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› [Gardner Bender](#) /

› [Gardner Bender AMT-113 Xtreme Environment Spade Terminal User Manual](#)

Gardner Bender AMT-113

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Model: AMT-113

1. INTRODUCTION

The Gardner Bender AMT-113 Xtreme Environment Spade Terminal is designed to create secure, insulated, and moisture-resistant electrical connections. These terminals are suitable for 16-14 AWG (American Wire Gauge) wires and feature heat-shrink insulation for enhanced protection against environmental factors such as moisture intrusion and abrasion. They are ideal for automotive and marine applications where reliable connections are critical.



Figure 1: Gardner Bender AMT-113 Xtreme Environment Spade Terminal with heat-shrink insulation.

2. SAFETY INFORMATION

Always observe the following safety precautions when working with electrical components:

- Ensure power is disconnected before installing or removing terminals.
- Wear appropriate personal protective equipment (PPE), such as safety glasses.
- Use tools specifically designed for electrical work, such as insulated crimping tools.
- Never exceed the specified voltage or temperature ratings of the terminal.
- Keep children and unauthorized personnel away from the work area.

3. SETUP & INSTALLATION

Follow these steps for proper installation of the spade terminal:

1. **Prepare the Wire:** Strip approximately 3/8 inch (9.5 mm) of insulation from the end of the 16-14 AWG wire. Ensure the copper strands are clean and untwisted.
2. **Insert the Wire:** Insert the stripped wire completely into the metal barrel of the spade terminal. Ensure no bare wire strands are exposed outside the terminal barrel.
3. **Crimp the Terminal:** Using a suitable crimping tool, crimp the terminal barrel firmly onto the wire. Apply sufficient pressure to ensure a secure mechanical and electrical connection. A proper crimp should be tight and not allow the wire to be pulled out.
4. **Apply Heat:** Using a heat gun (not an open flame), apply even heat to the heat-shrink insulation sleeve of the terminal. Move the heat gun slowly and evenly around the sleeve until it shrinks tightly around the wire insulation and the terminal barrel. The heat-shrink material will conform to the wire, creating a waterproof and strain-relieved seal.
5. **Connect to Stud:** Once cooled, connect the spade end of the terminal to an appropriate stud (typically sizes 8-10) and secure it with a nut or screw.





Figure 2: Front view of the spade terminal, showing the U-shaped connector.

4. OPERATING PRINCIPLES

Once properly installed, the Gardner Bender AMT-113 terminal provides a reliable electrical connection. The copper contact material ensures excellent conductivity, while the polyvinyl chloride (PVC) heat-shrink insulation offers superior protection against moisture, corrosion, and physical abrasion. This design maintains circuit integrity in challenging environmental conditions, preventing shorts and ensuring consistent power flow.

5. MAINTENANCE

These terminals are designed for long-term reliability with minimal maintenance. However, periodic inspection of electrical connections in harsh environments is recommended:

- Visually inspect connections for any signs of damage, corrosion, or loosening.
- Ensure the heat-shrink insulation remains intact and fully sealed.
- If any damage is observed, disconnect power and replace the terminal.

6. TROUBLESHOOTING

If an electrical connection fails or performs inconsistently, consider the following:

- **Loose Connection:** Ensure the terminal is securely crimped to the wire and tightly fastened to the stud. Re-crimp or re-fasten if necessary.

- **Poor Electrical Contact:** Check for corrosion on the stud or terminal. Clean surfaces if needed.
- **Damaged Insulation:** Inspect the heat-shrink for tears or punctures. If damaged, the terminal should be replaced to maintain environmental protection.
- **Incorrect Wire Gauge:** Verify that the wire used is within the 16-14 AWG range for this terminal. Using an incorrect gauge can lead to poor crimps.

7. SPECIFICATIONS

Feature	Detail
Model Number	AMT-113
Wire Gauge Compatibility	16-14 AWG
Stud Size Compatibility	8-10
Connector Type	Spade Terminal
Insulation Material	Polyvinyl Chloride (Heat-Shrink)
Contact Material	Copper
Voltage Rating	600 Volts
Temperature Rating	257°F (125°C)
Compliance	UL Listed
Approximate Package Dimensions	7.6"L x 5.1"W x 12.7"H (for 3-pack)
Approximate Item Weight	0.32 ounces (for 3-pack)

8. WARRANTY INFORMATION

Gardner Bender products are manufactured to high-quality standards. For specific warranty details regarding the AMT-113 Xtreme Environment Spade Terminals, please refer to the official Gardner Bender website or contact their customer support directly. Warranty terms and conditions may vary.

9. SUPPORT & CONTACT

For further assistance, technical support, or additional product information, please visit the official Gardner Bender website:

[Visit the Gardner Bender Store](#)

You may also find contact information for customer service on their website.