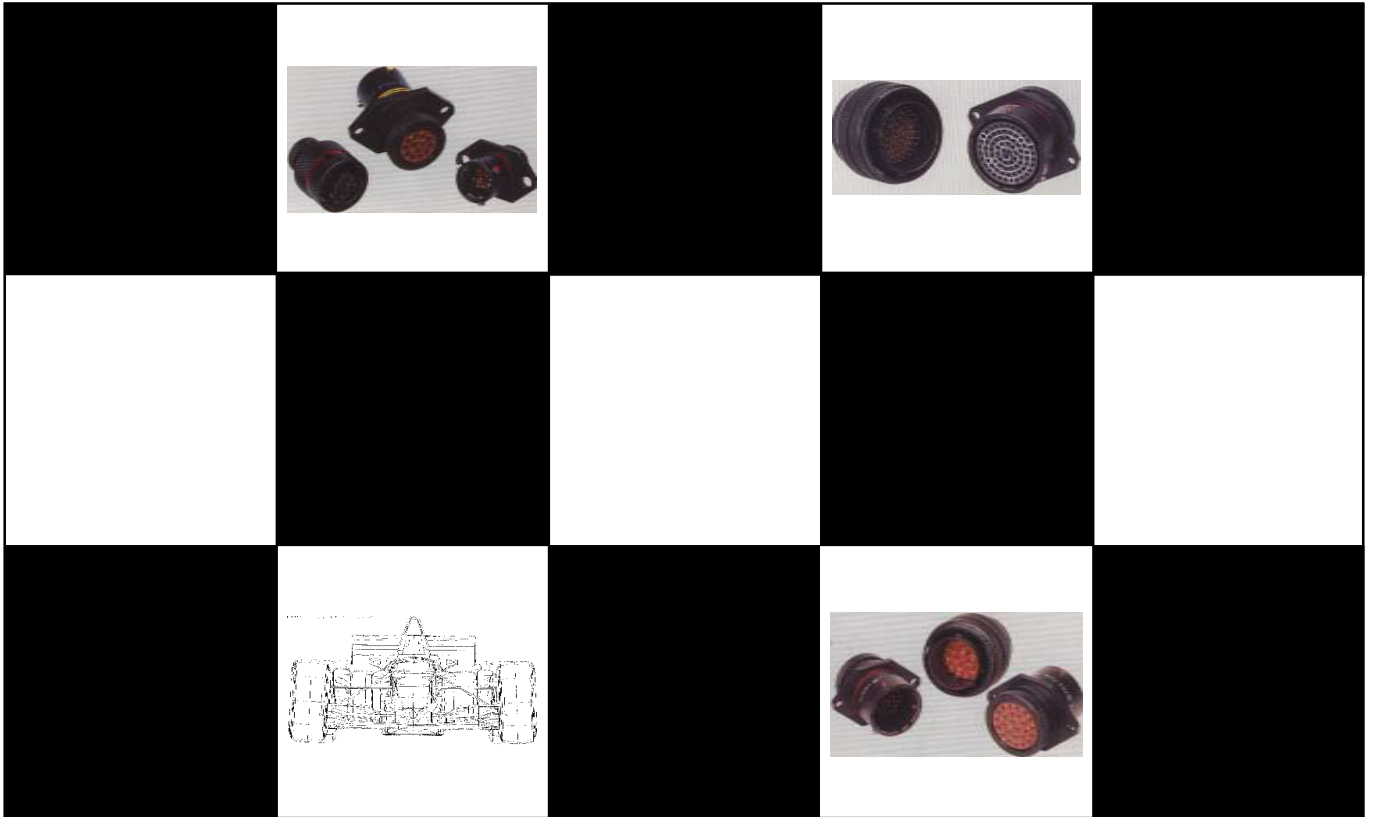


Amphenol



The Winning Combination

Amphenol Fast Connectors

For all your Autosport connector requirements

Fast Connector Series

For Autosport Applications

Amphenol have developed the FAST connector range specifically for Autosport applications. Whilst retaining proven high performance characteristics, these connectors offer an environmentally friendly product which has weight and size advantages over the aerospace connector currently used.

Design Features

- Black conductive environmentally friendly zinc-cobalt finish.
- Cadmium free.
- Small overall diameter.
- 38999 insert.
- Contact arrangements sizes 16, 20, 22, 24, from 3 to 79 way, in shell sizes 6 to 20.
- Available with 6 size 22D (5.0 Amps) or 3 size 20 (7.5 Amps).
- Bayonet coupling.
- Fully scoop-proof interface to avoid contact damage.
- Integral provision for screening & heatshrink boots.
- Alternative keying to avoid cross-connection.
- Two hole mounted flange.
- Uses standard, gold plated, crimp, Mil-Spec contacts with a PCB, Fibre Optic, Coaxial and Twinaxial option available.
- Colour coded to identify 6 possible keyway orientations.

General Specifications

Shell

Manufactured from high strength aluminium alloy with black conductive zinc cobalt finish, thus avoiding the use of environmentally damaging cadmium plate. All sizes have five keyway polarisation with bayonet lock coupling to aid and assure positive mating.

| Available in sizes: | | | | | | | | |
|---------------------|---|----|----|----|----|----|----|--|
| 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | |

Service Rating

Contact Arrangement

| | | | | |
|--------------------|------------|------------|-----------|-------------|
| | | | | |
| Insert Arrangement | 06-05 | 07/08-35 | 07/08-98 | 10-35 |
| No. of Contacts | 5 | 6 | 3 | 13 |
| Contact Size | 5 size 22D | 6 size 22D | 3 size 20 | 13 size 22D |

In excess of 400V RMS dependant on the chosen platform.

| | | | | |
|--------------------|-----------|-----------|-------------|------------|
| | | | | |
| Insert Arrangement | 10-98 | 12-08 | 12-35 | 14-15 |
| No. of Contacts | 6 | 8 | 22 | 15 |
| Contact Size | 6 size 20 | 8 size 20 | 22 size 22D | 14 size 20 |
| Contact Size | | | | 1 size 16 |

| | | | | |
|--------------------|------------|------------|-------------|-----------|
| | | | | |
| Insert Arrangement | 14-18 | 14-19 | 14-35 | 14-97 |
| No. of Contacts | 18 | 19 | 37 | 12 |
| Contact Size | 18 size 20 | 19 size 20 | 37 size 22D | 8 size 20 |
| Contact Size | | | | 4 size 16 |

| | | | |
|--------------------|------------|-------------|------------|
| | | | |
| Insert Arrangement | 16-26 | 16-35 | 18-32 |
| No. of Contacts | 26 | 55 | 32 |
| Contact Size | 26 size 20 | 55 size 22D | 32 size 20 |

| | | | |
|--------------------|-------------|-------------|------------|
| | | | |
| Insert Arrangement | 18-35 | 20-35 | 20-39 |
| No. of Contacts | 66 | 79 | 39 |
| Contact Size | 66 size 22D | 79 size 22D | 37 size 20 |
| Contact Size | | | 2 size 16 |

Contacts

Contacts are rear insert/rear release with probe-proof socket contacts. Contact plating is 50 micron inches minimum gold over nickel.

| Both power and PCB contacts are available in sizes: | | | | |
|---|---|----|----|----|
| 6 | 8 | 12 | 16 | 20 |

Coaxial contacts are available in sizes 6, 8, 12 and 16, to accommodate a wide range of coaxial cables. Please consult factory.

| Contact Rating | | | |
|---------------------|-------|-------|-------|
| Contact Size | 22 | 20 | 16 |
| Max Current (Amps) | 5 | 7.5 | 13 |
| Max Wire Size (mm) | 0.4 | 0.6 | 1.2 |
| Max Wire Size (Awg) | 22-28 | 20-24 | 16-20 |

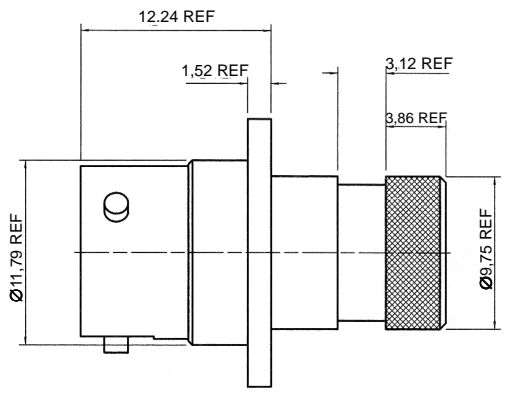
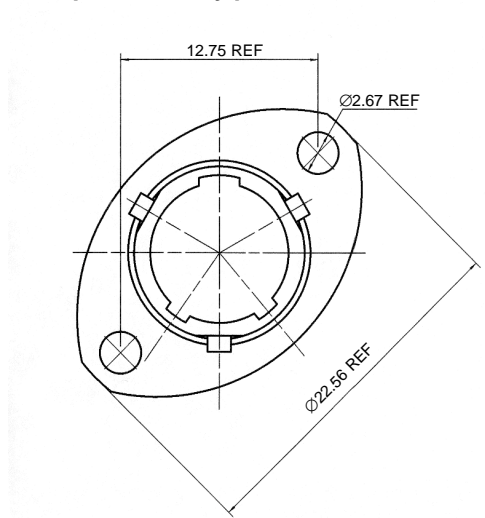
| Temperature Rating | |
|--------------------|--|
| -55°C to +175°C | |

*All dimensions are in mm for reference only

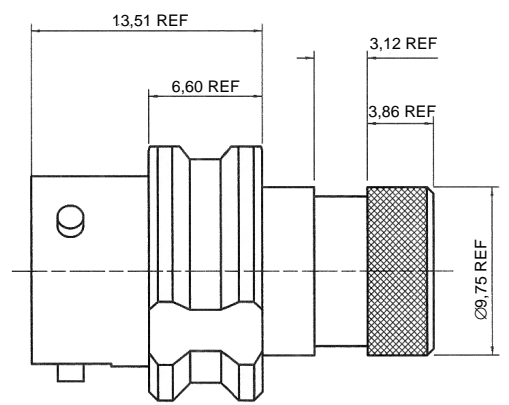
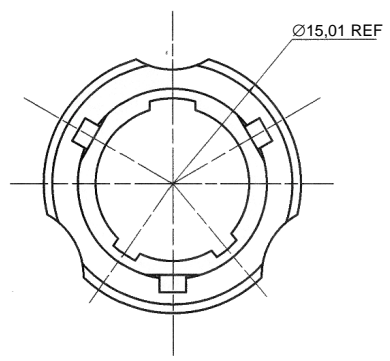
Fast Connector Series

Size Six 'FC' Autosport

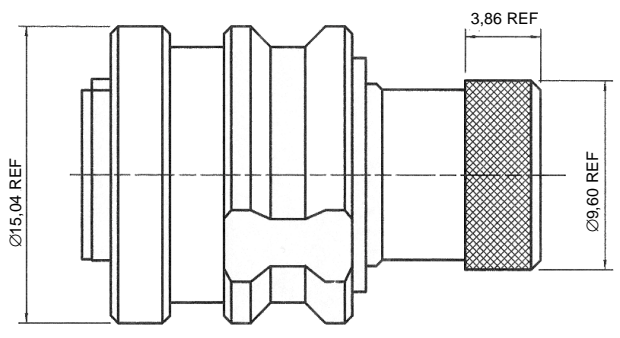
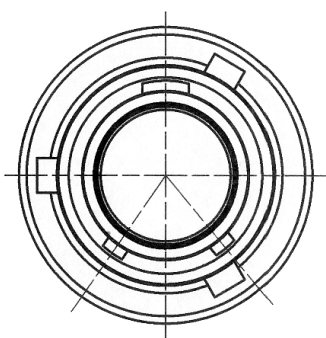
Receptacle Type FC0M



Receptacle Type FC1M



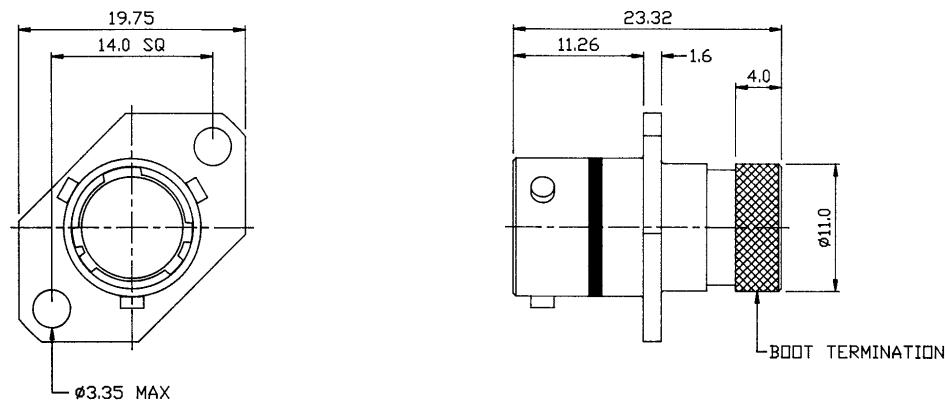
Plug Type FC6M



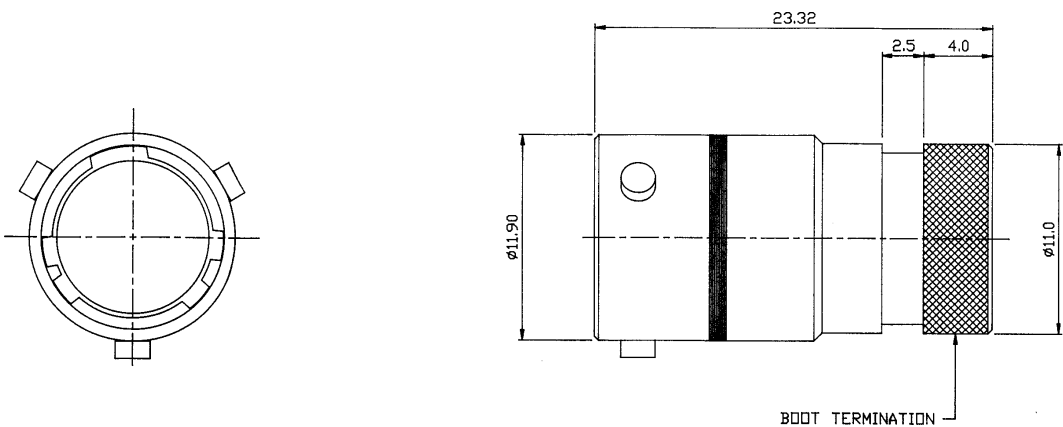
Fast Connector Series

Size Seven 'FR' Autosport

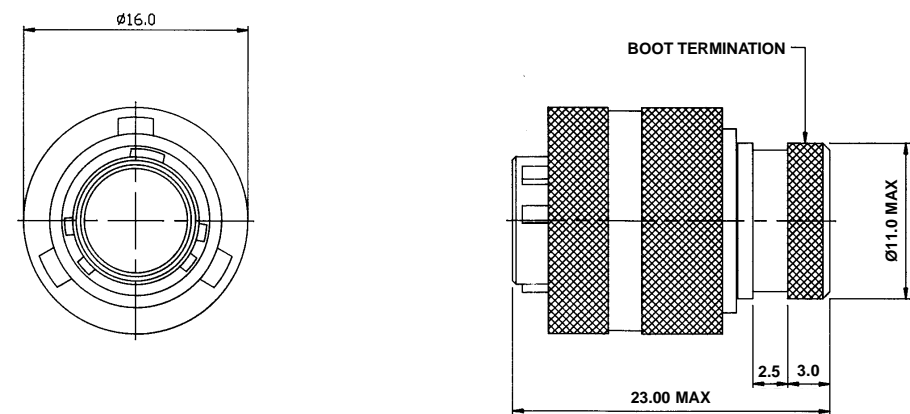
Receptacle Type FR0



Receptacle Type FR1

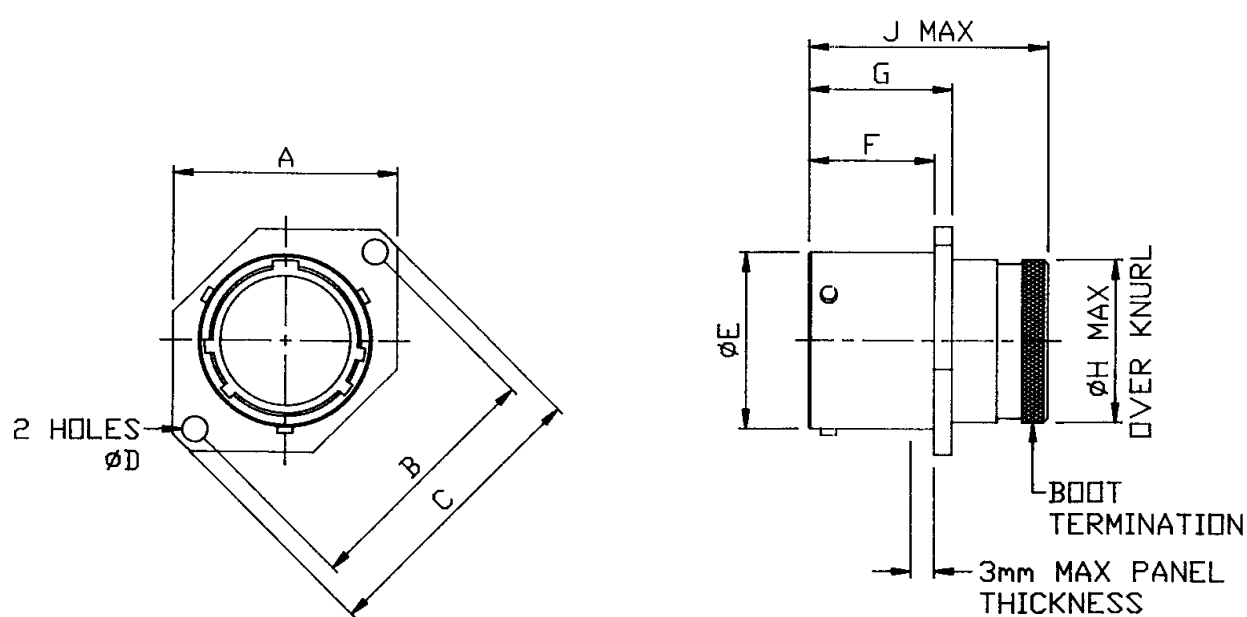


Plug Type FR6



Shell Styles

Receptacle Type FC0

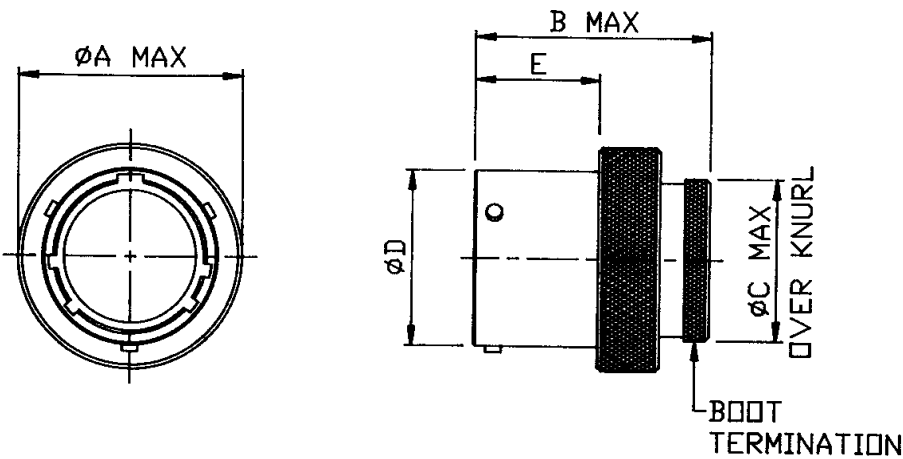


| Shell Size | A | B + 0.20 | C Max | D + 0.15 - 0.00 | E + 0.00 - 0.13 | F + 0.00 - 0.13 | G + 0.15 - 0.00 | H Max | J Max |
|------------|-------|-------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|----------|----------|
| 8 | 20.62 | 21.40 | 27.20 | 3.20 | 12.00 | 16.05 | 18.21 | 13.89 | 30.91 |
| 10 | 23.83 | 25.90 | 32.00 | 3.20 | 15.00 | 16.05 | 18.21 | 16.97 | 30.91 |
| 12 | 26.19 | 29.10 | 35.20 | 3.20 | 19.05 | 16.05 | 18.21 | 20.14 | 30.91 |
| 14 | 28.58 | 32.50 | 38.40 | 3.20 | 22.22 | 16.05 | 18.21 | 23.29 | 30.91 |
| 16 | 30.96 | 34.80 | 41.00 | 3.20 | 25.40 | 16.05 | 18.21 | 26.48 | 30.91 |
| 18 | 33.32 | 38.20 | 44.70 | 3.20 | 28.57 | 16.05 | 18.21 | 29.65 | 30.91 |
| 20 | 36.53 | 41.50 | 48.30 | 3.20 | 31.78 | 15.29 | 18.21 | 33.08 | 30.91 |

All dimensions in mm for reference only

Shell Styles

Receptacle Type FC1

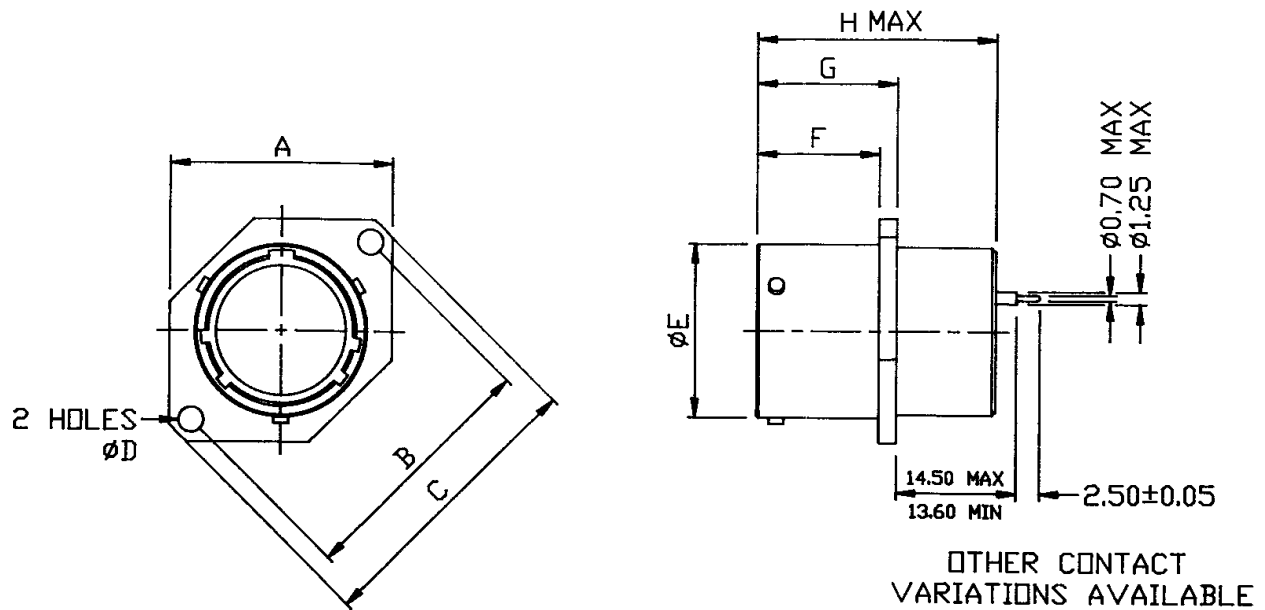


| Shell Size | A Max | B Max | C Max | D + 0.00 - 0.13 | E + 0.00 - 0.13 |
|------------|-------|-------|-------|-----------------------|-----------------------|
| 8 | 17.60 | 30.91 | 13.89 | 12.00 | 16.05 |
| 10 | 20.70 | 30.91 | 16.97 | 15.00 | 16.05 |
| 12 | 25.10 | 30.91 | 20.14 | 19.05 | 16.05 |
| 14 | 28.30 | 30.91 | 23.29 | 22.22 | 16.05 |
| 16 | 31.40 | 30.91 | 26.48 | 25.40 | 16.05 |
| 18 | 34.70 | 30.91 | 29.65 | 28.57 | 16.05 |
| 20 | 37.80 | 30.91 | 33.08 | 31.78 | 15.29 |

All dimensions in mm for reference only

Shell Styles

Receptacle Type FC2

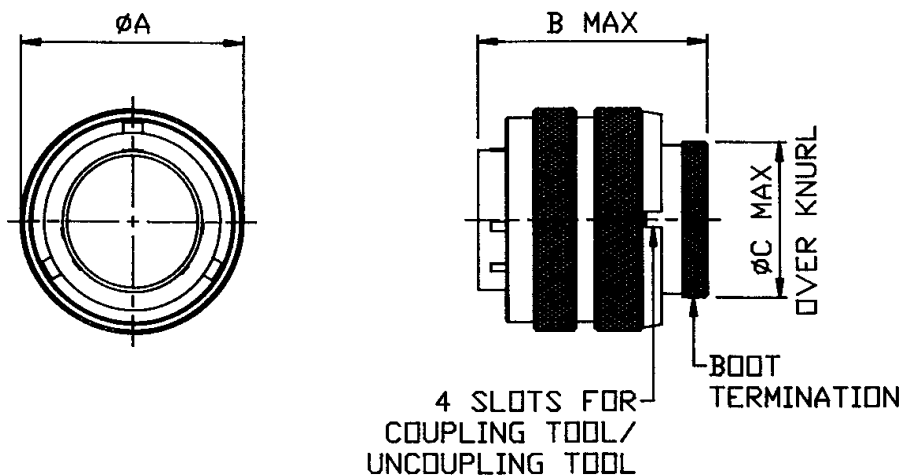


| Shell Size | A | B + 0.20 | C Max | D + 0.15 - 0.00 | E + 0.00 - 0.13 | F + 0.00 - 0.13 | G + 0.15 - 0.00 | H Max |
|------------|-------|-------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|----------|
| 8 | 20.62 | 21.40 | 27.20 | 3.20 | 12.00 | 16.05 | 18.21 | 27.05 |
| 10 | 23.83 | 25.90 | 32.00 | 3.20 | 15.00 | 16.05 | 18.21 | 27.05 |
| 12 | 26.19 | 29.10 | 35.20 | 3.20 | 19.05 | 16.05 | 18.21 | 27.05 |
| 14 | 28.58 | 32.50 | 38.40 | 3.20 | 22.22 | 16.05 | 18.21 | 27.05 |
| 16 | 30.96 | 34.80 | 41.00 | 3.20 | 25.40 | 16.05 | 18.21 | 27.05 |
| 18 | 33.32 | 38.20 | 44.70 | 3.20 | 28.57 | 16.05 | 18.21 | 27.05 |
| 20 | 36.53 | 41.50 | 48.30 | 3.20 | 31.78 | 15.29 | 18.21 | 27.05 |

All dimensions in mm for reference only

Shell Styles

Plug Type FC6

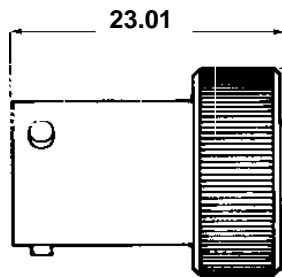


| Shell Size | A Max | B Max | C Max |
|------------|-------|-------|-------|
| 8 | 18.64 | 30.96 | 13.89 |
| 10 | 21.44 | 30.96 | 16.97 |
| 12 | 25.81 | 30.96 | 20.14 |
| 14 | 28.98 | 30.96 | 23.29 |
| 16 | 32.13 | 30.96 | 26.48 |
| 18 | 35.33 | 30.96 | 29.65 |
| 20 | 38.10 | 30.96 | 33.08 |

All dimensions in mm for reference only

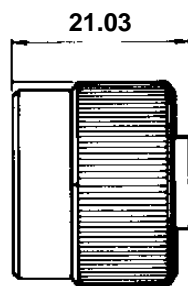
Protection Caps

Plug Cap Type FC8



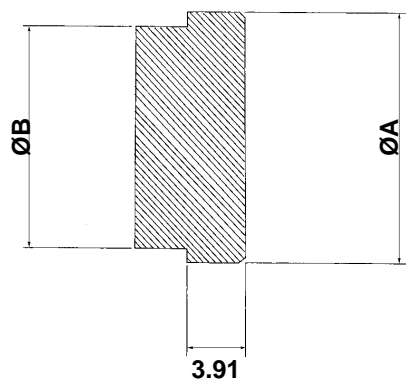
| Part Number | Shell Size |
|-------------|------------|
| FC8M-08 | 8 |
| FC8M-10 | 10 |
| FC8M-12 | 12 |
| FC8M-14 | 14 |
| FC8M-16 | 16 |
| FC8M-18 | 18 |
| FC8M-20 | 20 |

Receptacle Cap Type FC9



| Part Number | Shell Size |
|-------------|------------|
| FC9M-08 | 8 |
| FC9M-10 | 10 |
| FC9M-12 | 12 |
| FC9M-14 | 14 |
| FC9M-16 | 16 |
| FC9M-18 | 18 |
| FC9M-20 | 20 |

Boot Termination Detail



| Shell Size | A + 0.10 | B + 0.05 |
|------------|-------------|-------------|
| 8 | 13.89 | 11.89 |
| 10 | 16.97 | 14.97 |
| 12 | 20.14 | 18.14 |
| 14 | 23.29 | 21.29 |
| 16 | 26.48 | 24.48 |
| 18 | 29.65 | 27.65 |
| 20 | 33.08 | 31.08 |

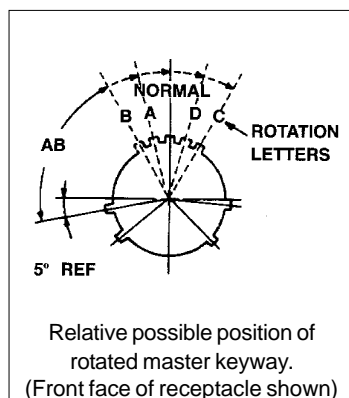
All dimensions in mm for reference only

Orientations

Standard Autosport Sizes 06 to 20

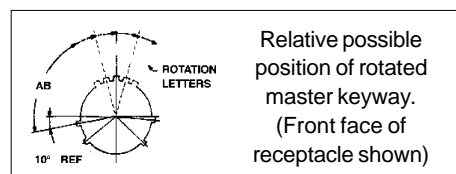
Master Key/Keyway Rotation

| AB ANGLE OF ROTATION (Degrees) | | | | | |
|--------------------------------|------|-----|-----|-----|-----|
| Shell Size | Norm | A | B | C | D |
| 6 | 95 | N/A | N/A | N/A | N/A |
| 8 | 95 | 77 | N/A | N/A | 113 |
| 10 | 95 | 81 | 67 | 123 | 109 |
| 12 | 95 | 75 | 63 | 127 | 115 |
| 14 | 95 | 74 | 61 | 129 | 116 |
| 16 | 95 | 77 | 65 | 125 | 113 |
| 18 | 95 | 77 | 65 | 125 | 113 |
| 20 | 95 | 77 | 65 | 125 | 113 |



Special Size Seven 'FR'

Master Key/Keyway Rotation



| AB ANGLE OF ROTATION (Degrees) | | | | | | |
|--------------------------------|------|-----|------|---------------------------------------|---|---|
| Shell Size | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | 100° | 82° | 118° | As before, insert rotated through 45° | | |

Contacts

| Contact Size | Socket Contacts | | Pin Contacts | | Insert/Extract Tool |
|--------------|-----------------|-----------------|---------------|-----------------|---------------------|
| | MS Number | Amphenol Number | MS Number | Amphenol Number | Amphenol Number |
| 22 | M39029/56-348 | 10-407035-725 | M39029/58-360 | 10-251415-725 | 10-538988-22 |
| 20 | M39029/56-351 | 10-497403-205 | M39029/58-363 | 10-251415-205 | 10-538988-20 |
| 16 | M39029/56-352 | 10-407035-165 | M39029/58-364 | 10-251415-165 | 10-538988-16 |

Filler Plugs

| Size | MS Number | Amphenol Number | Colour |
|------|------------|-----------------|--------|
| 22 | MS27488-22 | 10-405996 22 | Black |
| 20 | MS27488-20 | 10-405996 20 | Red |
| 16 | MS27488-16 | 10-405996 16 | Blue |

How to Order

Part Number Breakdown

Range _____

F = Fast connector

Version _____

C = Standard

R = Reduced size (receptacle only)

R C = Reduced and closed coupling (plug only)

Style _____

0 = 2 hole flanged receptacle

1 = In-line receptacle

2 = 2 hole box mount PCB receptacle (not available in shell size 7)

6 = Free plug

Finish _____

M = Black zinc cobalt

F C 6 M - 14 - 35 P N

Shell Size 6-20

Orientation

N = Red

A = Yellow

B = Blue

C = White

D = Green

Insert Style

P = Pin insert

S = Socket insert

Contact Arrangement

See table on page 2

Size 7 - 35 way = 6 # 22D

98 way = 3 # 20

Shell Size

06 to 20

Shell Size 7

Orientation

1 = N keyway

2 = A keyway

3 = D keyway

4 = N + insert rotation

5 = A + insert rotation

6 = D + insert rotation

Amphenol

Thanet Way, Whitstable, Kent, CT5 3JF.

tel: 01227 773200 fax: 01227 276571 e-mail: contact@amphenol.co.uk