



4.1-9.5 SERIES

R170

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4.1-9.5

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SECTION 3 TABLE OF CONTENTS

Introduction

50Ω

DC - 6 GHz

GENERAL

- Screw-on coupling mechanism
- High power rating
- 20% smaller & 50% lighter than 7/16
- Low coupling torque
- Low intermodulation

APPLICABLE STANDARDS

- IEC 61169
- MIL PRF 39012

APPLICATIONS

- Telecom
- Medical
- Industrial
- Indoor and outdoor use

Overview

Radiall completes its power connector range with 4.1-9.5, a low intermodulation series. 4.1-9.5 is designed to provide similar performance to 7/16 with smaller size and weight, using a proven screw-on coupling mechanism. With its corrosion resistance, Radiall 4.1-9.5 is the ideal choice for telecom applications where severe conditions require a high performance and robust connector.

HIGH PERFORMANCE

- Impedance 50Ω
- Frequency range DC ~ 6 GHz
- Very low intermodulation level $\leq -125\text{dBc}$
- Screw-on coupling mechanism
- Coupling retention force 450 N
- VSWR 1.02 + 0.02 \sqrt{f}
- Meets all requirements for IP67
- High mating life
- Light weight
- Reduced size allows more space for other components
- RF Power: Up to 1000 W @ 1 GHz

Characteristics

Test / Characteristics	Values / Remarks
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ELECTRICAL CHARACTERISTICS

Impedance	50Ω
Frequency range	0 - 6 GHz
Typical VSWR	1.02 + 0.02 F
Maximum insertion loss	0.05 vF (GHz)
Insulation resistance	5000 MΩ min
Voltage rating	<=1400 Veff
Dielectric withstanding voltage	<2500 Veff
Contact resistance	≤ 1.5 mΩ
Power	1KW @ 1 GHz
Intermodulation	-160 dBc

MECHANICAL CHARACTERISTICS

Mechanical endurance	100 cycles
Disengagement force	<12 N
Mating torque	1000 N.cm

ENVIRONMENTAL CHARACTERISTICS

Temperature range	- 55 °C ~ + 155 °C
Sealing	IP67

MATERIALS

Connector bodies	Brass
Male center contact	Brass
Female center contact	Beryllium Copper / Bronze
Other metallic parts	Brass
Insulators	PTFE

PLATING

Bodies	BBR2
Outer contact	BBR2
Center contact	Silver

Plugs and jack

STRAIGHT PLUGS

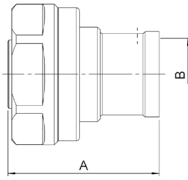


Fig. 1

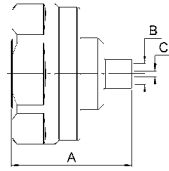


Fig. 2

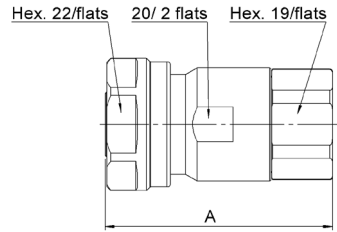



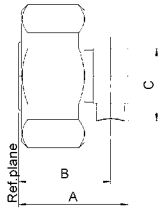



Fig. 3

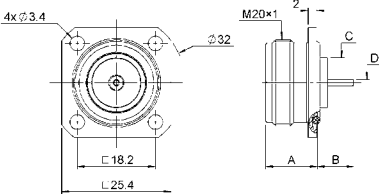
Cable group dia.	Part number	Fig.	Dimensions			Captive center contact	Finish	Packaging	Note	
			A	B	C					
1/2" superflexible corrugated	R170 031 107		1	31.7	12.60	-	Yes	Silver / BBR	50	Solder type
Hand formable cable .141"	R170 031 007		2	22	3.65	1.05				
1/2" superflexible corrugated	R170 031 207		3	42	-	-			Clamp type	

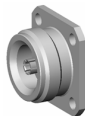
RIGHT ANGLE PLUG



Cable group	Cable group dia.	Part number		Dimensions			Captive center contact	Finish	Packaging
				A	B	C			
RG402	Hand formable cable .141"	R170 152 107		19	16	12.5	Yes	Silver / BBR	50

SQUARE FLANGE STRAIGHT JACK



Part number		Dimensions				Captive center contact	Finish	Packaging
		A	B	C	D			
R170 413 127		12	8.5	11.5	1.5	Yes	Silver / BBR	50

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