**MRIRS4 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.

# SAVE THESE INSTRUCTIONS

## GENERAL INSTALLATION INSTRUCTIONS

- Install in compliance with the National Electric Code, any applicable local codes, and any specific instructions given on the luminaire labels.
- If installing in conjunction with any additional options and/or accessories, also refer to the respective instruction sheets. For installation only by a qualified electrician.
- To maintain the ratings and approvals noted on the fixture nameplate, any fittings or mounting hardware supplied with this fixture, must be used with this fixture.
- Wiring from power supply to fixture must be in a rigid aluminum conduit with aluminum fittings.
- Read instructions provided with the MedMaster™ MRIPSF external power supply for proper installation and electrical connection to the lighting system.
- Use installation procedures appropriate for an environment involving MRI/EMI Shielded rooms and sensitive electronic equipment.

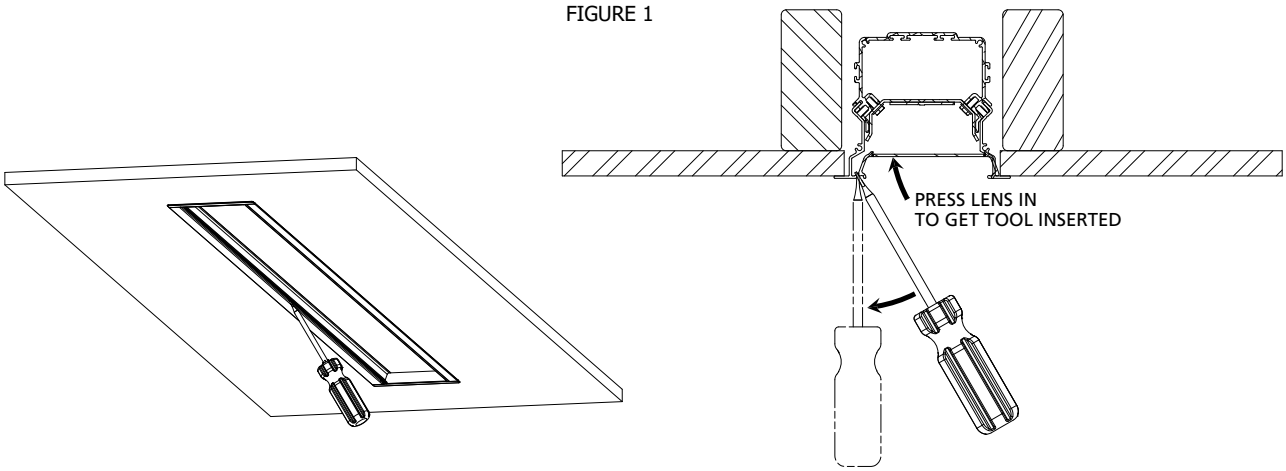
The installation instructions below describe how to install the MRIRS4 luminaire in various ceiling systems.

### RECESSED GRID FIXTURES (CEILING TYPE 'G' AND 'TG')

This fixture is designed for use with 9/16" and 15/16" grid profiles with lay-in (G) and tegular (TG) ceiling tiles. Vertical grid T thickness is to be less than 1/4" with a maximum height of 2". Width of the center to center grid dimension is 4-5/8".

1. Disconnect facility power.
2. Install luminaire into grid ceiling. Secure included grid support brackets to side of luminaire and space out evenly along length.
3. Remove snap-in lens by inserting a flat, thin tool into the center side of the lens (see Figure 1). Carefully pull out lens from housing by disengaging the snap fit along the length of the luminaire. Set lens aside in a protected area.

FIGURE 1



4. Remove screws securing the LED module wireway to the housing. Disconnect wire connectors from LED module assembly. Set LED module assembly in a safe location.
5. Run aluminum conduit to power entry hole. Make sure all conduit is continuously and properly grounded.
6. Complete wiring connections to DC supply, earth ground and dimming (if used) following all applicable electrical codes. See 'Electrical Connection' section for detail.
7. Reconnect LED module wires and install LED module wireway cover. Make sure all wires are tucked back into wireway before fastening into place.
8. Re-install the lens. Engage one side of the lens back into the housing channel, swing the other side into place, then snap that side into place. Make sure the lens is fully seated into the housing channel on each side.
9. Apply power to luminaire and test for full operation.

**RECESSED FLANGE FIXTURES (CEILING TYPE 'FL')**

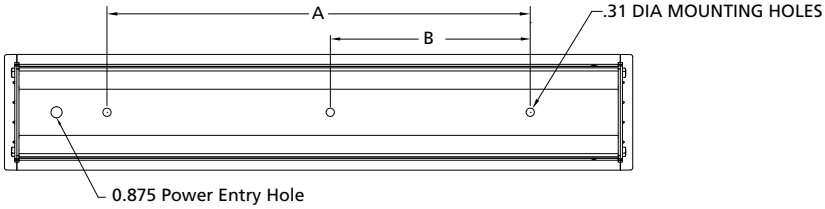
Fixture is designed for installation into framed-out drywall ceilings with up to 5/8" drywall using threaded-rod and hardware (provided by others, must be non-ferrous material type). Refer to cutout dimensions provided in Table 1.

To ensure seal between the luminaire flange and the ceiling, make sure the drywall is of adequate thickness to resist bowing. It should not run (deviate from a straight edge) more than 1/32" over a 2' distance.

1. Disconnect facility power.
2. Frame out location of luminaire using the cut-out dimensions provided in Table 1. Framing members should run the full length of the luminaire. "C" shaped, 16GA aluminum channel is recommended for its straightness.

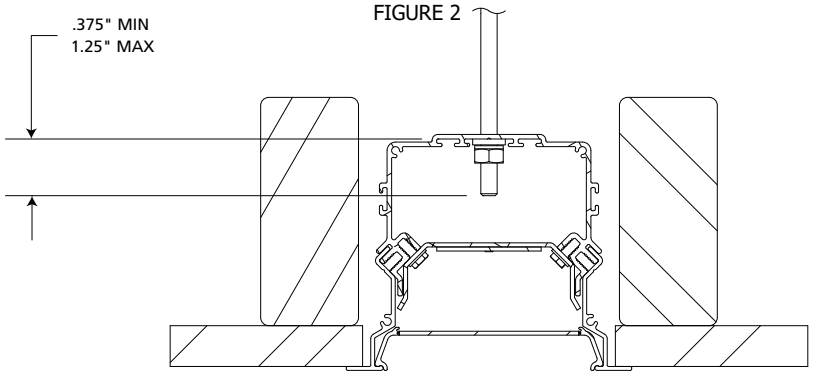
TABLE 1

| Nominal Length | A | B | Ceiling Cut-Out |
|---|---|---|---|
| **24** | 16.00" | ---- | 3.875" × 23.25" |
| **48** | 40.00" | ---- | 3.875" × 47.25" |
| **96** | 88.00" | 44.00" | 3.875" × 95.25" |




3. Using the mounting hole locations within the luminaire housing as a guide (reference Table 1), frame out and position 1/4-20 non-ferrous threaded rod (or suitable alternate means, provided by others) as required for eventually securing the luminaire into the ceiling (see Figure 2).

FIGURE 2




4. Install drywall such that the luminaire cut-out is within whole pieces of the panel. Ceiling seams and joints should be outside the fixture cut-out, if possible. Drywall shall be secured to the framing members around the opening.
5. Cut-out opening per the dimensions provided. Dimensions should be accurate to 1/16 of an inch. Complete all remaining drywall finishing steps.
6. With luminaire on a work surface, remove the snap-in lens by inserting a flat, thin tool into the center side of the lens (see Figure 1). Carefully remove lens from housing and set aside in a protective area.
7. Remove screws securing the LED module wireway to the housing and disconnect wire connectors from LED module assembly. Set LED module assembly in a safe location.

8. Raise luminaire toward the ceiling. Using an assistant, connect supply feed and dimming wires (if applicable) to entry hole using properly grounded aluminum conduit.
9. Insert luminaire into ceiling, aligning with threaded rod (or equal) installed previously. Fasten to ceiling using appropriate hardware (by others). Make sure luminaire flange is seated against the drywall.
10. Complete wiring connections to DC supply, earth ground and dimming (if used) following all applicable electrical codes. See 'Electrical Connection' section for detail.
11. Reconnect LED module wires and install LED module wireway cover. Make sure all wires are tucked back into wireway before fastening into place.
12. Re-install the lens. Engage one side of the lens back into the housing channel, swing the other side into place, then snap that side into place. Make sure the lens is fully seated into the housing channel on each side.
13. Apply power to luminaire and test for full operation.

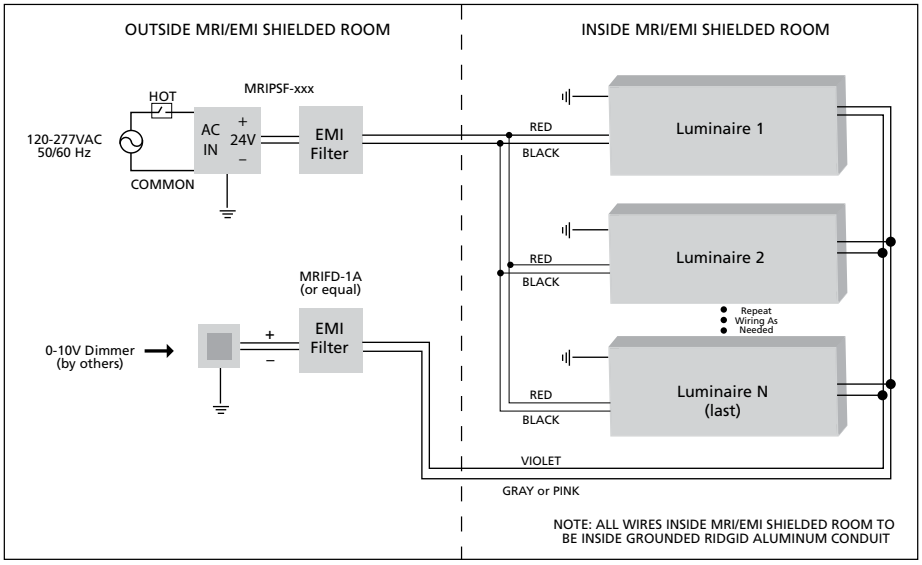
**TRIMLESS MUD-IN FIXTURES (CEILING TYPE 'TM')**

Fixture is designed for installation into framed-out drywall ceilings with up to 5/8" drywall. The flange around the perimeter is designed to be mudded and blended into the ceiling for a clean appearance.

1. Disconnect facility power to the supply leads.
2. Frame out location of luminaire using the cut-out dimensions provided in Table 1. Framing members should run the full length of the luminaire. "C" shaped, 16GA aluminum channel is recommended for its straightness.
3. Using the mounting hole locations within the luminaire housing as a guide (reference Table 1), frame out and position 1/4-20 non-ferrous threaded rod (or suitable alternate means, provided by others) as required for eventually securing the luminaire into the ceiling. (see Figure 2).
4. Install drywall such that the luminaire cut-out is within whole pieces of the panel. Ceiling seams and joints should be outside the fixture cut-out, if possible. Drywall shall be secured to the framing members around the opening.
5. Cut-out opening per the dimensions provided. Dimensions should be accurate to 1/16 of an inch.
6. With luminaire on a work surface, remove the snap-in lens by inserting a flat, thin tool into the center side of the lens (see Figure 1). Carefully remove lens from housing and set aside in a protective area.
7. Remove screws securing the LED module wireway to the housing and disconnect wire connectors from LED module assembly. Set LED module assembly in a safe location.
8. Raise luminaire toward the ceiling. Using an assistant, connect supply feed and dimming wires (if applicable) to entry hole using properly grounded aluminum conduit.
9. Insert luminaire into ceiling, aligning with threaded rod (or equal) installed previously. Fasten to ceiling using appropriate hardware (by others). Make sure luminaire flange is seated against the drywall.
10. Mask internal components of luminaire and mud-in/blend luminaire flanges. Complete all remaining drywall finishing steps.
11. Complete wiring connections to DC supply, earth ground and dimming (if used) following all applicable electrical codes. See 'Electrical Connection' section for detail.
12. Reconnect LED module wires and install LED module wireway cover. Make sure all wires are tucked back into wireway before fastening into place.
13. Re-install the lens. Engage one side of the lens back into the housing channel, swing the other side into place, then snap that side into place. Make sure the lens is fully seated into the housing channel on each side.
14. Apply power to luminaire and test for full operation.

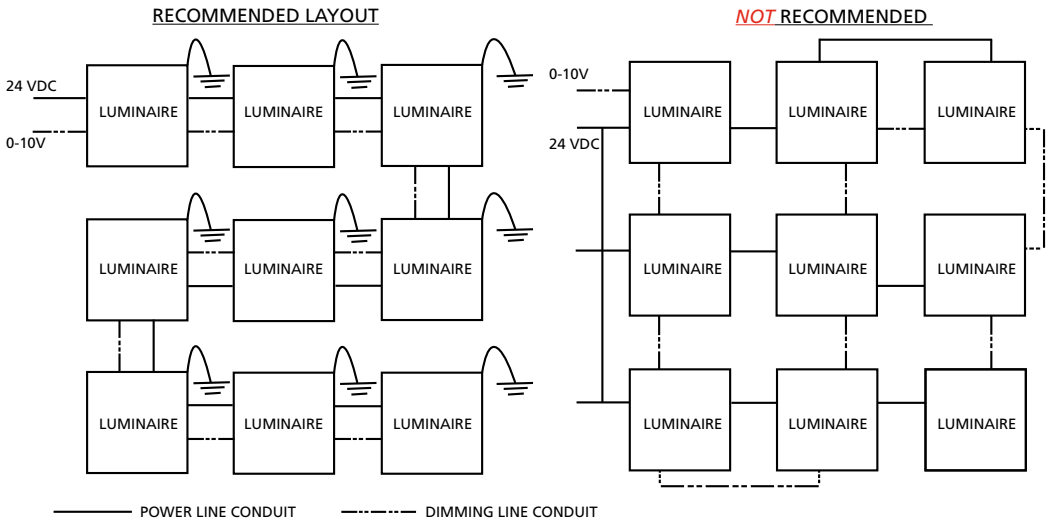
## ELECTRICAL CONNECTION

1. Mount and wire the MRIPSF external power supply system per the procedures provided in the supplementary instruction sheet.
2. If a 0-10V dimming circuit is to be connected, install at this time. The 0-10V dimmer must be installed outside the shielded MRI/EMI environment with the Kenall MRIFD-1A dimming line filter (or equivalent) installed in accordance with the supplied installation instructions. Kenall recommends the Lutron Diva (DVSTV) and Lutron Nova T (NTSTV-DV) series to ensure the full range of dimming can be achieved.
3. Run DC wiring, equal in size and temperature rating to the filter input wiring, between the EMI filter output cables and the first luminaire within the shielded room. Follow recommended wiring layout described within Single-Supply System Schematic. All wiring must be within completely enclosed, grounded, conduit suitable for an MRI/EMI Shielded environment. 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. Class 1 wiring methods are required.




Single-Supply System Schematic

4. Run the dimming signal wiring, equal in specification to the dimming filter input wiring, between the filter output cables and the first luminaire within the shielded room. Maintain polarity between input and output sides of the filter and follow wiring recommendation in Multi-Fixture Wiring Schematic. All wiring must be within completely enclosed, grounded, conduit suitable for an MRI/EMI Shielded environment. 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. Cap pink and violet leads at luminaire(s) if dimming function is not implemented.




Multi-Fixture Wiring Schematic

5. Make DC supply and optional dimmer control connections within each luminaire.
6. Connect power on line voltage side and test system operation. For MRI Room applications: test operation of lighting system, including dimming functionality, during MRI machine idle mode and during scanning operations.

## CUSTOMER SERVICE

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

## WARRANTY

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