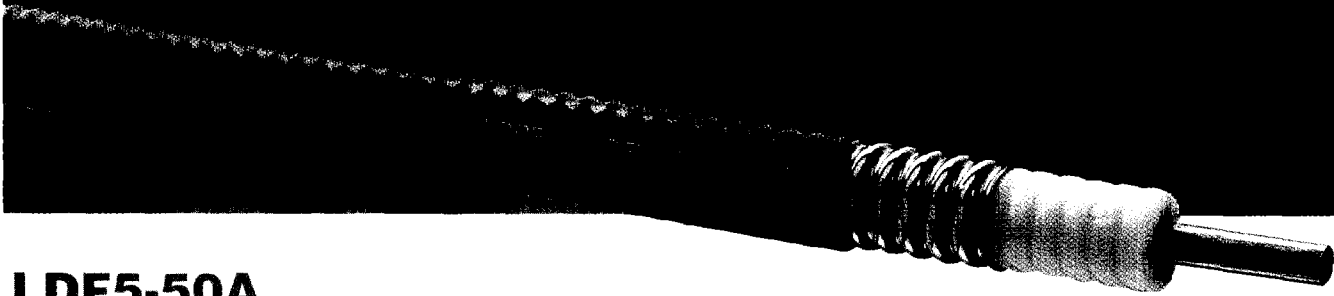
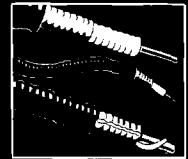


# HELIAX® Coaxial Cables



## LDF5-50A

### Cable Ordering Information

Description	Type No.
<b>Standard Cable</b>	
7/8" Standard Cable, Standard Jacket	<b>LDF5-50A</b>
<b>Fire Retardant Cable</b>	
7/8" Fire Retardant Jacket (CATVR)	<b>LDF5RN-50A</b>
<b>Low VSWR and Specialized Cables</b>	
7/8" Low VSWR, specify operating band	<b>LDF5P-50A-(**)</b>
Cable for Cellular, standard jacket	<b>LDF5P-50A-9A</b>
824-960 MHz, 1.10 VSWR, max.	
Cable for Cellular, fire retardant jacket, (CATVR)	<b>41690-75</b>
824-894 MHz, 1.20 VSWR, max.	<b>202071-2</b>
Qualified to MIL-C-28830/4	
Phase Stabilized and Phase Measured Cable	See page 585

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

### Characteristics

Electrical	
Impedance, ohms	50 ± 1
Maximum Frequency, GHz	5.0
Velocity, percent	89
Peak Power Rating, kW	91
dc Resistance, ohms/1000 ft (1000 m)	
Inner	0.32 (1.05)
Outer	0.32 (1.05)
dc Breakdown, volts	6000
Jacket Spark, volts RMS	8000
Capacitance, pF/ft (m)	22.8 (75.0)
Inductance, µH/ft (m)	0.057 (0.187)
Mechanical	
Outer Conductor	Copper
Inner Conductor	Copper
Diameter over Jacket, in (mm)	1.09 (28)
Diameter over Copper Outer Conductor, in (mm)	0.98 (24.9)
Diameter Inner Conductor, in (mm)	0.355 (4.0)
Nominal Inside Transverse Dimensions, cm	2.11
Minimum Bending Radius, in (mm)	10 (250)
Number of Bends, minimum (typical)	15 (50)
Bending Moment, lb-ft (N•m)	12 (16.3)
Cable Weight, lb/ft (kg/m)	0.33 (0.49)
Tensile Strength, lb (kg)	325 (147)
Flat Plate Crush Strength, lb/in (kg/mm)	80 (1.4)

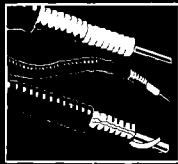
\* A 75-ohm 7/8" diameter cable is available. Contact Andrew for further information.

### Attenuation and Average Power

Frequency MHz	Attenuation dB/100 ft	Attenuation dB/100m	Average Power kW
0.5	0.025	0.0804	91.0
1	0.035	0.115	78.9
1.5	0.043	0.141	64.3
2	0.050	0.164	55.6
10	0.112	0.367	24.6
20	0.160	0.525	17.3
30	0.197	0.646	14.0
50	0.257	0.843	10.7
88	0.345	1.13	8.01
100	0.369	1.21	7.49
108	0.384	1.26	7.19
150	0.458	1.50	6.04
174	0.496	1.63	5.58
200	0.535	1.76	5.18
300	0.666	2.18	4.15
400	0.781	2.56	3.55
450	0.834	2.74	3.32
500	0.883	2.90	3.13
512	0.896	2.94	3.09
600	0.979	3.21	2.83
700	1.07	3.50	2.59
800	1.15	3.78	2.40
824	1.17	3.85	2.36
894	1.23	4.03	2.25
960	1.28	4.20	2.16
1000	1.31	4.30	2.11
1250	1.49	4.90	1.85
1500	1.66	5.45	1.66
1700	1.79	5.87	1.54
2000	1.97	6.46	1.40
2300	2.15	7.05	1.29
3000	2.53	8.31	1.09
4000	3.03	9.94	0.914
5000	3.50	11.5	0.792

#### 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.

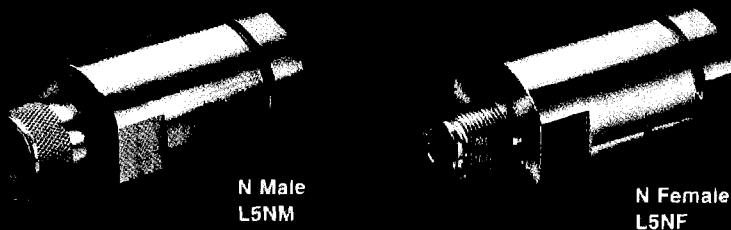


# HELIAX® Coaxial Cables



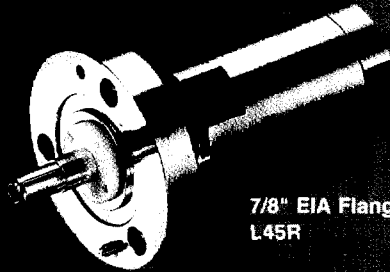
7-16 DIN Female  
L5PDF-RC

7-16 DIN Male  
L5PDM

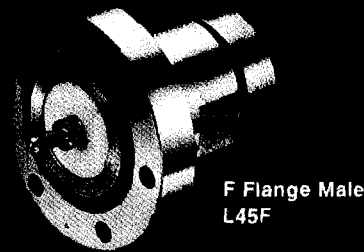


N Male  
L5NM

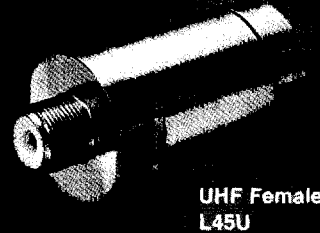
N Female  
L5NF



7/8" EIA Flange  
L45R



F Flange Male  
L45F



UHF Female  
L45U

## Connectors

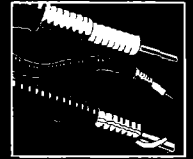
Interface	Description	Type Number	Previous Type Number	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male		L5NM	L45W	Self-Tapping	Self-Flare	BB	2.8 (71)	1.4 (36)
N Male		L5PNM†	L45PW	Self-Tapping	Self-Flare	SG	2.8 (71)	1.4 (36)
N Male	Hex Head	L5PNM-H		Self-Tapping	Self-Flare	SG	3.0 (76)	1.36 (34.5)
N Female		L5NF	L45N	Self-Tapping	Self-Flare	BB	2.8 (71)	1.4 (36)
N Female		L5PNF†	L454PN	Self-Tapping	Self-Flare	SG	2.8 (71)	1.4 (36)
7-16 DIN Male		L5PDM†	L45ADM	Self-Tapping	Self-Flare	SS	2.6 (66)	1.4 (36)
7-16 DIN Male	Right Angle	L5PDR†	L45ADM-RA	Self-Tapping	Self-Flare	SS	3.3/2.5 (85/64)	1.4 (36)
7-16 DIN Female		L5PDF†	L45PDF	Self-Tapping	Self-Flare	SS	2.7 (69)	1.4 (36)
7-16 DIN Female	Bulkhead	L5PDF-BH	L45ADF-BH	Self-Tapping	Self-Flare	SS	2.7 (69)	1.9 (47)
7-16 DIN Female	Panel Mount	L5PDF-PM		Self-Tapping	Self-Flare	SS	2.7 (69)	1.35 (34.4)
7-16 DIN Female	Ring Flare	L5PDF-RC†		Captivated	Ring-Flare	SS	2.9 (74)	1.36 (34.5)
7/8" EIA Flange		L45R		Self-Tapping	Self-Flare	BB	3.3 (84)	2.25 (57)
7/8" EIA Flange	Right Angle	124800-1		Self-Tapping	Self-Flare	BB	3.9/1.3 (99/33)	2.25 (57)
F Flange Male		L45F		Self-Tapping	Self-Flare	BB	1.8 (46)	2.25 (57)
F Flange Female		48041		Self-Tapping	Self-Flare	BB		
UHF Male		L45P		Self-Tapping	Self-Flare	BS	2.7 (69)	1.4 (36)
UHF Female		L45U		Self-Tapping	Self-Flare	BS	2.7 (69)	1.4 (36)
LC Male		L45M		Self-Tapping	Self-Flare	BB	3.7 (94)	1.4 (36)
LC Female		L45L		Self-Tapping	Self-Flare	BB	3.4 (86)	1.4 (36)
HN Male		L45J		Self-Tapping	Self-Flare	BB	3.0 (76)	1.4 (36)
End Terminal		L45T		Self-Tapping	Self-Flare	BB	4.9 (124)	1.4 (36)
Splice		L45Z		Self-Tapping	Self-Flare	BB	3.3 (84)	1.5 (38)

† 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 L5NM	43158-5
For L5PNM, L5PNM-H	241495
For L5NF	43157-2
For L5PNF	241092
For L5PDM	114105
For L5PDF and L5PDF-BH	114105-2
Connector Reattachment Kit for L45 Series	34767A-28
Bulkhead Adapter, for N or UHF Females	26016-2



## Low VSWR Specifications, Type LDF5P-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	<b>LDF5P-50A-9A</b>	Type N: <b>L5NM, L5NF, L5PNM, L5PNF</b>	1.06 (30.7)	1.07 (29.4)	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)
		7/8" EIA: <b>L45R</b>	1.06 (30.7)	1.07 (29.4)	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)
		7-16 DIN: <b>L5PDM, L5PDF</b>	1.06 (30.7)	1.07 (29.4)	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)
		F Flange: <b>L45F</b>	1.06 (30.7)	1.07 (29.4)	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)
		LC: <b>L45M</b>	1.08 (28.3)	1.08 (28.3)	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)
0.824-0.960 and 1.85-1.99	<b>LDF5P-50A-16A</b>	N Males†	1.10 (26.4)	1.12 (24.9)	1.13 (24.2)	1.15 (23.1)	1.15 (23.1)
		N Females †	1.10 (26.4)	1.12 (24.9)	1.13 (24.2)	1.15 (23.1)	1.15 (23.1)
		7-16 DIN Males †	1.10 (26.4)	1.12 (24.9)	1.13 (24.2)	1.15 (23.1)	1.15 (23.1)
		7-16 DIN Females †	1.10 (26.4)	1.12 (24.9)	1.13 (24.2)	1.15 (23.1)	1.15 (23.1)
1.38-1.540	<b>LDF5P-50A-11A</b>	Type N: <b>L5NM, L5NF, L5PNM, L5PNF</b>	1.10 (26.4)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)
		7/8" EIA: <b>L45R</b>	1.10 (26.4)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)
		7-16 DIN: <b>L5PDM, L5PDF</b>	1.10 (26.4)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)
		F Flange: <b>L45F</b>	1.10 (26.4)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)
1.60-2.3	<b>LDF5P-50A-12A</b>	Type N Male: <b>L5NM, L5PNM</b>	1.08 (28.3)	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
		Type N Female: <b>L5NF, L5PNF</b>	1.12 (24.9)	1.12 (24.9)	1.12 (24.9)	1.12 (24.9)	1.12 (24.9)
		7/8" EIA: <b>L45R</b>	1.08 (28.3)	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
		7-16 DIN: <b>L5PDM, L5PDF</b>	1.08 (28.3)	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
		F Flange: <b>L45F</b>	1.08 (28.3)	1.08 (28.3)	1.10 (26.4)	1.10 (26.4)	1.10 (26.4)
2.3-2.7	<b>LDF5P-50A-13A</b>	Type N Male: <b>L5NM, L5PNM</b>	1.10 (26.4)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)
		Type N Female: <b>L5NF, L5PNF</b>	1.15 (23.1)	1.15 (23.1)	1.15 (23.1)	1.18 (21.6)	1.18 (21.6)
		7/8" EIA: <b>L45R</b>	1.10 (26.4)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)
		7-16 DIN: <b>L5PDM, L5PDF</b>	1.10 (26.4)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)
		F Flange: <b>L45F</b>	1.10 (26.4)	1.10 (26.4)	1.12 (24.9)	1.15 (23.1)	1.15 (23.1)
0.01-1.0	<b>LDF5P-50A-5A</b>	Type N: <b>L5NM, L5NF, L5PNM, L5PNF</b>	1.10 (26.4)	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)	1.30 (17.7)
		7/8" EIA: <b>L45R</b>	1.10 (26.4)	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)	1.30 (17.7)
		7-16 DIN: <b>L5PDM, L5PDF</b>	1.10 (26.4)	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)	1.30 (17.7)
		LC: <b>L45M</b>	1.10 (26.4)	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)	1.30 (17.7)
1.7-4.2	<b>LDF5P-50A-7A</b>	Type N Male: <b>L5NM, L5PNM</b>	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)
		Type N Female: <b>L5NF, L5PNF</b>	1.15 (23.1)	1.20 (20.8)	1.20 (20.8)	1.25 (19.1)	1.25 (19.1)
		7/8" EIA: <b>L45R</b>	1.15 (23.1)	1.20 (20.8)	1.20 (20.8)	1.25 (19.1)	1.25 (19.1)
		7-16 DIN Male: <b>L5PDM</b>	1.10 (26.4)	1.15 (23.1)	1.20 (20.8)	1.20 (20.8)	1.20 (20.8)
		7-16 DIN Female: <b>L5PDF</b>	1.15 (23.1)	1.20 (20.8)	1.20 (20.8)	1.25 (19.1)	1.25 (19.1)
0.01-4.2	<b>LDF5P-50A-14A</b>	Type N Male: <b>L5NM, L5PNM</b>	1.10 (26.4)	1.20 (20.8)	1.30 (17.7)	1.35 (16.5)	1.35 (16.5)
		Type N Female: <b>L5NF, L5PNF</b>	1.15 (23.1)	1.20 (20.8)	1.30 (17.7)	1.35 (16.5)	1.35 (16.5)
		7/8" EIA: <b>L45R</b>	1.15 (23.1)	1.20 (20.8)	1.30 (17.7)	1.35 (16.5)	1.35 (16.5)
		7-16 DIN Male: <b>L5PDM</b>	1.10 (26.4)	1.20 (20.8)	1.30 (17.7)	1.35 (16.5)	1.35 (16.5)
		7-16 DIN Female: <b>L5PDF</b>	1.15 (23.1)	1.20 (20.8)	1.30 (17.7)	1.35 (16.5)	1.35 (16.5)
LC: <b>L45M</b>	1.25 (19.1)	1.30 (17.7)	1.30 (17.7)	1.35 (16.5)	1.35 (16.5)		
0.01-5.0	<b>LDF5P-50A-15A</b>	Type N: <b>L5NM, L5NF, L5PNM, L5PNF</b>	1.15 (23.1)	1.20 (20.8)	1.35 (16.5)	1.35 (16.5)	1.35 (16.5)
		7/8" EIA: <b>L45R</b>	1.30 (17.7)	1.30 (17.7)	1.35 (16.5)	1.35 (16.5)	1.35 (16.5)
		7-16 DIN Male: <b>L5PDM</b>	1.15 (23.1)	1.20 (20.8)	1.35 (16.5)	1.35 (16.5)	1.35 (16.5)
		7-16 DIN Female: <b>L5PDF</b>	1.30 (17.7)	1.30 (17.7)	1.35 (16.5)	1.35 (16.5)	1.35 (16.5)

\* 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.
<b>Hangers and Adapters -</b> for more hangers and adapters see pages 547-557		<b>Grounding Kit</b> factory attached, one-hole lug, 24 in (610 mm) lead	<b>204989-2</b>
<b>Standard Hangers and Adapters</b> 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 5.5 ft (1.68 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.	<b>42396A-5</b>	factory attached, two-hole lug, 24 in (610 mm) lead	<b>241088-2</b>
<b>Hardware Kit</b> of 10, 3/8" bolts, lock washers, nuts 3/4" (19 mm) long 1" (25) mm long	<b>31769-5</b> <b>31769-1</b>	field attachable crimp-on, one-hole lug, 36 in (915 mm) lead	<b>204989-22</b>
<b>Angle Adapter</b> , kit of 10. Stainless Steel Galvanized Galvanized, metric hardware	<b>31768A</b> <b>242774</b> <b>242774-M</b>	field attachable crimp-on, two-hole lug, 36 in (915 mm) lead	<b>241088-7</b>
<b>Round Member Adapter Kit</b> of 10. Stainless steel Member Diameter, in (mm) 1-2 (25-50) 2-3 (50-75) 3-4 (75-100) 4-5 (100-125) 5-6 (125-150) 6-8 (150-200)	<b>31670-1</b> <b>31670-2</b> <b>31670-3</b> <b>31670-4</b> <b>31670-5</b> <b>31670-6</b>	<b>Crimping Tool</b> to field attach lug to Grounding Kit <b>Arrestor Plus® Lightning Surge Protector</b> Connector/surge protector. #,* <i>Interface and frequency band information.</i> <i>See page 562 for details and more interface types.</i>	<b>207270</b> <b>APPL5-#*</b>
<b>Snap-In Hangers and Adapters</b> <b>Snap-In Hanger Kit</b> 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.	<b>206706-2</b>	<b>Arrestor Plus T-Series Lightning Surge Protector</b> Connectors on each end (universal version). Non-directional #,* <i>Interface and frequency band information.</i> <i>See page 563 for details.</i>	<b>APT-#*</b>
<b>Tower Hanger/Adapter</b> , attaches to existing angle tower members 1 cable run, 1 connection required 4 cable runs, 2 connections required 8 cable runs, 3 connections required	<b>206929-1</b> <b>206929-4</b> <b>206929-8</b>	<b>Gas Tube Surge Arrestor</b> Connectors on each end (universal version). Directional, dc pass capability #,* <i>Interface and frequency band information.</i> <i>See page 564 for details.</i>	<b>SA-#*</b>
<b>J-Bolt Hardware Kit</b> of 10 for use with Tower/Hanger Adapter	<b>206930</b>	<b>Weatherproofing</b> - for more information, see page 565.	
<b>Hanger Blox™</b> Kit of 3. Injection molded plastic, stackable. 4 runs per unit; 12 runs per bundle. <i>Standard tower configuration spacing is 3-4 feet (1-1.2 m).</i> Recommended maximum spacing for outdoor installation is 6 ft (1.83 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.	<b>HB-5</b>	<b>Cold Shrink Weatherproofing Kit</b> 7/8" Coax-Type N to 1/2" Coax-Type N 7/8" Coax-Type N to 7/8" Coax-Type N 1-1/4" or 1-5/8" Coax-Type N to 7/8" Coax-Type N 7/8" Coax-7-16 DIN to 1/2" LDF4 - 7-16 DIN 7/8" Coax-7-16 DIN to 1/2" FSJ4 - 7-16 DIN AAPL5 to 7/8" LDF5-50A 7/8" Coax-Type N to Antenna Output FSJ2-LDF5	<b>241475-1</b> <b>241474-5</b> <b>241475-3</b> <b>241475-4</b> <b>241475-6</b> <b>241474-5</b> <b>241548-5</b> <b>241475-10</b>
<b>Hanger Blox Hardware Kit.</b> Starter Kit Extender Kit	<b>HBSH-456</b> <b>HBEH-456</b>	<b>Connector/Splice Weatherproofing Kit</b> <b>Entry Systems</b> - for more information, see pages 566-567.	<b>221213</b>
<b>Insulated Hangers and Adapters -</b> please refer to pages 554-555.		<b>Wall/Roof Feed-Thru</b> <b>Feed-Thru Plates and Boots.</b> Order separately.	<b>40656A-1</b>
<b>Support/Hoisting Grip.</b> Use at 200 ft (60 m) intervals. Grip with one clamp Support clamp kit of 10 Installation tool with 10 support clamps	<b>L5SGRIP</b> <b>L5SGRIP-51K</b> <b>L5SGRIP-51KT</b> <b>19256B</b>	Plates Openings 1 1 2 3 4 6 8 12	Plates For 4 in Boots For 5 in Boots <b>204673-1</b> <b>204673-2</b>  <b>48940-1</b> <b>48940-2</b> <b>48940-3</b> <b>204673-4</b> <b>48940-4</b> <b>204673-8</b> <b>204673-12</b>
<b>Hoisting Grip</b>		One Hole: Three Hole:	<b>48940-6</b>  <b>204679-2</b> <b>204679-15</b> <b>48939-1</b> <b>48939-2</b>
<b>Grounding and Surge Protection -</b> for more information, see pages 559-564.		<b>ArrestorPort Plus™.</b> Wall entry plate and integrated ground bar assembly. 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>	<b>APPORT-(*)-(**)</b>
<b>SureGround Grounding Kit,</b> with tape weatherproofing kit. factory attached, one-hole lug, 600 mm lead factory attached, two-hole lug, 600 mm lead field attachable crimp-on, one-hole lug, 1000 mm lead field attachable crimp-on, two-hole lug, 1000 mm lead	<b>SGL5-06B1</b> <b>SGL5-06B2</b> <b>SGL5-10B3</b> <b>SGL5-10B4</b>	<b>Tools</b> - for more tools see page 569.	
		<b>EASIX® Cutting Tool</b> <b>Cable Flare Tool</b> <b>Installer Pax™.</b> Bulk packs are available for some hangers, adapters, grounding kits and cold shrink weatherproofing kits. See page 570.	<b>222951</b> <b>224368</b>