WORK®

LM 5
User Manual
Version1.1

SAFETY INSTRUCTIONS

1. Read this manual carefully.

2. Follow all instructions and warnings.

3. Only use accessories specified by WORK PRO.

4. Follow the safety instructions of your country.

5. Be careful with sound levels.

SYMBOLS

The following symbols are used in this document:

This symbol indicates a potential risk of harm to a person or damage to the product. You can also notify the user of the instructions that must be followed strictly to ensure the installation or safe operation of the product.

This symbol notifies the user about the instructions that must be followed strictly to ensure the correct installation or operation of the product.

This symbol notifies the user about additional information or optional instructions.

WELCOME TO WORK PRO

Thank you for choosing the WORK PRO LM 5 device.

This document contains essential information on the use of the system. Read this document carefully to become familiar with the system.

Please check the WORK PRO website regularly to download the latest version of the document and software updates: https://www.workpro.es/

CONTENTS

1. Introduction

LM5 is a device designed for lighting control through ArtNet or OSC, the first of which is a lighting protocol and the second an open control protocol, both functional through the TCP / IP protocol stack. The LM5 device converts the instructions from the previous commented protocols to DMX, being able to generate up to 512 DMX channels, that is, a universe.

The LM5 is a versatile device since, due to it accepts different protocols, it can be adapted to different environments of use, being a suitable device for both live events and structural lighting.

The fact that the LM 5 accepts the OSC protocol makes it compatible with the different control applications existing in the market, being able to create a customized control interface which is capable of adapting to the needs of the end user.

In addition, the device has an internal memory to store up to 99 Cues, included in different shows.

Definition:

- 1 DMX universe, 512 channels
- Memory of 100 storable scenes in up to 24 shows.
- Multiprotocol device, ArtNet and OSC.
- Oriented to both direct events (ArtNet node) and structural lighting.
- Possibility of control from mobile devices, due to the compatibility with the different OSC Apps in the market.
- Possibility of the creation of customized control interfaces through workCAD 3 editor.

2. Features

Lighting features	
Number of universes	1 universe (512 DMX channels)
DMX connector	XLR-5 female
Memory	99 cues
Shows	24

Network	
Connector	RJ-45
Lighting and control protocols	Art-Net, OSC
Ethernet	100 base TX

Main supply	
External main supply	5 Vdc (incluided)
Connector	Jack 6.3mm female
USB	Micro USB-B
Consumption	1.5 W

General	
Dimensions	86.5mm×68.9mm×42.45 mm
Weight	170 g

2.1. Description of the device

1. **LED ACT**. Green colour LED, which indicates the transmission of DMX with its blink.

2. **LED LINK**. Green colour LED, which indicates the Ethernet connection.

3. **Sub-Net.** Universe group selector:

- Sub-Net 0. Universes 0-15

- Sub-Net 1. Universes 16-23

- Sub-Net 2. Universes 24-31

- ...

4. **UNIV.** Universe selector

5. **LAN Port.** Connection port to the local network, RJ45.

6. **LED Power.** Red colour LED, which indicates that the device has power.

7. **Main supply input.** For external power supply 5Vdc, 500 mA, as minimum.

8. **USB power supply input.** 5Vdc, micro USB USB-B.

9. **DMX OUT.** DMX output XLR-5 female

Check the correct polarity before connecting the power.

The external power supply is provided with the device.

2.2. Device configuration

The configuration of the device can be done via software (**WorkCAD3 configurator**) or web interface. The most comfortable way for the user is through WorkCAD3 configurator, since the user will have access to all the functionalities of the device.

## 2.2.1. Configuration through WorkCAD3 Configurator

After making the configuration at the IP level of the device and updating it if necessary (see **WorkCAD3 Configurator** user manual), proceed with its configuration.

If you click with the left mouse button on the device, the configuration interface will open where the following parameters appear:
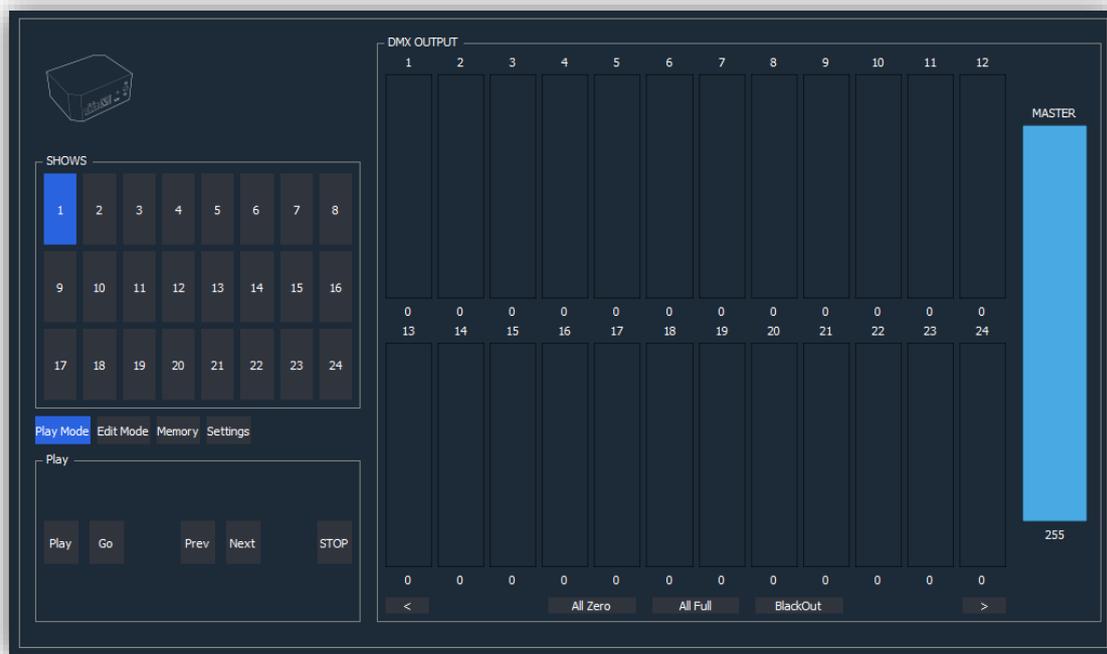

**SHOWS:** Allows to select the show to be launched or edited.

- **DMX OUTPUT.** Modifier / Viewer of each of the DMX channels.

  - **All Zero.** Button to set all channels to zero.
  - **All Full.** Button to set all channels to 255.
  - **Black Out.** Button to turn off all the luminaires.
  - **Prev.** Button to access the 24 previous DMX channels.
  - **Next.** Button to access the next 24 DMX channels.

- **Play Mode.** Live mode selection
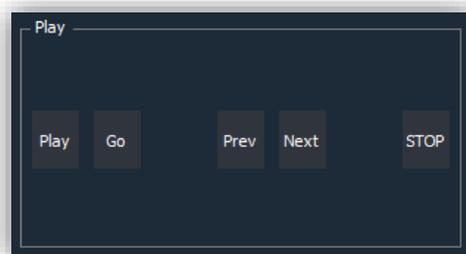
- **Play.** Button to trigger the selected show.
- **Go.** Button to trigger the first scene of the selected show.
- **Next .** Button to trigger the next scene.
- **Prev.** Button to trigger the previous scene.
- **Stop.** Button to stop the show

- **Edit Mode.** Edition mode for recording shows.
  - **-.** Button to delete the current scene of the selected show.
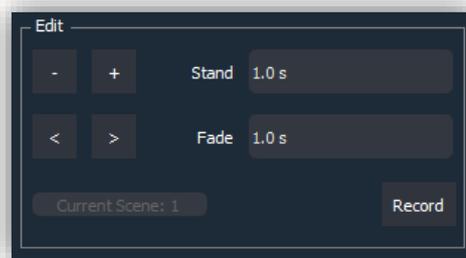
- **+.** Button to add one more scene to the selected show.
- **< >.** Buttons to go to the previous or next scene.
- **Record.** Button to record the values of the DMX channels to the selected scene.
- **Stand.** Time of stay in the scene in seconds.
- **Fade.** Crossfade time in seconds between current and next scene.

- **Memory.** Memory management (shows).
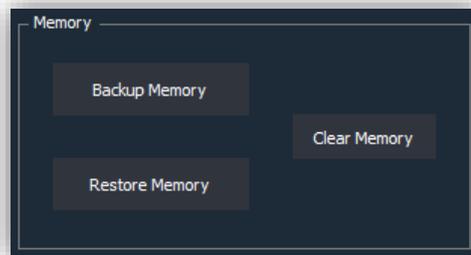
- **Backup Memory.** Save memory to file.
- **Restore Memory.** Load memory from file.
- **Clear Memory.** Delete the memory of the device.

- **Settings.** Device adjustments.
  - **Startup Show.** Startup mode of the device.
    - **None.** None.
    - **Last Show.** Last show.
  - **Predefined Show.** Predefinied show, include show number in the editable field.
  - **Enable feedback.** Enable feedback so that the interface can show the status of the device.

## 2.2.2. Configuration through web interface

In addition to the configuration through WorkCAD3 Configurator, you can also use the web interface for its configuration. For this, the first thing you should do is include your PC in the same subnet as the device, which is 2.0.0.0.
To modify the IP of your PC you can refer to the section "Configuration at network level" of the manual of WorkCAD 3 configurator.
You can also use the video of the following link.
https://www.youtube.com/watch?time_continue=92&v=aGedLZ-xHMY

After entering the IP of the device in the web browser, the following interface will appear.
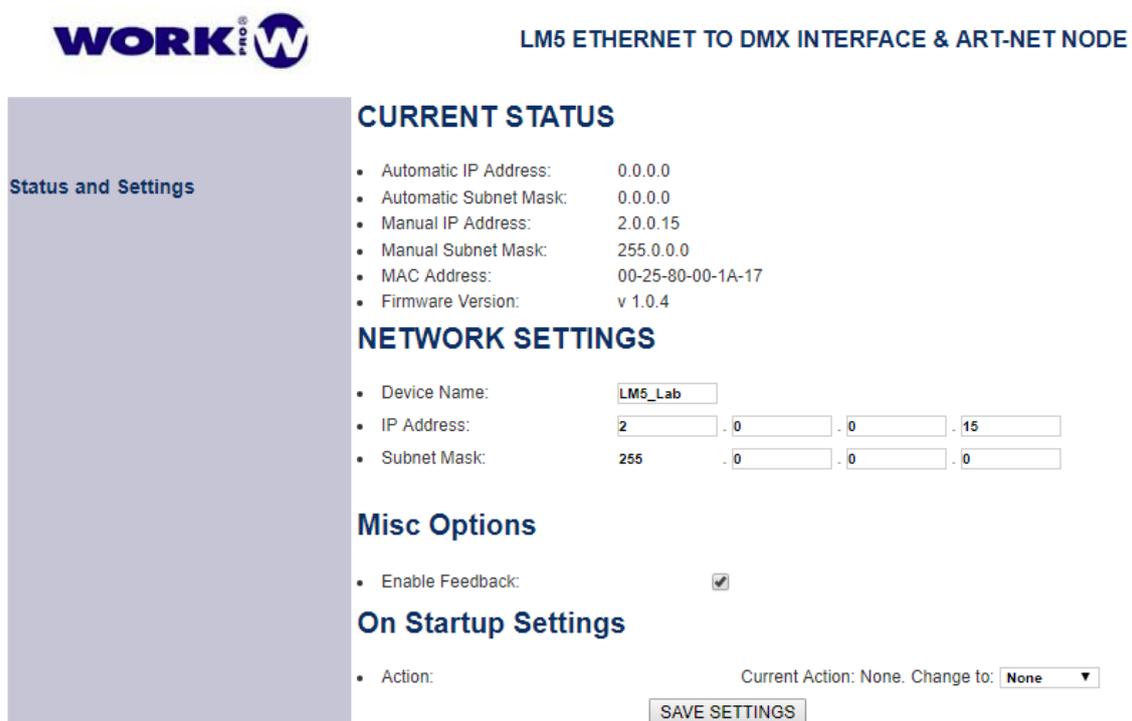
CURRENT STATUS

- **Automatic Ip Address**. Dynamic IP address, it is necessary a DHCP server.
- **Automatic Subnet Mask**. Subnet Mask for Dynamic IP address.
- **Manual IP Adress**. Static IP address.
- **Manual Subnet Mask**. Subnet Mask for Static IP address.

NETWORK SETTING
- **Device Name.** Device Name.
- **IP Address.** Static Ip address for the device.
- **Subnet Mask.** Subnet Mask.

Miscellany Options
- **Enable feedback.** Enable feedback in order to the control interface shows the status of the device.

On Start UP Settings
- Startup mode of the device.
    - **None.** None.
    - **Last Show.** Last show.
    - **User Show.** Predefinied show, include show number in the editable field.
    - **Exec Scene.** Predefinied scene, include scene number in the editable field
- **Save setting.** Button to save the changes made.

3. Creation of control layouts

The LM5 is a device that can be used both as an Art-Net node and as an OSC / DMX Gateway. In the latter case, there are many applications that can be used to create and execute lighting control layouts. In this manual we suggest you to use WorkCAD3 Editor for the creation of layouts and WorkCAD3 Player for the execution of them. In addition, you will find multiple control layouts for both this device and others that accept control by OSC.

To learn how to create layouts with WorkCAD3 Editor, access the following **link.**

https://www.youtube.com/watch?v=0FmJ7nFee3g&list=PLB48E41z2AlfchcU-qhshZ03GdpLW0hf0

4. OSC Commands

LM5 accepts OSC and ASCII commands via UDP, if you want or need more information about the OSC protocol you can follow the following link..

http://opensoundcontrol.org/introduction-osc

The following list shows the OSC and ASCII commands that can be used. For OSC commands the way in which they are sent depends on the application used, in any case, the list shows all the elements that make up the syntax of an OSC command: path, data types and data.

On the other hand, for the ASCII commands it has been decided to use a syntax like OSC, although in this case we will send a text string. The ASCII commands start with "//" and the separation between path, data types and data is done with ";".

Para la selección de más de más de un canal DMX seguiremos la siguiente nomenclatura:

Individual selection ⟶ x

Selection by groups, one by one ⟶ [x,y,z,…]

Selection by group from – until ⟶ [x-y]

Method	OSC / ASCII Command	Type of data	Data	Use
Register Listener	/osc/add,[x] //osc/add;i;[x];	i	[x] = UDP port[1]	Register communication
Unregister Listener	/osc/del,[x] //osc/del;i;[x];	i	[x] = UDP port[1]	Close communication
DMX channel	/dmx/ch/[x], [y] //dmx/ch/[x] ;i;[y] ;	i	[x] = DMX channel [1,512] [y] = Value [0,255]	Change DMX value of one or more channels
DMX Blackout	/dmx/set/black_out,[x] //dmx/set/black_out;[x];	T,F	[x] = Blackout state. (Activate=T / Deactivate=F)	Enable/disable Blackout
DMX All Zero	/dmx/set/clear,[x] //dmx/set/clear;f;[x];	f	[x] = Cualquier número real	Pass the 512 DMX channels to 0.
DMX All Full	/dmx/set/set,[x] //dmx/set/set;f;[x];	f	[x] = Each real number	Pass the 512 DMX channels to 255.
Play Show	/dmx/play/show,[x] //dmx/play/show;i;[x];	i	[x] = Show number [1,24]	Trigger show
Stop Current Show	/dmx/play/show/stop,[x] //dmx/play/show/stop;f;[x];	f	[x] = Each real number	Stop the executed show
Play Scene	/dmx/play/scene,[x] //dmx/play/scene;i;[x] ;	i	[x] = Scene number [1,99]	Trigger a scene
Next Scene	/dmx/play/show/next,[x]	f	[x] = Each real number	Go to the next scene

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[1] "0", Port of origin.