



# SERIES N 50 $\Omega$ COAXIAL CONNECTORS

## Description

SUHNER N connectors are available with 50  $\Omega$  and 75  $\Omega$  impedance. The frequency range extends to 18 GHz, depending on the connector and cable type. The screw-type coupling mechanism provides a sturdy and reliable connection.

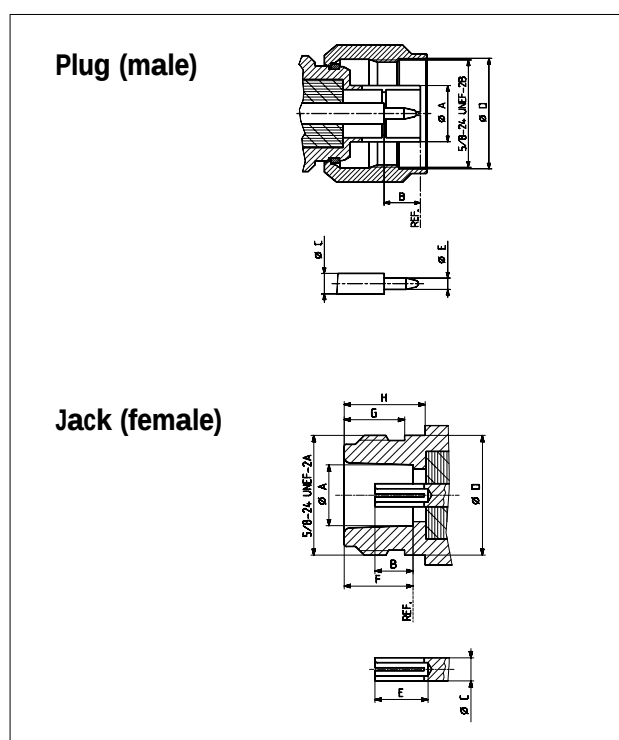
SUHNER N connectors are available for flexible cables, for semi-rigid cables and for corrugated copper tube cables.

Cable entries: clamp, crimp and solder types available, as well as SUHNER QUICK-FIT for corrugated copper tube cables.

## Compatibility

Inner conductors of N 75  $\Omega$  connectors have a smaller diameter than those of the 50  $\Omega$  version. Therefore 50  $\Omega$  and 75  $\Omega$  connectors must not be mated with each other.

## Interface Dimensions



## Interface Dimensions in mm / inches

|   | Plug         |             | Jack         |              |
|---|--------------|-------------|--------------|--------------|
|   | min.         | max.        | min.         | max.         |
| A | ---          | 8.38 / .330 | 8.03 / .316  | 8.13 / .320  |
| B | 5.33 / .210  | 5.84 / .230 | 4.75 / .187  | 5.26 / .207  |
| C | ---          | 3.15 / .124 | ---          | 3.15 / .124  |
| D | 16.00 / .630 | ---         | ---          | 15.93 / .627 |
| E | 1.60 / .063  | 1.68 / .066 | 5.33 / .210  | ---          |
| F | ---          | ---         | 9.04 / .356  | 9.19 / .362  |
| G | ---          | ---         | 6.76 / .266  | ---          |
| H | ---          | ---         | 10.72 / .422 | ---          |

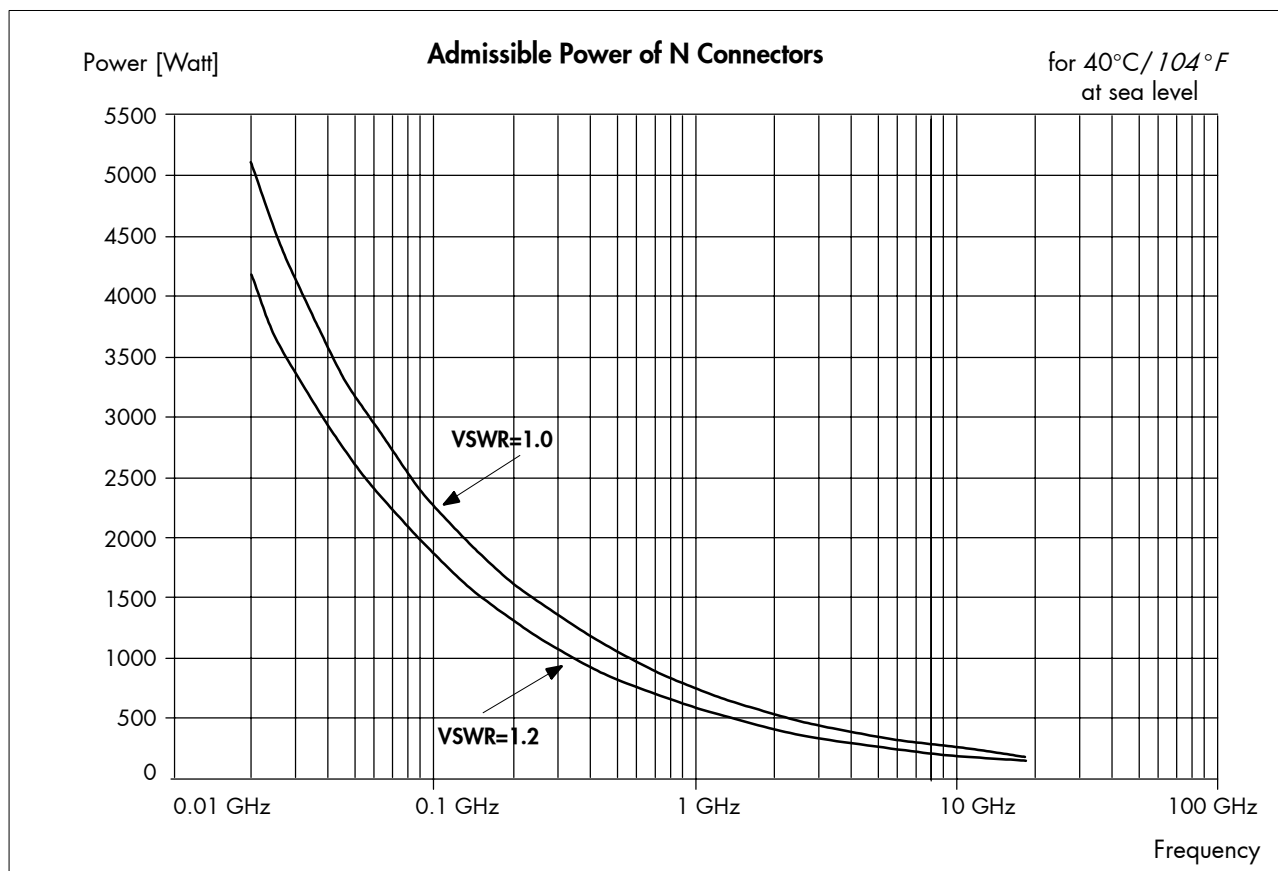
Interface dimensions conformable to the Standards:

International: **IEC 169-16,**  
Europe: **CECC 22 210**  
USA: **MIL-STD-348A/304**

## Technical Data

| ELECTRICAL DATA                                             | REQUIREMENTS                                   |
|-------------------------------------------------------------|------------------------------------------------|
| Impedance                                                   | 50 $\Omega$                                    |
| Frequency range<br>- flexible cables<br>- semi-rigid cables | DC ... 11 GHz<br>DC ... 18 GHz                 |
| VSWR                                                        | see table below                                |
| RF-leakage (between 2 ÷ 3 GHz)                              | $\geq 90$ dB                                   |
| Dielectric withstanding voltage<br>(at sea level)           | 2.5 kV rms, 50 Hz                              |
| Working voltage (at sea level)                              | $\leq 1.0$ kV rms, 50 Hz                       |
| Insulation resistance                                       | $\geq 5 \cdot 10^3$ M $\Omega$                 |
| Contact resistance<br>- centre contact<br>- outer contact   | $\leq 1.0$ m $\Omega$<br>$\leq 1.0$ m $\Omega$ |

| TYPICAL VSWR           | FREQUENCY RANGE |         |       |          |        | CABLE GROUP        |
|------------------------|-----------------|---------|-------|----------|--------|--------------------|
| CONNECTOR TYPE         | 1 GHz           | 2.5 GHz | 5 GHz | 12.4 GHz | 18 GHz |                    |
| straight connectors    | 1.04            | 1.05    | 1.08  |          |        | M6                 |
|                        | 1.03            | 1.04    | 1.06  | 1.12     |        | Y5, Y12            |
|                        | 1.03            | 1.04    | 1.05  | 1.07     | 1.09   | Y5, Y12            |
|                        | 1.03            | 1.04    | 1.05  | 1.08     | 1.12   | Y7                 |
|                        | 1.05            | 1.09    | 1.17  |          |        | U7, U9             |
|                        | 1.04            | 1.06    | 1.12  |          |        | U28, U29, U32, U33 |
|                        | 1.03            | 1.05    | 1.14  |          |        | S24                |
|                        | 1.03            | 1.05    | 1.10  |          |        | S39                |
| right angle connectors | 1.04            | 1.05    | 1.08  |          |        | M6                 |
|                        | 1.04            | 1.05    | 1.06  | 1.12     |        | Y5, Y12            |
|                        | 1.05            | 1.10    | 1.20  |          |        | U7, U9             |
|                        | 1.08            | 1.10    | 1.12  |          |        | U28, U29, U32, U33 |



| MECHANICAL DATA                                                                | REQUIREMENTS                                                         |      |      |      |      |      |
|--------------------------------------------------------------------------------|----------------------------------------------------------------------|------|------|------|------|------|
| Coupling nut torque                                                            | 0.68 Nm ... 1.13 Nm / 6.0 ... 10.0 in. lbs<br>1.70 Nm / 15.0 in. lbs |      |      |      |      |      |
| - recommended                                                                  |                                                                      |      |      |      |      |      |
| - proof torque                                                                 |                                                                      |      |      |      |      |      |
| - recommended torque for connectors with<br>profile HEX19 (HEX18) coupling nut | Matings                                                              | 500  | 250  | 100  | 60   | 30   |
|                                                                                | Torque                                                               | 1 Nm | 2 Nm | 3 Nm | 4 Nm | 5 Nm |
| Coupling nut retention force                                                   | ≥ 450 N / 101.2 lbs                                                  |      |      |      |      |      |
| Contact captivation                                                            | ≥ 28 N / 6.3 lbs                                                     |      |      |      |      |      |
| Durability (matings)                                                           | ≥ 500                                                                |      |      |      |      |      |

| ENVIRONMENTAL DATA  | TEST CONDITIONS                                             |
|---------------------|-------------------------------------------------------------|
| Temperature range   | - 65°C ... + 165°C / - 85°F ... + 329°F                     |
| Climatic category   | IEC → 55 / 155 / 21                                         |
| Thermal shock       | MIL-STD-202, Method 107, Condition B                        |
| Moisture resistance | MIL-STD-202, Method 106                                     |
| Corrosion           | Saltspray test acc. to MIL-STD-202, Method 101, Condition B |
| Vibration           | MIL-STD-202, Method 204, Condition B                        |
| Shock               | MIL-STD-202, Method 213, Condition I                        |

| MATERIAL DATA                |                       |                            |                    |
|------------------------------|-----------------------|----------------------------|--------------------|
| CONNECTOR PART               | STANDARDS             | MATERIAL                   | PLATING            |
| Bodies<br>Pin contact        | QQ-B-626              | brass                      | SUCOPLATE®<br>gold |
| Outer contact, slotted       | DIN 17660             | spring bronze              | SUCOPLATE®         |
| Female contacts              | QQ-C-530              | beryllium-copper, hardened | gold               |
| Crimp ferrules               | SUHNER® specification | copper                     | SUCOPLATE®         |
| Insulators, standard version |                       | PTFE or PFA                |                    |
| Gaskets                      |                       | silicone rubber            |                    |

Some connectors may have a specification that differs from the above mentioned data.