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Deutsch DTM6-WNS-20-KIT

Deutsch DTM 6-pin Connector Kit User Manual

Model: DTM6-WNS-20-KIT

1. INTRODUCTION

This manual provides essential information for the proper use, installation, and maintenance of the Deutsch DTM 6-pin Connector Kit. Deutsch electrical connectors are engineered to perform reliably in demanding industrial environments, offering advanced performance characteristics. Adherence to proper procedures and the use of appropriate tooling are crucial for optimal functionality and longevity.

The DTM series connectors are designed for applications requiring smaller wire gauge solutions, offering robust performance in a compact design.

2. SAFETY INFORMATION

Always observe the following safety precautions when working with electrical connectors:

- Ensure all power sources are disconnected before installing, maintaining, or troubleshooting electrical connectors.
- Use appropriate personal protective equipment (PPE), such as safety glasses and gloves.
- Verify that the wire gauge and current ratings are compatible with the connector specifications to prevent overheating or damage.
- Avoid exposing connectors to excessive mechanical stress or sharp objects that could compromise their integrity.
- Consult a qualified electrician or technician if you are unsure about any installation or maintenance procedures.

3. PRODUCT OVERVIEW AND KEY FEATURES

The Deutsch DTM 6-pin Connector Kit includes all necessary components for creating a secure and reliable electrical connection for 20AWG wires.



Figure 1: Components of the Deutsch DTM 6-pin connector kit, including male and female housings, orange wedges, and solid contacts for 20AWG wire.

Key Features:

- **100% Genuine Deutsch Parts:** Manufactured by TE Connectivity, ensuring authenticity and quality.
- **Fluid Resistance:** Connectors are designed to show no damage when exposed to most fluids commonly used in industrial applications.
- **Waterproof Design:** When properly wired and mated, connections are waterproof, capable of immersion under 3 feet of water without loss of electronic qualities or leakage.
- **High Insulation Resistance:** Minimum of 1000 megohms at 25°C.
- **Low Current Leakage:** Less than 2 milliamps at 1500 VAC.
- **Wide Operating Temperature Range:** Operates continuously from -55°C to +125°C at rated current.

Performance Tested & Guaranteed By the Manufacturer



**Operate at
-55°C ~ +125°C
continuos at
rated current**



**1000 MΩ
minimum of
resistance
at 25° C**



**Resistant to
3D Vibration
of 20G's at
10 ~ 2000Hz**



**Withstand
immersion
under 3ft of
water**



**No defect after
100 Cycles of
Connect &
Disconnect**



**Current leakage
< 2 mA at
1500 VAC**



**Resistant to
3D Physical
Shocks at 50 G's**



**No cracking,
chipping after
20 test cycles
from -55°C to
+125°C**



**Resistant to
most fluids
of Industrial
applications**

***Note: Performance makes the difference, not only the shape**

Figure 2: Graphic illustrating the performance specifications of Deutsch connectors, including operating temperature range, resistance to vibration, immersion depth, insulation resistance, current leakage, and resistance to physical shocks and industrial fluids.

4. SETUP AND INSTALLATION

Proper installation is critical for the performance and reliability of Deutsch DTM connectors. Always use the correct crimping tools and follow these steps:

- 1. Prepare Wires:** Strip approximately 3/16 inch (4.76 mm) of insulation from the end of the 20AWG wire. Ensure the stripped wire is clean and free of frayed strands.
- 2. Crimp Contacts:** Insert a solid contact into the appropriate crimping tool (e.g., Deutsch HDT-48-00 or similar DTM crimper). Insert the stripped wire into the contact and crimp firmly. Verify the crimp is secure by gently tugging on the wire. The insulation should not enter the crimp barrel.
- 3. Insert Contacts into Housing:** Push the crimped contact into the correct cavity of the connector housing until a click is heard or felt. Gently pull on the wire to ensure the contact is fully seated and locked into place. Repeat for all wires.
- 4. Install Wedges:** Once all contacts are inserted, push the orange wedge lock into the front of the connector housing until it is fully seated. This provides additional contact retention.
- 5. Mate Connectors:** Align the male and female connector halves and push them together until they fully engage and latch.

Note: Using incorrect tools or improper crimping techniques can lead to poor electrical connections, reduced performance, and potential failure.

5. OPERATING CONDITIONS

Deutsch DTM connectors are designed for reliable operation under a range of challenging conditions:

- **Temperature:** -55°C to +125°C continuous at rated current.
- **Vibration:** Resistant to 3D vibration of 20G's at 10-2000Hz.
- **Physical Shock:** Resistant to 3D physical shocks at 50G's.
- **Fluid Exposure:** No damage from most industrial fluids.
- **Water Immersion:** Withstands immersion under 3 feet of water when properly wired and mated.
- **Durability:** No defect after 100 cycles of connect and disconnect.

6. MAINTENANCE

Deutsch DTM connectors require minimal maintenance due to their robust design. However, periodic inspection can help ensure continued performance:

- **Visual Inspection:** Periodically check connectors for any signs of physical damage, corrosion, or discoloration.
- **Cleaning:** If necessary, clean the connector surfaces with a lint-free cloth and a mild, non-abrasive cleaner suitable for plastics and electrical components. Ensure connectors are dry before re-mating.
- **Re-seating:** If a connection seems intermittent, carefully un-mate and re-mate the connectors to ensure full engagement.

7. TROUBLESHOOTING

This section addresses common issues that may arise with Deutsch DTM connectors.

Problem	Possible Cause	Solution
Intermittent connection or no signal	<ul style="list-style-type: none">◦ Improperly crimped contact◦ Contact not fully seated in housing◦ Damaged wire or contact◦ Corrosion	<ul style="list-style-type: none">◦ Inspect crimps; re-crimp or replace contacts as needed.◦ Ensure contacts are fully pushed into housing until locked.◦ Inspect wires and contacts for damage; replace if necessary.◦ Clean contacts and housing; apply dielectric grease if appropriate for the application.
Difficulty mating/un-mating connectors	<ul style="list-style-type: none">◦ Misalignment◦ Debris in connector◦ Damaged housing or latch	<ul style="list-style-type: none">◦ Ensure proper alignment before pushing together.◦ Inspect and clean connector cavities.◦ Inspect for physical damage; replace connector if damaged.

Problem	Possible Cause	Solution
Water ingress or moisture inside connector	<ul style="list-style-type: none"> ◦ Improperly seated contacts ◦ Missing or damaged wedge lock ◦ Damaged seals or housing ◦ Connector not fully mated 	<ul style="list-style-type: none"> ◦ Verify all contacts are fully seated and locked. ◦ Ensure wedge lock is correctly installed. ◦ Inspect seals and housing for damage; replace if compromised. ◦ Ensure connectors are fully engaged and latched.

8. SPECIFICATIONS

Attribute	Specification
Product Model Number	DTM6-WNS-20-KIT
Manufacturer	Deutsch (by TE Connectivity)
Connector Type	DTM Series, 6-pin
Contact Type	Solid Contacts, 20AWG
Operating Temperature	-55°C to +125°C
Insulation Resistance	1000 MΩ minimum at 25°C
Current Leakage	Less than 2 mA at 1500 VAC
Waterproof Rating	Immersion under 3 feet of water (when properly wired and mated)
Item Weight	3.03 ounces (approximate)
Package Dimensions	9 x 6 x 1 inches (approximate)

9. WARRANTY AND SUPPORT

This Deutsch DTM 6-pin Connector Kit consists of 100% genuine Deutsch parts, manufactured by TE Connectivity. These products are designed and tested to meet high-performance standards.



Figure 3: The TE Connectivity logo, representing the manufacturer of Deutsch connectors, signifies genuine product quality and support.

For specific warranty details or technical support, please refer to the official TE Connectivity documentation or contact their customer service directly. Ensure you have your product model number (DTM6-WNS-20-KIT) available when seeking support.

For further information, you may visit the [TE Connectivity official website](#).

Related Documents - DTM6-WNS-20-KIT

	<p>Deutsch DT Connector Kit Assembly Instructions</p> <p>Step-by-step guide on how to assemble Deutsch DT connector kits, covering wire stripping, terminal crimping, and connector assembly for automotive electrical applications.</p>
	<p>JReady DT Series Connectors: Comprehensive Guide and Specifications</p> <p>A detailed overview of JReady's DT, DTM, and DTP series connectors, including their materials, part numbering, specifications, and installation instructions. Suitable for heavy-duty, transportation, marine, military, and agricultural applications.</p>
	<p>Deutsch Industrial Product Catalog: High-Performance Electrical Connectors</p> <p>Explore the comprehensive Deutsch Industrial Product Catalog, featuring a wide range of high-performance, environmentally sealed electrical connectors for demanding industrial applications. Discover DT, HD, STRIKE series, technical specifications, and tooling.</p>
	<p>ICT Billet 551566-3 Truck High Mount Alternator Kit Installation Guide</p> <p>Comprehensive guide for installing the ICT Billet 551566-3 Truck High Mount Alternator Kit on LS truck engines. Details components, assembly steps, and safety warnings.</p>
	<p>Bosch Diagnostic Cables List: Automotive Diagnostic Solutions Catalog</p> <p>Explore the comprehensive Bosch Diagnostic Cables List, a vital resource for automotive professionals. This catalog details part numbers, applications, and compatibility for a wide range of diagnostic cables used with trucks, buses, and off-highway machinery, facilitating efficient vehicle diagnostics and repair.</p>
	<p>Tait TM8000 Developer's Kit: Radio Interface Specifications and Connectors</p> <p>This application manual details the mechanical and electrical interfaces of the Tait TM8000 mobile radio system, covering various connectors, pinouts, and signal characteristics essential for hardware development and system integration.</p>