



HARWIN

Test Report Summary

HT07802

Power Rating of 20A Contacts
Datamate Mix-Tek

1. Introduction

1.1. Description and Purpose

The following tests were carried out to test the electrical performance of the 20A contacts used for standard power connections in the Datamate Mix-Tek range.

1.2. Conclusion

The following data has been collated from Harwin test report QA000073. The 20A contacts performed as expected – all electrical requirements were fulfilled. These results are representative of all Datamate Mix-Tek connectors that include 20A contacts.

2. Test Method and Requirements

2.1. Specification Parameters

Tests were carried out in general accordance with EIA-364-70A: 1998. The test covered in this summary is as follows:

2.2. List of Test Samples

The following connectors are used throughout the testing. Female samples were populated with M80-325 power contacts and male samples populated with M80-331 power contacts. All samples tested using test board HM2225.

- M80-263F110-00-00 – Female housing with 10 contact cavities
 - Housing fitted with 1 x M80-325 contact
 - Housing fitted with 2 x M80-325 contacts
 - Housing fitted with 4 x M80-325 contacts
 - Housing fitted with 6 x M80-325 contacts
 - Housing fitted with 8 x M80-325 contacts
 - Housing fitted with all 10 x M80-325 contacts
- M80-5000000M2-10-331-00-000 – Male 10-contact Vertical Throughboard connector, all contacts populated

3. Test Results

3.1. Power Rating (Current versus Temperature Rise): EIA-364-70A: 1998

Methodology: Multiple samples of the range of cable connectors with 1, 2, 4, 6, 8, and 10 contacts fitted were soldered to a with a minimum of 42cm of 12AWG wire for single contact connections and 84cm of 12AWG wire for series links between contacts. These connectors were all mated to the male PC Tail connector fitted to the test board. Current was passed through contacts and increased in 5A increments up to 30A. Temperatures and test currents were recorded after a suitable dwell time, to allow the temperature to stabilise. This process was repeated on three sample pairings per test setup.

Specification: Current Rating (when all contacts are electrically loaded) = 20A

Current (A)	Temperature Rise (°C) – Average of 3 samples					
	1 contact	2 contact	4 contact	6 contact	8 contact	10 contact
5	0.3	1.2	1.6	1.1	0.8	2.1
10	3.1	4.7	6.9	7.1	7.2	8.8
15	7.4	10.3	15.3	16.4	17.4	19.4
20	13.4	17.7	26.8	29.6	31.3	34.2
25	21.1	27.3	41.5	46.7	49.5	53.6
30	30.8	38.9	60.1	68.7	72.8	78.0
Ambient Temperature measurement (°C)						
Start of test	21.1	22.5	21.5	22.0	21.7	21.7
End of test	23.5	23.7	24.3	25.0	25.3	26.0

