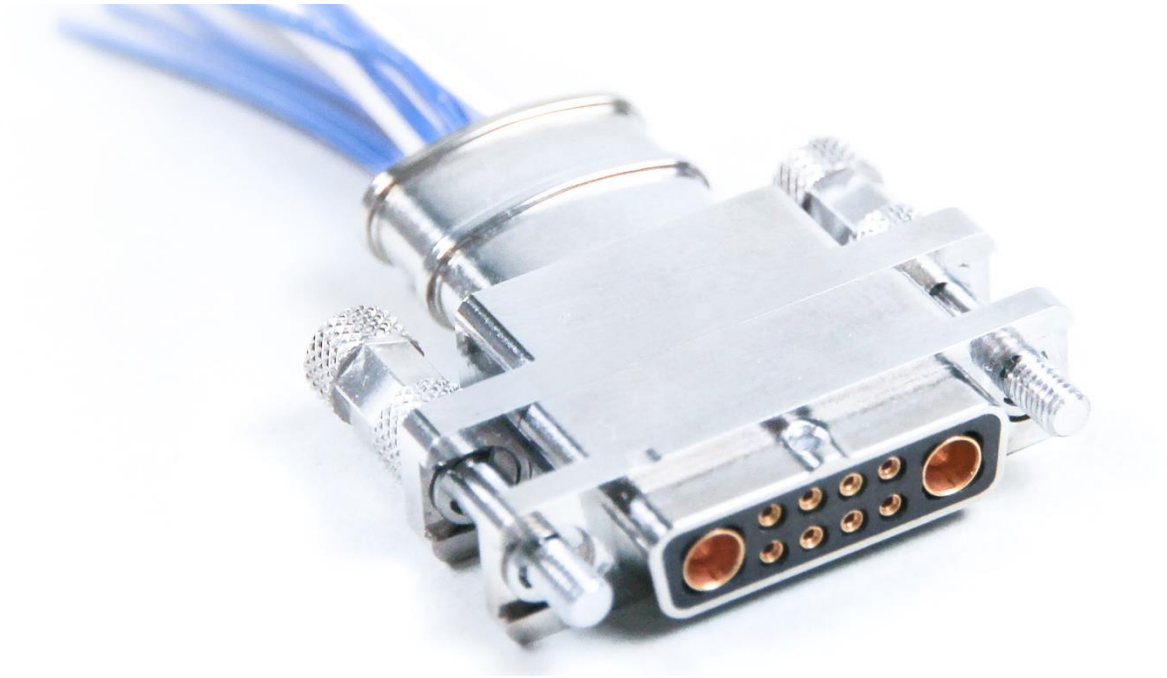
NICOMATIC

CREATIVE
INTERCONNECT
SOLUTIONS



DMM SERIES

ACCORDING TO MIL-DTL-83513G

STANDARD

SELF-DECLARATION OF CONFORMITY

HARSH

2mm pitch

The DMM connectors tested are measured under MIL-DTL-83513G standard and IEC test procedures

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- We declare the products involved :

  - DMM Series

- Have been tested according to the following items of the MIL-DTL-83513G standard:
  See Auto Declaration Annex

- 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 Annex herewith: List of QUALIFICATION TESTS "MIL" for Reports numbers, titles and test results (specification data).

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Signature and stamp of the Company:

PERARDEL Nicolas MOREL Freddy DE LASSAT Alexis

AUTO DECLARATION ANNEX

Groupe	Test Desigantion + Chronology + Ref Report	Procedure #	Technical Features		
				LF	HP30 Series
1	**1. Magnetic permeability** *QTR1549 - DMM Connectors - Magnetic Permeability*	ASTM A342/A342M	**Relative magnetic permeability :**	< 2 µ	
	2. Dielectric withstanding voltage @ sea level *QTR1550 - DMM Connectors - Dielectric Withstanding Voltage (Initial)*	EIA-364-20C	**Breakdown Voltage (@ Sea Level) Max:** **Dielectric Withstanding Voltage (@ Sea Level) Max:** **Rated Voltage (@ Sea Level) Max:**	800 V RMS 600 V RMS 200 V RMS	1067 V RMS 800 V RMS 267 V RMS
	3. Dielectric withstanding voltage high altitude (70 000 ft) *QTR1551 - DMM Connectors - Dielectric Withstanding Voltage (at high altitude)*	EIA-364-20C	**Breakdown Voltage (@ 70 000 ft) Max:** **Dielectric Withstanding Voltage (@ 70 000 ft) Max:** **Rated Voltage (@ 70 000 ft) Max:**	200 V RMS 150 V RMS 50 V RMS	
	4. Insulation resistance *QTR1552 - DMM Connectors - Insulation Resistance (Initial)*	EIA 364-21C	**Insulation Resistance Min:** (@ 500 V)	5 GΩ	
	5. Contact resistance *QTR0804 - DMM Connectors - Contact Resistance (Initial)*	EIA 364-06C	**Contact Resistance Max @ 3 A (Initial):**	7.63 mΩ	1.17 mΩ
	6. Contact engagement and separation forces *QTR15118 - DMM Connectors - LF Contact Engagement and Separation Forces (Initial)* *QTR15119 - DMM Connectors - HP Contact Engagement and Separation Forces (Initial)*	EIA-364-37B	**Engagement Force Max:** **Separation Force Min:**	1.7 N 0.2 N	5 N 0.5 N
	7. Mating and unmating force *QTR1591 - DMM Connectors - LF Mating and unmating force (Initial)* *QTR1592 - DMM Connectors - HP Mating and unmating force (Initial)*	EIA-364-13D	**Mating Force (Initial) Max:** **Unmating Force (Initial) Min:**	2.781 N 0.2 N	9.733 N 1 N
	8. Temperature cycling *QTR1554 - DMM Connectors - Temperature Cycling (-55°C to +125°C)*	EIA-364-32D Condition 1	**Temperature cycling severity:** Five cycles -65°C (30min) / +260°C (30 min)	No damage after test	
	9. Humidity *QTR1555 - DMM Connectors - Humidity*	EIA-364-31B Method IV	**Humidity cycling severity:** Ten cycles, cycle duration: 24 hours.	No damage after test	
	9.1 Dielectric withstanding voltage sea level *QTR1556 - DMM Connectors - Dielectric Withstanding Voltage (after Humidity)*	EIA-364-20C	**After Humidity** Breakdown Voltage (@ Sea Level) Max: Dielectric Withstanding Voltage (@ Sea Level) Max: Rated Voltage (@ Sea Level) Max:	480 V RMS 360 V RMS 120 V RMS	
	9.2 Insulation resistance *QTR1557 - DMM Connectors - Insulation Resistance (after Humidity)*	EIA-364-21C	**After Humidity** Insulation Resistance Min: (@ 500 V)	1 MΩ	
	10. Vibration *QTR1588 - DMM Connectors - LF Sinusoidal Vibration* *QTR1593 - DMM Connectors - HP Sinusoidal Vibration*	EIA-364-28E Test Condition III & IV	**Sinusoidal Vibration severity** 10-2000-10 Hz / 4h per axe (3 axes) No signal interruption greater than 1 µs	$20g_n$ (196.1 m/s²)	$15g_n$ (147.1 m/s²)
	11. Shock *QTR1559 - DMM Connectors - Shock*	EIA-364-27B Test Condition G	**Shock severity** Normal duration: 6 ms / Waveform: Saw tooth No signal interruption greater than 1 µs	100g	

1	**12. Contact Life** *QTR1560 - DMM Connectors - Durability (500 Cycles)*	MIL-DTL-83513G §4,5,16	No evidence of physical or mechanical degradation	500 Cycles	
	12.1 Contact Resistance *QTR1561 - DMM Connectors - Contact Resistance (after Durability)*	EIA-364-06C	**After Durability** Requirement: 25 mΩ Contact Resistance Max measured @ 3 A:	6.07 mΩ	1.63 mΩ
	12.2 Contact engagement and separation forces *QTR1562 - DMM Connectors - LF Contact Engagement and Separation Forces (after Contact Life)* *QTR1596 - DMM Connectors - HP Contact Engagement and Separation Forces (after Contact Life)*	EIA-364-37B	**After Durability** Engagement Force Min / Max: Separation Force Min / Max:	- / 1.7 N 0.2 N / -	0.5 N / 7 N 0.5 N / 5 N
	12.3 Mating and unmating force *QTR1597 - DMM Connectors - LF Mating and unmating force (after Contact Life)* *QTR1598 - DMM Connectors - HP Mating and unmating force (after Contact Life)*	EIA-364-13D	**After Durability** Mating Force (Initial) Max: Unmating Force (Initial) Min:	2.781 N 0.2 N	9.733 N 1 N
2	**13. Salt spray (corrosion)** *QTR1565 - DMM Connectors - Salt Spray (96h)*	EIA-364-26B Test Condition A	**Salt Spray severity** Duration: 96 hours / Temperature: +35 ± 2°C / pH: between 6.5 and 7.2 / Concentration: between 5 ± 1 % of NaCl	No presence of corrosion	
	13.1 Contact Resistance *QTR1567 - DMM Connectors - Contact Resistance (after Salt Spray)*	EIA 364-06C	**After Salt Spray (96h)** Requirement: 25 mΩ Contact Resistance Max measured @ 3 A:	6.42 mΩ	2.37 mΩ
	13.2 Low level contact resistance *QTR1566 - DMM Connectors - Low level contact resistance (after Salt Spray)*	EIA-364-23C	**After Salt Spray (96h)** Low Level Contact Resistance Max @ 100 mA:	6 mΩ	2.5 mΩ
	13.3 Mating and unmating force *QTR1599 - DMM Connectors - LF Mating and unmating force (after Salt Spray)* *QTR15100 - DMM Connectors - HP Mating and unmating force (after Salt Spray)*	EIA-364-13D	**After Salt Spray (96h)** Mating Force (Initial) Max: Unmating Force (Initial) Min:	2.781 N 0.2 N	9.733 N 1 N
	13.4 Contact Retention *QTR1569 - DMM Connectors - Contact Retention (after Salt Spray)*	EIA-364-29C	**After Salt Spray (96h)** Contact Retention Min:	10 N	22.27 N
3	**14. Fluid immersion** *QTR1572 - DMM Connectors - Fluid immersion*	MIL-DTL-83513G §4,5,18	**Fluid tested** a. Lubricating oil Aircraft turbine engines, synthetic base: 20 hours. b. Coolant-dielectric fluid synthetic silicate ester base lubricant (coolanol 25) 1 hour +/- 1 minute	No degradation	
	14.1 Mating and unmating force *QTR15102 - DMM Connectors - LF Mating and unmating force (after Fluid Immersion)* *QTR15103 - DMM Connectors - HP Mating and unmating force (after Fluid Immersion)*	EIA-364-13D	**After Fluid Immersion** Mating Force (Initial) Max: Unmating Force (Initial) Min:	2.781 N 0.2 N	9.733 N 1 N

4	**15. Crimp tensile strenght** *QTR15120 - DMM Connectors - Crimp tensile strenght*	EIA-364-08B	**Crimp Tensile Strength** AWG 12: Required: 356 N min / Measured: AWG 14: Required: 311.5 N min / Measured: AWG 16: Required: 222.5 N min / Measured: AWG 18: Required: 142 N min / Measured: AWG 20: Required: 89 N min / Measured: AWG 22: Required: 53.3 N min / Measured: AWG 24: Required: 35.6 N min / Measured: AWG 26: Required: 22.3 N min / Measured: AWG 28: Required: 13.4 N min / Measured:	- - - - - 92.69 67.00 36.13 14.35	 565 412 240 182 130 - - - -
	16. Thermal vacuum outgassing *QTR1576 - DMM Connectors - Thermal vacuum outgassing*	ASTM E595 (ECSS-Q-ST-70-02C)	**Total Mass Loss** Requirement: 1 % Max / TML Max Measured : **Collected Volatile Condensable Material** Requirement: 0.1 % Max / CVCM Measured :	PPS : 0.06 % Max ThreeBond (glue) : 0.44 % Max Backpotting : 0.43 % Max PPS : 0.00 % ThreeBond (glue) : 0.00 % Max Backpotting : 0.01 %	
5	**17. Solderability** *QTR1577 - DMM Connectors - Solderability*	MIL STD 202, Method 208 ANSI J-STD-002	**Solderability Condition** Solder Bath Temperature = 245°C ± 5°C Dwell time = 5sec ± 0.3sec Solder = SAC305 per 3.1.1 of ANSI J-STD-002 Flux = Standard flux #2 per 3.1.2 of ANSI J-STD-002	The soaked surface is wetted more than 95%	
	18. Resistance to soldering heat *QTR1578 - DMM Connectors - Resistance to soldering heat*	MIL STD 202, Method 210	**Soldering process severity** Bath Solder = 260°C / 10s / 1 cycle Iron Solder = 350°C / 5s / 1 cycle	no evidence of distortion or physical damage	
	18.1 Contact Retention *QTR15105 - DMM Connectors - Contact Retention (after Resistance to soldering heat)*	EIA-364-29C	**After Resistance to soldering heat** Contact Retention Min:	10 N	15 N
	19. Marking performance *QTR1581 - DMM Connectors - Marking performance*	MIL-STD-202, Method 215	**Solvent tested** Solvent 1: Isopropyl alcohol, Kerosene (Petroleum ether), Ethylbenzene Solvent 3: Ethanolamine, 1-methoxy-2- propanol, Water Solvent 4: Propylene glycol, Monoethanolamine	OK OK OK	
6	**20. Current carrying capacity (Derating)** *QTR15101 - DMM Connectors - Current carrying capacity (Derating)*	IEC 60512-5-2, Test 5b	**Basic Curve Results** DMM with max contacts : - Max current @25°C = - Max current @ 85°C =	 3 A 2.5 A	 20 A 20 A
7	**21. Fixing Hardware M2.5 max torque** *QTR1595 - DMM Connectors - Fixing Hardware D51L & D53 (M2.5) max torque*	MO.04-0-16.A	**Torque Fixing Recommandation** DMM Fixing hardware D51 = DMM Fixing hardware D53 =	0.4 N.m 0.3 N.m	
	22. Contact Replacement *QTR1587 - DMM Connectors - Contact Replacement*		Initial: After n Cycles: - n = 3 - n = 50	19.74 N 6.83 N -	22.27 - 22.27