special control cases.

2. **If DMX Fails setup**

Here you can select the Wait Time and the Fade Out time for the If DMX Fails menu point.

3. **Display Time**

Here you can select the display backlighting time; the lighting time can be infinitely or can be switch off after a specified time.

4. **Memory Fade Times**

Here you can specify the Fade In and Fade Out times for the memory play back.

Technical information

Power supply:	TN-S 3x230V/400VAC $\pm 10\%$ (3 x 40A or 3x 63A)
Power draw with open outputs:.....	10W
Output connectors:.....	4x 16-pole 'Harting' (-H); 4x 19-pole 'Socapex (-SX)
Input/output data connectors:	5 pole XLR male/females (Amphenol made)
Noise filters:.....	Toroidal filters at all ch. (tr=100uS $\pm 5\%$)
Output protection:.....	C16 Amps circuit breakers (Hager)
Input protection:	TVS and opto and power isolation on DMX input/outputs
Operating temperature:.....	10°C to 35°C
Storage temperature:.....	-10°C to 60°C
Dimensions:.....	484 x 132 x 350 + connectors
Weight:.....	23Kg

Notes:



Declaration of Conformity

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

Product name:Pegasus ® CUTE 12 x 3,7KW dimmer
Product model (*output variations*):.....H2 (4 x 16-pole 'Harting'), SX (4 x 19-pole Socapex)
Serial Number:n/a
Lot:n/a
Item number:.....One

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

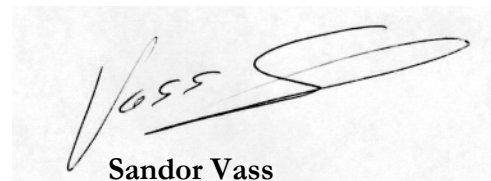
- **EN 55015-1** (Electromagnetic compatibility. Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment (CISPR 15:2000+CISPR 15:2000/A1:2001+ CISPR 15:2000/A2:2003)
- **EN 61000-6-2** (Immunity for industrial environments)
- **EN 60439-1**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