NICOMATIC

NICOMATIC Test report summary

CMM Family

DURABILITY Test (500 Cycles)

CREATIVE
INTERCONNECT
SOLUTIONS

I. Introduction

A. Purpose

The CMM connectors' family are manufactured to meet or exceed the requirements of **MIL-DTL-55302G standard**.

B. Scope

Check the impact of 500 mating / unmating cycles on :

- The Mating and unmating forces.
- The contact resistance.
- Low level contact resistance.

The following data has been taken from NICOMATIC Qualification test reports **QTR0811**.

C. Conclusion

The CMM connectors' family are **qualified** regarding **DURABILITY (500 Cycles)** according to **MIL-DTL-55302G**.

	Before Life test	After 500 Cycles
LF Contacts		
Visual Inspection	No evidence of cracking or breaking after the test	
Mating Force	2.7 N Max	
Unmating Force	0.2 N Min	
Contact Resistance	10 mOhm Max	
Low Level Contact Resistance	10 mOhm Max	
HP Contacts		
Visual Inspection	No evidence of cracking or breaking after the test	
Mating Force	6 N Max	
Unmating Force	1 N Min	
Contact Resistance	3 mOhm Max	
Low Level Contact Resistance	3 mOhm Max	5 mOhm Max

II. Test Method and Requirements

A. List of Test Samples

a. *CMM 200 Series*

- 201Y50L – LF male contacts Straight PCB _ 13507
- 202Y50 – LF female contacts Straight PCB _ C14764

b. *CMM 220 Series*

- 221V50FXX – LF male contacts 90° PCB _ 13507
- 222S50MXX – LF female crimp contacts _ C12468
- 222YL26MXX – LF male contacts Straight PCB _ C14810
- 221S26FXX – LF male crimp contacts _ 12969
- 221D00FXX-0008-3400CMM – HP30 male contacts 90° PCB _ 30-3400-CMM
- 222E00MXX-0008-4320 – HP30 female straight contacts on cable _ 30-4320
- 222Y08SXX-0004-4300CMM – HP30 + LF female contacts Straight PCB _ 30-4300-CMM + C14764
- 221S08FXX-0004-3308 – HP30 + LF male contacts Straight on cable _ 30-3308 + 12969
- 221S06FXX-0003-3320 – HP30 + LF male contacts Straight on cable _ 30-3320 + 12969
- 222S06MXX-0003-4308 – HP30 + LF female contacts Straight on cable _ 30-4308 + C12468

c. *CMM 320 Series*

- 321C057FXX – LF male crimp contacts _ 12960
- 322C057MXX – LF female crimp contact _ C13064-P
- 321V096FXX – LF male contacts 90° PCB _ 13507
- 322Y096MXX – LF female contacts Straight PCB _ C14812
- 341D000FXX-0018-340014 – HP22 male contacts 90° PCB _ 22-3400-XX
- 342E000MXX-0018-4310 – HP22 female straight contacts on cable _ 22-4310
- 342D000MXX-0048-430014 – HP22 female contacts Straight PCB _ 22-4300-14
- 341E000FXX-0048-3310 – HP22 male straight contacts on cable _ 22-3310

B. Requirements

According to **MIL-DTL-55302G** standard and **EIA-364-09C** test procedure:

The connectors shall show no evidence of cracking or breaking after the life test.

The contact resistance shall not be exceeded.

The mating and un-mating force shall be met.

C. Test Method and Results

Each couple shall be subjected to 500 insertion and withdrawal cycles. The axis of the pin contacts and mating receptacle contacts shall coincide during insertion and withdrawal.

The speed of insertion of the plug into the receptacle shall be 600 cycles per hour

REFERENCES	RESULTS
201Y50L with 202Y50	**Passed**
221V50FXX with 222S50MXX	**Passed**
221S26FXX with 222YL26MXX	**Passed**
321C057FXX with 322C057MXX	**Passed**
321V096FXX with 322Y096MXX	**Passed**
221D00FXX-0008-3400CMM with 222E00MXX-0008-4320	**Passed**
221S08FXX-0004-3308 with 222Y08MXX-0004-4300CMM	**Passed**
221S06FXX-0003-3320 with 222S06MXX-0003-4308	**Passed**
341D000FXX-0018-340014 with 342E000MXX-0018-4310	**Passed**
341E000FXX-0048-3310 with 342D000MXX-0048-430014	**Passed**

	Before Life test	After 500 Cycles
LF Contacts		
Visual Inspection	No evidence of cracking or breaking after the test	
Mating Force	2.38 N Max	1.23 N Max
Unmating Force	0.53 N Min	0.42 N Min
Contact Resistance	5.88 mOhm Max	8.72 mOhm Max
Low Level Contact Resistance	8.8 mOhm Max	9 mOhm Max
HP Contacts		
Visual Inspection	No evidence of cracking or breaking after the test	
Mating Force	4.41 N Max	4.06 N Max
Unmating Force	2.25 N Min	1.71 N Min
Contact Resistance	1.42 mOhm Max	1.62 mOhm Max
Low Level Contact Resistance	1.57 mOhm Max	3.5 mOhm Max