NICOMATIC

NICOMATIC Test report summary

CMM Family

MATING and UNMATING Force Test

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

Determine the Mating and Unmating force of a CMM connector, equipped with LF and/or HP contacts, to its intended mating connector.

The following data has been taken from NICOMATIC Qualification test report **QTR0809a**.

C. Conclusion

The CMM connectors' family are **qualified** regarding **MATING and UNMATING force** according to **MIL-DTL-55302G**.

	Mating force (per contact)	Unmating (per contact)
LF Contacts	2.7 N max	0.2 N min
HP 22 Series	2.7 N max	0.2 N min
HP 30 Series	6 N max	1 N 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

c. *CMM 320 Series*

- 321C057FXX – LF male crimp contacts _ 12960
- 322C057MXX – LF female crimp contact _ C13064-P
- 321V096FXX – LF male contacts Straight 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-364-13D** test procedure:

No requirements available.

C. Test Method and Results

After 3 unmonitored cycles of insertion and withdrawal, the force required to fully insert and withdraw a plug from the receptacle shall be measured.

Mating force

The two mating connectors shall be brought to a position where mechanical mating begins and the force or torque gage is at zero indication.

The connectors shall then be fully mated or coupled at a rate of 25.4 millimeters/minute, unless otherwise specified in the referencing document, and the peak force or torque required for mating shall be recorded.

Unmating force

The mated connectors shall be fully unmated at a rate of 25.4 millimeters/minute, unless otherwise specified in the referencing document, and the peak force or torque required shall be recorded.

References	Mating force Max per contact (N)	Unmating force Min per contact (N)
LF Contacts		
201Y50L / 202V50FXX	0.48	0.69
221V50FXX / 222S50MXX	0.84	1.1
221S26FXX / 222YL26MXX	0.62	1.07
321C057FXX / 322C057MXX	2.38	2.53
321V096FXX / 322Y096MXX	0.36	0.53
Contacts HP 30 series		
221D00FXX-0008-3400CMM / 222E00MXX-0008-4320	4.41	5.72
Contacts HP 22 series		
341D000FXX-0018-340014 / 342E00MXX-0018-4310	2.27	2.33
341E000FXX-0048-3310 / 342D000MXX-0048-430014	1.29	2.25