



SPINNER || GETTING STARTED WITH 4.3-10



Edition A/2014

High Frequency Performance Worldwide
www.spinner-group.com



Three different coupling mechanisms:
screw – hand screw – push-pull

SPINNER sets Standards in RF Technology 4.3-10 arrived to the Mobile Communication Market

It has been the first time leading vendors teamed up to specify and develop a dedicated connector system for the needs of mobile communication industry. SPINNER sets standards in RF technology and has been one of the drivers for the new 4.3-10 connector system.

A major improvement of the 4.3-10 connector system is its reduction of required coupling torque, achieved by separating the electrical and mechanical reference planes. This enables the system to be installed without tools; therefore the connectors are available with screw, hand-screw and push-pull coupling mechanisms. Beside the more compact design which allows a higher connector density on equipment, the 4.3-10 connector system will support up to 500 Watt at 2 GHz.

Our products, your benefits

SPINNER products are class leading in quality and performance and ensure the perfect and most cost efficient connection between base stations and antennas. Our high quality standards with regards to design, material and manufacturing ensure products supporting best possible connectivity, optimized installation and failure-free operation, even under toughest environmental conditions.

The benefits are obvious; lower OPEX and better utilization of the entire site CAPEX.

Please feel free to contact our mobile communication sales division
for further types of our 4.3-10 portfolio: ms@spinner-group.com

CONNECTOR SYSTEMS IN COMPARISON

Technical data	Type N	Type 4.1-9.5	Type 4.3-10	Type 7-16
IEC standard	61169-16	60169-11	61169-54	61169-4
Nominal impedance	50 Ω	50 Ω	50 Ω	50 Ω
Cut off frequency	19 GHz	14 GHz	13 GHz	8.3 GHz
Intermodulation (IM3) 2 x 20 W (acc. IEC)	not specified	not specified	< -166 dBc	< -165 dBc
Insulation resistance (initial)	$\geq 5 \text{ G}\Omega$	$\geq 5 \text{ G}\Omega$	$\geq 5 \text{ G}\Omega$	$\geq 10 \text{ G}\Omega$
Proof voltage at sea level	2.5 kV	2.5 kV	2.5 kV	3 kV
Working voltage at sea level	1.4 kV	1.7 kV	1.8 kV	2.7 kV
Power rating	450 W at 1 GHz 300 W at 2 GHz	650 W at 1 GHz 450 W at 2 GHz	700 W at 1 GHz 500 W at 2 GHz	1,200 W at 1 GHz 850 W at 2 GHz
Contacting outer conductor	Face contact	Face contact	Contact bushing	Face contact
Coupling mechanism	screw	screw	screw, push-pull, hand screw	screw
Coupling torque	3.0 Nm	10 Nm	5 Nm (screw only)	30 Nm
Proof torque	4.0 Nm	15 Nm	7 Nm (screw only)	55 Nm
Tensile strength of coupling mechanism	450 N	550 N	450 N	1,000 N
Packaging density	1 inch 25.4 mm	1 inch 25.4 mm	1 inch 25.4 mm	1.26 inch 32 mm
Wrench size	19	22	22	32
Temperature range	-67 to 311 °F -55 to +155 °C	-67 to 311 °F -55 to +155 °C	-67 to 311 °F -55 to +155 °C	-67 to 311 °F -55 to +155 °C
Degree of protection (mated)	IP68	IP68	IP68	IP68



COAXIAL CONNECTORS

Cable Connectors

Connector type	Version	Cable type	Part number
4.3-10 male; screw type	CAF profile gasket	SF 3/8"-50	BN 431101
4.3-10 male; screw type	MultiFit	SF 1/2"-50	BN 431171
4.3-10 male right angle; screw type	MultiFit	SF 1/2"-50	BN 431174
4.3-10 male; screw type	MultiFit	LF 1/2"-50	BN 431117
4.3-10 male right angle; screw type	MultiFit	LF 1/2"-50	BN 431116
4.3-10 female	MultiFit	LF 1/2"-50	BN 431017
4.3-10 male; screw type	MultiFit	LF 7/8"-50	BN 431102
4.3-10 female	MultiFit	LF 7/8"-50	BN 431002
4.3-10 male; screw type	MultiFit	LF 1 1/4"-50	BN 431120
4.3-10 female	MultiFit	LF 1 1/4"-50	BN 431020
4.3-10 male; screw type	MultiFit	LF 1 5/8"-50	BN 431122
4.3-10 female	MultiFit	LF 1 5/8"-50	BN 431022

Fixed Connectors

Connector type	Version	Part number
4.3-10 female; bulk head	for RG402	BN 431500
4.3-10 female; bulk head	for RG401	BN 431501
4.3-10 female; bulk head	Inner conductor M3	BN 431502
4.3-10 female; bulk head	Inner conductor solder cup	BN 431503
4.3-10 female; four hole flange; 3.2 mm	for RG402	BN 431404
4.3-10 female; four hole flange; 3.2 mm	for RG401	BN 431403
4.3-10 female; four hole flange; 3.2 mm	Inner conductor M3	BN 431405
4.3-10 female; four hole flange; 3.2 mm	Inner conductor solder cup	BN 431406



ADAPTORS

Inter Series / Within Series Adaptors

Side A	Side B	Part number
4.3-10 male; screw type	7-16 male	BN 432005
4.3-10 male; hand screw type	7-16 male	BN 432007
4.3-10 male; push pull type	7-16 male	BN 432008
4.3-10 male; screw type	7-16 female	BN 432002
4.3-10 male; hand screw type	7-16 female	BN 432015
4.3-10 male; push pull type	7-16 female	BN 432016
4.3-10 female	7-16 male	BN 432001
4.3-10 female	7-16 female	BN 432011
4.3-10 male; hand screw type	4.3-10 male; hand screw type	BN 432018
4.3-10 male; screw type	4.3-10 female	BN 432017
4.3-10 female bulk head	4.3-10 female	BN 432019
4.3-10 male; hand screw type	N male	BN 432009
4.3-10 male; hand screw type	N female	BN 432003
4.3-10 female	N male	BN 432004
4.3-10 female	N female	BN 432010
4.3-10 male; hand screw type	3.5 mm male	BN 432020
4.3-10 male; hand screw type	3.5 mm female	BN 432021
4.3-10 female	3.5 mm male	BN 432022
4.3-10 female	3.5 mm female	BN 432023



MEASUREMENT & CALIBRATION COMPONENTS

EasyDock - Measurement Adaptors

Side A	Side B	Part number
4.3-10 male; bulk head; push pull	4.3-10 female	BN 432014
4.3-10 male; bulk head; push pull	N female	BN 432012
4.3-10 male; bulk head; push pull	3.5 mm female	BN 432006



Precision Adaptors, Grade 0, up to 12 GHz

Side A	Side B	Part number
4.3-10 male; screw type	N male	BN 194442
4.3-10 male; screw type	N female	BN 194443
4.3-10 female	N male	BN 194440
4.3-10 female	N female	BN 194441



MEASUREMENT & CALIBRATION COMPONENTS

Calibration Kits

Type	Connector type	Frequency range	Part number
4-in-1 OSLT Compact Calibration Kit	4.3-10 male; screw type	6 GHz	BN 533301
4-in-1 OSLT Compact Calibration Kit	4.3-10 female	6 GHz	BN 533302
OSLT High Precision Calibration Kit	4.3-10 male; screw type and female	12 GHz	BN 533312
4-in-1 OSLT Compact Calibration Kit	4.3-10 male; screw type	12 GHz	BN 533313
4-in-1 OSLT Compact Calibration Kit	4.3-10 female	12 GHz	BN 533314



Connector gauges

Type	Part number
4.3-10 male inner conductor (MIC)	BN 533315
4.3-10 female inner conductor (FIC)	BN 533317
4.3-10 female outer conductor (FOC)	BN 533318

Tools

Type	Part number
Torque wrench 22 mm / M = 5 Nm	BN 238739
Torque wrench 22 mm / M = 2.5 Nm	BN 238740



SPINNERFLEX® TOPFIT JUMPER

SF 1/2"-50

4.3-10 connector styles
4.3-10 male; screw type
4.3-10 male; hand screw type
4.3-10 male; push pull type
4.3-10 female
4.3-10 male right angle; screw type
4.3-10 male right angle; hand screw type
4.3-10 male right angle; push pull type

SF 3/8"-50

4.3-10 connector styles
4.3-10 male; screw type
4.3-10 male; hand screw type
4.3-10 male; push pull type

SF 1/4"-50

4.3-10 connector styles
4.3-10 male; screw type

LF 1/2"-50

4.3-10 connector styles
4.3-10 male; screw type
4.3-10 male; hand screw type
4.3-10 male; push pull type
4.3-10 female
4.3-10 male right angle; screw type
4.3-10 male right angle; hand screw type
4.3-10 male right angle; push pull type

SERIFLEX 250-50 (RG401)

4.3-10 connector styles
4.3-10 female; four hole flange
4.3-10 female; bulk head

SERIFLEX 141-50 (RG402)

4.3-10 connector styles
4.3-10 female; four hole flange
4.3-10 female; bulk head



SALES ARTICLE NUMBERS FOR SPINNERFLEX® TOPFIT JUMPERS

Jumper	Cable type	Cable size	Cable jacket	Connector type ¹⁾	Length	Unit	Length
	L: LF	14: 1/4"	blank for PE	blank for pigtail ²⁾	meter	M	decimeter
	S: SF	38: 3/8"	F: FR	7: 7-16	feet	F	inch
		12: 1/2"	G: PE Grey	43: 4.3-10			
				41: 4.1-9.5			
				N: N			

side A side B

J X Z X - X Z X Z - X Z X - Z

Connector style ²⁾

N, 4.1-9.5, 7-16

blank for pigtail ³⁾

M: male

R: male right angle

F: female

B: female bulkhead

P: female panel

4.3-10

blank for pigtail ³⁾

MS: male screw

MH: male hand screw

MP: male push-pull

RS: male right angle screw

RH: male right angle hand screw

RP: male right angle push-pull

F: female

B: female bulkhead

Special features

blank for no special feature

P: Phase length defined

E: Extended frequency range
(> 3.800 MHz)

K: Connector specified on side B
kitted to the jumper

S: Jumperset

¹⁾ Please specify larger connector on side A. Please specify larger connector in listed order

²⁾ Please specify in listed order

³⁾ Pigtail only on side B

Examples:

JL12-7M43RS-2M5

LF 1/2" jumper with 7-16 male and 4.3-10 male right angle screw type; length 2.5 meter

JS12-43MS-20F5

SF 1/2" jumper with 4.3-10 male screw type and pigtail; length 20 feet and 5 inch

JL12-7M7M-10M-K

LF 1/2" jumper with 7-16 male and 7-16 male as MultiFit kitted to the loose end: length 10.0 meter

SpinnerFlex® TopFit jumpers can be manufactured with 7-16, 4.3-10, 4.1-9.5 and N connectors and can be produced in any length and connector combination.

Please note, upon request SPINNER is able to offer customized jumper cables to meet your specific requirements, such as phase adjustments or extended frequency range.

LOADS & ATTENUATORS

Coaxial Load for IM test – equipped with 4.3-10 female connector

Description	Part number
Coaxial load for IM-test-equipment	BN 157151



Coaxial Loads – equipped with 4.3-10 female connectors

Description	Average power	Frequency range	Part number
Coaxial load, low intermodulation	20 W	694 - 3000 MHz	BN 594282
Coaxial load	50 W	0 - 3000 MHz	BN 537795
Coaxial load, low intermodulation	50 W	694 - 3000 MHz	BN 594283
Coaxial load	100 W	0 - 3000 MHz	BN537796
Coaxial load, low intermodulation	100 W	694 - 3000 MHz	BN 594284
Coaxial load	200 W	0 - 3000 MHz	BN 537797



Attenuators

Attenuation	Average power	Part number	Attenuation	Average power	Part number
10 dB	25 W	BN 605201	6 dB	65 W	BN 605210
20 dB	25 W	BN 605202	3 dB	100 W	BN 605211
30 dB	25 W	BN 605203	10 dB	100 W	BN 605212
40 dB	25 W	BN 605204	20 dB	100 W	BN 605213
6 dB	30 W	BN 605205	30 dB	100 W	BN 605214
3 dB	50 W	BN 605206	40 dB	100 W	BN 605215
10 dB	50 W	BN 605207	10 dB	200 W	BN 605216
20 dB	50 W	BN 605208	20 dB	200 W	BN 605217
30 dB	50 W	BN 605209	30 dB	200 W	BN 605218

All attenuators are equipped with 4.3-10 male hand screw type on one side and female on the other side and support a frequency range from 0 - 4000 MHz.

COUPLERS & SPLITTERS

Coaxial Directional Couplers

Coupling	Style	Part number
3 dB	H	BN 753361
3 dB	X	BN 753366
4.77 dB	H	BN 753362
6 dB	H	BN 753363
10 dB	H	BN 753364
30 dB	H	BN 753365



All couplers are equipped with 4.3-10 female connectors and support IP68 as degree of protection (mated). They support 500 W power rating and frequency range from 694 - 2700 MHz.

Coaxial Symmetrical Splitters

Splitter type	Part number
2-way splitter	BN 433000
3-way splitter	BN 433001
4-way splitter	BN 433002



All splitters are equipped with 4.3-10 female connectors and support IP62 as degree of protection (mated). They support 250 W power rating and frequency range from 694 - 2700 MHz.

Coaxial Unsymmetrical Splitters (Tappers)

Coupling	Part number
4.77 dB	BN 923014
6 dB	BN 923001
7dB	BN 923003
8 dB	BN 923006
10 dB	BN 923007
13 dB	BN 923008
15 dB	BN 923009
20 dB	BN 923012
30 dB	BN 923013



All splitters are equipped with 4.3-10 female connectors and support IP54 as degree of protection (mated). They support 300 W power rating and frequency range from 694 - 2700 MHz.

SPINNER ICT Inc.

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Data subject to change without notice

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