IWISS IWS-2412M

iCrimp

Official Instruction Manual

IWISS IWS-2412M Open Barrel Crimping Tool

For AWG 24-12 JAM, Molex, Tyco, JST Terminals and Connectors

1. Introduction

The IWISS IWS-2412M is an open barrel crimping tool designed for non-insulated, OEM-style terminals. It is suitable for a range of applications, including servo lead connectors, RC crimp connectors, and various electrical wiring tasks in rechargeable battery packs, battery balancers, battery eliminator circuits, 3D printers, and radio-controlled servos.

This tool is capable of crimping wires from 0.21 to 3.31 mm² (AWG 24-12) and is compatible with pins from series such as Molex KK and Picoblade.

Figure 1.1: The IWISS IWS-2412M open barrel crimping tool, showcasing its orange and gray ergonomic handles and the crimping jaws. An inset shows a detailed view of an open barrel terminal.

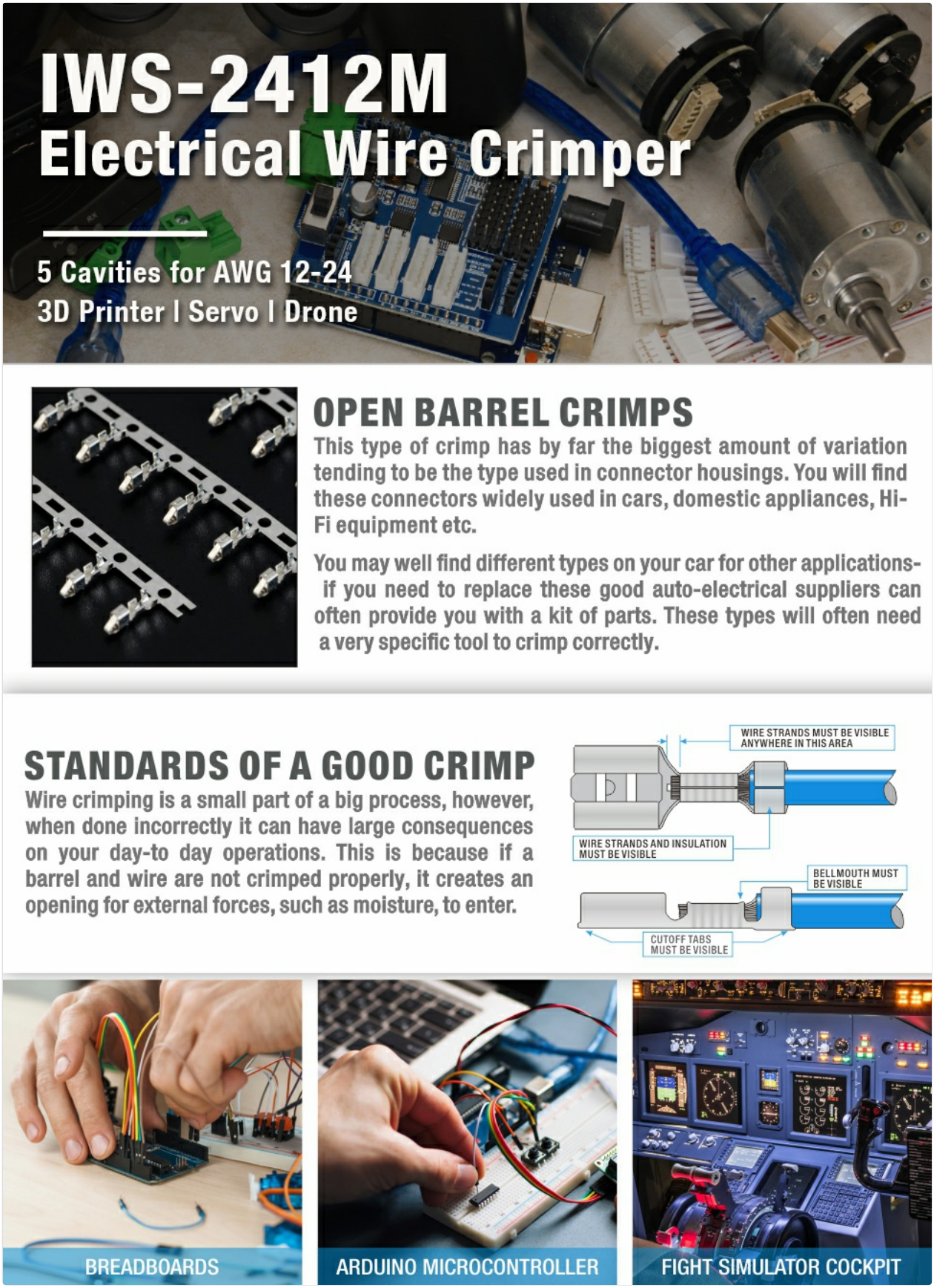

Figure 1.2: An illustrative image showcasing the IWISS IWS-2412M electrical wire crimper with its five cavities for AWG 12-24, and examples of applications such as 3D printers, servos, and drones.

2. Tool Components and Features

The IWS-2412M crimping tool incorporates several design elements for efficient and precise operation:

- **Angled Head:** Designed to provide maximum leverage during the crimping process.
- **Tool Latch:** A mechanism to secure the jaws when the tool is closed, protecting them from dust and accidental damage.
- **Ergonomically Designed Handle:** Features two-component materials (TPR+PP) for a comfortable grip, reducing user fatigue during extended use. The handles are spring-loaded for easy operation.
- **Polished Jaws:** The crimping jaws are polished to prevent terminals from obstructing after crimping, contributing to high-precision crimping results.
- **Die Widths:** The tool features five distinct die widths: 2.2mm, 2.5mm, 2.8mm, 3.1mm, and 3.4mm, accommodating various terminal sizes.
- **Double-Hinge Mechanism:** Ensures the jaws remain parallel during crimping, facilitating a straight engagement and consistent, accurate crimps.

Figure 2.1: A visual breakdown of the IWISS IWS-2412M crimper's key features: an angled head for leverage, a tool latch for jaw protection, and ergonomically designed two-component handles.

Figure 2.2: A detailed view of the crimper's polished jaws, highlighting the five die widths (2.2mm, 2.5mm, 2.8mm, 3.1mm, 3.4mm) and the AWG 24-12 (0.21-3.31mm²) capacity markings.

3. Specifications

Refer to the table below for detailed technical specifications of the IWISS IWS-2412M crimping tool.

Figure 3.1: An image displaying the IWISS IWS-2412M crimper alongside a table of its specifications.

Specification	Detail
Model	IWS-2412M
Crimping Capacity	0.21-3.31 mm² (AWG 24-12)
Die Widths	2.2mm, 2.5mm, 2.8mm, 3.1mm, 3.4mm
Crimping Tool Material	Carbon steel with black oxide finish
Handle Material	Thermoplastic Elastomer (TPE) and Polypropylene (PP)
Item Weight	0.2 Kilograms (approx. 7 ounces)
Product Dimensions	9.84 x 5.91 x 0.39 inches
Manufacturer	ZHEJIANG IWISS ELECTRIC CO.,LTD

4. Setup and Preparation

Before beginning any crimping task, ensure the following:

1. **Inspect the Tool:** Verify that the crimping tool is clean and free from debris. Ensure the jaws operate smoothly.
2. **Select Correct Terminal:** Choose an open barrel terminal appropriate for your wire gauge and application.
3. **Strip Wire:** Carefully strip the insulation from the end of the wire to the correct length, exposing the conductor strands. The stripped length should match the conductor barrel of the terminal. Avoid cutting or damaging the wire strands.
4. **Identify Die Size:** Select the appropriate die width on the crimper that matches the size of your terminal's conductor barrel.

5. Operating Instructions (Crimping Guidance)

Follow these steps for proper crimping:

1. **Position the Terminal:** Place the open barrel terminal into the upper die of the crimper. It is recommended to guide the barrel from the reverse side of the crimping die for better alignment.
2. **Insert the Wire:** Insert the stripped wire into the terminal's conductor barrel. Ensure all wire strands are within the conductor barrel and that the insulation aligns with the insulation barrel.
3. **Perform the Crimp:** Squeeze the handles of the crimping tool firmly and evenly until the crimp is complete. The double-hinge mechanism will ensure parallel jaw movement for a consistent crimp.
4. **Inspect the Crimp:** After crimping, release the handles and carefully remove the terminal. Visually inspect the crimp for proper formation.

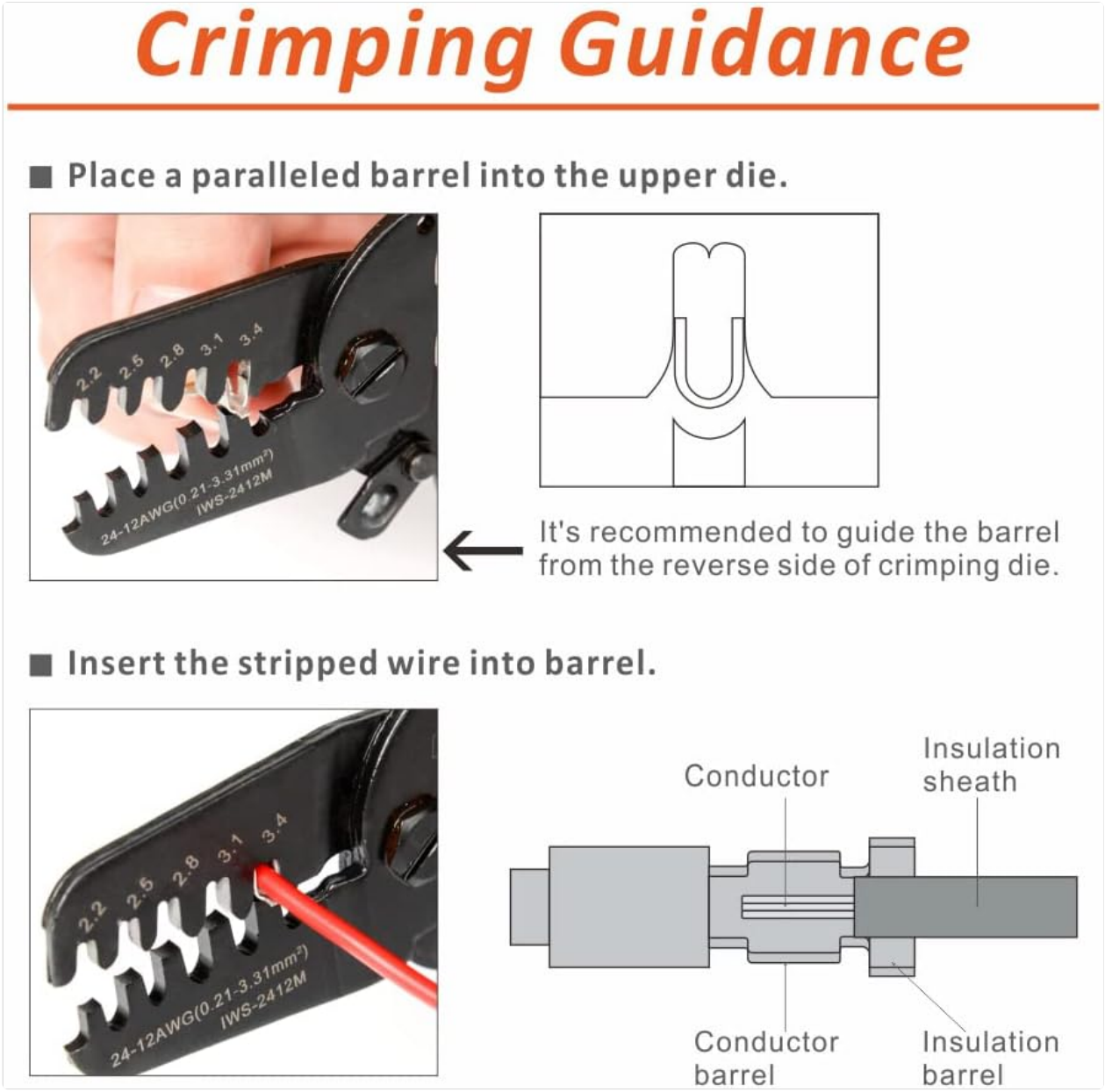

Figure 5.1: Step-by-step visual guidance for using the crimping tool, illustrating how to place a parallel barrel into the upper die and insert a stripped wire into the barrel. A diagram shows the conductor and insulation barrels.

5.1. Types of Crimps

A proper open barrel crimp involves two distinct sections:

- **Conductor Crimp:** This section secures the bare wire strands to the terminal. It should be tight enough to create a strong electrical and mechanical connection without cutting the strands.
- **Insulation Crimp:** This section secures the wire's insulation to the terminal, providing strain relief and protecting the conductor crimp from external forces.

Figure 5.2: Close-up images demonstrating correctly crimped terminals, showing both the conductor tab crimp and the insulation tab crimp.

5.2. Standards of a Good Crimp

A well-executed crimp is crucial for reliable electrical connections. Poor crimps can lead to connection failures. Key characteristics of a good crimp include:

- **Wire Strands Visible:** Ensure wire strands are visible within the conductor barrel and are not cut or damaged.
- **Insulation Visible:** The wire insulation should be visible within the insulation barrel, providing proper strain relief.
- **Bellmouth:** A slight flare at the front and rear of the conductor crimp, known as a bellmouth, helps prevent wire damage.
- **Cutoff Tabs:** Ensure cutoff tabs are visible and properly formed.

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6. Maintenance

To ensure the longevity and optimal performance of your IWISS IWS-2412M crimping tool, follow these maintenance guidelines:

- **Cleaning:** After each use, wipe down the tool with a clean, dry cloth to remove any dust, debris, or residue. For stubborn grime, a mild solvent can be used, ensuring the tool is thoroughly dried afterward.

- **Lubrication:** Periodically apply a light machine oil to the pivot points and moving parts to ensure smooth operation and prevent rust.
- **Storage:** Store the tool in a dry environment to prevent corrosion. The tool latch can be used to keep the jaws closed during storage, protecting the crimping dies.
- **Inspection:** Regularly inspect the crimping jaws for any signs of wear, damage, or misalignment. If significant wear is observed, the tool's crimping accuracy may be affected.

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7. Troubleshooting

If you encounter issues while using your IWISS IWS-2412M crimping tool, consider the following common problems and solutions:

- **Poor Crimp Quality (Loose or Damaged Wire):**
  - **Cause:** Incorrect die size selected, improper wire stripping length, or insufficient pressure applied.
  - **Solution:** Ensure the die size matches the terminal and wire gauge. Verify the wire is stripped to the correct length. Apply firm, even pressure during crimping.
- **Wire Slipping Out of Terminal:**
  - **Cause:** Conductor crimp is too loose, or insulation crimp is not providing adequate strain relief.
  - **Solution:** Re-evaluate die selection for the conductor barrel. Ensure the insulation is properly seated in the insulation barrel before crimping.
- **Terminal Deforming or Crushing:**
  - **Cause:** Die size is too small for the terminal, or excessive force applied.
  - **Solution:** Select a larger die size. Apply controlled pressure, allowing the tool's design to form the crimp.
- **Jaws Sticking or Operating Roughly:**
  - **Cause:** Lack of lubrication, dirt, or minor corrosion.
  - **Solution:** Clean the tool thoroughly and apply a light machine oil to all pivot points and moving parts.

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8. Warranty and Support

For specific warranty information regarding your IWISS IWS-2412M Open Barrel Crimping Tool, please refer to the documentation provided at the time of purchase or contact IWISS customer support directly.

Manufacturer: ZHEJIANG IWISS ELECTRIC CO.,LTD

For further assistance or inquiries, please visit the official IWISS website or contact their customer service department.