

## **Model 125EE-WALL Enhanced<sup>2</sup> DMX512 Isolated Splitter**

### **Safety Notice:**

There are no user serviceable parts in the Model 125EE-WALL splitter. Refer any service needs to a qualified service technician.

### **Description:**

The Enhanced Splitter includes all the features of our standard models with added protection to meet the needs of harsh operating conditions. As with our standard splitters, all outputs are isolated from the input and from the other outputs by optical couplers. Every output has its own power supply and line driver. For protection against electrical storms, the Enhanced Splitter adds four transient absorbers on the input, three on each output, and one on the power line. To protect against miswiring, the Enhanced Splitter has fuses on the DMX512 input and outputs that protect the Splitter against damaging voltages up to 120 volts. Indicators on each output display termination and fuse status. Indicators on the input display signal present and valid DMX.

The 125EE-WALL is designed to be mounted on any flat surface. Signal wires are connected to the unit using pluggable terminal block connectors.

The Enhanced Splitter allows connection of DMX receivers (dimmers, color changers, moving lights, etc.) in a *star* configuration as opposed to a *daisy chain* configuration. In a star configuration, each control cable is run to a central point, in this case the splitter. In a daisy chain configuration all the devices are connected on one control cable, the output of one feeding the input of the next.

### **Connections:**

**Line Cord.** The splitter is fitted with a non-detachable line cord with a male parallel blade connection.

The splitter is designed to work on any voltage between 100 and 240 volts, 50 or 60 Hz. Alternate power cords are available to adapt to local power outlets. If a choice of line voltages are available, selecting the lower voltage will allow the splitter to run cooler.

**DMX Input.** The DMX signal is applied to the DMX IN terminal block connector.

**DMX Outputs.** The DMX signal is available on all five terminal block output connectors labeled A - E. Each output is separately buffered. A short or failure on one output cannot affect another output.

**Termination.** For maximum reliability each DMX512 control run needs to be terminated. The input to the splitter is automatically terminated. Each output that is used needs to be terminated at the end of its control run. Sometimes termination is built into the receiver. In other cases a terminator should be plugged into the feed-through connector of the last device. Unused outputs do not need to be terminated.

### **Indicators:**

**Power Indicator.** There is no separate power indicator. When power is applied all five fuse indicators should illuminate.

**DMX Indicator.** The green DMX indicator will illuminate when a valid DMX512 signal is being received. The DMX Validator™ circuit checks for proper break time, mark after break, and null start code. If any of these timings are outside the DMX512 specification range the DMX indicator will not illuminate.

**Signal Indicator.** The green signal indicator will illuminate when any signal is being received. This indicator is useful if the splitter is being used for a digital protocol other than DMX512. It can also be useful in troubleshooting a DMX512 system because it will show that a signal is being received but (unless the DMX indicator is on) there is an error.

**Un-Terminated Indicator.** The UT indicator is a troubleshooting and warning feature. Doug Fleenor Design believes that a number of DMX512 signal failures are due to improper termination. The UT indicator can help alert the user to potential problems before they ruin the show.

The UT indicator will illuminate when there is no load on the output data lines. The UT circuit is most accurate when there is no signal applied (some digital signals can cause the UT indicator to dim or go out even when there is no termination).

The UT indicator can also be fooled by certain DMX512 receiver circuits. Some DMX input circuits have pull ups on the data lines which can prevent the UT circuit from detecting the load termination. If you believe the line is properly terminated but the UT indicator remains on, try powering down or bypassing the receivers on that line.

**Fuses.** The Fuses indicator should be illuminated whenever power is applied to the splitter. If any of the three output fuses on an output should fail, the Fuses indicator will extinguish. It is normal for the Fuses indicator to change intensity slightly with various digital signals and with changes in output loading.

#### **Specifications:**

Baud rate:	0 to 250 Kilobaud
Input circuit:	EIA-485 receiver protected by two self resetting fuses 120 ohm input terminator protected by a self resetting fuse Four <i>transorb</i> diodes: two on +Data, two on -Data
Input signal:	0.5 volts minimum, 12 volts maximum Input can withstand up to 240 volts without damage, transients up to 5KV
Output circuit:	"Slew rate limited" EIA-485 driver protected by two 1/10 amp fuses One <i>transorb</i> diode on +Data, one on -Data, and one on the LED (Slew rate limited outputs reduce the errors caused by unterminated lines)
Output signal:	EIA-485 driver yields an approximate 3 volt signal into 120 Ohms Outputs can withstand up to 12 volts without damage, transients up to 5KV Outputs can withstand up to 240 volts with only a blown fuse(s)
Connectors:	3 conductor pluggable terminal blocks
Isolation:	2500 volt optical coupler, 5000 volt split bobbin transformer
Power input:	90 - 240 volts, 50/60 hertz, 0.1 amp (24 watts)
Color:	Silver hammertone
Size & Weight:	10.5" deep, 2.0" high, 8.5" wide, 4.9 pounds

#### **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)

