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Burndy TN10-10

Burndy TN10-10 Insulug Nylon Insulated Ring Tongue Terminal User Manual

Model: TN10-10 | Brand: Burndy

1. Introduction

The Burndy TN10-10 Insulug Nylon Insulated Ring Tongue Terminal is engineered for heavy-duty industrial, utility, and military power and control-circuit applications. Designed for wire sizes ranging from 26 AWG through 10 AWG, these terminals offer high dielectric strength and stability, particularly in oily conditions. They meet military CLASS 1 and CLASS 2 requirements per SAE-AS25036 and SAE-AS7928 specifications.



Figure 1: Burndy TN10-10 Insulug Nylon Insulated Ring Tongue Terminal. This image shows the yellow nylon insulated barrel and the metal ring tongue, ready for connection.

2. Product Features and Design

The TN10-10 terminal incorporates several design features to ensure robust performance and ease of use:

- **Integral One-Piece Design:** Features an integral one-piece copper barrel/insulation grip and wire strain relief, providing superior physical strength compared to multi-piece designs.

- **High Conductivity Material:** Manufactured from pure electrolytic copper to ensure maximum conductivity, low resistance, and ductility for excellent crimp forming properties.
- **Brazed Seam:** The barrel features a brazed seam, enhancing its strength, minimizing splitting, and eliminating folding during crimping.
- **Deep Inner Barrel Serrations:** Designed with deep serrations inside the barrel to provide excellent electrical conductivity and high pullout strength values.
- **Smooth Funnel Entry:** A smooth funnel entry facilitates easy and quick wire insertion.
- **Locked Insulation:** The insulation is securely locked in place, preventing twisting and maintaining proper dielectric values.
- **Electro-Tin Plated:** Electro-tin plating provides durable, long-lasting resistance to corrosion.
- **Color-Coded and Marked:** Clearly color-coded (yellow for 12-10 AWG) and marked for quick and easy wire size identification.
- **Secure Ring Tongue:** The ring tongue design ensures a secure termination under the screw head, which cannot be removed without complete removal of the screw. Multiple terminals can be easily stacked on a common stud.

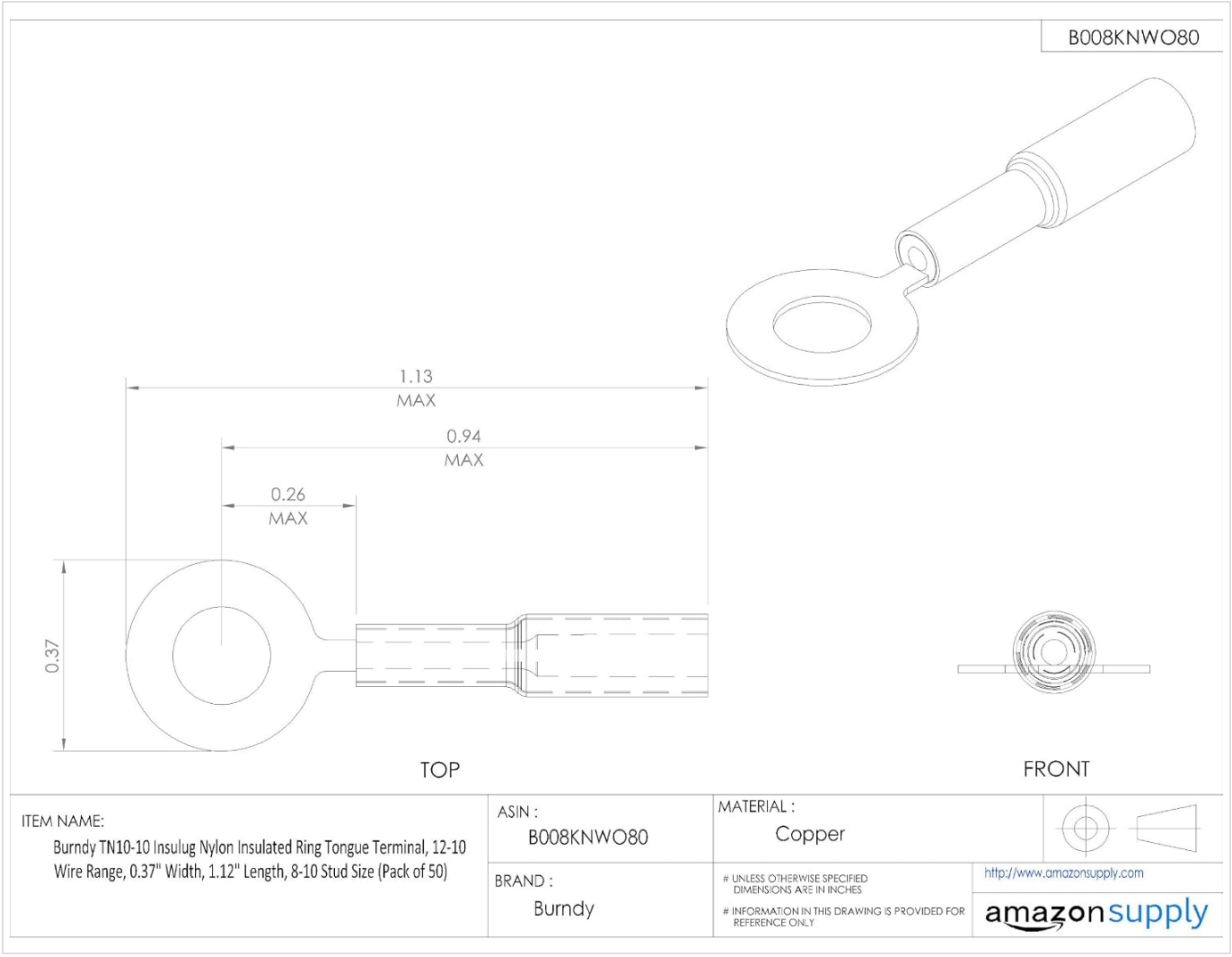


Figure 2: Technical drawing illustrating the dimensions of the Burndy TN10-10 Insulug Nylon Insulated Ring Tongue Terminal. Key dimensions include a 0.37" width and 1.12" length, with an 8-10 stud size.

3. Setup

Proper setup is crucial for a reliable electrical connection. Follow these steps:

1. **Select Correct Terminal:** Ensure the TN10-10 terminal is appropriate for your wire gauge (12-10 AWG) and stud size (8-10).
2. **Prepare Wire:** Strip the insulation from the end of the wire to the appropriate length, typically matching the depth of the terminal's barrel. Ensure the wire strands are clean and untwisted.
3. **Insert Wire:** Insert the stripped wire fully into the terminal barrel until it bottoms out. The smooth funnel entry assists in this process.
4. **Select Crimping Tool:** Use a crimping tool designed for insulated terminals of the specified wire gauge. Ensure the tool's crimping dies match the terminal's size and type.

4. Operating Instructions

Follow these steps for proper crimping and connection:

1. **Position Terminal:** Place the terminal, with the wire inserted, into the appropriate crimping die of your tool. Ensure the crimp is applied to the metal barrel section, not the insulation.
2. **Crimp:** Apply firm and even pressure to the crimping tool handles until the crimp cycle is complete. A proper crimp will securely fasten the wire within the terminal barrel.
3. **Inspect Crimp:** After crimping, visually inspect the connection. The insulation should remain intact, and the wire should be firmly held within the terminal. Perform a gentle tug test to confirm mechanical integrity.
4. **Connect to Stud:** Place the ring tongue over the designated stud or screw. Ensure the stud size matches the terminal's ring opening.
5. **Secure Connection:** Fasten the connection with a nut or screw, tightening it to the manufacturer's recommended torque specifications for the stud. Ensure a secure, low-resistance electrical connection.

5. Maintenance

Burndy TN10-10 terminals are designed for durability and require minimal maintenance once installed. However, proper handling and storage are recommended:

- **Storage:** Store unused terminals in a dry, clean environment, away from extreme temperatures and direct sunlight, to preserve the integrity of the nylon insulation and tin plating.
- **Handling:** Avoid bending or deforming the terminals prior to use, as this can compromise their electrical and mechanical properties.
- **Inspection:** Periodically inspect installed connections for any signs of corrosion, loosening, or damage, especially in harsh environments.

6. Troubleshooting

If you encounter issues during installation or operation, consider the following:

- **Poor Crimp:** If the wire pulls out easily or the connection feels loose, the crimp may be insufficient. Ensure the correct crimping tool and die are used, and apply adequate pressure. Re-crimp with a new terminal if necessary.
- **Wire Not Fitting:** If the wire does not fully insert into the barrel, check if the wire gauge matches the terminal's specification (12-10 AWG). Ensure the wire strands are not splayed.

- **Corrosion:** While electro-tin plated for corrosion resistance, extreme conditions can still lead to issues. Ensure connections are clean and dry. For critical applications, consider additional protective measures.
- **Overheating:** An overheated connection can indicate high resistance, often due to a poor crimp, incorrect wire gauge, or insufficient tightening at the stud. Re-evaluate the entire connection.

7. Specifications

Attribute	Value
Model Number	TN10-10
Wire Range	12-10 AWG
Stud Size	8-10
Insulation Material	Nylon
Contact Material	Copper
Plating	Electro-Tin
Color	Yellow
Width	0.37 inches
Length	1.12 inches
Connector Type	Crimp, Ring Tongue

8. Safety Information

WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.
Always follow standard electrical safety practices when working with electrical components. Ensure power is disconnected before making or breaking connections. Use appropriate personal protective equipment (PPE).

9. Warranty and Support

Burndy products are manufactured to high standards and are typically covered by a manufacturer's warranty against defects in materials and workmanship. For specific warranty details, claims, or technical support, please refer to the official Burndy website or contact their customer service department directly. Keep your purchase receipt for warranty purposes.

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