Molex [1189-40PA1420]

Molex Pin and Socket Crimp Terminal User Manual

Model: [1189-40PA1420]

1. Introduction

This manual provides essential information for the proper use, handling, and application of Molex Series 1189 Pin and Socket Crimp Terminals. These terminals are designed for reliable electrical connections in various applications. Please read this manual thoroughly before proceeding with installation or use.

2. Product Overview

The Molex Series 1189 terminals are standard .093" (2.36mm diameter) pin and socket crimp terminals. This package includes 40 male and 40 female contacts, made from tin (Sn) plated brass, suitable for 14-20 AWG wires. They are supplied in strip packaging for efficient handling.

- **Terminal Type:** 2.36mm Diameter, Standard .093" Pin and Socket Crimp Terminal
- **Series:** 1189
- **Quantity:** 40 Female and 40 Male Crimp Terminals
- **Material:** Tin (Sn) Plated Brass Contact
- **Wire Gauge Compatibility:** 14-20 AWG
- **Wire Insulation Diameter:** 1.65-4.06 mm
- **Packaging:** Strip Packaging

Figure 2.1: Male and Female Molex .093" Crimp Terminals. The image displays one male pin (left) and one female socket (right), both silver-

colored and designed for wire crimping.

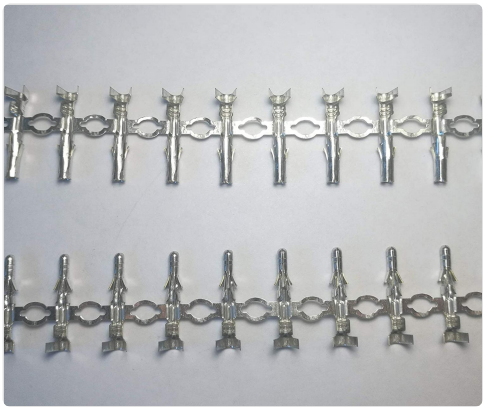

Figure 2.2: Molex Crimp Terminals in Strip Packaging. This image shows multiple male and female terminals connected together on a metal strip, as they are supplied for automated or manual processing.

3. Setup and Preparation

Before crimping, ensure you have the correct tools and prepare the terminals and wires.

3.1 Required Tools

- **Wire Strippers:** Appropriate for 14-20 AWG wire.
- **Crimping Tool:** A dedicated crimping tool designed for open barrel terminals, such as a Molex-specific crimper or a Delphi Weatherpack crimper, is highly recommended. Standard pliers or cheap wire cutter tools that flatten the terminal are not suitable and will result in improper crimps.
- **Diagonal Cutters:** For separating individual terminals from the strip.

3.2 Separating Terminals from Strip

The terminals are provided on a continuous strip. Before crimping, individual terminals must be carefully separated from this strip. Use diagonal cutters to snip the carrier strip connecting the terminals. Ensure a clean cut without deforming the terminal itself.

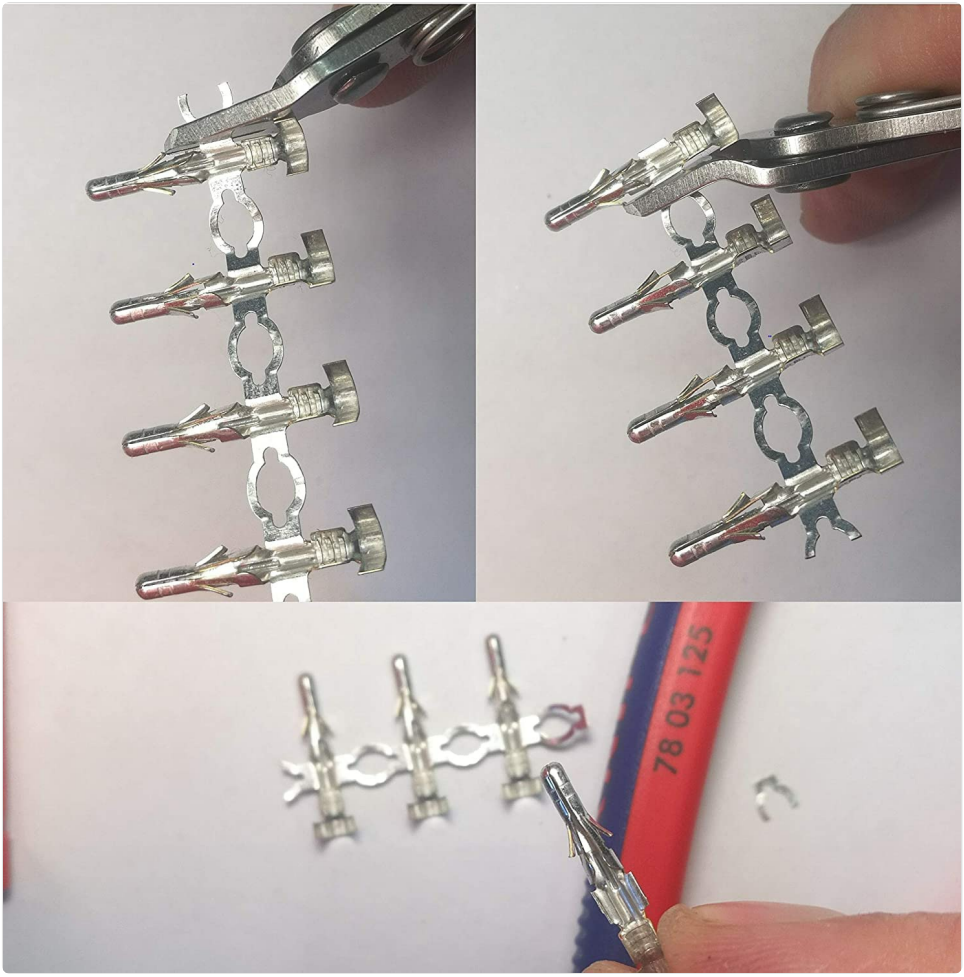

Figure 3.1: Separating Terminals from the Strip. This composite image demonstrates the process of using diagonal cutters to detach individual Molex terminals from their continuous metal strip, ensuring the terminal remains intact for crimping.

3.3 Wire Preparation

Strip approximately 3-4 mm of insulation from the end of the wire. The stripped length should be sufficient to allow the bare wire to be fully seated within the wire crimp section of the terminal, while the insulation crimp section grips the wire's insulation.

4. Operating Instructions: Crimping Process

Proper crimping is crucial for a secure and reliable electrical connection. These terminals feature two distinct crimping sections: one for the bare wire conductors and another for the wire insulation.

1. **Insert Terminal into Crimping Tool:** Place the individual terminal into the appropriate cavity of your crimping tool. Ensure it is seated correctly and held firmly.
2. **Insert Stripped Wire:** Carefully insert the stripped end of your wire into the terminal. The bare wire should align with the inner crimp wings (for the conductor), and the insulated part of the wire should align with the outer crimp wings (for insulation support).
3. **Perform the Crimp:** Close the crimping tool handles firmly and completely until the crimp cycle is finished. A proper crimp will roll the crimp wings over the wire, creating a secure connection without cutting the wire strands or insulation. The crimp should form an 'F' or 'B' shape, not a flattened 'O' shape.
4. **Inspect the Crimp:** After crimping, visually inspect the connection.
    - The bare wire should be fully enclosed and compressed by the conductor crimp.
    - The insulation crimp should securely grip the wire insulation, providing strain relief without piercing it.

- Gently tug on the wire to ensure it is securely held by the terminal.

Refer to the technical drawings for detailed dimensions and crimp specifications:

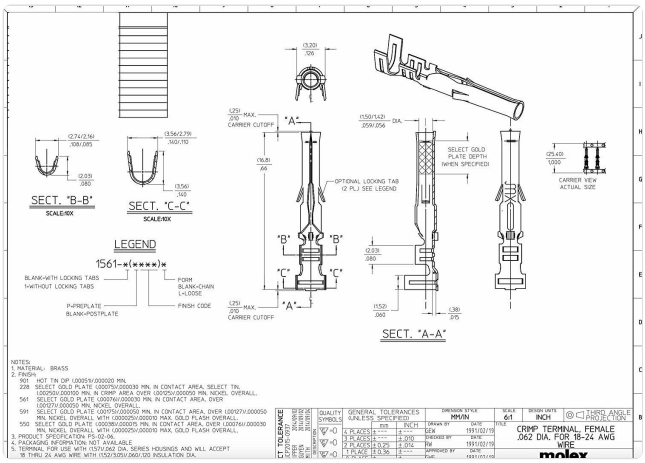

Figure 4.1: Technical Drawing of Female Crimp Terminal. This diagram provides detailed dimensions and specifications for the female Molex Series 1189 terminal, including crimp areas and overall structure.

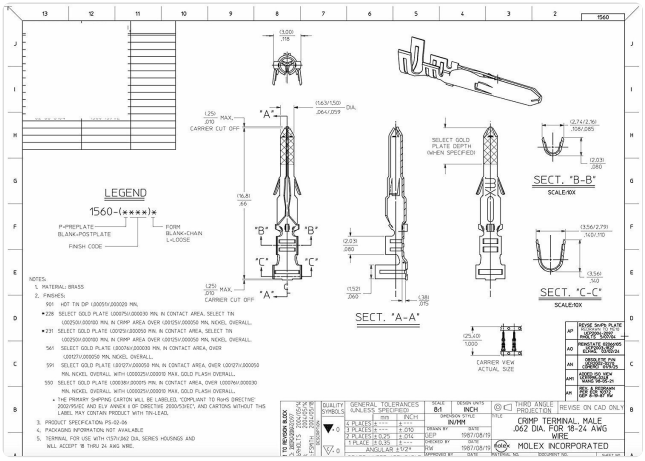

Figure 4.2: Technical Drawing of Male Crimp Terminal. This diagram illustrates the precise dimensions and design of the male Molex Series 1189 terminal, showing its crimp sections and pin structure.

5. Maintenance

Molex crimp terminals are designed for long-term reliability once properly installed. No ongoing maintenance is typically required for the terminals themselves. However, it is good practice to:

- Ensure connections remain free from dirt, moisture, and corrosive substances.
- Periodically inspect connections in high-vibration or high-stress environments for any signs of loosening or damage.

6. Troubleshooting

Most issues with crimp terminals stem from improper installation. If you encounter problems, consider the following:

6.1 Loose Connections or Intermittent Contact

- **Improper Crimping Tool:** Using a crimping tool not designed for open barrel terminals (e.g., standard pliers) will result in a poor crimp. The crimp wings must roll over the wire, not flatten it.

- **Incorrect Wire Gauge:** Ensure the wire gauge (14-20 AWG) matches the terminal's specifications. Wires too thin or too thick will not crimp correctly.
- **Insufficient Wire Stripping:** If not enough insulation is stripped, the bare wire may not make full contact with the conductor crimp.
- **Over-stripping Wire:** If too much insulation is stripped, bare wire may extend beyond the insulation crimp, leading to potential shorts.

6.2 Difficulty Inserting into Housings

- **Deformed Terminal:** Ensure the terminal is not bent or deformed during handling or crimping.
- **Improper Crimp Profile:** An incorrect crimp can alter the terminal's shape, preventing it from fitting into its mating housing.

If issues persist, review the crimping process and ensure all steps are followed precisely. Consulting online resources or professional guides on proper crimping techniques for open barrel terminals can also be beneficial.

7. Specifications

Attribute	Value
Product Dimensions	5.12 x 2.76 x 0.71 inches (packaged)
Item Weight	1.45 ounces (packaged)
Model Number	[1189-40PA1420]
Manufacturer	Molex
Wire Gauge	14-20 AWG
Connector Type	Crimp
Contact Material	Tin (Sn) Plated Brass
Terminal Type	Pin and Socket Terminal
Wire Insulation Diameter	1.65-4.06 mm

8. Warranty and Support

Information regarding product warranty and direct manufacturer support is not provided within this manual. For warranty details or technical assistance, please refer to the official Molex website or contact your point of purchase.