B.N.C. r.f. connectors

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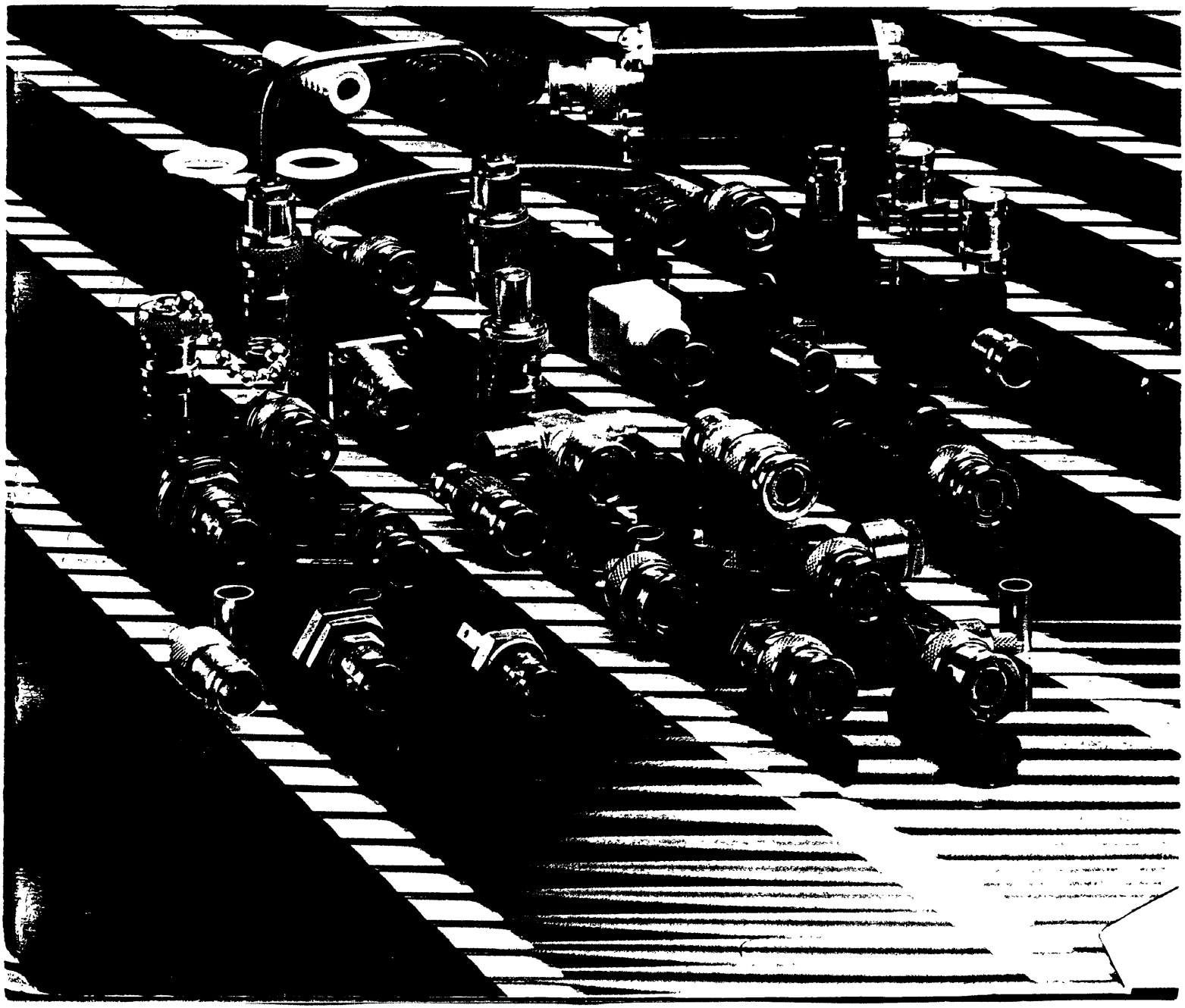


Electrical/Mechanical specification

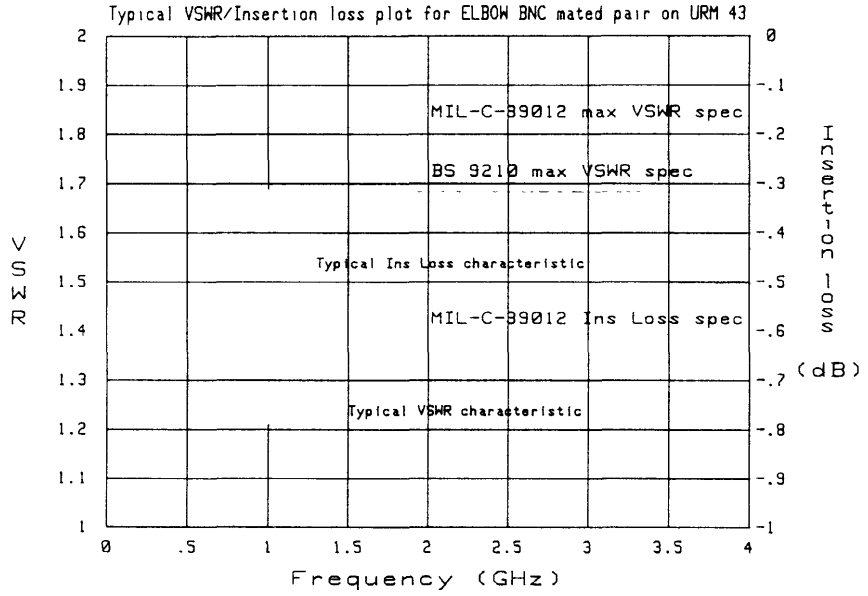
BNC connectors have been designed to meet or exceed the requirements of BS9210 and MIL-C-39012, CECC22120, IEC 169/8

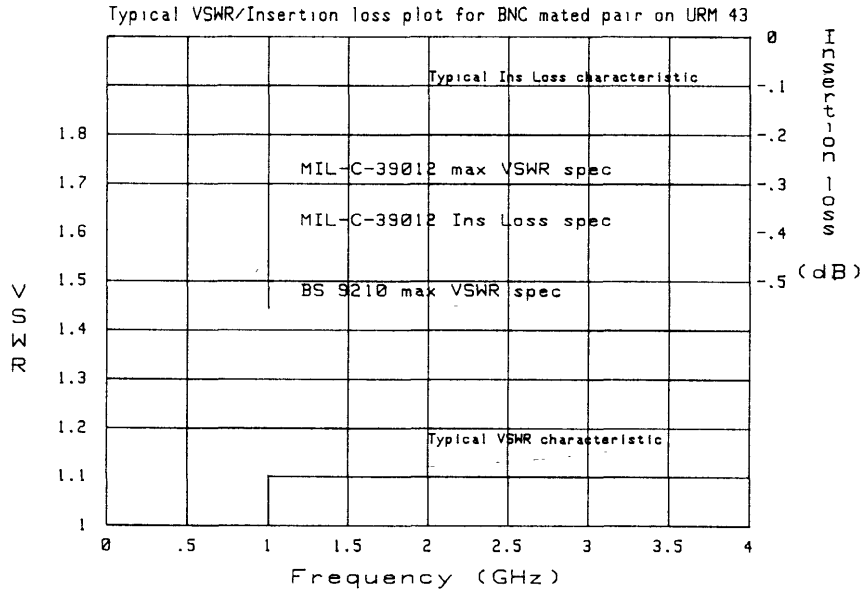
All the information included within this page is typical for the series but will not necessarily apply to every style or variant.

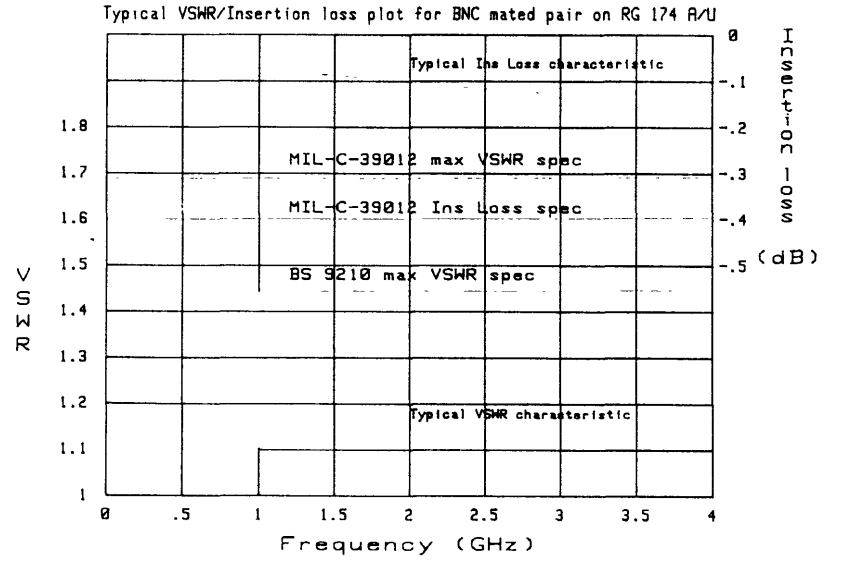
Specification	Straight cabled variants	Elbow cabled variants and adaptors	T piece adaptors and non-coaxial outlet variants
V S W.R. at 1 GHz	1 05max	1 10max	NA
V S W.R. at 4 GHz	1.30max	1 35max	NA
Max capacitance	NA	NA	5pF
Max insertion loss (at 3 GHz)	0 20db	0.30dB	NA
R.F leakage (between 2 GHz and 3 GHz)	-55dB min -55dB max	NA	NA
	All of the above variants		
Max working voltage d c (At sea level)	500 V		
(At an altitude of 26 km)	125 V		
Max proof voltage d.c (At sea level)	2 kV		
(At an altitude of 26 km)	500 V		
Max proof voltage R F (5 MHz at sea level)	1 kV rms		
Max current rating d.c	1 A		
Insulation resistance (min)	5 G ohm		
Max contact resistance (Centre contact)	1.50 m ohm		
(Outer contact)	0.20 m ohm		
(Braid to body)	0 10 m ohm		

Piece part specification	Base materials	Plating types
Body parts	Brass	Passivated silver over copper or Bright nickel over copper
Insulators	PTFE	NA
Gaskets	Silicone rubber	NA
Centre contacts	Brass or Beryllium copper	Passivated silver over copper or 1.3-1.6µm gold over copper

Typical VSWR and insertion loss characteristics







Method of cable retention

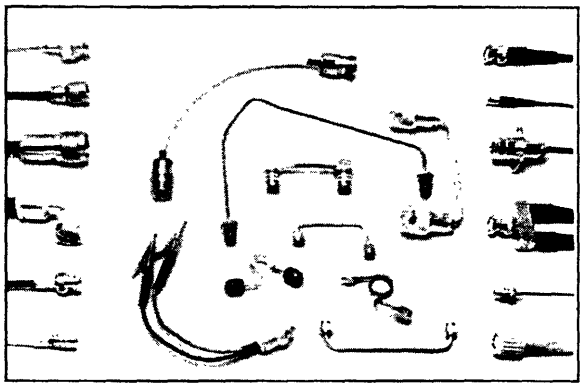
Solder/clamp piece parts

The clamp method of fastening connectors to coaxial cable requires mechanical clamping of the braid, usually by means of a threaded nut, and soldering of the centre conductor to the contact. In some cases the braid of flexible cable can be soldered directly to the connector ferrule. The main advantage of the clamp/solder termination is its independence from special tools — only common workshop tools are needed It also has the advantage that the joint can be inspected and, if necessary, be re-made with or without shortening the cable.

Crimp piece parts

A crimped connector comprises only a few piece parts, typically only three, a centre contact, body and crimp sleeve, (see previous page). It produces a fast consistent and reliable connection at a low applied cost. Consistency is assured by using ratchet controlled crimp tools that do not release until the die set has bottomed.
Crimp connectors are not reusable. If re-termination is required the unwanted connector must be cut from the cable.
Part numbers for relevant crimping tools available from Greenpar are on page 40 of this catalogue.

Cable assemblies



Greenpar can supply flexible or semi-rigid cable assemblies to customers' own specifications. This eliminates the need for customers' in-house production, reducing inventory, tooling and labour costs.
For custom made BNC connector assemblies and inter series assemblies (such as SMB to BNC assemblies) we will require details regarding:-

1) The type of cable required (eg RG178B/U)

2) The overall length of the assembly.

3) The connector part numbers required on each end of the assembly.

4) Any special markings required

5) For semi-rigid assemblies, full details of shape.

Greenpar can also offer precision cable assemblies using SMA and other connector series. These can be 100% electrically tested for phase length attenuation and return loss using the Automatic Network Analyser. These automated facilites ensure rapid turn-around from enquiry to delivery, with quality and performance guaranteed.
Please contact our sales office for further details or technical information.

Part number system

Cable groups

Owing to the enormous range of cables for which connectors are made, Greenpar classifies them into cable groups. All connectors made for a particular group will fit all the cables in that group. For the cable group to cable type cross reference see the fold out section of the rear cover.

Standard Platings

When selecting a particular finish for a connector it is necessary to replace the ● in the part number with the required letter code shown below. Example — part number B35A01●010X99 becomes B35A01H010X99 if a bright nickel plated body with a silver plated centre contact is required.

Code E

Silver plated and passivated body and centre contact.

Silver provides low contact resistance, mechanical endurance and good r.f. performance. Some visual deterioration of the finish may occur in storage and service but this is minimised by the passivation process which maintains good appearance and solderability.

Code H

Bright nickel plated body, and silver plated centre contact.

The use of bright nickel as a body finish produces a connector of an attractive appearance which will endure for longer periods than silver It is also preferred for its compatibility with instrument front panels. Nickel is marginally inferior to silver in r.f. terms.

Code J

Bright nickel plated body and gold plated centre contact.

Gold is an alternative finish for centre contact, preferred for some applications in certain market areas. In most applications there is little difference between silver and gold in performance, but the improved corrosion resistance of gold may be valuable in harsh environments.

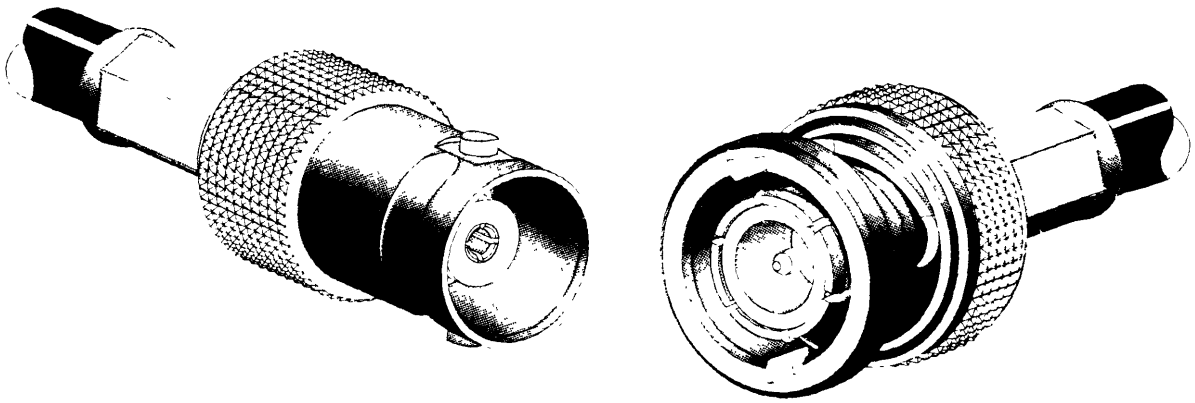
Other finishes

Other finishes can be considered for special applications but minimum order quantities may apply.

Preferred part numbers

All preferred part numbers in this catalogue are highlighted in

Product descriptions/features



BNC connectors have a bayonet lock coupling mechanism to provide a fast connect/disconnect coaxial termination. The range covers cable entry (flexible and semi-rigid), PCB, bulkhead, panel and adaptor versions and most are available in 50 ohm and 75 ohm impedance. The most popular cable entry versions are those with a solder centre contact and clamp outer contact, or, crimp centre contact and crimp outer contact Full crimp versions offer reduced production time and fast, consistent, reliable connections at a low applied cost. Other cable entry versions are also available such as plugs with a pre-fitted centre contact and a crimp outer, or a twist-on version, both offer rapid assembly and are ideal for field applications. As with other Greenpar connectors BNC's connectors are available in the following standard plating finishes: silver plated body and centre contact, nickel plated body and silver plated centre contact, nickel plated body and gold plated centre contact.
Greenpar BNC conenctors are manufactured to ensure compatibility with British Standard BS9000 and I E.C mating face requirements and are therefore fully intermateable with connectors manufactured to those specifications and the US MIL-C-39012 specification.

Features

- fast connect/disconnect facility
- 50 ohm and 75 ohm versions
- choice of plating options
- cable entry, PCB, bulkhead, panel and adaptor versions available
- available for a wide selection of cables
- choice of solder/clamp, solder/crimp and crimp/crimp cable entry systems.

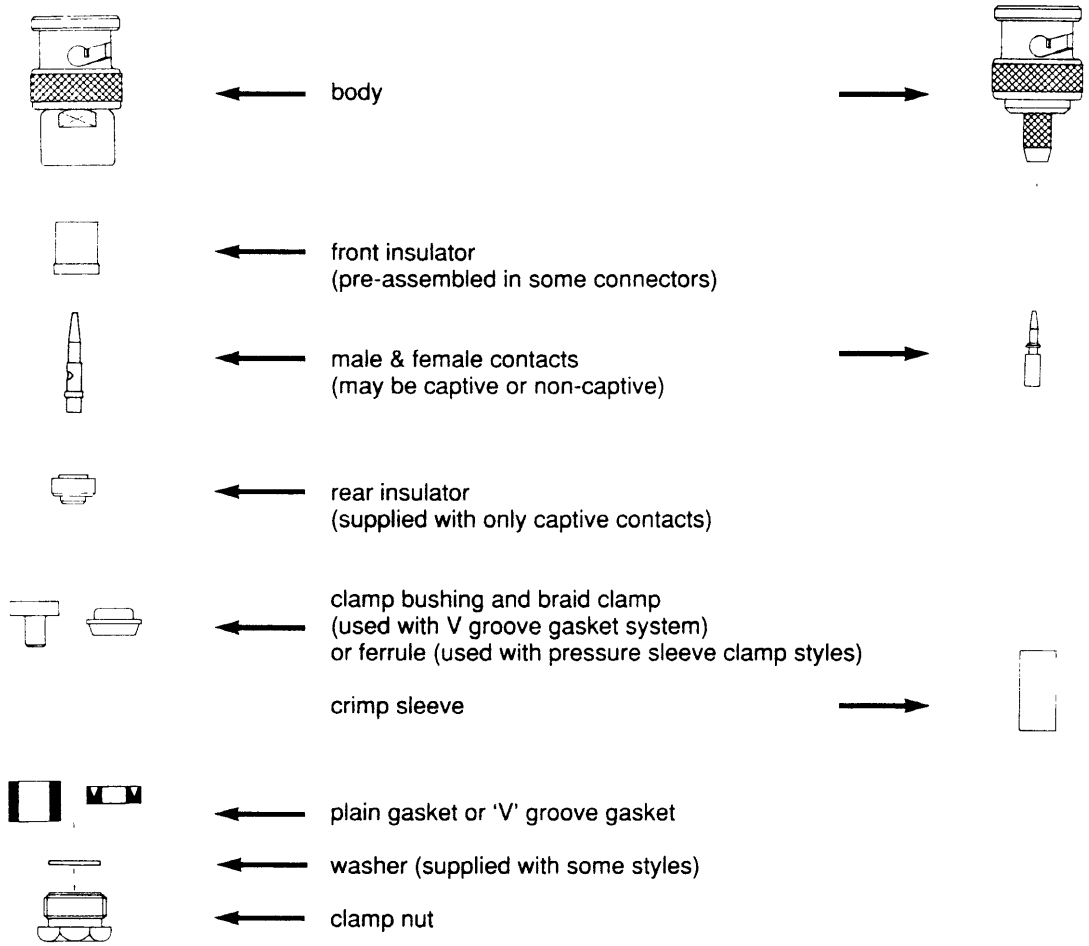
The following factors should be considered when selecting a connector

Series	(consider application, compatibility)
Impedance	(50 or 75 ohms)
Style	(plug, jack, adaptor etc)
Finish	(gold, bright nickel etc)
Method of assembling connector to cable	(crimp, clamp or solder)
Packing	(individual bags or bulk packed see page 2)

Typical piece parts in solder/clamp and crimp/crimp connectors

Solder/clamp connectors

Solder/crimp and crimp/crimp connectors



The piece parts indicated above are typical for BNC connectors. For assembly information and to assist recognition and checking of parts supplied turn to the appropriate assembly instruction page or consult our Sales Office

The company

Greenpar is the leading manufacturer of coaxial connectors in the UK. Our extensive product range includes sub-miniature, miniature and standard r.f. connectors which are manufactured in brass for commercial applications or in stainless steel for more critical applications such as military equipment. We also have a comprehensive range of crimp tools, and standard and custom cable assemblies.
Fast flow items are available in the UK from our network of distributors, see fold out section of rear cover for details. A full range of products is available from other group companies or agents, ensuring that products manufactured by Greenpar can be sourced worldwide.

Approvals

Greenpar has for many years been an approved source of supply for superior quality coaxial connectors. The manufacturing facility is approved by MOD, CAA, BSI, CECC and British Telecom to the following levels.
MOD, NATO Std AQAP-1 for design and manufacture of our products.
CAA at Group A2 for design, manufacture and supply of our products.
BSI for manufacture and certification of coaxial connectors to BS9000 and BS9210.
CECC for manufacture and certification of coaxial connectors to CECC 22 000.
British Telecom for the manufacture and release of our products to QR1.

Introduction

This catalogue lists BNC connectors and is one of several catalogues covering the range of coaxial connectors available from Greenpar.
Brief details regarding other ranges are outlined on page 68 of this catalogue.
To assist in the selection process a photographic index and outline drawings have been included (unless stated all dimensions indicated on the outline drawings found on pages 11 to 39 inclusive, are nominal and in millimetres). In addition all preferred part numbers are highlighted in yellow.
All the connectors shown in this catalogue are individually packed in Greenpar bags. Bulk packing is available for medium to large volume users, contact our sales office for details.