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01483 757211  
HIRE@STORMLTD.CO.UK  
WWW.STORMLTD.CO.UK

# ProPlex®

## DATA DISTRIBUTION



## Opto-Splitters

# USER MANUAL

### **TMB 24/7 Technical Support**

US/Canada: +1 818.794.1286

Toll Free: 1 877.862.3833 (877.TMB.DUDE)

UK: +44 (0)20.8574.9739

Toll Free: 0800.652.5418

e-mail: [techsupport@tmb.com](mailto:techsupport@tmb.com)

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Los Angeles

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New York

Beijing

Toronto

+1 818-899-8818

+44 (0)20-8574-9700

+1 201-896-8600

+86 10-8492-1587

+1 519-538-0888



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# 1. Introduction

## PRODUCT OVERVIEW

The ProPlex Opto-Splitter is range is designed for standard DMX-512 signal amplification, regeneration, and splitting to multiple outputs. Just a few of the features include:

- Full RDM functionality. RDM defeat switch on each input (Opto-Splitter 2x8 and Mini non-RDM excluded).
- Shock-mounted circuitry. Designed for extreme conditions and temperatures.
- Neutrik™ connectors: Locking PowerCon mains and XLR
- Automatic bit clocking DMX regeneration with less than 1ms lag
- Outputs switchable between two inputs with LED indicators available on all 2x8 and 2x10 models

## 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..
- Always use a safety cable when hanging unit overhead.
- 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.**



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



## FUSE REPLACEMENT

The ProPlex Opto-Splitter 2x10 RDM uses a 2.0A, 250V barrel fuse, 5x20mm (0.2x0.8 in.). The ProPlex Opto-Splitter 2x8, Opto-Splitter 2x8 RDM, Opto-Splitter Mini, and Opto-Splitter Mini RDM, use a 1.0A 250V barrel fuse, 5x20mm (0.2x0.8 in.).

To replace fuse:

1. With a screwdriver turn the fuse cap counter-clockwise to remove fuse cap with fuse.
2. Replace fuse attached to fuse cap.
3. Reinsert fuse cap with new fuse and tighten clockwise.

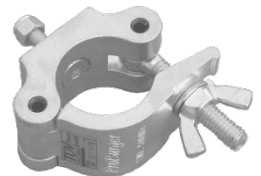
## MOUNTING/RIGGING – PROPLEX MINI ENCLOSURES

**Orientation** – ProPlex Mini units may be mounted in any position, using the standard yoke. Always make sure there is adequate room for ventilation.

**Rigging** – *Always consult a certified rigging specialist before suspending any device overhead.*

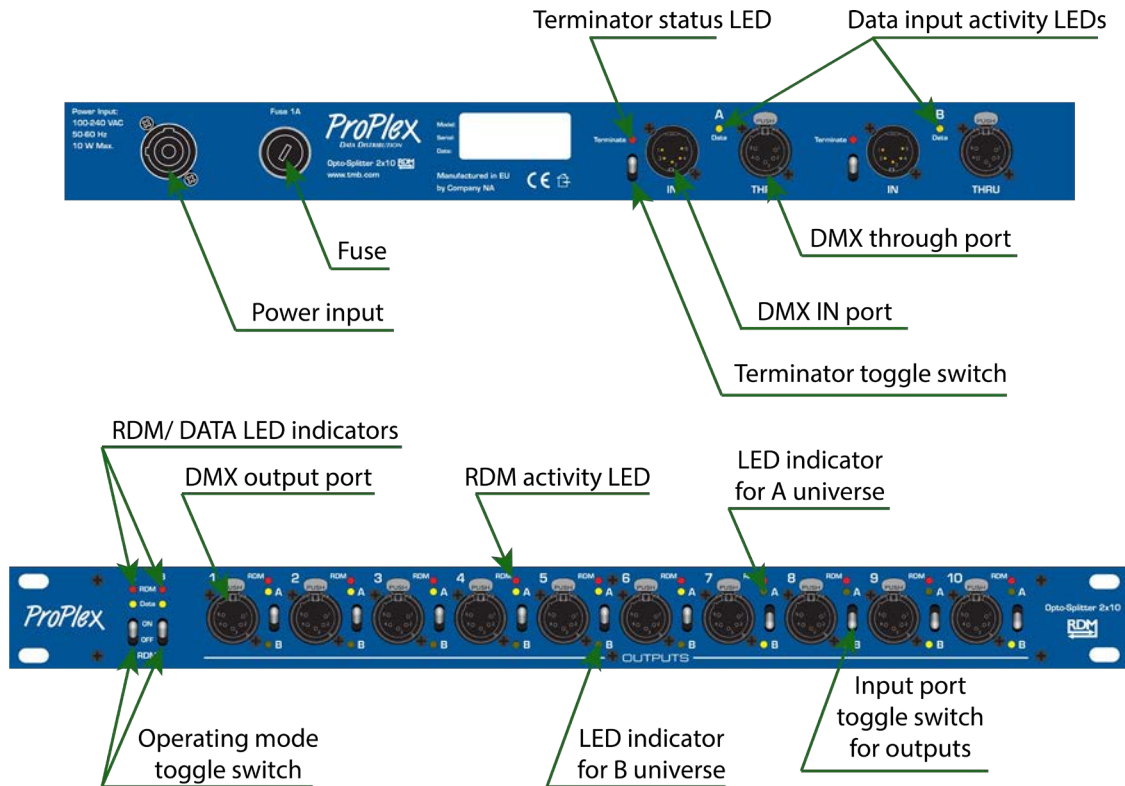
Use ProBurger® couplers or equivalent C- or O-type clamps for attaching to truss. After establishing the desired position, tighten all appropriate bolts.

- *Always use safety cables!*
- When selecting installation location, consider routine maintenance.
- Never mount Mini enclosure where it will be exposed to moisture, high humidity, extreme temperatures, or restricted ventilation.

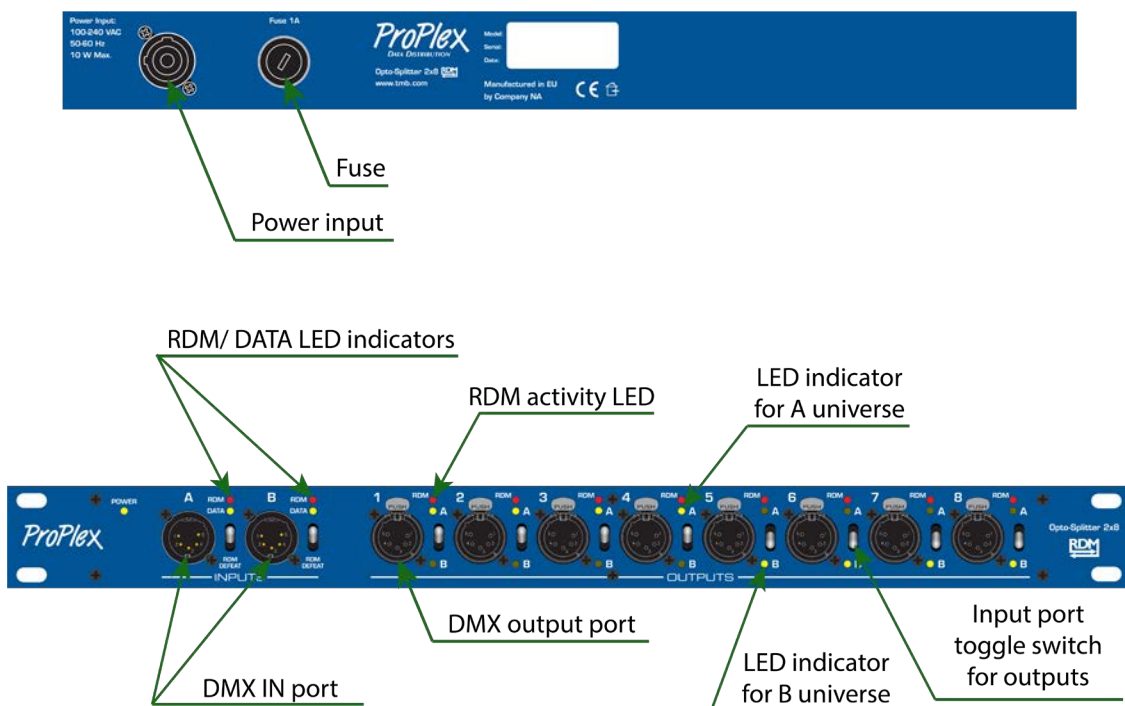




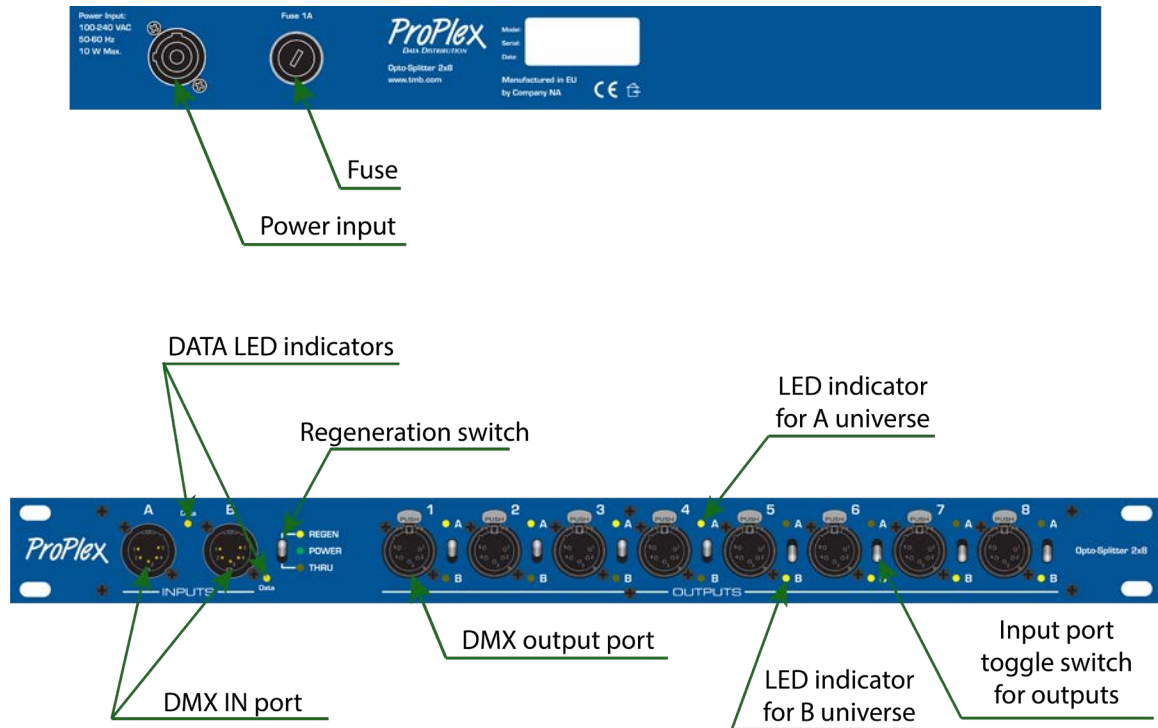
## PANELS – FRONT AND BACK



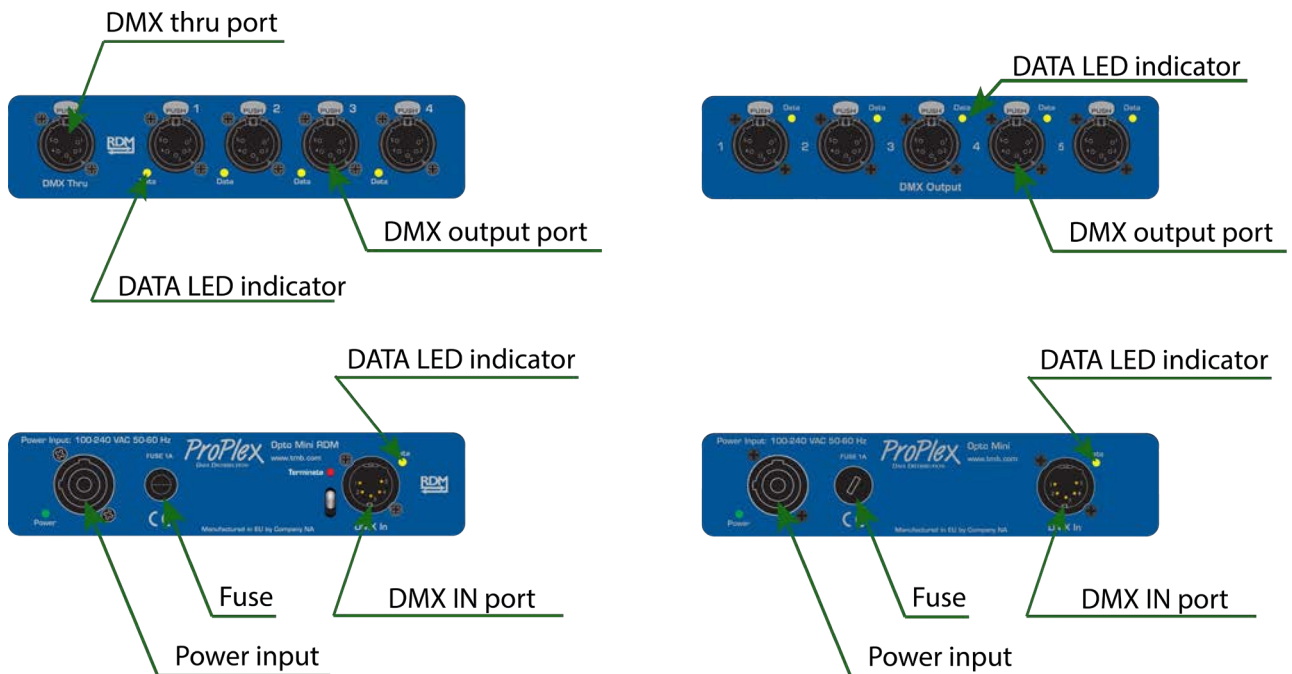
**Opto-Splitter 2x10 RDM**



## Opto-Splitter 2x8 RDM



## Opto-Splitter 2x8



## Opto-Splitter Mini RDM

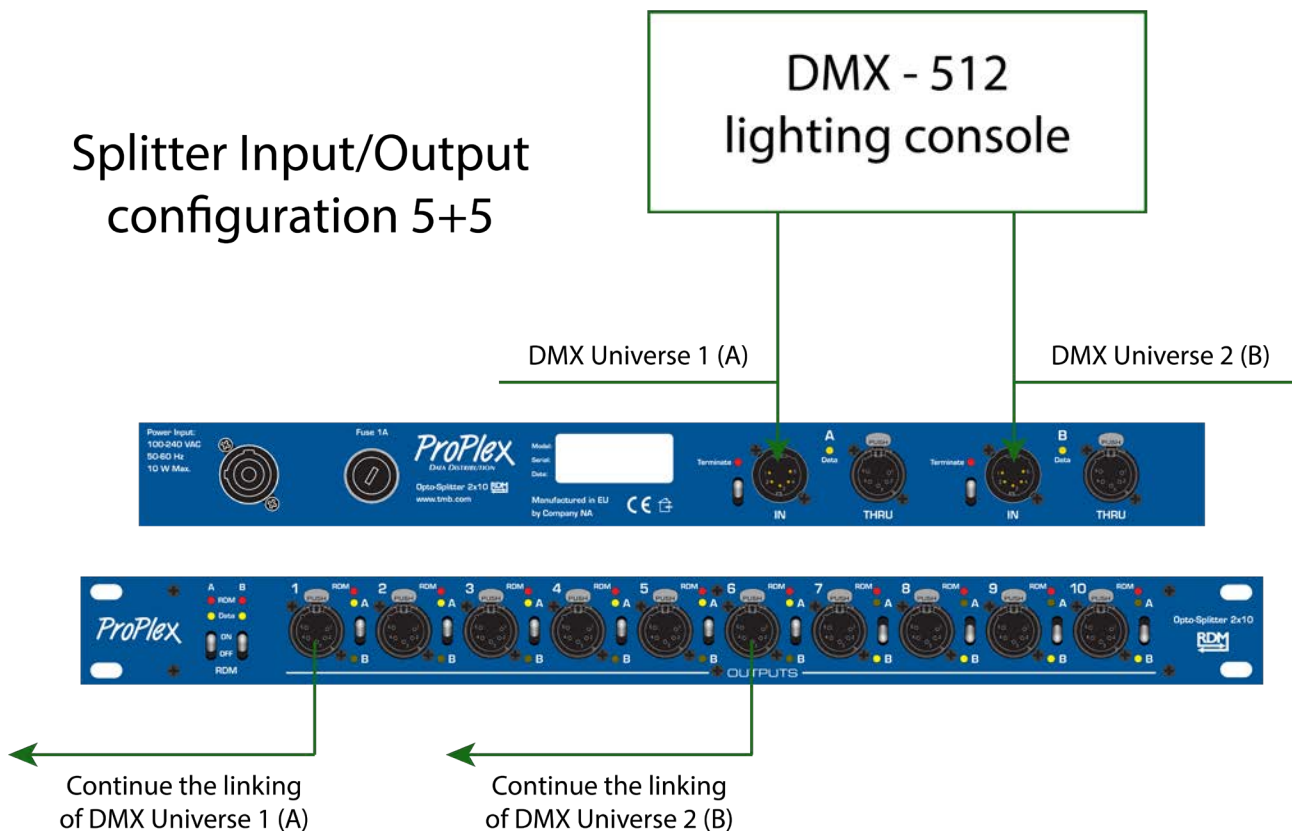
## Opto-Splitter Mini

## RDM / DMX SERIAL LINK

1. Connect the male 5-pin connector of the DMX cable to the female output 5-pin connector of the lighting console.
2. Connect the end of the cable coming from the lighting console which will have a female 5-pin connector to the input connector of the DMX Splitter consisting of a male 5-pin connector.
3. Connect the output as stated above to the input of the following fixture and so on.

### DMX Linking

Splitter Input/Output  
configuration 5+5



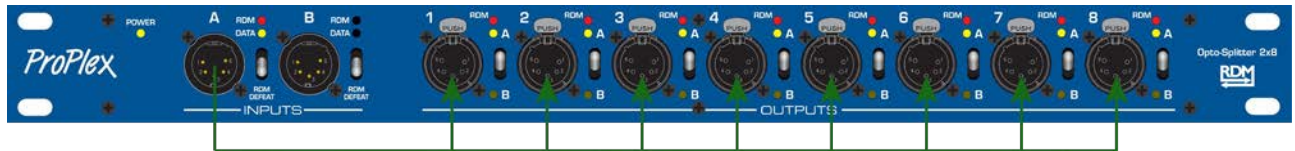


## INPUT / OUTPUT CONNECTIONS

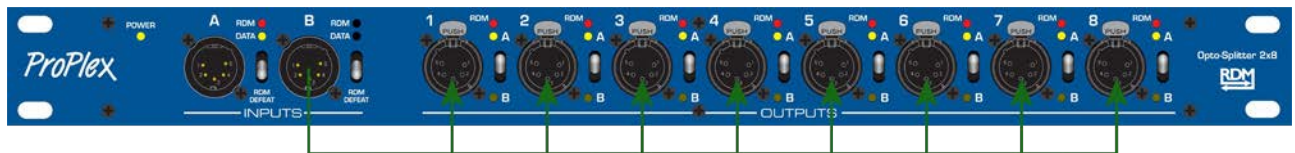
DMX splitter outputs can be manually switched to each of the two inputs. Following are a few examples.

Example 1: RDM/DMX Splitter input /output connection scheme 10+0: One of the DMX inputs is connected to all of DMX outputs, but a second DMX input is not used, i.e. not connect to any of the DMX outputs.

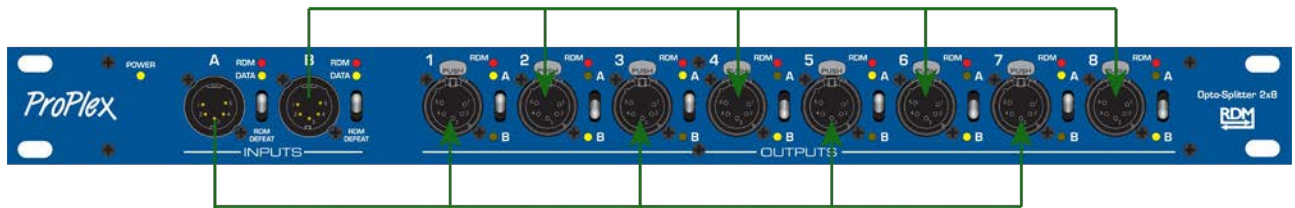
Using Input A:



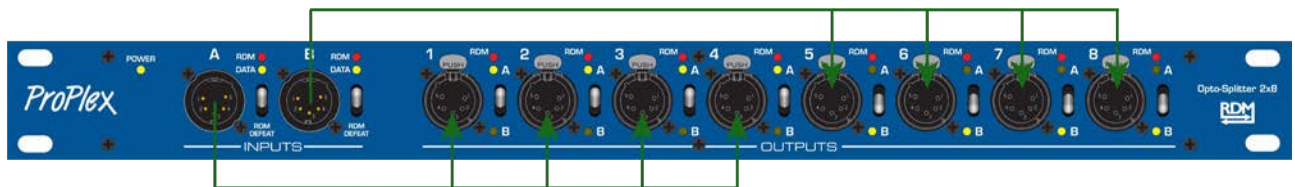
Using Input B:



Example 2: RDM/DMX Splitter input /output connection scheme 4+4



Example 2 (cont.)



Additional possibilities abound: e.g. 1+9; 2+8; 3+7; or 4+6 on each input.

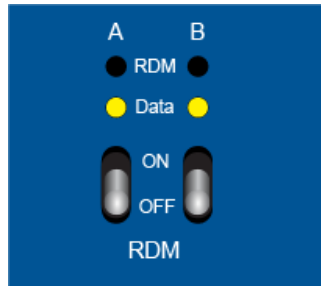
## 2. Operation

### OPERATING MODES (RDM)

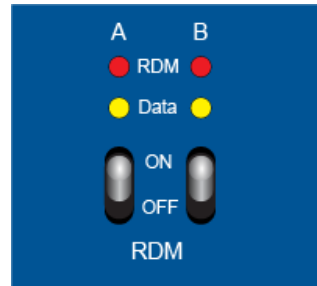
The Opto-Splitter 2x8 RDM and 2x10 RDM have two modes: DMX, and DMX with RDM. Modes can be switched using the toggle switch located on the front panel.

*Note – The Opto-Splitter Mini RDM always has RDM enabled.*

Switch is set to **DMX**



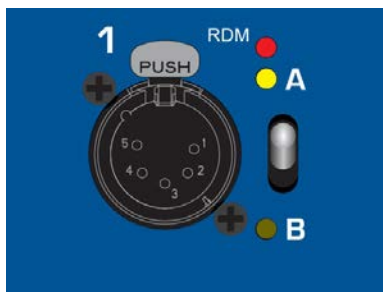
Switch is set to **DMX with RDM**



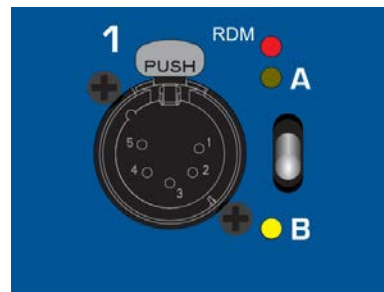
### ASSIGNING INPUTS TO OUTPUTS

The 2x8, 2x8 RDM, and 2x10 Opto-Splitter outputs can be connected to one of two inputs using the switches located to the right of each output connector.

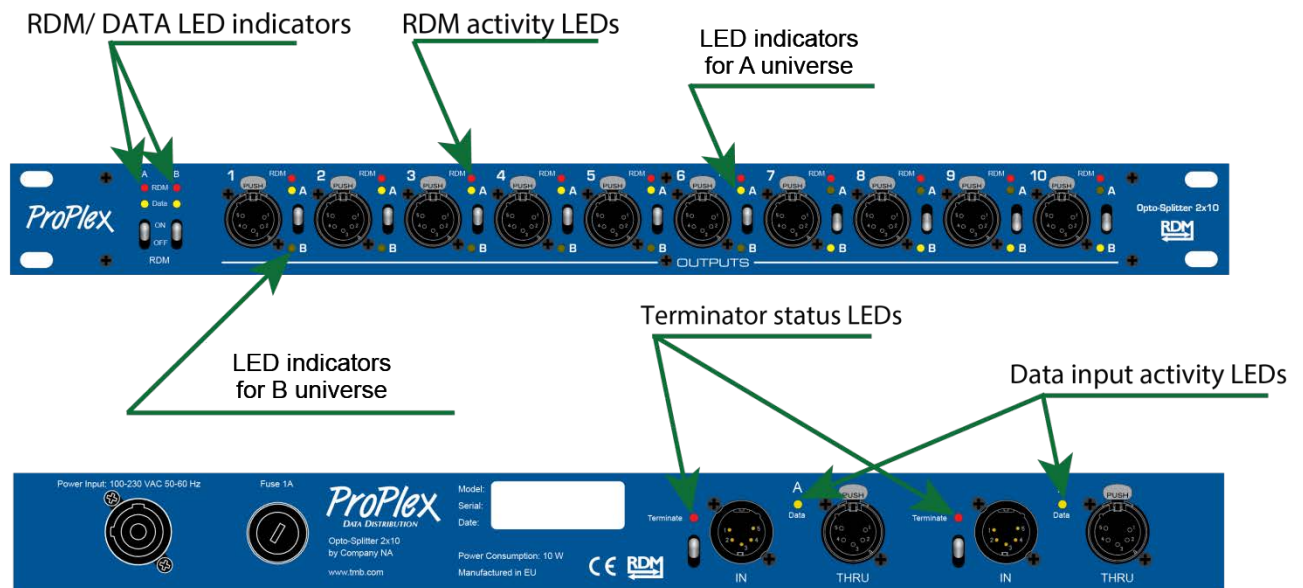
connected to  
DMX input (A)



connected to  
DMX input (B)



## LED INDICATORS (MODEL DEPENDENT)



## FRONT PANEL LED INDICATORS

**DATA** – DMX input signal LED indicators are located on left side of the front panel and indicate whether the DMX signal is received at the input. DMX input signal LED indicators have two modes:

- Off: DMX signal is not present
- Blinking: DMX signal is present

**RDM** – RDM signal processing mode LED indicator has two modes:

- Off : RDM mode is turned off and splitter works in DMX-only mode
- On: RDM mode is activated (Opto-Splitter passes RDM signal). *Note: Opto-Splitter Mini RDM has RDM always enabled.*

*Note: Ensure all 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 2x8, 2x8 RDM, AND 2x10 RDM UNIVERSE INDICATORS

**A Universe** – LED indicators are located at each of the DMX splitter outputs, indicating whether the output is connected to the DMX input A. The LED indicators have two states:

- Off: The DMX signal output is not connected to input A
- Blinking: The DMX signal output is connected to input A

**B Universe** – LED indicators are located at each of the DMX Splitter outputs, indicating whether the output is connected to the DMX input B. The LED indicators have two states:

- Off : The DMX signal output is not connected to input B
- Blinking: The DMX signal output is connected to input B

## REAR PANEL LED INDICATORS

**Terminator** – The Terminator LED indicators signal whether the built-in DMX terminator is switched on or off. There are two positions:

- On: Terminator is activated.
- Off: Terminator is deactivated.

Activate the DMX terminator if you want to stop data reflections. *Note: Only available on Opto-Splitter 2x10 RDM.*

**Data** – The DMX input signal LED indicates whether the DMX signal is received at the input. DMX input signal LED indicators have two modes:

- Off: DMX signal is not present
- Blinking: DMX signal is present.

# 3. Appendix

## LIMITED WARRANTY

ProPlex 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](mailto:TechSupportRepairNA@tmb.com).

### US

527 Park Ave.  
San Fernando, CA 91340  
Tel: +1 818.899.8818  
Fax: +1 818.899.8813  
[tmb-info@tmb.com](mailto:tmb-info@tmb.com)  
[www.tmb.com](http://www.tmb.com)

### UK

21 Armstrong Way  
Southall, UB2 4SD England  
Tel: +44 (0)20.8574.9700  
Fax: +44 (0)20.8574.9701  
[tmb-info@tmb.com](mailto:tmb-info@tmb.com)  
[www.tmb.com](http://www.tmb.com)

## 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



# PROPLEX OPTO-SPLITTERS – TECHNICAL SPECIFICATIONS

Technical Specifications			
Model	Opto-Splitter 2x8	Opto-Splitter 2x8 RDM	Opto-Splitter 2x10 RDM
Part Number	PPDDS285	PPDDS285RR	PPDDS2105RR
DMX Inputs	2 XLR5 Male	2 XLR5 Male	2 XLR5 Male (back panel)
DMX Outputs	8 XLR5 Female	8 XLR5 Female	10 Isolated + 2 Thru XLR5 Female
DMX Signal	DMX-512A		
RDM	No	Yes	Yes, individually defeatable for each input.
Additional Features			DMX Termination switch for each input.
Signal Delay	Optional REGENERATION mode: 2μsec	REGENERATION mode: 2μsec	REGENERATION mode: 2μsec
In/Out/Out Isolation	Optical to 1000V		
Power	100-230 VAC, 50-60 Hz (consumption 15W)		
Mains Connector	Neutrik™ powerCON NAC3MPA		
Fuse	2A, 250V		
Cooling	Convection		
Operating Temperature	-4° to +104° F (-20° to +40° C)		
Operating Humidity	10 - 85%		
Unit Dimensions (WxHxD)	19 x 1.75 x 3.94 in (482.6 x 44.5 x 100 mm)	19 x 1.75 x 3.94 in (482.6 x 44.5 x 100 mm)	19 x 1.75 x 8 in (482.6 x 44.5 x 203 mm)
Unit Weight (unpacked)	3.3 lbs (1.5 kg)	3.3 lbs (1.5 kg)	5.5 lbs (2.5 kg)
Packed Dimensions (WxHxD)	20.5 x 3.3 x 7.25 in (521 x 84.5 x 184 mm)	20.5 x 3.3 x 7.25 in (521 x 84.5 x 184 mm)	20.5 x 3.5 x 10.6 in (522 x 89 x 269 mm)
Shipping Weight	3.7 lbs (1.7 kg)	3.7 lbs (1.7 kg)	6 lbs (2.7 kg)

Model	Opto-Splitter Mini DMX only	Opto-Splitter Mini RDM
Part Number	PPDDS145MD	PPDDS145MR
DMX Inputs	1 XLR5 Male	1 XLR5 Male
DMX Outputs	5 isolated	4 isolated + 1 Thru XLR5 Female
DMX Signal	DMX-512A	
RDM	No	Yes
Additional Features		DMX Termination Switch
Signal Delay	THRU mode: < 0.1μsec	REGENERATION mode: 2μsec
In/Out/Out Isolation	Optical to 1000V	
Power	100-230 VAC, 50-60 Hz (consumption 15W)	
Mains Connector	Neutrik™ powerCON NAC3MPA	
Fuse	2A, 250V	
Cooling	Convection	
Operating Temperature	-4° to +104° F (-20° to +40° C)	
Operating Humidity	10 - 85%	
Unit Dimensions (WxHxD)	7.32 x 3 x 8.74 in (186 x 76 x 222 mm)	7.32 x 3 x 8.74 in (186 x 76 x 222 mm)
Unit Weight (unpacked)	4.7 lbs (2.1 kg)	4.7 lbs (2.1 kg)
Packed Dimensions (WxHxD)	11.8 x 4.2 x 9.4 in (300 x 106 x 240 mm)	11.8 x 4.2 x 9.4 in (300 x 106 x 240 mm)
Shipping Weight	5 lbs (2 kg)	5 lbs (2 kg)