How to Specify Part Numbers for Pre-Connectorized Cable Sets

MF02	-	1.0	-	N	(	M	/	ST	)	-	N	(	M	/	ST	)	-	M
CCCC		L L		1		2		3			1		2		3			U

Cable Designator

CCCC	
KA	RG402
HF18G	RG213
DuraTest	RG214
ULL04	RG316
ULL05	RG142
MF02	RG223
SF02	MIL1553
MF05	
LL58	
LL40	
LL60	

Cable Length Specifier

LL	Length 0.5 = 0.5 ; 1.0 = 1.0 5.0 = 5.0 ; 10.0 = 10.0
U	Unit M = Meter ; F = Feet I = Inch

Connector Body Type

3	*Code*
Straight	ST
Right Angle	RA
Bulkhead	BH
2-Hole Panel	2H
4-Hole Panel	4H

Connector Style

2	Code
Female	F
Male	M

Connector Designator

1	*Code*
N	N
SMA	SMA
BNC	BNC
K	K
TNC	TNC
SMA Phase Trimmer	SMA PT
MMCX	MMCX
Microdot	MD
BMA	BMA
SMB	SMB
Quick Lock	QL
SMC	SMC
7/16	7/16
Push-SMA	SMAP
MCX	MCX
SSMB	SSMB

Cable Attenuation versus Frequency Comparison

Cable type	Velocity (%)	1.5 GHz		3 GHz		6 GHz		9 GHz		12 GHz		18 GHz		40 GHz	
		dB/m	dB/ft	dB/m	dB/ft	dB/m	dB/ft	dB/m	dB/ft	dB/m	dB/ft	dB/m	dB/ft	dB/m	dB/ft
LL60	87%	0.12	0.04	0.18	0.06	0.28	0.08	-	-	-	-	-	-	-	-
LL40	84%	0.18	0.05	0.27	0.08	0.41	0.12	-	-	-	-	-	-	-	-
HF18G	83%	0.19	0.06	0.29	0.09	0.43	0.13	0.46	0.14	0.55	0.16	0.68	0.20	-	-
ULL05	80%	0.31	0.09	0.45	0.14	0.65	0.20	0.75	0.22	0.87	0.26	1.12	0.33	-	-
LL240	84%	0.33	0.10	0.47	0.14	0.69	0.20	-	-	-	-	-	-	-	-
RG214	66%	0.36	0.10	0.54	0.16	0.73	0.22	-	-	-	-	-	-	-	-
RG213	66%	0.31	0.09	0.46	0.14	-	-	-	-	-	-	-	-	-	-
ULL04	76%	0.41	0.12	0.58	0.17	0.83	0.25	1.03	0.31	1.20	0.36	1.49	0.45	-	-
KA40	83%	0.45	0.14	0.65	0.20	0.91	0.28	1.15	0.35	1.31	0.40	1.60	0.49	2.48	0.74
LL58	80%	0.49	0.14	0.70	0.21	1.01	0.30	-	-	-	-	-	-	-	-
RG402	70%	0.46	0.14	0.68	0.21	1.03	0.31	1.33	0.40	1.60	0.49	2.09	0.64	-	-
MF02	70%	0.47	0.14	0.75	0.23	1.07	0.32	1.38	0.42	1.65	0.51	2.16	0.66	-	-
SF02	70%	0.51	0.15	0.74	0.22	1.22	0.37	1.41	0.43	1.73	0.52	2.31	0.70	-	-
RG142	70%	0.57	0.18	0.91	0.28	1.38	0.42	-	-	-	-	-	-	-	-
RG405	70%	0.84	0.25	1.13	0.34	1.68	0.50	2.10	0.63	2.64	0.80	3.30	1.00	-	-
SF05	70%	0.86	0.26	1.22	0.37	1.70	0.52	2.30	0.69	2.67	0.81	3.40	1.05	-	-
MF05	70%	0.86	0.26	1.26	0.38	1.79	0.54	2.29	0.69	2.75	0.83	3.41	1.06	-	-
RG316	70%	1.10	0.33	1.64	0.50	-	-	-	-	-	-	-	-	-	-

Power versus Frequency Comparison (Average Power in Watts)

Cable type	1.5 GHz	3 GHz	6 GHz	9 GHz	12 GHz	18 GHz	40 GHz
HF18G	1300	950	600	470	450	330	-
ULL05	700	400	276	225	190	150	-
KA40	400	300	210	175	150	120	70
ULL04	450	310	210	160	150	120	-
LL60	700	400	300	-	-	-	-
RG142	320	210	150	-	-	-	-
RG402	290	180	150	105	87	60	-
SF02	220	200	150	130	90	60	-

Power versus Frequency Comparison (Average Power in Watts)

Cable type	1.5 GHz	3 GHz	6 GHz	9 GHz	12 GHz	18 GHz	40 GHz
LL40	370	250	190	-	-	-	-
MF02	220	150	100	70	60	50	-
RG214	190	130	80	-	-	-	-
RG213	210	140	-	-	-	-	-
LL240	200	140	95	-	-	-	-
LL58	120	84	59	-	-	-	-
SF05	120	90	60	50	40	35	-
RG405	120	95	55	48	38	35	-
MF05	160	115	80	58	50	40	-
RG316	88	60	-	-	-	-	-

Mechanical Specifications

Cable type	Inner Conductor		Bend Radius(minimum)		Outer Conductor		Remarks
	mm	inch	mm	inch	mm	inch	
LL60	4.5	0.177	80	3.14	14.99	0.59	Flexible
LL40	2.75	0.112	25.4	1	10.29	0.405	Flexible
HF18G	2.26	0.089	38.1	1.5	7.62	0.30	Flexible
RG214	2.26	0.088	40	1.96	10.8	0.425	Very Flexible
RG213	2.25	0.087	40	1.96	10.8	0.408	Very Flexible
LL240	1.4	0.055	19.1	0.75	6.1	0.24	Flexible
ULL05	1.29	0.051	25	1.0	5.0	0.20	Flexible
ULL04	1.02	0.0403	23	0.9	4.57	0.18	Flexible
RG142	0.94	0.037	30	1.18	4.95	0.195	Very Flexible
LL58	0.94	0.037	12.7	0.5	4.95	0.195	Flexible
RG402	0.92	0.0362	5	0.19	3.58	0.141	Semi-Rigid
MF02	0.91	0.038	10	0.4	4.06	0.16	Flexible
SF02	0.92	0.036	10	0.4	4.5	0.18	Hand Formable
KA40	0.81	0.032	19	0.75	3.81	0.15	Flexible
MF05	0.51	0.020	6	0.23	2.64	0.104	Very Flexible
SF05	0.51	0.020	6	0.23	3.20	0.126	Hand Formable
RG405	0.51	0.020	4	0.15	2.20	0.086	Semi-Rigid
RG316	0.51	0.020	15	0.59	2.50	0.098	Very Flexible

Cross Reference of our Cable Series with Others

Company	Trade Name/Type	Sona Series	Applications	Frequency (GHz) Dia. (mm)	Remarks
Huber Suhner	Sucoflex_101 Sucoflex_301 Sucoflex_302	LL130	Radar, EW, Airborne Systems interconnect	DC ~ 40 (3.3~3.7mm)	# Top of the line cables for harsh environment # Ultra Loss loss, expanded PTFE, Hi-end cables. # Electrically and mechanically similar # Phase and amplitude stable with temperature # Shielding effectiveness better than -90dBm
	Sucoflex_102 Sucoflex_240 Sucoflex_340	KA40		DC ~ 40 (4~4.3mm)	
	Sucoflex_103	ULL04		DC ~ 18 (4.6~4.8mm)	
	Sucoflex_329 Sucoflex_304 Sucoflex_104	ULL05		DC ~ 18 (5.1~5.5mm)	
	Sucoflex_404	ULL301		DC ~ 18 (5.5mm)	
	Sucoflex_106 Sucoflex_406	HFH18		DC ~ 18 (7.6~7.9mm)	
	Sucoform_141 Sucoform_086	SF02 SF05	Military systems	DC ~ 18	Handformable cable, electrically and mechanically same
	Multiflex_141 Multiflex_86	MF02 MF05		DC ~ 18 DC ~ 50	# Flexible alternatives to semi-rigid, with FEP jacket # Very popular type, PTFE dielectric
	SucoTest 18	DuraTest	RF Test Cables for T&M applications	DC ~ 18	- Similar connectors (St. steel, gold plated) - Strain relief provided to avoid breakage at connector cable joint. Insertion loss & VSWR is similar - Stable electrical properties with flexures
Radiall	SHF2.4M SHF3M	LL130 KA40	Radar, EW, Airborne Systems interconnect	DC ~ 18 DC ~ 40	# Top of the line cables for harsh environment # Ultra Loss loss, expd PTFE, Hi-end cables. # Electrically and mechanically similar # Phase & amplitude stable with temperature # Shielding effectiveness better than -90dBm
	SHF4.2M	ULL04		DC ~18	
	SHF5M SHF8M	ULL05 HFH18G		DC ~ 18	
Micro-Coax	UFB142A	KA40		DC ~ 40	# Top of the line cables for harsh environment # Ultra Loss loss, expd PTFE, Hi-end cables. # Electrically and mechanically similar # Phase & amplitude stable with temperature # Shielding effectiveness better than -90dBm
	UFB197C UFB205A	ULL04 ULL05		DC ~ 18	
Semflex	HP190s	ULL04		DC ~ 18	
	HP160s	KA40		DC ~ 40	
Andrews Heliax	LDF1-50, Corrugated ¼”	LL40	Antenna Feeder, Cable inter-connect runs	DC ~ 6	- Low loss is a key. Sona LL Series has similar loss and power - Sona LL Series is ‘FLEXIBLE’ as compared to Heliax which is very rigid and difficult to route
	LDF4-50, Corrugated ½’	LL60			
RFS (Kabelmetal)	LCF14-50, Corrugated ¼”	LL40		DC ~ 6	- Low loss is a key. Sona LL Series has similar loss and power - Sona LL Series is ‘FLEXIBLE’ as compared to LCF which is very rigid and difficult to route
	LCF12-50, Corrugated ½’	LL60			