



4.3-10 SERIES

R183

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4.3-10

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SECTION 2 TABLE OF CONTENTS

Introduction

50Ω

DC - 6 GHz

GENERAL

- Low Intermodulation connector
- Screw-on & push-pull coupling mechanism
- High power rating
- 30% smaller & 60% lighter than 7/16

APPLICABLE STANDARDS

- IEC 61169
- MIL PRF 39012

APPLICATIONS

- Telecom
- Medical
- Industrial
- Indoor and outdoor use

Overview

Designed for major telecom equipment manufacturers, the 4.3-10 series offers a small, lightweight solution for outdoor telecom applications where high performance is essential and low intermodulation is required.

Radiall's broad product portfolio includes the 4.3-10, 4.1-9.5, 7/16 and the innovative QLI (Quick Lock Low Intermodulation) connector. These solutions are suitable for harsh environments where reliability is required.

Available in a variety of configurations including:

- Jack/Bulkhead
- Square flange receptacles and plugs
- Right angle models
- Solder, crimp and clamp models
- Screw-on and push-pull coupling mechanism

4.3-10 connectors are a lightweight solution and are 30% smaller and 60% lighter than comparable 7/16 square flange jack receptacles. The new interface features a high intermodulation level ranging from 0-6 GHz and provides a low intermodulation level at <-166dBc.

Radiall's 4.3-10 connector solution is designed in accordance with international standards and manufactured to meet environmental safety requirements.

HIGH PERFORMANCE

- Impedance 50Ω
- Frequency range DC ~ 6 GHz
- Very low intermodulation level $\leq -166\text{dBc}$
- Screw-on and push-pull coupling mechanism for safety and ease of use
- VSWR 1.04 + 0.01 v f
- Meets all requirements for IP67
- High mating life
- 3 step connection: Engage, Push & Lock
- Intuitive design concept
- Lightweight
- Reduced size allows more space for other components
- RF Power: Up to 500 W @ 2 GHz

Characteristics

Test / Characteristics	Values / Remarks
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ELECTRICAL CHARACTERISTICS

Impedance	50Ω
Frequency range	DC - 6 GHz
Typical VSWR	1.04 + 0.01 f (GHz)
Maximum insertion loss	0.05 √f (GHz) dB
Insulation resistance	5000 MΩ min
Voltage rating	<=1000 Veff
Dielectric withstanding voltage	≥2500 Veff
Contact resistance	≤ 1 mΩ ≤ 1.5 mΩ
• Center contact	
• Outer contact	
Power	500W @ 2 GHz
Intermodulation	≤165dBc (>120 dBm) 2x20W
Typical RF leakage	-110dB@3 GHz; -100dB@3-6 GHz

MECHANICAL CHARACTERISTICS

Mechanical endurance	100 cycles	
Mating force (push-pull version)	≤100 N ≤80 N	IEC 61169-1 §9.3.6
• Engagement force for mating		
• Separation force for mating		
Mating torque (tool screw type)	5 N. m	IEC 61169-1 §9.3.6
• Torque		
Mating mechanical retention force	450 N min.	
Cable retention force	350 N mini with 1/2" S cable	
Vibration	10g 2 Hz to 200 Hz	IEC 61169-1 § 9.3.3

ENVIRONMENTAL CHARACTERISTICS

Temperature range	- 55 °C ~ + 90 °C	
Moisture resistance	IP67	
Corrosion salt spray	48h	Up to 720 with HEP2R*

MATERIALS

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

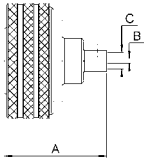
PLATING

Bodies	BBR
Outer contact	BBR
Center contact	Silver

* Contact us

Plugs

STRAIGHT PLUG FOR FLEXIBLE AND SEMI-RIGID CABLE



Cable group	Cable group dia.	Part number		Dimensions			Captive center contact	Finish	Coupling mechanism	Note
				A	B	C				
RG402 / KS2 / BELDEN 1673A / HC90000(3) / SUCOFORM 141	.141	R183 052 007		21.9	0.96	3.7	Yes	Silver + BBR	Push-pull	Solder

STRAIGHT PLUGS FOR CORRUGATED CABLES

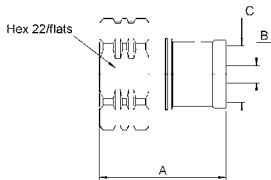


Fig. 1

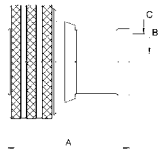

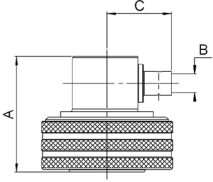



Fig. 2

Cable group dia.	Part number		Fig.	Dimensions			Captive center contact	Finish	Coupling mechanism	Note
				A	B	C				
1/2" super-flexible corrugated	R183 031 007		1	27.9	3.80	12.55	Yes	Silver + BBR	Screw-on	Solder
	R183 031 017		2						Push-pull	
1/4" super-flexible corrugated	R183 030 017		1	23.8	2	6.8			Screw-on	
	R183 030 007		2						Push-pull	
3/8" super-flexible corrugated	R183 032 007		1	25.9	2.8	9.45			Screw-on	

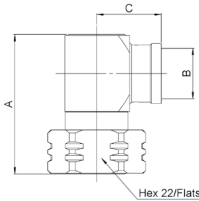
Plugs


RIGHT ANGLE PLUG FOR HANDFORMABLE AND SEMI-RIGID CABLES



Cable group	Cable group dia.	Part number	Dimensions			Captive center contact	Finish	Coupling mechanism	Note
			A	B	C				
RG402 / KS2	.141	R183 197 007 	21.7	3.65	12.5	Yes	Silver + BBR	Push-pull	Solder

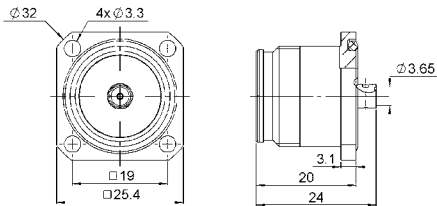
RIGHT ANGLE PLUG FOR CORRUGATED CABLES




Cable group dia.	Part number	Dimensions			Captive center contact	Finish	Coupling mechanism	Note
		A	B	C				
1/2" superflexible corrugated	R183 165 007 	34.7	12.55	16.15	Yes	Silver + BBR	Screw-on	Solder

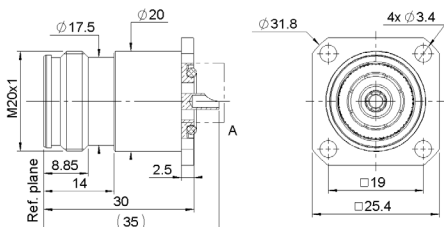
Jacks

STRAIGHT SQUARE FLANGE JACKS



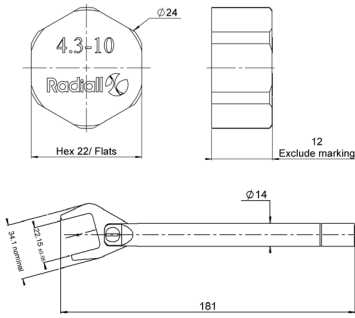
Cable group	Cable group dia.	Part number	Captive center contact	Panel drilling	Finish
RG402	.141	R183 252 007 	Yes	P01	Silver / BBR



SQUARE FLANGE JACK RECEPTACLES



Part number	Captive center contact	Panel drilling	Finish	Note
R183 405 067 	Yes	P02	Silver / BBR	Solder pot

Accessories and Tools



Part number		Note
R183 804 020		IP67 for mated condition UV resistance
R282 303 240		Torque wrench 5N.m

Panel Drilling

P01

PANEL CUT OUT

A DIA
B DIA
4 holes

	mm		inch	
	Maxi	mini	Maxi	mini
A	10.1	10	0.397	0.393
B	3.4	3.3	0.133	0.129
C	19.05	18.95	0.75	0.746

P02

PANEL CUT OUT

A DIA
B DIA
4 holes

	mm		inch	
	Maxi	mini	Maxi	mini
A	7.46	7.3	0.293	0.287
B	3.6	3.5	0.141	0.137
C	19.05	18.95	0.75	0.746

Low Power Terminations

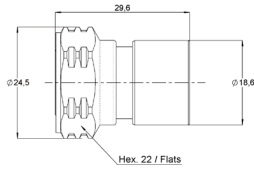


Fig. 1

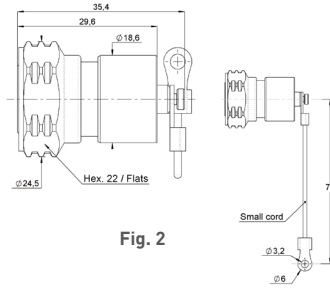


Fig. 2

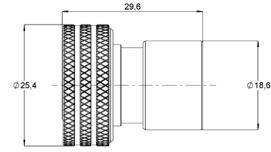


Fig. 3

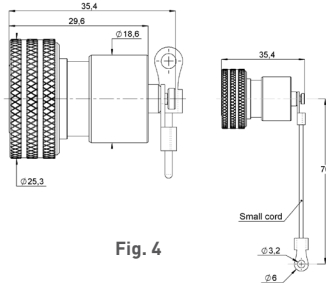


Fig. 4

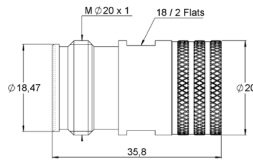


Fig. 5

Frequency DC to (GHz)	VSWR max.	Return loss min. (dB)	Power rating (W)		Impedance (Ω)	Gender	Part number	Fig.
			average	peak				
6	1.25	19.1	2	500	50±5%	Male screw	R404 1D1 000	1
							R404 1D1 121 ⁽¹⁾	2
						Male push-pull	R404 1D2 000	3
							R404 1D2 121 ⁽¹⁾	4
						Female	R404 1D5 000	5

[1] with cord

Medium Power Terminations

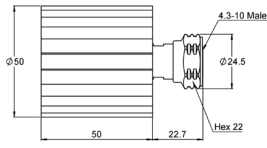


Fig. 1

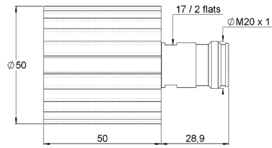


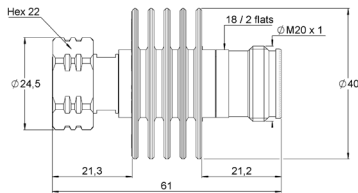



Fig. 2

Frequency DC to (GHz)	VSWR max.	Return loss min. (dB)	Power rating (W)		Impedance (Ω)	Gender	Part number	Fig.	
			average	peak					
6	1.3	17.7	30	2,000	50±5%	Male screw	R404 758 000		1
						Female	R404 759 000		2

Medium Power Attenuators



Frequency DC to (GHz)	VSWR max.	Return loss min. (dB)	Power rating (W)		Nom. Attenuation (dB)	Max dev.	Part number
			average	peak			
6	1.15	14.0	15	250	xx	±0.6	R415 6xx 000 

Available attenuation value: xx = 03, 06, 10, 20 dB