

## Gardner Bender AMT-113

# Gardner Bender AMT-113 Xtreme Environment Spade Terminal User Manual

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.