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## Nilight 50135B

# Nilight 3 Pin DT Connectors 16AWG Instruction Manual

Model: 50135B

## 1. PRODUCT OVERVIEW

The Nilight 3 Pin DT Connectors are designed for creating secure, waterproof, and dustproof electrical connections. Each kit includes male and female connectors with 16AWG tinned copper wires and heat shrink butt terminals for additional wire connections. These connectors are suitable for a wide range of applications, including automotive, marine, and other outdoor electrical systems.



Image 1.1: Overview of Nilight 3 Pin 16 AWG DT Connectors Sets, highlighting their plug-and-play, waterproof, and high-quality attributes.

Key features include:

- **High-Quality Materials:** Constructed from PA66 nylon for durability and 16 AWG tinned copper wire for superior conductivity and resistance to oxidation and corrosion.
- **Waterproof and Dustproof:** Equipped with rubber seals to ensure an IP68 rating, protecting connections from water and dust ingress.
- **Plug and Play Design:** Connectors are pre-assembled with wires crimped to pins, simplifying installation.
- **Secure Connection:** Features a buckle design to prevent accidental disconnections.
- **Wide Temperature Range:** Designed to withstand extreme temperatures from -40°C to 120°C.

## 2. SETUP AND INSTALLATION

The Nilight 3 Pin DT Connectors are designed for straightforward installation. The wires are pre-crimped to the connector pins, eliminating the need for additional crimping steps for the main connectors.

### 2.1 Connecting the DT Connectors

- 1. Prepare Wires:** Ensure the wires you intend to connect are stripped to the appropriate length, exposing the copper conductor.
- 2. Connect to Device:** Connect your device's wires to the corresponding wires of the Nilight DT connector (e.g., positive to positive, negative to negative). Use the included heat shrink butt connectors for a secure and sealed splice if needed.
- 3. Join Connectors:** Align the male and female DT connectors. Push them together firmly until you hear a distinct clicking sound, indicating the buckle mechanism has engaged and the connection is secure.
- 4. Verify Connection:** Gently pull on the connectors to ensure they are tightly joined and will not easily separate.



Image 2.1: Visual guide for connecting and disconnecting the DT connectors, illustrating the secure buckle design.

### 2.2 Using Heat Shrink Butt Connectors

The kit includes heat shrink butt connectors for splicing additional wires. Follow these steps for proper use:

1. **Strip Wires:** Strip approximately 8-10mm of insulation from the ends of the wires you wish to splice.
2. **Insert Wires:** Insert one stripped wire end into one side of the butt connector until it reaches the internal stop. Repeat for the other wire on the opposite side.
3. **Crimp Connection:** Use a crimping tool to firmly crimp the metal barrel of the connector onto both wires. Ensure a tight mechanical connection.
4. **Apply Heat:** Using a heat gun or a blow torch (with caution), apply even heat to the connector. The heat shrink tubing will shrink and the internal adhesive will melt, creating a waterproof seal around the wires.
5. **Cool Down:** Allow the connector to cool completely before handling or placing it under stress.



Image 2.2: Step-by-step instructions for properly using the included heat shrink butt connectors to create sealed wire splices.

### 3. OPERATION

Once installed, the Nilight DT Connectors operate by providing a reliable electrical pathway while protecting the connection from environmental factors. No specific user interaction is required during normal operation beyond ensuring the initial secure connection.

- **Secure Engagement:** The buckle design ensures that the male and female connectors remain firmly engaged, preventing accidental separation due to vibration or movement.
- **Environmental Protection:** The IP68 waterproof and dustproof rating means the connection is protected against water immersion and fine dust particles, making it suitable for harsh environments.
- **Consistent Performance:** Tinned copper wires and robust nylon housing contribute to stable electrical conductivity and long-term performance.

## **NILIGHT 16AWG COPPER WIRE TINNED**

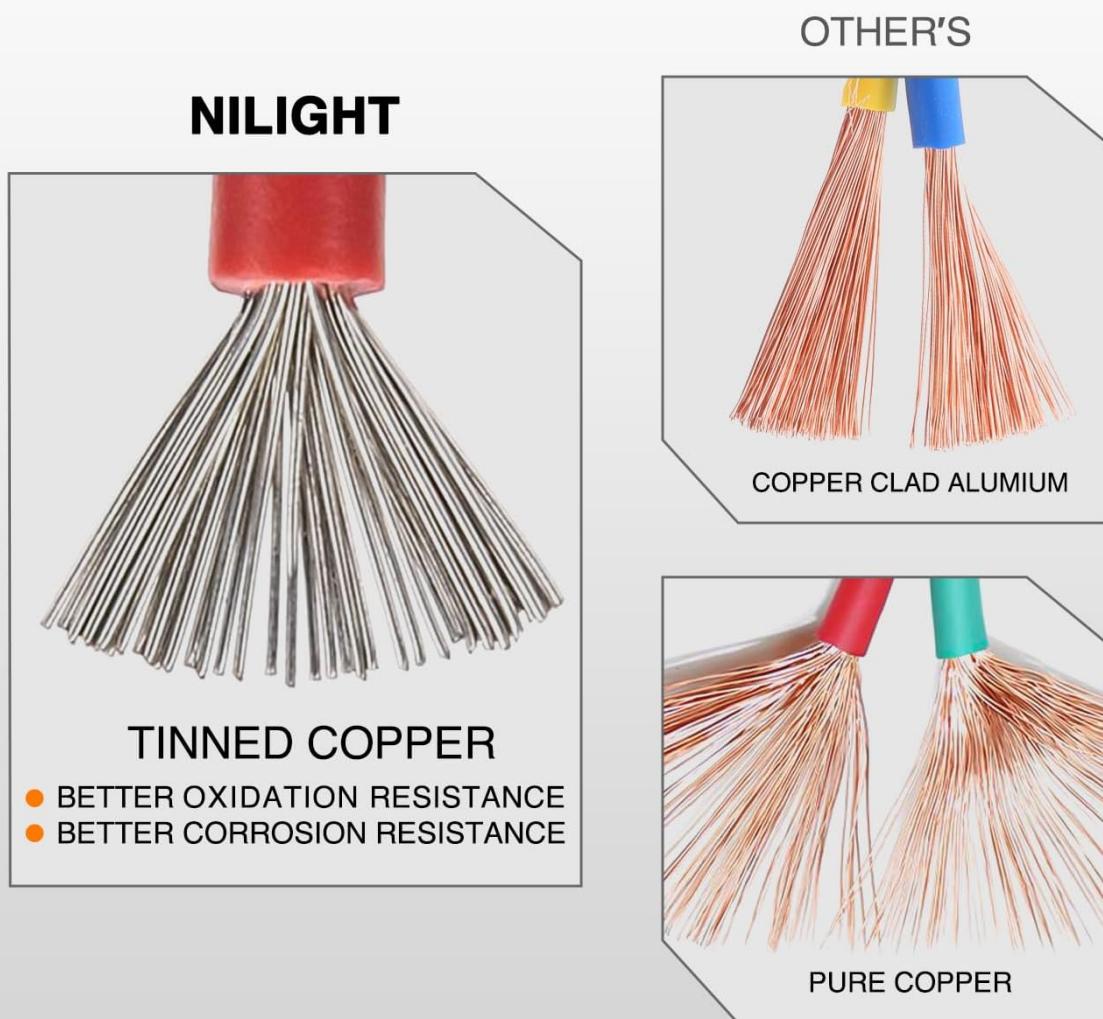


Image 3.1: The connector's IP68 rating ensures protection against water and dust, as shown by water splashing over the connected unit.

## **4. MAINTENANCE**

Minimal maintenance is required for Nilight DT Connectors due to their durable construction and sealed design. However, periodic inspection can help ensure continued reliable performance.

- **Visual Inspection:** Periodically check the connectors for any signs of physical damage, cracks, or wear on the housing or wires.
- **Seal Integrity:** Ensure the rubber seals are intact and properly seated. If a seal appears damaged, the waterproof integrity may be compromised.
- **Connection Security:** Verify that the male and female connectors remain securely latched.

- **Cleaning:** If necessary, gently clean the exterior of the connectors with a damp cloth to remove dirt or debris. Avoid using harsh chemicals that could degrade the plastic or rubber components.



Image 4.1: The connectors are designed to withstand a wide range of temperatures, from -40°C to 120°C, ensuring durability in various climates.

## 5. TROUBLESHOOTING

If you encounter issues with your Nilight DT Connectors, consider the following troubleshooting steps:

Problem	Possible Cause	Solution
No electrical connection	Loose connection between male and female connectors. Improperly crimped or spliced wires. Damaged wire or pin.	Ensure connectors are fully engaged with a click. Re-check all wire splices, ensuring proper crimping and heat shrink application. Inspect pins for bending or corrosion; replace if damaged.
Water or dust ingress	Connectors not fully engaged. Damaged rubber seal. Improperly sealed butt connectors.	Ensure connectors are fully engaged. Inspect rubber seals for tears or displacement; replace the connector if seals are compromised. Re-apply heat to butt connectors to ensure a complete seal.
Difficulty disconnecting	Buckle mechanism engaged tightly.	Press the release tab firmly while pulling the connectors apart. Avoid excessive force to prevent damage.

**Note:** The kit does not include extra pins. Handle pins carefully during any custom wiring to avoid loss or damage.

## 6. SPECIFICATIONS

Attribute	Detail
Model Number	50135B
Connector Type	3 Pin DT Connector, Male & Female
Wire Gauge	16 AWG

Attribute	Detail
Wire Material	Tin-plated Copper
Insulation Material	Nylon (PA66)
Maximum Voltage	12 Volts
Waterproof Rating	IP68
Operating Temperature	-40°C to 120°C
Product Dimensions (approx.)	2"L x 2"W x 2"H (for the kit)
Item Weight	8.4 ounces
Package Includes	6 Male 3-Pin DT Connectors, 6 Female 3-Pin DT Connectors, 36 Heat Shrink Butt Connectors

## PRODUCT DIMENSION

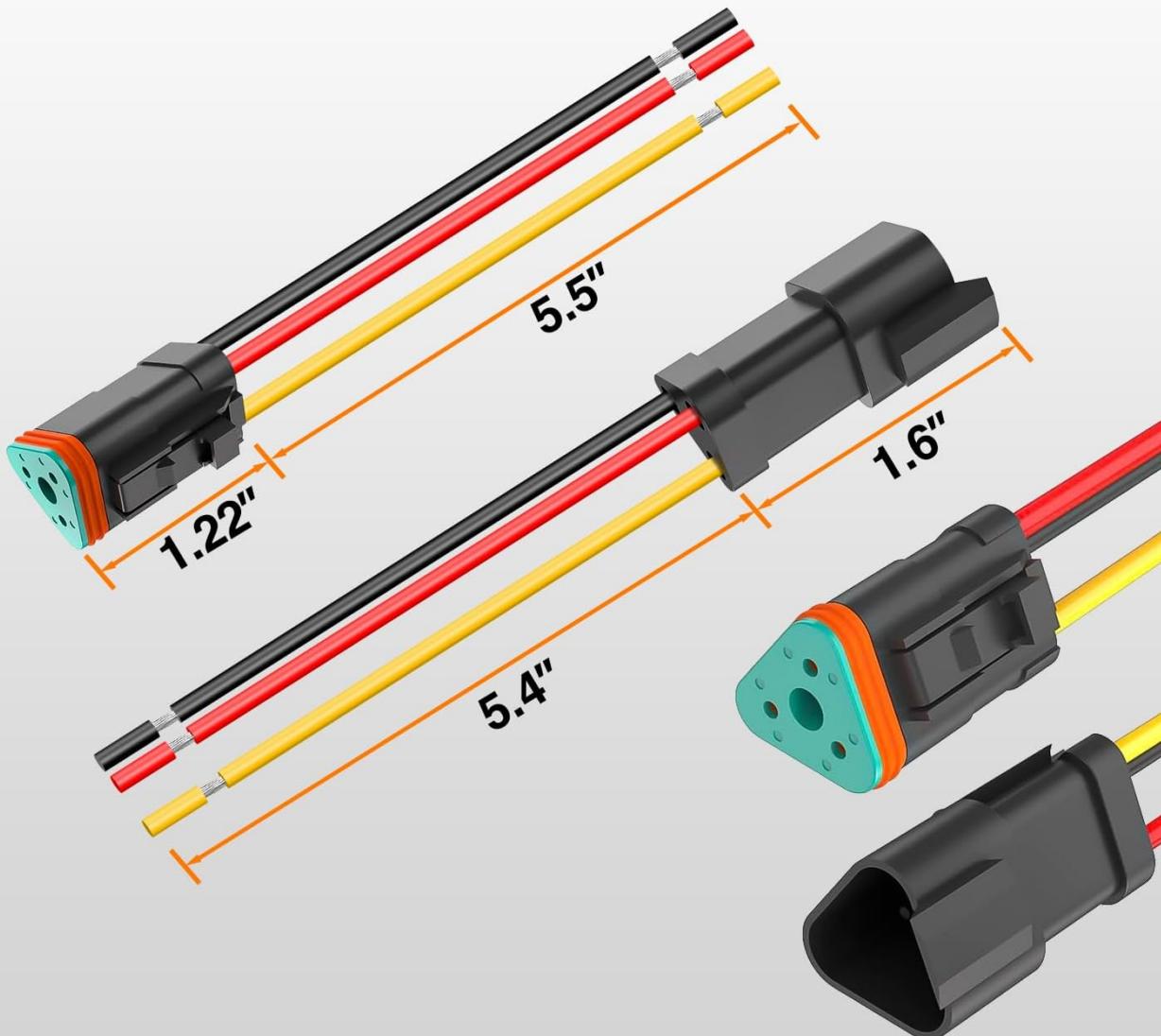


Image 6.1: Detailed product dimensions for the Nilight 3 Pin DT connectors.

# HEAT SHRINK BUTT CONNECTORS

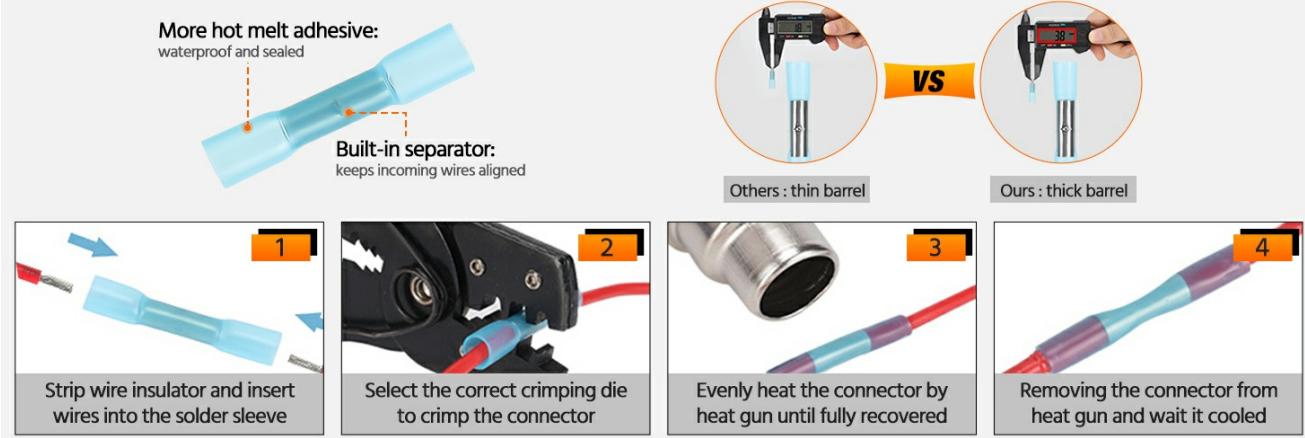


Image 6.2: Illustration of Nilight's 16AWG tinned copper wire, emphasizing its superior oxidation and corrosion resistance compared to other wire types.

## 7. WARRANTY INFORMATION

Warranty information for this product is not provided in the available product data. Please refer to the manufacturer's official website or contact the seller for details regarding warranty coverage.

## 8. SUPPORT

Specific customer support contact information is not provided in the available product data. For technical assistance, product inquiries, or further support, please visit the official Nilight website or contact the retailer from whom the product was purchased.

You can visit the Nilight store on Amazon: [Nilight Store](#)