



## N/TNC/C

R161/R162/R143/R144/R166

**Contents****TYPE N**

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**N 50Ω and COMPOSITE N**

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**N 75Ω**

|                       |       |
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**TNC**

|                       |       |
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**TNC 50Ω**

|                   |                |
|-------------------|----------------|
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**TNC 75Ω**

|             |       |
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## Introduction



50Ω

DC - 11 GHz (standard N)  
DC - 18 GHz (N 18 GHz)**GENERAL**

- Standard coaxial connectors
- Screw-on coupling
- High durability and proven strength
- High power rating
- Excellent RF performance

**APPLICATIONS**

- Wireless communications
- Civil and military radio-telecommunication equipment
- Countermeasure
- Navy equipment
- Industrial applications

**APPLICABLE STANDARDS**

- MIL-C-39012 / MIL STD 348-304
- CEI 169-16
- CECC 22210
- NF-C-93566
- DS 8811

**COMPOSITE AND SWITCHING CONNECTORS****FULL CRIMP MODELS**

This reliable attachment system can be easily installed in a field environment, with easy-to-use tooling (including models for 2 and 2.6 mm dia cables). All our full crimp connectors are single piece body.

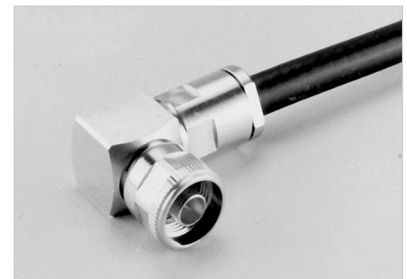
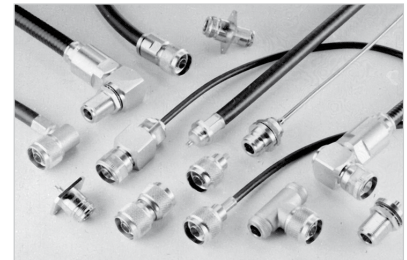
**18 GHz PRECISION CONNECTORS**

These connectors are suitable for medium to high power applications and precision microwave test equipment. They have long life duration and enhanced electrical performance in severe environmental conditions. N18 series mate with all 50 ohms N connectors.

**LOW INTERMODULATION CONNECTORS**

Radiall extensive knowledge in this field led to the development of N series connectors that are specially designed for base stations of applications where the elimination of intermodulation products is of the utmost importance. Features:

- Optimized for 900 - 1800 MHz bands (and able to work up to 11 GHz like the standard models)
- IMP<sub>3</sub> performance = -110 dBm (-153 dBc)
- New models for corrugated and low loss flexible cables
- High performance non magnetic materials and platings (silver and BBR)
- New 6 flats coupling nut (18 mm), allowing high coupling torque (170 Ncm) thanks to torque wrench
- Non slotted outer contact



## Introduction

Radiall offers a wide range with a standard plating finish: **BBR (Bright Bronze Radiall)** a high performance non-magnetic alloy.

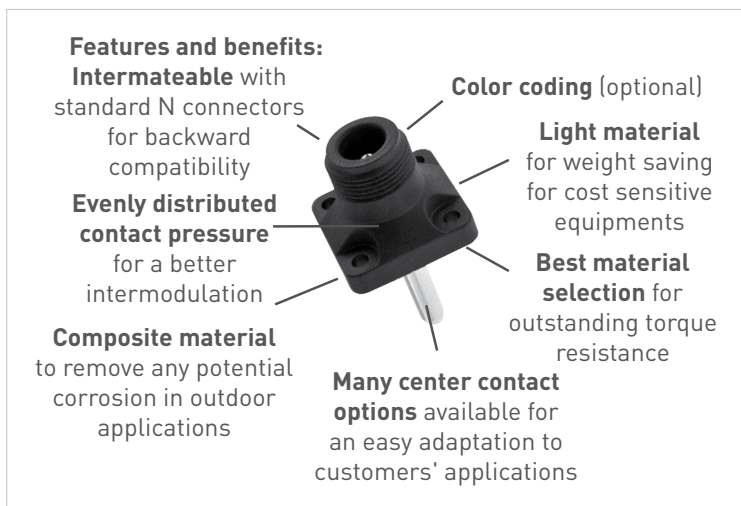
### VERY LOW INTERMODULATION CABLE ASSEMBLIES

For severe intermodulation conditions, we propose a range of low intermodulation cable assemblies  $IMP3 \leq 125$  dBm.

For further details, reference:

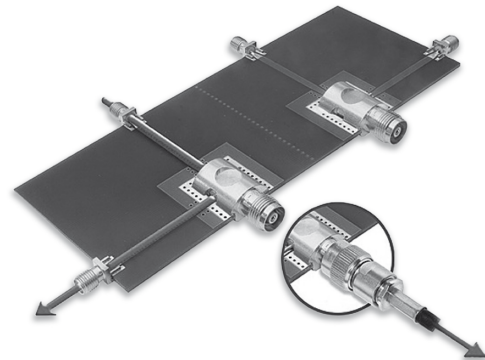
- Intermodulation application guide **(D1 032 DE)**
- BBR plating application guide **(D1 030 DE)**

**IMPORTANT:** The 50 $\Omega$  and the 75 $\Omega$  connectors are NOT INTERMATEABLE and results in the destruction of the interface.



### COMPOSITE RECEPTACLES

Radiall introduces its new composite N receptacles. Composite N connectors offer outstanding electrical performance and are the best compromise in terms of weight, cost and mechanical characteristics to replace existing brass technology.



### POWER SWITCHING CONNECTORS

This "two-in-one" solution replaces the existing standard RF switches by integrating the switch function into a receptacle connector. This solution provides a unique means of switching between two RF signal paths. As user friendly as a standard connector, the switch is mechanically activated by mating and unmating the connector.

#### Advantages

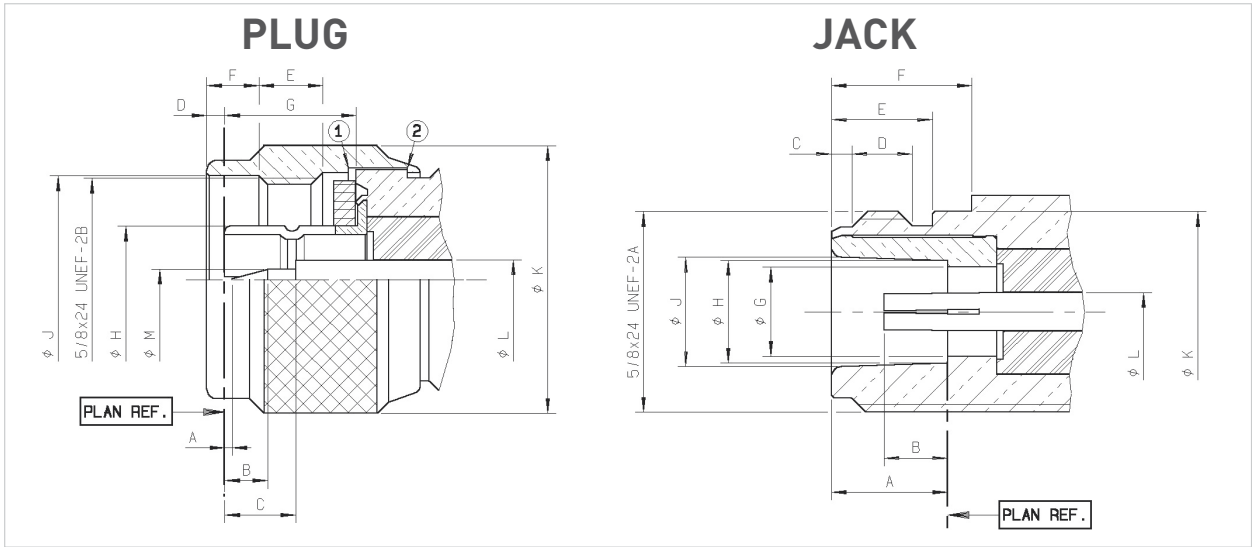
- Reliable
- Increases the density
- Excellent electrical and mechanical performance
- Reduction of the cost of ownership
- Betty RF adaptation
- Good isolation
- Available in right or left versions

#### Applications

- Telecom applications
- RF power amplifiers

### PLATING

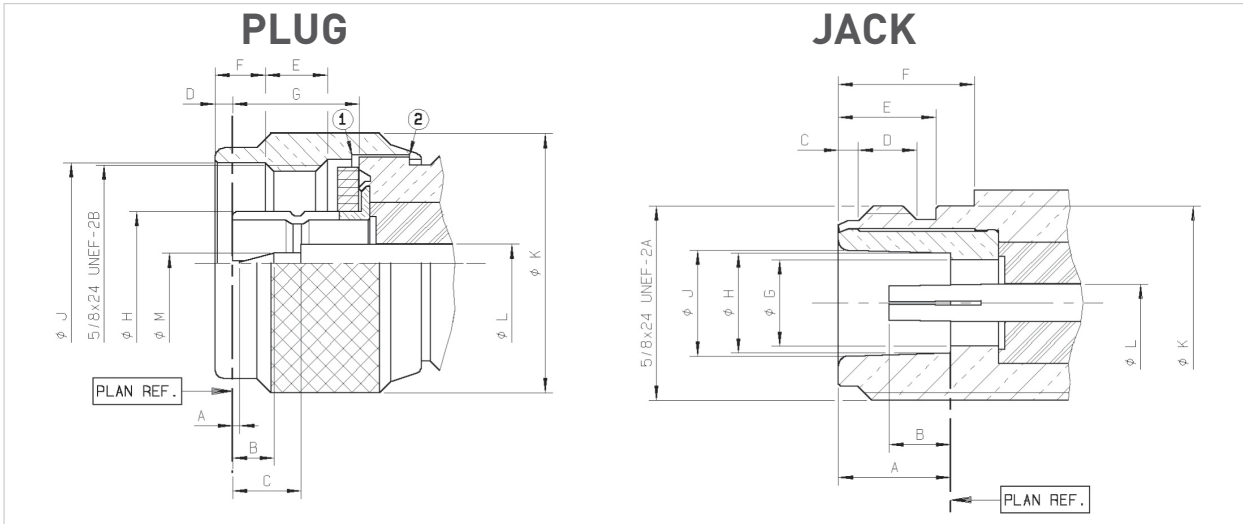
Radiall offers a wide range with a standard plating finish: **BBR (Bright Bronze Radiall)** a high performance non-magnetic alloy.



| LETTER | mm    |       | inch |      |
|--------|-------|-------|------|------|
|        | min.  | max.  | min. | max. |
| A      | 0.13  | 1.03  | .005 | .13  |
| B      | 2.80  | 3.56  | .110 | .140 |
| C      | 5.33  | 5.83  | .210 | .229 |
| D      | 1     | 2     | .016 | .066 |
| E      | 4.54  | 5.39  | .179 | .212 |
| F      | 4.05  | 4.20  | .159 | .165 |
| G      | 10.23 | 10.43 | .403 | .411 |
| H DIA  | 8.27  | 8.37  | .326 | .329 |
| J DIA  | 16.1  | 16.2  | .634 | .638 |
| K DIA  | 20.9  | 21    | .823 | .827 |
| L DIA  | 3.01  | 3.05  | .118 | .120 |
| M DIA  | 1.63  | 1.67  | .064 | .066 |

| LETTER | mm    |       | inch |      |
|--------|-------|-------|------|------|
|        | min.  | max.  | min. | max. |
| A      | 9.05  | 9.19  | .356 | .362 |
| B      | 4.75  | 5.25  | .187 | .207 |
| C      | 1.20  | 1.95  | .047 | .077 |
| D      | 4.4   | 5.1   | .173 | .201 |
| E      | 6.8   | 9     | .268 | .354 |
| F      | 10.9  | 11.2  | .429 | .441 |
| G DIA  | 6.98  | 7.02  | .275 | .276 |
| H DIA  | 8.03  | 8.13  | .316 | .320 |
| J DIA  | 8.53  | 8.73  | .336 | .344 |
| K DIA  | 15.65 | 15.85 | .616 | .624 |
| L DIA  | 3.01  | 3.05  | .118 | .120 |

Interface N75 Ω



| LETTER | mm    |       | inch |      |
|--------|-------|-------|------|------|
|        | min.  | max.  | min. | max. |
| A      | 0.13  | 1.03  | .005 | .13  |
| B      | 2.80  | 3.56  | .110 | .140 |
| C      | 5.33  | 5.83  | .210 | .230 |
| D      | 1     | 2     | .016 | .066 |
| E      | 4.54  | 5.39  | .179 | .212 |
| F      | 4.05  | 4.20  | .159 | .165 |
| G      | 10.23 | 10.43 | .403 | .411 |
| H DIA  | 8.27  | 8.37  | .326 | .329 |
| J DIA  | 16.1  | 16.2  | .634 | .638 |
| K DIA  | 20.9  | 21    | .823 | .827 |
| L DIA  | 1.96  | 2     | .077 | .079 |
| M DIA  | 0.87  | 0.91  | .034 | .036 |

| LETTER | mm    |       | inch |      |
|--------|-------|-------|------|------|
|        | min.  | max.  | min. | max. |
| A      | 9.05  | 9.19  | .356 | .362 |
| B      | 4.75  | 5.25  | .187 | .207 |
| C      | 1.20  | 1.95  | .047 | .077 |
| D      | 4.4   | 5.1   | .173 | .201 |
| E      | 6.8   | 9     | .268 | .354 |
| F      | 10.9  | 11.2  | .429 | .441 |
| G DIA  | 6.98  | 7.02  | .275 | .276 |
| H DIA  | 8.03  | 8.13  | .316 | .320 |
| J DIA  | 8.53  | 8.73  | .336 | .344 |
| K DIA  | 15.65 | 15.85 | .616 | .624 |
| L DIA  | 1.96  | 2     | .077 | .079 |

\*statistics dimensions: .0539 .0055 (.0594 max)/(1.37 0.14)(1.51 max)

- 1) Coupling nut against on datum 1
- 2) Coupling nut against on datum 2

**IMPORTANT: the 50Ω and the 75Ω connectors are NOT INTERMATEABLE, results in the interface destruction.**

## Characteristics

| Test / Characteristics | Standard reference | Values / Remarks |
|------------------------|--------------------|------------------|
|------------------------|--------------------|------------------|

## ELECTRICAL CHARACTERISTICS

|  |      |   |
|--|------|---|
| Impedance                                    | -    | 50Ω   |
| Frequency range                              | -    | DC - 11 GHz   |
| Typical V.S.W.R.                             | -    | 1 GHz   |
| Frequency                                    | -    | 2.5 GHz   |
| • Straight models cable group: .085"         | -    | 5 GHz   |
| .141"  | -    | 11 GHz  |
| .250"  | -    |   |
| 5/S+5/D                                      | -    |   |
| 10/S+11/D                                    | -    |   |
| • Right angle models: 5/S+D                  | -    |   |
| 10/S+11/D                                    | -    |   |
| Intermodulation product (IMP <sub>3</sub> )  | -    | - 90 dBm typ. [- 133 dBc typ. / 20W]  |
| • Standard connectors                        | -    | - 110 dBm typ. [- 153 dBc typ. / 20W]   |
| • Intermodulation connectors                 | -    | - 125 dBm typ. [- 165 dBc typ. / 20W]   |
| • Home made intermodulation cable assemblies | -    |   |
| Insertion loss                               | MIL  | < 0.15 dB max at 10 GHz ~ < 0.05 √F (GHz)<br>< 0.15 dB max at 10 GHz ~ < 0.1 √F (GHz) |
| • Straight connector                         |      |   |
| • Right-angle connector                      |      |   |
| RF Leakage                                   | MIL  | -90 dB min from 2 to 3 GHz (interface)  |
| Insulation resistance                        | MIL  | 5000 MΩ min   |
| Contact resistance                           | MIL  | Initial<br>1 mΩ<br>0.2 mΩ   |
| • Center contact                             |      | After tests<br>1.5 mΩ<br>-  |
| • Outer contact                              |      |   |
| Working voltage in VRMS                      | CECC | Cable 5/50: 850 (250)   |
| • At sea level                               |      | Cable .085"/.141": 350 (250)  |
| (at 70, 000 feet)                            |      | Cable 10+11/50: 1400 (400)  |
|  |      | Cable LMR 400/600: 1400 (400)   |
|  |      | Cable .250": 1400 (400)   |
| Dielectric withstanding voltage in VRMS      | CECC | Cable 5/50: 1500 (350)  |
| • At sea level                               |      | Cable .085"/.141": 1000 (350)   |
| (at 70, 000 feet)                            |      | Cable 10/50: 2500 (600)   |
|  |      | Cable LMR 400/600: 2500 (600)   |
|  |      | Cable .250": 2500 (600)   |
| RF testing voltage                           | CECC | 1500 VRMS (5 MHz sine wave)   |
| Sea level                                    |      |   |

## MECHANICAL CHARACTERISTICS

|                                  |      |   |
|----------------------------------|------|---|
| Durability                       | CECC | 500 matings   |
| Engagement and separation torque | CECC | 6.6 Ncm max (.58 Inch-pounds)   |
| Recommended coupling nut torque  | -    | 40 to 60 Ncm (manual)<br>130 Ncm (11.45 inch pounds) (with pliers R 282 202 000)<br>170 Ncm (14.96 inch pounds) (with torque wrench R 282 303 020)      |
| Proof torque                     | CECC | 170 Ncm (14.96 inch pounds)   |
| Coupling nut retention force     | CECC | 450 N (101.25 Lbs)  |
| Cable retention force            | CECC | Cable 5/50/S 150N (33.75 Lbs)<br>Cable 5/50/D 200N (48 Lbs)<br>Cable 10/50 300N (67.5 Lbs)<br>Cable 11/50 400N (90 Lbs)<br>Cable .141" 270N (60.75 Lbs) |
| Center contact retention force   | MIL  | 27 N (6.08 Lbs) cables < ∅ 8 mm<br>68 N (15.30 Lbs) cables > ∅ 8 mm   |
| Axial                            |      |   |

Standard packaging = 50 pieces

## Characteristics

| Test / Characteristics | Standard reference | Values / Remarks |
|------------------------|--------------------|------------------|
|------------------------|--------------------|------------------|

### ENVIRONMENTAL CHARACTERISTICS

|                       |  |         |   |
|-----------------------|--|---------|---|
| Temperature range     | <ul style="list-style-type: none"> <li>Standard models</li> <li>Semi-rigid cables</li> </ul> | CECC    | - 55°C + 155°C<br>- 55°C + 105°C                                |
| Thermo cycling test   |  | CECC    | - 55°C/+ 155°C/21 j   |
| Thermal shock         |  | CECC    | - 40°C/+ 155°C or - 40°C/+ 85°C - 5 cycles                      |
| High temperature test |  | CECC    | 125°C/1000 H  |
| Corrosion salt spray  |  | CECC    | 48 H  |
| Vibration             |  | CECC    | Sinus 10g/10 – 500 Hz   |
| Shock                 |  | CECC    | 1/2 Sinus 50g/11 ms   |
| Moisture resistance   | <ul style="list-style-type: none"> <li>Clamp type</li> <li>Crimp type</li> </ul>             | IEC 529 | IP 67<br>IP 65 (with heatshrink sleeve)                         |
| Hermetic test         |  | CECC    | 10 <sup>-5</sup> bar. cm <sup>3</sup> /s                        |
| Leakage               |  | CECC    | Differential pressure 100 to 110 KPa: 1 bar cm <sup>3</sup> / H |

### MATERIALS

|  |                          |
|--|--------------------------|
| Body / nut / center male contact / outer contact | Brass                    |
| Center female contact                            | Treated beryllium copper |
| Ferrule  | Brass                    |
| Insulator  | PTFE                     |
| Gasket   | Silicon elastomer        |

### PLATING

|                       | Standard  | Intermodulation models + COAXI-KIT |
|-----------------------|---|------------------------------------|
| Body                  | <ul style="list-style-type: none"> <li>Crimp + clamp type</li> <li>Solder type</li> </ul> | Silver + BBR<br>Silver             |
| Coupling nut/Design   | BBR / Cross knurled   | BBR / Hex.                         |
| Center contacts       | Gold  | Silver                             |
| Outer contacts/Design | BBR / Slotted   | Silver + BBR / Non slotted         |

### PACKAGING

|           |                                  |
|-----------|----------------------------------|
| Packaging | 50 pieces bulk<br>Unit packaging |
|-----------|----------------------------------|

Some connectors may feature different performances depending on the application they have been designed for, or according to the applicable cable.



## Characteristics

| Test / Characteristics | Standard reference | Values / Remarks |
|------------------------|--------------------|------------------|
|------------------------|--------------------|------------------|

## ELECTRICAL CHARACTERISTICS

|  |      |  |
|--|------|--|
| Impedance  | -    | 75Ω  |
| Frequency range  | -    | DC - 1.5 GHz   |
| Typical V.S.W.R.   | -    |  |
| • Cable 6/75   | -    | 1.06   |
| • Cable 10+11/75   | -    | 1.10   |
| Insertion loss   |      |  |
| • Straight connector   | MIL  | < 0.15 dB  |
| • Right-angle connector  |      |  |
| RF Leakage   | MIL  | - 90 dB min at 1 GHz                                 |
| Insulation resistance  | MIL  | 5000 MΩ min  |
| Contact resistance   |      |  |
| • Center contact   | MIL  | Initial<br>1 mΩ                                      |
| • Outer contact  |      | After tests<br>1.5 mΩ                                |
| Working voltage in VRMS at sea level (at 70 000 feet)                    | CECC | Cable 10+11/75: 1400 (400)<br>Cable 6/75: 850 (250)  |
| Dielectric withstanding voltage in VRMS<br>At sea level (At 70 000 feet) | CECC | Cable 10+11/75: 2500 (600)<br>Cable 6/75: 1500 (350) |
| RF testing voltage Sea level   | CECC | 1500 VRMS (5 MHz sine wave)                          |

## MECHANICAL CHARACTERISTICS

|                                      |      |   |
|--------------------------------------|------|---|
| Durability                           | CECC | 500 matings   |
| Engagement and separation torque     | CECC | 6.6 Ncm max (.58 Inch-pounds)   |
| Recommended coupling nut torque      | CECC | 40 to 60 Ncm (manual)<br>130 Ncm (11.45 inch pounds) (with pliers R282 202 000) |
| Proof torque                         | CECC | 170 Ncm (14.96 inch pounds)   |
| Coupling nut retention force         | CECC | 450 N (101.25 Lbs)  |
| Cable retention force                |      |   |
| • Cable 6/75                         | CECC | 200 N   |
| • Cable 10+11/75                     |      | 300 N   |
| Center contact retention force Axial | MIL  | 27 N (6.08 Lbs)   |

## ENVIRONMENTAL CHARACTERISTICS

|                        |         |   |
|------------------------|---------|---|
| Temperature range      | CECC    | - 55°C + 155°C  |
| Thermo cycling test    | CECC    | - 55°C / + 155°C / 21 j   |
| Thermal shock          | CECC    | - 40°C / + 155°C or - 40°C / + 85°C - 5 cycles                  |
| Hight temperature test | CECC    | 125°C / 1000 H  |
| Corrosion salt spray   | CECC    | 48 H  |
| Vibration              | CECC    | Sinus 10 g / 10 - 500 Hz  |
| Shock                  | CECC    | 1/2 Sinus 50g / 11 ms   |
| Moisture resistance    |         |   |
| • Clamp type           | IEC 529 | IP 67   |
| • Crimp type           |         | IP 65 (with heatshrink sleeve)                                  |
| Hermetic test          | CECC    | 10-5 bar. cm <sup>3</sup> /s                                    |
| Leakage                | CECC    | Differential pressure 100 to 110 KPa: 1 bar cm <sup>3</sup> / H |

## MATERIALS

|   |                          |
|---|--------------------------|
| Body (nut)/center male contact/outer contact) | Brass                    |
| Center female contact                         | Treated beryllium copper |
| Ferrule                                       | Brass                    |
| Insulator                                     | PTFE                     |
| Gasket  | Silicon elastomer        |

## PLATING

|                      |                     |
|----------------------|---------------------|
| Body                 | BBR                 |
| Coupling nut/design  | BBR / Cross knurled |
| Center contact       | Gold                |
| Outer contact/design | BBR / Slotted       |

Standard packaging = 50 pieces

Plugs

**STRAIGHT PLUGS, FULL CLAMP AND CRIMP TYPE, FOR FLEXIBLE CABLES (single piece body)**

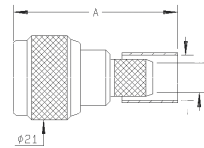
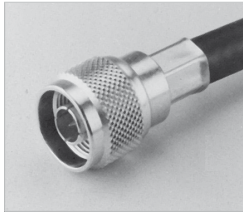


Fig. 1

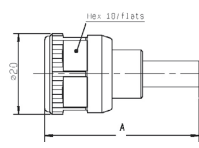


Fig. 2

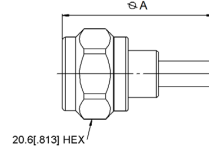


Fig. 3

| Cable group                       | Cable group dia.      | Part number                   | Fig. | Dimensions (mm) |     | Captive center contact               | Note |
|-----------------------------------|-----------------------|-------------------------------|------|-----------------|-----|--------------------------------------|------|
|                                   |                       |                               |      | A               |     |                                      |      |
| RG174 / RG316 / RD316 / AEP-100FR | 2.6/50/S+D & LMR® 100 | R161 072 000                  | 1    | 39.7            | Yes | -                                    |      |
| RG58 / R141                       | 5/50/S                | R161 082 000<br>R161 083 000  |      | 38.5            |     | -                                    |      |
| RG142 / RG223 / RG400             | 5/50/D                | R161 083 137                  | 2    | 38.5            | -   | For intermodulation application tool |      |
| RG213                             | 10/50/S               | R161 075 000<br>R161A 075 000 | 1    | 40.2            | No  | -                                    |      |
| -                                 | 10.3/50/S             | R161 075 060<br>R161 088 000  |      | 40.2            | Yes | LMR 400 cable                        |      |
| RG214                             | 11/50/D               | R161 088 137                  | 2    | 40.2            | -   | For intermodulation application tool |      |
| AEP-195FR                         | LMR® 195              | R161 082 120                  | 3    | 38.5            | Yes | Crimp type                           |      |
| AEP-200FR                         | LMR® 200              | R161 082 200                  | 1    | 38.5            |     |                                      |      |
| AEP-240FR                         | LMR® 240              | R161 075 030                  | 3    | 38.5            |     |                                      |      |
| AEP-400FR                         | LMR® 400              | R161 088 180                  |      | 40.1            |     |                                      |      |
| RD316                             | 2.6/50D               | 4000-7071-019                 | 1    | 40.41           | No  | Crimp type for flexible cable        |      |

**STRAIGHT PLUGS, CLAMP TYPE, FOR FLEXIBLE CABLES**

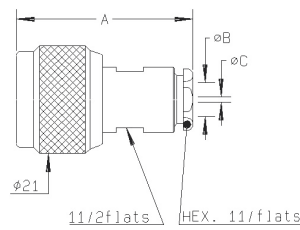


Fig. 1

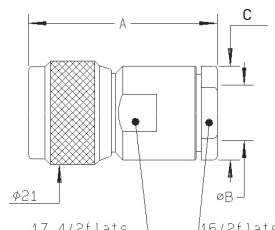


Fig. 2

| Cable group   | Cable group dia. | Part number                                  | Fig. | Dimensions (mm) |        |        | Captive center contact |
|---|------------------|--|------|-----------------|--------|--------|------------------------|
|   |                  |  |      | A               | B dia. | C dia. |                        |
| RG174 / RG316 / RD316                               | 2.6/50/S+D       | R161 004 000                                 | 1    | 33.9            | 3.1    | 1.7    | Yes                    |
| RG58 / RG141 / RG142 / RG223 / RG400                | 5/50/S+D         | R161 006 000<br>R161 010 000                 |      | 34.4            | 5.6    | -      | No                     |
| RG59 / RG62 / RG71                                  | 6/75+93          | R161 012 000                                 |      | 34.9            | 5.6    | -      | Yes                    |
| RG213 / RG393 / RG11 / RG12 / RG144 / RG214 / RG216 | 10+11/50+75      | R161 018 000<br>R161 020 000<br>R161 022 000 |      | 34.4            | 6.6    | -      | -                      |
| RG217   | 14/50/D          | R161 027 000                                 | 2    | 44              | 11.2   | 17.5   | -                      |
|   |                  |  |      | 38.1            | 11.2   | 17.5   | No                     |
|   |                  |  |      | 38.9            | 11.2   | 19     | Yes                    |
|   |                  |  |      | 40.9            | 14.4   | 22.2   | -                      |

Plugs

STRAIGHT PLUGS, FOR SEMI-RIGID CABLES

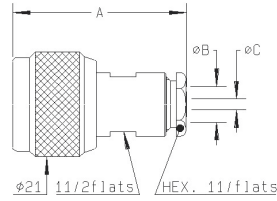
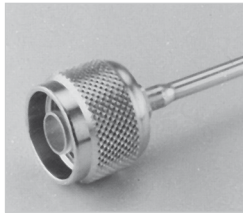


Fig. 1

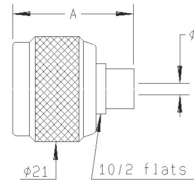


Fig. 2

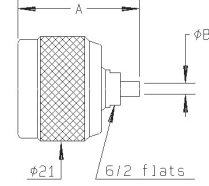


Fig. 3

| Cable group | Cable group dia. | Part number  | Fig. | Dimensions (mm) |        |        | Captive center contact | Note        |
|-------------|------------------|--------------|------|-----------------|--------|--------|------------------------|-------------|
|             |                  |              |      | A               | B dia. | C dia. |                        |             |
| RG405       | .085"            | R161 050 300 | 3    | 24.4            | 2.25   | -      | -                      | Solder type |
| RG402       | .141"            | R161 051 000 |      |                 | 3.65   | -      |                        |             |
| RG401       | .250"            | R161 052 000 | 1    | 35              | 5.6    | 3.65   | No                     | Clamp type  |
|             |                  | R161 053 000 |      |                 | 35.4   | 6.6    |                        |             |
|             |                  | R161 054 000 | 2    | 24.4            | 6.45   | -      |                        | Solder type |

RIGHT ANGLE PLUGS, CRIMP TYPE, FOR FLEXIBLE CABLES

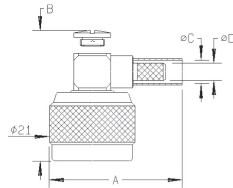
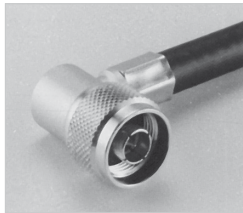


Fig. 1

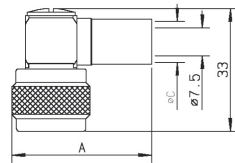


Fig. 2

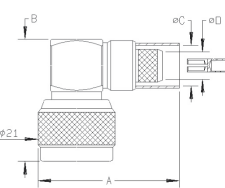


Fig. 3

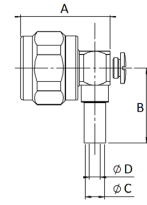


Fig. 4

| Cable group           | Cable group dia. | Part number   | Fig. | Dimensions (mm) |      |        |        | Captive center contact | Note        |      |      |       |       |
|-----------------------|------------------|---------------|------|-----------------|------|--------|--------|------------------------|-------------|------|------|-------|-------|
|                       |                  |               |      | A               | B    | C dia. | D dia. |                        |             |      |      |       |       |
| RG174 / RG316         | 2.6/50/S         | R161 181 000  | 1    | 29.5            | 26.3 | -      | -      | -                      | -           |      |      |       |       |
| RG58 / RG141          | 5/50/S           | R161 182 000  |      | 28              | 5.41 | -      | -      |                        | -           |      |      |       |       |
| RG142 / RG223 / RG400 | 5/50/D           | R161 183 000  | 1    | 34.5            | 28   | 5.8    | 3.1    | -                      | -           |      |      |       |       |
|                       |                  | R161A 183 000 |      |                 |      |        |        |                        | -           | -    | -    | -     | -     |
|                       |                  | R161 185 000  | 3    | 42.4            | 33.2 | 11.05  | 7.46   | Yes                    | ECO version |      |      |       |       |
|                       |                  | R161 186 000  | 2    | 37.6            | -    | 11.4   | -      |                        | Full crimp  |      |      |       |       |
| RG214                 | 11/50/D          | R161 187 000  | 3    | 42.4            | 33.2 | 11.4   | 7.46   |                        | Full crimp  |      |      |       |       |
| AEP-200FR             | LMR® 200         | R161 182 080  | 4    | 26.3            | 22   | 5.55   | 3.25   | -                      | Crimp type  |      |      |       |       |
| AEP-240FR             | LMR® 240         | R161 183 310  |      |                 |      |        |        |                        |             | 26.3 | 24   | 6.6   | 4.05  |
| AEP-400FR             | LMR® 400         | R161 184 080  |      |                 |      |        |        |                        |             | 27   | 33   | 11.05 | 7.46  |
| AEP-600FR             | LMR® 600         | R161 188 200  |      |                 |      |        |        |                        |             | 31.7 | 39.1 | 15.88 | 11.96 |

RIGHT ANGLE PLUGS, CLAMP TYPE, FOR FLEXIBLE CABLES

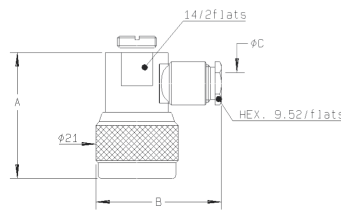
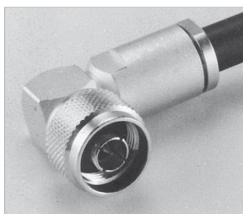


Fig. 1

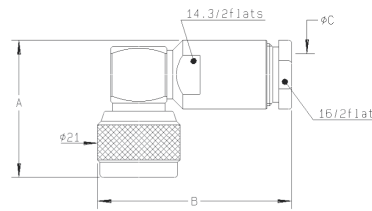
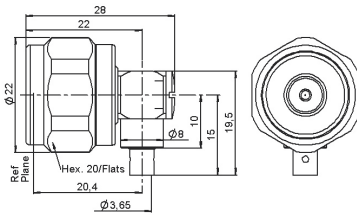
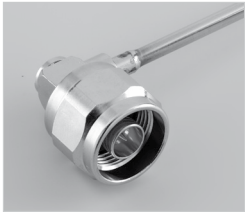


Fig. 2

| Cable group                   | Cable group dia. | Part number  | Fig. | Dimensions (mm) |      |        | Captive center contact |
|-------------------------------|------------------|--------------|------|-----------------|------|--------|------------------------|
|                               |                  |              |      | A               | B    | C dia. |                        |
| RG223 / RG142 / RG223 / RG400 | 5/50/S+D         | R161 157 000 | 1    | 32              | 32   | 5.6    | Yes                    |
| RG213 / RG393 / RG214         | 10+11/50/S+D     | R161 168 000 | 2    | 34.85           | 49.4 | 11.2   |                        |

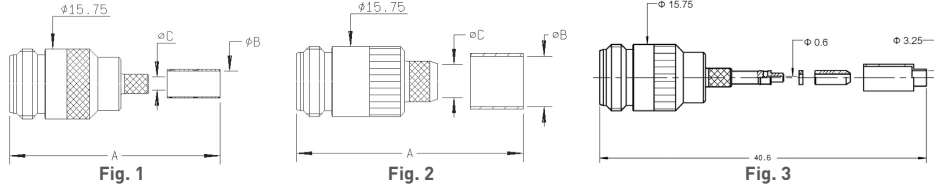
Plugs and Jacks

**RIGHT ANGLE PLUG, SOLDER TYPE, FOR SEMI-RIGID CABLES**



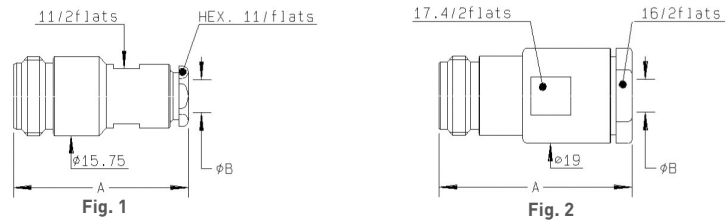
| Cable group | Cable group dia. | Part number  | Captive center contact |
|-------------|------------------|--------------|------------------------|
| RG402       | .141"            | R161 152 107 | Yes                    |

**STRAIGHT JACKS, FULL CRIMP TYPE, FOR FLEXIBLE CABLES (single piece body)**



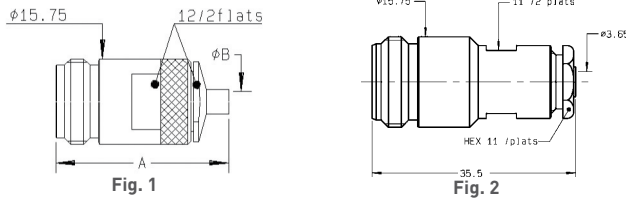
| Cable group           | Cable group dia. | Part number  | Fig. | Dimensions (mm) |        |        | Captive center contact |
|-----------------------|------------------|--------------|------|-----------------|--------|--------|------------------------|
|                       |                  |              |      | A               | B dia. | C dia. |                        |
| RG58 / RG216 / RD316  | 2.6/50/S+D       | R161 236 000 | 3    | -               | -      | -      | Yes                    |
| RG58 / RG141          | 5/50/S           | R161 237 000 | 1    | 39.3            | 5.41   | 3.11   |                        |
| RG142 / RG223 / RG400 | 5/50/D           | R161 238 000 |      |                 | 5.8    |        |                        |
| RG223                 | 10/50/S          | R161 241 000 | 2    | 40.6            | 11.05  | 7.46   |                        |
| RG214                 | 11/50/D          | R161 243 000 |      |                 | 11.4   |        |                        |

**STRAIGHT JACKS, CLAMP TYPE, FOR FLEXIBLE CABLES**



| Cable group                  | Cable group dia. | Part number  | Fig. | Dimensions (mm) |        | Captive center contact |
|------------------------------|------------------|--------------|------|-----------------|--------|------------------------|
|                              |                  |              |      | A               | B dia. |                        |
| RG58 / RG142 / RG223 / RG400 | 5/50/S+D         | R161 206 000 | 1    | 35.3            | 5.6    | Yes                    |
| RG213 / RG393 / RG214        | 10+11/50/S+D     | R161 220 000 | 2    | 39.3            | 11.2   |                        |

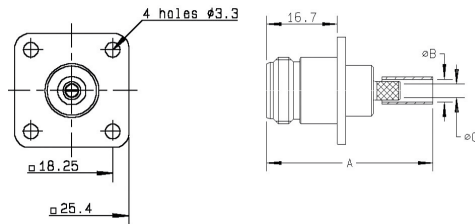
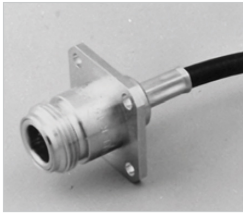
**STRAIGHT JACKS**



| Cable group | Cable group dia. | Part number  | Fig. | Dimensions (mm) |        | Captive center contact | Note        |
|-------------|------------------|--------------|------|-----------------|--------|------------------------|-------------|
|             |                  |              |      | A               | B dia. |                        |             |
| RG402       | .141"            | R161 226 020 | 1    | 32              | 3.65   | No                     | Solder type |
|             |                  | R161 227 000 | 2    | -               | -      | -                      | Clamp type  |

Jacks

**SQUARE FLANGE, STRAIGHT JACKS, FULL CRIMP TYPE, FOR FLEXIBLE CABLES (single piece body)**



| Cable group                   | Cable group dia. | Part number  | Dimensions (mm) |        |        | Captive center contact | Panel drilling |
|-------------------------------|------------------|--------------|-----------------|--------|--------|------------------------|----------------|
|                               |                  |              | A               | B dia. | C dia. |                        |                |
| RG178                         | 2/50/S+D         | R161 281 000 | 40.3            | 2.35   | 1      | -                      | P01            |
| RG174 / RG316 / RD176         | 2.6/50/S+D       | R161 281 300 | 40.3            | 3.25   | 1.63   | -                      |                |
| RG58 / RG141                  | 5/50/S           | R161 282 000 | 39.3            | 5.41   | -      | -                      |                |
| RG142 / RG223 / RG400 / RG213 | 5/50/D           | R161 283 000 | 39.3            | 5.8    | 3.11   | Yes                    |                |
| RG213                         | 10/50/S          | R161 286 000 | 40.6            | 11.05  | 7.46   | -                      |                |

**SQUARE FLANGE, STRAIGHT JACKS**

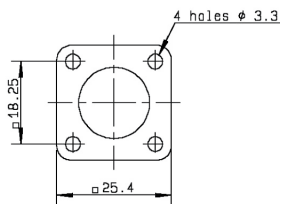
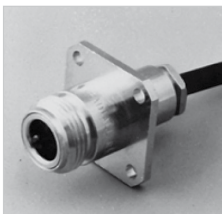


Fig. 1 and 2

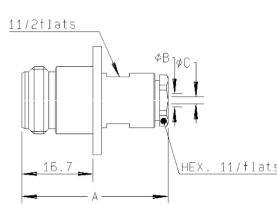


Fig. 1

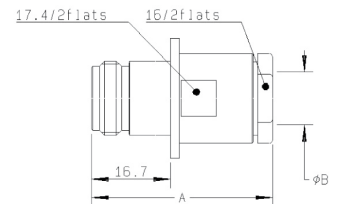


Fig. 2

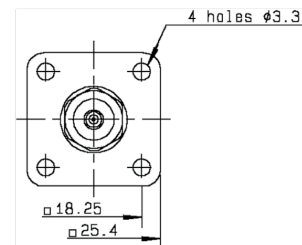


Fig. 3 and 4

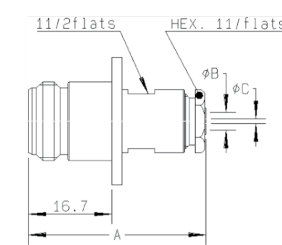


Fig. 3

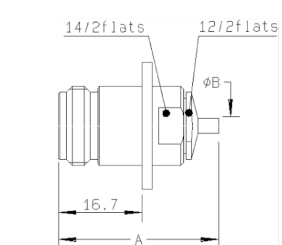


Fig. 4

| Cable group                          | Cable group dia. | Part number  | Fig. | Dimensions (mm) |        |        | Captive center contact | Panel drilling | Note        |
|--------------------------------------|------------------|--------------|------|-----------------|--------|--------|------------------------|----------------|-------------|
|                                      |                  |              |      | A               | B dia. | C dia. |                        |                |             |
| RG174 / RG316 / RD316                | 2.6/50/S + D     | R161 252 000 | 1    | 34.3            | 3.1    | 1.7    | Yes                    | P01            | Clamp type  |
| RG58 / RG141 / RG142 / RG223 / RG400 | 5/50/S + D       | R161 256 000 |      | 35.4            | 5.6    | -      |                        |                |             |
| RG213 / RG393 / RG214                | 10 + 11/50/S + D | R161 270 000 |      | 2               | 39.3   | 11.2   |                        |                |             |
| RG402                                | .141"            | R161 277 000 | 3    | 35.5            | 5.6    | 3.65   | No                     | P01            | Solder type |
| RG401                                | .250"            | R161 278 000 | 3    | 35.9            | 6.6    | -      |                        |                | Clamp type  |

Bulkhead Jacks

**BULKHEAD STRAIGHT JACKS, FULL CRIMP TYPE, FOR FLEXIBLE CABLES (panel sealed) (single piece body)**

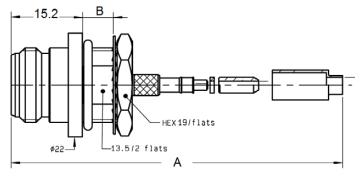
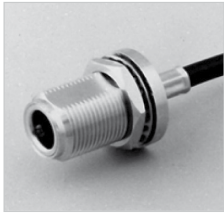


Fig. 1

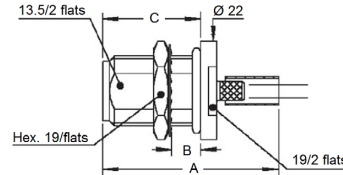


Fig. 2

| Cable group           | Cable group dia. | Part number  | Fig. | Dimensions (mm) |     |      | Captive center contact | Panel drilling | Note        |
|-----------------------|------------------|--------------|------|-----------------|-----|------|------------------------|----------------|-------------|
|                       |                  |              |      | A               | B   | C    |                        |                |             |
| RG174 / RG316 / RD316 | 2.6/50/S+D       | R161 311 200 | 1    | 40.4            | 6.5 | -    | Yes                    | P11            | Front mount |
|                       |                  | R161 311 300 |      |                 |     |      |                        |                | Rear mount  |
| RG58 / RG141          | 5/50/S           | R161 329 000 | 2    | 39.8            | 6.5 | 22.2 | Yes                    | P11            | Rear mount  |
| RG142 / RG223 / RG400 | 5/50/D           | R161 329 200 |      |                 |     |      |                        |                |             |
| RG214                 | 11/50D           | R161 331 200 |      |                 |     |      |                        |                |             |
| AEP-200FR             | LMR® 200         | R161 329 130 |      |                 |     |      |                        |                |             |
| AEP-240FR             | LMR® 240         | R161 329 140 |      |                 |     |      |                        |                |             |
| AEP-400FR             | LMR® 400         | R161 331 060 |      |                 |     |      |                        |                |             |
| AEP-600FR             | LMR® 600         | R161 331 400 |      |                 |     |      |                        |                |             |

**BULKHEAD STRAIGHT JACKS, CLAMP TYPE, FOR FLEXIBLE CABLES (panel sealed)**

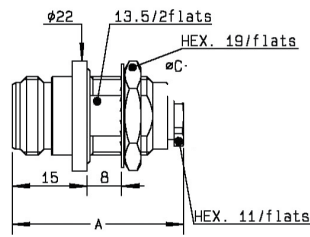


Fig. 1

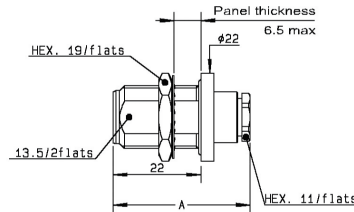


Fig. 2

| Cable group                          | Cable group dia. | Part number   | Fig. | Dimensions (mm) | Captive center contact | Panel drilling | Note                              |
|--------------------------------------|------------------|---------------|------|-----------------|------------------------|----------------|-----------------------------------|
|                                      |                  |               |      | A               |                        |                |                                   |
| RG174 / RG316 / RD316                | 2.6/50/S+D       | R161 321 000  | 1    | 34.3            | Yes                    | P11            | Front mount                       |
|                                      |                  | R161 322 000  |      |                 |                        |                | Rear mount                        |
| RG58 / RG141 / RG142 / RG223 / RG400 | 5/50/S+D         | R161 325 000  | 2    | 35.4            | Yes                    | P11            | Rear mount                        |
| RG213 / RG393 / RG214                | 10+11/50/S+D     | R161 332 000  |      |                 |                        |                |                                   |
| RG174 / RG316                        | 2.6/50S          | 4501-7051-003 | 1    | 30.5            | No                     | -              | Front mount                       |
| RG174 / RG316                        | 2.6/50S          | 4502-7051-003 |      |                 |                        |                | Hex. nut 16mm<br>Body dia. 17.5mm |

Bulkhead Jacks and Receptacles

**BULKHEAD STRAIGHT JACKS, FOR SEMI-RIGID CABLES (panel sealed)**

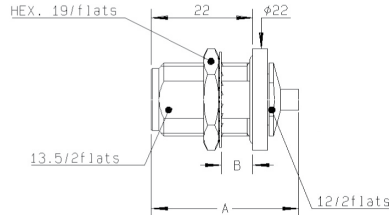
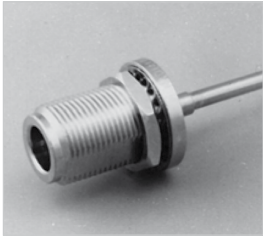


Fig. 1

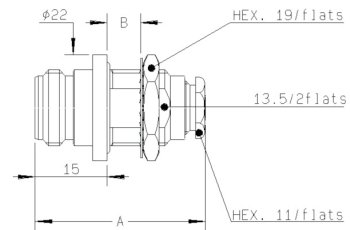


Fig. 2

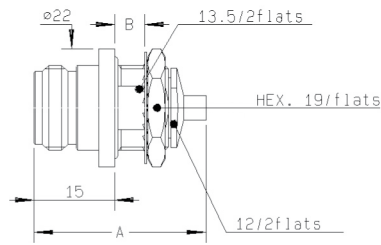


Fig. 3

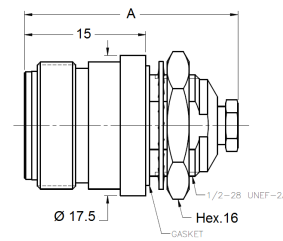
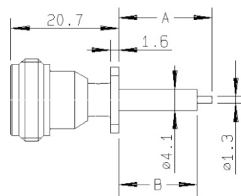
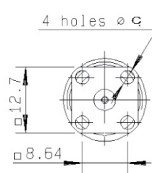


Fig. 4

| Cable group | Cable group dia. | Part number   | Fig. | Dimensions (mm) |     | Captive center contact     | Panel drilling | Note                      |
|-------------|------------------|---------------|------|-----------------|-----|----------------------------|----------------|---------------------------|
|             |                  |               |      | A               | B   |                            |                |                           |
| RG405       | .085"            | R161 335 200  | 1    | 32              | 6.5 | No                         | P11            | Solder type / Rear mount  |
| RG402       | .141"            | R161 323 000  | 2    | 35.5            | 8   |                            |                | Solder type / Front mount |
|             |                  | R161 336 000  | 1    | 32              | 6.5 |                            |                | Solder type / Front mount |
|             |                  | R161 336 200  | 3    |                 |     |                            |                | Solder type / Rear mount  |
| RG401       | .250"            | R161 337 200  | 1    | 26.56           | -   |                            |                | -                         |
| RG405       | .085"            | 4502-7041-010 | 4    |                 |     | Solder clamp / Front mount |                |                           |
| RG402       | .141"            | 4501-9543-009 | 1    |                 |     | 33.52                      | -              |                           |

**LOW PROFILE SQUARE FLANGE, STRAIGHT FEMALE RECEPTACLE**



| Part number  | Dimensions (mm) |    |       | Captive center contact | Panel drilling | Note                |
|--------------|-----------------|----|-------|------------------------|----------------|---------------------|
|              | A               | B  | C dia |                        |                |                     |
| R161 410 520 | 17.9            | 15 | 2.9   | Yes                    | P08            | Extended dielectric |

Receptacles

FLANGE, STRAIGHT FEMALE RECEPTACLES

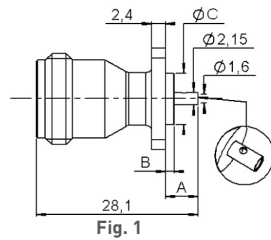
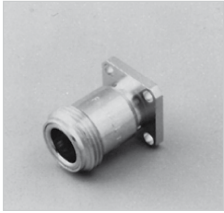


Fig. 1

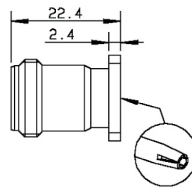


Fig. 2

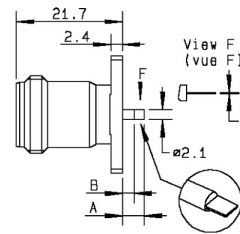


Fig. 3

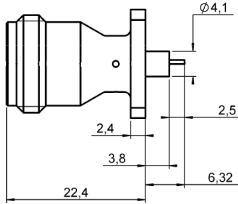


Fig. 4

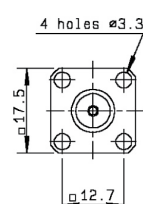


Fig. A

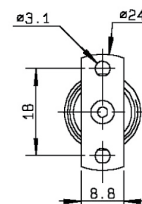


Fig. B

| Part number   | Fig.  | Dimensions (mm) |     |     | Captive center contact | Panel drilling | Note                                |
|---------------|-------|-----------------|-----|-----|------------------------|----------------|-------------------------------------|
|               |       | A               | B   | C   |                        |                |                                     |
| R161 410 000  | 1 + A | 5.7             | 1.5 | 8.9 | Yes                    | P03            | -                                   |
| R161A 410 000 |       |                 |     |     |                        |                | ECO version                         |
| R161 410 130  | 4 + A | -               | -   | -   |                        | P13            | Solder pot contact                  |
| R161 418 000  | 2 + A | -               | -   | -   |                        | P03            | Universal / See contacts page 12-22 |
| R161 461 000  | 3 + B | 6.2             | 3.9 | 0.6 |                        | P09            | 2 hole flange / Flat tab contact    |
|               |       |                 |     |     |                        |                |                                     |

STRAIGHT MALE AND FEMALE RECEPTACLES

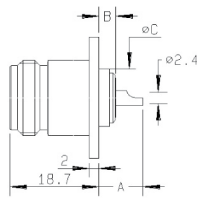
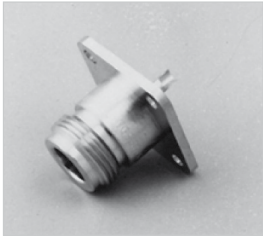


Fig. 1

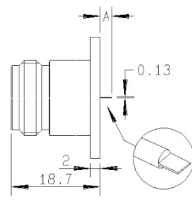


Fig. 2

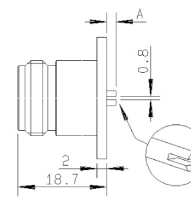


Fig. 3

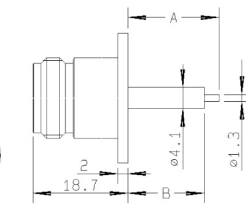


Fig. 4

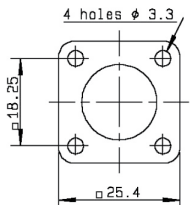


Fig. A

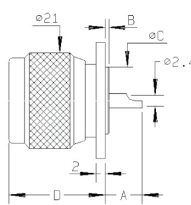


Fig. 5

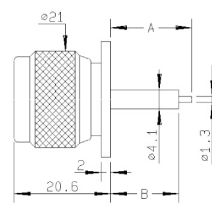


Fig. 6

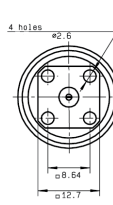


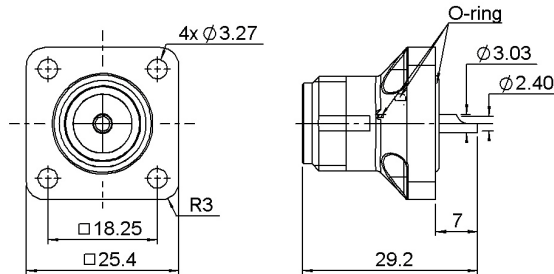
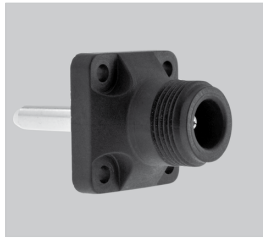
Fig. 7

| Part number   | Fig.  | Dimensions (mm) |     |       |      | Captive center contact | Panel drilling             | Note   |
|---------------|-------|-----------------|-----|-------|------|------------------------|----------------------------|--|
|               |       | A               | B   | C dia | D    |                        |                            |  |
| R161 404 000  | 1 + A | 9.3             | 0.8 | 14.6  | -    | Yes                    | P05                        | Solder pot   |
| R161A 404 000 |       |                 |     |       | -    |                        |                            | Solder pot / ECO version                               |
| R161 404 137  |       |                 |     |       | -    |                        |                            | For intermodulation application / Center contact brass |
| R161 416 130  | 4 + A | 17.9            | 15  | -     | P06  |                        | Extended dielectric        |  |
| R161 419 020  | 2 + A | 2.5             | -   | -     | P07  |                        | Flat tab contact           |  |
| R161 419 300  | 3 + A | 2               | -   | -     | P01  |                        | Slotted contact            |  |
| R161 441 000  | 5 + A | 8.7             | 0.8 | 14.6  | 20.6 | P02                    | Male / Solder pot          |  |
| R161 441 400  | 6 + A | 17.9            | 15  | -     | -    | P04                    | Male / Extended dielectric |  |
| R161 438 200  | 7     | -               | -   | -     | -    | P08                    | -                          |  |



## Receptacles

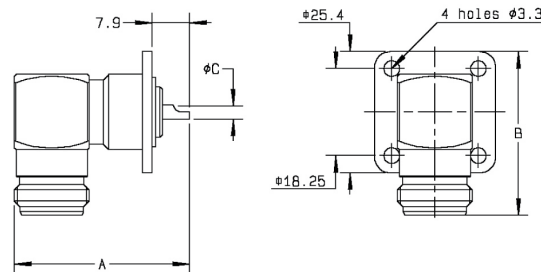
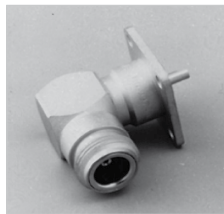
### COMPOSITE FEMALE RECEPTACLES



| Part number  | Captive center contact | Description      | Color | Packaging |
|--------------|------------------------|------------------|-------|-----------|
| R161 404 C01 | Yes                    | -                | Black | 50 pieces |
| R161 404 C02 |                        | Combination seal |       |           |
| R161 404 C03 |                        | Panel seal       |       |           |

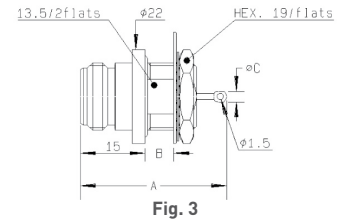
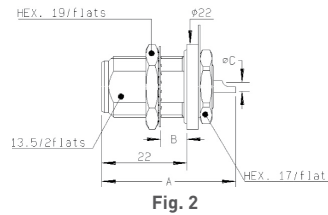
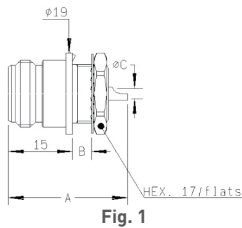
Available upon request.  
Processed according to customer needs.

### RIGHT ANGLE FEMALE RECEPTACLES



| Part number  | Dimensions (mm) |      |       | Captive center contact | Panel drilling | Note       |
|--------------|-----------------|------|-------|------------------------|----------------|------------|
|              | A               | B    | C dia |                        |                |            |
| R161 653 000 | 36.9            | 34.4 | 2.5   | Yes                    | P02            | Solder pot |

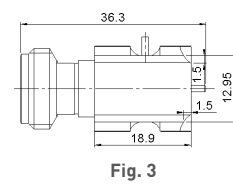
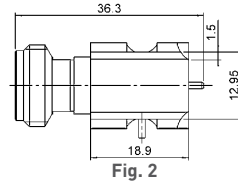
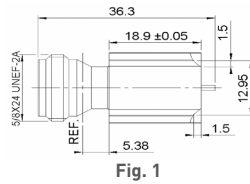
### BULKHEAD STRAIGHT RECEPTACLES (fully sealed or panel hermetic)



| Part number  | Fig. | Dimensions (mm) |     |     | Captive center contact | Panel drilling | Note                         |
|--------------|------|-----------------|-----|-----|------------------------|----------------|------------------------------|
|              |      | A               | B   | C   |                        |                |                              |
| R161 570 000 | 1    | 28              | 4.5 | 2.4 | Yes                    | P10            | Front mount                  |
| R161 606 000 | 2    | 34.6            | 6.5 | 2.4 |                        | P11            | Rear mount / Fully sealed    |
| R161 625 000 | 3    | 34              | 6.5 | 2.5 |                        | P11            | Front mount / Panel hermetic |

Receptacles

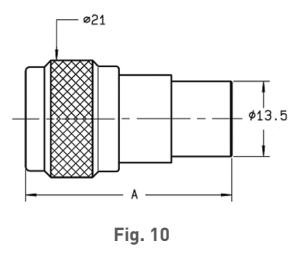
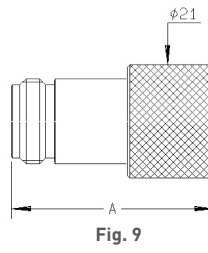
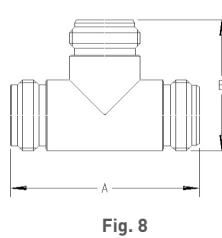
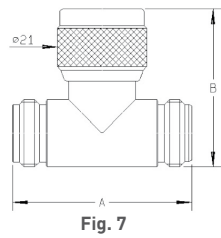
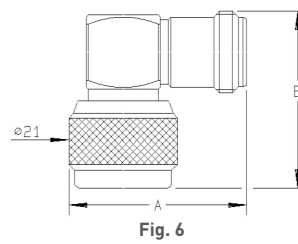
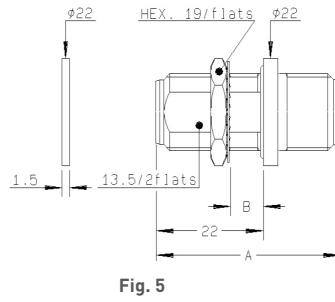
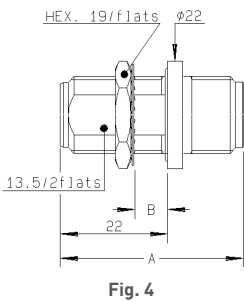
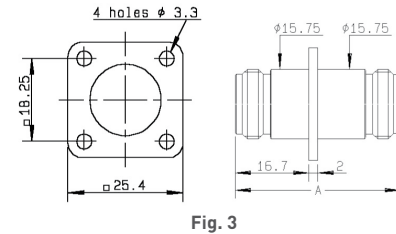
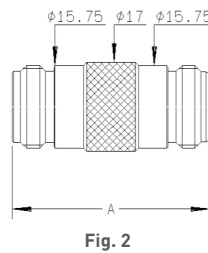
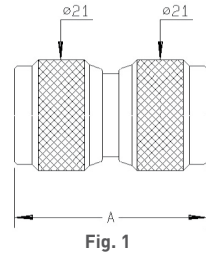
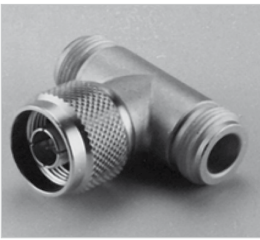
N SMT SWITCH AND RECEPTACLE



| Part number  | Fig. | Note                            |
|--------------|------|---------------------------------|
| R161 427 223 | 1    | Edge card female receptacle     |
| R161 428 223 | 2    | Edge card SMT left type switch  |
| R161 428 233 | 3    | Edge card SMT right type switch |

Adapters

IN SERIES ADAPTERS



| Part number  | Fig. | Dimensions (mm) |      | Panel drilling | Note                                    |
|--------------|------|-----------------|------|----------------|---|
|              |      | A               | B    |                |   |
| R161 703 000 | 1    | 36.7            | -    | -              | Male - Male                             |
| R161 705 000 | 2    | -               | -    | -              | Female - Female                         |
| R161 715 000 | 3    | 37.5            | -    | P01            | Female - Female / Flange                |
| R161 730 000 | 4    | -               | 6.5  | P11            | Female - Female / Bulkhead panel sealed |
| R161 753 000 | 5    | 38              | 6.5  | P11            | Female - Female / Hermetic / Bulkhead   |
| R161 771 000 | 6    | 34.4            | 34   | -              | Male - Female / Right angle             |
| R161 780 000 | 7    | -               | 36.9 | -              | Tee female - Female / Male              |
| R161 782 000 | 8    | -               | 29.1 | -              | Tee female - Female / Female            |
| R161 791 500 | 9    | 37.37           | -    | -              | Push-on male / Female screwing          |
| R161 791 530 | 10   | 37.2            | -    | -              | Push-on female / Male screwing          |

Caps and Accessories

PROTECTIVE CAPS

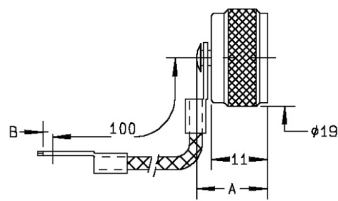
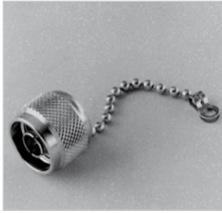


Fig. 1

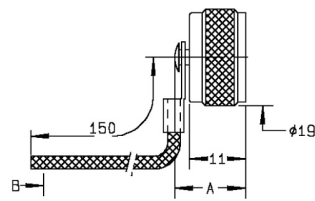


Fig. 2

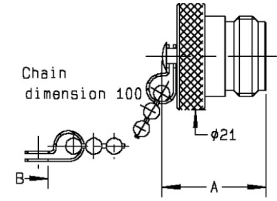


Fig. 3

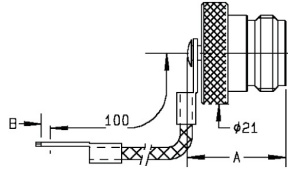


Fig. 4

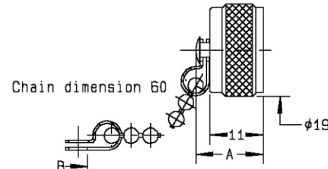


Fig. 5

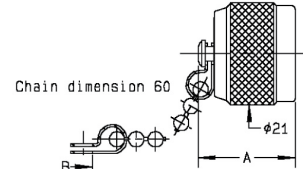


Fig. 6

| Part number  | Fig. | Dimensions (mm) |     | Note                          |
|--------------|------|-----------------|-----|-------------------------------|
|              |      | A               | B   |                               |
| R161 804 000 | 1    | 13.9            | 3.8 | Male with cord                |
| R161 805 410 | 2    | 13.9            | 2   | Male with cord                |
| R161 841 000 | 3    | 20.4            | 3.9 | Female with chain             |
| R161 844 000 | 4    | 20.4            | 3.8 | Female with cord              |
| R161 853 000 | 5    | 13.9            | 3.9 | Male with chain               |
| R161 862 000 | 6    | 20.1            |     | Male short circuit with chain |

FIELD-REPLACEABLE CONTACTS (for universal receptacle)

These accessories have been specifically designed for the adjustment at the rear of hermetically sealed universal receptacles. The choice of their dimensions depends on the PCB or on the thickness of the MIC box. These contacts and insulators are also compatible with SMA UNIVERSAL RECEPTACLES.

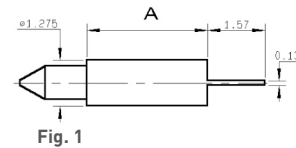
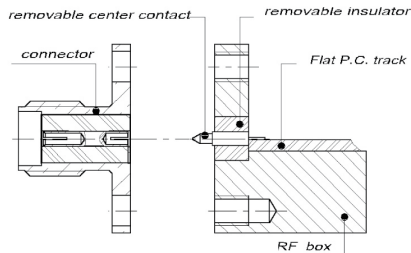
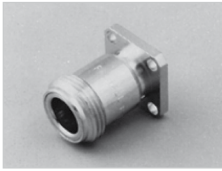


Fig. 1

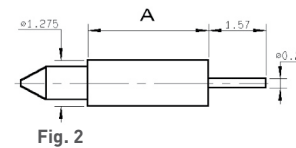
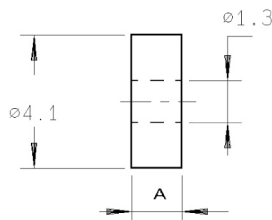


Fig. 2

| Part number  | Fig. | A    | Note            | Associated insulator P/N |
|--------------|------|------|-----------------|--------------------------|
| R280 461 000 | 1    | 3.37 | Flat tab        | R280 468 000             |
| R280 463 000 | 2    |      | Cylindrical tab |                          |

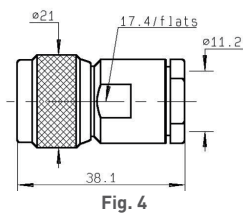
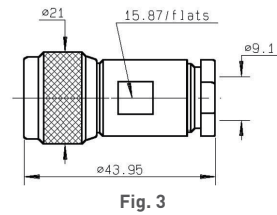
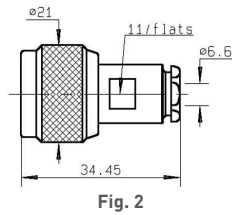
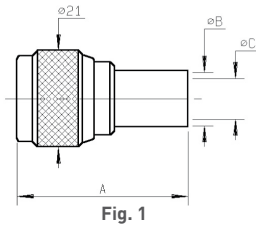
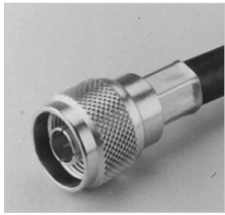
FIELD-REPLACEABLE INSULATOR



| Part number  | A    | Packaging |
|--------------|------|-----------|
| R280 468 000 | 3.17 | 10        |

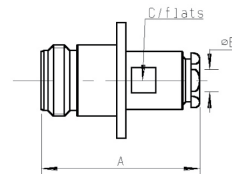
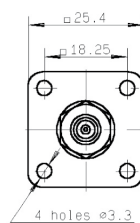
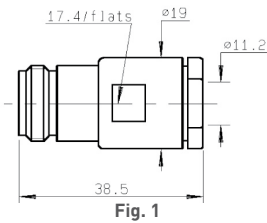
Plugs and Jacks

**STRAIGHT PLUGS, FOR FLEXIBLE CABLES**



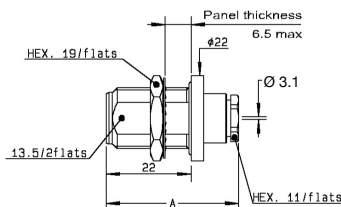
| Cable group                 | Cable group dia. | Part number  | Fig. | Dimensions (mm) |       |       | Captive center contact | Note       |
|-----------------------------|------------------|--------------|------|-----------------|-------|-------|------------------------|------------|
|                             |                  |              |      | A               | B dia | C dia |                        |            |
| RG59 / RG62                 | 6/75/S           | R162 084 000 | 1    | 33.9            | 6.6   | 4     | Yes                    | Crimp type |
|                             | 6/75+93          | R162 012 000 | 2    | -               | -     | -     | No                     | Clamp type |
| RG6                         | 8/75/D           | R162 013 000 | 3    | -               | -     | -     |                        |            |
| RG11 / RG12 / RG144 / RG216 | 10+11/75         | R162 017 000 | 4    | -               | -     | -     |                        |            |

**STRAIGHT JACKS, CLAMP TYPE, FOR FLEXIBLE CABLES**



| Cable group                 | Cable group dia. | Part number  | Fig. | Dimensions (mm) |     |    | Captive center contact | Panel drilling | Note          |
|-----------------------------|------------------|--------------|------|-----------------|-----|----|------------------------|----------------|---------------|
|                             |                  |              |      | A               | B   | C  |                        |                |               |
| RG11 / RG12 / RG144 / RG216 | 10+11/75         | R162 217 000 | 1    | -               | -   | -  | No                     | -              | -             |
| RG59 / RG62                 | 6/75+93/S        | R162 262 000 | 2    | 34.9            | 6.6 | 11 |                        | P01            | Square flange |

**STRAIGHT BULKHEAD JACK, CLAMP TYPE, FOR FLEXIBLE CABLE (panel seal)**



| Cable group | Cable group dia. | Part number  | Captive center contact | Panel drilling |
|-------------|------------------|--------------|------------------------|----------------|
| RG179       | 2.6/75/S         | R162 322 000 | No                     | P11            |

Receptacles and Adapters

FEMALE RECEPTACLES

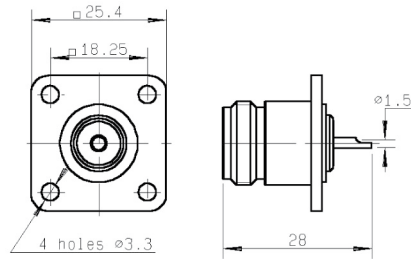


Fig. 1

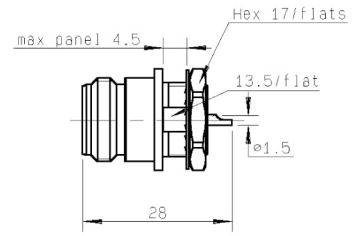


Fig. 2

| Part number  | Fig. | Captive center contact | Panel drilling |
|--------------|------|------------------------|----------------|
| R162 403 000 | 1    | Yes                    | P05            |
| R162 570 000 | 2    |                        | P12            |

IN SERIES ADAPTERS

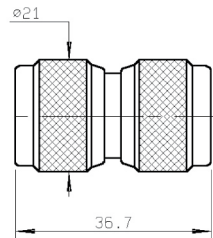


Fig. 1

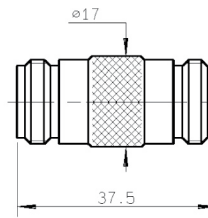
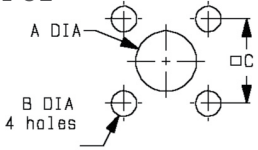


Fig. 2

| Part number  | Fig. | Captive center contact |
|--------------|------|------------------------|
| R162 703 000 | 1    | Yes                    |
| R162 705 000 | 2    |                        |

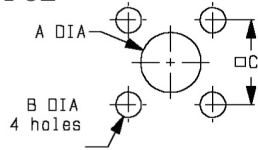
Panel Drilling

P01



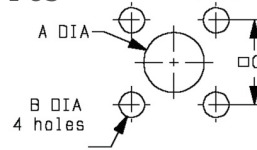
|   | MM    |       | INCH  |       |
|---|-------|-------|-------|-------|
|   | maxi  | mini  | maxi  | mini  |
| A | 16.3  | 16.1  | 0.642 | 0.634 |
| B | 3.30  | 3.20  | 0.13  | 0.126 |
| C | 18.35 | 18.15 | 0.722 | 0.715 |

P02



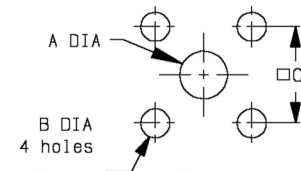
|   | MM    |       | INCH  |       |
|---|-------|-------|-------|-------|
|   | maxi  | mini  | maxi  | mini  |
| A | 15.1  | 14.9  | 0.594 | 0.587 |
| B | 3.30  | 3.20  | 0.13  | 0.126 |
| C | 18.35 | 18.15 | 0.722 | 0.715 |

P03



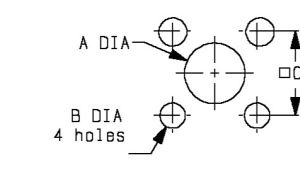
|   | MM   |      | INCH  |       |
|---|------|------|-------|-------|
|   | maxi | mini | maxi  | mini  |
| A | 9.40 | 9.20 | 0.37  | 0.362 |
| B | 3.30 | 3.20 | 0.13  | 0.126 |
| C | 12.8 | 12.6 | 0.504 | 0.496 |

P04



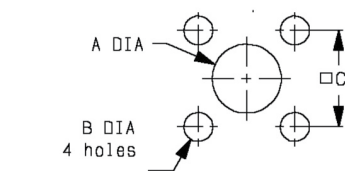
|   | MM    |       | INCH  |       |
|---|-------|-------|-------|-------|
|   | maxi  | mini  | maxi  | mini  |
| A | 4.2   | 4.1   | 0.165 | 0.161 |
| B | 3.3   | 3.2   | 0.13  | 0.126 |
| C | 18.35 | 18.15 | 0.722 | 0.715 |

P05



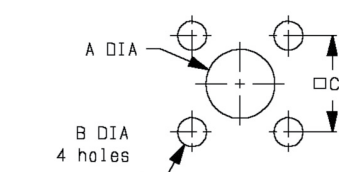
|   | MM    |       | INCH  |       |       |
|---|-------|-------|-------|-------|-------|
|   | maxi  | mini  | maxi  | mini  |       |
| A | Front | 16.3  | 16.1  | 0.642 | 0.634 |
|   | Rear  | 15.1  | 14.9  | 0.594 | 0.587 |
| B | 3.30  | 3.20  | 0.13  | 0.126 |       |
| C | 18.35 | 18.15 | 0.722 | 0.715 |       |

P06



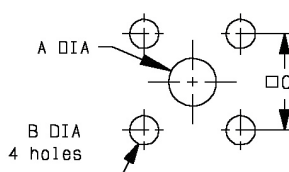
|   | MM    |       | INCH  |       |       |
|---|-------|-------|-------|-------|-------|
|   | maxi  | mini  | maxi  | mini  |       |
| A | Front | 16.3  | 16.1  | 0.642 | 0.634 |
|   | Rear  | 4.2   | 4.1   | .165  | 0.161 |
| B | 3.3   | 3.2   | 0.13  | 0.126 |       |
| C | 18.35 | 18.15 | 0.722 | 0.715 |       |

P07



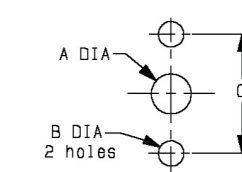
|   | MM    |       | INCH  |       |       |
|---|-------|-------|-------|-------|-------|
|   | maxi  | mini  | maxi  | mini  |       |
| A | Front | 16.3  | 16.1  | 0.642 | 0.634 |
|   | Rear  | 12.5  | 12.3  | 0.492 | 0.484 |
| B | 3.3   | 3.2   | 0.13  | 0.126 |       |
| C | 18.35 | 18.15 | 0.722 | 0.715 |       |

P08



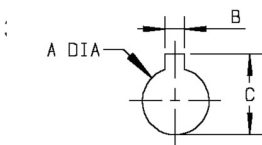
|   | MM   |      | INCH  |       |
|---|------|------|-------|-------|
|   | maxi | mini | maxi  | mini  |
| A | 4.2  | 4.1  | 0.165 | 0.161 |
| B | 2.7  | 2.6  | 0.106 | 0.102 |
| C | 8.69 | 8.59 | 0.342 | 0.338 |

P09



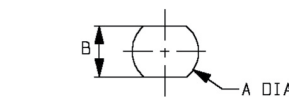
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|---|------|------|-------|-------|
|   | maxi | mini | maxi  | mini  |
| A | 5    | 4.80 | 0.197 | 0.189 |
| B | 3.30 | 3.20 | 0.13  | 0.126 |
| C | 18.1 | 17.9 | 0.713 | 0.705 |

P10



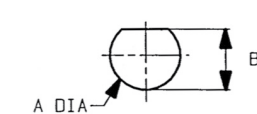
|   | MM   |      | INCH  |       |
|---|------|------|-------|-------|
|   | maxi | mini | maxi  | mini  |
| A | 14.3 | 14.1 | 0.563 | 0.555 |
| B | 2.30 | 2.20 | 0.091 | 0.087 |
| C | 17   | 16.8 | 0.669 | 0.661 |

P11



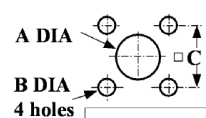
|   | MM   |      | INCH  |       |
|---|------|------|-------|-------|
|   | maxi | mini | maxi  | mini  |
| A | 16.1 | 16   | 0.634 | 0.63  |
| B | 13.7 | 13.6 | 0.539 | 0.535 |

P12



|   | MM   |      | INCH  |       |
|---|------|------|-------|-------|
|   | maxi | mini | maxi  | mini  |
| A | 14.3 | 14.1 | 0.563 | 0.56  |
| B | 13.8 | 13.6 | 0.543 | 0.535 |

P13



|   | mm   |      |
|---|------|------|
|   | Maxi | mini |
| A | 4.25 | 4.15 |
| B | 3.4  | 3.2  |
| C | 12.8 | 12.6 |

## Introduction



|            |  |
|------------|--|
| 50Ω        | DC - 11 GHz (standard and TNC Self-Lock)<br>DC - 18 GHz (TNC 18 GHz) |
| 75Ω        | DC - 1.5 GHz<br>DC - 1 GHz (recommended)                             |
| 50 and 75Ω | DC - 1.5 GHz (commercial)  |

**GENERAL**

- Screw-on equivalent to BNC bayonet series
- Good RF performance
- Suitable for high power levels
- Long life and high strength
- 4 ranges:
  - Standard TNC series (50 and 75Ω fully intermateable)
  - Commercial TNC series (50 and 75Ω)
  - 18 GHz TNC series (50Ω)
  - TNC Self-Lock series 50 ohms

**APPLICABLE STANDARDS**

- MIL-C-39012 / MIL STD 348A/313
- IEC 60169-17
- CECC 22200

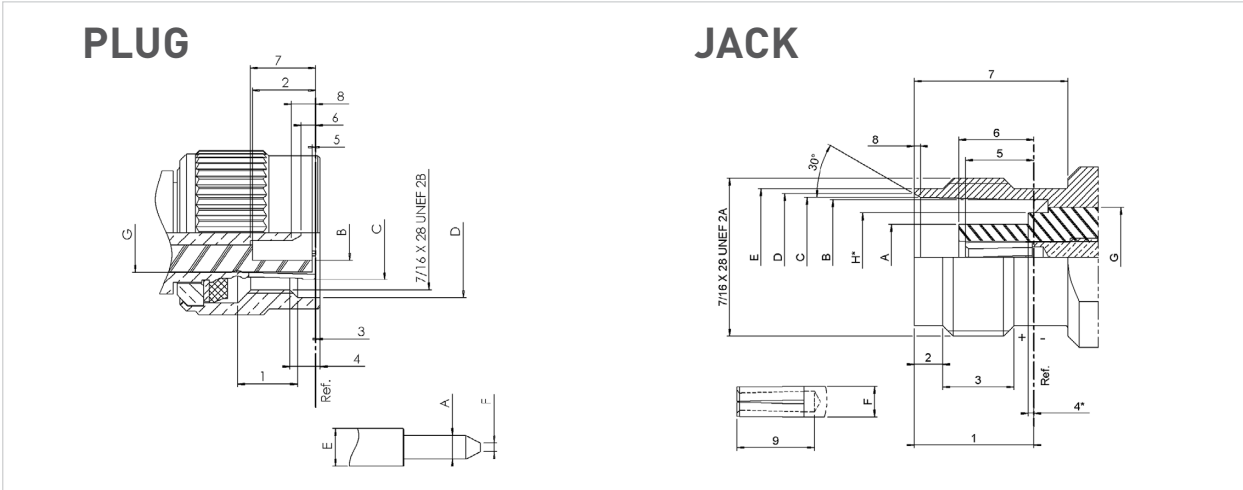
**APPLICATIONS**

- Avionics
- Aeronautics
- Countermeasures
- Telecommunications

**TNC Self-Lock is the latest addition to the TNC range**

TNC Self-Lock plugs are designed for civil aerospace applications. They are qualified for use in harsh and high vibration environments. Their specific anti-rotation coupling nut eliminates the need for safety lock wire, which results in significant time savings during installation on board the aircraft. They are fully compatible with all standard TNC receptacles and adapters.

Interface



| Letter | mm    |      | inch  |       |
|--------|-------|------|-------|-------|
|        | min.  | max. | min.  | max.  |
| A      | 1.32  | 1.37 | 0.052 | 0.054 |
| B      | 4.83  | -    | 0.190 | -     |
| D      | 11.40 | -    | 0.449 | -     |
| E      | -     | 2.20 | -     | 0.087 |
| F      | 0.35  | 0.65 | 0.014 | 0.025 |
| G      | 7.00  | 7.05 | 0.275 | 0.277 |
| 1      | 4.9   | 5.70 | 0.193 | 0.224 |
| 2      | 5.28  | 5.79 | 0.208 | 0.228 |
| 3      | 0.15  | -    | 0.006 | -     |
| 4      | 1.8   | -    | 0.071 | -     |
| 5      | 0.15  | -    | 0.006 | -     |
| 6      | 0.08  | 1.02 | 0.003 | 0.040 |
| 7      | 5.33  | 5.84 | 0.210 | 0.230 |
| 8      | 0.70  | 1.98 | 0.027 | 0.078 |

| Letter | mm   |      | inch  |       |
|--------|------|------|-------|-------|
|        | min. | max. | min.  | max.  |
| A      | -    | 4.72 | -     | 0.186 |
| B      | 8.10 | 8.10 | 0.319 | 0.321 |
| C      | 8.31 | 8.46 | 0.327 | 0.333 |
| D      | 8.79 | 9.04 | 0.346 | 0.356 |
| E      | 9.60 | 9.68 | 0.378 | 0.381 |
| F      | -    | 2.20 | -     | 0.087 |
| H      | -    | 5.90 | -     | 0.232 |
| 1      | 8.30 | 8.50 | 0.327 | 0.335 |
| 2      | 1.73 | 2.24 | 0.068 | 0.088 |
| 3      | 4.75 | -    | 0.187 | -     |
| 4      | -    | 0.15 | -     | 0.006 |
| 5      | 4.72 | 5.23 | 0.186 | 0.206 |
| 6      | 4.78 | 5.28 | 0.188 | 0.208 |
| 7      | 10.7 | -    | 0.421 | -     |
| 8      | 0.38 | 0.76 | 0.015 | 0.030 |
| 9      | 4.95 | -    | 0.195 | -     |



## Characteristics

| Test / Characteristics | MIL-C-39012 A | Values / Remarks |
|------------------------|---------------|------------------|
|------------------------|---------------|------------------|

## ELECTRICAL CHARACTERISTICS

|                                 |      |  |                                  |
|---------------------------------|------|--|----------------------------------|
| Impedance                       | -    | 50Ω  | 75Ω                              |
| Frequency range                 | -    | DC - 11 GHz                                | DC - 1.5 GHz                     |
| V.S.W.R.                        | 3-14 | 1.30 max                                   |                                  |
| Insertion loss                  | 3-27 | 0.18 dB max at 9 GHz                       |                                  |
| RF leakage                      | 3-26 | -60 dB min from 2 to 3 GHz                 |                                  |
| Insulation resistance           | 3-11 | 5000 MΩ min                                |                                  |
| Contact resistance              | 3-16 | Initial                                    | After proof                      |
| • Center contact (mΩ)           | -    | 1.5  | 2                                |
| • Outer contact (mΩ)            | -    | 0.2  | -                                |
| Working voltage                 | -    | At sea level: 500 V rms                    | at 70000 ft (21000 m): 125 V rms |
| Dielectric withstanding voltage | 3-17 | At sea level: 1500 V rms                   | at 70000 ft (21000 m): 375 V rms |
| RF withstanding voltage         | 3-23 | At sea level: 1000 V rms (5 MHz sine wave) |                                  |

## MECHANICAL CHARACTERISTICS

|                                    |      |   |   |
|------------------------------------|------|---|---|
| Durability                         | 3-15 | 500 matings   |   |
| Mating / unmating                  | -    | Axial force: not applicable<br>Torque: 1.96 inch pounds (22.6 N.cm) |   |
| Recommended mating torque          | -    | 3.99 to 5.98 inch pounds (46 to 69 N.cm)                            |   |
| Proof torque                       | -    | 14.74 inch pounds (170 N.cm)  |   |
| Coupling mechanism retention force | 3-25 | 100 Lbf (44.5 daN)  |   |
| Cabling retention force            | 3-24 | Cable clamp:  | 40.6 Lbf (181 N min) [all cables]   |
|                                    |      | Crimped:  | 51 Lbf (227 N min) [cable dia. .189 (4.8) to .228 (5.8)]<br>76.4 Lbf (340 N min) [cable dia. .250 (6.35) and above] |
| Center contact retention           | -    | Axial: 6.06 Lbf (27 N)  |   |

## ENVIRONMENTAL CHARACTERISTICS

|                                |      |  |
|--------------------------------|------|--|
| Temperature range              | -    | -65°C / +165°C   |
| • Standard models              | -    | -65°C / +100°C   |
| • Hermetic sealed models       | -    | -65°C / +105°C   |
| • Models for semi-rigid cables | -    |  |
| Thermal shock                  | 3-20 | MIL-STD-202, method 107, condition B   |
| High temperature endurance     | -    | MIL-STD-202, method 108  |
| Corrosion (salt spray)         | 3-13 | MIL-STD-202, method 101, condition B   |
| Vibrations                     | 3-18 | MIL-STD-202, method 204, condition B   |
| Shocks                         | 3-19 | MIL-STD-202, method 213, condition G   |
| Moisture resistance            | 3-21 | MIL-STD-202, method 106  |
| Low pressure                   | 3-22 | Not applicable   |
| Hermetic seal                  | -    | Applied vacuum 10 <sup>-6</sup> mm of Hg (Torrs)<br>leakage rate < 10 <sup>-6</sup> atm/cm <sup>3</sup> /s |
| Leakage                        | -    | Pressure 3.5 bars; duration 2 min; temperature 15°C to 25°C  |

## MATERIALS AND PLATING

|                             |                                  |               |
|-----------------------------|----------------------------------|---------------|
| Body and center pin contact | Brass as per QQ-B-626            | Nickel plated |
| Center socket contact       | Beryllium copper as per QQ-C-530 | Gold plated   |
| Ferrules                    | Brass                            | -             |
| Insulators                  | PTFE teflon                      | -             |
| Gaskets                     | Silicone elastomer               | -             |

All dimensions are given in mm.

## Characteristics Commercial TNC

| Test / Characteristics | Values / Remarks |
|------------------------|------------------|
|------------------------|------------------|

## ELECTRICAL AND ENVIRONMENTAL CHARACTERISTICS

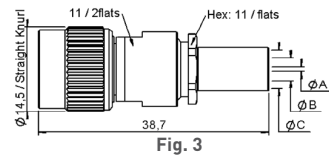
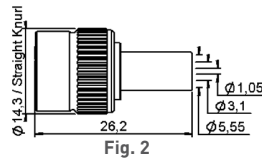
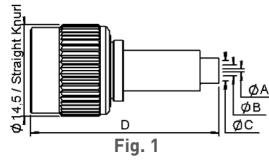
|                       |                     |
|-----------------------|---------------------|
| Impedance             | 50Ω or 75Ω          |
| Frequency range       | DC - 1.5 GHz        |
| Test voltage          | 1500 V rms          |
| Operating voltage     | 500 V rms           |
| Insulation resistance | 5000 MΩ min (500 V) |
| Contact resistance    | 10 mΩ max           |
| Temperature range     | -35°C / +70°C       |

## PLATING

|                 |        |
|-----------------|--------|
| Body            | Nickel |
| Center contacts | Gold   |

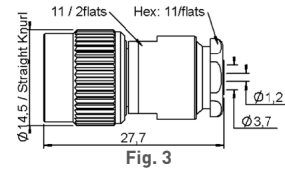
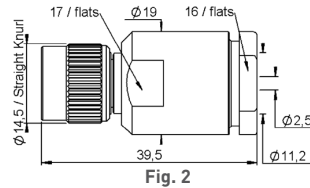
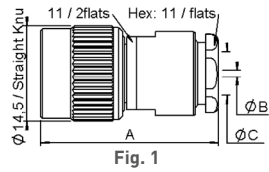
Plugs

STRAIGHT PLUGS CRIMP TYPE FOR FLEXIBLE CABLE



| Cable group               | Cable group dia.    | Part number  | Fig. | Dimensions mm |       |       |       | Captive center contact | Packaging  | Note                           |
|---------------------------|---------------------|--------------|------|---------------|-------|-------|-------|------------------------|------------|--------------------------------|
|                           |                     |              |      | A             | B     | C     | D     |                        |            |                                |
| RG174 / RG316 / AEP-100FR | 2.6/50/S & LMR® 100 | R143 075 000 | 1    | 0.6           | 1.75  | 3.25  | 29.6  | Yes                    | 100 pieces | -                              |
| AEP-195FR                 | LMR® 195            | R143 082 027 |      | 1.05          | 3.1   | 5.55  | 26.6  |                        |            |                                |
| AEP-200FR                 | LMR® 200            | R143 082 200 |      | 1.27          | 3.1   | 5.55  | 26.6  |                        |            |                                |
| AEP-240FR                 | LMR® 240            | R143 084 161 |      | 1.5           | 4.05  | 6.6   | 28.2  |                        |            |                                |
| AEP-400FR                 | LMR® 400            | R143 089 117 |      | 2.85          | 7.8   | 11.05 | 27.85 |                        |            |                                |
| RG58 / RG141              | 5/50/S              | R143 082 000 | 2    | -             | -     | -     | -     | No                     | Unit       | Full crimp                     |
|                           |                     | R143 082 161 |      | -             | -     | -     | -     |                        |            | Commercial version, full crimp |
|                           |                     | R143 072 000 | 3    | 1.05          | 3.1   | 5.55  | -     |                        |            | -                              |
| RG142 / RG223 / RG400     | 5/50/D              | R143 073 000 | 1    | 1.05          | 3.075 | 5.5   | -     | Yes                    | Unit       | -                              |
|                           |                     | R143 083 000 |      |               | 3.1   | 5.5   | 26.6  |                        |            | -                              |

STRAIGHT PLUGS CLAMP TYPE FOR FLEXIBLE AND SEMI RIGID CABLE



| Cable group                            | Cable group dia. | Part number  | Fig. | Dimensions mm |      |      | Captive center contact | Packaging  | Note                |
|--|------------------|--------------|------|---------------|------|------|------------------------|------------|---------------------|
|  |                  |              |      | A             | B    | C    |                        |            |                     |
| RG174 / RG316 / RD316<br>RG179 / RD179 | 2.6/50+75        | R143 004 000 | 1    | 26.5          | 0.6  | 3.1  | Yes                    | Unit       | -                   |
| RG58 / RG141 / RG142<br>RG223 / RG400  | 5/50/S+D         | R143 008 000 |      | 27.1          | 1.2  | 5.6  | No                     | 100 pieces | Conical braid clamp |
| RG59 / RG62                            | 6/75+93          | R143 012 000 |      | 27            | 1.05 | 6.65 | Yes                    | Unit       |                     |
| RG213 / RG393 / RG214                  | 10+11/50         | R143 018 000 | 2    | -             | -    | -    |                        |            | Yes                 |
|  |                  | R143 018 500 |      | -             | -    | -    |                        |            |                     |
| RG402                                  | .141"            | R143 052 000 | 3    | -             | -    | -    | No                     | -          | -                   |

Plugs and Jacks

RIGHT ANGLE PLUGS CRIMP AND SOLDER TYPE

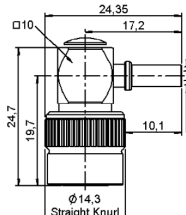
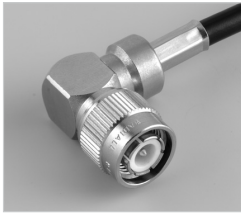


Fig. 1

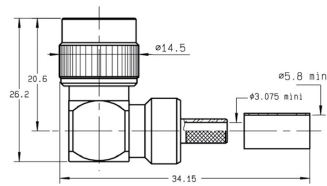


Fig. 2

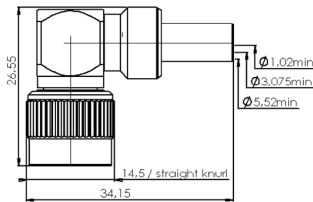


Fig. 3

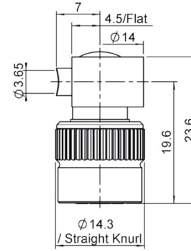
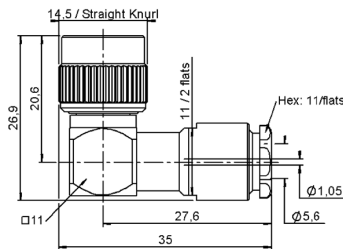


Fig. 4

| Cable group           | Cable group dia. | Part number  | Fig. | Captive center contact | Packaging  | Note               |
|-----------------------|------------------|--------------|------|------------------------|------------|--------------------|
| RG174 / RG316         | 2.6/50/S         | R143 181 161 | 1    | Yes                    | 100 pieces | Commercial version |
| RG58 / RG141          | 5/50/S           | R143 182 000 | 3    |                        |            | -                  |
| RG142 / RG223 / RG400 | 5/50/D           | R143 183 000 | 2    |                        | 100 pieces | -                  |
| RG402                 | .141"            | R143 154 100 | 4    |                        |            | Solder Type        |

RIGHT ANGLE PLUG CLAMP TYPE, FOR FLEXIBLE CABLE



| Cable group                          | Cable group dia. | Part number  | Captive center contact | Packaging |
|--------------------------------------|------------------|--------------|------------------------|-----------|
| RG58 / RG141 / RG142 / RG223 / RG400 | 5/50/S+D         | R143 156 000 | Yes                    | Unit      |

STRAIGHT JACKS CRIMP TYPE, FOR FLEXIBLE CABLE

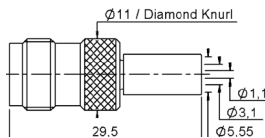


Fig. 1

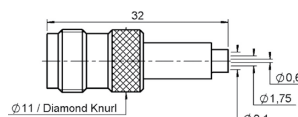


Fig. 2

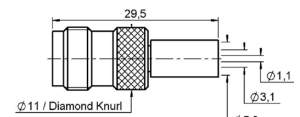
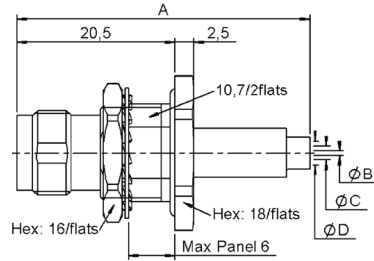


Fig. 3

| Cable group           | Cable group dia. | Part number  | Fig. | Captive center contact | Packaging  | Note                           |
|-----------------------|------------------|--------------|------|------------------------|------------|--------------------------------|
| RG174 / RG316 / RD316 | 2.5/60 S + D     | R143 237 000 | 2    | Yes                    | Unit       | -                              |
| RG58 / RG141          | 5/50/S           | R143 235 161 | 1    |                        | 100 pieces | Commercial version, Full crimp |
| RG142 / RG223 / RG400 | 5/50D            | R143 236 020 | 3    |                        | Unit       | -                              |

Jacks

**STRAIGHT BULKHEAD JACKS CRIMP TYPE, FOR FLEXIBLE CABLE**



| Cable group   | Cable group dia. | Part number  | Dimensions mm |      |      |      | Captive center contact | Panel drilling | Packaging  | Note   |
|---------------|------------------|--------------|---------------|------|------|------|------------------------|----------------|------------|--|
|               |                  |              | A             | B    | C    | D    |                        |                |            |  |
| RG174 / RG316 | 2.6/50/S         | R143 331 161 | 38            | 0.6  | 1.75 | 3.10 | Yes                    | P08+P10        | 100 pieces | Commercial version, Panel sealed             |
| RG58 / RG141  | 5/50/S           | R143 332 161 | 35            | 1.05 | 3.10 | 5.55 |                        |                |            | Commercial version, Panel sealed, Full crimp |

**STRAIGHT JACKS CLAMP TYPE, FOR FLEXIBLE CABLE**

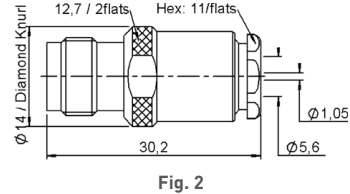
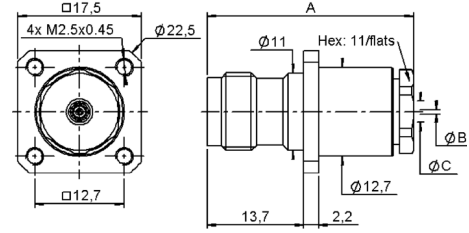
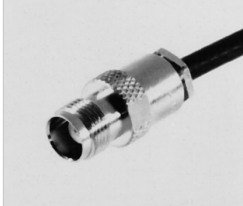


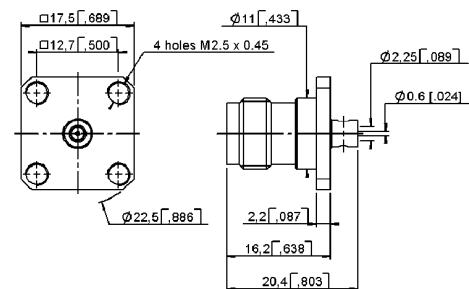
Fig. 2

Fig. 1



| Cable group                           | Cable group dia. | Part number  | Fig. | Dimensions mm |      |     | Captive center contact | Panel drilling | Packaging | Note   |
|---------------------------------------|------------------|--------------|------|---------------|------|-----|------------------------|----------------|-----------|--|
|                                       |                  |              |      | A             | B    | C   |                        |                |           |  |
| RG174 / RG316 / RD316 / RG179 / RD179 | 2.6/50+75        | R143 254 000 | 1    | 29.8          | 0.6  | 3.1 | Yes                    | P04            | Unit      | Square flange<br>Also for screws type<br>3-56 UNF 2A |
| RG58 / RG141 / RG142 / RG223 / RG400  | 5/50/S+D         | R143 258 000 |      | 30.2          | 1.05 | 5.6 |                        |                |           |  |
| RG58 / RG141                          | 5/50/S           | R143 207 000 | 2    | -             | -    | -   | No                     | -              | -         | -  |

**SQUARE FLANGE STRAIGHT JACK SOLDER TYPE, FOR SEMI-RIGID CABLE**



| Cable group | Cable group dia. | Part number  | Captive center contact | Panel drilling | Packaging |
|-------------|------------------|--------------|------------------------|----------------|-----------|
| RG405       | .085"            | R143 257 440 | No                     | P01            | Unit      |

Jacks and Receptacles

STRAIGHT BULKHEAD JACKS PANEL SEALED

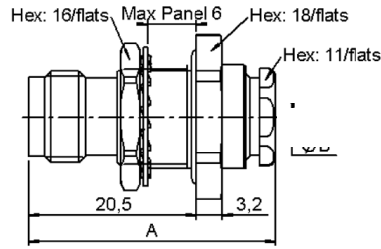


Fig. 1

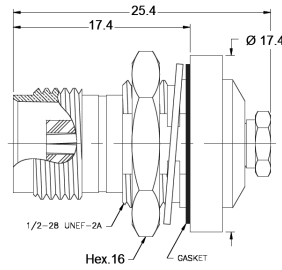


Fig. 2

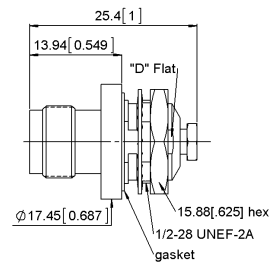


Fig. 3

| Cable group           | Cable group dia. | Part number   | Fig. | Dimensions A (mm) | Captive center contact | Panel drilling | Note        |
|-----------------------|------------------|---------------|------|-------------------|------------------------|----------------|-------------|
| RG178 / RG196         | 2/50/S           | R143 323 000  | 1    | 29.9              | Yes                    | P08            | Rear mount  |
| RG174 / RG316 / RD316 | 2.6/50           | R143 324 000  |      | 29.6              |                        |                |             |
| RG58 / RG141          | 5/50/S           | R143 325 000  |      | 30.17             |                        |                |             |
| RG402                 | .141"            | R143 327 000  |      | 30.8              |                        |                |             |
| RG174 / RG316         | 2.6/50S          | 6001-7051-003 | 2    | -                 | Yes                    |                | Front mount |
| RG405                 | .085"            | 6001-7041-010 |      | -                 |                        |                |             |
| RG178 / RG196         | 2/50S            | 6002-7051-002 | 3    | -                 | Yes                    |                |             |
| RG178 / RG196         | 2/50S            | 6002-7551-202 |      | -                 |                        |                |             |
| RG174 / RG316         | 2.6/50S          | 6002-7051-003 |      | -                 |                        |                |             |
| RD316                 | 2.6/50D          | 6002-7551-219 |      | -                 |                        |                |             |
| RG58 / RG141          | 5/50S            | 6002-7551-106 |      | -                 |                        |                |             |

SQUARE FLANGE STRAIGHT FEMALE RECEPTACLES

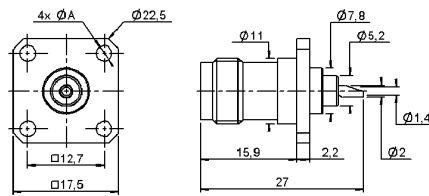
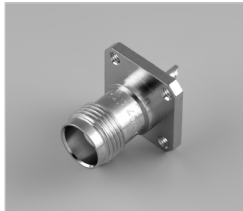


Fig. 1

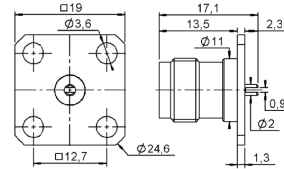


Fig. 2

| Part number  | Fig. | Dimensions A (mm) | Captive center contact | Panel drilling | Packaging  | Note                                   |
|--------------|------|-------------------|------------------------|----------------|------------|--|
| R143 404 000 | 1    | M2.5 x 0.45       | Yes                    | P05            | Unit       | Solder pot<br>17.5 mm square flange    |
| R143 405 000 |      | 2.6               |                        |                | 100 pieces |  |
| R143 420 000 | 2    | -                 | No                     | P02            | -          | Slotted contact<br>19 mm square flange |

BULKHEAD STRAIGHT FEMALE RECEPTACLES

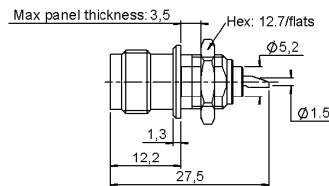


Fig. 1

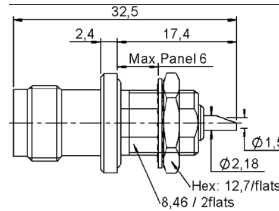


Fig. 2

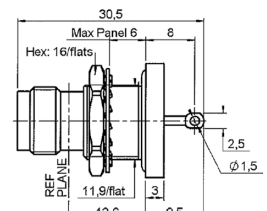
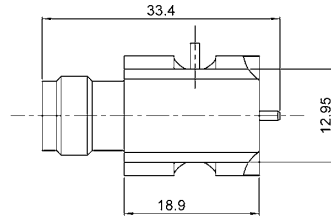


Fig. 3

| Part number  | Fig. | Captive center contact | Panel drilling | Packaging | Note  |
|--------------|------|------------------------|----------------|-----------|---|
| R143 557 000 | 1    | Yes                    | P07            | Unit      | Front mount, Solder pot contact               |
| R143 603 000 | 2    |                        | P09            |           | Panel sealed, Front mount, Solder pot contact |
| R143 626 000 | 3    |                        | P11            |           | Hermetic, Panel sealed, Rear mount            |

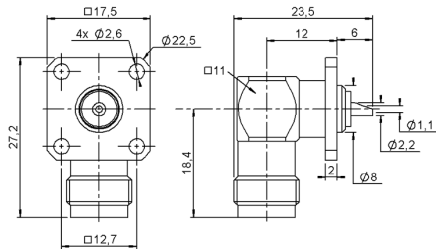
Receptacles and Caps

RF POWER SWITCHING CONNECTORS



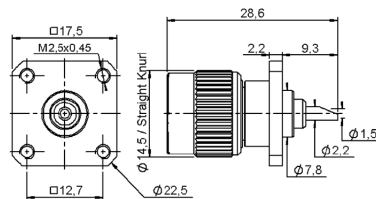
| Part number  | Type  |
|--------------|-------|
| R143 422 947 | Left  |
| R143 422 957 | Right |

SQUARE FLANGE RIGHT ANGLE FEMALE RECEPTACLE



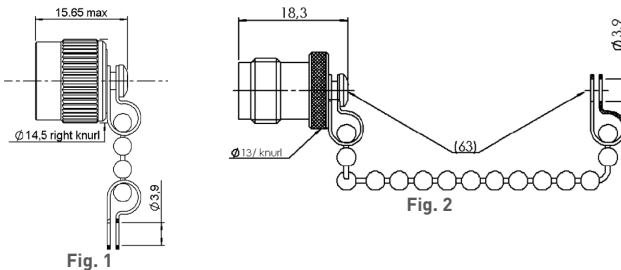
| Part number  | Captive center contact | Panel drilling | Packaging | Note               |
|--------------|------------------------|----------------|-----------|--------------------|
| R143 654 000 | Yes                    | P06            | Unit      | Solder pot contact |

SQUARE FLANGE STRAIGHT MALE RECEPTACLE



| Part number  | Captive center contact | Panel drilling | Packaging | Note               |
|--------------|------------------------|----------------|-----------|--------------------|
| R143 440 000 | Yes                    | P03            | Unit      | Solder pot contact |

PROTECTIVE CAPS



| Part number  | Fig. | Finish | Packaging  | Note              |
|--------------|------|--------|------------|-------------------|
| R143 812 000 | 1    | Nickel | Unit       | Male with chain   |
| R143 835 000 | 2    |        | 100 pieces | Female with chain |

Adapters

IN SERIES ADAPTERS

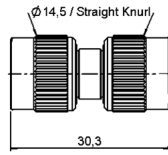


Fig. 1

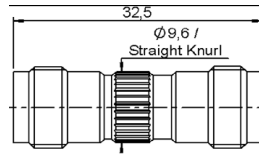


Fig. 2

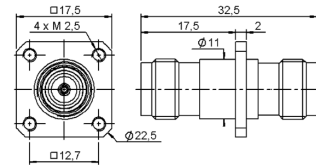


Fig. 3

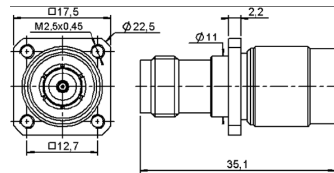


Fig. 4

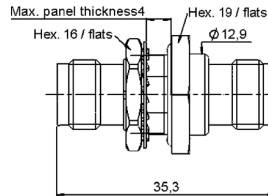


Fig. 5

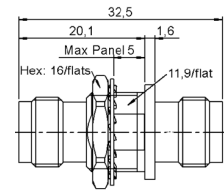


Fig. 6

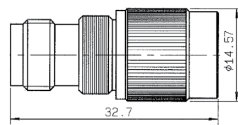


Fig. 7

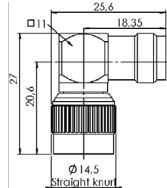


Fig. 8

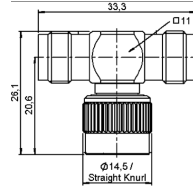


Fig. 9

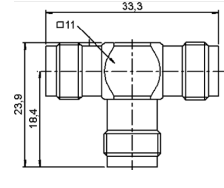
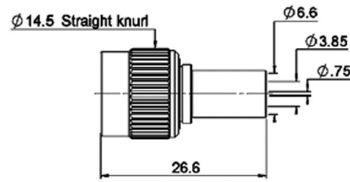


Fig. 10

| Part number  | Fig. | Captive center contact | Panel drilling | Packaging  | Note  |
|--------------|------|------------------------|----------------|------------|---|
| R143 703 000 | 1    | Yes                    | -              | Unit       | Male - Male                                     |
| R143 704 000 | 2    |                        |                |            | Female - Female                                 |
| R143 710 000 | 3    |                        |                |            | Square flange female - Female                   |
| R143 713 000 | 4    |                        |                |            | Square flange slide on type male - Female       |
| R143 753 000 | 5    |                        | P08            | 100 pieces | Bulkhead hermetic, Panel sealed female - Female |
| R143 720 000 | 6    |                        |                |            | Commercial version, Bulkhead female - Female    |
| R143 713 200 | 7    |                        | -              | Unit       | Female - Male push-on                           |
| R143 770 000 | 8    |                        |                |            | Right angle male - Female                       |
| R143 780 000 | 9    |                        |                |            | Female - Female - Male                          |
| R143 782 000 | 10   |                        |                |            | Female - Female - Female                        |

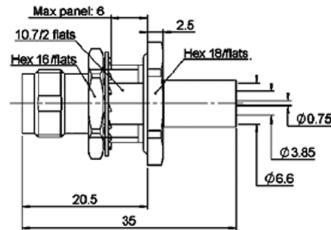
Plugs and Jacks

**STRAIGHT PLUGS CRIMP TYPE FOR FLEXIBLE CABLE**



| Cable group | Cable group dia. | Part number  | Captive center contact | Note                            |
|-------------|------------------|--------------|------------------------|---------------------------------|
| RG59 / RG62 | 6/75 + 93        | R144 085 000 | No                     | Full crimp                      |
|             |                  | R144 085 161 | Yes                    | Commercial version - Full crimp |

**STRAIGHT BULKHEAD JACK CRIMP TYPE FOR FLEXIBLE CABLE**

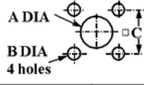


| Cable group | Cable group dia. | Part number  | Captive center contact | Panel drilling | Packaging  | Note                               |
|-------------|------------------|--------------|------------------------|----------------|------------|------------------------------------|
| RG59 / RG62 | 6/75 + 93        | R144 334 161 | Yes                    | P08 or P10     | 100 pieces | Commercial version<br>Panel sealed |



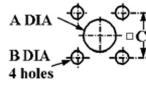
Panel Drilling

P01



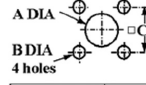
|   | MM    |       | INCH  |       |
|---|-------|-------|-------|-------|
|   | maxi  | mini  | maxi  | mini  |
| A | 11.3  | 11.2  | 0.445 | 0.441 |
| B | 2.7   | 2.6   | 0.106 | 0.102 |
| C | 12.75 | 12.65 | 0.502 | 0.498 |

P02



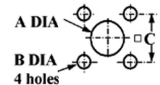
|   | MM    |       | INCH  |       |
|---|-------|-------|-------|-------|
|   | maxi  | mini  | maxi  | mini  |
| A | 11.3  | 11.2  | 0.445 | 0.441 |
| B | 3.7   | 3.6   | 0.146 | 0.142 |
| C | 12.75 | 12.65 | 0.502 | 0.498 |

P03



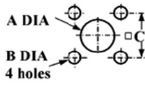
|   | MM    |       | INCH  |       |
|---|-------|-------|-------|-------|
|   | maxi  | mini  | maxi  | mini  |
| A | 7.9   | 7.8   | 0.311 | 0.307 |
| B | 2.7   | 2.6   | 0.106 | 0.102 |
| C | 12.75 | 12.65 | 0.502 | 0.498 |

P04



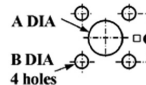
|              | MM    |       | INCH  |       |
|--------------|-------|-------|-------|-------|
|              | maxi  | mini  | maxi  | mini  |
| A (F. Mount) | 13    | 12.9  | 0.512 | 0.508 |
| A (R. Mount) | 11.3  | 11.2  | 0.445 | 0.441 |
| B            | 2.7   | 2.6   | 0.106 | 0.102 |
| C            | 12.75 | 12.65 | 0.502 | 0.498 |

P05



|           | MM    |       | INCH  |       |
|-----------|-------|-------|-------|-------|
|           | maxi  | mini  | maxi  | mini  |
| A F.mount | 8     | 7.9   | 0.315 | 0.311 |
| A R.mount | 11.3  | 11.2  | 0.445 | 0.441 |
| B         | 2.8   | 2.7   | 0.11  | 0.106 |
| C         | 12.75 | 12.65 | 0.502 | 0.498 |

P06



|   | MM    |       | INCH  |       |
|---|-------|-------|-------|-------|
|   | maxi  | mini  | maxi  | mini  |
| A | 8.3   | 8.2   | 0.327 | 0.323 |
| B | 2.7   | 2.6   | 0.106 | 0.102 |
| C | 12.75 | 12.65 | 0.502 | 0.498 |

P07



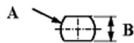
|   | MM   |      | INCH  |       |
|---|------|------|-------|-------|
|   | maxi | mini | maxi  | mini  |
| A | 9.8  | 9.7  | 0.386 | 0.382 |
| B | 8.93 | 8.81 | 0.352 | 0.347 |

P08



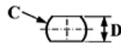
|   | MM   |      | INCH  |       |
|---|------|------|-------|-------|
|   | maxi | mini | maxi  | mini  |
| A | 12.8 | 12.7 | 0.504 | 0.5   |
| B | 12.1 | 12   | 0.476 | 0.472 |

P09



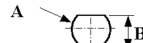
|   | MM   |      | INCH  |       |
|---|------|------|-------|-------|
|   | maxi | mini | maxi  | mini  |
| A | 9.75 | 9.65 | 0.384 | 0.38  |
| B | 8.65 | 8.55 | 0.341 | 0.337 |

P10



|   | MM   |      | INCH  |       |
|---|------|------|-------|-------|
|   | maxi | mini | maxi  | mini  |
| C | 12.8 | 12.7 | 0.504 | 0.5   |
| D | 10.9 | 10.8 | 0.429 | 0.425 |

P11



|   | mm   |      |
|---|------|------|
|   | Maxi | mini |
| A | 12.9 | 12.8 |
| B | 12.1 | 12   |

Introduction



|     |   |
|-----|---|
| 50Ω | DC - 11 GHz (maximum)<br>DC - 3 GHz (optimized) |
|-----|---|

**GENERAL**

- Standard coaxial connectors
- Bayonet coupling

**APPLICABLE STANDARDS**

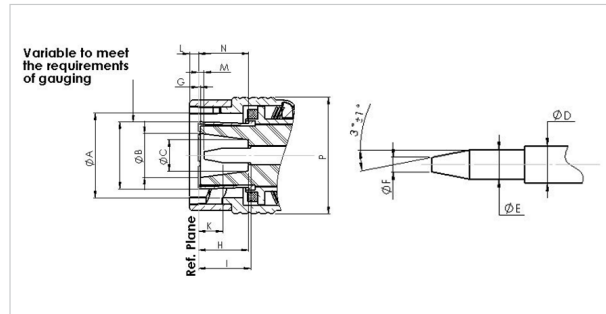
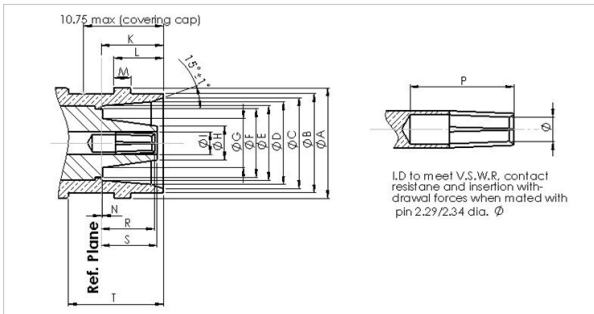
- MIL-C-39012 A
- MIL-C-3898 A
- MIL-C-23329 A
- IEC 169-7

**APPLICATIONS**

- Civil aerospace
- Maintenance

Type C connectors were engineered in the late 1940s. It is similar to type N but with a bayonet coupling for rapid connection and disconnection.

Interface



CEI Dimensions (in mm)

|    | Jack  |       |    | Plug  |       |
|----|-------|-------|----|-------|-------|
|    | min   | max   |    | min   | max   |
| ØA | 14.99 | 15.24 | ØA | 13.79 | 13.94 |
| ØB | 13.46 | 13.72 | ØB | 7.01  | -     |
| ØC | 12.32 | 12.57 | ØC | 4.92  | -     |
| ØD | 11.18 | 11.43 | ØD | 3.02  | 3.15  |
| ØE | 10.44 | 10.54 | ØE | 2.29  | 2.34  |
| ØF | -     | 9.50  | ØF | -     | 1.27  |
| ØG | -     | 6.91  | ØG | 0.18  | -     |
| ØH | -     | 4.83  | ØH | 7.80  | 8.56  |
| ØI | 3.02  | 3.15  | ØI | 7.85  | -     |
| K  | 8.43  | 8.59  | K  | 4.85  | 6.38  |
| L  | 7.80  | 7.95  | L  | -     | 2.16  |
| M  | 2.24  | 2.49  | M  | 0.09  | 1.02  |
| N  | -     | 0.18  | N  | 7.54  | 7.72  |
| P  | 7.62  | -     | P  | -     | 19.84 |
| Q  | -     | -     | -  | -     | -     |
| R  | 6.93  | 7.70  | -  | -     | -     |
| S  | -     | 7.85  | -  | -     | -     |
| T  | 12.57 | -     | -  | -     | -     |

## Characteristics

| Test / Characteristics | Values / Remarks |
|------------------------|------------------|
|------------------------|------------------|

### ELECTRICAL CHARACTERISTICS

|                           |   |
|---------------------------|---|
| Impedance                 | 50Ω   |
| Frequency range           | DC - 3 GHz (optimized)<br>DC - 11 GHz (maximum) |
| V.S.W.R.                  | 1.22 at 3 GHz                                   |
| Test voltage at sea level | 3 Kv continuous                                 |
| Insulation resistance     | > 5000 MΩ                                       |

### MECHANICAL CHARACTERISTICS

|            |                                    |
|------------|------------------------------------|
| Durability | 500 matings                        |
| Vibrations | 10g (acceleration)<br>10 to 500 Hz |

### ENVIRONMENTAL CHARACTERISTICS

|                   |   |
|-------------------|---|
| Temperature range | -55°C / + 155°C   |
| Salt spray        | 48H   |
| Panel sealing     | Pressure: 3 bars<br>Leakage rate < 1 cm <sup>3</sup> /h |

### MATERIALS AND PLATING

| Component      | Material                | Plating             |
|----------------|-------------------------|---------------------|
| Outer contact  | Bronze                  | Gold                |
| Connector body | Brass / Stainless steel | Nickel / Passivated |
| Insulator      | PTFE                    | -                   |
| Gaskets        | Silicone rubber         | -                   |

Plugs and Jacks

STRAIGHT PLUGS, FOR FLEXIBLE CABLE

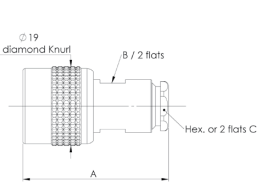


Fig. 1

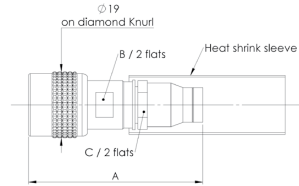


Fig. 2

| Cable group   | Cable group dia.   | Part number  | Fig. | Dimensions |    |    | Captive center contact | Note       |
|---------------|--------------------|--------------|------|------------|----|----|------------------------|------------|
|               |                    |              |      | A          | B  | C  |                        |            |
| RG58 / RG141  | 5/50/S             | R166 005 000 | 1    | 35         | 11 | 11 | No                     | Clamp type |
| RG213 / RG214 | 10/50/S<br>11/50/D | R166 018 000 | 1    | 38         | 16 | 16 |                        |            |
| ASNE WD+WN    | 8/50               | R166 092 190 | 2    | 50.25      | 12 | 12 | Yes                    | Crimp type |
| F1703-93      | 4.3/50/D           | R166 093 000 |      | 49.5       | 10 | 8  | No                     |            |
| Special ASNE  | 5/50/D             | R166 094 000 |      | 46.45      | 12 | 12 |                        |            |
| ASNE WZ       | 3.6/50S            | R166 088 100 |      | 42.55      | 12 | 8  |                        |            |

RIGHT ANGLE PLUGS, FOR FLEXIBLE CABLE

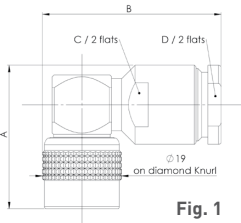


Fig. 1

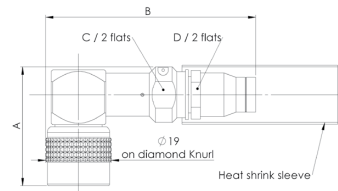


Fig. 2

| Cable group   | Cable group dia.   | Part number  | Fig. | Dimensions |      |      |    | Captive center contact | Note       |
|---------------|--------------------|--------------|------|------------|------|------|----|------------------------|------------|
|               |                    |              |      | A          | B    | C    | D  |                        |            |
| Special       | 7/50/D             | R166 160 020 | 1    | 31.3       |      | 15.8 | 16 | Yes                    | Clamp type |
| RG213 / RG214 | 10/50/S<br>11/50/D | R166 168 000 |      | 34.5       | 43   | 16   | 16 |                        |            |
| F1703-93      | 4.3/50/D           | R166 191 000 | 2    | 34.3       | 52.6 | 14   | 12 | No                     | Crimp type |
| ASNE WD+WN    | 8/50               | R166 194 190 |      | 34.3       | 60.8 | 14   | 12 |                        |            |

STRAIGHT JACKS, FOR FLEXIBLE CABLE

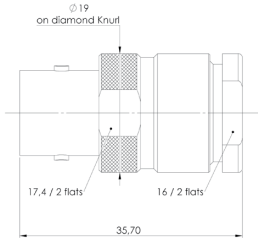


Fig. 1

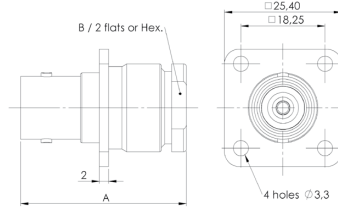
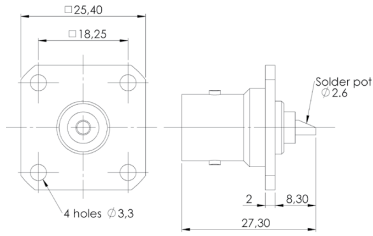


Fig. 2

| Cable group   | Cable group dia.   | Part number  | Fig. | Dimensions |      | Captive center contact | Note       |
|---------------|--------------------|--------------|------|------------|------|------------------------|------------|
|               |                    |              |      | A          | B    |                        |            |
| RG213 / RG214 | 10/50/S<br>11/50/D | R166 218 000 | 1    |            |      | No                     | Clamp type |
| Special ASNE  | 5/50/D             | R166 256 000 | 2    | 32         | 12.7 |                        |            |
| RG213 / RG214 | 10/50/S<br>11/50/D | R166 268 000 |      |            | 35.7 | 19                     |            |

## Receptacles and In Series Adapters

### SQUARE FLANGE, STRAIGHT FEMALE RECEPTACLES



| Part number  | Captive center contact | Panel drilling | Finish                     |
|--------------|------------------------|----------------|----------------------------|
| R166 404 000 | Yes                    | P01            | Brass / Nickel             |
| R166 404 001 |                        |                | Stainless steel passivated |

### IN SERIES ADAPTERS

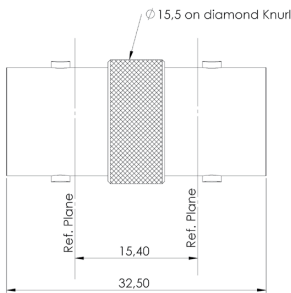


Fig. 1

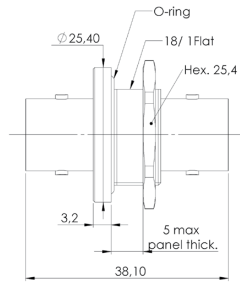


Fig. 2

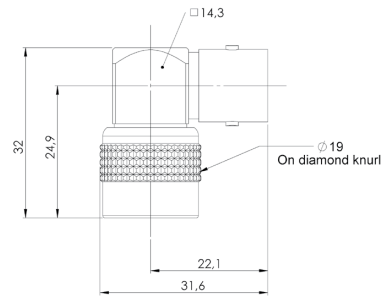
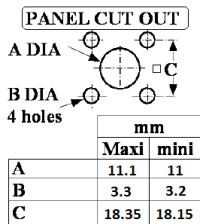


Fig. 3

| Part number  | Fig. | Panel drilling | Note                                  |
|--------------|------|----------------|---------------------------------------|
| R166 705 000 | 1    |                | Female - Female                       |
| R166 753 000 | 2    | P02            | Female - Female / Bulkhead / Hermetic |
| R166 770 000 | 3    |                | Male - Female / Right angle           |

### Panel Drilling

#### P01



#### P02

