

# CMM Specifications (with LF contacts)

## MATERIALS

INSULATOR: Special PPS (Polyphenylene Sulfide Fiberglass filled thermoplastic) UL 94-V0

- Radiation resistance
- No humidity absorption
- Oxygen free

Note : PPS characteristics are recognized for space applications

### P.C. LF CONTACTS :

#### Male:

Tail : copper alloy / Ni + Au flash 0,1 $\mu$   
Contact area : copper alloy / Ni + Au > 1 $\mu$

#### Female:

Body : copper alloy / Ni + Au 0,2  $\mu$   
Socket : beryllium copper / Ni + Au > 1,25 $\mu$

### CRIMP LF CONTACTS :

#### Male:

Body : copper alloy / Ni + Au > 1 $\mu$

#### Female:

Body : copper alloy / Ni + Au > 0,2  $\mu$   
Socket : beryllium copper / Ni + Au > 1,25 $\mu$

### FIXING HARDWARE:

- Jackscrew: Stainless steel.
- Latch : Beryllium copper/plated nickel (CMM 100/200 series only)

## ELECTRICAL

- |                                  |                                      |
|----------------------------------|--------------------------------------|
| • All contacts                   | 3 A max. @ 25°C<br>2.2 A max. @ 85°C |
| • Working voltage (sea level)    | Tested at 800 V DC                   |
| • Proof voltage                  | Tested at 1 200 V DC                 |
| • Contact resistance (initially) | max. 10 m $\Omega$                   |
| • Insulation resistance          | 1 000 M $\Omega$ min.                |

## MECHANICAL

- |  |                                   |
|--|-----------------------------------|
| • Mechanical operations                  | Up to 2500 cycles                 |
| • Contact insertion and withdrawal force | 2 N max. / 0.2 N min. per contact |
| • Contact retention in insulator         | 10 N min.                         |
| • Contact replacement in insulator       | 3 cycles (Crimp contacts only)    |

## ENVIRONMENTAL

- |                      |   |
|----------------------|---|
| • Temperature range  | From - 60°C to + 260°C<br><b>Reflow solder process compatible (+260°C)</b>  |
| • Vibration severity | 0.75 mm, 10 g RMS 6 hours long random with superimposed sinusoid. No intermittencies measured when using an H.S.L.I (High Speed Logic Interrupt) detector with a trip threshold of 2 ns.<br>MIL-DTL-55302F Test Condition III [147.1 m/s <sup>2</sup> (15 gn) peak] |
| • Shock severity     | 100 g for 6 ms  |
| • Solvent resistance | HcFc 141 bMGX (ATOCHEM) solvent   |

#### Note :

The CMM micro-connectors are designed to meet or exceed the relevant electrical and environmental performances described in MIL-DTL-55302F & BS-9525-F0033 standards.

# HF / HP contacts specifications

## MATERIALS

• Spring loaded parts	Be/Cu gold plated
• Other metal parts	Copper alloy
• Insulator	PTFE (HF)
• Retaining clip	Be/Cu Ni plated

## MECHANICAL

• Mechanical operations	Up to 2500 cycles
• Insertion force	From 0.60 to 5 N per contact
• Withdrawal force	From 0.50 to 2 N per contact
• Secure overlapping	1.30 mm
• Contact replacement in insulator	50 cycles for HF / HP 30 series (5 cycles for HF / HP 22 series)

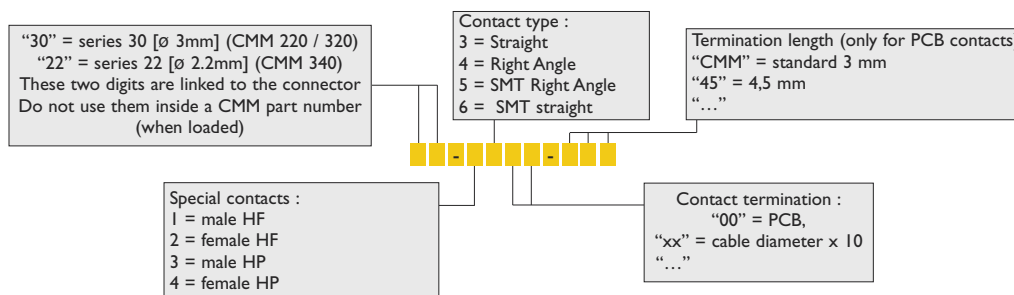
## ELECTRICAL

High Power (HP) Contact		High Frequency (HF) Contact	
<b>Intensity</b>	Series 30 : 20 A Series 22 : 10 A } depending on cable	<b>Impedance</b>	50Ω / 75Ω
<b>Contact resistance</b>	max. 6 mΩ	<b>Insulation resistance</b>	10 <sup>6</sup> MΩ / 250 V (RMS)
<b>Maximum voltage (sea level)</b>	1000 V (RMS)	<b>SWR (Stationary wave rate)</b>	< 1.05 + 0.04 F (GHz)
<b>Operating voltage (sea level)</b>	180 V AC/500 mA	<b>Frequency range</b>	Series 30 : 6 GHz Series 22 : 1,5 GHz } depending on cable
		<b>Insulation between 2 contacts</b>	-100 dB (depending on cable)

## ENVIRONMENTAL

• Temperature range	From -60°C to +260°C
• Salt spray test	96 hrs
• Humidity test	56 days @ 90% humidity

## HF / HP CONTACTS PART NUMBERING



### Important notice:

According to the routines test other than MIL our technical features for CMM Micro-connectors reach a higher result. Please contact [technic@nicomatic.fr](mailto:technic@nicomatic.fr) for more information.

For example:

- LF: up to 5A max. @ 25°C
- HF: up to 11 GHz
- HP: up to 30 A
- Mechanical operations: up to 5 000 cycles
- High temperature test: 1 000H at 250°C
- Application with LVDS signal @ 400 MHz, impedance 100 Ohm
- High speed: USB, 1Gb/s Ethernet...