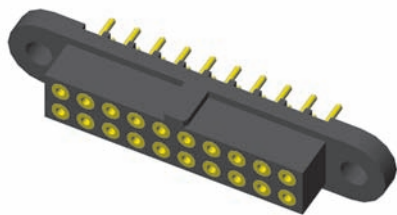


CMM 220 female

STRAIGHT PCB



nn min = 04 nn max = 60

Part numbering :

Type :Y-YL

2 2 2 n n

See Fixing on page 45-46
"Mxx" without fixing

nn = number of LF contacts

| Type | L |
|------|-----|
| Y | 3 |
| YL | 4,5 |

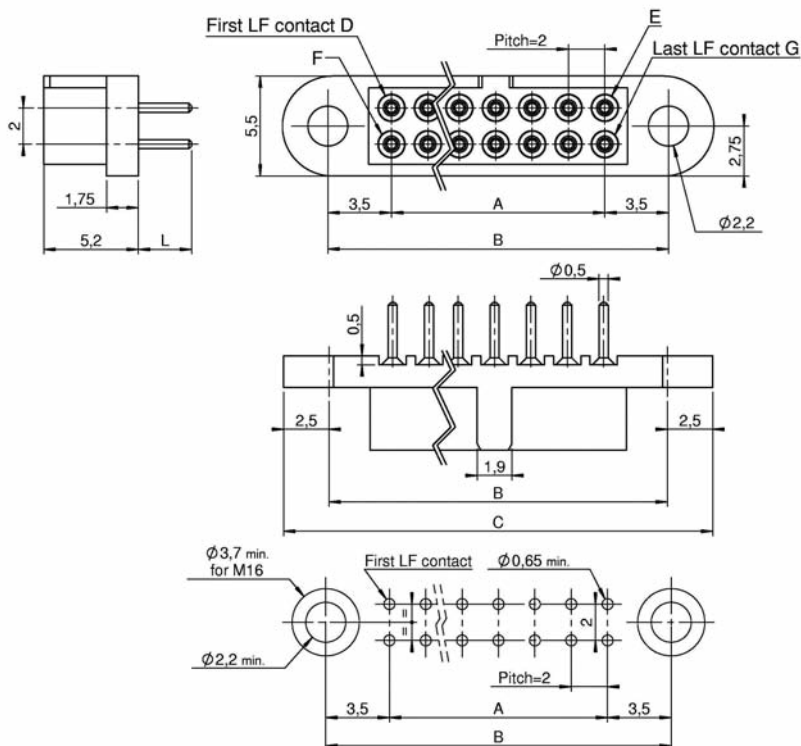
Calculation :

$$A = nn - 2$$

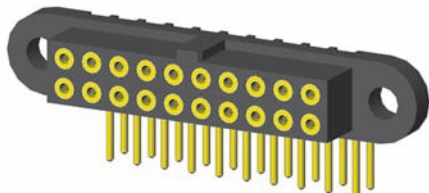
$$B = A + 7$$

$$C = A + 12$$

Refer to dimension table on cover page



90° PCB



nn min = 04 nn max = 60

Part numbering :

Type :V-VL

2 2 2 n n

See Fixing on page 45
"Mxx" without fixing

nn = number of LF contacts

| Type | L |
|------|-----|
| V | 3 |
| VL | 4,5 |

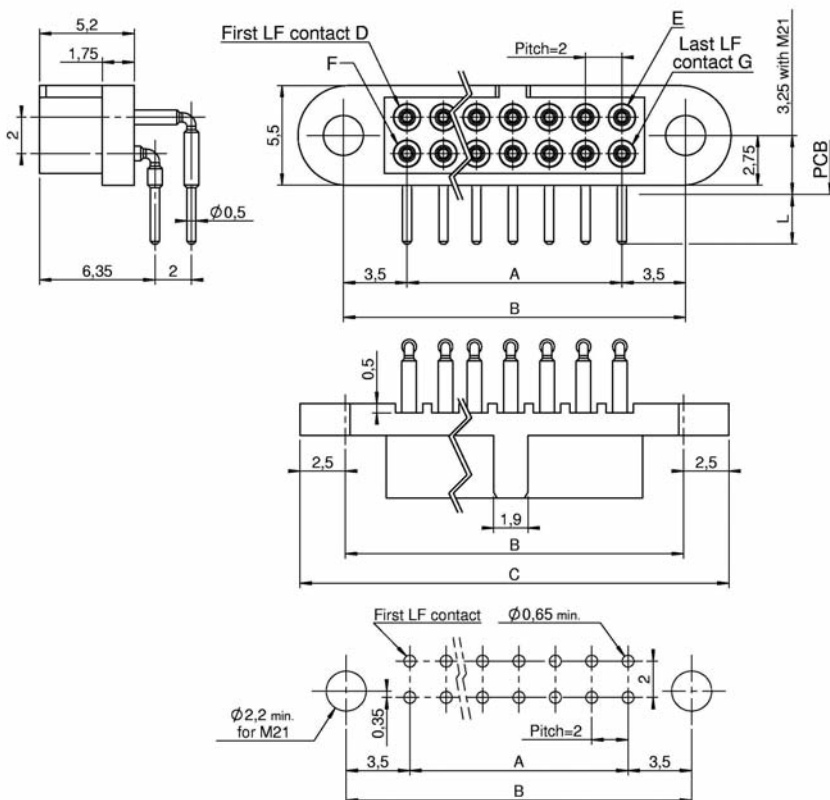
Calculation :

$$A = nn - 2$$

$$B = A + 7$$

$$C = A + 12$$

Refer to dimension table on cover page



LF : low frequency contacts

PRESENTATION

| | | | | | | |
|--------|--------------------------------|---------------------------|--------------------------------|---------------------------|-----------------------------|---|
| Male | | | | | | |
| Female | | | | | | |
| | Straight PCB Type Y | 90° PCB Type V | Straight SMT Type T | 90° SMT Type R | Crimp Type S - C | Straight PCB Type PF Press fit |

INFORMATION TABLE

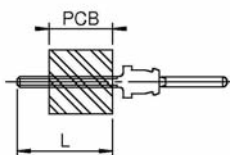
| CMM RANGE | | USE | | | | | | | | | | | | |
|-----------|--------|-------------------|--------------------|--------------------|--------------------|--------------------|------------------------|-------------------|--------------------|--------------------|---------------------|-------------------|----------------------|-------------------------|
| | | STRAIGHT ON PCB | | | | 90° ON PCB | | STRAIGHT SMT | | 90° SMT | CRIMP | | | |
| 100/200 | Male | Y L=3,0 | YL L=4,5 | YM L=5,1 | YX L=9,1 | | | V L=3,0 | VL L=4,5 | T L=2,25 | TL L=3,35 | R L=0,9 | C Gauge 22 | S Gauge 24-28 |
| | Female | Y L=3,0 | YL L=4,5 | | | YC L=1,2 | PF Press fit | V L=3,0 | VL L=4,5 | T L=2,25 | TL L=3,35 | R L=0,9 | C Gauge 22 | S Gauge 24-28 |
| 220 | Male | Y L=3,0 | YL L=4,5 | YM L=5,1 | YX L=9,1 | | | V L=3,0 | VL L=4,5 | T L=2,25 | TL L=3,35 | R L=0,9 | C Gauge 22 | S Gauge 24-28 |
| | Female | Y L=3,0 | YL L=4,5 | | | YC L=1,2 | PF Press fit | V L=3,0 | VL L=4,5 | T L=2,25 | TL L=3,35 | R L=0,9 | C Gauge 22 | S Gauge 24-28 |
| 320 | Male | Y L=3,0 | YL L=4,5 | YM L=5,1 | YX L=9,1 | | | V L=3,0 | VL L=4,5 | | | R L=0,9 | C Gauge 22 | S Gauge 24-28 |
| | Female | Y L=3,0 | YL L=4,5 | | | | PF Press fit | V L=3,0 | VL L=4,5 | | | | C Gauge 22 | S Gauge 24-28 |
| 340 | Male | Y L=3,0 | YL L=4,5 | YM L=5,1 | YX L=9,1 | | | V L=3,0 | VL L=4,5 | | | | C Gauge 22 | S Gauge 24-28 |
| | Female | Y L=3,0 | YL L=4,5 | | | | PF Press fit | V L=3,0 | VL L=4,5 | | | | C Gauge 22 | S Gauge 24-28 |

L=6,50 / 8,00 / 10,50 / 12,00 / 14,50 / 16,00 mm upon request (only for straight on PCB male contacts)

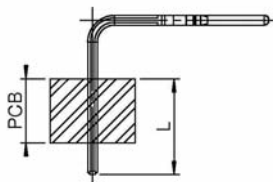
Standard contact

Any other type of contact upon request only

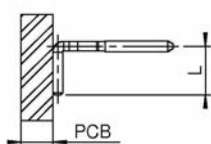
Straight on PCB



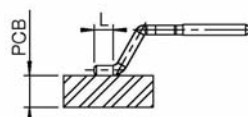
90° on PCB



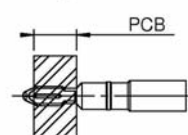
SMT straight on PCB



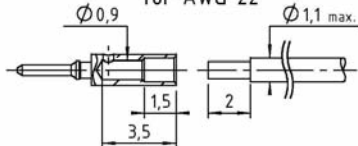
SMT 90° on PCB



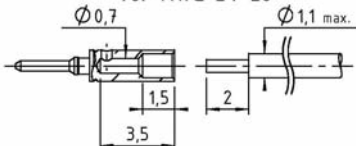
Pressfit
Straight on PCB



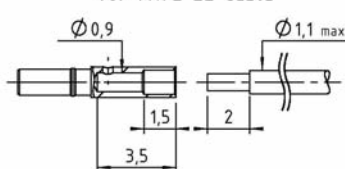
Ref : 12960
Male crimp contact "C"
for AWG 22



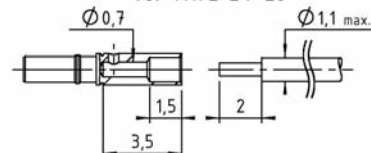
Ref : 12969
Male crimp contact "S"
for AWG 24-28



Ref : C13064-P
Female crimp contact "C"
for AWG 22 cable



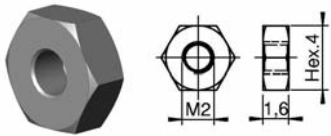
Ref : C12468
Female crimp contact "S"
for AWG 24-28



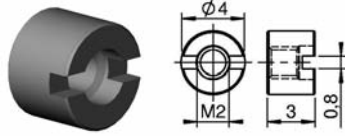
Fixing for CMM 220 female

FIXING HARDWARE FOR CMM 220 FEMALE

HEXAGONAL NUT



STANDARD NUT



| REFERENCE | ASSEMBLY ON PCB | OVERALL DIMENSIONS | RECOMMENDATION |
|---|--|--------------------|---|
| M16 M11 | Straight on PCB | | M16/M11 : CMM Female : Y-YL-TS-C-E (D : straight) |
| M12 M12H | Straight on PCB 0,8 min / 2 max | | M12 : CMM female : Y-TS-C (D-E : straight) M12H : CMM female : Y-T (D : straight) |
| M12L M12LH | Straight on PCB 1,5 min / 4 max | | M12L : CMM female : Y-TS-C (D-E : straight) M12LH : CMM female : YL-T (D : straight) |
| M1xx xx = (PCB thickness + 0,2 mm) x 10 Example : for 3 mm PCB, the reference is M132 (3 + 0,2) x 10 = 32 xx = 32 | Straight on PCB with floating option | | M1xx : CMM female : S-C (E : straight) |
| M21 for PCB 1,6 mm (L = 4 mm) M21L for PCB 3,2 mm (L = 5 mm) | 90° on PCB | | M21 : CMM Female : V-R-S-C-E (D : 90°) M21L : CMM Female : VL-R-S-C-E (D : 90°) |
| M18 | Cover option | | M18 : CMM female : S-C (E : straight) |

Please refer to the CMM Catalogue Guidelines for any other fixing not listed here.

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 μ
Contact area : copper alloy / Ni + Au > 1 μ

Female:

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

CRIMP LF CONTACTS :

Male:

Body : copper alloy / Ni + Au > 1 μ

Female:

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

FIXING HARDWARE:

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

ELECTRICAL

- | | |
|----------------------------------|--------------------------------------|
| • All contacts | 3 A max. @ 25°C 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 Ω |
| • Insulation resistance | 1 000 M Ω 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 Reflow solder process compatible (+260°C) |
| • 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. |
| • 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-C-55302 & BS-9525-F0033 standards.

HF / HP contacts specifications

MATERIALS

| | | |
|-----------------------|-------------------|---------------------------------------|
| • Spring loaded parts | Be/Cu gold plated | |
| • Other metal parts | Copper alloy | |
| • Insulator | PTFE (HF) | Does not comply with radiation |
| • 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 | 5 cycles |

ELECTRICAL

High Power (HP) Contact

| | |
|--------------------------------------|---|
| Intensity | Series 30 : 20 A } depending on cable Series 22 : 10 A } |
| Contact resistance | max. 6 mΩ |
| Maximum voltage (sea level) | 1000 V (RMS) |
| Operating voltage (sea level) | 180 V AC/500 mA |

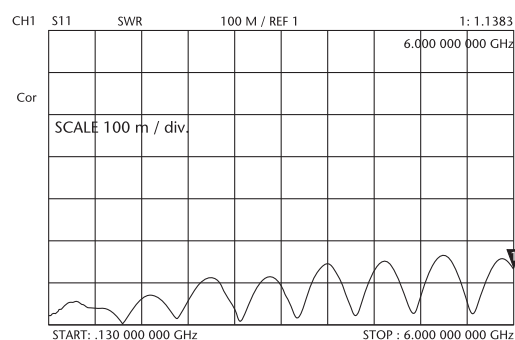
High Frequency (HF) Contact

| | |
|--------------------------------------|---|
| Impedance | 50Ω |
| Insulation resistance | 10 ⁶ MΩ / 250 V (RMS) |
| SWR (Stationary wave rate) | < 1.05 + 0.04 F (GHz) |
| Frequency range | Series 30 : 6 GHz } depending on cable Series 22 : 1,5 GHz } |
| Insulation between 2 contacts | -100 dB (depending on cable) |

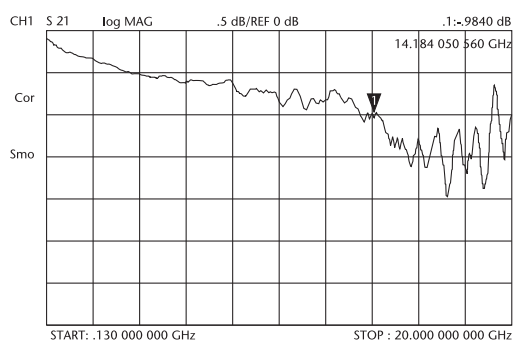
ENVIRONMENTAL

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

STATIONARY WAVE RATE (SWR)



INSERTION LOSS



HF / HP CONTACTS PART NUMBERING

