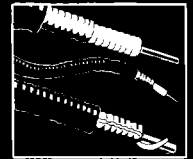


HELIX® Coaxial Cables



LDF4-50A

Cable Ordering Information

Description	Type No.
Standard Cable	
1/2" Standard Cable, Standard Jacket	LDF4-50A
Fire Retardant Cables	
1/2" Fire Retardant Jacket (CATVX)	LDF4RN-50A
1/2" Fire Retardant Jacket (CATVR)	LDF4RN-50A
Low VSWR and Specialized Cables	
1/2" Low VSWR, specify operating band	LDF4P-50A-(**)
Cable for Cellular, standard jacket	
824-960 MHz, 1.20 VSWR, max.	LDF4P-50A-1
880-960 MHz, 1.20 VSWR, max.	LDF4P-50A-2
Cable for Cellular, fire retardant jacket (CATVR)	
824-894 MHz, 1.20 VSWR	41690-74
Qualified to MIL-C-28830/3	202071-1
Phase Stabilized and Phase Measured Cable	See page 585
Jumper Cable Assemblies	
Standard Jumper Assemblies	See page 545
Low VSWR Jumper Assemblies for Cellular	See page 46
Low VSWR Jumper Assemblies for Microwave	See page 171

** Insert suffix number from "Low VSWR Specifications" table.

Characteristics

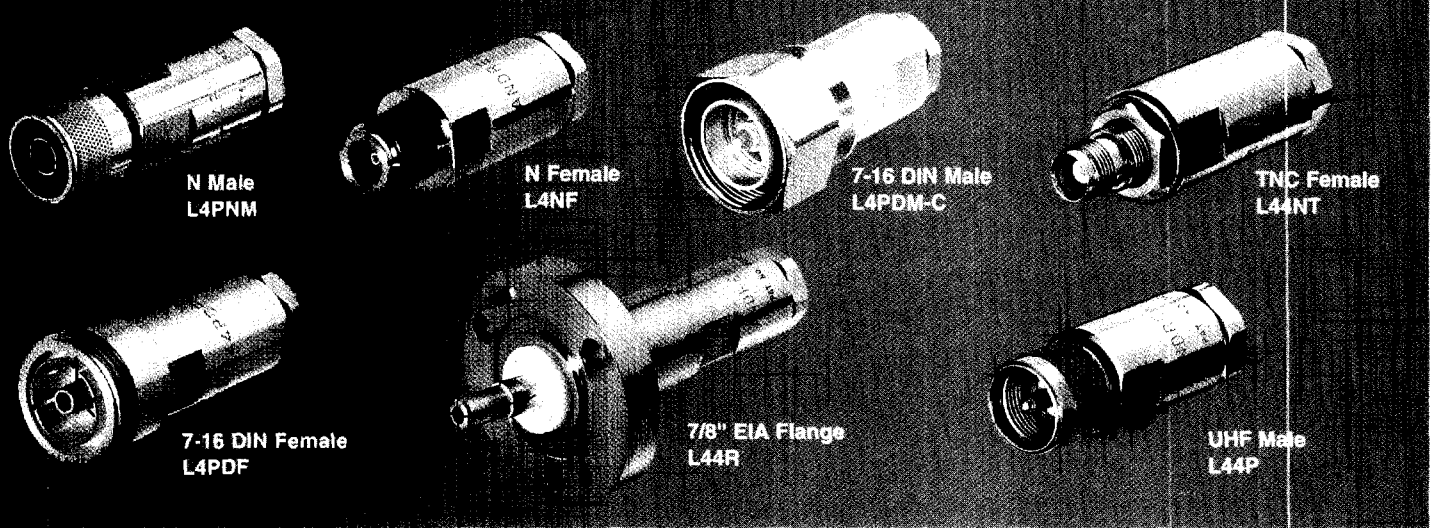
Electrical	
Impedance, ohms	50 ± 1
Maximum Frequency, GHz	8.8
Velocity, percent	88
Peak Power Rating, kW	40
dc resistance, ohms/1000 ft (1000 m)	
Inner	0.45 (1.48)
Outer	0.58 (1.90)
dc Breakdown, volts	4000
Jacket Spark, volts RMS	8000
Capacitance, pF/ft (m)	23.1 (75.8)
Inductance, μ/ft (m)	0.058 (0.190)
Mechanical	
Outer Conductor	Copper
Inner Conductor	Copper-Clad Aluminum
Diameter over Jacket, in (mm)	0.63 (16)
Diameter over Copper Outer Conductor, in (mm)	0.55 (14)
Diameter Inner Conductor, in (mm)	0.189 (4.6)
Nominal Inside Transverse Dimensions, cm	1.11
Minimum Bending Radius, in (mm)	5 (125)
Number of Bends, minimum (typical)	15 (50)
Bending Moment, lb-ft (N•m)	2.8 (3.8)
Cable Weight, lb/ft (kg/m)	0.15 (0.22)
Tensile Strength, lb (kg)	250 (113)
Flat Plate Crush Strength, lb/in (kg/mm)	110 (2.0)

Attenuation and Average Power

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100m	Average Power kW
0.5	0.046	0.152	40.0
1	0.066	0.217	35.1
1.5	0.081	0.266	28.6
2	0.094	0.308	24.8
10	0.211	0.692	11.0
20	0.300	0.985	7.75
30	0.369	1.21	6.31
50	0.479	1.57	4.85
88	0.641	2.10	3.63
100	0.684	2.24	3.39
108	0.712	2.34	3.26
150	0.845	2.77	2.75
174	0.914	3.00	2.54
200	0.983	3.23	2.36
300	1.22	4.00	1.91
400	1.42	4.66	1.64
450	1.51	4.96	1.53
500	1.60	5.26	1.45
512	1.62	5.32	1.43
600	1.77	5.80	1.31
700	1.92	6.31	1.21
800	2.07	6.79	1.12
824	2.10	6.90	1.10
894	2.20	7.22	1.05
960	2.29	7.51	1.01
1000	2.34	7.68	0.994
1250	2.65	8.69	0.878
1500	2.93	9.61	0.793
1700	3.15	10.3	0.738
2000	3.45	11.3	0.673
2300	3.74	12.3	0.621
3000	4.38	14.4	0.532
4000	5.18	17.0	0.448
5000	5.93	19.5	0.392
6000	6.64	21.8	0.351
8000	7.94	26.0	0.293
8800	8.42	27.6	0.276

Standard Conditions:

For Attenuation, VSWR 1.0, ambient temperature 24°C (75°F).
For average power, VSWR 1.0 ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F), no solar loading.



Connectors

Interface	Description	Type Number	Previous Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male		L4NM†	L44AW	Solder	Self-Flare	BS	2.6 (66)	0.91 (23.1)
N Male		L4NM-C		Captivated	Self-Flare	BS	2.5 (64)	0.91 (23.1)
N Male	Hex Head	L4NM-H		Solder	Self-Flare	BS	2.6 (66)	0.91 (23.1)
N Male	Hex Head	L4NM-HC		Captivated	Self-Flare	BS	2.5 (64)	0.91 (23.1)
N Male		L4PNM†	L44PW	Solder	Self-Flare	SG	2.6 (66)	0.91 (23.1)
N Male		L4PNM-C		Captivated	Self-Flare	SG	2.5 (64)	0.91 (23.1)
N Male	Hex Head	L4PNM-H†	L44PW-12	Solder	Self-Flare	SG	2.6 (66)	0.95 (24.1)
N Male	Hex Head	L4PNM-HC		Captivated	Self-Flare	SG	2.5 (64)	0.91 (23.1)
N Male	Right Angle	L4PNR	43716-7	Solder	Self-Flare	SG	3.2/1.5 (81/38)	0.94 (23.9)
N Male	Rt. Angle, Hex	L4PNR-H	43716-12	Solder	Self-Flare	SG	3.2/1.5 (81/38)	0.95 (24.1)
N Female		L4NF†	L44N	Solder	Self-Flare	BS	2.6 (66)	0.94 (23.9)
N Female		L4NF-C		Captivated	Self-Flare	BS	2.5 (64)	0.91 (23.1)
N Female		L4PNF†	L44PN	Solder	Self-Flare	SG	2.6 (66)	0.94 (23.9)
N Female		L4PNF-C		Captivated	Self-Flare	SG	2.5 (64)	0.91 (23.1)
N Female	Bulk Head	L4PNF-BH	L44PN-BH	Solder	Self-Flare	SG	2.6 (66)	0.96 (24.4)
N Female	Panel Mount	L4PNF-PM	L44PN-PM	Solder	Self-Flare	SG	2.6 (66)	1.0 (25.4)
7-16 DIN Male		L4PDM†	L44ADM	Solder	Self-Flare	SS	2.6 (66)	1.4 (35.6)
7-16 DIN Male		L4PDM-C†	L44BDM	Captivated	Self-Flare	SS	2.6 (66)	1.4 (35.6)
7-16 DIN Male		L4PDR		Solder	Self-Flare	SS	1.8/2.8 (46/72)	1.41 (35.9)
7-16 DIN Male		L4PDR-C		Captivated	Self-Flare	SS	1.8/2.8 (46/72)	1.41 (35.9)
7-16 DIN Female		L4PDF†	L44PDF	Solder	Self-Flare	SS	2.7 (69)	1.1 (27.9)
7-16 DIN Female		L4PDF-C†	L44BDF	Captivated	Self-Flare	SS	2.7 (69)	1.1 (27.9)
7-16 DIN Female	Bulk Head	L4PDF-BHC		Captivated	Self-Flare	SS	2.9 (74)	1.63 (41.4)
7-16 DIN Female	Panel Mount	L4PDF-PM		Solder	Self-Flare	SS	2.7 (69)	1.2 (29.4)
7/8" EIA Flange		L44R		Solder	Self-Flare	BB	3.2 (81)	2.25 (57.2)
7/8" EIA Flange	Right Angle	124990-1		Solder	Self-Flare	BB	2.3/1.6 (58/41)	2.25 (57.2)
F Flange Male		L44F		Solder	Self-Flare	BB	2.3 (58)	2.25 (57.2)
F Flange Female		209865		Solder	Self-Flare	BS	2.3 (58)	2.25 (57.2)
UHF Male		L44P		Solder	Self-Flare	BB	2.3 (58)	0.91 (23.1)
UHF Female		L44U		Solder	Self-Flare	BS	2.3 (58)	0.91 (23.1)
TNC Female		L44NT		Solder	Self-Flare	BB	2.8 (71)	0.94 (23.9)
LC Male		L44M		Solder	Self-Flare	BB	3.6 (91)	0.91 (23.1)
HN Male		L44J		Solder	Self-Flare	BB	2.5 (64)	0.91 (23.1)
SC Male		L44PCW		Solder	Self-Flare	SG	2.5 (64)	0.91 (23.1)
SC Male	Right Angle	L44PCW-RA		Solder	Self-Flare	NG	2.6/1.6 (66/41)	0.91 (23.1)
SC Female		L44PCN		Solder	Tab Flare	SG	1.6 (41)	0.86 (21.8)
C Male		L44PDW		Solder	Self-Flare	SG	2.5 (64)	0.91 (23.1)
End Terminal		L44T		Solder	Self-Flare	BB	4.0 (102)	0.91 (23.1)
Splice		L44Z		Solder	Self-Flare	BB	3.2 (81)	1.1 (27.9)

† See page 570 for bulk packs.

Plating Codes: BB - Brass Body and Pin, BS - Brass Body and Silver Plated Pin, SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin

Connector Accessories

	Type Number
Connector Pin-Paks, five replacement pins	
For L4NM, L4NM-H	241730-3
For L4PNM, L4PNM-H	241730-4
For L4PDM	222483-2
For L4NF	242855
For L4PNF	242855-2
Connector Reattachment Kit	
For L4 and L44, except L4NM, L44PCW, L44PCN	34767A-27
For L4NM, L44PCW, L44PCN	34767A-51
Bulkhead Adapter, for N or UHF Females	26016-2

Assemblies

For complete information on assemblies, see page 545

	Lengths feet	Type Number
N Male/N Male	3, 6, 8 or variable	L4-NMNM-(*)
N Male/N Male, premium	3, 6, 8 or variable	L4-PNMNM-(*)
7-16 DIN Male/7-16 DIN Male	3, 6, 8 or variable	L4-PDMDM-(*)
N Male, premium/7-16 DIN Male	3, 6, 8 or variable	L4-PNMMDM-(*)

Low VSWR Specifications, Type LDF4P-50A-()

Frequency Band, GHz	Type No.	Using Connector Type**	Assembly VSWR, Maximum (R.L., dB)						
			1-25 ft (0.3-8 m)	25-100 ft (8-30 m)	100-200 ft (30-60 m)	200-500 ft (60-150 m)	Above 500 ft (150 m)		
0.824-0.960	LDF4P-50A-1	N Males: L4NM, L4PNM	1.08 (28.3)	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.12 (24.9)		
		N Females: L4NF, L4PNF	1.08 (28.3)	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.12 (24.9)		
		7/8" EIA: L44R	1.08 (28.3)	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.12 (24.9)		
		7-16 DIN Male: L4PDM-C	1.08 (28.3)	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.12 (24.9)		
		SC Male: L44PCW	1.08 (28.3)	1.08 (28.3)	1.10 (26.4)	1.12 (24.9)	1.12 (24.9)		
		7-16 DIN Female: L4PDF	1.12 (24.9)	1.12 (24.9)	1.13 (24.3)	1.15 (23.1)	1.15 (23.1)		
		TNC Female: L44NT	1.12 (24.9)	1.12 (24.9)	1.13 (24.3)	1.15 (23.1)	1.15 (23.1)		
		LC Male: L44M	1.25 (19.1)	1.25 (19.1)	1.22 (20.1)	1.20 (20.8)	1.20 (20.8)		
		Right Angle N Male: L4PNR	1.25 (19.1)	1.25 (19.1)	1.22 (20.1)	1.20 (20.8)	1.20 (20.8)		
0.824-0.960 and 1.85-1.99	LDF4P-50A-13	N Males†	1.12 (24.9)	1.12 (24.9)	1.13 (24.2)	1.15 (23.1)	1.15 (23.1)		
		N Females †	1.12 (24.9)	1.12 (24.9)	1.13 (24.2)	1.15 (23.1)	1.15 (23.1)		
		7-16 DIN Males †	1.12 (24.9)	1.12 (24.9)	1.13 (24.2)	1.15 (23.1)	1.15 (23.1)		
		7-16 DIN Females †	1.12 (24.9)	1.12 (24.9)	1.13 (24.2)	1.15 (23.1)	1.15 (23.1)		
0.87-0.96 and 1.7-1.9	LDF4P-50P-14	7-16 DIN: L4PDM, L4PDM-C	1.09 (27.3)	1.11 (25.7)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)		
		7-16 DIN: L4PDF, L4PDF-C	1.09 (27.3)	1.11 (25.7)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)		
0.880-960	LDF4P-50A-2	N Males: L4NM, L4PNM	1.06 (30.7)	1.07 (29.4)	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)		
		N Females: L4NF, L4PNF	1.06 (30.7)	1.07 (29.4)	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)		
		F Flange: L44F; 7/8" EIA: L44R	1.06 (30.7)	1.07 (29.4)	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)		
		7-16 DIN Male: L4PDM-C; Female: L4PDF	1.06 (30.7)	1.07 (29.4)	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)		
		SC Male: L44PCW	1.06 (30.7)	1.07 (29.4)	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)		
		LC Male: L44M	1.25 (19.1)	1.25 (19.1)	1.22 (20.1)	1.20 (20.8)	1.20 (20.8)		
		Right Angle N Male: L4PNR	1.25 (19.1)	1.25 (19.1)	1.22 (20.1)	1.20 (20.8)	1.20 (20.8)		
		TNC Female: L4NT	1.25 (19.1)	1.25 (19.1)	1.22 (20.1)	1.20 (20.8)	1.20 (20.8)		
		1.427-1.535	LDF4P-50A-4	N Males: L4NM, L4PNM	1.10 (26.4)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)
N Females: L4NF, L4PNF	1.10 (26.4)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)				
F Flange: L44F; 7/8" EIA L44R	1.10 (26.4)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)				
7-16 DIN Male: L4PDM-C; Female: L4PDF	1.10 (26.4)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)				
SC Male: L44PCW; TNC Female L4NT	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)				
LC Male: L44M	1.35 (16.5)	1.35 (16.5)	1.32 (17.2)	1.30 (17.7)	1.30 (17.7)				
Right Angle N Male: L4PNR	1.35 (16.5)	1.35 (16.5)	1.32 (17.2)	1.30 (17.7)	1.30 (17.7)				
1.6-12.3	LDF4P-50A-10	N Males: L4NM, L4PNM, L4PNM, L4PNM-H	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)		
		N Females: L4NF, L4PNF, L4PNF-BH, L4PNF-PM	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)		
		F Flange: L44F; 7/8" EIA: L44R	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)		
		7-16 DIN: L4PDM	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)		
		7-16 DIN: L4PDF, L4PDF-C	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)		
		241476	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)		
		F Flange Female, 209865	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)		
		SC Male: L44PCW	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)		
		Right Angle N Male: L4PNR, L4PNR-H	1.35 (16.5)	1.35 (16.5)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)		
		TNC Female, L44NT	1.35 (16.5)	1.35 (16.5)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)		
		LC Male: L44M	1.35 (16.5)	1.35 (16.5)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)		
1.7-1.9	LDF4P-50A-15	7-16 DIN: L4PDM, L4PDM-C	1.09 (27.3)	1.10 (26.4)	1.12 (24.9)	1.14 (23.7)	1.15 (23.1)		
		7-16 DIN: L4PDM, L4PDF, L4PDF-C	1.09 (27.3)	1.10 (26.4)	1.12 (24.9)	1.14 (23.7)	1.15 (23.1)		
0.940-2.7	LDF4P-50A-3	N Males: L4NM, L4PNM	1.12 (24.9)	1.15 (23.1)	1.18 (21.6)	1.20 (20.8)	1.20 (20.8)		
		N Females: L4NF, L4PNF	1.12 (24.9)	1.15 (23.1)	1.18 (21.6)	1.20 (20.8)	1.20 (20.8)		
		F Flange: L44F; 7/8" EIA: L44R	1.12 (24.9)	1.15 (23.1)	1.18 (21.6)	1.20 (20.8)	1.20 (20.8)		
		7-16 DIN Male: L4PDM-C	1.12 (24.9)	1.15 (23.1)	1.18 (21.6)	1.20 (20.8)	1.20 (20.8)		
		SC Male: L44PCW	1.20 (20.8)	1.20 (20.8)	1.22 (20.1)	1.22 (20.1)	1.22 (20.1)		
		7-16 DIN Female: L4PDF	1.20 (20.8)	1.20 (20.8)	1.22 (20.1)	1.22 (20.1)	1.22 (20.1)		
		LC Male: L44M	1.40 (15.6)	1.40 (15.6)	1.35 (16.5)	1.35 (16.5)	1.30 (17.7)		
		Right Angle N Male: L4PNR	1.40 (15.6)	1.40 (15.6)	1.35 (16.5)	1.35 (16.5)	1.30 (17.7)		
		TNC Female: L4NT	1.40 (15.6)	1.40 (15.6)	1.35 (16.5)	1.35 (16.5)	1.30 (17.7)		
0.01-0.806	LDF4P-50A-6	N Males: L4NM, L4PNM	1.06 (30.7)	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)	1.25 (19.1)		
		N Females: L4NF, L4PNF	1.06 (30.7)	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)	1.25 (19.1)		
		7/8" EIA: L44R	1.06 (30.7)	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)	1.25 (19.1)		
		7-16 DIN Male: L4PDM-C; Female: L4PDF	1.06 (30.7)	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)	1.25 (19.1)		
		SC Male: L44PCW	1.06 (30.7)	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)	1.25 (19.1)		
		LC Male: L44M, TNC Female: L4NT	1.20 (20.8)	1.20 (20.8)	1.25 (19.1)	1.30 (17.7)	1.30 (17.7)		
		Right Angle N Male: L4PNR	1.25 (19.1)	1.25 (19.1)	1.28 (18.2)	1.30 (17.7)	1.32 (17.2)		
		0.01-2.7*	LDF4P-50A-7	N Males: L4NM, L4PNM	1.12 (24.9)	1.15 (23.1)	1.18 (21.6)	1.20 (20.8)	1.25 (19.1)
		N Females: L4NF, L4PNF	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.25 (19.1)		
7/8" EIA: L44R	1.12 (24.9)	1.15 (23.1)	1.18 (21.6)	1.20 (20.8)	1.25 (19.1)				
7-16 DIN Male: L4PDM-C; Female: L4PDF	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.25 (19.1)				
SC Male: L44PCW	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)	1.25 (19.1)	1.25 (19.1)				
Right Angle N Male: L4PNR	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)				
TNC Female: L4NT	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)				
LC Male: L44M	1.35 (16.5)	1.32 (17.2)	1.32 (17.2)	1.32 (17.2)	1.32 (17.2)				
3.6-6.5*	LDF4P-50A-5	N Males: L4NM, L4PNM	1.25 (19.1)	1.25 (19.1)	1.25 (19.1)	1.25 (19.1)	1.25 (19.1)		
		N Females: L4NF, L4PNF	1.25 (19.1)	1.25 (19.1)	1.25 (19.1)	1.25 (19.1)	1.25 (19.1)		
		7/8" EIA: L44R	1.25 (19.1)	1.25 (19.1)	1.25 (19.1)	1.25 (19.1)	1.25 (19.1)		
		SC Male: L44PCW	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)		
0.1-4.2*	LDF4P-50A-8	N Males: L4NM, L4PNM	1.15 (23.1)	1.15 (23.1)	1.20 (20.8)	1.20 (20.8)	1.25 (19.1)		
		N Females: L4NF, L4PNF	1.15 (23.1)	1.15 (23.1)	1.20 (20.8)	1.20 (20.8)	1.25 (19.1)		
		7-16 DIN Male: L4PDM-C	1.15 (23.1)	1.15 (23.1)	1.20 (20.8)	1.20 (20.8)	1.25 (19.1)		
		SC Male: L44PCW	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)		
		TNC Female: L4NT	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)		
0.1-8.4*	LDF4P-50A-9	N Males: L4NM, L4PNM	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)	1.30 (17.7)		
		N Females: L4NF, L4PNF	1.40 (15.6)	1.35 (16.5)	1.35 (16.5)	1.35 (16.5)	1.35 (16.5)		

* Specify operating band ** Connectors ordered separately † Does not apply for right angle connectors.

VSWR values are guaranteed for factory fit assemblies and are typical for field cut lengths. If two different connector interfaces are selected, the higher VSWR value is guaranteed.

Accessories – Photos and descriptions on pages 544-572

Description	Type No.	Description	Type No.
Hangers and Adapters - for more hangers and adapters see pages 547-557		Grounding and Surge Protection - for more information, see pages 559-564.	
Standard Hangers and Adapters Standard Hanger Kit of 10. <i>Standard tower configuration spacing is 3-4 feet (1-1.2 m).</i> Recommended maximum spacing for outdoor installation is 3 ft (0.91 m) at 125 mph (200 km/h) wind, 1/2" (13 mm) radial ice. For different wind and ice loading spacing recommendations, refer to Cable Hanger Spacing, page 547		Grounding Kit factory attached, one-hole lug, 24 in (610 mm) lead 204989-1 factory attached, two-hole lug, 24 in (610 mm) lead 241088-1 field attachable crimp-on, one-hole lug, 36 in (915 mm) lead 204989-21 field attachable crimp-on, two-hole lug, 36 in (915 mm) lead 241088-6	
Hardware Kit of 10, 3/8" bolts, lock washers, nuts 3/4" (19 mm) long 31769-5 1" (25) mm long 31769-1	43211A	Crimping Tool to field attach lug to Grounding Kit 207270	
Angle Adapter , kit of 10. Stainless Steel 31768A Galvanized 242774 Galvanized, metric hardware 242774-M		Arrestor Plus® Lightning Surge Protector Connector/surge protector. APPL4-#-* #,* <i>Interface and frequency band information.</i> <i>See page 562 for details and more interface types.</i>	
Round Member Adapter Kit of 10. Stainless steel Member Diameter, in (mm) 1-2 (25-50) 31670-1 2-3 (50-75) 31670-2 3-4 (75-100) 31670-3 4-5 (100-125) 31670-4 5-6 (125-150) 31670-5 6-8 (150-200) 31670-6		Arrestor Plus T-Series Lightning Surge Protector Connectors on each end (universal version). Non-directional APT-#-* #,* <i>Interface and frequency band information.</i> <i>See page 563 for details.</i>	
Snap-In Hangers and Adapters Snap-In Hanger Kit of 10. For prepunched 3/4 in (19 mm) holes on tower members or adapters below. <i>Standard tower configuration spacing is 3-4 feet (1-1.2 m).</i> Recommended maximum spacing for outdoor installation is 1.5 ft (0.46 m) at 125 mph (200 km/h) wind, 1/2" (13 mm) radial ice. For different wind and ice loading spacing recommendations, refer to Cable Hanger Spacing, page 547		Gas Tube Surge Arrestor Connectors on each end (universal version). Directional, dc pass capability SA-#-* #,* <i>Interface and frequency band information.</i> <i>See page 564 for details.</i>	
Tower Hanger/Adapter , attaches to existing angle tower members 1 cable run, 1 connection required 206929-1 4 cable runs, 2 connections required 206929-4 8 cable runs, 3 connections required 206929-8	206706-1	Weatherproofing - for more information, see page 565.	
J-Bolt Hardware Kit of 10 for use with Tower/Hanger Adapter 206930		Cold Shrink Weatherproofing Kit 1/2" Coax-Type N to 1/2" Coax-Type N 241474-4 7/8" Coax-Type N to 1/2" Coax-Type N 241475-1 1-1/4" or 1-5/8" Coax-Type N to 1/2" Coax-Type N 241475-2 7/8" Coax-7-16 DIN to 1/2" LDF4 - 7-16 DIN 241475-4 1-1/4" or 1-5/8" Coax-7-16 DIN to LDF4 - 7-16 DIN 241475-5 2-1/4" Coax-7-16 DIN to 1/2" LDF4 - 7-16 DIN 241475-8 1/2" Coax -Type N to Antenna Output 241548-4 1/2" LDF4 -7-16 DIN to Antenna Output 241548-6	
Angle Adapter Kit of 10. Stainless steel. For attaching Tower/Hanger/Adapter to angle tower members. 31768A		Connector/Splice Weatherproofing Kit 221213	
Hanger Blox™ Kit of 3. Injection molded plastic, stackable. 6 runs per unit; 18 runs per bundle. <i>Standard tower configuration spacing is 3-4 feet (1-1.2 m).</i> Recommended maximum spacing for outdoor installation is 3 ft (0.91 m) at 125 mph (200 km/h) wind, 1/2" (13 mm) radial ice, bolted to tower. For different wind and ice loading spacing recommendations, refer to Cable Hanger Spacing, page 547 See page 557 for supporting accessories.		Entry Systems - for more information, see pages 566-567	
Hanger Blox Hardware Kit. Starter Kit HBSH-456 Extender Kit HBEH-456		Wall/Roof Feed-Thru 40656A-3	
Nylon Cable Tie Kit of 50. Recommended maximum spacing for outdoor installations is 3 ft (1 m) 40417		Feed-Thru Plates and Boots. Order separately.	
Nylon Cable Tie Kit in Plastic Box. 100 each, 4, 5.5, and 7.5 inch (101, 140, and 190 mm) ties. Recommended maximum spacing for outdoor installations is 3 ft (1 m) CT-K350		Plates Openings	Plates For 4 in Boots
Velcro Cable Ties. Black, 8 inch. For indoor use only Kit of 10 VCT8-10 Kit of 50 VCT8-50		1 204673-1	For 5 in Boots
Insulated Hangers and Adapters - please refer to pages 554-555.		2 204673-2	
Hoisting Grip 43094		3 48940-2	
		4 48940-3	
		6 48940-4	
		8 48940-6	
		12 204673-12	
		4 in Boots	5 in Boots
		One Hole: 204679-5	48939-6
		Three Hole: 204679-7	48939-8
		ArrestorPort Plus™. Wall entry plate and integrated ground bar assembly. APPORT-(*)-(**) Use with Arrestor Plus surge protector series. Available in many configurations see page 562 for available options and ordering information. * <i>Number of surge arrestor openings in the plate.</i> ** <i>Number of cable feed thru ports at the top.</i>	
		Tools - for more tools see page 569.	
		EASIX® Cutting Tool 207866	
		Cable Flare Tool 224363	
		Cutoff Guide, 7/32" (5.5 mm) 224361	
		Installer Pax™. Bulk packs are available for some hangers, adapters, grounding kits and cold shrink weatherproofing kits. See page 570.	