

# MEDMASTER™ EXTERNAL POWER SUPPLY

## MRIPS-312 SERIES

### PRODUCT FEATURES:

- » Recommended for MRI CleanScene™, Downlight, Auracyl™ Sconce, Stratalume™ Undercabinet and Envela®
- » Remote mounted outside EMI shielded structure – 13.5" x 8.5"
- » Provides DC Power to MedMaster MRI luminaires
- » ETL Listed power supply and enclosure



### PROJECT INFORMATION

Job Name \_\_\_\_\_

Fixture Type \_\_\_\_\_

Catalog Number \_\_\_\_\_

Approved by \_\_\_\_\_

### SPECIFICATIONS

**HOUSING:** Die formed marine grade extruded aluminum. Black TGIC polyester powder coat finish – 5-stage pre-treatment; Salt spray test: 1,000 hours.

#### ELECTRICAL:

**INPUT:** 120–240 VAC, 50/60 Hz. Active PFC Function, PF>0.95.

**OUTPUT:** Constant-voltage DC output. Factory preset at 24VDC, adjustable range 20–26.4VDC. Maximum current load 13ADC.

**WARRANTY:** This product is warranted by Kenall Manufacturing to be free of defects in workmanship and materials for a period of one year from the date of invoice. The DC power supply contained in the enclosure carries a five-year warranty from the date of invoice. Warranty is void if all wiring is not completely shielded in grounded conduit.

**LISTINGS:** Power supply is certified to UL1012 and CSA C22.2 No. 107.1 by Intertek Testing Services. Dry Location only.

**NOTE:** See Kenall luminaire specifications that utilize remote power supplies for use with this unit.



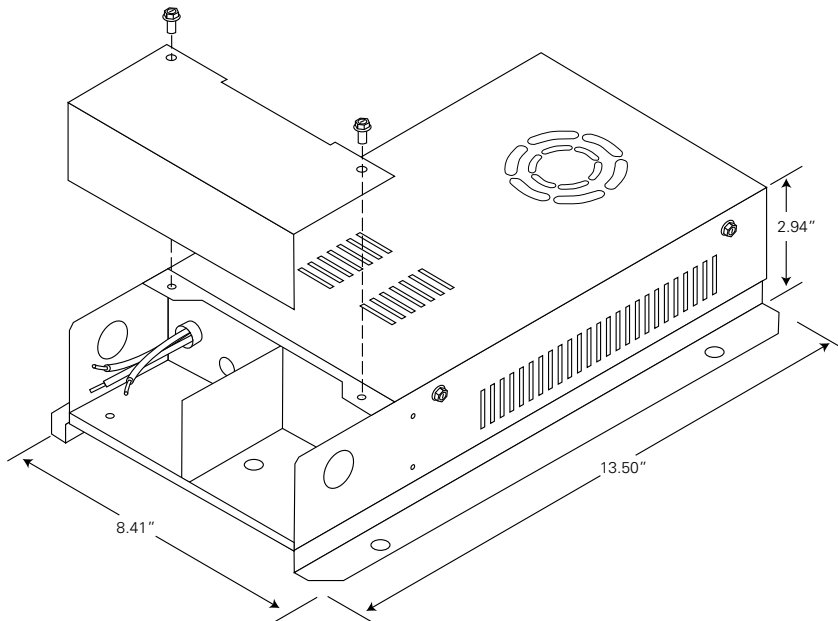
### INSTALLATION

**WIRING/CONDUIT:** All power and signal wiring must be completely shielded in grounded conduit. Total length of low-voltage supply wires, at least 18AWG, from power supply to filter to luminaires, should not exceed 50 feet (15m).

**EMI FILTERS:** All MRI room EMI filters must be sized as suitable for power supply load (supplied by others).

**AMBIENT TEMPERATURE/HUMIDITY:** The surrounding ambient temperature must remain below 104°F (40°C). The working temperature is between -20~+65°C. Allowable relative humidity is 20~90% non-condensing.

**PRODUCT LOCATION:** The MRIPS-312 power supply must be installed outside the shielded MRI environment. It contains ferrous components that can damage or interfere with MRI equipment. A minimum free-air spacing must exist of 3" around all sides and 6" over exhaust fan. Location should not allow excessive dirt/dust to clog ventilation holes and prevent internal air circulation.



### MRI LUMINAIRE CONNECTION PER POWER SUPPLY

Luminaires	Amps per Luminaire	Max. Luminaires per Power Supply per room
CSMRI22	.35	28
CSMRI24	0.7	16
CSMRI44	1.4	8
MRIDL6 (13L)	0.8	13
MRIDL6 (23L)	1.2	8
MRIDL6 (31L)	1.7	6
MRIMAS813 (6W)	0.4	28
MRIMAS813 (14W)	0.7	16
MRIMAS826	1.0	10
MRIMAS838	1.3	8
MRIMAS850	1.7	6
MRIAUC 18	0.7	16
MRIAUC 36	1.4	8
ME11MRI	1.4	8
LPS5MRI-12	0.7	16
LPSR5MRI-12	0.7	16



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MRIPS-312-072817

**MRIPS SERIES**

**IMPORTANT SAFEGUARDS**

When using electrical equipment, basic safety precautions should always be followed, including the following:

THIS PRODUCT MUST BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE INSTALLATION CODE BY A PERSON FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE PRODUCT AND THE HAZARDS INVOLVED. DISCONNECT POWER TO ALL CIRCUITS BEFORE WIRING FIXTURE. INSTALL IN ACCORDANCE WITH ALL NATIONAL, STATE, AND LOCAL CODES. DO NOT CONNECT TO AN UNGROUNDED SUPPLY. READ ALL FIXTURE MARKINGS AND LABELS TO ENSURE CORRECT INSTALLATION OF FIXTURE. SUPPLEMENTAL INSTRUCTIONS MAY BE LOCATED ON THE FIXTURE, IN ADDITION TO THIS INSTRUCTION SHEET, REGARDING ORIENTATION, OR MOUNTING RESTRICTIONS.

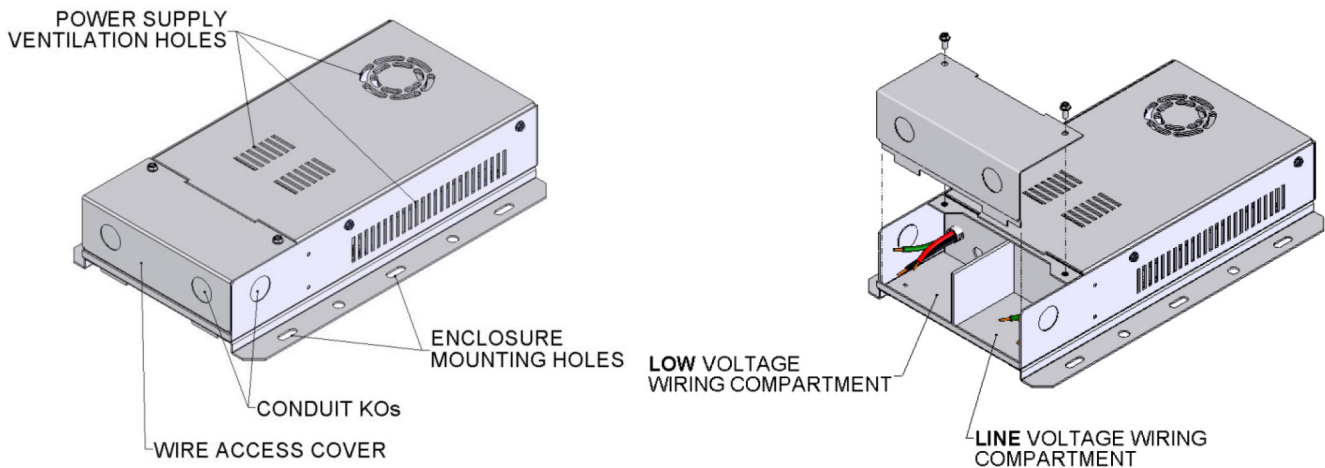


**INSTALLATION INSTRUCTIONS**

**SAVE THESE INSTRUCTIONS**

This instruction sheet applies for the Kenall MRIPS-312 External Power Supply. It describes the proper mounting procedure and wiring instructions for singular and multiple fixture configurations. A separate instruction sheet is provided with the MRI luminaire(s). Both sheets together are intended to provide comprehensive instructions on system installation and electrical wiring.

The Kenall MRIPS-312 power supply and EMI filter (by others) must be installed outside the shielded MRI environment. It contains ferrous components that can damage or interfere with MRI equipment.



## Power Supply Mounting Procedure

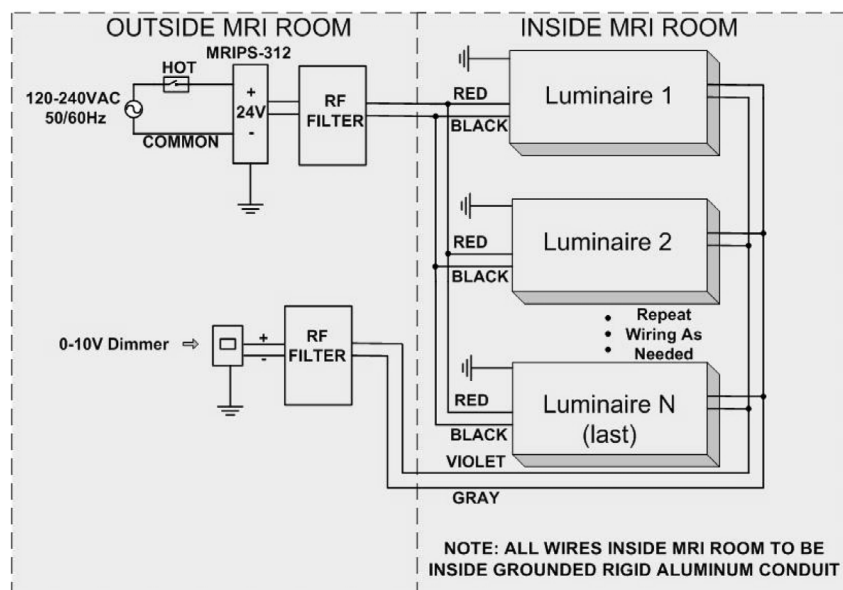
Follow instructions provided with the luminaires for the proper installation procedure. Make electrical connections to power supply after luminaires are mounted.

1. Locate suitable mounting location for the power supply. Location should be chosen based on the following requirements:
  - A. Ambient Temperature/Humidity:** The surrounding ambient temperature must stay below 104°F (40°C). Allowable relative humidity is 20~90% non-condensing. Product is rated for DRY locations only.
  - B. Wire Distance:** The length of 24V DC supply wires from power supply to luminaires should not exceed 50 feet (15m). In multiple-luminaire configurations, this is the distance to the last luminaire in the run.
  - C. Ventilation Hole Spacing:** Maintain at least 3" of free-air spacing must exist around all sides and at least 6" over exhaust fan.
  - D. Contaminants:** Location should not allow excessive dirt/dust to clog ventilation holes and prevent internal air circulation.
2. Securely mount enclosure to a mechanically-sound surface. Use hardware appropriate for the installation (not provided).

## Single Power Supply Wiring Procedure

Use the following procedure if only one power supply is to be connected in this installation. Refer to page 3 for multiple power supply installations.

3. Open wire access cover to expose wiring compartments (see Figure 1).
4. Secure conduit to low voltage and line voltage compartments using either the front or side KO locations. Class 1 wiring is required.
5. Make 120-240VAC, 50/60Hz supply connections on line voltage side. Make sure proper ground is connected.



NOTE: 24VDC and Dimming Wires to be run through same conduit.



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6. Run conduit and DC wiring to an MRI room EMI filter sized to the load of the power supply (supplied by others). See Figure 2. Make sure wiring is completely enclosed in grounded conduit. Any gaps, regardless of size, must be closed or wrapped in copper foil tape.
7. If a 0-10V dimmer is to be connected, install at this time. See Figure 2. Dimmer must be installed outside the shielded MRI environment with an intermediate MRI room EMI filter to the luminaires. Kenall recommends using a Leviton® IllumaTech™ IP710 series dimmer or Grafik Eye GRX-TV1 control interface. Contact Kenall for suitability of using an alternate sink-type 0-10V dimmer.

WARNING: all DC power and dimming signal wiring must be run through separate EMI filters.

8. Run low voltage supply wires to luminaires using at least 18 AWG wires. Wire distances should not exceed 50 feet (15m) to prevent significant line losses. Class 1 wiring is required. Make sure wiring is completely enclosed in grounded conduit. Any gaps, regardless of size, must be closed or wrapped in copper foil tape. Special attention should be paid to the wiring entry point into the shielded space.

9. Make connections to luminaires following the procedure in the luminaire installation instructions.

NOTE: see “Maximum Fixture Connection” section for the maximum number of luminaires that can be connected to each power supply.

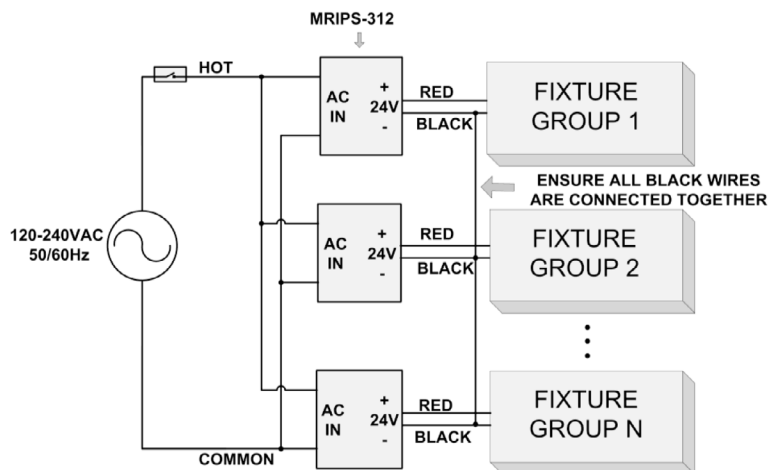
10. Complete any remaining steps on luminaire installation.
11. Connect power on line voltage side and test system operation. Test operation of lighting during MRI machine idle mode and during scanning operations.
12. Fill out the Installation Registration Form (attached) and fax to Kenall at (847) 360-1781.

### Multiple Power Supply Wiring Procedure

Installations involving many luminaires may require multiple power supplies to handle the load. This section describes the procedure for properly wiring this situation. See “Maximum Fixture Connection” section for the maximum number of fixtures that can be connected to each power supply.

13. Mount power supplies in the same manner as described in Section II.
14. Wire line voltage and low voltage connections similar to Section II, except follow the wiring diagram shown in Figure 3 to connect to each fixture group. **All DC Ground (black) leads must be tied together.**

WARNING: do not exceed the rated wattage of each power supply (312W). MRI room EMI filters are still required and must be sized to the load of the supply.



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## Maximum Fixture Connection

Use the table below to determine the maximum number of luminaires that can be connected to an individual power supply. The maximum recommended DC amperage leaving the power supply should not exceed 13.0A.

MRI LUMINAIRES CONNECTION PER POWER SUPPLY		
Luminaires	Amps per Luminaire	Max. Luminaires per Power Supply per room
CSMRI22	.35	28
CSMRI24	0.7	16
CSMRI44	1.4	8
MRIDL6 (13L)	0.8	13
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MRIDL6 (31L)	1.7	6
MRIMAS813 (6W)	0.4	28
MRIMAS813 (14W)	0.7	16
MRIMAS826	1.0	10
MRIMAS838	1.3	8
MRIMAS850	1.7	6
MRIAUC 18	0.7	16
MRIAUC 36	1.4	8
ME11MRI	1.4	8
LPS5MRI-12	0.7	16
LPSR5MRI-12	0.7	16

## CUSTOMER SERVICE

For technical assistance, call 1-800-4KENALL (1-800-453-6255).

## WARRANTY

When installed to these instructions, this product is warranted by Kenall to be free of defects in workmanship and materials for a period of one year from the date of invoice. The DC power supply contained in the external power supply carries a three year warranty from the date of invoice. The warranty is void if all power and dimming signal wiring is not completely shielded in grounded aluminum conduit and installed with a suitable MRI room filter (by others).

Kenall reserves the right to issue credit, repair, or replace the defective merchandise, at its discretion, upon notification and confirmation by its local representative of the defect. Kenall also reserves the right to test and examine the defective product if the defect is questionable and to deny the warranty herein for any product altered, improperly installed, installed in applications for which it is not intended. This includes operation in ambient temperatures above stated limits for any length of time. Failure by electrical surge shall not be covered under warranty.

Kenall assumes no responsibility for labor or freight costs incurred in connection with the installation, removal, or replacement of products determined to be defective or any other consequential or incidental damages arising from the use of the product. Kenall's entire liability on any claim of loss or damage resulting from a defective product is limited to the replacement price of the product. The foregoing warranty is exclusive of all other warranties and no other warranties of any kind are expressed or implied.



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