

CELLFLEX® Foam Dielectric Jumpers

Why choose jumper cables from RFS?

CELLFLEX® foam dielectric jumper cables provide the ideal combination of low-loss, high-strength and highest flexibility for optimum performance. Jumper cables are mainly used between main feeders and antennas or between main feeders and system equipment.

The use of jumpers provides greater flexibility if antennas are to be changed due to network upgrades, while the network is getting mature, reduced mechanical stress on antennas and connectors and better accessibility of feeder terminations (i.e. for trouble shooting).

Four lines of jumper assemblies are available, depending on cable type and connector configuration. The premium soldered, premium molded as well as the factory fit jumper line is already factory assembled with fully soldered connectors. The assembled jumper line is delivered as a kit with standard connectors to be installed on site or factory installed. In general, it can be said that the soldered versions offer advantages with regard to intermodulation performance. The assembled version gives higher flexibility in length and connector options and shortens delivery cycles for seldom-requested versions.

Characteristics of CELLFLEX® jumper cables are:

- Excellent contact force
- Low and stable intermodulation product IM3
- Excellent RF screening effectiveness
- Designed to IP68 classification

Passive third order intermodulation is a threat in mobile communication especially for multi-channel systems incorporating duplexers. For RFS jumpers the third order intermodulation is typically reduced to values below -155 dBc (which means 155 dB lower than the two incident test carriers of +43 dBm). For RFS soldered connectors of the premium soldered, premium molded and factory fit jumper lines this value is improved to typically -162 dBc.

The jumper cables are for indoor and outdoor applications and withstand severe environmental conditions.

Jumper assemblies are watertight (transversally and longitudinally), providing additional safety even if humidity should enter the coaxial system. Additional sealing (e.g. weather-proofing kits) can be used but is not mandatory.



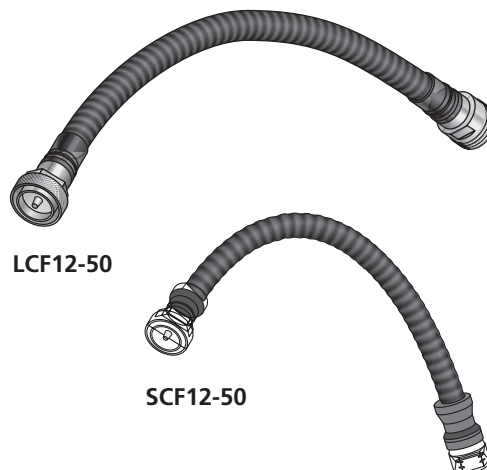
CELLFLEX® Foam Dielectric Jumpers

Product Spectrum

Jumper cables from RFS are manufactured with flexible and superflexible cables. Standard jumpers are offered with the following cable types and connectors.

- SCF14-50 J with N or 7-16 connectors
- SCF38-50 J with N or 7-16 connectors
- SCF12-50 J with N or 7-16 connectors
- LCF12-50 J with N or 7-16 connectors

The molded version is available in standard lengths of 1m, 2m, or 3m. For the assembled version the standard lengths are 3ft, 6ft, 8ft or 10ft.



ELECTRICAL AND MECHANICAL PROPERTIES

Frequency Range [1]	RETURN LOSS (VSWR) {REFLECTION COEFFICIENT}		
	Soldered Version	Molded Version	
	Straight Connectors	Straight Connectors	Right Angle Connectors
410 - 470 MHz	34.2dB (1.04:1) {2.0%}	30.5dB (1.062:1) {3.0%}	30.5dB (1.062:1) {3.0%}
820 - 960 MHz	32.3dB (1.05:1) {2.4%}	29.0dB (1.074:1) {3.5%}	28.0dB (1.083:1) {4.0%}
1710 - 1990 MHz	30.7dB (1.06:1) {2.9%}	28.0dB (1.083:1) {4.0%}	26.4dB (1.101:1) {4.8%}
2000 - 2200 MHz	28.3dB (1.08:1) {3.8%}	26.4dB (1.101:1) {4.8%}	25.7dB (1.109:1) {5.2%}
3rd Order Intermodulation Product [2]	-163 dBc	-162 dBc	-162 dBc

Frequency Range [1]	Factory Fit Version	
	Premium VSWR	Standard VSWR
806 - 960 MHz	30.0dB (1.065:1) {3.1%}	26.0dB (1.105:1) {5.0%}
1850 - 1990 MHz	30.0dB (1.065:1) {3.1%}	26.0dB (1.105:1) {5.0%}

Premium Code	Frequency Range [1]	Assembled Version Return Loss (VSWR)
P1	410 - 470 MHz	23.0dB (1.152:1) {7.1%}
P2	806 - 960 MHz	24.0dB (1.135:1) {6.3%}
P3	1425 - 1535 MHz	24.0dB (1.135:1) {6.3%}
P4	1700 - 1880 MHz	24.0dB (1.135:1) {6.3%}
P5	1850 - 1990 MHz	28.0dB (1.083:1) {4.0%}
P6	1900 - 2200 MHz	24.0dB (1.135:1) {6.3%}
P7	824 - 960 MHz and 1850 - 1990 MHz	24.0dB (1.135:1) {6.3%}
P8	890 - 960 MHz and 1710 - 2200 MHz	23.0dB (1.152:1) {7.1%}
3rd Order Intermodulation Product [2]	-155 dBc	-155 dBc

Attenuation per m (per ft) at 20°C [3]	SCF14-50J	SCF38-50J	SCF12-50J	LCF12-50J
450 MHz	0.127 dB/m (0.039 dB/ft)	0.092 dB/m (0.028 dB/ft)	0.073 dB/m (0.022 dB/ft)	0.047 dB/m (0.014 dB/ft)
900 MHz	0.184 dB/m (0.056 dB/ft)	0.133 dB/m (0.041 dB/ft)	0.106 dB/m (0.032 dB/ft)	0.068 dB/m (0.021 dB/ft)
1800 MHz	0.269 dB/m (0.082 dB/ft)	0.194 dB/m (0.059 dB/ft)	0.155 dB/m (0.047 dB/ft)	0.099 dB/m (0.030 dB/ft)
2100 MHz	0.293 dB/m (0.089 dB/ft)	0.212 dB/m (0.065 dB/ft)	0.169 dB/m (0.052 dB/ft)	0.108 dB/m (0.033 dB/ft)

Minimum Bending Radius [4]	25 mm (1 in)	25 mm (1 in)	32 mm (1.3 in)	125 mm (4.9 in)
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Notes

[1] Other frequency ranges, connector configurations or return loss values on request.

[2] Typical values for 2x +43dBm carriers, at 950MHz and at 1800MHz

[3] Values without connectors. Typical connector attenuation is less than 0.02 dB.

[4] For repeated bending

CELLFLEX® SCF14-50J Jumpers

CONNECTOR A	CONNECTOR B	LENGTH		PREMIUM MOLDED MODEL NUMBER	ASSEMBLED MODEL NUMBER
		(M)	(FT)		
7-16 DIN male	7-16 DIN male	1	3	7M7MS14-0100PM	7M7MS14-030P(*)
		2	6	7M7MS14-0200PM	7M7MS14-060P(*)
		2.5	8		7M7MS14-080P(*)
		3	10	7M7MS14-0300PM	7M7MS14-100P(*)
7-16 DIN male	7-16 DIN female	1	3	7M7FS14-0100PM	7M7FS14-030P(*)
		2	6	7M7FS14-0200PM	7M7FS14-060P(*)
		2.5	8		7M7FS14-080P(*)
		3	10	7M7FS14-0300PM	7M7FS14-100P(*)
7-16 DIN male	N male	1	3	7MNMS14-0100PM	7MNMS14-030P(*)
		2	6	7MNMS14-0200PM	7MNMS14-060P(*)
		2.5	8		7MNMS14-080P(*)
		3	10	7MNMS14-0300PM	7MNMS14-100P(*)
7-16 DIN female	N male	1	3	7FNMS14-0100PM	7FNMS14-030P(*)
		2	6	7FNMS14-0200PM	7FNMS14-060P(*)
		2.5	8		7FNMS14-080P(*)
		3	10	7FNMS14-0300PM	7FNMS14-100P(*)
N male	N male	1	3	NMNMS14-0100PM	NMNMS14-030P(*)
		2	6	NMNMS14-0200PM	NMNMS14-060P(*)
		2.5	8		NMNMS14-080P(*)
		3	10	NMNMS14-0300PM	NMNMS14-100P(*)
N male	N male right angle	1	3	NMNMRS14-0100PM	NMNMRS14-030P(*)
		2	6	NMNMRS14-0200PM	NMNMRS14-060P(*)
		2.5	8		NMNMRS14-080P(*)
		3	10	NMNMRS14-0300PM	NMNMRS14-100P(*)
N male	N female	1	3	NMNFS14-0100PM	NMNFS14-030P(*)
		2	6	NMNFS14-0200PM	NMNFS14-060P(*)
		2.5	8		NMNFS14-080P(*)
		3	10	NMNFS14-0300PM	NMNFS14-100P(*)
N female	N male right angle	1	3	NFNMRS14-0100PM	NFNMRS14-030P(*)
		2	6	NFNMRS14-0200PM	NFNMRS14-060P(*)
		2.5	8		NFNMRS14-080P(*)
		3	10	NFNMRS14-0300PM	NFNMRS14-100P(*)

(*) please add appropriate premium range according to premium return loss table on page 83.

CELLFLEX® SCF38-50J Jumpers

CONNECTOR A	CONNECTOR B	LENGTH		PREMIUM MOLDED MODEL NUMBER	ASSEMBLED MODEL NUMBER
		(M)	(FT)		
7-16 DIN male	7-16 DIN male	1	3	7M7MS38-0100PM	7M7MS38-030P(*)
		2	6	7M7MS38-0200PM	7M7MS38-060P(*)
		2.5	8		7M7MS38-080P(*)
		3	10	7M7MS38-0300PM	7M7MS38-100P(*)
7-16 DIN male	7-16 DIN male right angle	1	3	7M7MRS38-0100PM	7M7MRS38-030P(*)
		2	6	7M7MRS38-0200PM	7M7MRS38-060P(*)
		2.5	8		7M7MRS38-080P(*)
		3	10	7M7MRS38-0300PM	7M7MRS38-100P(*)
7-16 DIN male	7-16 DIN female	1	3	7M7FS38-0100PM	7M7FS38-030P(*)
		2	6	7M7FS38-0200PM	7M7FS38-060P(*)
		2.5	8		7M7FS38-080P(*)
		3	10	7M7FS38-0300PM	7M7FS38-100P(*)
7-16 DIN female	7-16 DIN male right angle	1	3	7F7MRS38-0100PM	7F7MRS38-030P(*)
		2	6	7F7MRS38-0200PM	7F7MRS38-060P(*)
		2.5	8		7F7MRS38-080P(*)
		3	10	7F7MRS38-0300PM	7F7MRS38-100P(*)
7-16 DIN male	N male	1	3	7MNMS38-0100PM	7MNMS38-030P(*)
		2	6	7MNMS38-0200PM	7MNMS38-060P(*)
		2.5	8		7MNMS38-080P(*)
		3	10	7MNMS38-0300PM	7MNMS38-100P(*)
7-16 DIN female	N male	1	3	7FNMS38-0100PM	7FNMS38-030P(*)
		2	6	7FNMS38-0200PM	7FNMS38-060P(*)
		2.5	8		7FNMS38-080P(*)
		3	10	7FNMS38-0300PM	7FNMS38-100P(*)
N male	N male	1	3	NMNMS38-0100PM	NMNMS38-030P(*)
		2	6	NMNMS38-0200PM	NMNMS38-060P(*)
		2.5	8		NMNMS38-080P(*)
		3	10	NMNMS38-0300PM	NMNMS38-100P(*)
N male	N male right angle	1	3	NMNMRS38-0100PM	NMNMRS38-030P(*)
		2	6	NMNMRS38-0200PM	NMNMRS38-060P(*)
		2.5	8		NMNMRS38-080P(*)
		3	10	NMNMRS38-0300PM	NMNMRS38-100P(*)
N male	N female	1	3	NMNFS38-0100PM	NMNFS38-030P(*)
		2	6	NMNFS38-0200PM	NMNFS38-060P(*)
		2.5	8		NMNFS38-080P(*)
		3	10	NMNFS38-0300PM	NMNFS38-100P(*)
N female	N male right angle	1	3	NFNMRS38-0100PM	NFNMRS38-030P(*)
		2	6	NFNMRS38-0200PM	NFNMRS38-060P(*)
		2.5	8		NFNMRS38-080P(*)
		3	10	NFNMRS38-0300PM	NFNMRS38-100P(*)

(*) please add appropriate premium range according to premium return loss table on page 83.

CELLFLEX® SCF12-50J Jumpers

CONNECTOR A	CONNECTOR B	LENGTH (M) (FT)		PREMIUM MOLDED MODEL NUMBER	FACTORY FIT MODEL NUMBER	ASSEMBLED MODEL NUMBER
7-16 DIN male	7-16 DIN male	1	3	7M7MS12-0100PS	7M7MS12-030FF(**)	
		2	6	7M7MS12-0200PS	7M7MS12-060FF(**)	
		2.5	8	7M7MS12-0250PS	7M7MS12-080FF(**)	
		3	10	7M7MS12-0300PS	7M7MS12-100FF(**)	
7-16 DIN male	7-16 DIN male right angle	1	3	7M7MRS12-0100PS	7M7MRS12-030FF(**)	
		2	6	7M7MRS12-0200PS	7M7MRS12-060FF(**)	
		2.5	8		7M7MRS12-080FF(**)	
		3	10	7M7MRS12-0300PS	7M7MRS12-100FF(**)	
7-16 DIN male	7-16 DIN female	1	3	7M7FS12-0100PS		7M7FS12-030P(*)
		2	6	7M7FS12-0200PS		7M7FS12-060P(*)
		2.5	8			7M7FS12-080P(*)
		3	10	7M7FS12-0300PS		7M7FS12-100P(*)
7-16 DIN female	7-16 DIN male right angle	1	3	7F7MRS12-0100PS		7F7MRS12-030P(*)
		2	6	7F7MRS12-0200PS		7F7MRS12-060P(*)
		2.5	8			7F7MRS12-080P(*)
		3	10	7F7MRS12-0300PS		7F7MRS12-100P(*)
7-16 DIN male	N male	1	3	7MNMS12-0100PS		7MNMS12-030P(*)
		2	6	7MNMS12-0200PS		7MNMS12-060P(*)
		2.5	8			7MNMS12-080P(*)
		3	10	7MNMS12-0300PS		7MNMS12-100P(*)
7-16 DIN female	N male	1	3	7FNMS12-0100PS		7FNMS12-030P(*)
		2	6	7FNMS12-0200PS		7FNMS12-060P(*)
		2.5	8			7FNMS12-080P(*)
		3	10	7FNMS12-0300PS		7FNMS12-100P(*)
N male	N male	1	3	NMNMS12-0100PS		NMNMS12-030P(*)
		2	6	NMNMS12-0200PS		NMNMS12-060P(*)
		2.5	8			NMNMS12-080P(*)
		3	10	NMNMS12-0300PS		NMNMS12-100P(*)
N male	N male right angle	1	3	NMNMRS12-0100PS		NMNMRS12-030P(*)
		2	6	NMNMRS12-0200PS		NMNMRS12-060P(*)
		2.5	8			NMNMRS12-080P(*)
		3	10	NMNMRS12-0300PS		NMNMRS12-100P(*)
N male	N female	1	3	NMNFS12-0100PS		NMNFS12-030P(*)
		2	6	NMNFS12-0200PS		NMNFS12-060P(*)
		2.5	8			NMNFS12-080P(*)
		3	10	NMNFS12-0300PS		NMNFS12-100P(*)
N female	N male right angle	1	3	NFNMRS12-0100PS		NFNMRS12-030P(*)
		2	6	NFNMRS12-0200PS		NFNMRS12-060P(*)
		2.5	8	NFNMRS12-0300PS		NFNMRS12-080P(*)
		3	10			NFNMRS12-100P(*)

(*) please add appropriate premium range according to premium return loss table on page 83.

(**) please add S or P for standard or premium VSWR version, for specification refer to page 83.



CELLFLEX® LCF12-50J Jumpers

CONNECTOR A	CONNECTOR B	LENGTH (M) (FT)		PREMIUM MOLDED MODEL NUMBER	FACTORY FIT MODEL NUMBER	ASSEMBLED MODEL NUMBER
7-16 DIN male	7-16 DIN male	1	3	7M7ML12-0100PM	7M7ML12-030FF(**)	
		2	6	7M7ML12-0200PM	7M7ML12-060FF(**)	
		2.5	8		7M7ML12-080FF(**)	
		3	10	7M7ML12-0300PM	7M7ML12-100FF(**)	
7-16 DIN male	7-16 DIN male right angle	1	3	7M7MRL12-0100PM	7M7MRL12-030FF(**)	
		2	6	7M7MRL12-0200PM	7M7MRL12-060FF(**)	
		2.5	8		7M7MRL12-080FF(**)	
		3	10	7M7MRL12-0300PM	7M7MRL12-100FF(**)	
7-16 DIN male	7-16 DIN female	1	3	7M7FL12-0100PM		7M7FL12-030P(*)
		2	6	7M7FL12-0200PM		7M7FL12-060P(*)
		2.5	8			7M7FL12-080P(*)
		3	10	7M7FL12-0300PM		7M7FL12-100P(*)
7-16 DIN female	7-16 DIN male right angle	1	3	7F7MRL12-0100PM		7F7MRL12-030P(*)
		2	6	7F7MRL12-0200PM		7F7MRL12-060P(*)
		2.5	8			7F7MRL12-080P(*)
		3	10	7F7MRL12-0300PM		7F7MRL12-100P(*)
7-16 DIN male	N male	1	3	7MNML12-0100PM	7MNML12-030FF(**)	
		2	6	7MNML12-0200PM	7MNML12-060FF(**)	
		2.5	8		7MNML12-080FF(**)	
		3	10	7MNML12-0300PM	7MNML12-100FF(**)	
7-16 DIN female	N male	1	3	7FNML12-0100PM		7FNML12-030P(*)
		2	6	7FNML12-0200PM		7FNML12-060P(*)
		2.5	8			7FNML12-080P(*)
		3	10	7FNML12-0300PM		7FNML12-100P(*)
N male	N male	1	3	NMNML12-0100PM	NMNML12-030FF(**)	
		2	6	NMNML12-0200PM	NMNML12-060FF(**)	
		2.5	8		NMNML12-080FF(**)	
		3	10	NMNML12-0300PM	NMNML12-100FF(**)	
N male	N male right angle	1	3	NMNMRL12-0100PM		NMNMRL12-030P(*)
		2	6	NMNMRL12-0200PM		NMNMRL12-060P(*)
		2.5	8			NMNMRL12-080P(*)
		3	10	NMNMRL12-0300PM		NMNMRL12-100P(*)
N male	N female	1	3	NMNFL12-0100PM		NMNFL12-030P(*)
		2	6	NMNFL12-0200PM		NMNFL12-060P(*)
		2.5	8			NMNFL12-080P(*)
		3	10	NMNFL12-0300PM		NMNFL12-100P(*)
N female	N male right angle	1	3	NFNMRL12-0100PM		NFNMRL12-030P(*)
		2	6	NFNMRL12-0200PM		NFNMRL12-060P(*)
		2.5	8			NFNMRL12-080P(*)
		3	10	NFNMRL12-0300PM		NFNMRL12-100P(*)

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(**) please add S or P for standard or premium VSWR version, for specification refer to page 83.