

MEDMASTER ENVELA®

MRI/Imaging Suites Regressed Downlight

MRIRDL / MRIRSDL SERIES – LED (NON-IC)

PRODUCT FEATURES:

- » 4" Round or Square aperture, recessed ceiling mount
- » Non-ferrous construction
- » Tool-less design allows for easy installation and maintenance
- » Cleanable regressed lens and trim



MRIRDL4



MRIRSDL4

PROJECT INFORMATION

Job Name _____

Fixture Type _____

Catalog Number _____

Approved by _____

SPECIFICATIONS

HEATSINK: Die-cast aluminum with external radial fins for natural convection.

MOUNTING FRAME: Die-formed aluminum. Vertically-adjustable collar accommodates ceiling thicknesses between 1/2" and 2"; adjustable post-installation. Adjustable mounting bars for installation with wood and metal frame joints and T-grid ceiling systems spaced up to 24" on-center. Junction box accessible post installation from above and below ceiling. (7) 1/2" knockouts.

TRIM/FINISHING SECTION: Trim constructed of marine-grade die-cast aluminum with white TGIC polyester powder-coat finish. Optional antimicrobial finish. Finishing section secures to mounting frame with hidden spring clips.

OPTICAL: White painted reflector standard. Clear semi-specular finish optional. High-efficiency mixing chamber design with regressed diffused lens produces homogeneous light output.

ELECTRICAL: LED Light Engine: Replaceable high-brightness ANSI 3000K, 3500K or 4000K LED array. 80 CRI minimum standard, 90 CRI available on 3000K and 3500K. LED Driver: 24VDC luminaire input from remote-mounted, 120-240VAC, high-power-factor power supply (MRIPS-312, ordered separately). Dimming controlled through 0-10V dimmer (supplied by others). Dimming range down to 10% light output.

INSTALLATION: All power and signal wiring must be completely shielded in continuously grounded aluminum conduit. Light engine and internal driver are replaceable post-installation. MRI room EMI filters required (supplied by others).

PHOTOMETRICS: Photometry tested to the IESNA LM-79-08 standard by an ILAC/ISO17025 accredited laboratory. For photometric information, go to www.kenall.com.

WARRANTY: Limited five (5) year LED warranty.

LISTINGS: Luminaire certified to UL standards by Intertek Testing Laboratory for Damp locations. For non-IC (insulation contact) applications. NSF2 Splash/Non-Food Zone.



ORDERING INFORMATION (Ex: MRIRDL4-14L30KH-24VDC-GW-CSS-T)

Model	Lamp Type	Voltage	Trim Finish	Reflector Finish	Lens Type	Options
24VDC						
Model		Voltage		Reflector Finish		Options
MRIRDL4	4" Round	24VDC	24V DC (MRIPS-312 power supply required – order separately.)	CSS Clear Semi-Specular (Round only)		FS Fuse & Holder
MRIRSDL4	4" Square			CS Clear Specular (Square only)		
Lamp Type		Trim Finish		CD Clear Diffuse		
14L30K	14 Watt LED 3000K, 80CRI	ALG	Flat White Antimicrobial	ALG* Flat White Antimicrobial		
14L30KH	14 Watt LED 3000K, 90CRI	LGW	Low Gloss White	LGW* Low Gloss White		
14L35K	14 Watt LED 3500K, 80CRI	GW	Gloss White (Std)	GW* Gloss White (Std)		
14L35KH	14 Watt LED 3500K, 90CRI			*ONLY AVAILABLE WHEN CORRESPONDING TRIM FINISH IS SELECTED.		
14L40K	14 Watt LED 4000K, 80CRI			Lens Type		
MRI LUMINAIRE CONNECTION PER POWER SUPPLY						
Model Number	Amps/Luminaire	Max. Luminaires/Power Supply/room				
MRIRDL4L	0.700	16		T	.125" Clear Acrylic	
MRIRSDL4L	0.700	16		G	.125" Clear Polycarbonate	
				8	.188" Tempered Glass	



www.kenall.com | P: 800-4-Kenall | F: 262-891-9701 | 10200 55th Street Kenosha, Wisconsin 53144, USA

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This product complies with the Buy American Act: manufactured in the United States with more than 50% of the component cost of US origin. It may be covered by patents found at www.kenall.com/patents. Content of specification sheets is subject to change; please consult www.kenall.com for current product details. ©2019 Kenall Mfg. Co.

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MRI/Imaging Suites Regressed Downlight

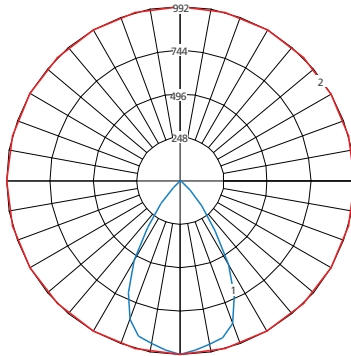
MRIRDL / MRIRSDL SERIES – LED (NON-IC)

PERFORMANCE

Lamp Type	Initial Delivered Lumens		Input Power (W)	Drive Current (mA)	Estd. L70 LED Life (Hrs)
	@ 25°C	Efficacy (lm/W)			
14L30K	916	51	18	350	130,000
14L30KH	800	44	18	350	130,000
14L35K	965	54	18	350	130,000
14L35K	767	43	18	350	130,000
14L40K	965	54	18	350	130,000

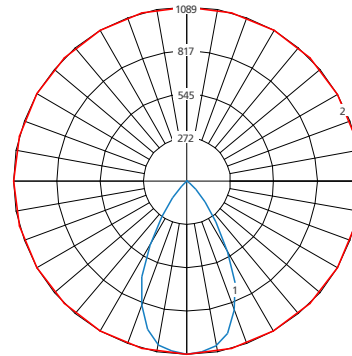
Displayed information above is for selected luminaires only. Additional wattages and color temperatures are also available. Visit www.kenall.com for additional information.

Model: MRIRDL4-14L40K-24VDC-ALG-CSS-T



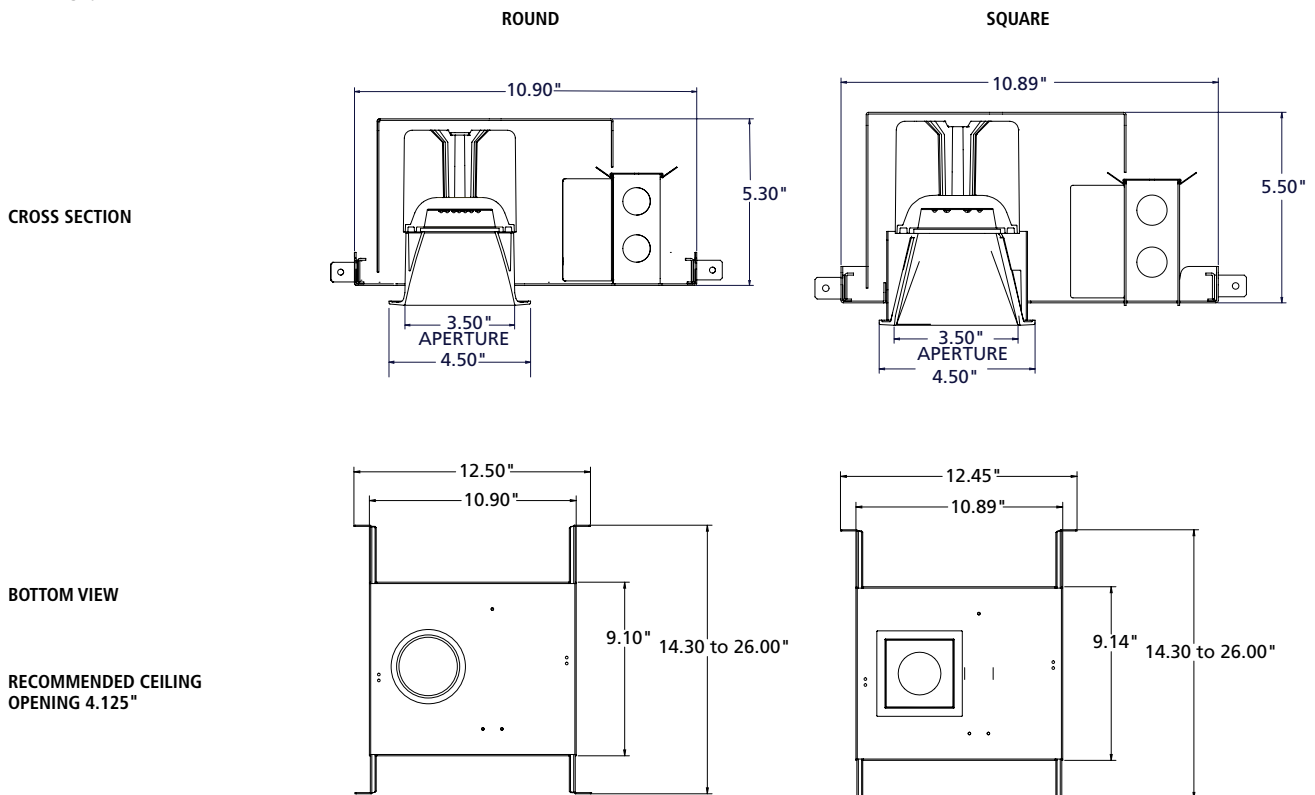
Maximum Candela = 992 Located At Horizontal Angle = 0, Vertical Angle = 0
 1 - Vertical Plane Through Horizontal Angles (0-180) (Through Max. Cd.)
 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)

Model: MRIRSDL4-14L40K-24VDC-XX-CSS-T



Maximum Candela = 1089 Located At Horizontal Angle = 0, Vertical Angle = 0
 1 - Vertical Plane Through Horizontal Angles (0-180) (Through Max. Cd.)
 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)

DIMENSIONAL DATA



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IMPORTANT SAFEGUARDS

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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.

SAVE THESE INSTRUCTIONS

TO PREVENT MRI MACHINE INTERFERENCE, ALL DC POWER AND DIMMING SIGNAL WIRING MUST BE COMPLETELY SHIELDED WITHIN GROUNDED ALUMINUM CONDUIT AND A SUITABLE MRI ROOM EMI FILTER MUST BE INSTALLED ON EACH LINE.

NEW CONSTRUCTION- DRYWALL CEILING – RECOMMENDED CEILING CUTOUT- 4.125" DIAMETER

1. Loosen locking screws to extend hanger bars.
See Figure 1.
2. Align bottom of hanger bar tabs to bottom of joist.
3. Secure luminaire hanger bars using nails or screws.
4. Position luminaire as required and lock position by tightening locking screws.

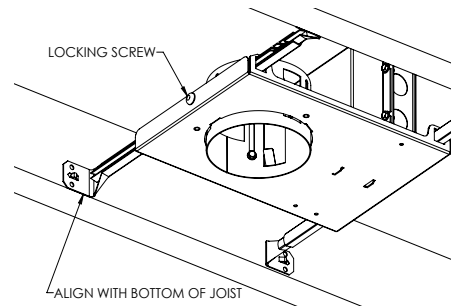


FIGURE 1

GRID CEILING – RECOMMENDED CEILING CUTOUT- 4.125" DIAMETER

1. Loosen locking screws to extend hanger bars. See Figure 2.
2. Position luminaire as required and lock position by tightening locking screws.

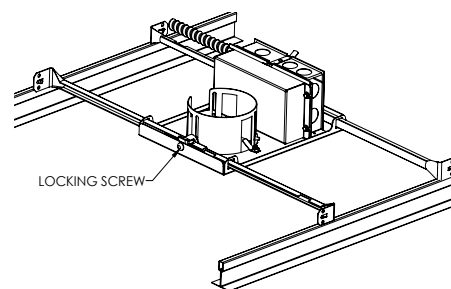


FIGURE 2

3. Attach luminaire securely to grid using brackets, screws and nuts provided or wiring to grid members. See Figure 3.

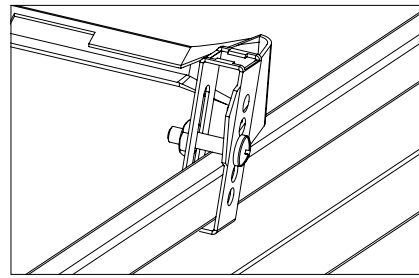


FIGURE 3

ELECTRICAL CONNECTION

1. Mount and wire the MRIPS-312 external power supply per the procedures provided in the supplementary instruction sheet. Run conduit and DC wiring to an MRI room EMI filter sized to the load of the power supply (supplied by others). Make sure wiring is completely enclosed in grounded aluminum conduit. Any gaps, regardless of size, must be closed or wrapped in copper foil tape.
2. If a 0-10V dimmer is to be connected, install at this time. 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-TVI 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.

3. Remove junction box cover and make conduit connections to the appropriate 1/2" knockout(s).

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

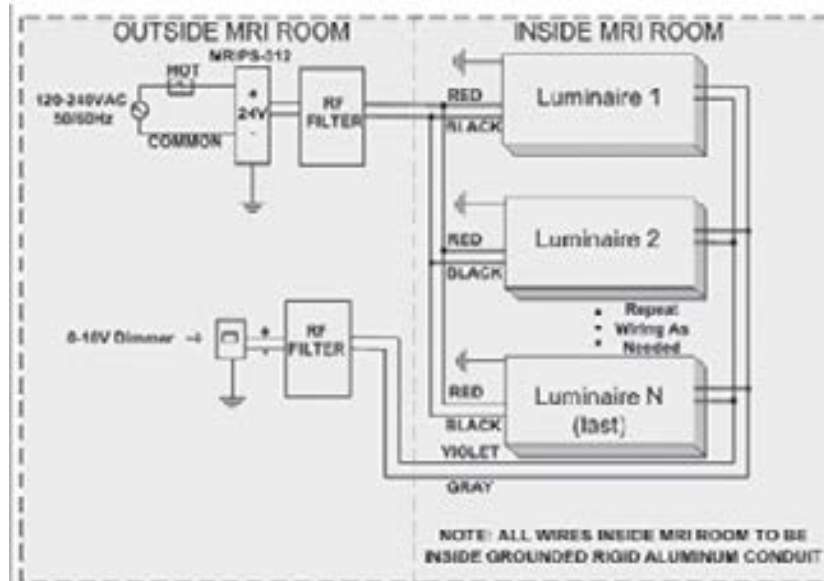


FIGURE 4

4. Run the 24VDC supply from the EMI filter to the luminaire(s) using at least 18 AWG wires rated at least 90C. See Figure 4. Class 1 wiring is required. Make sure wiring is completely enclosed in grounded aluminum 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.
5. Run the dimming signal (if applicable) from the dimmer EMI filter to the luminaire(s) using at least 18AWG wires. Make sure wiring is completely enclosed in grounded aluminum 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.

SEE SUPPLEMENTAL SHEET FOR RECOMMENDED WIRING INSTALLATION

- 6. Using at least an 18 AWG wire, ground the last housing in the sequence to the shielded ceiling. This can be done by fastening the wire the copper ground wire in the luminaire's junction box.
- 7. Make DC supply and (optional) dimmer control connections within each luminaire. Cap gray and violet leads if dimmer is not connected. See Figure 4.
- 8. Replace junction box cover and seal both covers using supplied copper foil tape.

TRIM CONNECTION AND INSTALLATION

- 1. With finished ceiling or tile in place. Check position of locking springs attached to frame. Rotate springs if necessary so that they are against wall of slot as shown in Figure 5.
- 2. Fasten conduit adapter to trim housing using the screw provided (see Figure 6).
- 3. Install trim and press firmly to ceiling.
- 4. Check to ensure the gasket between the trim ring and ceiling is compressed.

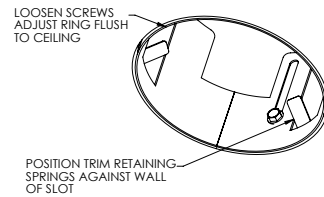


FIGURE 5

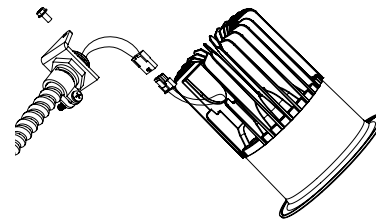


FIGURE 6

TRIM REMOVAL

- 5. To remove trim, turn counter clockwise (left) until the locking springs rotate, freeing the trim.
- 6. Before re-installing the trim, rotate the locking springs back against the slot wall in the adjustment ring.

SERVICE

CAUTION BEFORE BEGINNING ANY SERVICE,
DISCONNECT POWER TO THE FIXTURE.

DRIVER REPLACEMENT

1. For room side access, rotate the trim to remove from ceiling. See Trim Removal Section above.
2. Disconnect conduit adapter by loosening screw. (See Figure 6)
3. Disconnect connectors and remove trim housing and move to a safe location.
4. Lift spring to remove LED driver/cover assembly.
5. Disconnect leads and reconnect to new driver.
6. Install new driver/cover place cover tab into slot in frame and pivot until snapped under spring.
8. Re-install trim housing following instructions in Trim Connection And Installation section.

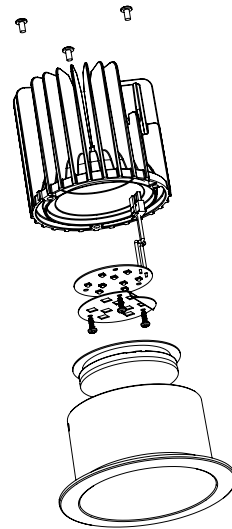
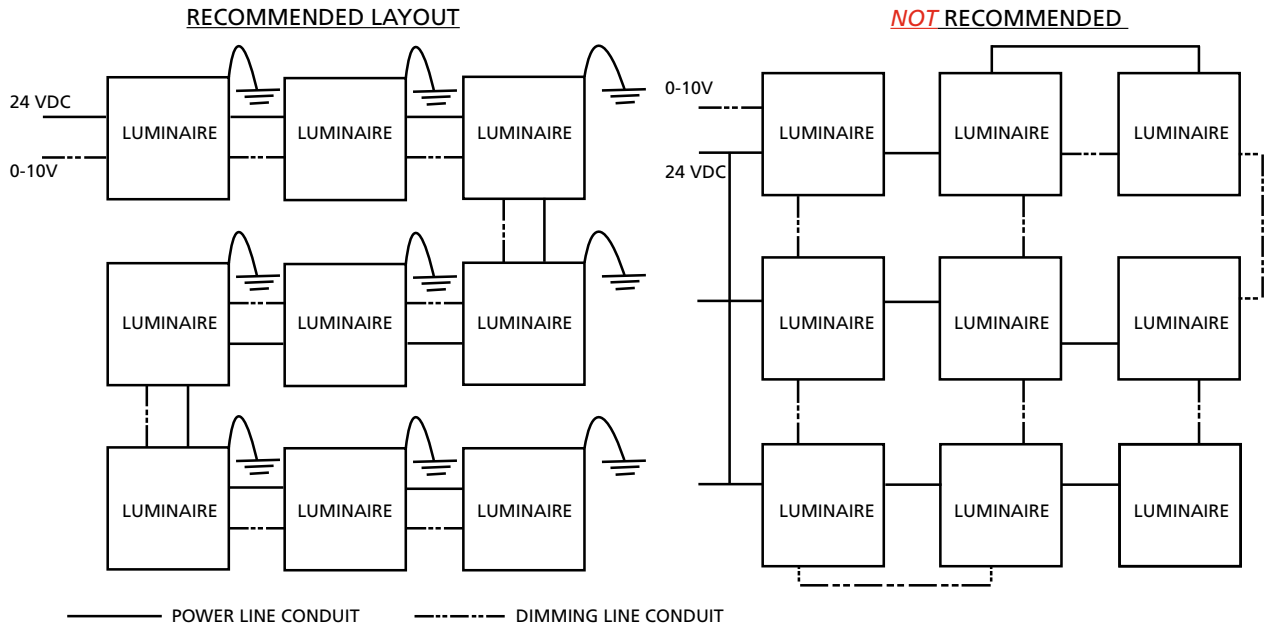


FIGURE 7

MODULE REPLACEMENT

1. For room side access, rotate the trim to remove from ceiling. See Trim Removal Section above.
2. Disconnect conduit adapter by loosening screw. (See Figure 6)
3. Disconnect electrical connectors and remove trim housing.
4. Remove heatsink from lower housing by removing (3) screws and lifting off.
5. Remove (3) screws, reflector plate and insulator as shown in Figure 7. LED module may then be removed and replaced.
6. Apply heatsink paste to back of new LED module.
7. Feed the connector through the opening in the housing and position the insulator and reflector plate.
8. Secure the LED module, insulator and reflector plate to the housing by re-installing the (3) screws. See Figure 7.
9. Re-assemble the heatsink to the lower housing by replacing the (3) screws.
10. Re-install trim housing following instructions in "Trim Connection And Installation" section.



Wiring from fixture to fixture and grounding the final fixture is recommended.

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NEW CONSTRUCTION- DRYWALL CEILING

1. Loosen locking screws to extend hanger bars. See Figure 1.
2. Align bottom of hanger bar tabs to bottom of joist.
3. Secure luminaire hanger bars using nails or screws.
4. Position luminaire as required and lock position by tightening locking screws.

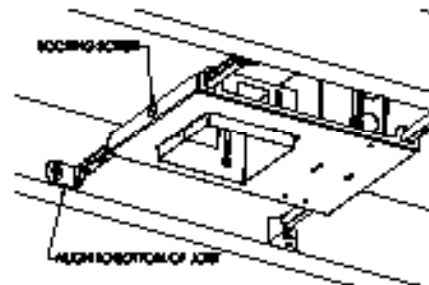


FIGURE 1

GRID CEILING – RECOMMENDED CEILING CUTOUT- 4.125" SQUARE

1. Loosen locking screws to extend hanger bars. See Figure 2.
2. Position luminaire as required and lock position by tightening locking screws.

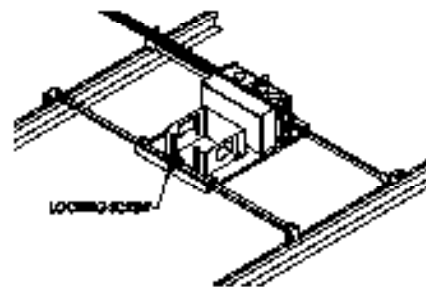


FIGURE 2

3. Attach luminaire securely to grid using brackets, screws and nuts provided or wiring to grid members. See Figure 3.

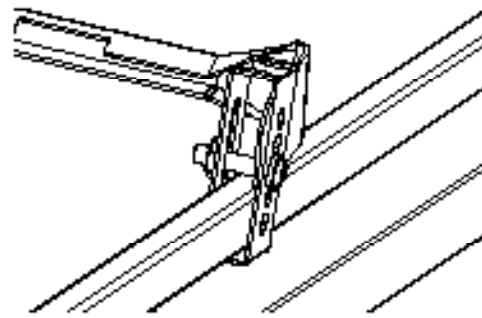


FIGURE 3

ELECTRICAL CONNECTION

1. Mount and wire the MRIPS-312 external power supply per the procedures provided in the supplementary Instruction sheet. Run conduit and DC wiring to an MRI room EMI filter sized to the load of the power supply (supplied by others). Make sure wiring is completely enclosed in grounded aluminum conduit. Any gaps, regardless of size, must be closed or wrapped in copper foil tape.
2. If a 0-10V dimmer is to be connected, install at this time. 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.

3. Remove junction box cover and make conduit connections to the appropriate 1/2" knockout(s).

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

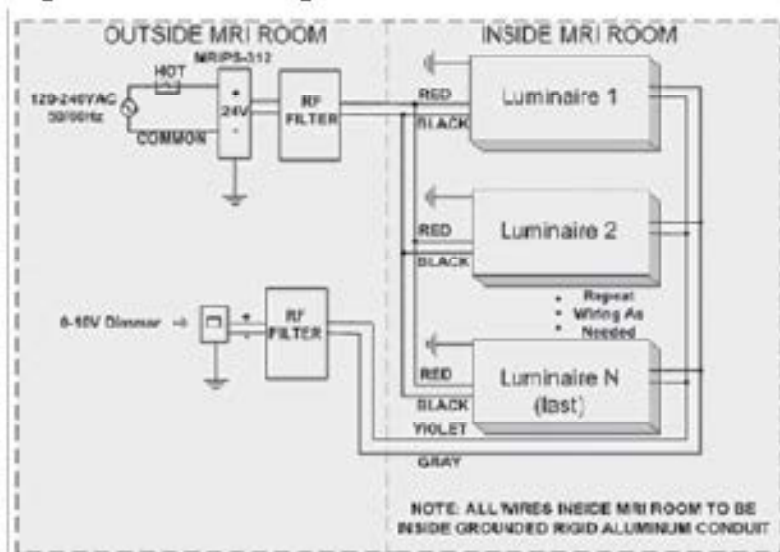


FIGURE 4

4. Run the 24VDC supply from the EMI filter to the luminaire(s) using at least 18 AWG wires rated at least 90C. See Figure 4. Class 1 wiring is required. Make sure wiring is completely enclosed in grounded aluminum 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.
5. Run the dimming signal (if applicable) from the dimmer EMI filter to the luminaire(s) using at least 18AWG wires. Make sure wiring is completely enclosed in grounded aluminum 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.



SEE SUPPLEMENTAL SHEET FOR RECOMMENDED WIRING INSTALLATION

6. Using at least an 18 AWG wire, ground the last housing in the sequence to the shielded ceiling. This can be done by fastening the wire to the copper ground wire in the luminaire's junction box.
7. Make DC supply and (optional) dimmer control connections within each luminaire. Cap gray and violet leads if dimmer is not connected. See Figure 4.
8. Replace junction box cover and seal both covers using supplied copper foil tape.

TRIM CONNECTION AND INSTALLATION

To clean reflector use only a soft micro fiber lens cloth or alcohol wipe.

1. With finished ceiling or tile in place, loosen adjustment screws (see Figure 5) and position ring even with ceiling. Re-tighten screws securely.
2. Fasten conduit adapter to trim housing using the screw provided (see Figure 6).
3. Install trim and press firmly to ceiling.
4. Check to ensure the gasket between the trim ring and ceiling is compressed.

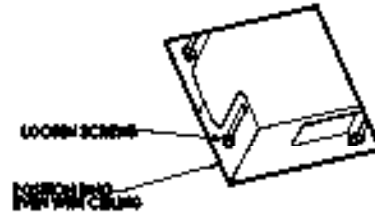


FIGURE 5

TRIM REMOVAL

1. To remove trim, pull downward firmly on flange.

SERVICE

CAUTION- BEFORE BEGINNING ANY SERVICE, DISCONNECT POWER TO THE FIXTURE.

DRIVER REPLACEMENT

1. For room side access, pull downward firmly on flange to remove. See Trim Removal Section above.
2. Disconnect conduit adapter by loosening screw. (See Figure 6)
3. Disconnect connectors and remove trim housing and move to a safe location.
4. Remove (3) screws and remove adjustment ring.
5. Lift spring to remove LED driver/cover assembly.
6. Disconnect leads and reconnect to new driver. Refer to Figure 2 for wiring diagram.
7. Install new driver/cover place cover tab into slot in frame and pivot until snapped under spring.
8. Re-install adjustment ring and adjust flush to ceiling.
9. Re-install trim housing following instructions in Trim Connection And Installation section.

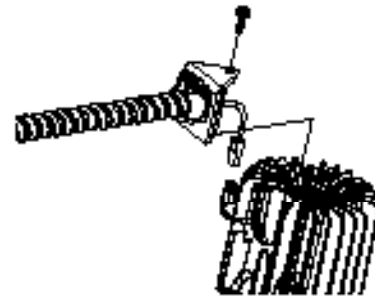


FIGURE 6

MODULE REPLACEMENT

1. For room side access, pull downward firmly on flange. See Trim Removal Section above.
2. Disconnect conduit adapter by loosening screw. (See Figure 6)
3. Disconnect electrical connectors and remove trim housing.
4. Remove heatsink from lower housing by removing (3) screws and lifting off.
5. Remove (3) screws, reflector plate and Insulator as shown in Figure 7. LED module may then be removed and replaced.
6. Apply heatsink paste to back of new LED module.
1. Feed the connector through the opening in the housing and position the Insulator and reflector plate.
2. Secure the LED module, Insulator and reflector plate to the housing by re-installing the (3) screws. See Figure 7.
3. Re-assemble the heatsink to the lower housing by replacing the (3) screws.
4. Re-install trim housing following instructions in "Trim Connection And Installation" section.

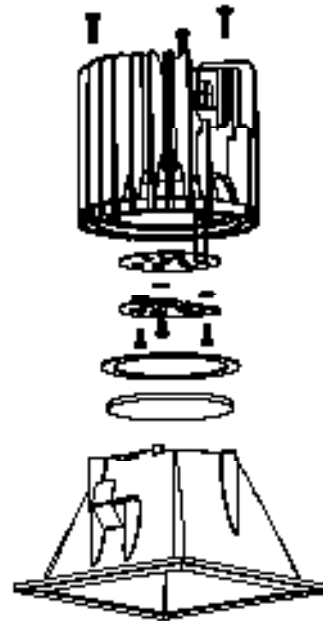
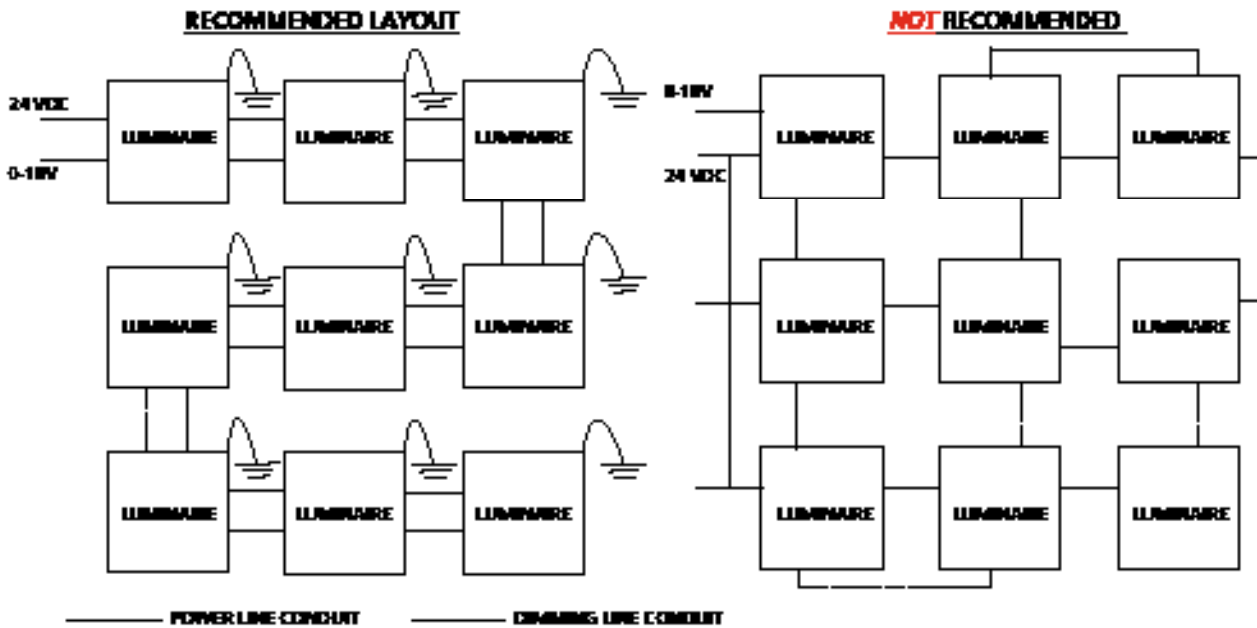


FIGURE 7



Wiring from fixture to fixture and grounding the final fixture is recommended.

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, or 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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4. Position luminaire as required and lock position by tightening locking screws.

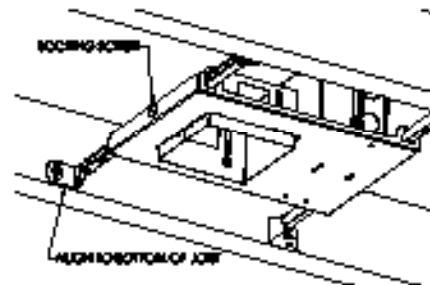
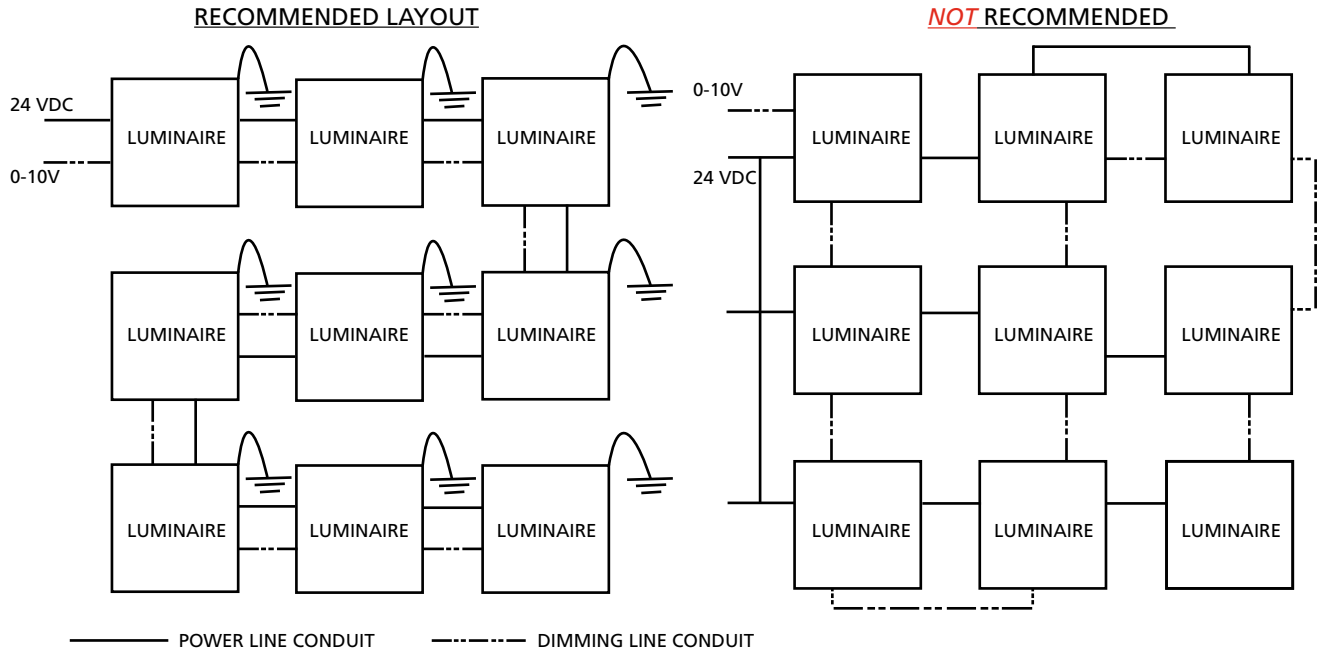


FIGURE 1

GRID CEILING – RECOMMENDED CEILING CUTOUT- 4.125" SQUARE

1. Loosen locking screws to extend hanger bars. See Figure 2.
2. Position luminaire as required and lock position





Wiring from fixture to fixture and grounding the final fixture is recommended.

CUSTOMER SERVICE

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WARRANTY

For warranty information visit www.kenall.com/Resources/Certified-Performance-Warranties

