Eightwood EWSMA003-10

Eightwood SMA Male Right Angle Crimp Connector (Model EWSMA003-10) Instruction Manual

For RG58, RG142, LMR195 Coaxial Cables

1. Product Overview

The Eightwood SMA Male Right Angle Crimp Connector (Model EWSMA003-10) is designed for reliable termination of coaxial cables. These connectors feature a 90-degree right-angle design, making them suitable for installations where space is limited or specific cable routing is required. Constructed from gold-plated brass, they offer durability and secure connections for various RF applications.

This package includes 10 SMA male 90-degree connectors, ideal for creating custom cable assemblies for 50-ohm RF systems. Applications include 4G LTE antennas, routers, handheld radios, and WiFi antenna systems.

Image 1.1: Eightwood SMA Male Right Angle Crimp Connector (assembled view).

2. Key Features

- **Connector Type:** SMA male, right angle configuration.
- **Termination:** Cable-crimp for secure attachment.
- **Impedance:** 50 ohms, standard for RF applications.
- **Construction:** Gold-plated brass for enhanced durability and corrosion resistance.
- **Compatibility:** Designed for use with RG58, RG141, RG303, LMR195, Belden 9907, and Belden B7806A coaxial cables.
- **Quantity:** Pack of 10 connectors.

3. Specifications

Specification	Detail
Model Name	EWSMA003-10
Connector Type	SMA Male
Orientation	Right Angle (90°)
Termination Style	Cable - Crimp
Impedance	50 ohms
Body Material	Brass, Gold-plated
Contact Material	Brass, Gold-plated
Insulator Material	PTFE
Cable Compatibility	RG58, RG141, RG303, LMR195, Belden 9907, Belden B7806A
Unit Count	10 pieces
Indoor/Outdoor Usage	Indoor, Outdoor

4. Installation Guide

Proper installation is critical for optimal performance of RF connectors. This guide outlines the general steps for crimping an SMA male right-angle connector onto compatible coaxial cables (e.g., RG58, LMR195). Specialized tools, such as a coaxial cable stripper and a crimping tool, are required.

4.1 Required Tools

- Coaxial Cable Stripper (adjustable for RG58/LMR195)
- Crimping Tool (suitable for SMA connectors and specified cable types)
- Soldering Iron and Solder (optional, for center pin if not crimp-type)
- Wire Cutters
- Heat Shrink Tubing (optional, for strain relief and weather protection)

4.2 Connector Components

Image 4.1: Disassembled components of the SMA Male Right Angle Crimp Connector. Includes the main body, center pin, insulator, and crimp ferrule.

Familiarize yourself with the connector components: the main connector body, the center pin, the dielectric insulator, and the crimp ferrule (sleeve).

4.3 Step-by-Step Installation

1. **Prepare the Cable:**
    - Slide the crimp ferrule onto the coaxial cable. Ensure it is oriented correctly.
    - Using a coaxial cable stripper, carefully strip the outer jacket of the cable to the recommended length (typically around 0.5 to 0.6 inches, refer to specific cable/connector diagrams for precise measurements).
    - Fold back the braided shield over the outer jacket. Ensure the braided shield is fully exposed and extends at least the length of the crimp ferrule for a secure connection.
    - Strip the dielectric (insulator) to expose the center conductor. The length of the exposed center conductor should match the length of the center pin of the connector.
2. **Attach the Center Pin:**
    - Insert the exposed center conductor into the center pin.
    - Crimp or solder the center pin to the center conductor, depending on the pin type. For crimp pins, use

the appropriate crimping tool. For solder pins, ensure a clean, strong solder joint.

3. **Assemble the Connector Body:**
    - Carefully insert the cable assembly (with the attached center pin) into the main connector body. The center pin should slide into the receptacle of the connector.
    - Ensure the braided shield makes good contact with the inner barrel of the connector body.
4. **Crimp the Ferrule:**
    - Slide the crimp ferrule forward over the braided shield and the rear of the connector body.
    - Using the crimping tool, crimp the ferrule firmly onto the braided shield and the connector body. This step secures the cable to the connector and provides grounding. Ensure the crimp is tight and uniform.
5. **Final Inspection:**
    - Visually inspect the connection for any stray strands of braid, proper seating of the center pin, and a secure crimp.
    - Gently pull on the cable to ensure the connector is firmly attached.

Note: For best results, always refer to the specific stripping dimensions and crimp die sizes recommended for your cable type and connector model. Inconsistent stripping or crimping can lead to poor signal integrity or connector failure.

5. Operating Instructions

Once properly installed, the Eightwood SMA Male Right Angle Crimp Connector functions as a passive component in your RF system. Ensure the connector is securely fastened to its mating female connector by hand-tightening the knurled nut. Avoid over-tightening, which can damage the connector or equipment.
For optimal performance, ensure all connections are clean and free from debris or moisture before mating. The right-angle design allows for flexible cable routing in tight spaces, maintaining signal integrity.

6. Maintenance

These connectors are designed for long-term reliability with minimal maintenance. However, periodic inspection can help ensure continued performance:

- **Visual Inspection:** Check for any signs of physical damage, corrosion, or loose connections.
- **Cleaning:** If necessary, gently clean the connector contacts with a lint-free cloth and a small amount of isopropyl alcohol. Ensure connectors are completely dry before re-mating.
- **Environmental Protection:** While gold-plated, for outdoor applications, consider using weatherproofing solutions like self-amalgamating tape or silicone grease around the mated connection to protect against moisture ingress.

7. Troubleshooting

If you experience signal issues or intermittent connectivity, consider the following troubleshooting steps:

- **Loose Connection:** Ensure the connector is fully tightened to its mating counterpart.
- **Improper Crimp:** A common cause of signal loss. Re-inspect the crimp connection. If the cable pulls out easily or the braid is not securely crimped, the connector may need to be re-terminated. Refer to Section 4.3 for proper installation.

- **Damaged Cable:** Inspect the coaxial cable for kinks, cuts, or damage to the outer jacket or inner conductors.
- **Corrosion/Debris:** Check connector contacts for any signs of corrosion or foreign material. Clean as described in Section 6.
- **Incorrect Cable Type:** Verify that the cable used is compatible with the connector (e.g., RG58 for this model).
- **Tooling Issues:** Ensure that the correct stripping and crimping tools were used and are in good condition.

8. Warranty and Support

Eightwood products are manufactured to high standards. For any questions, technical assistance, or warranty inquiries, please contact Eightwood customer support through the retailer where the product was purchased or visit the official Eightwood store page for contact information.
For further information and product details, you may visit theproduct detail page on Amazon.