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Iron Box L5-30R

Iron Box NEMA L5-30R Connector User Manual

Model: L5-30R | Brand: Iron Box

1. Introduction

This manual provides essential information for the safe and effective installation, operation, and maintenance of your Iron Box NEMA L5-30R Connector. Please read these instructions thoroughly before use and retain for future reference. This industrial-grade connector is designed for reliable power connections in various applications.

2. Safety Information

WARNING: Risk of electric shock. Installation should only be performed by qualified personnel. Disconnect power before installation or servicing.

- Always ensure power is disconnected at the source before handling electrical wiring or components.
- Use appropriate personal protective equipment (PPE), such as insulated gloves and safety glasses.
- Verify that the voltage and amperage ratings of the connector match your application requirements.
- Ensure all connections are secure and properly insulated to prevent short circuits or electrical hazards.
- Do not use the connector if it appears damaged or worn.

3. Product Overview

The Iron Box NEMA L5-30R Connector is a heavy-duty, industrial-grade twist-lock receptacle designed for 30 Amps, 125 Volts, and 3-wire electrical systems. It features a durable nylon housing, strain relief, and an internal dust boot for enhanced protection and longevity. This UL Listed connector is suitable for mounting onto 10/4 or 8/4 AWG electrical cables.



Figure 3.1: Iron Box NEMA L5-30R Connector. This image shows the exterior of the L5-30R connector, highlighting its robust design and twist-lock configuration.

4. Setup and Wiring Instructions

Follow these steps to properly wire the NEMA L5-30R Connector to your electrical cable.

1. **Prepare the Cable:** Strip the outer jacket of your 10/4 or 8/4 AWG electrical cable to expose approximately 2-3 inches of the insulated conductors. Then, strip about 1/2 to 3/4 inch of insulation from each conductor (Line, Neutral, Ground).
2. **Disassemble the Connector:** Unscrew and remove the back shell and any internal components of the L5-30R connector to access the terminal screws. Note the orientation of the internal dust boot and strain relief components.
3. **Thread the Cable:** Slide the back shell and strain relief components onto the cable in the correct order before making any wire connections.
4. **Identify Terminals:** The NEMA L5-30R connector has three terminals:

- **Line (Hot):** Typically brass-colored screw. Connect the black or colored (hot) wire here.
- **Neutral:** Typically silver-colored screw. Connect the white (neutral) wire here.
- **Ground:** Typically green-colored screw. Connect the green or bare copper (ground) wire here.

5. **Connect Wires:** Insert each stripped conductor into its corresponding terminal and tighten the screw securely. Ensure no stray wire strands are present outside the terminals, which could cause a short circuit.
6. **Secure Strain Relief:** Reassemble the internal components and tighten the strain relief mechanism around the cable jacket. This prevents tension on the wire connections.
7. **Reassemble Connector:** Screw the back shell firmly onto the connector body. Ensure all parts are tightly secured.



Figure 4.1: Example of an electrical connector being wired. This illustrates the general process of connecting wires to terminals within a connector housing.

5. Operating Instructions

Once the Iron Box NEMA L5-30R Connector is properly wired to your cable, its operation is straightforward:

1. **Connect:** Align the blades of the L5-30P plug (male connector) with the corresponding slots on the L5-30R receptacle.
2. **Insert:** Push the plug firmly into the receptacle.
3. **Lock:** Twist the plug clockwise until it locks into place. This twist-lock mechanism ensures a secure and reliable connection, preventing accidental disconnection.
4. **Disconnect:** To remove, twist the plug counter-clockwise to unlock, then pull it straight out from the receptacle.

6. Maintenance

Regular inspection and basic maintenance will ensure the longevity and safe operation of your NEMA L5-30R Connector.

- **Visual Inspection:** Periodically inspect the connector for any signs of physical damage, such as cracks, discoloration, or exposed wires. Check for bent or corroded blades/contacts.

- **Cleanliness:** Keep the connector free from dirt, dust, moisture, and debris. Use a dry, clean cloth to wipe the exterior. Do not use harsh chemicals or abrasive cleaners.
- **Connection Integrity:** Ensure the cable's strain relief is still tight and that the connector's housing remains securely fastened.
- **Storage:** When not in use, store the connector in a clean, dry environment, protected from extreme temperatures and direct sunlight.

7. Troubleshooting

If you encounter issues with your NEMA L5-30R Connector, consider the following:

Problem	Possible Cause	Solution
No power through connector	Loose wire connections Damaged cable or connector Tripped circuit breaker/GFCI	Disconnect power and check all wire terminals for tightness. Replace if damaged. Reset circuit breaker/GFCI.
Connector feels hot during use	Overload Loose connections Damaged connector	Reduce load. Disconnect power and check connections. Replace connector if damaged or if heating persists.
Plug does not lock securely	Incorrect plug type Damaged receptacle mechanism	Ensure you are using a NEMA L5-30P plug. Inspect receptacle for damage; replace if necessary.

If troubleshooting steps do not resolve the issue, contact Iron Box customer support.

8. Specifications

Feature	Detail
Model	L5-30R
Brand	Iron Box
Amperage Rating	30 Amps
Voltage Rating	125 Volts
Number of Wires	3
Number of Poles	2
Connector Type	Plug in (Receptacle)
Material	Nylon
Product Grade	Industrial
Specification Met	NEMA, UL Listed

Feature	Detail
Compatible Cable Gauge	10/4 AWG or 8/4 AWG

9. Warranty and Support

Iron Box products are manufactured to high-quality standards. While specific warranty details are not provided in this manual, customers typically benefit from a 30-day return or replacement policy for eligible products.
For product support, technical assistance, or warranty inquiries, please contact Iron Box directly:

- **Manufacturer:** Iron Box
- **Online Store:** Visit the Iron Box Store on Amazon
- Refer to your purchase documentation for additional contact methods or specific warranty terms applicable at the time of purchase.

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