



DEUTSCH* DT04-2P-RT01 & DT04-2P-RT02 Connector System

1. INTRODUCTION

1.1. Purpose

This report summarizes the results of testing performed on DEUTSCH DT04-2P-RT01 and DT04-2P-RT02 connector system.

1.2. Scope

This report covers the environmental performance of the DEUTSCH DT04-2P-RT01 and DT04-2P-RT02 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	IPD000602-06

Figure 1

1.3. Conclusion

The DEUTSCH DT04-2P-RT01 and DT04-2P-RT02 connector system products listed in Paragraph 1.4 conform to the 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
DT04-2P-RT01	2pin Receptacle, 600V, 1.28V, 4A Diode	1
DT04-2P-RT02	2pin Receptacle, 600V, 1.00V, 3A Diode	
DT06-2S	2pin Plug, Gray	
0462-201-16141	Size 16 Solid Soc, Nickel	

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)
Visual Inspection	1,6
Water Immersion	2
Thermal Cycle	3
Temperature Life	4
Water Immersion	5

- (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 16 nickel sockets with 16 AWG wire.
- (b) Numbers indicate sequence that tests were performed.

Figure 3

2. TEST METHODS AND RESULTS

2.1. Visual Inspection (Group 1)

- A. Procedure: Not Applicable
- B. Method: Examine samples for defects or damage (i.e. torn seals, cracked plastic, missing parts, arching, charring, identification, finish, interchangeability, workmanship, 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: Not Applicable
- B. Method: Place the wired mated connectors in an oven at 125°C for 2 hours. Immediately immerse samples in a container of 21°C tap water (electrically conductive) to a depth of 3 feet for 4 hours. The container shall be large enough, so the sample does not increase the water temperature more than 1°C. The wire leads shall be long enough to extend outside the container with sealed ends.
- C. Requirement: Inspect for leakage inside dried sample.
- D. Result: **PASSED.**

2.3. Thermal Cycle (Group 1)

- A. Procedure: Not Applicable
- B. Method: The test samples shall be cycled between -55°C to 125°C temperature extremes.
 1. Cool the test samples to the lower operating temperature limit. The minimum dwell times at the temperature extremes are a function of the mass of the sample and are listed below.
 2. Bring the environmental chamber to the opposite temperature limit at a rate of 2°C to 5°C per minute. Dwell at the limit temperature for at least the minimum time per below table.

WEIGHT OF SPECIMEN (GRAMS)	MINIMUM TIME (HOURS)
<136	0.5
136 TO 1.36 K	1.0
1.36 K TO 13.6 K	2.0
13.6 K TO 136 K	4.0
>136	8.0

3. Repeat step 2 39 times for a total of 20 cycles. For ease of testing, samples may be held at the temperature extremes for extended time, such as overnight.
 - C. Requirement: There shall be no evidence of cracking, distortion or detrimental damage to the connector following the test.
 - D. Result: **PASSED.**
- 2.4. Temperature Life (Group 1)
 - A. Procedure: Not Applicable
 - B. Method: Mated connectors shall be exposed to a temperature of 125°C for 500 hours.
 - 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: Not Applicable
 - B. Method: Place the wired mated connectors in an oven at 125°C for 2 hours. Immediately immerse samples in a container of 21°C tap water (electrically conductive) to a depth of 3 feet for 4 hours. The container shall be large enough, so the sample does not increase the water temperature more than 1°C. The wire leads shall be long enough to extend outside the container with sealed ends.
 - C. Requirement: Inspect for leakage inside dried sample.
 - D. Result: **PASSED.**
- 2.6. Visual Inspection (Group 1)
 - A. Procedure: Not Applicable
 - B. Method: Examine samples for defects or damage (i.e. torn seals, cracked plastic, missing parts, arching, charring, identification, finish, interchangeability, workmanship, 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