NICOMATIC

CREATIVE
INTERCONNECT
SOLUTIONS

AMM SERIES

AS PER MIL STANDARDS

SELF-DECLARATION OF CONFORMITY

HARSH

1mm pitch

The AMM connectors are tested as per MIL-DTL-83513G standard (and MIL-DTL-55302G when mentioned) with IEC test procedures

Manufacturer: NICOMATIC
http://www.nicomatic.com

Please contact your closest Nicomatic office at: https://nicomatic.com/contact.htm

- We declare that the products involved:

- AMM Series

- Have been tested according to the following items of the MIL-DTL-83513G standard (and MIL-DTL-55302G for vibration):

See following document

- And comply or exceed with the level of performance required, provided that the product is applied for its intended use and conforms to the specifications of the manufacturer, and that the installation conforms to the relevant standards.

Please refer to the document herewith: List of QUALIFICATION TESTS “MIL” for Reports numbers, titles and test results (specification data).

Place and date of issue: Bons-en-Chablais - February 7th, 2019

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I. DIELECTRIC WITHSTANDING VOLTAGE @Sea Level

REPORT TITLE: *QTR18045 - Qualification AMM - Dielectric withstanding voltage at sea level (initial) & QTR18061 - Qualification AMM - Breakdown voltage*

REPORT CONCLUSION:

The AMM Connectors are qualified regarding DIELECTRIC WITHSTANDING VOLTAGE @ Sea Level according to MIL DTL 83513G & EIA-364-20C.

SPECIFICATION DATA:

Breakdown Voltage (@ Sea Level): 900 V RMS Max.
Dielectric Withstanding Voltage (@ Sea Level): 600 V RMS Max.
Rated Voltage (@ Sea Level): 200 V RMS Max.

II. INSULATION RESISTANCE

REPORT TITLE: *QTR18046 - Qualification AMM - Insulation resistance (Initial)*

REPORT CONCLUSION:

The AMM Connectors are qualified regarding INSULATION RESISTANCE according to MIL-DTL-83513G & EIA-364-21C.

SPECIFICATION DATA:

Insulation Resistance: > 2000 GΩ (@ 500 V).

III. CONTACT RESISTANCE (Initial)

REPORT TITLE: *QTR18047 - Qualification AMM - Contact resistance (Initial)*

REPORT CONCLUSION:

The AMM Connectors are qualified regarding CONTACT RESISTANCE according to MIL-DTL-83513G & EIA-364-06C.

SPECIFICATION DATA:

Contact Resistance @ 3 A (Initial): 8 mΩ Max.

IV. LOW LEVELCONTACT RESISTANCE (Initial)

REPORT TITLE: *QTR18048 - Qualification AMM - Low level contact resistance (Initial)*

REPORT CONCLUSION:

The AMM Connectors are qualified regarding LOW LEVELCONTACT RESISTANCE (Initial) according to MIL-DTL-83513G & EIA-364-23C.

SPECIFICATION DATA:

Low Level Contact Resistance @ 100 mA (Initial): 8 mΩ Max.

V. CONTACT ENGAGEMENT and SEPARATION FORCES (Initial)

REPORT TITLE: *QTR18049 - Qualification AMM - Contact engagement and separation forces (Initial)*

REPORT CONCLUSION:

The AMM Connectors are qualified regarding CONTACT ENGAGEMENT and SEPARATION FORCES (Initial) according to MIL-DTL-83513G & EIA-364-37B.

SPECIFICATION DATA :

Engagement Force: 0.70 N Max.
Separation Force: 0.06 N Min.

VI. MATING and UNMATING FORCES (Initial)

REPORT TITLE: *QTR18050 - Qualification AMM - Mating and unmating force (Initial)*

REPORT CONCLUSION:

The AMM Connectors are qualified regarding MATING and UNMATING FORCES (Initial) according to MIL-DTL-83513G & EIA-364-13D.

SPECIFICATION DATA:

Mating Force (Initial): 0.5 N Max per contact.
Unmating Force (Initial): 0.2 N Min per contact.

VII. TEMPERATURE CYCLING

REPORT TITLE: *QTR18055 - Qualification AMM - Temperature cycling (-65°C +200°C)*

REPORT CONCLUSION:

The AMM Connectors are qualified regarding TEMPERATURE CYCLING according to MIL-DTL-83513G & EIA-364-32D.

SPECIFICATION DATA:

Temperature cycling severity:

Five cycles, -65 °C / +200 °C.

(EIA-364-32, condition I, 5 cycles (except that the maximum temperature shall be 200 °C +3 °C, -0 °C and the minimum temperature shall be -65 °C).

VIII. HUMIDITY

REPORT TITLE: *QTR18056 - Qualification AMM - Humidity & QTR18058 - Qualification AMM - Insulation resistance (After temperature cycling) & QTR18058 - Qualification AMM - Insulation resistance (After temperature cycling)*

REPORT CONCLUSION:

The AMM Connectors are qualified regarding HUMIDITY according to MIL-DTL-83513G & EIA-364-31B & EIA-364-20C & EIA-364-21C.

SPECIFICATION DATA:

Humidity cycling severity: Ten cycles, cycle duration: 24 hours. EIA-364-31B method IV (except steps 7a and 7b).

Dielectric withstanding voltage sea level after Humidity: 600 Vrms.

Insulation resistance after Humidity: > 2 000 GΩ (@ 500 V).

IX. VIBRATION

REPORT TITLE: *QTR18062 - Qualification AMM - Vibration (15 G)*

REPORT CONCLUSION:

The AMM Connectors are qualified regarding VIBRATION according MIL-DTL-55302G & EIA/ECA-364-28E.

SPECIFICATION DATA:

Vibration severity: Sinusoidal vibration / 15 G / 10 Hz - 2000 Hz / 10 Hz in 20 min / 4 h per axe in each 3 axes.

X. SHOCK

REPORT TITLE: *QTR18065 - Qualification AMM - Shock*

REPORT CONCLUSION:

The AMM Connectors are qualified regarding SHOCK according to MIL-DTL-83513G & EIA/ECA-364-27B.

SPECIFICATION DATA:

Shock severity: Peak acceleration: 160 g / Normal duration: 6 ms / Waveform: Saw tooth Sawtooth waveform / 100 G / 6 ms / 3 shocks in each 3 axes.

XI. DURABILITY (Contact Life) @ ambient condition of use

REPORT TITLE: *QTR18066 - Qualification AMM - Durability (1000 cycles) & QTR18067 - Qualification AMM - Contact resistance (After environment) & QTR18069 - Qualification AMM - Contact engagement and separation forces (After Environment) & QTR18070 - Qualification AMM - Mating and unmating force (After environmental test)*

REPORT CONCLUSION:

The AMM Connectors are qualified regarding CONTACTS LIFE according to MIL-DTL-83513G & EIA-364-09C & EIA-364-06C & EIA-364-37B & EIA-364-13D.

SPECIFICATION DATA:

Durability at ambient condition of use: 1000 cycles of mating / unmating.
No evidence of physical or mechanical degradation.

Contacts resistance @ 3 A after Durability: < 15 mΩ.

Contacts engagements and separation force after Durability:
Engagement force: 0.80 N max.
Separation force: 0.06 N min.

Mating and Unmating force after Durability:
Mating Force: 0.60 N Max per contact.
Unmating Force: 0.20 N Max per contact.

XII. CRIMP TENSILE STRENGTH

REPORT TITLE: *RT1813*

REPORT CONCLUSION:

The AMM Connectors are qualified regarding CRIMP TENSILE STRENGTH according to MIL-DTL-83513G & WHMA-A-620B.

SPECIFICATION DATA:

Crimp Tensile Strength:
AWG 26 = 29 N min (22.3 N min required)
AWG 28 = 16 N min (13.4 N min required)
AWG 30 = 10 N min (6.7 N min required)

XIII. CURRENT MAX (CURRENT-CARRYING CAPACITY)

REPORT TITLE: *QTR18044 - Qualification AMM - Current max (Current-carrying capacity)*

REPORT CONCLUSION:

The AMM Connectors are qualified regarding Current max (Current-carrying capacity) according to IEC 60512-5-1 & IEC 60512-5-2, Test 5b standard.

SPECIFICATION DATA:

Derating curve:
C19138-06 with C19125-06-R-266-0250-B: 4.8 A max @ 25 °C & 3.8 A max @ 95 °C.
C19143-20 with C19125-20-R-266-0250-B: 4.8 A max @ 25 °C & 2.7 A max @ 95 °C.
C19143-50 with C19125-50-R-266-0250-B: 3.2 A max @ 25 °C & 2.0 A max @ 95 °C.
C19145-06 with C19138-06: 4.0 A max @ 25 °C & 2.7 A max @ 95 °C.
C19145-20 with C19138-20: 2.6 A max @ 25 °C & 1.6 A max @ 95 °C.
C19145-50 with C19138-50: 2.0 A max @ 25 °C & 1.2 A max @ 95 °C.
C19137-06 with C19138-06: 4.0 A max @ 25 °C & 2.7 A max @ 95 °C.
C19137-20 with C19138-20: 2.5 A max @ 25 °C & 1.5 A max @ 95 °C.
C19137-50 with C19138-50: 1.8 A max @ 25 °C & 1.0 A max @ 95 °C.

XIV. CONTACT RETENTION

REPORT TITLE: *QTR18063 - Qualification AMM - Contact retention (Initial)*

REPORT CONCLUSION:

The AMM Connectors are qualified regarding CONTACT RETENTION according to MIL-DTL-83513G & EIA-364-29C.

SPECIFICATION DATA:

Contact retention: 6 N min.

XV. FIXING HARDWARE M2 MAX TORQUE

REPORT TITLE: *QTR18064 - Qualification AMM - Torque resistance*

REPORT CONCLUSION:

The AMM Connectors are qualified regarding FIXING HARDWARE M MAX TORQUE RESISTANCE according to internal requirements.

SPECIFICATION DATA:

Torque between connector and PCB: 16 cN·m.
Torque between connectors: 16 cN·m.