

# Model DMX12DIM ELV-JBOX Installation and Operations Manual



Doug Fleenor Design, Inc.  
396 Corbett Canyon Road  
Arroyo Grande, CA 93420  
(805) 481-9599 Voice and FAX

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## Product description

The DMX12DIM ELV-JBOX is a 12 channel, 100 Watt per channel dimmer. It is fed by a single 120VAC 15A branch circuit. Each of the dimmers can be separately controlled using a typical DMX512-based lighting controller. The dimmers use MOSFET power devices. The dimmed outputs are Electronic Low Voltage (ELV) compatible using reverse phase (aka: trailing edge) control techniques. The DMX12DIM ELV-JBOX is housed in a standard NEMA1 electrical enclosure. Knockouts are provided for easy installation.

## Safety warnings

- The DMX12DIM ELV-JBOX should only be installed by qualified personnel in accordance with local electrical codes.
- There are no user serviceable parts in the DMX12DIM ELV-JBOX. Servicing should be referred to qualified service personnel.
- Do not operate the DMX12DIM ELV-JBOX without the cover installed.
- Turn off all power to the DMX12DIM ELV-JBOX before installing. Do not attempt to wire or install any part of the DMX12DIM ELV-JBOX with the power on.

## Environmental

Operating temperature: 0-40° C

Operating humidity: 10-90% non-condensing

Indoor use only

## Electrical ratings

Input: 120VAC, 60Hz, 15A

Output: 12 outputs, 120VAC, 100W each, 1,200W total maximum

## Certification

The DMX12DIM ELV-JBOX is ETL Listed under safety Standard UL 508

## Mounting

The DMX12DIM ELV-JBOX can be mounted on any stable surface in compliance with local electrical codes. To mount the DMX12DIM ELV-JBOX:

- Remove the cover by loosening the front panel screws
- Select the desired mounting location
- Locate the mounting holes using the DMX12DIM ELV-JBOX as a guide
- Secure the DMX12DIM ELV-JBOX to the surface using appropriate fasteners
- After all wiring is complete and switches have been configured (see below), install the cover and secure it in place.

## General installation notes

- If enclosure knock-outs are used or if holes are punched in the enclosure for wire entries, the holes must have appropriate bushings or conduit fittings installed to protect the wires from cuts and abrasion.
- Safety grounding must be maintained through this product. Metallic conduit may be used for grounding if it is appropriately bonded to the enclosure.

## Power input (line) wiring

Supply the DMX12DIM ELV-JBOX with a protected branch circuit of no more than 20A. The power input terminals on the DMX12DIM ELV-JBOX are rated for #12AWG copper wire (maximum). The torque rating for the terminals is 4.51 IN/LB.

**Input power wiring must enter the enclosure and route directly to the input power terminals without crossing over the circuit board or any control wiring.**



## Power output (load) wiring

Each output can supply a 100W (maximum) 120VAC load. The output terminals are rated for #12AWG copper wire (maximum). The torque rating for the terminals is 3.5 IN/LB.

**Load wiring must enter the enclosure and route directly to the output power terminals without crossing over the circuit board or any control wiring.**



Load terminals (1 and 2 of 12 shown)

## Control cable wiring

Control cabling must enter the enclosure and route directly to the control input terminals. The installer must secure low voltage control cabling such that it cannot come in contact with high voltage line or load wiring.



The DMX512 control signal is connected to the DMX IN terminal block. A cable appropriate for use with DMX512 must be used. Examples include Belden 9829, Belden 9729, or their equal by other manufacturers.

The shield of the cable is connected to the DMX IN “C” terminal. The first twisted pair of wire is to be connected to the DMX IN “-” and “+” terminals. If a second twisted pair is present in the control cable, it should NOT be connected. The spare pair should either be trimmed back or secured such that it cannot come in contact with any other parts of the DMX12DIM ELV-JBOX.

## Selecting dimmer modes of operation

All dimmers in the DMX12DIM ELV-JBOX are configured for reverse phase firing (ELV) operation. Individual dimmers may be set for forward phase firing or non-dim operation. Contact Doug Fleenor Design for guidance on how to change these configurations in the field.

## Setting the address switches

The ADDRESS switches are used to select the DMX512 starting address for the DMX12DIM ELV-JBOX.



The starting address can be set to any value from 1 to 512. The starting address represents the address to be used for output 1 of the DMX12DIM ELV-JBOX. The second output will respond to the next DMX512 slot, etc. Setting the address switches to 000 is the same as setting to address 001.

## Local control

Local control mode is used to turn on selected outputs without the use of a DMX512 signal source. Setting the address switches to the range of 601-612 will turn on each output individually. 601 will turn on output 1, 602 will turn on output 2, etc.

Setting the address switches to 699 will cause all outputs to go to full with no DMX512 signal present.

Setting the address switches to 698 will cause all outputs to go to full if a valid DMX512 signal is being received. All outputs will turn off while no DMX512 signal is present.

Setting the address switches to 697 will cause all outputs to go to full if any DMX512 level is above 1%. All outputs will turn off while no DMX512 signal is present.

## LED indicators

The LED indicators on the DMX12DIM ELV-JBOX have the following functions:

LED label	Function
SIGNAL	On when DMX is present, flashes when local control is active
MIMIC 1	Tracks the current level of dimmer 1 for troubleshooting purposes
POWER	On when power is on

## Limited Manufacturer's Warranty

Products manufactured by Doug Fleenor Design (DFD) carry a five-year parts and labor warranty against manufacturing defects. It is the customer's responsibility to return the product to DFD at the customer's expense. If covered under warranty, DFD will repair the unit and pay for return ground shipping. If a trip is necessary to the customer's site to solve a problem, the expenses of the trip must be paid by the customer.

This warranty covers manufacturing defects. It does not cover damage due to abuse, misuse, negligence, accident, alteration, or repair by other than by Doug Fleenor Design.

Most non-warranty repairs are made for a fixed \$50.00 fee, plus shipping.

### Doug Fleenor Design, Inc.

396 Corbett Canyon Road  
Arroyo Grande, CA 93420  
(805) 481-9599 voice and FAX  
(888) 4-DMX512 toll free (888) 436-9512  
web site: <http://www.dfd.com>  
e-mail: [info@dfd.com](mailto:info@dfd.com)

