

Crestron **DM-PSU-8/16**
8/16-Port PoDM Power Supply
for DM[®] Switchers

Operations Guide



Regulatory Compliance

This product is Listed to applicable UL Standards and requirements by Underwriters Laboratories Inc.



As of the date of manufacture, the DM-PSU-8 and DM-PSU-16 have been tested and found to comply with specifications for CE marking and standards per EMC and Radiocommunications Compliance Labelling.



Federal Communications Commission (FCC) Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following conditions:

(1) This device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION: Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Industry Canada (IC) Compliance Statement

CAN ICES-3(B)/NMB-3(B)

The specific patents that cover Crestron products are listed at patents.crestron.com.

Crestron, the Crestron logo, DigitalMedia, DigitalMedia 8G+, DM, and DM 8G+ are either trademarks or registered trademarks of Crestron Electronics, Inc. in the United States and/or other countries. HDBaseT is either a trademark or registered trademark of the HDBaseT Alliance in the United States and/or other countries. Other trademarks, registered trademarks, and trade names may be used in this document to refer to either the entities claiming the marks and names or their products. Crestron disclaims any proprietary interest in the marks and names of others. *Crestron is not responsible for errors in typography or photography.*

This document was written by the Technical Publications department at Crestron.
©2013 Crestron Electronics, Inc.

Contents

8/16-Port PoDM Power Supply for DM Switchers: DM-PSU-8/16	1
Introduction	1
Features and Functions	1
Applications.....	2
Specifications	3
Physical Description.....	3
Setup.....	7
Installation.....	7
Hardware Hookup	9
Problem Solving	10
Troubleshooting.....	10
Further Inquiries	10
Future Updates	10
Return and Warranty Policies.....	11
Merchandise Returns / Repair Service	11
Crestron Limited Warranty.....	11

8/16-Port PoDM Power Supply for DM Switchers: DM-PSU-8/16

Introduction

Power over DM[®] (PoDM) is a feature of Crestron[®] DigitalMedia 8G+[™] technology that enables operating power for DM 8G+[™] transmitters and receivers to be carried with video, audio, and data signals over a single CAT5e cable. As part of a complete DM system, PoDM can be used to deliver a centralized power distribution solution for a facility full of transmitter and receiver devices, eliminating all the bulky power packs and reducing the number of ac power outlets normally required at every device location.

The DM-PSU-8 provides power for up to 8 PoDM powered devices, and the DM-PSU-16 provides power for up to 16 PoDM devices.

For simplicity within this guide, the term “DM-PSU-8/16” is used except where noted.

The DM-PSU-8/16 is designed to be installed at the central switcher location, occupying just a single rack space and requiring just one ac power outlet. Each of the 8 or 16 **POWER** ports connects to the **POE IN** port¹ of a DMC-C input card, DMC-C-DSP input card, or DMCO-5 series output card of DM switcher (sold separately).

Features and Functions

- Provides a centralized power source for up to 8 (DM-PSU-8) or 16 (DM-PSU-16) PoDM powered devices²
- Designed for use with modular DigitalMedia[™] switchers using DM 8G+ I/O cards
- Compatible with PoH powered HDBaseT[™] devices²
- Includes front panel indicators for easy troubleshooting
- Single-space 19” rack mountable

1. PoDM interfaces connected to these ports are for intra-building use only and should not be connected to lines that run outside of the building in which the PoDM switch is located.
2. PoDM is only compatible with DM 8G+ and HDBaseT devices. Consult the spec sheet for each individual device to verify its PoDM or PoH capabilities.

For the DM-PSU-8, a full 15.4 watts is supplied by each port to handle 8 Class 0-3 PoDM devices simultaneously. For the DM-PSU-16, a full 15.4 watts is supplied by each port to handle 16 Class 0-3 PoDM devices simultaneously. Connections between the DM-PSU-8/16 and switcher are made using ordinary CAT5e cables terminated with RJ-45 connectors (not included). Front panel LEDs indicate when each port is supplying power to a PoDM powered device.

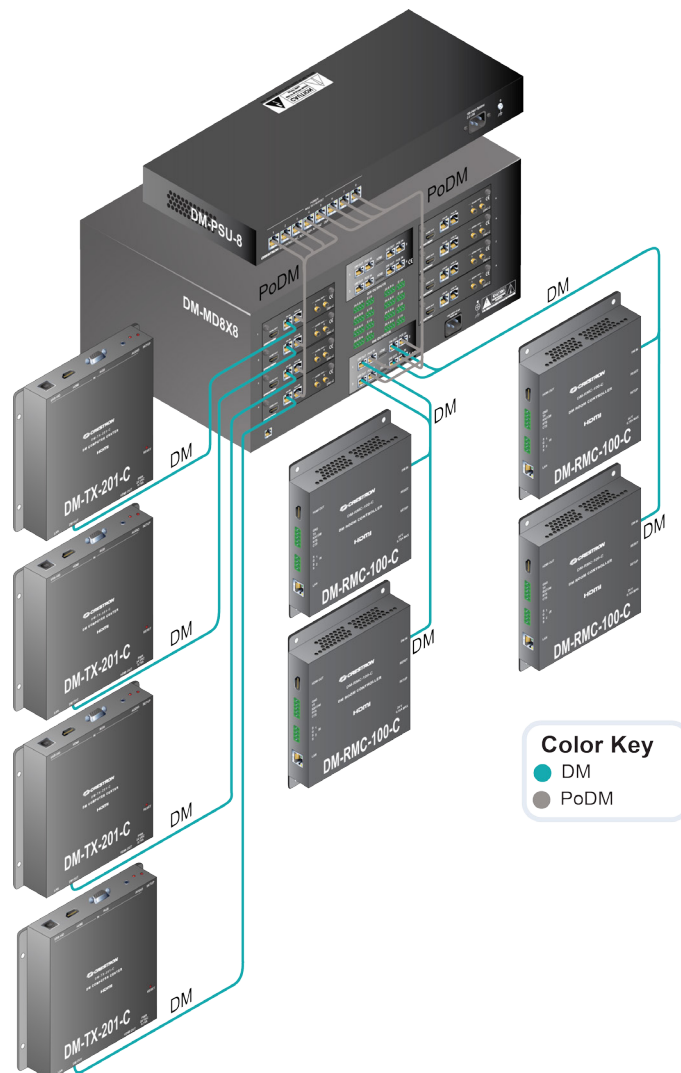
The DM-PSU-8/16 is also compatible with HDBaseT specifications, and may be used to power PoH (Power over HDBaseT) powered devices that are connected to the DM switcher in the same manner as a PoDM powered device.* PoDM is intended specifically for use with DM 8G+ based systems.

* PoDM is only compatible with DM 8G+ and HDBaseT devices. Consult the spec sheet for each individual device to verify its PoDM or PoH capabilities.

Applications

The diagram below shows a sample DM-PSU-8 application. In the application, the DM-PSU-8 provides power to four DM-TX-201-C and four DM-RMC-100-C PoDM powered devices.

DM-PSU-8 in a Sample Application



Specifications

Specifications for the DM-PSU-8/16 are listed in the following table.

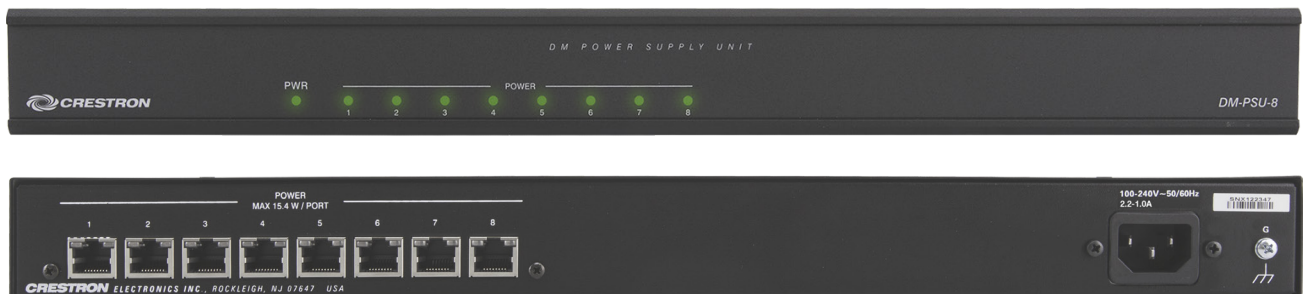
DM-PSU-8/16 Specifications

SPECIFICATION	DETAILS
Main Power Requirements	DM-PSU-8: 2.2–1.0 A @ 100-240 Vac, 50/60 Hz DM-PSU-16: 3.5-1.6 A @ 100-240 Vac, 50/60 Hz
Environmental	
Temperature	32° to 104° F (0° to 40° C)
Humidity	10% to 90% RH (non-condensing)
Heat Dissipation	DM-PSU-8: 97 Btu/h DM-PSU-16: 162 Btu/h
Enclosure	
Chassis	Metal, black finish, fan-cooled, vented sides
Faceplate	Metal, black finish with polycarbonate label overlay
Mounting	Freestanding or 1 U 19-inch rack mountable (adhesive feet and rack ears included)
Dimensions	
Height	1.73 in (44 mm)
Width	17.28 in (439 mm) without ears 19.00 in (483 mm) with ears
Depth	DM-PSU-8: 6.56 in (167 mm) DM-PSU-16: 8.56 in (218 mm)
Weight	DM-PSU-8: 3.8 lb (1.8 kg) DM-PSU-16: 5.2 lb (2.4 kg)

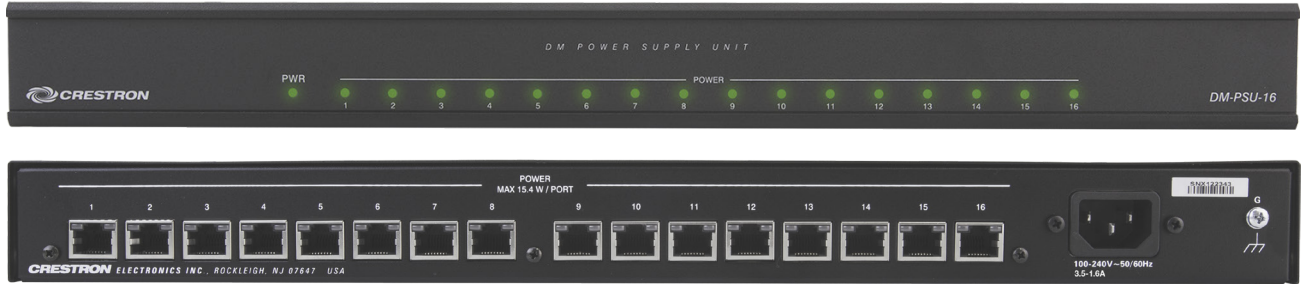
Physical Description

This section provides information on the connections, controls, and indicators available on the DM-PSU-8/16.

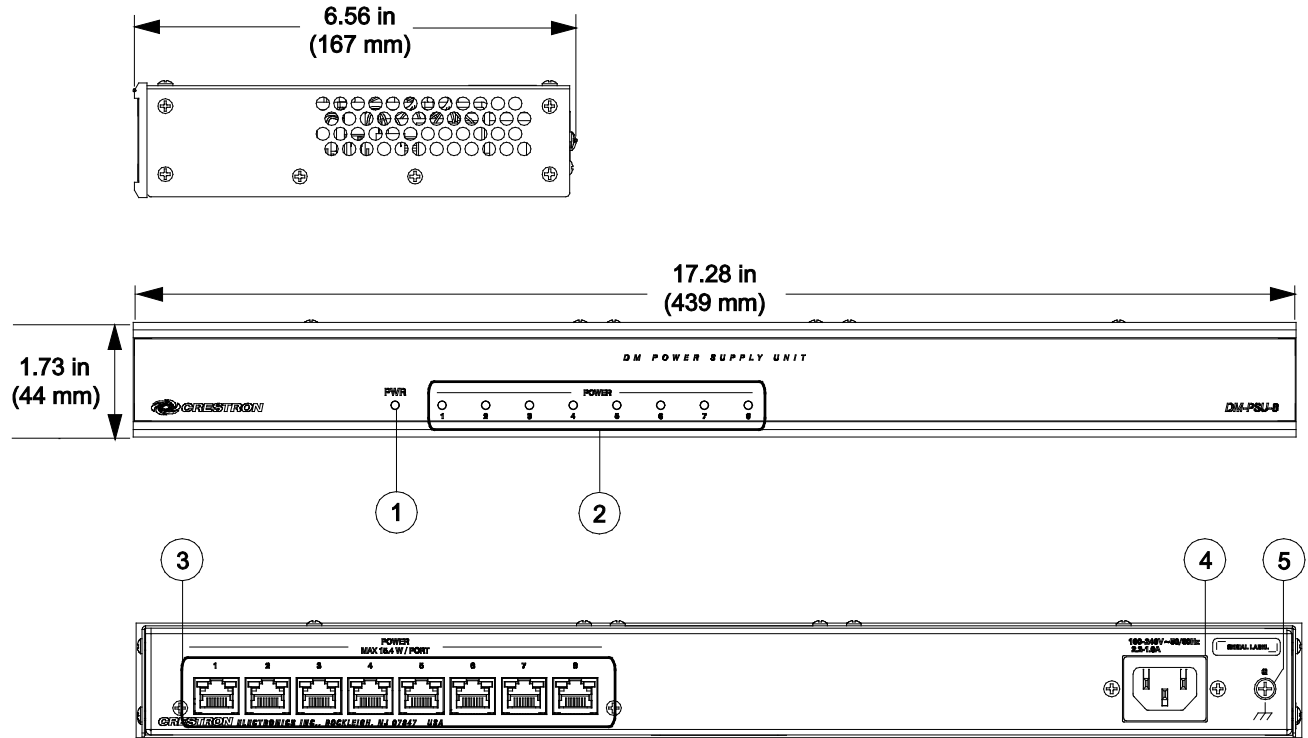
DM-PSU-8 Physical Views (Front and Rear)



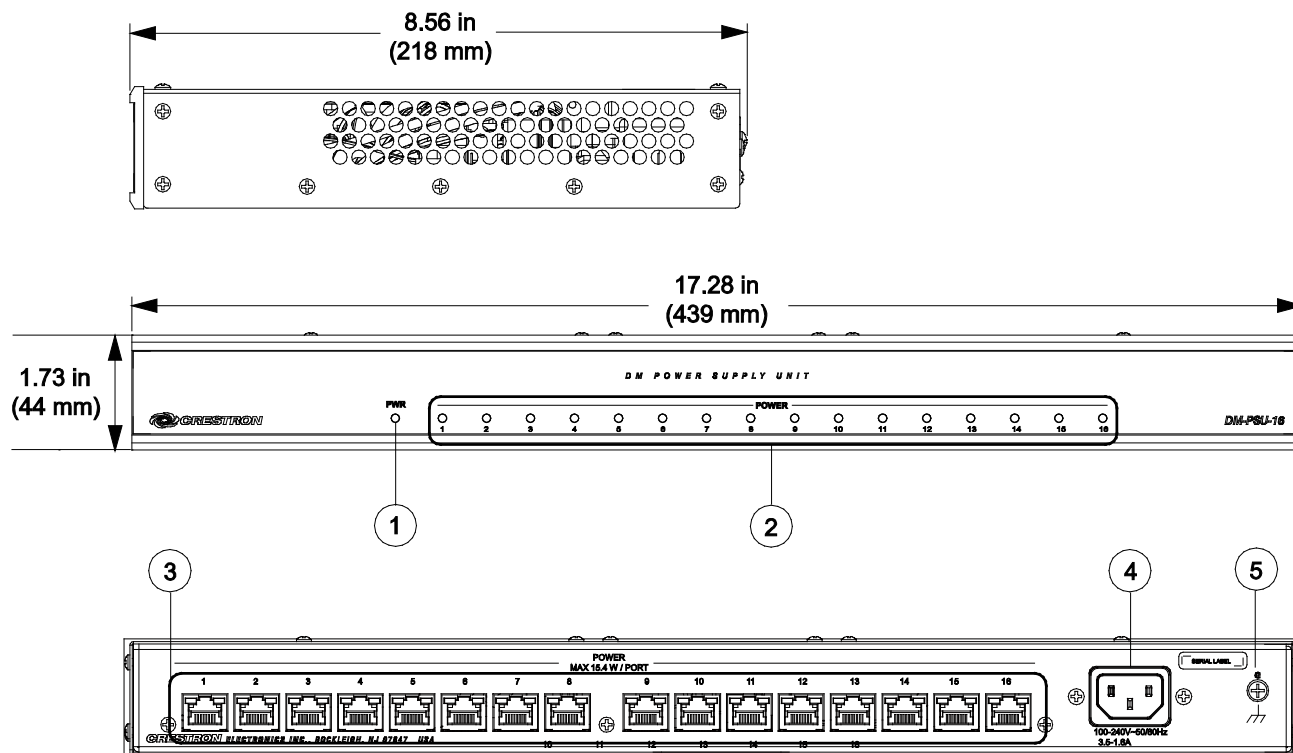
DM-PSU-16 Physical Views (Front and Rear)



DM-PSU-8 Overall Dimensions



DM-PSU-16 Overall Dimensions



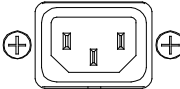

Connectors, Controls, and Indicators

#	CONNECTORS, CONTROLS, AND INDICATORS	DESCRIPTION
1	PWR LED	(1) Green LED, indicates operating power supplied via main power input
2	POWER LEDs 1-8/1-16	(8) or (16) Green LEDs, each indicates PoDM is active ¹ and a PoDM (or PoH) powered device is connected to the corresponding port (via a DM switcher I/O card)
3	POWER MAX 15.4 W / PORT 1-8/1-16 Pin 8 Pin 1	(8) or (16) 8-pin RJ-45, female; PoDM and PoH (Power Sourcing Equipment) ports; Each port connects to the POE IN port ² of DM switcher I/O card; Each port supports one PoDM/PoH PD (Powered Device) up to 15.4 W (Class 0-3)

PIN	SIGNAL	PIN	SIGNAL
1	PoDM+	5	PoDM+
2	PoDM+	6	PoDM-
3	PoDM-	7	PoDM-
4	PoDM+	8	PoDM-

(Continued on following page)

Connectors, Controls, and Indicators (Continued)

#	CONNECTORS, CONTROLS, AND INDICATORS	DESCRIPTION
4	 <p data-bbox="695 436 906 541">100-240V~50/60 Hz 2.2-1.0A or 3.5-1.6A</p>	<p data-bbox="976 338 1446 394">(1) IEC 60320 C14 main power inlet; Mates with removable power cord (included)</p> <p data-bbox="976 405 1390 457">DM-PSU-8: 2.2-1.0 A @ 100-240 Vac, 50/60 Hz</p> <p data-bbox="976 468 1398 520">DM-PSU-16: 3.5-1.6 A @ 100-240 Vac, 50/60 Hz</p>
5	<p data-bbox="792 558 808 579">G</p> 	<p data-bbox="976 558 1341 579">(1) 6-32 screw, chassis ground lug</p>

1. The DM-PSU-8/16 performs a self-test while it is powering up. For the duration of this test (approximately 15 seconds), **POWER** LEDs 1-8 and 1-16 do not reflect PoDM powered device activity.
2. PoDM interfaces connected to these ports are for intra-building use only and should not be connected to lines that run outside of the building in which the PoDM switch is located.

Setup

Installation

Ventilation

The DM-PSU-8/16 should be used in a well-ventilated area. The venting holes should not be obstructed under any circumstances.

To prevent overheating, do not operate this product in an area that exceeds the environmental temperature range listed in the table of specifications. Consider using forced air ventilation or incrementing the spacing between units to reduce overheating. Contact with thermal insulating materials should be avoided on all sides of the unit.

Rack Mounting

The DM-PSU-8/16 can be mounted in a rack or stacked with other equipment. Two “ears” are provided with the DM-PSU-8/16 so that the unit can be rack mounted. These ears must be installed prior to mounting. Complete the following procedure to attach the ears to the unit. The only tool required is a #1 or #2 Phillips screwdriver.

WARNING: To prevent bodily injury when mounting or servicing this unit in a rack, observe the following guidelines:

- When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.
- If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.

NOTE: Observe the following guidelines when installing equipment in a rack:

- Elevated Operating Ambient Temperature - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient temperature. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T_{ma}) specified by the manufacturer.
- Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of airflow required for safe operation of the equipment is not compromised.
- Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

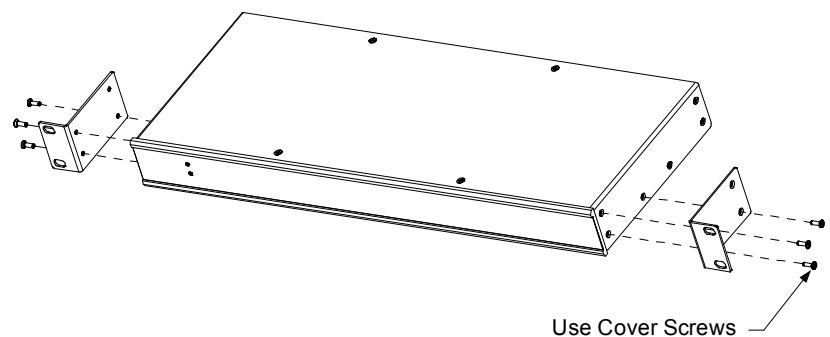
NOTE: If rack mounting is not required, rubber feet are provided for tabletop mounting or stacking. Apply the feet near the corner edges on the underside of the unit.

To install the ears, use the following procedure.

CAUTION: To prevent equipment damage, use only the rack ears Crestron provides for this device.

1. There are screws that secure each side of the DM-PSU-8/16 top cover. Using a #1 or #2 Phillips screwdriver, remove the three screws closest to the front panel from one side of the unit. Refer to the diagram following step 3 for a detailed view.
2. Position a rack ear so that its mounting holes align with the holes vacated by the screws in step 1.
3. Secure the ear to the unit with three screws from step 1, as shown in the following diagram.

Ear Attachment for Rack Mounting

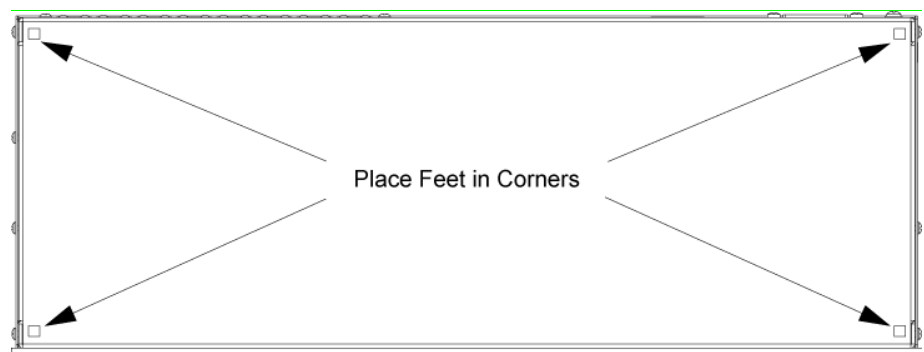


4. Repeat procedure (steps 1 through 3) to attach the remaining ear to the opposite side.

Stacking

Four “feet” are provided with the DM-PSU-8/16 so that if the unit is not rack mounted, the rubber feet can provide stability when the unit is placed on a flat surface or stacked. These feet should be attached prior to the hookup procedure. Refer to the following illustration for placement of the feet.

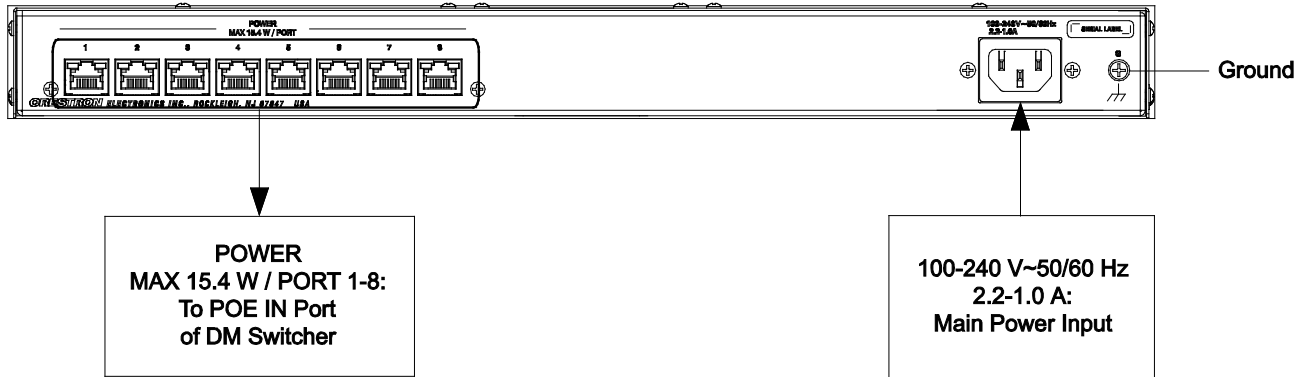
Foot Placement for the DM-PSU-8/16



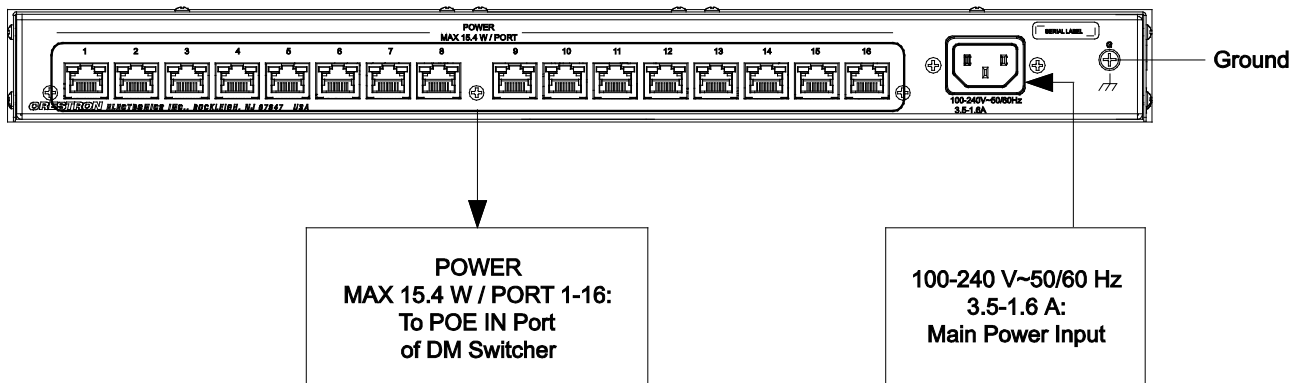
Hardware Hookup

Make the necessary connections as called out in the illustration that follows this paragraph. Apply power after all connections have been made.

Hardware Connections for the DM-PSU-8



Hardware Connections for the DM-PSU-16



NOTE: Ensure that the unit is properly grounded by connecting the chassis ground lug to an earth ground (building steel).

NOTE: To prevent overheating, do not operate this product in an area that exceeds the environmental temperature range listed in the table of specifications.

Problem Solving

Troubleshooting

The following table provides corrective action for possible trouble situations. If further assistance is required, please contact a Crestron customer service representative.

DM-PSU-8/16 Troubleshooting

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
PWR LED does not illuminate.	Device is not receiving power.	Verify power supply connection to the power outlet.
	Device overheated.	Allow device to cool down.
POWER LED does not illuminate.	Device is not connected to DM switcher.	Verify cable connection to the POE IN port of DM switcher.
	PoDM powered device is not connected.	Verify cable connection between the DM IN/DM OUT port of DM switcher and the corresponding port of the PoDM powered device.
Loss of functionality due to electrostatic discharge.	Improper grounding.	Check that all ground connections have been made properly.

Further Inquiries

To locate specific information or resolve questions after reviewing this guide, contact Crestron's True Blue Support at 1-888-CRESTRON [1-888-273-7876] or, for assistance within a particular geographic region, refer to the listing of Crestron worldwide offices at www.crestron.com/offices.

To post a question about Crestron products, log onto Crestron's Online Help at www.crestron.com/onlinehelp. First-time users must establish a user account to fully benefit from all available features.

Future Updates

As Crestron improves functions, adds new features and extends the capabilities of the DM-PSU-8/16, additional information may be made available as manual updates. These updates are solely electronic and serve as intermediary supplements prior to the release of a complete technical documentation revision.

Check the Crestron Web site periodically for manual update availability and its relevance. Updates are identified as an "Addendum" in the Download column.

Return and Warranty Policies

Merchandise Returns / Repair Service

1. No merchandise may be returned for credit, exchange or service without prior authorization from Crestron. To obtain warranty service for Crestron products, contact an authorized Crestron dealer. Only authorized Crestron dealers may contact the factory and request an RMA (Return Merchandise Authorization) number. Enclose a note specifying the nature of the problem, name and phone number of contact person, RMA number and return address.
2. Products may be returned for credit, exchange or service with a Crestron Return Merchandise Authorization (RMA) number. Authorized returns must be shipped freight prepaid to Crestron, 6 Volvo Drive, Rockleigh, N.J. or its authorized subsidiaries, with RMA number clearly marked on the outside of all cartons. Shipments arriving freight collect or without an RMA number shall be subject to refusal. Crestron reserves the right in its sole and absolute discretion to charge a 15% restocking fee plus shipping costs on any products returned with an RMA.
3. Return freight charges following repair of items under warranty shall be paid by Crestron, shipping by standard ground carrier. In the event repairs are found to be non-warranty, return freight costs shall be paid by the purchaser.

Crestron Limited Warranty

Crestron Electronics, Inc. warrants its products to be free from manufacturing defects in materials and workmanship under normal use for a period of three (3) years from the date of purchase from Crestron, with the following exceptions: disk drives and any other moving or rotating mechanical parts, pan/tilt heads and power supplies are covered for a period of one (1) year; touch screen display and overlay components are covered for 90 days; batteries and incandescent lamps are not covered.

This warranty extends to products purchased directly from Crestron or an authorized Crestron dealer. Purchasers should inquire of the dealer regarding the nature and extent of the dealer's warranty, if any.

Crestron shall not be liable to honor the terms of this warranty if the product has been used in any application other than that for which it was intended or if it has been subjected to misuse, accidental damage, modification or improper installation procedures. Furthermore, this warranty does not cover any product that has had the serial number altered, defaced or removed.

This warranty shall be the sole and exclusive remedy to the original purchaser. In no event shall Crestron be liable for incidental or consequential damages of any kind (property or economic damages inclusive) arising from the sale or use of this equipment. Crestron is not liable for any claim made by a third party or made by the purchaser for a third party.

Crestron shall, at its option, repair or replace any product found defective, without charge for parts or labor. Repaired or replaced equipment and parts supplied under this warranty shall be covered only by the unexpired portion of the warranty.

Except as expressly set forth in this warranty, Crestron makes no other warranties, expressed or implied, nor authorizes any other party to offer any warranty, including any implied warranties of merchantability or fitness for a particular purpose. Any implied warranties that may be imposed by law are limited to the terms of this limited warranty. This warranty statement supersedes all previous warranties.



Crestron Electronics, Inc.
15 Volvo Drive Rockleigh, NJ 07647
Tel: 888.CRESTRON
Fax: 201.767.7576
www.crestron.com



Operations Guide – DOC. 7490B
(2035911)

06.13

Specifications subject to
change without notice.