NICOMATIC

NICOMATIC Test report summary

CMM Family

SALT SPRAY 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

The object of this test is to assess the ability of electrical components to withstand severities of salt spray.

The following data has been taken from NICOMATIC Qualification test reports **QTR0939a** and **QTR0940a**.

C. Conclusion

The CMM connectors' family are **qualified** regarding **SALT SPRAY** according to **MIL-DTL-55302G**.

Salt Spray test according to MIL-DTL-55302G _ 48h / 35°C / 5% Salt solution concentration

	Before Life test	After 500 Cycles	After Vibration and Shock	After Salt Spray
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		15 mOhm Max	
Low Level Contact Resistance				
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			6 mOhm Max
Low Level Contact Resistance	3 mOhm Max	6 mOhm Max	3 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-364-26B** test procedure method A:

When mated pairs are tested in accordance with EIA-364-26B, there shall be no peeling, chipping, or blistening of metal treatment or exposure of base metal.

C. Test Method and Results

Connector is exposed at salt spray during 48 hours (Test conditions B).

After exposure, connector is thoroughly washed with tap water to remove all salt deposits and then dried in a circulating air oven at a temperature of 38°C ± 3°C for a period of 12 hours.

After the test, a visual control is realized.

Then the connector is lightly brushed under water and dried in a circulating air oven at a temperature of 38°C± 3°C.

Another visual control is realized.

Contact resistance and Mating / Unmating Force are measured after exposure.

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	After Vibration and Shock	After Salt Spray
LF Contacts				
Visual Inspection	No evidence of cracking or breaking after the test			
Mating Force	2.38 N Max	1.23 N Max	0.88 N Max	
Unmating Force	0.53 N Min	0.42 N Min	0.22 N Min	
Contact Resistance	5.88 mOhm Max	8.72 mOhm Max	10.6 mOhm Max	11.9 mOhm Max
Low Level Contact Resistance	8.8 mOhm Max	9 mOhm Max	10.5 mOhm Max	12 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	3.5 N Max	
Unmating Force	2.25 N Min	1.71 N Min	3.73 N Max	
Contact Resistance	1.42 mOhm Max	1.62 mOhm Max	1.63 mOhm Max	4.82 mOhm Max
Low Level Contact Resistance	1.57 mOhm Max	3.5 mOhm Max	2.5 mOhm Max	5.5 mOhm Max