

Sopoby Sopoby334

Sopoby Solder Seal Wire Connectors

Instruction Manual for Model Sopoby334

1. INTRODUCTION AND OVERVIEW

The Sopoby Solder Seal Wire Connectors provide a reliable and waterproof solution for joining electrical wires. This kit includes a variety of heat shrink butt connectors designed for insulated, automotive, marine, and general electrical wiring applications. Each connector features a heat-shrinkable tube, a solder ring, and hot melt adhesive, ensuring a secure and durable connection.

This manual outlines the proper procedures for using these connectors, along with product specifications, maintenance tips, and troubleshooting guidance to ensure optimal performance and safety.



Figure 1: Sopoly Solder Seal Wire Connectors Kit

2. PRODUCT FEATURES

- **Premium Solder Seal Ring:** The tubing reduces in size, allowing the solder to melt and flow through the stripped wires, creating a long-lasting and robust connection.
- **Enhanced Waterproofing:** Featuring a double-wall design, the hot melt adhesive inside ensures wires are strongly connected and prevents them from slipping. The polyolefin outer tubing provides insulation and improves pullout strength, offering superior waterproof performance.
- **Abrasion-Resistant Heat Shrinkable Tube:** Constructed from premium materials, the tubes are designed for use in harsh environments, protecting wires and cables from abrasion, cutting, scuffing, and low-impact situations.
- **Excellent Wire Contact:** The tin barrel facilitates increased current flow and minimizes voltage drop, which helps prevent wiring failures and reduces equipment downtime.
- **Wide Range of Applications:** These connectors offer excellent stability, water resistance, and electrical

conductivity, making them suitable for durable connections in motorcycles, off-road vehicles, lawn tractors, RVs, fish finders, marine applications, and various household electrical projects.



Heat Shrink Tube



Solder Ring



Hot Melt Adhesive

WATERPROOF



IP67
Waterproof



Sealed
Performance



Weather
Resistance



Figure 2: Waterproof and Sealed Performance

3. SPECIFICATIONS

The Sopoby Solder Seal Wire Connector kit includes various sizes to accommodate different wire gauges. The connectors are color-coded for easy identification.

Connector Specifications

Color	AWG (American Wire Gauge)	Cross-Sectional Area (mm ²)	Quantity (120PCS Kit)
White	26-24 AWG	0.25-0.34 mm ²	30 PCS
Red	22-18 AWG	0.5-1.0 mm ²	40 PCS
Blue	16-14 AWG	1.5-2.5 mm ²	40 PCS
Yellow	12-10 AWG	4.0-6.0 mm ²	10 PCS

Additional Specifications:

- **Item Model Number:** Sopoby334
- **Manufacturer:** Sopoby
- **Connector Type:** Solder
- **Contact Material:** Copper
- **Insulation Material:** Polyolefin
- **Terminal Type:** Butt Terminal
- **Min Shrink Temperature:** 80°C (176°F)
- **Solder Start Melting Temperature:** 111°C (232°F)
- **Solder Completely Melting Temperature:** 138°C (280°F)

SPECIFICATIONS

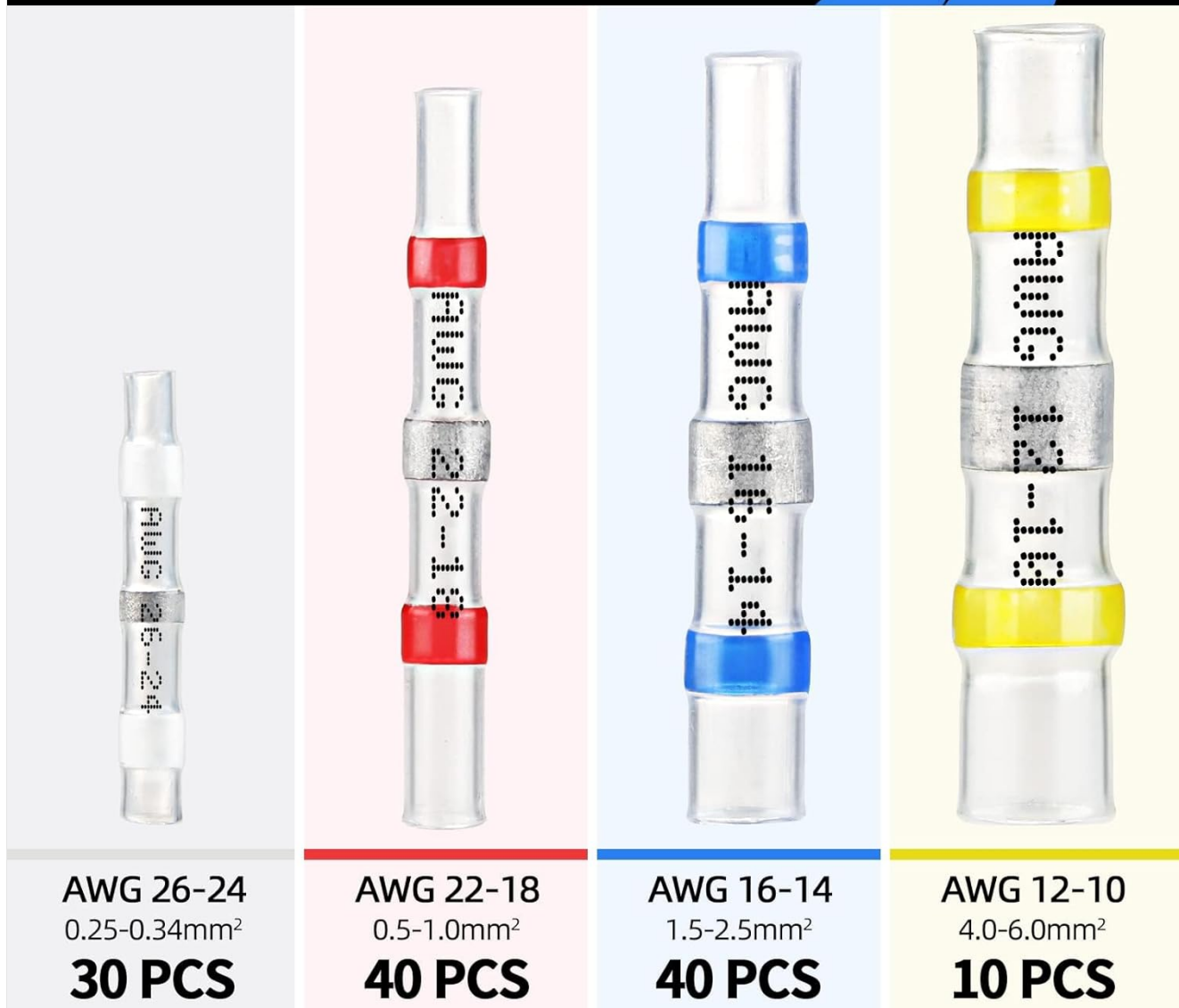


Figure 3: Connector Size Chart

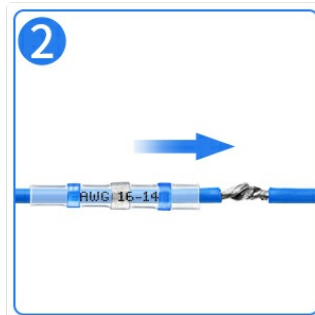
4. SETUP AND INSTALLATION

Follow these steps for proper installation of Sopoby Solder Seal Wire Connectors to ensure a secure and waterproof connection.

1. **Prepare the Wires:** Strip approximately 6-9mm (0.25-0.35 inches) of insulation from the ends of the wires you intend to join. Ensure the wire strands are clean and untwisted. Select the correct size connector for your wire gauge.



2. **Insert the Wires:** Thread one end of a stripped wire into one side of the connector until it reaches the solder ring. Then, thread the other stripped wire end into the opposite side of the connector, ensuring both wire ends overlap within the solder ring area. For best results, slightly twist the wire strands together before inserting.



3. **Apply Heat:** Using a heat gun, apply heat evenly to the connector. Start heating from the center where the solder ring is located, then move outwards towards the ends of the connector. Continuously rotate the connector to ensure uniform heat distribution. The heat-shrink tubing will shrink, and the solder will melt and flow, creating a secure connection. The hot melt adhesive rings at the ends will also melt and seal the connection.



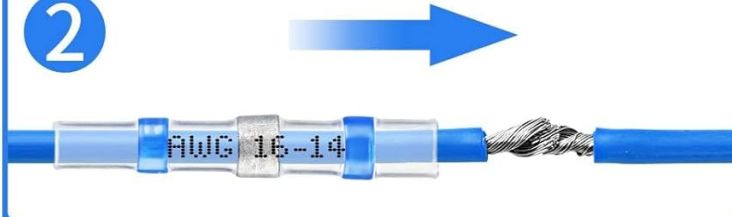
HOW TO USE

1



Prepare the wires

2



Insert the wires into the solder sleeve

3



Use a heat gun to heat connectors evenly at appropriate temperatures



Figure 4: How to Use Sopoby Solder Seal Wire Connectors

5. OPERATING BEST PRACTICES

- **Recommended Tool:** A heat gun is strongly recommended for optimal results. It provides consistent and controllable heat, ensuring the solder melts properly and the tubing shrinks evenly without burning.
- **Avoid Open Flames:** Do not use a butane lighter or soldering iron tip directly on the connector. Lighters can cause uneven heating, blacken the tubing, and may not provide sufficient heat for the solder to melt completely. Soldering irons can melt a hole in the connector, compromising the seal.
- **Even Heating:** Always heat the connector evenly around its entire circumference. Continuously rotate the connector while applying heat to ensure uniform melting of the solder and shrinking of the tube.
- **Cooling Time:** After heating, allow the connected wires to cool down for at least one to two minutes before testing the connection or applying any tension. This allows the solder to solidify and the adhesive to set properly.
- **Proper Sizing:** Always use the smallest connector that will fit over the wires you are joining. Using an oversized connector may result in an incomplete seal or a weaker connection.

6. MAINTENANCE

Sopoby Solder Seal Wire Connectors require minimal maintenance once properly installed. However, following these guidelines can help ensure their longevity and continued performance:

- **Storage:** Store unused connectors in their original packaging or a dry, cool place away from direct sunlight and extreme temperatures. This prevents degradation of the heat-shrink material and adhesive.
- **Inspection:** Periodically inspect connections, especially in high-vibration or harsh environments. Look for any signs of damage to the heat-shrink tubing or exposed wires.
- **Cleaning:** If necessary, gently wipe the exterior of the connectors with a clean, dry cloth. Avoid using harsh chemicals or abrasive materials.

7. TROUBLESHOOTING

If you encounter issues while using the Sopoby Solder Seal Wire Connectors, consider the following common problems and their solutions:

Common Issues and Solutions

Problem	Possible Cause	Solution
Solder not melting or flowing properly.	Insufficient heat, uneven heat application, or using an incorrect tool (e.g., lighter).	Ensure you are using a heat gun. Apply heat evenly and continuously rotate the connector. Increase heat gun temperature if necessary, but avoid overheating.
Wires not holding securely after cooling.	Insufficient solder flow, wires not overlapping correctly, or inadequate shrinking of the tube/adhesive.	Verify wires are properly inserted and overlap within the solder ring. Re-apply heat evenly to ensure solder melts completely and adhesive seals the ends. Ensure the correct connector size is used.
Connector tubing melts or turns black.	Excessive heat, holding heat gun too close, or using an open flame.	Reduce heat gun temperature or increase distance from the connector. Use a heat gun instead of a lighter. Apply heat in a sweeping motion.
Connection is not waterproof.	Adhesive rings at ends did not melt and seal completely.	Ensure sufficient heat is applied to the ends of the connector until the hot melt adhesive visibly flows and seals around the wire insulation.

8. SAFETY INFORMATION

When working with electrical components and heat tools, always prioritize safety:

- **Personal Protective Equipment:** Wear appropriate safety glasses to protect your eyes from heat and potential

debris.

- **Ventilation:** Work in a well-ventilated area to avoid inhaling fumes from melting solder or plastics.
- **Heat Gun Safety:** Heat guns produce high temperatures. Do not touch the nozzle during or immediately after use. Keep flammable materials away from the heat source.
- **Electrical Safety:** Always disconnect power to circuits before working on electrical wiring. Use insulated tools where appropriate.
- **Children and Pets:** Keep all electrical components and tools out of reach of children and pets.

9. WARRANTY AND SUPPORT

Sopoby is committed to providing high-quality products. While specific warranty details are not provided in this manual, for any questions, concerns, or support regarding your Sopoby Solder Seal Wire Connectors, please contact our customer service team.

Customer Support Email: sopoby@vip.163.com

Please include your product model number (Sopoby334) and a detailed description of your inquiry when contacting support to ensure a prompt and accurate response.