DATAPLEX® DEVICES

OPTO-SPLITTER

MANUAL

DATAPLEX Opto-Splitter User Manual

Dataplex--Opto-Splitter-v1.2
Effective 12 September 2020

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LIMITED WARRANTY

Dataplex Data Distribution Devices are warranted by TMB against defective materials or workmanship for a period of two (2) years from the date of original sale by TMB.

TMB's warranty shall be restricted to the repair or replacement of any part that proves to be defective and for which a claim is submitted to TMB before the expiration of the applicable warranty periods.

This Limited Warranty is void if the defects of the Product are the result of:

- Opening the casing, repair, or adjustment by anyone other than TMB or persons specifically authorized by TMB
- Accident, physical abuse, mishandling, or misapplication of the product.
- Damage due to lightning, earthquake, flood, terrorism, war, or act of God.

TMB will not assume responsibility for any labor expended, or materials used, to replace and/or repair the Product without TMB's prior written authorization. Any repair of the Product in the field, and any associated labor charges, must be authorized in advance by TMB. Freight costs on warranty repairs are split 50/50: Customer pays to ship defective product to TMB; TMB pays to ship repaired product, ground freight, back to Customer.

This warranty does not cover consequential damages or costs of any kind.

A Return Merchandise Authorization (RMA) Number must be obtained from TMB prior to return of any defective merchandise for warranty or non-warranty repair. For all repairs please contact TMB Tech Support Repair using the contact information below or email TechSupportRepairNA@tmb.com.

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PRODUCT OVERVIEW

Dataplex Opto-Splitters distribute a single DMX universe to up to eight isolated outputs. The RackMount units are available with a range of connector options including IDC (Insulation-Displacement Contact), PTB (Pluggable Terminal Block) and Neutrik 5-Pin XLR. Dataplex Opto-Splitters feature optional RDM functionality. Dataplex products are designed as an affordable, high-performance signal management solution and ensure the safety of connected equipment. Features Include:

- One DMX input and eight isolated outputs
- Full RDM functionality in all ports (optional models)
- DMX Thru for daisy-chaining
- Front-facing LED indicators for easy monitoring
- Multiple connector configurations with IDC, PTB, or XLR
- Rugged Neutrik™ connectors
- Durable RackMount enclosure
- Black chassis with rear connectors enables a cleaner front-of-rack

MODEL DIFFERENCES

Dataplex Opto-Splitters are available in several model configurations. The connector designation is the leading difference and will determine the connector style and rear chassis design. Additionally, all models are optionally available with RDM functionality, which will be notated by the model number and RDM logo on the front of the unit. All RDM and non-RDM units of the same connector type have identical rear chassis designs.

- DPDDS18IDC – Dataplex Opto-Splitter 1x8 IDC
- DPDDS183PTB – Dataplex Opto-Splitter 1x8 PTB
- DPDDS185XLR – Dataplex Opto-Splitter 1x8 XLR
- DPDDS18IDCR – Dataplex Opto-Splitter 1x8 RDM IDC
- DPDDS183PTBR – Dataplex Opto-Splitter 1x8 RDM PTB
- DPDDS185XLRR – Dataplex Opto-Splitter 1x8 RDM XLR

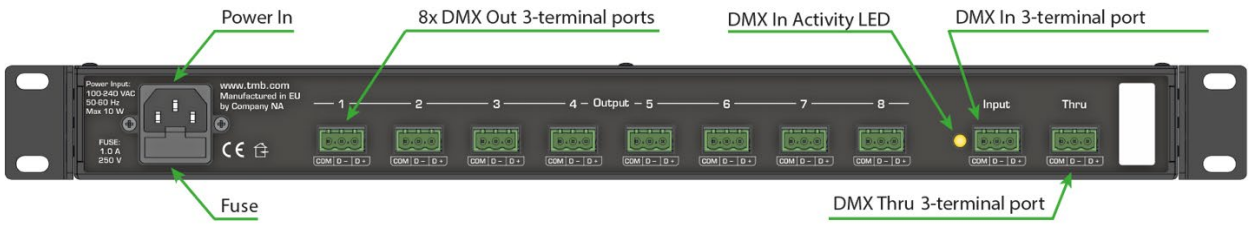
MODEL ILLUSTRATION

FRONT - Opto-Splitter 1x8 (non-RDM)

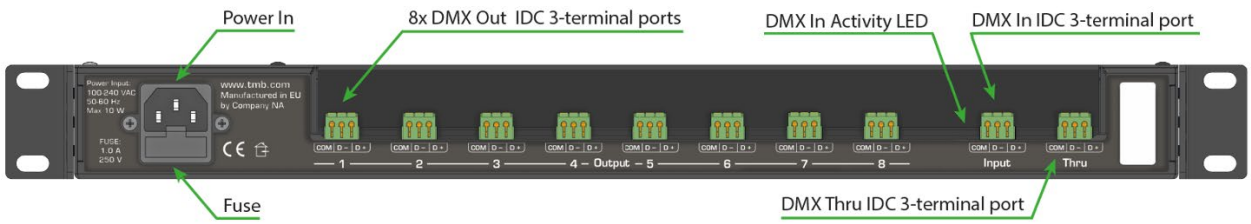
FRONT - Opto-Splitter 1x8 (RDM)

REAR - Opto-Splitter 1x8 XLR

REAR - Opto-Splitter 1x8 PTB

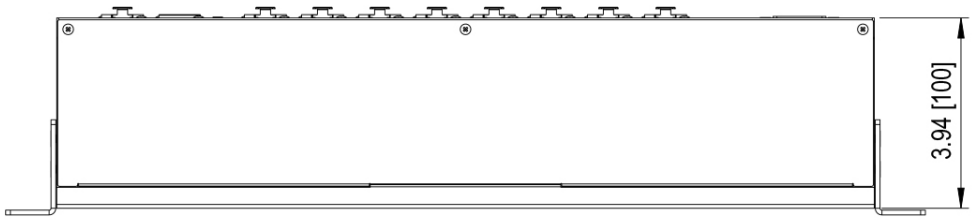


REAR - Opto-Splitter IDC

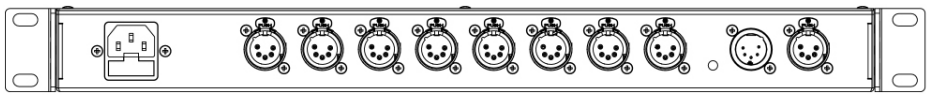


DIMENSIONS

OPTO-SPLITTER 1x8 (RDM) XLR

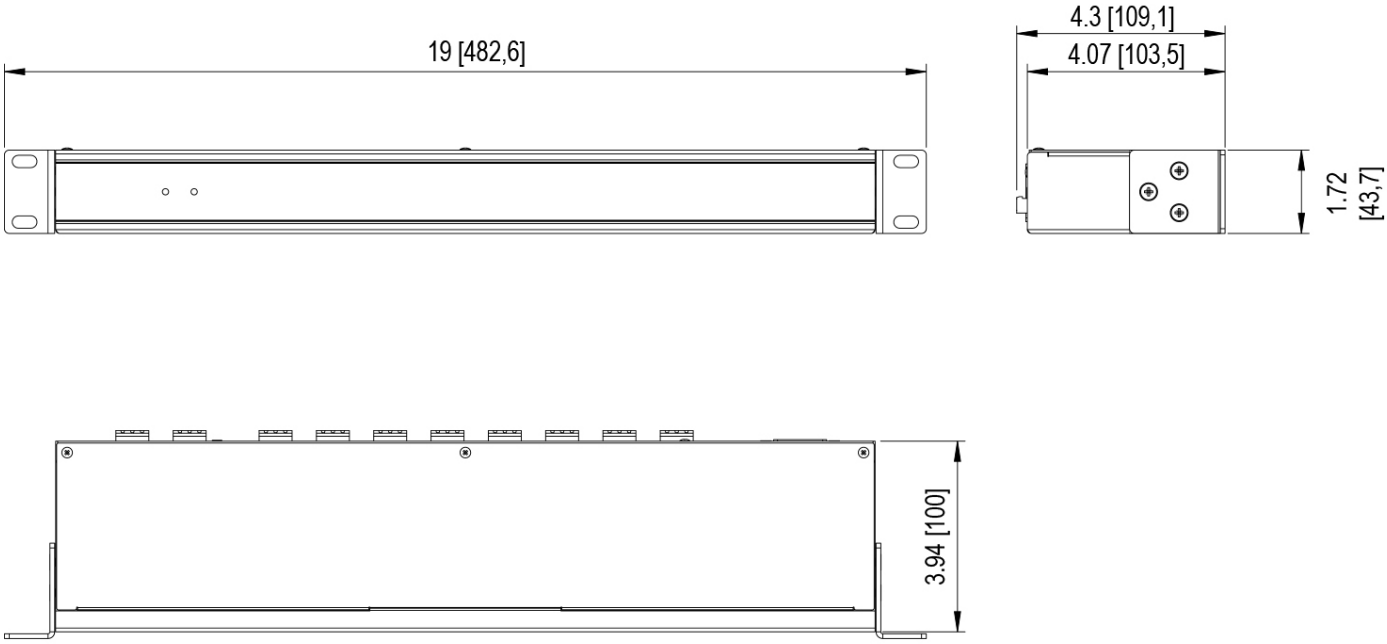


Back



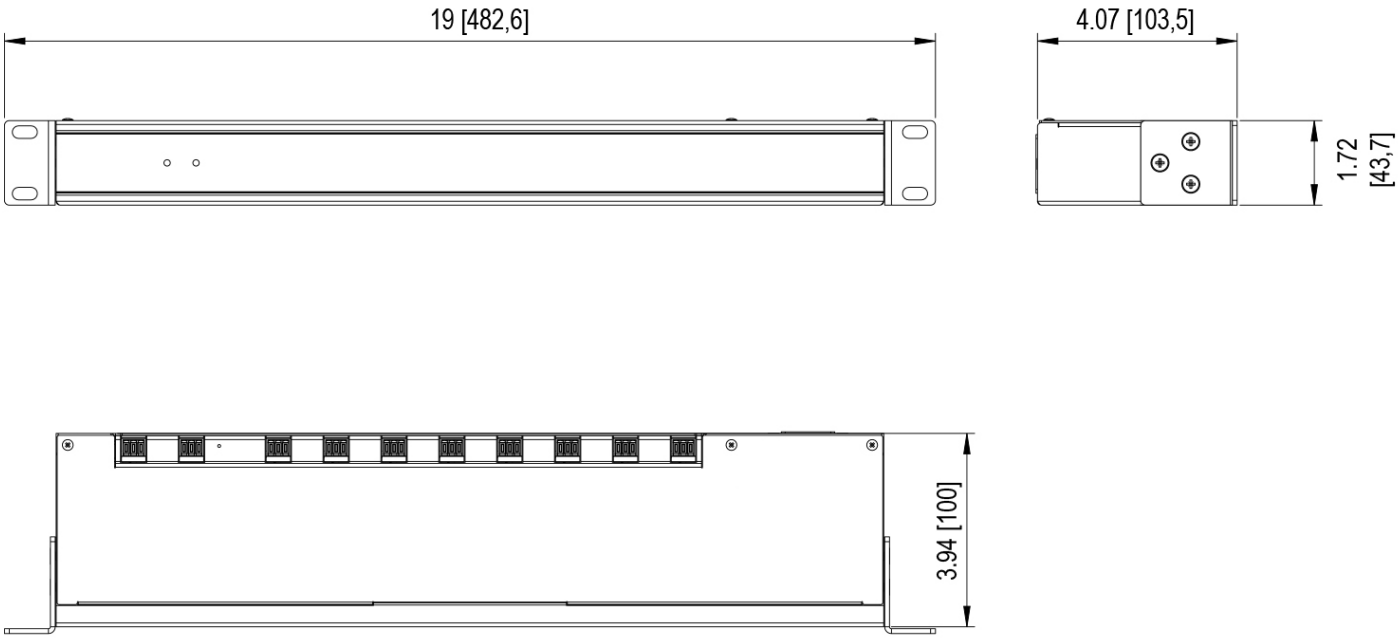
DIMENSIONS

OPTO-SPLITTER 1X8 (RDM) PTB



DIMENSIONS

OPTO-SPLITTER 1x8 (RDM) IDC



SETUP

UNPACKING INSTRUCTIONS

Upon receipt of the unit, carefully unpack the carton and check the contents to ensure that all parts are present and in good condition. Notify the shipper immediately and retain packing material for inspection if any parts appear to be damaged from shipping or if the carton itself shows signs of mishandling. Save the carton and all packing materials. In the event that a unit must be returned to the factory, it is important that it be returned in the original factory box and packing.

POWER REQUIREMENTS

Before powering the unit, make sure the line voltage is within the range of accepted voltages. This unit accommodates 100-240VAC, 50/60Hz. All units must be powered directly from a switched circuit and cannot be operated with a rheostat (variable resistor) or dimmer circuit, even if the rheostat or dimmer channel is used solely for a 0-100% switch.

SAFETY INSTRUCTIONS

Please read these instructions carefully. This user guide contains important information about the installation, usage, and maintenance of this product.

- Keep this User Guide for future reference. If unit is sold to another user, make sure they also receive this instruction booklet.
- Ensure the unit is connected to proper voltage, and that line voltage is not higher than that stated on the device.
- Make sure there are no flammable materials close to the unit while operating.
- Always disconnect from the power source before servicing or fuse replacement. Always use the fuse specified in this manual.
- Maximum ambient temperature (Ta) is 40°C (104°F). Do not operate unit at temperatures above this rating.
- In the event of a serious operating problem, stop using the unit immediately. Repairs must be carried out by trained, authorized personnel. Contact the nearest authorized technical assistance center. Only OEM spare parts should be used.
- Do not connect the device to a dimmer pack.
- Make sure power cord is never crimped or damaged.
- Never disconnect power cord by pulling or tugging on the cord.

Caution! There are no user serviceable parts inside the unit. Do not open the housing or attempt any repairs yourself. In the unlikely event your unit may require service, please contact your distributor.

FUSE REPLACEMENT

Disconnect the power cord before replacing a fuse and always replace with the appropriate fuse.

Dataplex Opto-Splitters use a 1.0A 250V barrel fuse, 5x20mm (0.2x0.8 in.).

To replace fuse:

1—With a screwdriver, open the fuse drawer to access the fuse.
2—Remove old fuse and fasten new fuse securely in its place.
3—You may use the secondary pocket to store an additional new fuse for later use.
4—Reinsert fuse drawer with new fuse and push to snap closed.

OPERATION

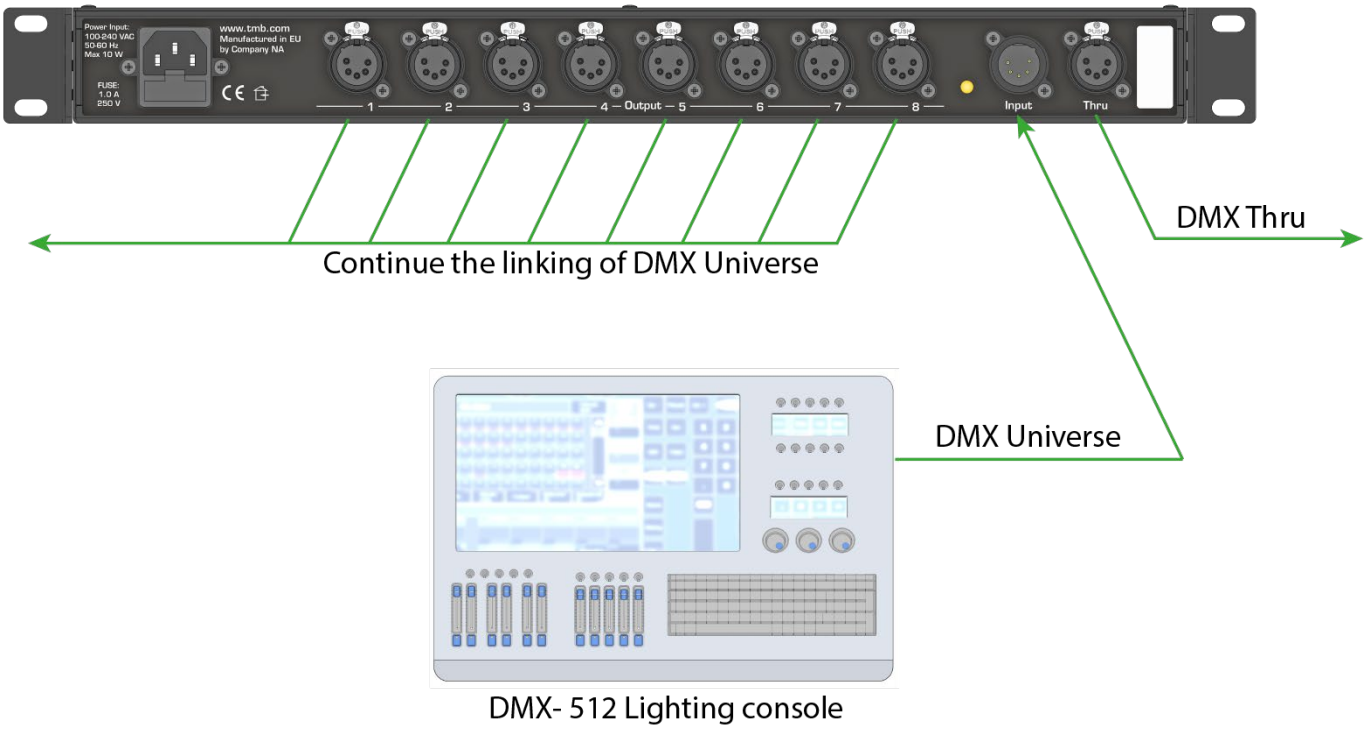
RDM /DMX SERIAL LINK

OPTO-SPLITTER 1x8 XLR

1—Connect the 5-pin male connector of a DMX cable to the 5-pin female output connector of the lighting console.

2—Connect the female end of the DMX cable coming from the lighting console to the 5-pin male input connector of the Opto-Splitter 1x8 XLR.

3—Connect additional DMX cables to output connectors of the Opto-Splitter Mini 1x5 RDM and link them to fixtures, daisy-chaining as necessary.



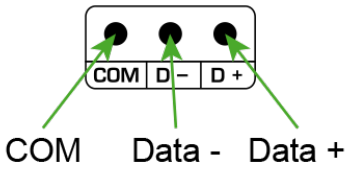
Note: When using RDM enabled Opto-Splitters, ensure all linked devices support RDM. Some DMX receiving chips are not able to process an RDM signal, causing the device to behave erratically. If a problem occurs contact your device manufacturer.

OPTO-SPLITTER 1x8 PTB

PTB (Pluggable Terminal Block) connectors require bare wire installation into removable, screw-type terminal connectors with tension sleeves. Depending on the application, cables can be unterminated on both ends, or have a connector on one end to interface with other equipment (e.g. 5-Pin XLR). Each Input, Output, and Thru connection point follows the same diagram for common, data positive and data negative conductors.

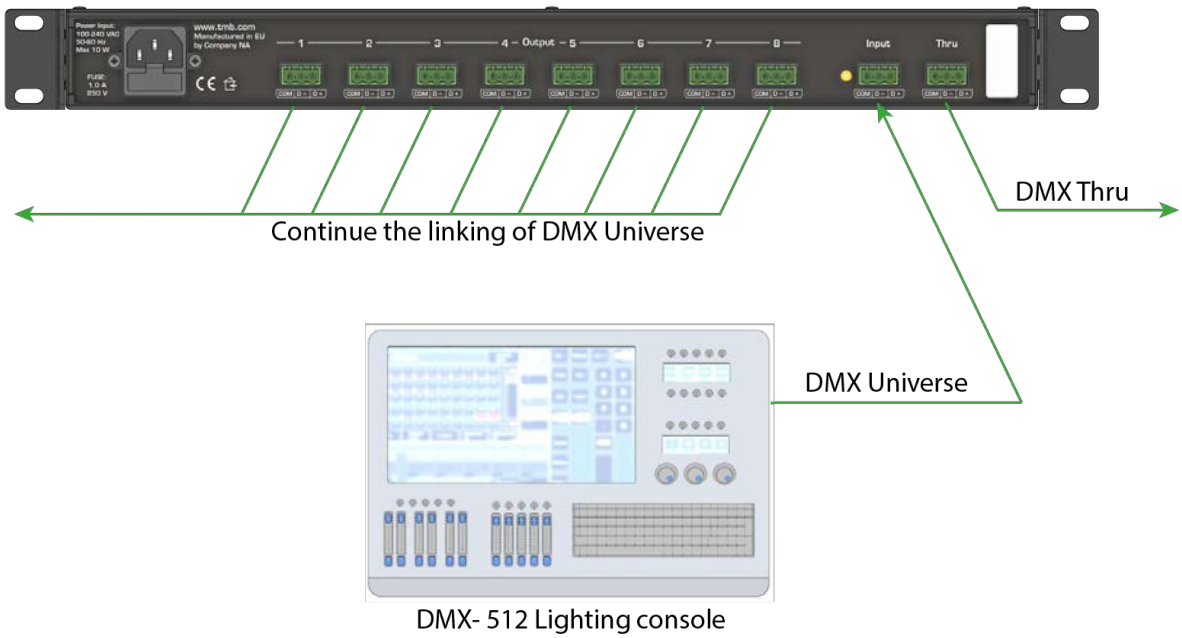
1—Strip the bare-end wire insulation back 7mm or roughly ¼ inch from cable end.

2—Insert bare wires into connector per the diagram below. Turn each connector set screw with a small flathead screwdriver until tension spring is fully tightened onto the wire



3—To connect DMX signal input from an incoming console, use the DMX input in the right corner of the unit. To pass the DMX signal to another device, use the Thru port.

4—Connect additional cables to each of the eight optically isolated PTB output ports in order to send data to any DMX device, daisy-chaining between fixtures as necessary.

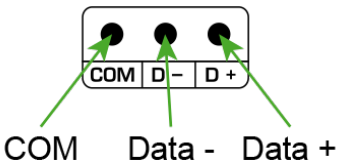


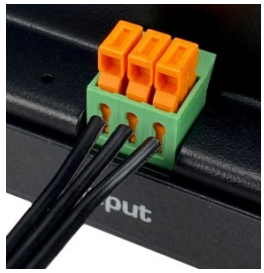
OPTO-SPLITTER 1x8 IDC

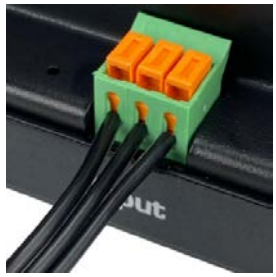
IDC (Insulation-Displacement Contact) connectors are designed to decrease installation time as they do not require cable insulation stripping. Instead the connection is formed by pressing the cable onto a sharp contact blade, which pierces through the insulation and into the conductor core. Depending on the application, cables can be unterminated on both ends, or have a connector on one end to interface with other equipment (e.g. 5-Pin XLR). Each Input, Output, and Thru connection point follows the same diagram for common, data positive and data negative conductors.

1—Insert a small screwdriver into each of the 3 orange tabs on the IDC connector. Using gentle upwards pressure, push open the tabs to reveal the cable insertion point.

2—Insert unstripped wires into connector per the diagram below and push down the orange tabs. The tabs will force the cable down onto the blade which will then pierce through the insulation, forming the connection.

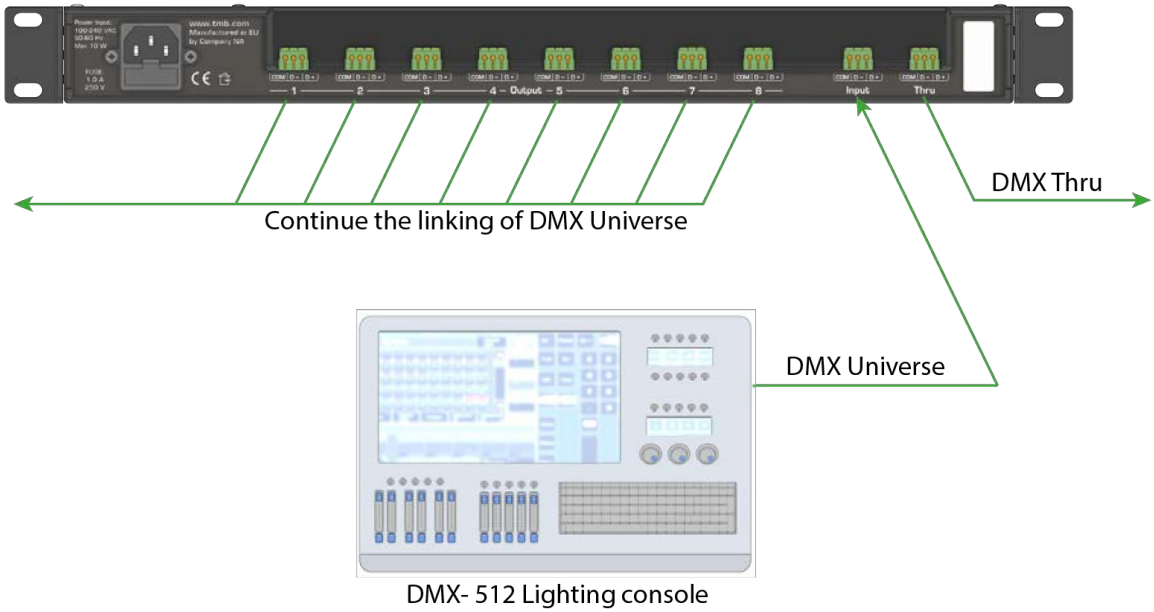




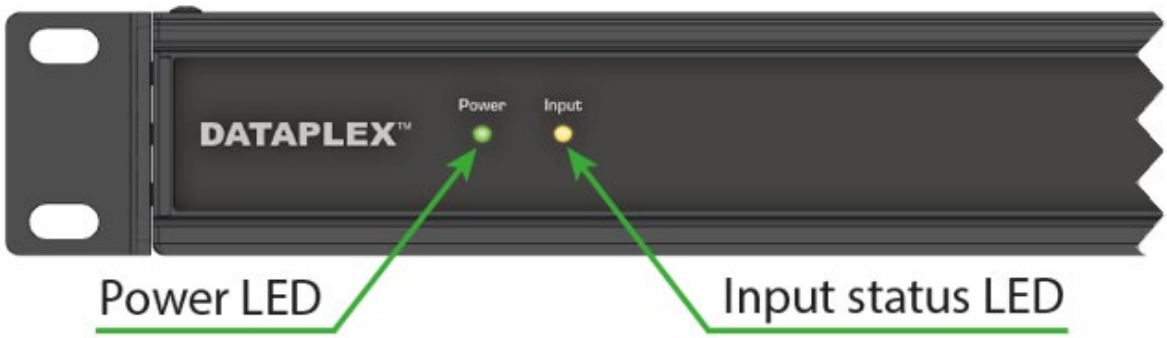


3—To connect DMX signal input from an incoming console, use the DMX input in the right corner of the unit. To pass the DMX signal to another device, use the Thru port.

4—Connect additional cables to each of the eight optically isolated IDC output ports in order to send data to any DMX device, daisy-chaining between fixtures as necessary.



FRONT PANEL LED INDICATORS



POWER STATUS—

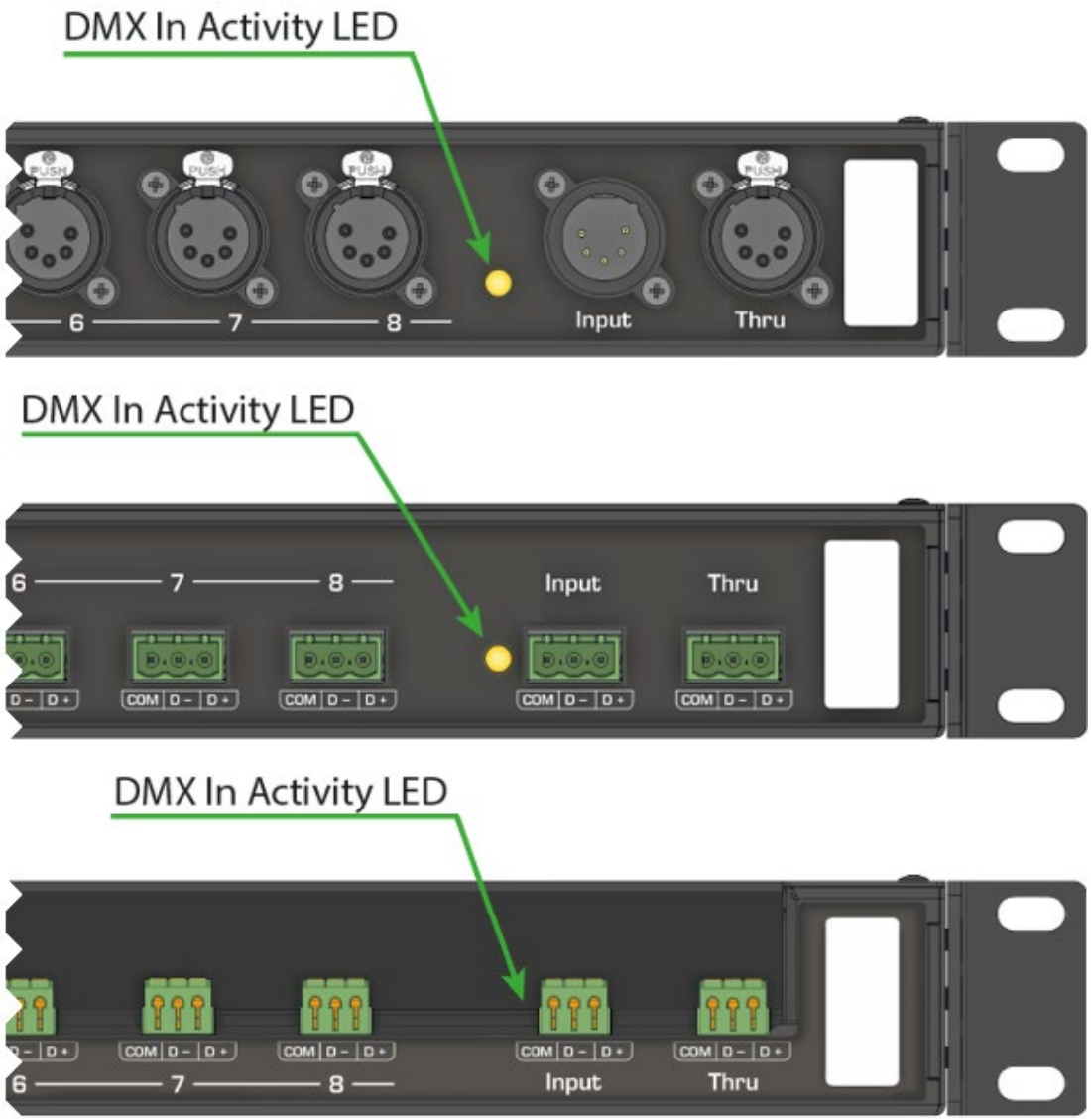
- Unit is receiving power
- (Off) Unit is not receiving power

INPUT STATUS—

Indicates whether the DMX signal is received at the input. Input status indicators have two states:

- Active incoming DMX signal
- No active incoming DMX signal

REAR PANEL LED INDICATORS



INPUT STATUS—

Indicates whether the DMX signal is received at the input. Input status indicators have two states:

Active incoming DMX signal

No active incoming DMX signal

TECHNICAL SPECIFICATION

Model	1x8 XLR	1x8 RDM XLR	1x8 PTB	1x8 RDM PTB	1x8 IDC	1x8 RDM IDC
Part Number	DPDDS185XLR	DPDDS185XLRR	DPDDS183TB	DPDDS183TBR	DPDDS18IDC	DPDDS18IDCR
DMX Input	1x Neutrik XLR 5-Pin Male		1x Pluggable Terminal Block (PTB)		1x IDC Terminal Block	
DMX Thru	1x Neutrik XLR 5-Pin Female		1x Pluggable Terminal Block (PTB)		1x IDC Terminal Block	
DMX Outputs	8x Neutrik XLR 5-Pin Female		8x Pluggable Terminal Block (PTB)		8x IDC Terminal Block	
DMX Protocol	DMX-512A					
RDM	No	Yes	No	Yes	No	Yes
DMX Isolation	Optical, up to 1000V					
Power Input	100-240 VAC, 50-60 Hz					
Power Consumption	10W					
Power Connector	IEC with fuse holder, accepts IEC C13 cable (included)					
Fuse	5x20 mm 1A, 250V					
Cooilng	Convection					
Operating Temperature	-4º to +104º F (-20º to +40º C)					
Unit Dimensions (WxHxD)	19 x 1.72 x 4.3 in [482.6 x 43.7 x 109.1 mm]				19 x 1.72 x 4.1 in [482.6 x 43.7 x 104.3 mm]	
Shipping Dimensions (WxHxD)	20.5 x 3.5 x 7.38 in [520.7 x 88.9 x 187.5 mm]					
Unit Weight	3.4 lb [1.54 kg]		3.2 lb [1.45 kg]			
Shipping Weight	3.8 lb [1.72 kg]		3.6 lb [1.63 kg]			

RETURN PROCEDURE

Please send returned merchandise prepaid and in the original packing. Freight call tags will not be issued for shipping the product to TMB, but TMB will pay the freight for return to the customer. Clearly label package with a Return Merchandise Authorization Number (RMA #). Products returned without an RMA # will delay service. Please contact TMB and request an RMA # prior to shipping the unit. Be prepared to provide the model number, serial number, and a brief description of the cause for the return. Be sure to properly pack the unit; any shipping damage resulting from inadequate packaging is the customer's responsibility. TMB reserves the right to use its own discretion to repair or replace product(s). Proper UPS packing or double-boxing will better ensure product integrity when shipped.

Note: If you are given an RMA #, please include the following information on a piece of paper inside the box:

1—Your name
2—Your address
3—Your phone number
4—The RMA #
5—A brief description of the symptoms

T H I S P A G E I N T E N T I O N A L Y B L A N K

CONTACT INFORMATION

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