



Validation Test Report: EEC-325X4A & DTM13-12PA-12PB-R008
DTR# IPD000613-01

Report By:

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7/2/13

EVERY CONNECTION COUNTS

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Validation Test Report

Summary

Environmental validation test was performed on the dual 12-way header, DTM13-12PA-12PB-R008 and EEC-325X4A, PCB enclosure. Five standard samples out of stock were used for the test. The samples were subjected to environmental testing conditions and examined for damages or defects after each test was performed. The test results were recorded on separate data sheet for each test. The test results showed that the dual 12-way header, DTM13-12PA-12PB-R008 and EEC-325X4A PCB enclosure passed the environmental Deutsch Validation Test Plan.

Validation Test Report

Procedure

Parts used:

Part No.	Type [STD/MOD/PROTO]	QTY	Description
DTM13-12PA-12PB-R008	STD	5	Receptacle, Dual 12-Way Header, DTM series
EEC-325X4A	STD	5	PCB Enclosure
DTM06-12SA	STD	5	DTM 12-Way Plug
DTM06-12SB	STD	5	DTM 12-Way Plug
WM-12S	STD	10	DTM Wedge-lock
1062-20-0122	STD	120	Size 20 Contact, Nickel Plated

Validation Test Report

Procedure

All test samples used were from production stock and accepted by QA audit. The test parts were fully assembled with headers and mating plugs installed. The mating plugs had 4' long size 20 SXL AWG wire leads with 1062-20-0122 contacts populating all contact cavities. Service connectors were attached to the ends of the wire leads to allow connection to IR test equipment. All test equipment and thermal chambers were calibrated per standard Deutsch procedures. See below for complete sequence of tests.



Validation Test Report

Procedure

Test Sequence

Tests performed per DITS 7-303-01:

1. Para 7.1, Examination of Product
2. Para 7.2, Insulation Resistance
3. Para 7.15, Water Immersion
4. Para 7.11, Thermal Cycling
5. Para 7.15, Water Immersion
6. Para 7.5, Temperature Life
7. Para 7.15, Water Immersion
8. Para 7.18, Final Inspection

DEUTSCH INDUSTRIAL TESTING STANDARD

| Number 7-303-01

7.1 Examination of Product

Conduct a visual examination for identification of product, torn seals, cracked plastic, etc.

7.2 Insulation Resistance

Check each contact to all other contacts and the shell, if shell is conductive. Test to be performed using a 500 VDC $\pm 10\%$ Megohmmeter. Test per MIL-STD-1344, Method 3003.1. Acceptance criteria: 1000 M Ω minimum for mated connectors.

7.5 Temperature Life

The wired mated connectors shall be subjected to 1000 hours (~42 days) at $+125 \pm 3$ °C (257 ± 5 °F) without current flowing as per MIL-STD-202, Method 108, Test Condition D. Acceptance criteria: There shall be no evidence of cracking, distortion or detrimental damage to the connector following the test.

7.11 Thermal Cycle

Cycle mated connectors from -55 ± 3 °C (-67 ± 5 °F) to $+125 \pm 3$ °C (257 ± 5 °F) at a rate of 3 °C ± 1 °C per minute. Connectors to remain at each temperature extreme for one (1) hour minimum. Mated connectors are to be cycled a total of 20 complete cycles.

Acceptance Criteria: There shall be no evidence of cracking, distortion or detrimental damage to the connector following the test.

7.15 Water Immersion

The wired mated connectors shall be placed in an oven at $+125 \pm 3$ °C (257 ± 5 °F) for two (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 three (3) feet [914 mm] for four (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 $+23 \pm 3$ °C [79 ± 5 °F]. Acceptance Criteria: Test samples must meet Insulation Resistance per Paragraph 7.2.

7.18 Final Examination

Conduct a visual examination of the mated connectors and each connector half. Inspect for torn seals, broken plastic, broken welds, etc.

Validation Test Report

Results

No.	Test	Result
1.	Examination	Pass
2.	IR, Initial	Pass
3.	Water Immersion	Pass
4.	Thermal Cycling	Pass
5.	Water Immersion	Pass
6.	Temp. Life	Pass
7.	Water Immersion	Pass
8.	Final Inspection	Pass

Validation Test Report

Conclusion

The connectors showed no leaks, damages or defects after the environmental tests were performed. Therefore, the dual 12-way header, DTM13-12P*-12P*-R008 and EEC-325X4A PCB enclosure passed the Deutsch Test Plan for environmental validation test.

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EVERY CONNECTION COUNTS

