



DEUTSCH* DTM04-2P-P007 Connector System

1. INTRODUCTION

1.1. Purpose

This report summarizes the results of testing performed on DEUTSCH DTM04-2P-P007 connector system.

1.2. Scope

This report covers the electrical and environmental performance of the DEUTSCH DTM04-2P-P007 connector system. Testing was performed at the DEUTSCH Industrial Products Division Laboratory in 2000. The test file number for this testing is listed in Figure 1. This documentation is on file at Product Engineering, Industrial Commercial Transportation (ICT) Laboratory.

Test Group	Test Report
1	000602-01

Figure 1

1.3. Conclusion

The DEUTSCH DTM04-2P-P007 connector system products listed in Paragraph 1.4 conform to the electrical and environmental performance requirements.

1.4. Test Specimens

Test specimens were representative of normal production lots. Specimens identified with the part numbers given in Figure 2 were used for testing.

DEUTSCH PART NUMBER	DESCRIPTION	TEST GROUP
DTM04-2P-P007	2pin Receptacle, Y-Splitter, AB/B, Black	1
DTM06-2S	2pin Plug, Gray	
0462-201-2031	Size 20 Solid Socket, Gold	

Figure 2

1.5. Environmental Conditions

Unless otherwise stated, the following environmental conditions prevailed during testing:

Temperature: 15° to 35°C

Relative humidity: 25 to 75%

1.6. Qualification Test Sequence

TEST OR EXAMINATION	TEST GROUP (a)
	1
	TEST SEQUENCE (b)
Examination of Product	1,10
Water Immersion	2
Insulation Resistance	3
Thermal Cycle	4
Water Immersion	5
Insulation Resistance	6
Temperature Life	7
Water Immersion	8
Insulation Resistance	9

- (a) Specimens were prepared in accordance production drawings and were selected at random from current production.
- Groups 1 specimens consisted of 2-position connectors with DEUTSCH solid terminal system size 20 gold sockets with 20 AWG wire.
- (b) Numbers indicate sequence that tests were performed.

Figure 3

2. TEST METHODS AND RESULTS

2.1. Examination of Product (Group 1)

- A. Procedure: DITS 7-303-01 rev A
- B. Method: Conduct a visual examination for identification of product, torn seals, cracked plastic, etc.
- C. Requirement: Free of defects that could affect the electrical or mechanical performance of the part or degrade the long term performance of the part.
- D. Result: **PASSED.**

2.2. Water Immersion (Group 1)

- A. Procedure: DITS 7-303-01 rev A
- B. Method: Mated connectors shall be placed in an oven at +125 for 2 hours minimum then immediately be placed in water with a 5% salt by weight content and 0.1 g/L wetting solution to a depth of 3 feet for 4 hours minimum. The free ends of the mated connectors must remain out of the water to prevent wicking of the water through the open wires. Water temperature to be +23°C.
- C. Requirement: Insulation resistance 1000 MΩ minimum
- D. Result: **PASSED.**

2.3. Insulation Resistance (Group 1)

- A. Procedure: DITS 7-303-01 rev A
- B. Method: Check each contact to all other contacts. Test to be performed using a 500 VDC megohmmeter.
- C. Requirement: 1000 MΩ minimum
- D. Result: **PASSED.**

- 2.4. Thermal Cycle (Group 1)
- A. Procedure: DITS 7-303-01 rev A
 - B. Method: Cycle mated connectors from -55°C to $+125^{\circ}\text{C}$ at a rate of 3°C per minute. Connectors to remain at each temperature extreme for 1 hour minimum. Mated connectors are to be cycled a total of 20 complete cycles.
 - C. Requirement: There shall be no evidence of cracking, distortion or detrimental damage to the connector following the test.
 - D. Result: **PASSED.**
- 2.5. Water Immersion (Group 1)
- A. Procedure: DITS 7-303-01 rev A
 - B. Method: Mated connectors shall be placed in an oven at $+125$ for 2 hours minimum then immediately be placed in water with a 5% salt by weight content and 0.1 g/L wetting solution to a depth of 3 feet for 4 hours minimum. The free ends of the mated connectors must remain out of the water to prevent wicking of the water through the open wires. Water temperature to be $+23^{\circ}\text{C}$.
 - C. Requirement: Insulation resistance 1000 M Ω minimum
 - D. Result: **PASSED.**
- 2.6. Insulation Resistance (Group 1)
- A. Procedure: DITS 7-303-01 rev A
 - B. Method: Check each contact to all other contacts. Test to be performed using a 500 VDC megohmmeter.
 - C. Requirement: 1000 M Ω minimum
 - D. Result: **PASSED.**
- 2.7. Temperature Life (Group 1)
- A. Procedure: DITS 7-303-01 rev A
 - B. Method: The wired mated connectors shall be subjected to 500 hours at $+125^{\circ}\text{C}$ without current flowing.
 - C. Requirement: There shall be no evidence of cracking, distortion or detrimental damage to the connector following the test.
 - D. Result: **PASSED.**
- 2.8. Water Immersion (Group 1)
- A. Procedure: DITS 7-303-01 rev A
 - B. Method: Mated connectors shall be placed in an oven at $+125$ for 2 hours minimum then immediately be placed in water with a 5% salt by weight content and 0.1 g/L wetting solution to a depth of 3 feet for 4 hours minimum. The free ends of the mated connectors must remain out of the water to prevent wicking of the water through the open wires. Water temperature to be $+23^{\circ}\text{C}$.
 - C. Requirement: Insulation resistance 1000 M Ω minimum
 - D. Result: **PASSED.**
- 2.9. Insulation Resistance (Group 1)
- A. Procedure: DITS 7-303-01 rev A
 - B. Method: Check each contact to all other contacts. Test to be performed using a 500 VDC megohmmeter.
 - C. Requirement: 1000 M Ω minimum
 - D. Result: **PASSED.**

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- 2.10. Examination of Product (Group 1)
- A. Procedure: DITS 7-303-01 rev A
 - B. Method: Conduct a visual examination for identification of product, torn seals, cracked plastic, etc.
 - C. Requirement: Free of defects that could affect the electrical or mechanical performance of the part or degrade the long term performance of the part.
 - D. Result: **PASSED.**

3. REVISION HISTORY

Rev Ltr	Brief Description of Change	Date	Dwn	Apvd
A	Initial Release	4-Feb-2020	DM	DM