



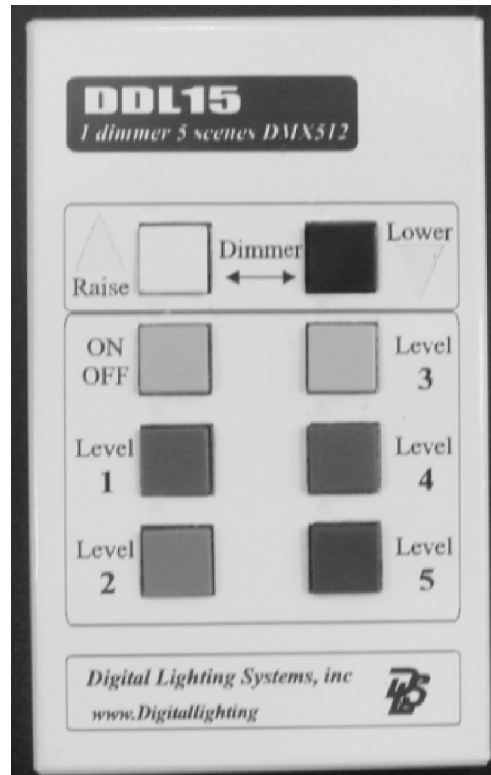
# Digital Lighting Systems, Inc.

## DDL15

1 Zone for 4 DMX512 dimmers Logic with 5 scenes

Dimming and animation controllers

DMX512 compatible



# USER MANUAL

## DDL15

### Maximum Outside Dimensions

MODEL	WIDTH	HEIGHT	DEPTH	GANG
DDL15	2.400" 61 mm	4.600" 117 mm	1.650" 042 mm	Single

DEPTH (D) includes circuit board with components

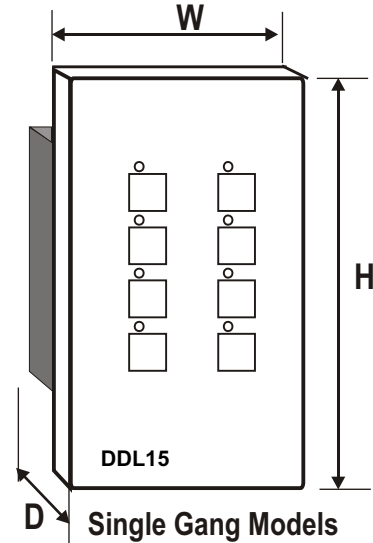


FIG. 1

Single Gang Models

## INTRODUCTION

The **DDL15** is a one Zone control for 4 **DMX512** channels dimmer with 5 preset levels ( 5 scenes) This new design employs the latest electronic technology and presents a control panel with a sleek modern look and simple to use controls. The DDL15 is designed for applications requiring a master dimmer control for several DMX512 dimmer loads. It is compatible with our line of DMX512 dimmers or any other manufacturer's.

The DDL15 could be used to control a multitude of our LED dimmer modules ( up to 256 unitsx4 = 1224 dimmers).

### DDL15 FEATURES

- ◆ DMX512 standard output
- ◆ 1 Zone Logic controls DMX512 dimmers (1,2,3,4)
- ◆ 5 levels (scene) programmable.
- ◆ Blackout Switch.
- ◆ Nonvolatile Memory.
- ◆ Simple Pushbutton Operation.
- ◆ LED Indicators.

### APPLICATIONS

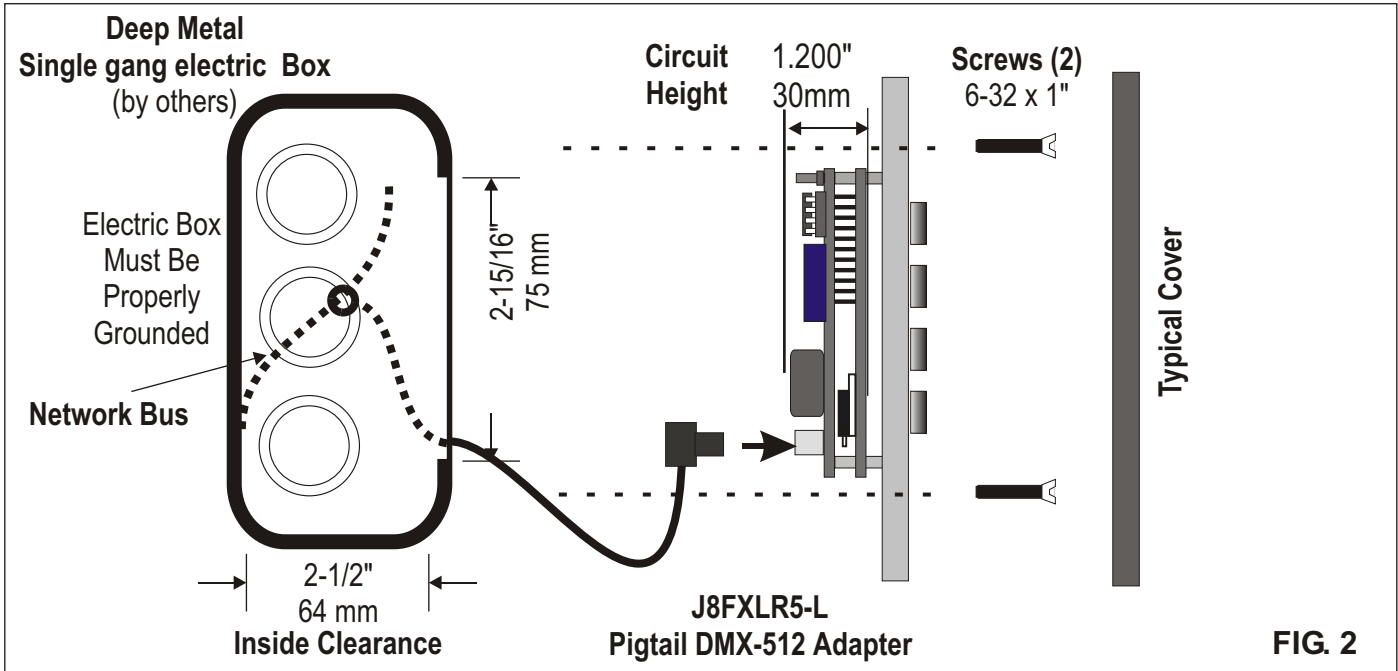
- Architectural & Decorative Lighting.
- Landscape Lighting.
- Structure Lighting.
- Museums and Art Galleries.
- Used with DLS DMX512 VDC dimmers ( LED Dimmers)

### Physical and Electrical Specifications

Back Plate:	Metal Construction.
Dimensions:	See Table Above.
Power:	Max. 120 mA at 10 VAC or VDC.
Data Output:	RS485 Compliant.
Output Drive:	Standard <b>RS485</b>
Data Format:	Standard DMX-512 Protocol.
Data Retention:	10 years, no batteries required.
ESD Protection:	15 KV on data input and output.
DS Port:	hard wired .
	Available with pigtail DMX-512

### PDxxx-DMX512 DIMMER PACKS

The **DDL15** requires an external dimmer pack with a DMX cable. Any DMX-512 compatible dimmer may be used. Digital Lighting Systems, Inc. manufactures high quality low cost DMX-512 dimmer packs. The **PDseries** is excellent along with DC voltage packs designed to control LED lighting.



**FIG. 2**

### Mounting requirements

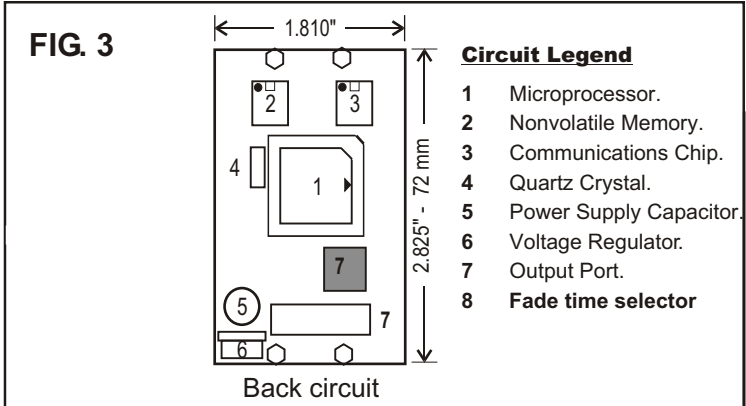
- The **DDL15** mounts in Single-gang deep electric box or may be ordered in a table top aluminum enclosure. The RJ45 Jack connector comes mounted on the side of the enclosure. The Single Gang box must have a minimum depth of 2-1/2" d. (See above illustration.)
- To avoid damage to equipment due to electrostatic discharge Use Grounded metal boxes only. Or ground the chassis of the DDL15.

### Wiring Notes

- All wiring between the DDL15 and dimmer packs is low voltage (NEMA Class 2) and must be a shielded twisted pair cable.
- Standard industry DMX-512 cables may be used with the DDL15.
- Do not run DMX cable in the same conduit with non-class 2 circuits.
- The DDL15 is supplied with an external low voltage wall adapter.
- Power for the adapter may be on a different power phase from power supplying the DMX-512 dimmer packs or fixtures.
- Installation must conform to local and/or NEC code requirements.

### Ordering Information

**DDL15:** 1 Zone /4-Channel Dimming Controller, 1-G size.  
**DDL15-AE:** Alum. Enclosure for DDL15.



**Circuit Legend**

- 1 Microprocessor.
- 2 Nonvolatile Memory.
- 3 Communications Chip.
- 4 Quartz Crystal.
- 5 Power Supply Capacitor.
- 6 Voltage Regulator.
- 7 Output Port.
- 8 Fade time selector

## A - General Information

The DDL15 controllers use low-power electronic components and do not directly connect to high voltage supply or electric loads. They are powered by an external low-voltage transformer. The loads connect to a separate DMX-512 compatible dimmer pack(s). The DDL15 controls the outputs of the dimmer pack(s) by sending a series of digital dimming levels over a low voltage cable. Several DMX dimmer packs may be connected to the same control cable in a daisy-chain configuration. The DMX information is received by all dimmers and each pack extracts and uses the portion of the information that is intended for it. This is accomplished by setting each dimmer pack to a different DMX address by way of address selectors. It is possible to have several dimmer packs set to the same address when controlling loads that exceeds the dimmer's output capacity. Loads may be broken into smaller sections and still be controlled as a single load by any particular DMX channel.

## B - DDL15 DMX Output

The information sent by the DDL15 is in accordance with the DMX-512 standard control protocol. The DDL15 sends control information over the first 4 DMX addresses. All remaining addresses, up to 512, are sent a DMX off-level. Figure 5 below shows the various DMX outputs generated by the DDL15 according to the number of channels setting.

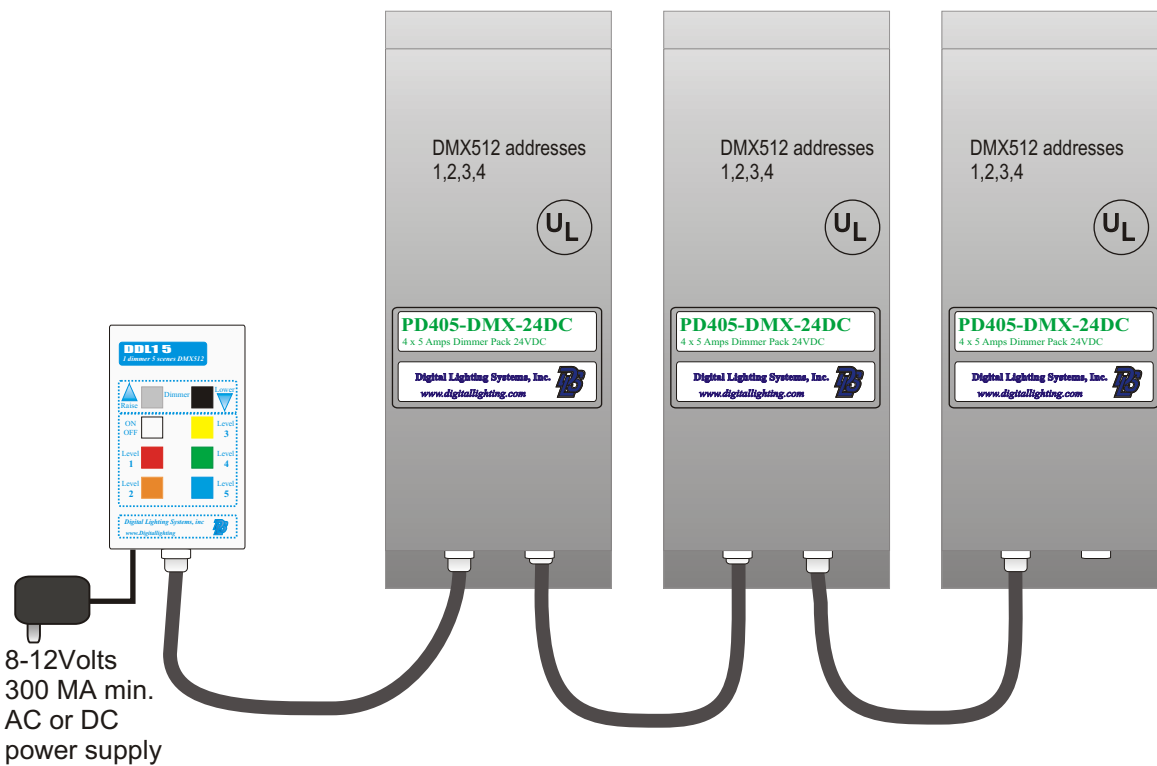


FIG. 4

<b>DMX OUTPUT</b>	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7	Channel 8	Channel 9	...	Channel 512
<b>4 Ch. Values</b>	Level 1	Level 2	Level 3	Level 4	0	0	0	0	0	...	0

**Key:** Level 1,2,3,4= Same value sent equally to all four dimmers.      0 = Off Level

FIG. 5 - DDL15 DMX OUTPUT FORMAT ACCORDING TO NUMBER OF CHANNELS SETTING

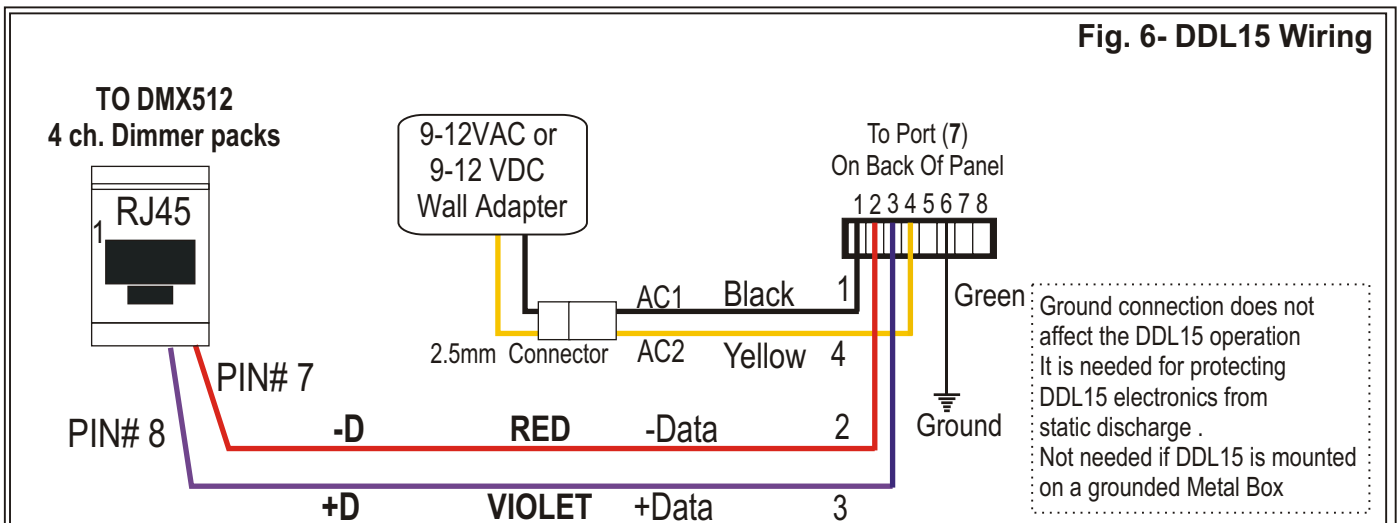
## C - Installation Instructions ( See Figs. 6&7 below).

1. Install the DDL15 in a convenient location. Fig. 6 shows a **DDL15** wiring. **DDL15** is mounted in a deep single gang masonry boxes and hard wired to DATA and 9V powerthrough a 2 twisted pairs cable (See Fig.2).

If ordered with a pre wired back box it will have an RJ45 connector for the DATA and a transformer Jack. It does not need a transformer when used with DDP405. It connects to the Dimmers through a CAT5 cable.

2. Provide a standard power outlet with a toggle switch for the wall transformer. Plug the supplied transformer to the DDL15 using the Molex connector plugs. The DDL15 may remain energized at all times. The loads can be turned off by using the front panel 'Black-Out' button.

3. Install the DMX dimmer pack and follow the wiring instructions in its user manual.



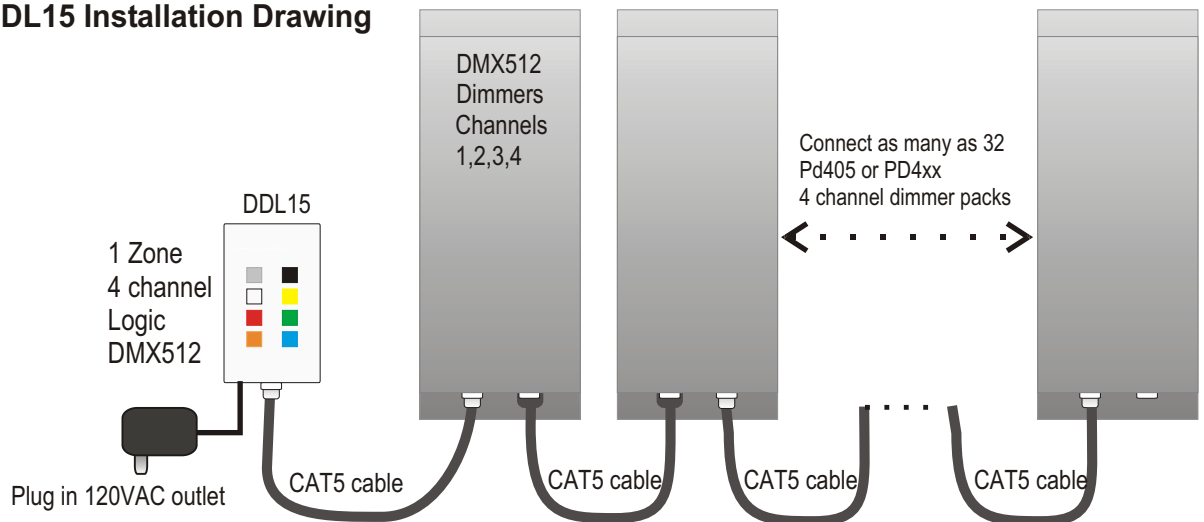
### DDL15 DMX512 DATA and Power Connections

The **DDL15** is supplied with a pigtail with 4 wires to be spliced to the DATA/9VAC bus as shown in FIG 6.

The **DDL15** is to be installed in a single Gang electric box as shown in FIG. # 2

The **DDL15** also available with an optional pre wired back box, **DDL15-AE**, with an RJ45 connector and a transformer 2.5 mm plug.

**Fig. 7- DDL15 Installation Drawing**



## DDL15 Operating Instructions

### I. Introduction

The DDL15 DMX-512 is a 1 ZONE dimmer addressed to control the first 4 DMX512 channels (1 to 4). It allows the storage and recall of 5 Level presets (scenes).

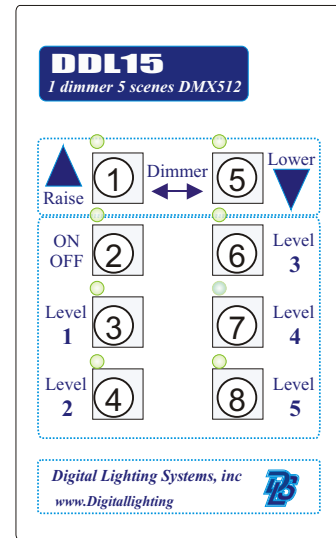


Fig. 6 The DDL15 Front Panel

### II. The Control Panel

#### Buttons # 1 & 5 Dimmer control

Push and hold Button # 1 to raise the dimmers to the desired level.

Push and hold Button # 5 to Lower the dimmers to the desired level.

The level of the outputs can be adjusted to any level between 0% and 100% by utilizing buttons 1 & 5.

The LED above button # 1 will come On when the Level is between 1% and 100 %.

The LED above button # 5 will come On when the Level is between 0% and 99 %.

#### Button # 2 ON/OFF

Push and release Button # 2 in order to Toggle the dimmers from their current Level to OFF (0% )

The LED above button # 2 comes ON to indicate that the dimmers are OFF.

#### Buttons # 3,4,6,7 & 8 ; Level Presets ( scenes)

Buttons 3(Level 1),4(Level 2),6(Level 3),7(Level 4),8(Level 5) are preset level ( scene) buttons. Pushing and releasing them will recall a stored Level and send it to the dimmers.

To adjust the fade time use selector on back of unit. 0=instantaneous , 1 = slowest; F = fastest.

#### Programming of the scenes is performed as follows:

The **DDL15** has a default lock for the Level Presets to avoid overwriting by mistake.

To unlock the scenes push the recessed reset button ( between buttons ( 1 and 5) under face plate). Or power down the unit.

**During the Reset cycle, while all LED indicators of the DDL 15 are ON, Push and Hold simultaneously Buttons 1 & 5 until the LED indicators go off.**

This will unlock the scenes for level programming.

Adjust Light levels with buttons 1 & 5 to get the desired Level. Press and hold any of the Level Buttons ( 3,4,6,7,8 ) till the LEDs on the panel light up one time ( after 5 seconds) to record the level..

Repeat till all 5 scenes are programmed.

Relock scenes by resetting DDL 15.

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## LIMITED WARRANTY

**Digital Lighting Systems**, warrants to the purchaser that its products have been carefully manufactured and inspected and are warranted to be free from defects of workmanship and materials when used as intended. Any abuse or misuse contrary to normal operation shall void this warranty.

Digital Lighting Systems' obligation under this warranty shall be limited to replacement or repair of any units as shall within one year of date of invoice from **Digital Lighting Systems**, prove defective; and **Digital Lighting Systems** shall not be liable for any other damages, whether direct or consequential. **The implied warranties of merchantability and fitness for a particular purpose are limited to the duration of the expressed warranty.** Some states do not allow the exclusion of the limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, you may also have other legal rights which vary from state to state.

Defective merchandise may be returned to **Digital Lighting Systems**, prepaid, after prior notification has been given and approval obtained for the return. To obtain prior approval for the return of the defective items, contact your local Digital Lighting Systems distributor, representative, or:

### **Digital Lighting Systems, Inc.**

Attn: Customer Service Department  
12302 SW 128 Ct. Bay # 105  
Miami, FL 33186  
(305) 969-8442

Upon request, replacement unit(s) will be shipped as soon as available. Unless immediate shipment of replacement merchandise is requested, **Digital Lighting Systems** will not ship replacement merchandise until defective merchandise is received, inspected, and determined to be defective.

**No labor charges in connection with warranty problems will be reimbursed by Digital Lighting Systems without prior written approval from the factory.**

**Digital Lighting Systems** distributors and representatives have no authority to change this warranty without written permission.

**Digital Lighting Systems** reserves the right to determine the best method of correcting warranty problems.



Digital Lighting Systems, Inc.  
12302 SW 128 Ct. Bay #105  
Miami, FL 33186  
[www.digitallighting.com](http://www.digitallighting.com)

Tel 305-969-8442  
Fax 305-969-8675  
e-m [info@digitallighting.com](mailto:info@digitallighting.com)

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