

WAGO 221-413

WAGO 221-413 Lever-Nuts 3-Conductor Compact Connectors Instruction Manual

Model: 221-413 | Brand: WAGO

1. INTRODUCTION

The WAGO 221-413 Lever-Nuts are compact splicing connectors designed for all conductor types. These connectors provide a quick, easy, and reliable method for connecting various conductor types and sizes, from intercom system wiring to electrical ovens and hazardous locations. Featuring easy-to-use operating levers, they enable tool-free terminations and are ideal for diverse distribution applications.

2. SETUP AND INSTALLATION

Follow these steps for proper and safe installation of your WAGO 221-413 Lever-Nuts connectors:

- 1. Prepare the Wire:** Strip the insulation from the end of the wire to the recommended length. The connector features a wire stripping gauge on its side, indicating an optimal strip length of 11 mm (approximately 0.43 inches). Ensure the copper conductor is fully exposed and free of insulation.
- 2. Open the Lever:** Lift the orange operating lever on the connector to its fully open position. This action prepares the clamping unit for wire insertion.
- 3. Insert the Conductor:** Insert the prepared wire into the open clamping unit. Push the wire firmly until it reaches the stop. The transparent housing allows for visual inspection to confirm correct strip length and complete wire insertion.
- 4. Close the Lever:** Push the orange operating lever back down to its closed position. This securely clamps the conductor, establishing a reliable electrical connection.
- 5. Repeat for Additional Wires:** For multi-conductor connectors, repeat steps 2-4 for each additional wire. The 221-413 model accommodates up to three conductors.



Figure 1: Wire Preparation. This image illustrates the correct wire stripping length (11 mm) required for optimal connection with the WAGO 221-413 Lever-Nuts connector. Proper stripping ensures full contact and secure termination.

TRANSPARENT HOUSING



TESTING PORTS

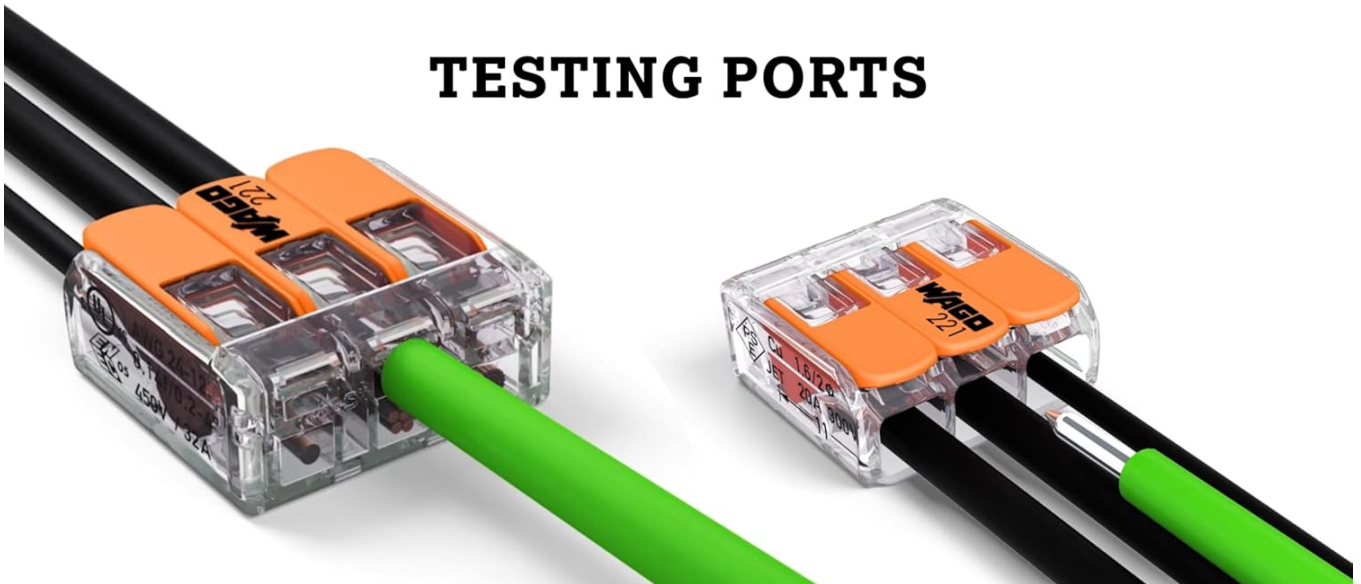


Figure 2: Connection Steps. This image visually guides the user through the three essential steps: opening the lever, inserting the stripped wire, and closing the lever to secure the connection.

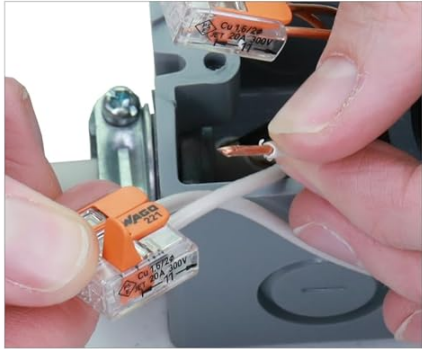
**Reliable
connections
even
in tight
spaces!**



Figure 3: Key Features. This image emphasizes the compact design, lever-actuated mechanism, and the fast and secure nature of the WAGO 221-413 connectors, making them efficient for various electrical tasks.



COMPACT



LEVER- ACTUATED



FAST + SECURE

Figure 4: Visual Confirmation and Testing. This image highlights the transparent housing for easy visual verification of proper wire insertion and the integrated testing ports for convenient circuit checks.

Installation Videos

Video 1: Fast Secure Connection. This video demonstrates the quick and secure connection process using WAGO Lever-Nuts for electrical wiring.

Video 2: Connector Clamp Test. This video shows a real-life test of the connector clamp, highlighting its robust grip and reliability.

Video 3: Product Demo. A detailed product demonstration of WAGO 221-412 Lever-Nuts, showcasing their functionality (mechanism is similar to 221-413).

Video 4: WAGO 221 Splicing Connector. This video provides an overview of the WAGO 221 Lever-Nuts splicing connector, demonstrating its ease of use.

3. OPERATING INSTRUCTIONS

The WAGO 221-413 Lever-Nuts are designed for intuitive operation, allowing for quick and secure connections and disconnections.

Connecting Wires

1. Ensure the wire is stripped to the recommended 11 mm length.
2. Lift the orange lever for the desired clamping unit.
3. Insert the stripped conductor fully into the opening until it stops.
4. Push the lever back down to secure the connection. The transparent housing allows for visual confirmation of proper wire seating.

Disconnecting Wires

1. Lift the orange lever of the clamping unit containing the wire you wish to remove.
2. Gently pull the wire out of the connector.
3. Close the lever if no new wire is to be inserted immediately.

4. SPECIFICATIONS

Feature	Specification
Model Number	221-413
Brand	WAGO
Current Rating	20 Amps
Voltage	600 Volts
Gauge (AWG)	24-12 AWG
Number of Contacts	3
Number of Poles	3
Connector Type	IDC (Insulation Displacement Connector)
Mounting Type	DIN Rail Mount (with optional accessories)
Material	Plastic
Color	Transparent
Product Dimensions	0.74"W x 0.33"H
Item Weight	0.088 ounces
Upper Temperature Rating	105 Degrees Celsius



OPEN



INSERT



CLOSE

Figure 5: Product Dimensions. This image provides a visual representation of the compact dimensions of the WAGO 221-413 connector, including its width and height.

5. MAINTENANCE

WAGO 221-413 Lever-Nuts connectors are designed for long-term reliability and require minimal maintenance. However, adhering to the following guidelines can help ensure optimal performance:

- **Regular Inspection:** Periodically inspect connections for any signs of damage, corrosion, or loose wires. The transparent housing facilitates easy visual checks.
- **Cleaning:** If necessary, gently clean the exterior of the connectors with a dry, lint-free cloth. Avoid using abrasive cleaners or solvents that could damage the plastic.
- **Environmental Conditions:** Ensure the connectors are used within their specified temperature and environmental ratings to prevent degradation of materials.
- **Avoid Overloading:** Do not exceed the specified current and voltage ratings to prevent overheating and potential damage to the connector or connected circuits.

6. TROUBLESHOOTING

If you encounter issues with your WAGO 221-413 Lever-Nuts connections, consider the following troubleshooting steps:

- **Loose Connection:** If a wire feels loose, ensure the lever is fully closed. If it is, open the lever, re-insert the wire firmly, and close the lever again. Verify the wire was stripped to the correct length.
- **No Continuity:** Check that the wire is fully inserted and the stripped conductor makes proper contact. The transparent housing allows for visual confirmation. Use a multimeter on the integrated test ports to verify continuity.
- **Damaged Connector:** If the connector housing or levers appear damaged, replace the connector immediately. Do not attempt to repair damaged connectors.
- **Incorrect Wire Gauge:** Ensure the wire gauge falls within the specified 24-12 AWG range. Using wires outside this range may result in unreliable connections.
- **Overheating:** If the connector feels hot, it may be overloaded. Verify that the current draw does not exceed the 20 Amps rating. Reduce the load or use multiple connectors if necessary.

7. WARRANTY AND SUPPORT

Warranty Information: Specific warranty details for the WAGO 221-413 Lever-Nuts are not provided in this manual. Please refer to the product packaging or the official WAGO website for the most up-to-date warranty policy.

Customer Support: For technical assistance, product inquiries, or further support, please visit the official WAGO website or contact their customer service department directly. Contact information can typically be found on the WAGO website or product packaging.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

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Email

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After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question