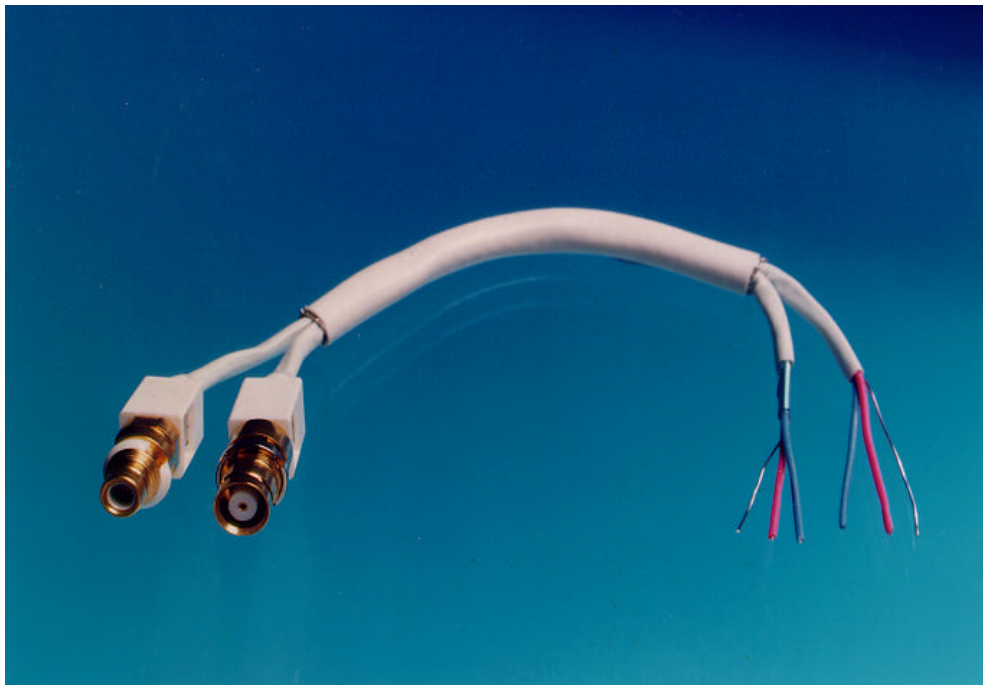


ITT Cannon

R F P R O D U C T S

BALUN COAXIAL CONNECTORS



ITT Cannon
R F P R O D U C T S

ITT Cannon 75Ω to 120Ω Baluns

ITT Cannon RF Products have introduced a balun for telecoms applications that can be supplied with a coaxial interface meeting a number of accepted telecom standards.

The device can be fitted to a screened or unshielded twisted pair cable through IDC contacts, making the termination quick and simple. The whole device is contained within a 10mm square body, approximately 50mm long (this varies according to the interface).

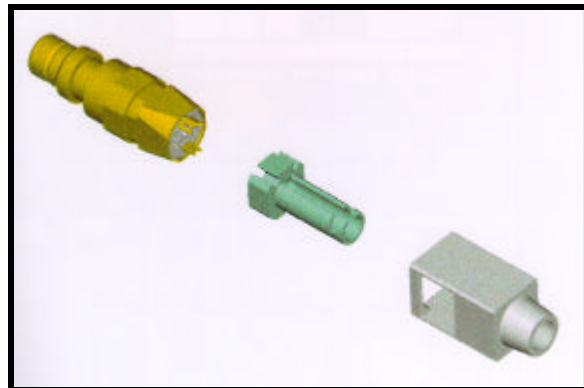
This balun connector was introduced to solve a problem being experienced by telecoms OEMs, where they needed to meet varying interconnection standards. The problem in this case was that in some countries 2 Mbit signals are carried over 75Ω coax and in others 120Ω twisted pairs. For the equipment manufacturer, he has the option of producing 2 different equipment's for the 2 standards, or he can produce to one standard and some form of 'add on' to adapt to the other.

The ITT Cannon balun offers the ideal solution. It can provide the change from 75Ω to 120Ω within the connector on one end of the interconnecting cable. The small size means that this can be fitted into all standard mounting arrangements, without having to provide special or non-standard panels.

By only having one standard equipment to produce, there are economies of scale to be found and increased flexibility in equipment inventory, for the varying global markets.

The method of terminating to the twisted pair cable is simple -

The balun is supplied as a pre-assembled connector together with 2 plastic mouldings which provide cable support and alignment of the wires in the cable. The balun can be terminated to the appropriate screened twisted pair cable, using a specially designed termination tool, in 3 simple stages.



- Thread the plastic outer sleeve and pierce block onto the stripped cable.
- Lay the insulated wires and drain wire in the appropriate slots in the pierce block and trim excess wire flush with the underside of the flange.
- Align the connector body with the plastic parts, place them in the jaws of the termination tool, and close the tool to complete the assembly.

Currently the balun is available in the following coaxial formats, others can be produced on request;

BT Type 43 (SMZ) plug

HDC 43 plug

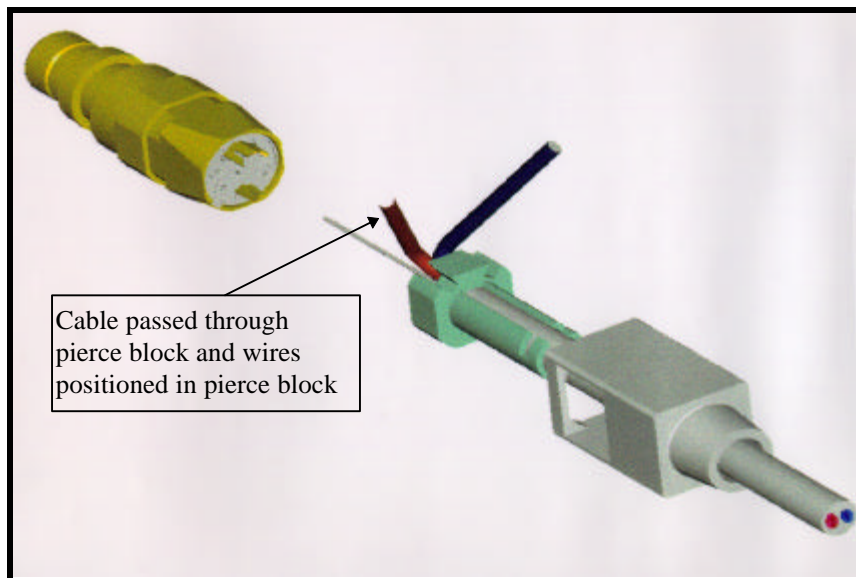
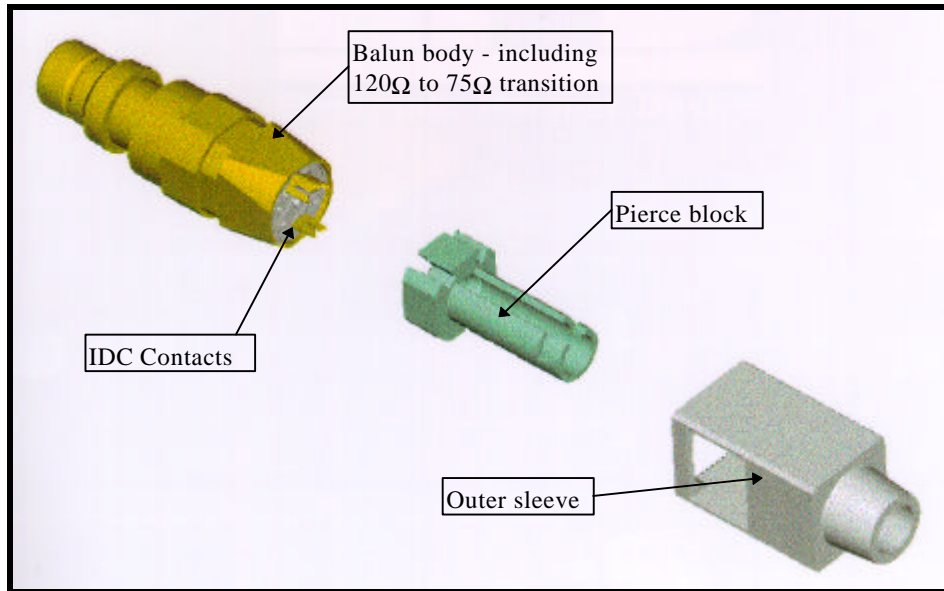
1.6/5.6 jack

1.0/2.3 push-pull plug

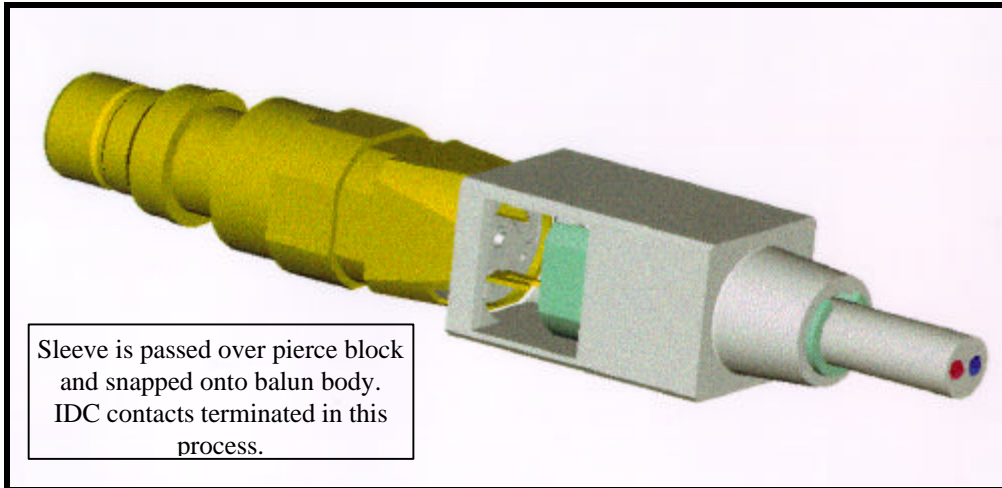
These all adapt between 75Ω unbalanced and 120Ω balanced transmission lined, the impedance's to be adapted could be varied, to suit other requirements.

ITT Cannon
RF PRODUCTS

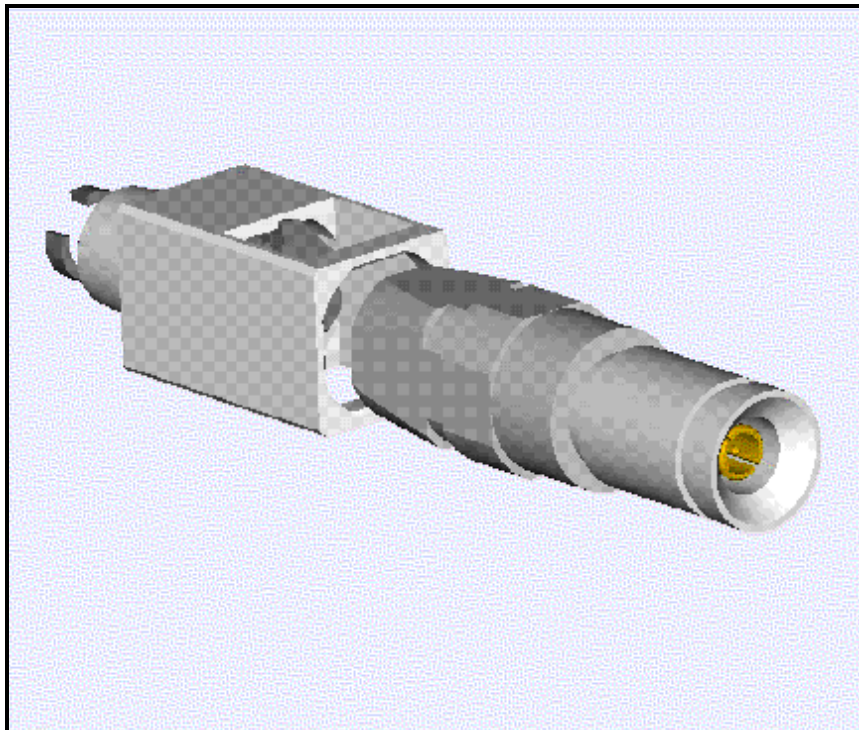
Assembly Details



Assembly Details



1.0/2.3 Push-Pull interface



Specification

Electrical

Characteristic Impedance:-	75 Ohms Coaxial Line to 120 Ohms Balanced Line	
Frequency Band:-	50 kHz - 10 MHz	
Return Loss (75 & 120 ohm)	51-102 kHz >12dB	(>18dB typ.)
	102-2048kHz >18dB	(25 dB typ.)
	2048-3072kHz >14dB	(>23 dB typ.)
	3072-10000kHz	(>16dB typ.)
Insertion Loss (either way):-	50 kHz - 10MHz<0.5dB (<0.30 dB typ.)	
Voltage Stress (between coax and twin)	100 volts peak continuous 1,2 KV peak, 1 μ s risetime pulse	
Typical Signal Format- (Power & Current as derivations)	Format HDB3, 2048 kbit/s +/- 50ppm	
75 ohm coax line:-	Mark 2.37v +/- 0.237 v Space 0.0v +/- 0.237v	
120 ohm twisted pair:-	Mark 3.0v +/- 0.3v Space 0.0v +/- 0.3v	

Mechanical

75 Ω Interface

Type 43 (SMZ)	BS 9210 F0022 - For details see ITT Cannon RF connector catalogue, page 39
1.6/5.6	CECC 22240 - For details see ITT Cannon RF connector catalogue, page 59
1.0/2.3	CECC 22230 - For details see ITT Cannon RF connector catalogue, page 53
BNC	Plug (prototypes Nov 1998)

Environmental

Temperature Range:-	0 - 70°C	
Damp Heat Steady State Exposure:-	40°C at 93% +2% RH	
Shock:-	Severity:-	15 Gn peak acceleration
	Duration:-	11ms
	Pulse Shape:-	Final - peak sawtooth
	Direction:-	3 axis
Vibration:-	Frequency:-	10 - 500 Hz
	Displacement	
	acceleration:-	1.5mm or 10Gn
	Direction:-	3 axis
	Total Duration:-	6 hours

Balun Part Numbers

ITT Cannon
R F P R O D U C T S

Type 43 (SMZ) to fit Standard DDF
051-127-9989A9G
Termination Tool - T4836

HDC 43 (SMZ) to fit HDC DDF
051-127-9999A9G
Termination Tool - T4837

1.6/5.6 Jack
050-A27-9019A9G
Termination Tool - T4838

1.0/2.3 Push-Pull plug
055-F24-9019A9G
Termination Tool - TBA

BNC Plug - 058-124-9019A9G

All items packed in trays containing 16 Baluns

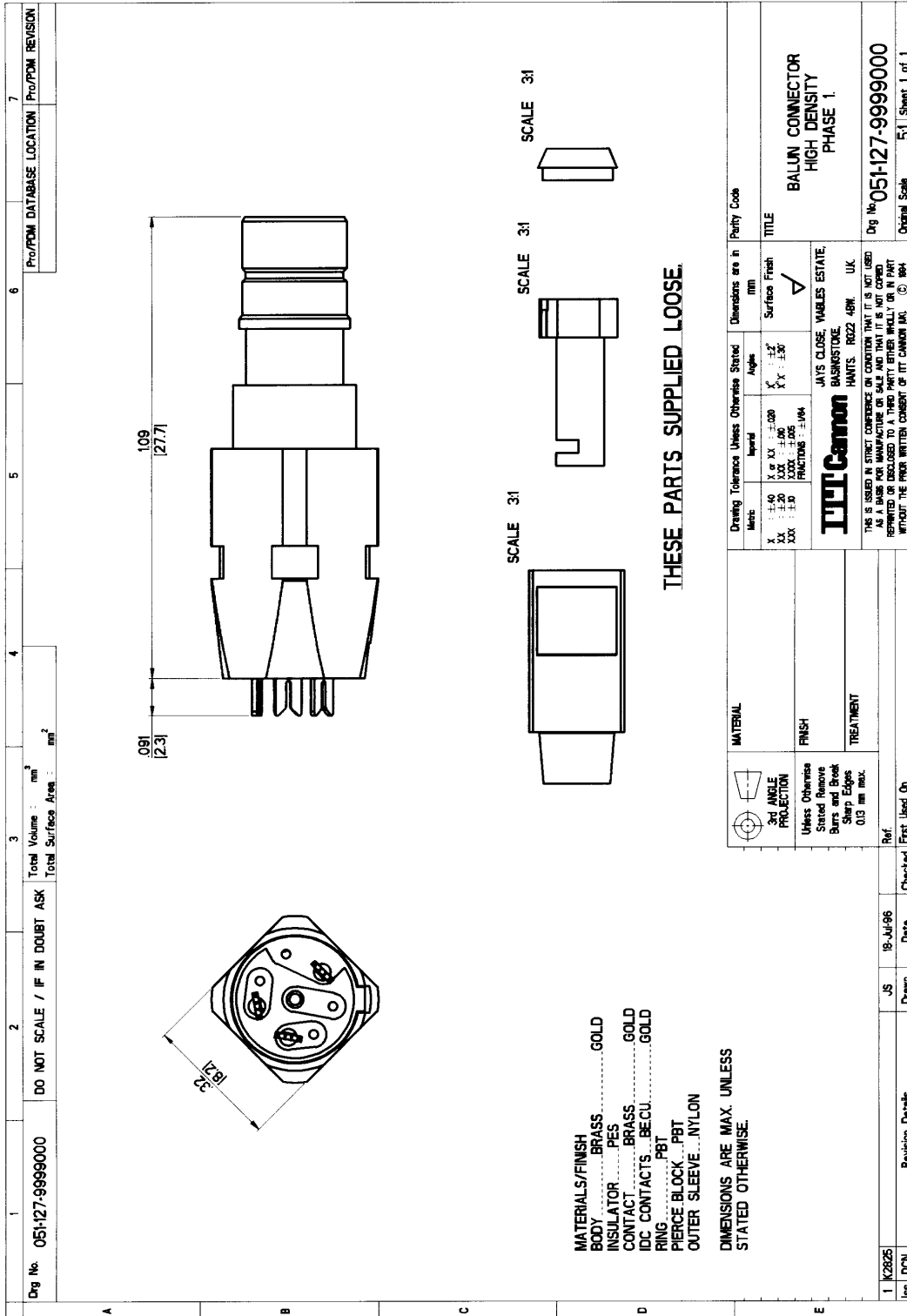
Cables

A cable suitable for use with the ITT Cannon Balun connectors is available from Alcatel Filotex cables.

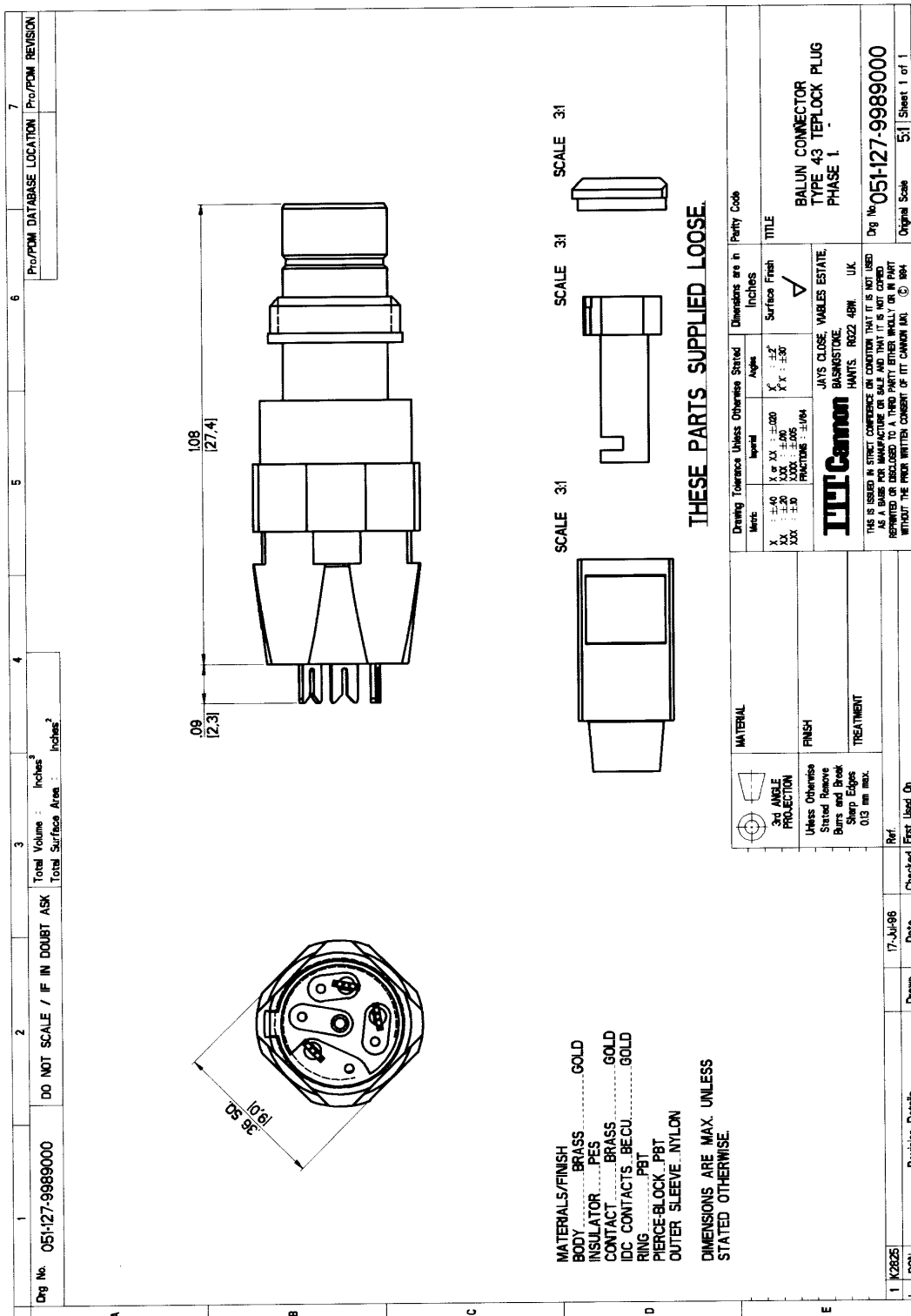
Screened twisted pair with drain wire, 0.5mm copper conductors

Description	Alcatel Code
Single pair	390398
2 pair	390399
4 pair	390400

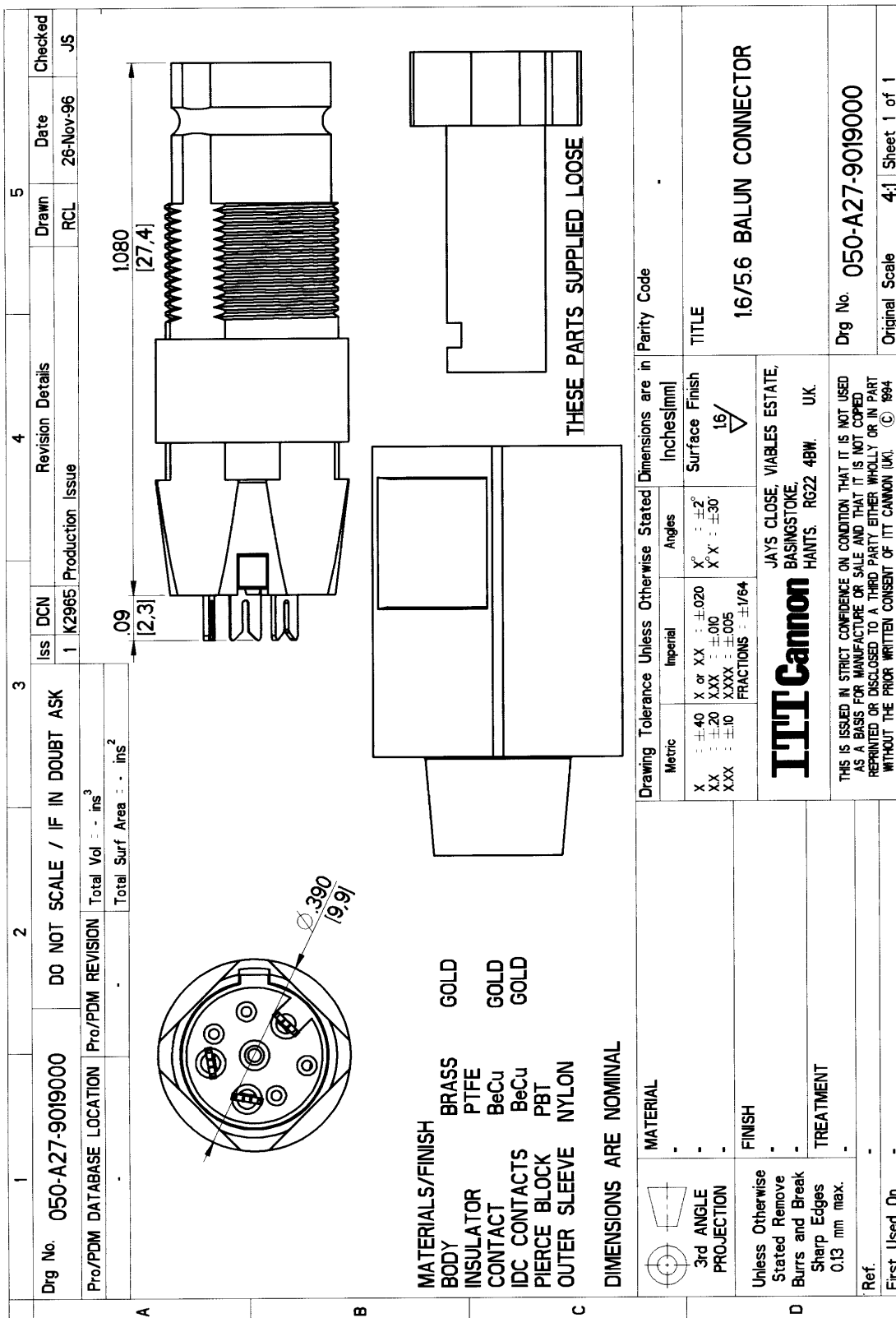
Outline Drawings



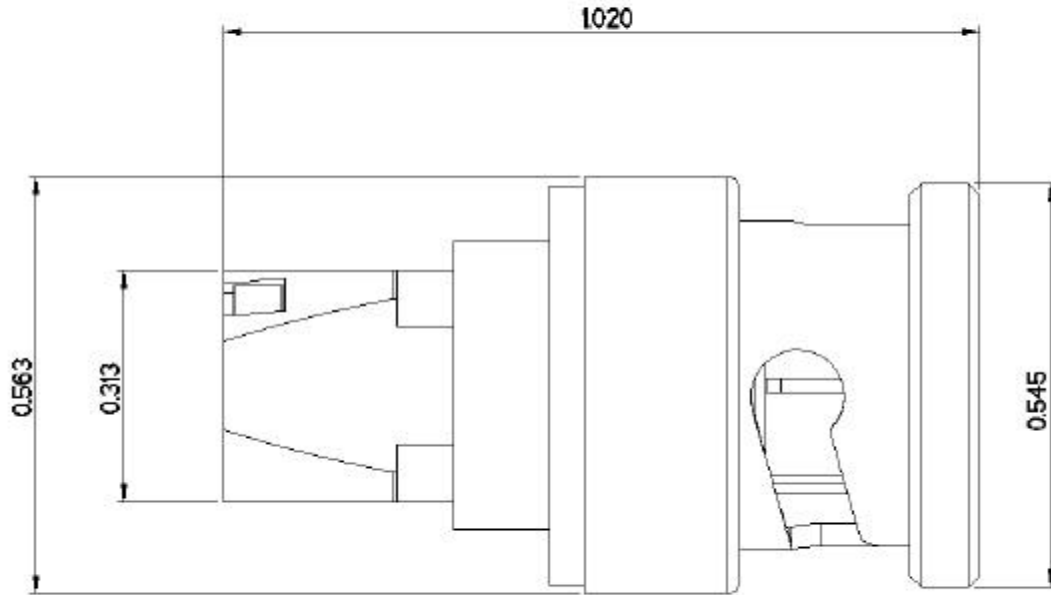
Outline Drawings



Outline Drawings



BNC Balun



SCALE : 5:1 TYPE : ASSEM NAME : RD980703-010 SIZE : A3