



QUICK LINKS

[Table of Contents](#)

[Fire Alarm](#)

[Security Control](#)

[Technical Info](#)

[Part Number Index](#)

Edition 14

UPDATED: May 26, 2017



FIRE ALARM AND SECURITY PRODUCTS
FIRE ALARM | SECURITY

superioressex.com



About Superior Essex

Superior Essex International LP is a global leader in the design, manufacture, and supply of communications and energy cable products for indoor and outdoor applications. We offer a broad communications portfolio including premises optical fiber and copper cables, Outside Plant (OSP) cables, Fiber-to-the-Premises (FTTP) closures and enclosures, Fire Alarm and Security (FAS) cables, and Wireless cables and accessories. With over eighty years serving the communications and energy markets, we have cultivated a solid reputation as the preferred supplier of high-performance cabling for major communications service providers, leading enterprises, universities, hospitals, military facilities and businesses that rely on our innovative solutions to meet the demands of their evolving networks.



OUR COMMITMENTS TO TRANSPARENCY AND SUSTAINABILITY

Superior Essex is firmly committed to environmental responsibility and transparency, and we constantly strive to lead innovation and design toward sustainable product solutions.



We are the first wire and telecommunications cable manufacturer to conduct an independent full Life Cycle Assessment examining the environmental impact of our high performance copper and optical fiber data cabling products, including our raw materials, manufacturing, transportation, installation, and end of life practices.



We are also the first in our industry to contribute toward LEED certification by offering Environmental Product Declarations (EPD) and Health Product Declarations™ (HPD™) for our premises copper and optical fiber cable products. Additionally, we offer Multi-Attribute Certifications for our premises copper products, which provide transparency into our manufacturing processes and help government procurement agents meet their sustainability goals by simplifying the sustainable supplier selection process.



As the first and only sustainable and transparent cable manufacturer, we are the preferred choice for all enterprises relying on sustainable cabling solutions.

UL and the related logo are registered trademarks of UL LLC. Health Product Declaration, HPD and the related logo are trademarks of Health Product Declaration Collaborative. GreenCircle Certified logo is a registered trademark of GreenCircle Certified, LLC. USGBC and the related logo are registered trademarks of U.S. Green Building Council.



FIRE ALARM CABLES

Our Fire Alarm cables are manufactured for use with:

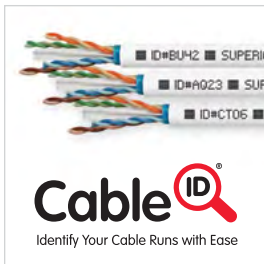
- Smoke detectors
- Alarm notifications
- Strobes
- Sirens
- Pull stations
- Microprocessors
- Addressable controls
- Voice communications
- Circuits controlled or powered by fire alarm systems
- Sprinkler and sprinkler supervisory systems



SECURITY CONTROL CABLES

Our Security Control cables are manufactured for use with:

- Intercom systems
- Gate access
- Burglar alarm systems
- Background music
- Card readers
- Door controllers
- Prox sensors
- Key pads
- Audio public address systems
- Closed-circuit television (CCTV)
- Locking power and retinal scanners



SAVE TIME, SAVE MONEY

With time-saving and convenient installation features such as CableID®, QuickCount®, and an accessible ripcord, these cables make installation and maintenance much easier by removing the guesswork.



TECHNICAL SUPPORT IS A TOP PRIORITY

We are available to help you choose the correct Fire Alarm and Security Control cable for your application. To reach a trained and knowledgeable Inside Sales representative who can answer questions about the product line and help you place an order, call 800.551.8948. Additional technical assistance is available from the Superior Essex Technical Support Group by calling 877.263.2818.



800.551.8948
superioressex.com

All information, content, data, specifications, packaging and part numbers detailed herein are subject to change. For the most up to date information, please visit SuperiorEssex.com. Purchase of this product is subject exclusively to the then current **Superior Essex International LP Terms and Conditions of Sale for Communications and Energy Cable, Wire and Connectivity Products**, which can be found on our website SuperiorEssex.com or provided to you upon request.

Table of Contents

FIRE ALARM

Fire Alarm, Non-Shielded Power Limited, Riser/Plenum	A-2
Fire Alarm, Shielded Power Limited, Riser/Plenum	A-4
Interlock Armored Fire Alarm Riser	A-6

SECURITY CONTROL

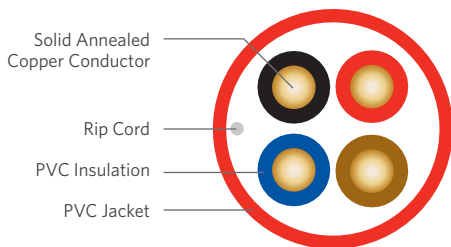
Security Control, Non-Shielded Power Limited, Riser/Plenum	A-8
Security Control, Shielded Power Limited, Riser/Plenum	A-10
Access Control Composite Riser/Plenum	A-12

TECHNICAL INFORMATION

Metric Conversions	A-14
American Wire Gauge Sizes	A-14
Selecting the Right Fire Alarm/Security Control Cable	A-15
Premises Cable Conduit Fill Quick Reference	A-16
Packaging	A-17
Terms and Conditions of Sale	A-18
Part Number Index	A-19

Fire Alarm, Non-Shielded

Power Limited, Riser/Plenum



SPECIFICATIONS

Conductor Count	Available with 2 through 8 conductors
Conductor	Fully annealed, solid bare copper
AWG (mm)	Available in 12 (2.05) through 22 (0.64)
Insulation	PVC
Insulation Colors	Conductor 1: Black Conductor 2: Red Conductor 3: Brown Conductor 4: Blue Conductor 5: Orange Conductor 6: Yellow Conductor 7: Violet Conductor 8: Gray
Jacket	Riser: Red, Flame Retardant (FR) PVC (Available in other jacket colors) Plenum: Red, Low smoke PVC (Available in other jacket colors)
Package	Black, ribbed, plastic recyclable spool, Reel-in-a-Box or wood reel
Performance Compliance	NEC Article 760 NEC Article 725 NEC Article 800 UL® 1424 FPLR/FPLP UL 13 CL3R/CL3P UL 444 CMR/CMP* UL 1666 NFPA 262 California State Fire Marshall RoHS-compliant/RoHS 2-compliant
NRTL Programs	UL Listed CMR, CL3R, FPLR UL Listed CMP, CL3P, FPLP

*CMR/CMP listing does not apply to 12 AWG and 14 AWG Superior Essex Fire Alarm cables. UL is a registered trademark of UL LLC.

ENVIRONMENTAL SPECIFICATIONS

Operation	-4°F to +167°F (-20°C to +75°C)
Installation	+32°F to +149°F (0°C to +65°C)

PRODUCT DESCRIPTION

Fire Alarm cables are used for a variety of life safety devices, and are required to comply with many codes and standards. Superior Essex has grouped its fire alarm cable products into just two categories for simplicity: riser and plenum. All riser listed fire alarm cables provide full compliance to NEC Article 760, NEC Article 725, FPLR and CL3R. All plenum listed fire alarm cables provide compliance to NEC Article 760, NEC Article 725, FPLP and CL3P. These cables are offered in a wide range of conductor counts and gauges. All cables are power limited rated for 300V.

APPLICATIONS

- Smoke detectors
- Alarm notification
- Strobes
- Sirens
- Pull stations
- Addressable control systems
- Circuits controlled and powered by the fire alarm system
- Sprinkler and sprinkler supervisory systems

FEATURES

- Red color jacket (standard)
- Non-plenum, riser rated
- Plenum rated
- Jacket rip cord
- CableID® alpha numeric code printed every 2 feet
- QuickCount® marking system in feet and meters
- Black, plastic recyclable spool packaging (standard)

BENEFITS

- Identified as universal fire alarm cable
- Simplifies selection with multiple listings (FPL, FPLR, CL3R and CMR*)
- Simplifies selection with multiple listings (FPLP, CL3P and CMP*)
- Easy to open; saves cable preparation time
- Allows both ends of a cable run to be easily identifiable without the need to separately label or tone the cable
- Saves on installation time
- Provides remaining length of cable on spool resulting in less scrap
- Robust and easy to handle

PART NUMBERS AND PHYSICAL CHARACTERISTICS

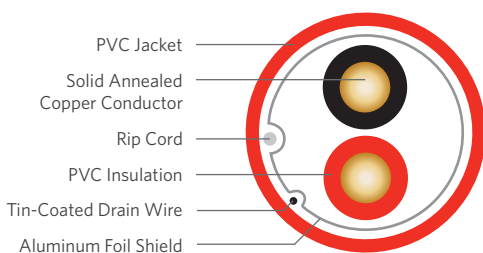
Listing	Part Number ¹	Conductor Count	AWG (mm)	Nominal Diameter in (mm)	Approx. Weight lbs/kft (kg/km)
FPLR/CL3R	2F-41x-91	2	12 (2.05)	0.23 (5.8)	49 (73)
FPLR/CL3R	2F-42x-91	3	12 (2.05)	0.25 (6.2)	73 (33)
FPLR/CL3R	2F-31x-91	2	14 (1.63)	0.20 (5.1)	33 (49)
FPLR/CL3R	2F-32x-91	3	14 (1.63)	0.21 (5.4)	46 (20)
FPLR/CL3R	2F-33x-91	4	14 (1.63)	0.25 (6.4)	66 (99)
FPLR/CL3R/CMR	2F-21x-91	2	16 (1.29)	0.17 (4.3)	23 (34)
FPLR/CL3R/CMR	2F-22x-91	3	16 (1.29)	0.18 (4.6)	32 (14)
FPLR/CL3R/CMR	2F-23x-91	4	16 (1.29)	0.20 (5.1)	42 (63)
FPLR/CL3R/CMR	2F-11x-91	2	18 (1.02)	0.15 (3.8)	16 (24)
FPLR/CL3R/CMR	2F-12x-91	3	18 (1.02)	0.16 (4.1)	22 (9)
FPLR/CL3R/CMR	2F-13x-91	4	18 (1.02)	0.17 (4.3)	29 (43)
FPLR/CL3R/CMR	2F-14x-91	6	18 (1.02)	0.21 (5.3)	42 (63)
FPLR/CL3R/CMR	2F-51x-91	2	22 (0.64)	0.12 (3.0)	8 (12)
FPLR/CL3R/CMR	2F-52x-91	3	22 (0.64)	0.13 (3.3)	10 (4)
FPLR/CL3R/CMR	2F-53x-91	4	22 (0.64)	0.14 (3.6)	14 (21)
FPLP/CL3P	2F-41x-93	2	12 (2.05)	0.23 (5.8)	50 (74)
FPLP/CL3P	2F-31x-93	2	14 (1.63)	0.20 (5.1)	34 (51)
FPLP/CL3P	2F-32x-93	3	14 (1.63)	0.21 (5.4)	47 (21)
FPLP/CL3P	2F-33x-93	4	14 (1.63)	0.23 (5.8)	64 (95)
FPLP/CL3P/CMP	2F-21x-93	2	16 (1.29)	0.17 (4.3)	24 (36)
FPLP/CL3P/CMP	2F-22x-93	3	16 (1.29)	0.18 (4.6)	33 (14)
FPLP/CL3P/CMP	2F-23x-93	4	16 (1.29)	0.20 (5.1)	43 (64)
FPLP/CL3P/CMP	2F-11x-93	2	18 (1.02)	0.15 (3.8)	17 (25)
FPLP/CL3P/CMP	2F-12x-93	3	18 (1.02)	0.16 (4.1)	23 (10)
FPLP/CL3P/CMP	2F-13x-93	4	18 (1.02)	0.17 (4.3)	29 (43)
FPLP/CL3P/CMP	2F-14x-93	6	18 (1.02)	0.21 (5.3)	43 (64)
FPLP/CL3P/CMP	2F-15x-93	8	18 (1.02)	0.23 (5.8)	56 (83)
FPLP/CL3P/CMP	2F-51x-93	2	22 (0.64)	0.12 (3.0)	9 (13)
FPLP/CL3P/CMP	2F-52x-93	3	22 (0.64)	0.13 (3.3)	11 (4)
FPLP/CL3P/CMP	2F-53x-93	4	22 (0.64)	0.14 (3.6)	15 (22)

Additional jacket colors are available.

	Plastic Spool		Reel-in-a-Box		Wood Reel	Shrink Wrap	
	1,000'	500'	1,000'	500'	1,000'	250'	500'
¹ Replace "x" with:	2	3	4	5	6	7	8

Fire Alarm, Shielded

Power Limited, Riser/Plenum



SPECIFICATIONS

Conductor Count	Available with 2 through 6 conductors
Conductor	Fully annealed, solid bare copper
AWG (mm)	Available in 12 (2.05) through 22 (0.64)
Insulation	PVC
Insulation Colors	Conductor 1: Black Conductor 2: Red Conductor 3: Brown Conductor 4: Blue Conductor 5: Orange Conductor 6: Yellow Conductor 7: Violet Conductor 8: Gray
Shield	1-mil overall aluminum polyester foil shield with 24 AWG (0.51 mm) solid tinned copper drain wire
Jacket	Riser: Red, Flame Retardant (FR) PVC (Available in other jacket colors) Plenum: Red, Low smoke PVC (Available in other jacket colors)
Package	Black, ribbed, plastic recyclable spool, Reel-in-a-Box or wood reel
Performance Compliance	NEC Article 760 NEC Article 725 NEC Article 800 UL® 1424 FPLR/FPLP UL 13 CL3R/CL3P UL 444 CMR/CMP* UL 1666 NFPA 262 California State Fire Marshall RoHS-compliant/RoHS 2-compliant
NRTL Programs	UL Listed CMR, CL3R, FPLR UL Listed CMP, CL3P, FPLP

*CMR/CMP listing does not apply to 12 AWG and 14 AWG Superior Essex Fire Alarm cables. UL is a registered trademark of UL LLC.

ENVIRONMENTAL SPECIFICATIONS

Operation	-4°F to +167°F (-20°C to +75°C)
Installation	+32°F to +149°F (0°C to +65°C)

PRODUCT DESCRIPTION

Fire Alarm cables are used for a variety of life safety devices, and are required to comply with many codes and standards. Superior Essex has grouped its fire alarm cable products into just two categories for simplicity: riser and plenum. All riser listed fire alarm cables provide full compliance to NEC Article 760, NEC Article 725, FPLR and CL3R. All plenum listed fire alarm cables provide compliance to NEC Article 760, NEC Article 725, FPLP and CL3P. These cables are offered in a wide range of conductor counts and gauges. All cables are power limited rated for 300V.

APPLICATIONS

- Smoke detectors
- Alarm notification
- Strobes
- Sirens
- Pull stations
- Addressable control systems
- Circuits controlled and powered by the fire alarm system
- Sprinkler and sprinkler supervisory systems

FEATURES

- Red color jacket (standard)
- Non-plenum, riser rated
- Plenum rated
- Jacket rip cord
- CableID® alpha numeric code printed every 2 feet
- QuickCount® marking system in feet and meters
- Black, plastic recyclable spool packaging (standard)
- Shielded

BENEFITS

- Identified as universal fire alarm cable
- Simplifies selection with multiple listings (FPL, FPLR, CL3R and CMR*)
- Simplifies selection with multiple listings (FPLP, CL3P and CMP*)
- Easy to open; saves cable preparation time
- Allows both ends of a cable run to be easily identifiable without the need to separately label or tone the cable
- Saves on installation time
- Provides remaining length of cable on spool resulting in less scrap
- Robust and easy to handle
- Electromagnetic Interference (EMI) protection

PART NUMBERS AND PHYSICAL CHARACTERISTICS

Listing	Part Number ¹	Conductor Count	AWG (mm)	Nominal Diameter in (mm)	Approx. Weight lbs/kft (kg/km)
FPLR/CL3R	2F-41x-92	2	12 (2.05)	0.24 (6.1)	51 (76)
FPLR/CL3R	2F-31x-92	2	14 (1.63)	0.21 (5.3)	36 (54)
FPLR/CL3R	2F-32x-92	3	14 (1.63)	0.22 (5.7)	49 (22)
FPLR/CL3R	2F-33x-92	4	14 (1.63)	0.24 (6.1)	65 (97)
FPLR/CL3R/CMR	2F-21x-92	2	16 (1.29)	0.18 (4.6)	25 (37)
FPLR/CL3R/CMR	2F-22x-92	3	16 (1.29)	0.19 (4.9)	35 (15)
FPLR/CL3R/CMR	2F-23x-92	4	16 (1.29)	0.21 (5.3)	44 (65)
FPLR/CL3R/CMR	2F-11x-92	2	18 (1.02)	0.16 (4.1)	18 (27)
FPLR/CL3R/CMR	2F-12x-92	3	18 (1.02)	0.17 (4.3)	25 (11)
FPLR/CL3R/CMR	2F-13x-92	4	18 (1.02)	0.18 (4.6)	31 (46)
FPLR/CL3R/CMR	2F-14x-92	6	18 (1.02)	0.22 (5.6)	44 (65)
FPLR/CL3R/CMR	2F-51x-92	2	22 (0.64)	0.13 (3.3)	10 (15)
FPLR/CL3R/CMR	2F-52x-92	3	22 (0.64)	0.14 (3.5)	13 (5)
FPLR/CL3R/CMR	2F-53x-92	4	22 (0.64)	0.15 (3.8)	16 (24)
FPLP/CL3P	2F-41x-94	2	12 (2.05)	0.24 (6.1)	53 (79)
FPLP/CL3P	2F-42x-94	3	12 (2.05)	0.26 (6.5)	76 (34)
FPLP/CL3P	2F-31x-94	2	14 (1.63)	0.21 (5.3)	36 (54)
FPLP/CL3P	2F-32x-94	3	14 (1.63)	0.22 (5.7)	50 (22)
FPLP/CL3P	2F-33x-94	4	14 (1.63)	0.24 (6.1)	66 (98)
FPLP/CL3P/CMP	2F-21x-94	2	16 (1.29)	0.18 (4.6)	26 (39)
FPLP/CL3P/CMP	2F-22x-94	3	16 (1.29)	0.19 (4.9)	35 (15)
FPLP/CL3P/CMP	2F-23x-94	4	16 (1.29)	0.21 (5.3)	45 (67)
FPLP/CL3P/CMP	2F-11x-94	2	18 (1.02)	0.16 (4.1)	19 (28)
FPLP/CL3P/CMP	2F-12x-94	3	18 (1.02)	0.17 (4.3)	25 (11)
FPLP/CL3P/CMP	2F-13x-94	4	18 (1.02)	0.18 (4.6)	32 (48)
FPLP/CL3P/CMP	2F-14x-94	6	18 (1.02)	0.22 (5.6)	45 (67)
FPLP/CL3P/CMP	2F-51x-94	2	22 (0.64)	0.13 (3.3)	11 (16)
FPLP/CL3P/CMP	2F-52x-94	3	22 (0.64)	0.14 (3.5)	13 (5)
FPLP/CL3P/CMP	2F-53x-94	4	22 (0.64)	0.15 (3.8)	17 (25)

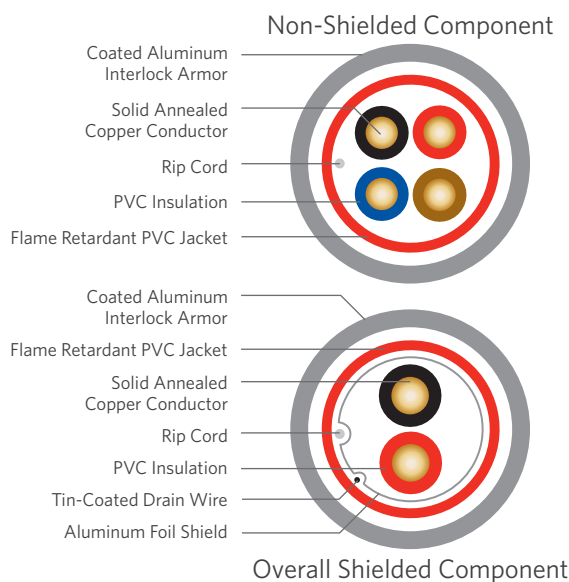
Additional jacket colors are available.

PACKAGING OPTIONS

	Plastic Spool		Reel-in-a-Box		Wood Reel	Shrink Wrap	
	1,000'	500'	1,000'	500'	1,000'	250'	500'
¹ Replace "x" with:	2	3	4	5	6	7	8

Interlock Armored

Fire Alarm Riser



PRODUCT DESCRIPTION

Superior Essex has a full line of fire alarm riser rated cables with interlocked aluminum armor. The addition of aluminum interlock armor over the red jacketed fire alarm cable provides significant mechanical protection and installation savings; adding the interlock armor eliminates the requirement for rigid, expensive pipes or conduits. These cables are available in both shielded and non-shielded versions with a wide range of conductor counts and gauges. The fire alarm cables with interlock armor can be used for a variety of life safety devices such as sirens, smoke detectors, and control systems. Together the cable and the interlocking armor provide multiple compliance levels, including NEC Article 760 (FPLR), NEC Article 725 (CL3R), and NEC Article 800 (CMR). All fire alarm cables are power limited rated for 300V. Each individual cable is retested after adding the interlock armoring to ensure all applicable industry requirements are met.

APPLICATIONS

- Smoke detectors
- Alarm notification
- Strobes
- Sirens
- Pull stations
- Addressable control systems
- Circuits controlled and powered by the fire alarm system
- Sprinkler and sprinkler supervisory systems

FEATURES

- Aluminum interlock armor
- Installed directly from reel
- 50% cost savings
- Aluminum interlock armor can be removed

BENEFITS

- Protects against mechanical stress and EMI/RFI for ensured and reliable performance
- Faster installation; fewer tools/equipment and less labor is required
- Saves labor and installation time; rigid conduit and pipes not necessary; finish job faster
- Maintains the fire rating even after interlock armor is removed

SPECIFICATIONS

Overall Cable Configuration	Single component cable surrounded by red aluminum interlock armor
Component Jacket	Red, Flame Retardant PVC
Armor	Interlocked aluminum
Performance Compliance	NEC Article 760 NEC Article 725 NEC Article 800 UL® 1424 FPLR UL 13 CL3R UL 444 CMR* UL 1666 UL 1569, Sections 19 and 23 California State Fire Marshall RoHS-compliant/RoHS 2-compliant
NRTL Programs	UL Listed FPLR, CL3R, CMR

*CMR listing does not apply to 12 AWG and 14 AWG Superior Essex Fire Alarm cables. UL is a registered trademark of UL LLC.

ENVIRONMENTAL SPECIFICATIONS

Operation	-4°F to +167°F (-20°C to +75°C)
Installation	+32°F to +149°F (0°C to +65°C)

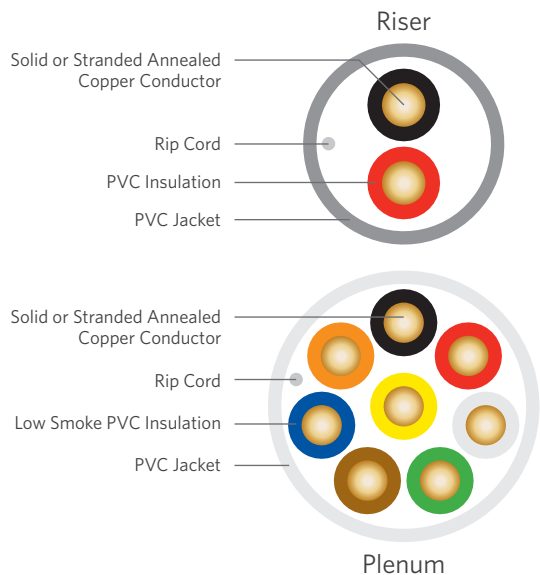
PART NUMBERS AND PHYSICAL CHARACTERISTICS

Listing	Part Number	Conductor Count	AWG (mm)	Nominal Diameter in (mm)	Approx. Weight lbs/kft (kg/km)	Package
Non-Shielded Component						
FPLR/CL3R	K2F-419-91	2	12 (2.05)	0.50 (12.7)	83 (124)	1,000' Wood reel
FPLR/CL3R	K2F-429-91	3	12 (2.05)	0.50 (12.7)	107 (159)	1,000' Wood reel
FPLR/CL3R	K2F-319-91	2	14 (1.63)	0.50 (12.7)	67 (100)	1,000' Wood reel
FPLR/CL3R	K2F-329-91	3	14 (1.63)	0.50 (12.7)	80 (119)	1,000' Wood reel
FPLR/CL3R	K2F-339-91	4	14 (1.63)	0.50 (12.7)	100 (149)	1,000' Wood reel
FPLR/CL3R/CMR	K2F-219-91	2	16 (1.29)	0.50 (12.7)	57 (85)	1,000' Wood reel
FPLR/CL3R/CMR	K2F-229-91	3	16 (1.29)	0.50 (12.7)	66 (98)	1,000' Wood reel
FPLR/CL3R/CMR	K2F-239-91	4	16 (1.29)	0.50 (12.7)	76 (113)	1,000' Wood reel
FPLR/CL3R/CMR	K2F-119-91	2	18 (1.02)	0.50 (12.7)	50 (74)	1,000' Wood reel
FPLR/CL3R/CMR	K2F-129-91	3	18 (1.02)	0.50 (12.7)	56 (83)	1,000' Wood reel
FPLR/CL3R/CMR	K2F-139-91	4	18 (1.02)	0.50 (12.7)	63 (94)	1,000' Wood reel
FPLR/CL3R/CMR	K2F-519-91	2	22 (0.64)	0.50 (12.7)	42 (63)	1,000' Wood reel
FPLR/CL3R/CMR	K2F-529-91	3	22 (0.64)	0.50 (12.7)	44 (66)	1,000' Wood reel
FPLR/CL3R/CMR	K2F-539-91	4	22 (0.64)	0.50 (12.7)	48 (71)	1,000' Wood reel
Overall Shielded Component						
FPLR/CL3R	K2F-419-92	2	12 (2.05)	0.50 (12.7)	85 (127)	1,000' Wood reel
FPLR/CL3R	K2F-319-92	2	14 (1.63)	0.50 (12.7)	70 (104)	1,000' Wood reel
FPLR/CL3R	K2F-329-92	3	14 (1.63)	0.50 (12.7)	83 (124)	1,000' Wood reel
FPLR/CL3R	K2F-339-92	4	14 (1.63)	0.50 (12.7)	99 (147)	1,000' Wood reel
FPLR/CL3R/CMR	K2F-219-92	2	16 (1.29)	0.50 (12.7)	59 (88)	1,000' Wood reel
FPLR/CL3R/CMR	K2F-229-92	3	16 (1.29)	0.50 (12.7)	69 (103)	1,000' Wood reel
FPLR/CL3R/CMR	K2F-239-92	4	16 (1.29)	0.50 (12.7)	78 (116)	1,000' Wood reel
FPLR/CL3R/CMR	K2F-119-92	2	18 (1.02)	0.50 (12.7)	52 (77)	1,000' Wood reel
FPLR/CL3R/CMR	K2F-129-92	3	18 (1.02)	0.50 (12.7)	59 (88)	1,000' Wood reel
FPLR/CL3R/CMR	K2F-139-92	4	18 (1.02)	0.50 (12.7)	65 (97)	1,000' Wood reel
FPLR/CL3R/CMR	K2F-519-92	2	22 (0.64)	0.50 (12.7)	44 (66)	1,000' Wood reel
FPLR/CL3R/CMR	K2F-529-92	3	22 (0.64)	0.50 (12.7)	47 (70)	1,000' Wood reel
FPLR/CL3R/CMR	K2F-539-92	4	22 (0.64)	0.50 (12.7)	50 (74)	1,000' Wood reel

Additional cable combinations are available. Other color sequences available upon request.

Security Control, Non-Shielded

Power Limited, Riser/Plenum



SPECIFICATIONS

Conductor Count	Available with 2 through 12 conductors
Conductor	Fully annealed, solid or stranded bare copper
AWG (mm)	Available in 12 (2.05) through 22 (0.64)
Insulation	Low smoke PVC
Insulation Colors	Conductor 1: Black Conductor 2: Red Conductor 3: White Conductor 4: Green Conductor 5: Brown Conductor 6: Blue Conductor 7: Orange Conductor 8: Yellow Conductor 9: Violet Conductor 10: Gray Conductor 11: Pink Conductor 12: Tan
Jacket	Riser: Gray, Flame Retardant (FR) PVC (Available in other jacket colors) Plenum: White, Low smoke PVC (Available in other jacket colors)
Package	Black, ribbed, plastic recyclable spool, Reel-in-a-Box or wood reel
Performance Compliance	NEC Article 725 NEC Article 800 NEC Article 760 UL® 13 CL3R/CL3P UL 444 CMR/CMP* UL 1424 FPLR/FPLP UL 1666 NFPA 262 California State Fire Marshall RoHS-compliant/RoHS 2-compliant
NRTL Programs	UL Listed CL3R, CMR, FPLR UL Listed CL3P, CMP, FPLP

*CMR/CMP listing does not apply to 12 AWG and 14 AWG Superior Essex Security Control cables. UL is a registered trademark of UL LLC.

PRODUCT DESCRIPTION

Security Control cables are used for a variety of building control and audio applications. The non-shielded security control cable series is ideal for environments where electromagnetic interference (EMI) is not a concern or the cable is not required to be grounded. All riser listed security control cables provide compliance to NEC Article 725, NEC Article 760, CL3R and FPLR. All plenum listed security control cables provide compliance to NEC Article 725, NEC Article 760, CL3P and FPLP. All security control cables are power limited rated for 300V.

APPLICATIONS

- Intercom
- Security
- Audio, public address system, speakers
- Burglar alarm system
- Telephone stations
- Background music
- Sensors

FEATURES

- Non-plenum, riser rated
- Plenum rated
- Jacket rip cord
- CableID® alpha numeric code printed every 2 feet
- QuickCount® marking system in feet and meters
- Black, plastic recyclable spool packaging (standard)

BENEFITS

- Simplifies selection with multiple listings (CL3R, CMR*, FPL and FPLR)
- Simplifies selection with multiple listings (CL3P, CMP* and FPLP)
- Easy to open; saves cable preparation time
- Allows both ends of a cable run to be easily identifiable without the need to separately label or tone the cable
- Saves on installation time
- Provides remaining length of cable on spool resulting in less scrap
- Robust and easy to handle

ENVIRONMENTAL SPECIFICATIONS

Operation	-4°F to +167°F (-20°C to +75°C)
Installation	+32°F to +149°F (0°C to +65°C)

PART NUMBERS AND PHYSICAL CHARACTERISTICS

Listing	Part Number ¹	Conductor Count	AWG (mm)	Conductor Type	Jacket Color ²	Nominal Diameter in (mm)	Approx. Weight lbs/kft (kg/km)
CL3R/FPLR	2F-F1x-31	2	12 (2.05)	19 x 0.0185	Gray	0.25 (6.4)	51 (76)
CL3R/FPLR	2F-F2x-31	3	12 (2.05)	19 x 0.0185	Gray	0.27 (6.8)	77 (34)
CL3R/FPLR	2F-E1x-31	2	14 (1.85)	19 x 0.0147	Gray	0.22 (5.6)	34 (51)
CL3R/FPLR	2F-E2x-31	3	14 (1.85)	19 x 0.0147	Gray	0.23 (6.0)	47 (21)
CL3R/FPLR	2F-E3x-31	4	14 (1.85)	19 x 0.0147	Gray	0.25 (6.4)	64 (95)
CL3R/CMR/FPLR	2F-D1x-31	2	16 (1.46)	19 x 0.0117	Gray	0.19 (4.8)	24 (36)
CL3R/CMR/FPLR	2F-D2x-31	3	16 (1.46)	19 x 0.0117	Gray	0.20 (5.1)	32 (14)
CL3R/CMR/FPLR	2F-D3x-31	4	16 (1.46)	19 x 0.0117	Gray	0.22 (5.6)	43 (64)
CL3R/CMR/FPLR	2F-C1x-31	2	18 (1.16)	7 x 26 AWG	Gray	0.16 (4.1)	17 (25)
CL3R/CMR/FPLR	2F-C2x-31	3	18 (1.16)	7 x 26 AWG	Gray	0.17 (4.3)	22 (9)
CL3R/CMR/FPLR	2F-C3x-31	4	18 (1.16)	7 x 26 AWG	Gray	0.19 (4.8)	30 (45)
CL3R/CMR/FPLR	2F-C4x-31	6	18 (1.16)	7 x 26 AWG	Gray	0.23 (5.8)	43 (64)
CL3R/CMR/FPLR	2F-C5x-31	8	18 (1.16)	7 x 26 AWG	Gray	0.25 (6.4)	56 (83)
CL3R/CMR/FPLR	2F-C7x-31	12	18 (1.16)	7 x 26 AWG	Gray	0.30 (7.6)	83 (124)
CL3R/CMR/FPLR	2F-B1x-31	2	20 (0.92)	7 x 28 AWG	Gray	0.14 (3.6)	12 (18)
CL3R/CMR/FPLR	2F-B2x-31	3	20 (0.92)	7 x 28 AWG	Gray	0.15 (3.8)	15 (6)
CL3R/CMR/FPLR	2F-B3x-31	4	20 (0.92)	7 x 28 AWG	Gray	0.16 (4.1)	21 (31)
CL3R/CMR/FPLR	2F-A1x-31	2	22 (0.73)	7 x 30 AWG	Gray	0.13 (3.3)	9 (13)
CL3R/CMR/FPLR	2F-A2x-31	3	22 (0.73)	7 x 30 AWG	Gray	0.14 (3.5)	11 (4)
CL3R/CMR/FPLR	2F-A3x-31	4	22 (0.73)	7 x 30 AWG	Gray	0.15 (3.8)	15 (22)
CL3R/CMR/FPLR	2F-A4x-31	6	22 (0.73)	7 x 30 AWG	Gray	0.18 (4.6)	21 (31)
CL3R/CMR/FPLR	2F-A5x-31	8	22 (0.73)	7 x 30 AWG	Gray	0.19 (4.8)	28 (42)
CL3R/CMR/FPLR	2F-A6x-31	10	22 (0.73)	7 x 30 AWG	Gray	0.22 (5.6)	34 (51)
CL3R/CMR/FPLR	2F-A7x-31	12	22 (0.73)	7 x 30 AWG	Gray	0.23 (5.8)	40 (60)
CL3R/CMR/FPLR	2F-51x-31	2	22 (0.64)	Solid	Gray	0.12 (3.0)	8 (12)
CL3R/CMR/FPLR	2F-52x-31	3	22 (0.64)	Solid	Gray	0.13 (3.3)	10 (4)
CL3R/CMR/FPLR	2F-53x-31	4	22 (0.64)	Solid	Gray	0.14 (3.6)	14 (21)
CL3P/FPLP	2F-F1x-43	2	12 (2.05)	19 x 0.0185	White	0.25 (6.4)	52 (77)
CL3P/FPLP	2F-F2x-43	3	12 (2.05)	19 x 0.0185	White	0.27 (6.8)	78 (35)
CL3P/FPLP	2F-E1x-43	2	14 (1.85)	19 x 0.0147	White	0.22 (5.6)	35 (52)
CL3P/FPLP	2F-E2x-43	3	14 (1.85)	19 x 0.0147	White	0.23 (6.0)	48 (21)
CL3P/FPLP	2F-E3x-43	4	14 (1.85)	19 x 0.0147	White	0.25 (6.4)	65 (97)
CL3P/CMP/FPLP	2F-D1x-43	2	16 (1.46)	19 x 0.0117	White	0.19 (4.8)	24 (36)
CL3P/CMP/FPLP	2F-D2x-43	3	16 (1.46)	19 x 0.0117	White	0.20 (5.1)	32 (14)
CL3P/CMP/FPLP	2F-D3x-43	4	16 (1.46)	19 x 0.0117	White	0.22 (5.6)	44 (65)
CL3P/CMP/FPLP	2F-C1x-43	2	18 (1.16)	7 x 26 AWG	White	0.16 (4.1)	17 (25)
CL3P/CMP/FPLP	2F-C2x-43	3	18 (1.16)	7 x 26 AWG	White	0.17 (4.3)	22 (9)
CL3P/CMP/FPLP	2F-C3x-43	4	18 (1.16)	7 x 26 AWG	White	0.19 (4.8)	30 (45)
CL3P/CMP/FPLP	2F-C4x-43	6	18 (1.16)	7 x 26 AWG	White	0.23 (5.8)	44 (65)
CL3P/CMP/FPLP	2F-C5x-43	8	18 (1.16)	7 x 26 AWG	White	0.25 (6.4)	57 (85)
CL3P/CMP/FPLP	2F-C7x-43	12	18 (1.16)	7 x 26 AWG	White	0.30 (7.6)	85 (126)
CL3P/CMP/FPLP	2F-B1x-43	2	20 (0.92)	7 x 28 AWG	White	0.14 (3.6)	13 (19)
CL3P/CMP/FPLP	2F-B2x-43	3	20 (0.92)	7 x 28 AWG	White	0.15 (3.8)	16 (7)
CL3P/CMP/FPLP	2F-B3x-43	4	20 (0.92)	7 x 28 AWG	White	0.16 (4.1)	22 (33)
CL3P/CMP/FPLP	2F-A1x-43	2	22 (0.73)	7 x 30 AWG	White	0.13 (3.3)	9 (13)
CL3P/CMP/FPLP	2F-A2x-43	3	22 (0.73)	7 x 30 AWG	White	0.14 (3.5)	11 (4)
CL3P/CMP/FPLP	2F-A3x-43	4	22 (0.73)	7 x 30 AWG	White	0.15 (3.8)	16 (24)
CL3P/CMP/FPLP	2F-A4x-43	6	22 (0.73)	7 x 30 AWG	White	0.18 (4.6)	22 (33)
CL3P/CMP/FPLP	2F-A5x-43	8	22 (0.73)	7 x 30 AWG	White	0.19 (4.8)	28 (42)
CL3P/CMP/FPLP	2F-A6x-43	10	22 (0.73)	7 x 30 AWG	White	0.22 (5.6)	35 (52)
CL3P/CMP/FPLP	2F-A7x-43	12	22 (0.73)	7 x 30 AWG	White	0.23 (5.8)	41 (61)
CL3P/CMP/FPLP	2F-51x-43	2	22 (0.64)	Solid	White	0.12 (3.0)	9 (13)
CL3P/CMP/FPLP	2F-52x-43	3	22 (0.64)	Solid	White	0.13 (3.3)	11 (4)
CL3P/CMP/FPLP	2F-53x-43	4	22 (0.64)	Solid	White	0.14 (3.6)	15 (22)

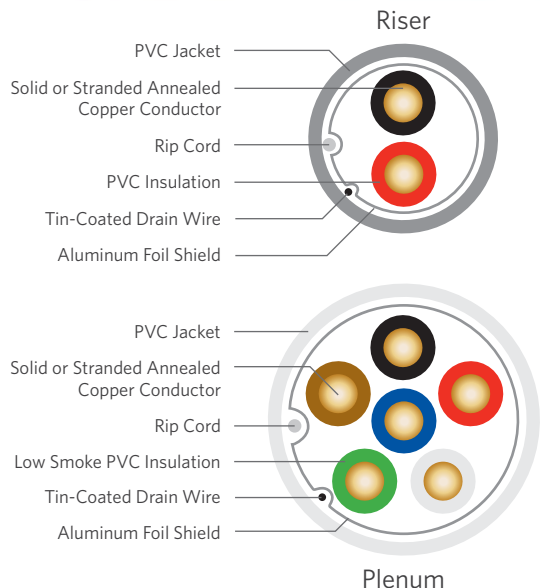
²Additional jacket colors are available.

PACKAGING OPTIONS

	Plastic Spool		Reel-in-a-Box		Wood Reel	Shrink Wrap	
	1,000'	500'	1,000'	500'	1,000'	250'	500'
¹ Replace "x" with:	2	3	4	5	6	7	8

Security Control, Shielded

Power Limited, Riser/Plenum



SPECIFICATIONS

Conductor Count	Available with 2 through 12 conductors
Conductor	Fully annealed, solid or stranded bare copper
AWG (mm)	Available in 12 (2.05) through 22 (0.64)
Insulation	PVC
Insulation Colors	Conductor 1: Black Conductor 2: Red Conductor 3: White Conductor 4: Green Conductor 5: Brown Conductor 6: Blue Conductor 7: Orange Conductor 8: Yellow Conductor 9: Violet Conductor 10: Gray Conductor 11: Pink Conductor 12: Tan
Shield	1-mil overall aluminum polyester foil shield with 24 AWG (0.51 mm) solid tinned copper drain wire
Jacket	Riser: Gray, Flame Retardant (FR) PVC (Available in other jacket colors) Plenum: White, Low smoke PVC (Available in other jacket colors)
Package	Black, ribbed, plastic recyclable spool, Reel-in-a-Box or wood reel
Performance Compliance	NEC Article 725 NEC Article 800 NEC Article 760 UL® 13 CL3R/CL3P UL 444 CMR/CMP* UL 1424 FPLR/FPLP UL 1666 NFPA 262 California State Fire Marshall RoHS-compliant/RoHS 2-compliant
NRTL Programs	UL Listed CL3R, CMR, FPLR UL Listed CL3P, CMP, FPLP

*CMR/CMP listing does not apply to 12 AWG and 14 AWG Superior Essex Security Control cables. UL is a registered trademark of UL LLC.

PRODUCT DESCRIPTION

Security Control cables are used for a variety building control and audio applications. The security control, shielded cable series is ideal for environments where electromagnetic interference (EMI) is a concern or the cable is required to be grounded. All riser listed security control cables provide compliance to NEC Article 725, NEC Article 760, CL3R and FPLR. All plenum listed security control cables provide compliance to NEC Article 725, NEC Article 760, CL3P and FPLP. All security control cables are power limited rated for 300V.

APPLICATIONS

- Intercom
- Security
- Audio, public address system, speakers
- Burglar alarm system
- Telephone stations
- Background music

FEATURES

- Non-plenum, riser rated
- Plenum rated
- Jacket rip cord
- Overall shield
- CableID® alpha numeric code printed every 2 feet
- QuickCount® marking system in feet and meters
- Black, plastic recyclable spool packaging (standard)

BENEFITS

- Simplifies selection with multiple listings (CL3R, CMR*, FPL and FPLR)
- Simplifies selection with multiple listings (CL3P, CMP* and FPLP)
- Easy to open; saves cable preparation time
- Electromagnetic Interference (EMI) protection
- Allows both ends of a cable run to be easily identifiable without the need to separately label or tone the cable
- Saves on installation time
- Provides remaining length of cable on spool resulting in less scrap
- Robust and easy to handle

ENVIRONMENTAL SPECIFICATIONS

Operation	-4°F to +167°F (-20°C to +75°C)
Installation	+32°F to +149°F (0°C to +65°C)

PART NUMBERS AND PHYSICAL CHARACTERISTICS

Listing	Part Number ¹	Conductor Count	AWG (mm)	Conductor Type	Jacket Color ²	Nominal Diameter in (mm)	Approx. Weight lbs/kft (kg/km)
CL3R/FPLR	2F-F1x-32	2	12 (2.05)	19 x 0.0185	Gray	0.26 (6.6)	53 (79)
CL3R/FPLR	2F-E1x-32	2	14 (1.85)	19 x 0.0147	Gray	0.23 (5.8)	36 (54)
CL3R/FPLR	2F-E2x-32	3	14 (1.85)	19 x 0.0147	Gray	0.25 (6.2)	49 (22)
CL3R/FPLR	2F-E3x-32	4	14 (1.85)	19 x 0.0147	Gray	0.26 (6.6)	66 (98)
CL3R/CMR/FPLR	2F-D1x-32	2	16 (1.46)	19 x 0.0117	Gray	0.20 (5.1)	26 (39)
CL3R/CMR/FPLR	2F-D2x-32	3	16 (1.46)	19 x 0.0117	Gray	0.21 (5.4)	35 (15)
CL3R/CMR/FPLR	2F-D3x-32	4	16 (1.46)	19 x 0.0117	Gray	0.23 (5.8)	45 (67)
CL3R/CMR/FPLR	2F-C1x-32	2	18 (1.16)	7 x 26 AWG	Gray	0.17 (4.3)	19 (28)
CL3R/CMR/FPLR	2F-C2x-32	3	18 (1.16)	7 x 26 AWG	Gray	0.18 (4.6)	24 (10)
CL3R/CMR/FPLR	2F-C3x-32	4	18 (1.16)	7 x 26 AWG	Gray	0.20 (5.1)	32 (48)
CL3R/CMR/FPLR	2F-C4x-32	6	18 (1.16)	7 x 26 AWG	Gray	0.24 (6.1)	45 (67)
CL3R/CMR/FPLR	2F-C5x-32	8	18 (1.16)	7 x 26 AWG	Gray	0.26 (6.6)	59 (88)
CL3R/CMR/FPLR	2F-C6x-32	10	18 (1.16)	7 x 26 AWG	Gray	0.29 (7.4)	72 (107)
CL3R/CMR/FPLR	2F-C7x-32	12	18 (1.16)	7 x 26 AWG	Gray	0.31 (7.9)	86 (128)
CL3R/CMR/FPLR	2F-B1x-32	2	20 (0.92)	7 x 28 AWG	Gray	0.15 (3.8)	14 (21)
CL3R/CMR/FPLR	2F-B2x-32	3	20 (0.92)	7 x 28 AWG	Gray	0.16 (4.1)	18 (8)
CL3R/CMR/FPLR	2F-B3x-32	4	20 (0.92)	7 x 28 AWG	Gray	0.17 (4.3)	23 (34)
CL3R/CMR/FPLR	2F-A1x-32	2	22 (0.73)	7 x 30 AWG	Gray	0.14 (3.6)	11 (16)
CL3R/CMR/FPLR	2F-A2x-32	3	22 (0.73)	7 x 30 AWG	Gray	0.15 (3.8)	13 (5)
CL3R/CMR/FPLR	2F-A3x-32	4	22 (0.73)	7 x 30 AWG	Gray	0.16 (4.1)	17 (25)
CL3R/CMR/FPLR	2F-A4x-32	6	22 (0.73)	7 x 30 AWG	Gray	0.19 (4.8)	24 (36)
CL3R/CMR/FPLR	2F-A5x-32	8	22 (0.73)	7 x 30 AWG	Gray	0.20 (5.1)	30 (45)
CL3R/CMR/FPLR	2F-A6x-32	10	22 (0.73)	7 x 30 AWG	Gray	0.23 (5.8)	36 (54)
CL3R/CMR/FPLR	2F-A7x-32	12	22 (0.73)	7 x 30 AWG	Gray	0.24 (6.1)	42 (63)
CL3R/CMR/FPLR	2F-51x-32	2	22 (0.64)	Solid	Gray	0.13 (3.3)	10 (15)
CL3R/CMR/FPLR	2F-52x-32	3	22 (0.64)	Solid	Gray	0.14 (3.5)	13 (5)
CL3P/FPLP	2F-F1x-44	2	12 (2.05)	19 x 0.0185	White	0.26 (6.6)	54 (80)
CL3P/FPLP	2F-F2x-44	3	12 (2.05)	19 x 0.0185	White	0.28 (7.0)	81 (36)
CL3P/FPLP	2F-E1x-44	2	14 (1.85)	19 x 0.0147	White	0.23 (5.8)	37 (55)
CL3P/FPLP	2F-E2x-44	3	14 (1.85)	19 x 0.0147	White	0.25 (6.2)	50 (22)
CL3P/FPLP	2F-E3x-44	4	14 (1.85)	19 x 0.0147	White	0.26 (6.6)	67 (100)
CL3P/CMP/FPLP	2F-D1x-44	2	16 (1.46)	19 x 0.0117	White	0.20 (5.1)	26 (39)
CL3P/CMP/FPLP	2F-D2x-44	3	16 (1.46)	19 x 0.0117	White	0.21 (5.4)	35 (15)
CL3P/CMP/FPLP	2F-D3x-44	4	16 (1.46)	19 x 0.0117	White	0.23 (5.8)	46 (68)
CL3P/CMP/FPLP	2F-C1x-44	2	18 (1.16)	7 x 26 AWG	White	0.17 (4.3)	19 (28)
CL3P/CMP/FPLP	2F-C2x-44	3	18 (1.16)	7 x 26 AWG	White	0.18 (4.6)	25 (11)
CL3P/CMP/FPLP	2F-C3x-44	4	18 (1.16)	7 x 26 AWG	White	0.20 (5.1)	33 (49)
CL3P/CMP/FPLP	2F-C4x-44	6	18 (1.16)	7 x 26 AWG	White	0.24 (6.1)	47 (70)
CL3P/CMP/FPLP	2F-C5x-44	8	18 (1.16)	7 x 26 AWG	White	0.26 (6.6)	60 (89)
CL3P/CMP/FPLP	2F-C7x-44	12	18 (1.16)	7 x 26 AWG	White	0.31 (7.9)	87 (129)
CL3P/CMP/FPLP	2F-B1x-44	2	20 (0.92)	7 x 28 AWG	White	0.15 (3.8)	15 (22)
CL3P/CMP/FPLP	2F-B2x-44	3	20 (0.92)	7 x 28 AWG	White	0.16 (4.1)	18 (8)
CL3P/CMP/FPLP	2F-B3x-44	4	20 (0.92)	7 x 28 AWG	White	0.17 (4.3)	24 (36)
CL3P/CMP/FPLP	2F-A1x-44	2	22 (0.73)	7 x 30 AWG	White	0.14 (3.6)	11 (16)
CL3P/CMP/FPLP	2F-A2x-44	3	22 (0.73)	7 x 30 AWG	White	0.15 (3.8)	14 (6)
CL3P/CMP/FPLP	2F-A3x-44	4	22 (0.73)	7 x 30 AWG	White	0.16 (4.1)	18 (27)
CL3P/CMP/FPLP	2F-A4x-44	6	22 (0.73)	7 x 30 AWG	White	0.19 (4.8)	24 (36)
CL3P/CMP/FPLP	2F-A5x-44	8	22 (0.73)	7 x 30 AWG	White	0.20 (5.1)	31 (46)
CL3P/CMP/FPLP	2F-A6x-44	10	22 (0.73)	7 x 30 AWG	White	0.23 (5.8)	37 (55)
CL3P/CMP/FPLP	2F-A7x-44	12	22 (0.73)	7 x 30 AWG	White	0.24 (6.1)	43 (64)
CL3P/CMP/FPLP	2F-51x-44	2	22 (0.64)	Solid	White	0.13 (3.3)	11 (16)
CL3P/CMP/FPLP	2F-52x-44	3	22 (0.64)	Solid	White	0.14 (3.5)	13 (5)

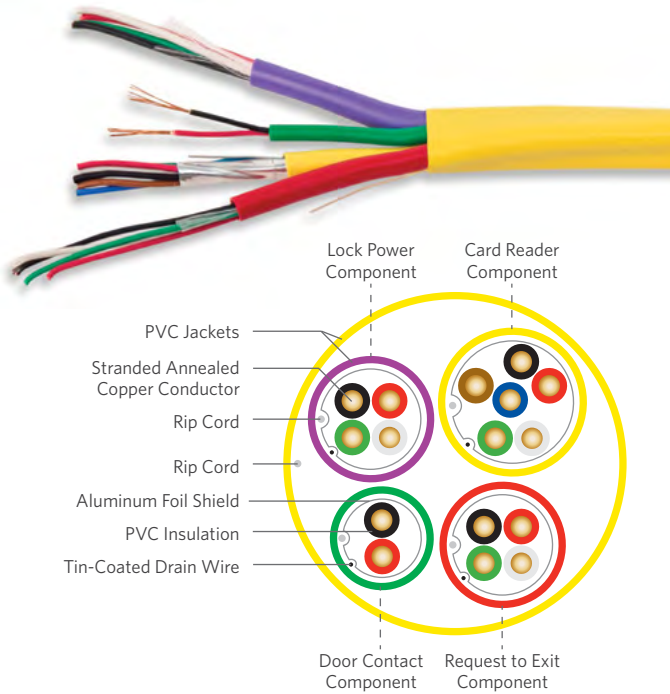
²Additional jacket colors are available.

PACKAGING OPTIONS

	Plastic Spool		Reel-in-a-Box		Wood Reel	Shrink Wrap	
	1,000'	500'	1,000'	500'		1,000'	250'
¹ Replace "x" with:	2	3	4	5	6	7	8

Access Control Composite

Riser/Plenum



PRODUCT DESCRIPTION

The Access Control Composite series combines four components that are required for card reader/keypad, door contact, request to exit and lock power device connectivity in a single cable. These composites are offered with an option to shield all components or just the single card reader component. Both riser and plenum jacket constructions are available.

APPLICATIONS

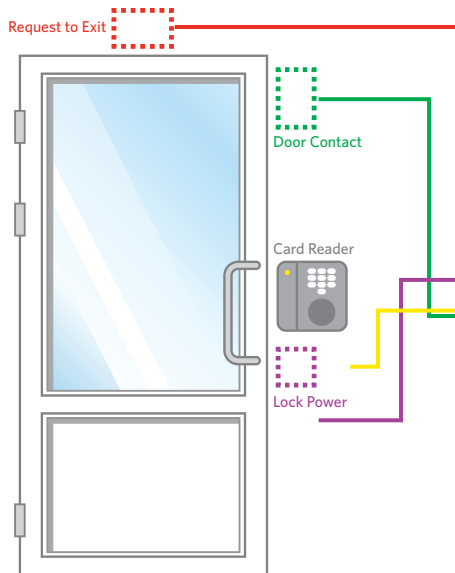
- Access control

FEATURES

- Four components in a single jacket
- Twisted pair in card reader component
- Jacket rip cord
- Overall shield (where applicable)
- QuickCount® marking system in feet and meters

BENEFITS

- Save labor costs with a one cable run
- Satisfies requirements of RS-232 and RS-485 protocols
- Easy to open; saves cable preparation time
- Electromagnetic Interference (EMI) protection
- Provides remaining length of cable on spool resulting in less scrap



COMPONENT COLOR CODING AND APPLICATION

Component Number	Cable Type	Application	Component Jacket Color
1	18 AWG x 4 conductors	Lock Power	Purple
2	22 AWG x 3 twisted pairs	Card Reader	Yellow
3	22 AWG x 4 conductors	Request to Exit	Red
4	22 AWG x 2 conductors	Door Contact	Green

ENVIRONMENTAL SPECIFICATIONS

Operation	-4°F to +167°F (-20°C to +75°C)
Installation	+32°F to +149°F (0°C to +65°C)

COMPOSITE SPECIFICATIONS

Outer Jacket	Riser: Flame Retardant (FR) PVC Plenum: Low smoke PVC
Jacket Marking	Example: XXXX FT/XXXX M SUPERIOR ESSEX ACCESS CONTROL CABLE DOOR / ZONE A B C D E / 0 1 2 3 4 5 6 7 8 9 18/4C + 22/3PR SHLD + 22/4C + 22/2C (UL) CMR/CL3R OR c(UL) CMR 75°C "ROHS COMPLIANT"
Package	Wood reel
Performance Compliance	NEC Article 725 NEC Article 800 NEC Article 760 UL® 13 CL3R/CL3P UL 444 CMR/CMP UL 1424 FPLR/FPLP UL 1666 NFPA 262 California State Fire Marshall RoHS-compliant/RoHS 2-compliant
NRTL Programs	UL Listed CL3R, CMR, FPLR UL Listed CL3P, CMP, FPLP c(UL) Listed CMR c(UL) Listed CMP

COMPONENT SPECIFICATIONS

Conductor/Pair Count	Available with 2 through 4 conductors and available with 3 twisted pairs
Conductor	Fully annealed, stranded bare copper
AWG (mm)	Available in 18 (1.16) and 22 (0.64)
Insulation	Low smoke PVC
Shield (where applicable)	1-mil overall aluminum polyester foil shield with 24 AWG (0.51 mm) solid tinned copper drain wire
Component Jacket	Riser: Flame Retardant (FR) PVC Plenum: Low smoke PVC
Component Jacket Marking	Example: LOCK POWER DOOR / ZONE A B C D E / 0 1 2 3 4 5 6 7 8 9 18 AWG/4C PLENUM

PART NUMBERS AND PHYSICAL CHARACTERISTICS

Listing	Part Number ¹	Component Number	Application	Component Description	Insulation Colors	Component Jacket Color	Outer Jacket Color	Nominal Diameter in (mm)	Approx. Weight lbs/kft (kg/km)
CMR/CL3R/ FPLR	AC-A1x-55	1	Lock Power	18 AWG x 4 conductors, non-shielded	Black, Red, White, Green	Purple	Green	0.46 (11.7)	105 (156)
		2	Card Reader	22 AWG x 3 twisted pairs, shielded	Black/Red, White/Green, Brown/Blue	Yellow			
		3	Request Exit	22 AWG x 4 conductors, non-shielded	Black, Red, White, Green	Red			
		4	Door Contact	22 AWG x 2 conductors, non-shielded	Black, Red	Green			
CMR/CL3R/ FPLR	AC-A2x-55	1	Lock Power	18 AWG x 4 conductors, shielded	Black, Red, White, Green	Purple	Green	0.47 (11.9)	110 (164)
		2	Card Reader	22 AWG x 3 twisted pairs, shielded	Black/Red, White/Green, Brown/Blue	Yellow			
		3	Request Exit	22 AWG x 4 conductors, shielded	Black, Red, White, Green	Red			
		4	Door Contact	22 AWG x 2 conductors, shielded	Black, Red	Green			
CMP/CL3P/ FPLP	AC-A1x-68	1	Lock Power	18 AWG x 4 conductors, non-shielded	Black, Red, White, Green	Purple	Yellow	0.46 (11.7)	105 (156)
		2	Card Reader	22 AWG x 3 twisted pairs, shielded	Black/Red, White/Green, Brown/Blue	Yellow			
		3	Request Exit	22 AWG x 4 conductors, non-shielded	Black, Red, White, Green	Red			
		4	Door Contact	22 AWG x 2 conductors, non-shielded	Black, Red	Green			
CMP/CL3P/ FPLP	AC-A2x-68	1	Lock Power	18 AWG x 4 conductors, shielded	Black, Red, White, Green	Purple	Yellow	0.47 (11.9)	110 (164)
		2	Card Reader	22 AWG x 3 twisted pairs, shielded	Black/Red, White/Green, Brown/Blue	Yellow			
		3	Request Exit	22 AWG x 4 conductors, shielded	Black, Red, White, Green	Red			
		4	Door Contact	22 AWG x 2 conductors, shielded	Black, Red	Green			

PACKAGING OPTIONS

	Wood Reel	
	1,000'	500'
¹ Replace "x" with:	2	3

Metric Conversions

Superior Essex uses the U.S. customary system of weights and measures as well as the metric equivalents. If you need help calculating these figures, please consult the conversion charts below.

INTO METRIC CONVERSIONS			
	If You Know	Multiply By	To Get
Length	milli-inch (mil)	25.40	microns (µm)
	inches (in)	25.40	millimeters (mm)
	inches (in)	2.54	centimeters (cm)
	feet (ft)	304.8	meters (m)
	yards (yd)	0.91	meters (m)
	miles (mi)	1.61	kilometers (km)
Area	sq. inches (in ²)	6.45	sq. centimeters (cm ²)
	sq. feet (ft ²)	0.09	sq. meters (m ²)
	sq. yards (yd ²)	0.84	sq. meters (m ²)
	sq. miles (mi ²)	2.59	sq. kilometers (km ²)
	acres	0.40	hectares (ha)
Mass (Weight)	ounces (oz)	28.35	grams (g)
	pounds (lbs)	0.45	kilograms (kg)
	short tons	0.91	tons (t)
Temperature	Fahrenheit (°F)	Subtract 32, then multiply by 0.56	Celsius (°C)
Mass per Length	pounds per 1,000 feet (lbs/kft)	1.49	kilograms per kilometers (kg/km)
	pounds force (lbf)	4.45	newtons (N)
Force	foot-pounds (ft-lbs)	1.36	newtons-meters (N-m)
	pounds force per inches (lbf/in)	1.75	newtons per centimeters (N/cm)
	pounds per sq. inches (PSI)	6.89	kiloPascals (kPa)

OUT OF METRIC CONVERSIONS			
	If You Know	Multiply By	To Get
Length	microns (µm)	0.04	milli-inch (mil)
	millimeters (mm)	0.04	inches (in)
	centimeters (cm)	0.39	inches (in)
	meters (m)	3.28	feet (ft)
	meters (m)	1.09	yards (yd)
	kilometers (km)	3,280.84	feet (ft)
	kilometers (km)	0.62	miles (mi)
Area	sq. centimeters (cm ²)	0.16	sq. inches (in ²)
	sq. meters (m ²)	1.20	sq. yards (yd ²)
	sq. kilometers (km ²)	0.39	sq. miles (mi ²)
	hectares (ha)	2.47	acres
Weight	grams (g)	0.04	ounces (oz)
	kilograms (kg)	2.20	pounds (lbs)
	tons (t)	1.10	short tons
Temperature	Celsius (°C)	Multiply by 1.80, then add 32	Fahrenheit (°F)
Weight per Unit Length	kilograms per kilometers (kg/km)	0.67	pounds per 1,000 feet (lbs/kft)
	newtons (N)	0.22	pounds force (lbf)
Force	newtons-meters (N-m)	0.74	foot-pounds (ft-lbs)
	newtons per centimeters (N/cm)	0.57	pounds force per inches (lbf/in)
	kilo Pascals (kPa)	0.15	pounds per sq. inches (PSI)

American Wire Gauge Sizes

The table below shows various data for copper and aluminum stranded conductors.

AMERICAN WIRE GAUGE (AWG) SIZES								
AWG/ kcmil	Stranding ²	Diameter		Copper DC Resistance @ 20°C		Aluminum DC Resistance @ 20°C		
		in	mm	(Ω/kft)	(Ω/km)	(Ω/kft)	(Ω/km)	
1,000	61	1.117	28.372	0.0106	0.0348	0.0173	0.0568	
750	61	0.968	24.587	0.0141	0.0462	0.0231	0.0758	
600	61	0.866	21.996	0.0177	0.0581	0.0289	0.0948	
500	37	0.789	20.041	0.0212	0.0695	0.0035	0.1140	
400	37	0.706	17.932	0.0264	0.0866	0.0434	0.1420	
350	37	0.661	16.789	0.0302	0.0991	0.0495	0.1620	
300	37	0.611	15.519	0.0353	0.1160	0.0578	0.1870	
250	19	0.558	14.173	0.0423	0.1390	0.0694	0.2280	
0000 (4/0)	19	0.512	13.005	0.0500	0.1640	0.0820	0.2690	
000 (3/0)	19	0.456	11.582	0.0630	0.2070	0.1030	0.3380	
00 (2/0)	19	0.405	10.287	0.7950	0.2610	0.1300	0.4270	
0 (1/0)	19	0.362	9.195	0.1000	0.3280	0.1640	0.5380	
1	7	0.322	8.179	0.1270	0.5220	0.2070	0.6790	
2	7	0.283	7.188	0.1590	0.6590	0.2610	0.8560	
4	7	0.225	5.715	0.2530	1.0500	0.4160	1.3600	
6	19	0.178	4.521	0.4030	1.3200	0.6610	2.1700	
8 ¹	7	0.142	3.607	0.6400	2.1000	1.0500	3.4400	
10	7	0.126	3.200	1.0200	3.3500	1.6700	5.4800	
12	7	0.113	2.870	1.6300	5.3500	2.6700	8.7600	
14	7	0.071	1.803	2.5800	8.4600	4.2200	13.8000	
16	7	0.0576	1.463	4.1000	13.4000	6.7100	22.0000	
18	7	0.0456	1.158	6.5400	21.4000	10.7000	35.1000	
20	7	0.0363	0.922	10.3000	33.8000	16.9000	55.4000	
22	7	0.0288	0.732	16.4000	53.8000	-	-	
24	-	0.0228	0.579	26.1000	85.6000	-	-	
25	-	0.0179	0.455	106.2000	32.3700	-	-	
26	-	0.0159	0.405	133.9000	40.8100	-	-	
27	-	0.0142	0.361	168.9000	51.4700	-	-	
28	-	0.0126	0.321	212.9000	64.9000	-	-	

¹8AWG, Combination Unilay-Stranded, Per ASTM B787

²24AWG through 1000kcmil, Reverse Concentric Compressed Class B, ASTM B8

Selecting the Right Fire Alarm/Security Control Cable

DISTANCE THE CABLE WILL RUN

Voltage drop should be calculated or refer to equipment manufacturer's recommendations. Knowing the cable run will help identify the right gauge size cable to select. A larger gauge size is suitable for longer runs.

NON-POWER LIMITED OR POWER LIMITED

The difference between power limited cables and non-power limited cables are specified in specific sections of the NEC.

- **Non-Power Limited Cable** is a fire alarm circuit powered by a source that complies with NEC sections 760-21 and 760-23. Non-power limited fire alarm cables have been designed for installations where fire alarm cables are permitted to occupy the same enclosure, or race way as other Class 1 Circuits, or 600V cables.
- **Power Limited Cable** is a fire alarm circuit powered by a source that complies with section 760-41. Power limited fire alarm cables are rated for 300V. Superior Essex offers only power limited fire alarm and power limited security control cables.

SHIELDED OR NON-SHIELDED

Is the system microprocessor based and therefore sensitive to EMI and RFI? If the system is computer based, a **shielded** cable will protect the circuits from this outside interference and keep the signal constant. If interference is not a concern, then a **non-shielded** cable is a cost effective solution.

- **EMI** (Electro Magnetic Interference): EMI can come from electrostatic sparks or spiking from motors, neon or fluorescent lighting ballasts or any other sources that cause noise. Shielded cables should be considered for installations in areas near dimmer panels and light switches, in parallel runs, near neon or fluorescent lights and near power cables.
- **RFI** (Radio Frequency Interference): Some frequencies used for radio communications can become coupled onto conductors to produce RFI.

SIMPLIFYING PRODUCT SELECTION

Superior Essex designed its Fire Alarm and Security Control cables to have multiple NEC and UL listings. A single cable design satisfies several listing categories and can be deployed if one listing category is called out by the customer. As an example, the Fire Alarm cable jacket is marked with three listings: FPLR, CL3R and CMR. This covers UL 1424 for the FPLR rating, UL 13 for the CL3R rating and UL 444 for the CMR rating.

When the customer specification calls for any one of the three specifications, this product is properly listed for that application. This simplifies product selection and helps with ordering stock and installation. Superior Essex has combined General Use (FPL) and Riser (FPLR) into one category called Riser.

Superior Essex Category	NEC/UL Listing	Suitable Applications	Substitutions
Non-Plenum or Riser	FPLR and FPL	Vertical runs in a shaft or from floor to floor and general purpose use	CM, CMR, CL3R
Plenum	FPLP	Ducts, plenums and other space used for environmental air	CMP, CL3P

INSULATION COLORS

Fire Alarm Conductor Number	Insulation Color
1	Black
2	Red
3	Brown
4	Blue
5	Orange
6	Yellow
7	Violet
8	Gray

Security Control Conductor Number	Insulation Color
1	Black
2	Red
3	White
4	Green
5	Brown
6	Blue
7	Orange
8	Yellow
9	Violet
10	Gray
11	Pink
12	Tan

CABLE SELECTION FOR VIDEO APPLICATIONS

Closed circuit security cameras use baseband frequencies, typically under 5 MHz. These applications are best suited for the bare copper center conductors of the Superior Essex RG-59 coaxial cable, which also features 95% copper braiding. RG-59 coaxial cable is specifically designed for applications operating below 1 GHz, but will also support higher frequency applications at shorter distances than RG-6 coaxial cable.

Many video and RF applications use frequencies above 1 GHz. RG-6 coaxial cable is often the preferred cable choice for applications such as CATV transmission. In such cases, the decision is whether to use 60% or 80% braid/shield or a quad shield design. The quad shield design is slightly more expensive than the 60% and 80% shield designs, but offers superior interference protection than the 60% and 80% braid versions.

It is becoming more common however, for copper category (CAT) twisted pair cables, like CAT 5e and 6, to be used for Closed Circuit over Twisted Pair (CCTP) systems. Digitally formatted signals provide dramatically better pictures and better sound quality. Digital Signal Processed (DSP) cameras fed by copper twisted CAT 5e and 6 cables, typically have more control setting options, plus digital video recorders (DVRs) options. Both DSP cameras and DVRs can typically be connected with coax products, but you should consult the camera manufacturer for its recommendation before making a cable selection.

Power Limited Cable Type	Listing	Bare Copper Standards			NEC and UL Standards				Miscellaneous Standards		
		ASTM B-3 (Solid Copper)	ASTM B-3 and B-8 (Stranded Copper)	UL 1424 Fire Alarm NEC Article 760	UL 13 Security NEC Article 725 (150 Volts)	UL 444 NEC Article 800 (300 Volts)	UL 1666 NFPA 262	California State Fire Marshall	Sunlight Resistant	RoHS-Compliant	
Fire Alarm, Non-Shielded and Shielded	Riser	✓		✓	✓	✓	✓	✓	✓	✓	
	Plenum	✓		✓	✓	✓		✓		✓	
Security Control, Non-Shielded and Shielded	Riser	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Plenum	✓	✓	✓	✓	✓		✓		✓	

Premises Cable Conduit Fill Quick Reference

This information is intended as a guideline. Because conduit sizes may vary by manufacturer, please verify all dimensions prior to using this reference chart. This guideline is based on National Electrical Code (USA) recommendations for conduit fill of runs with no more than two 90°

bends. For assistance in calculating conduit fill, refer to the "Resources" area of our site for the Technical Guideline, "How to Calculate Conduit Fill." Use only approved lubricants.

Conduit Trade Size Designator* English (Metric)	½ (16)	¾ (21)	1 (27)	1¼ (35)	1½ (41)	2 (53)	2½ (63)	3 (78)	3½ (91)	4 (103)	5 (129)
Conduit Internal Diameter in (mm)	0.62 (15.7)	0.82 (20.9)	1.05 (26.6)	1.38 (35.1)	1.61 (40.9)	2.07 (52.5)	2.47 (62.7)	3.07 (77.9)	3.55 (90.1)	4.03 (102.3)	5.05 (128.2)
Conduit Cross-Sectional Area in ² (mm ²)	0.30 (195)	0.53 (345)	0.87 (559)	1.51 (973)	2.05 (1,322)	3.39 (2,177)	482 (3,106)	7.45 (4,794)	9.96 (6,413)	12.83 (8,268)	20.15 (12,984)
Cable Nominal Diameter in (mm)	Number of Cables at Maximum Recommended Conduit Fill (1 Cable @ 53% Maximum, 2 Cables @ 31% Maximum, 3 or More Cables @ 40% Maximum)										
	15	26	44	76	103	171	262	376	504	649	1020
0.10 (2.5)	9	15	26	45	61	101	155	223	298	384	603
0.13 (3.3)	6	11	19	33	46	76	116	167	224	288	453
0.15 (3.8)	4	8	13	23	32	52	80	116	155	200	314
0.18 (4.6)	3	6	11	19	25	42	65	94	126	162	255
0.21 (5.3)	3	6	10	17	23	38	59	85	114	147	231
0.22 (5.6)	3	5	9	15	21	35	54	77	104	134	210
0.23 (5.8)	2	5	8	14	19	32	49	71	95	122	192
0.24 (6.1)	2	4	7	13	18	29	45	65	87	112	177
0.25 (6.4)	1	4	7	12	16	27	41	60	80	103	163
0.26 (6.6)	1	3	6	11	15	25	38	55	74	96	150
0.27 (6.9)	1	3	6	10	14	23	35	51	69	89	139
0.28 (7.1)	1	3	5	9	13	21	33	48	64	82	130
0.29 (7.4)	1	3	5	9	12	20	31	44	59	77	121
0.30 (7.6)	1	2	4	8	11	19	29	41	56	72	113
0.31 (7.9)	1	2	4	7	10	17	27	39	52	67	106
0.32 (8.1)	1	2	4	7	10	16	25	36	49	63	99
0.33 (8.4)	1	1	4	6	9	15	24	34	46	59	93
0.34 (8.6)	1	1	3	6	8	14	22	32	43	56	88
0.35 (8.9)	1	1	3	6	8	13	21	30	41	53	83
0.40 (10.2)	1	1	2	4	6	10	16	23	31	40	63
0.45 (11.4)	1	1	1	3	5	8	12	18	24	32	50
0.50 (12.7)	0	1	1	3	4	6	10	15	20	25	40
0.55 (14.0)	0	1	1	1	3	5	8	12	16	21	33
0.60 (15.2)	0	0	1	1	2	4	7	10	14	18	28
0.65 (16.5)	0	0	1	1	1	4	6	8	11	15	24
0.70 (17.8)	0	0	1	1	1	3	5	7	10	13	20
0.75 (19.1)	0	0	1	1	1	3	4	6	8	11	18
0.80 (20.3)	0	0	0	1	1	2	4	5	7	10	15
0.85 (21.6)	0	0	0	1	1	1	3	5	6	8	14
0.90 (22.9)	0	0	0	1	1	1	3	4	6	8	12
0.95 (24.1)	0	0	0	1	1	1	2	4	5	7	11
1.00 (25.4)	0	0	0	1	1	1	2	3	5	6	10

*Identifier only; not an actual dimension



Wood/Plywood Reel

Reels may be made of plywood or wood. Superior Essex wooden reels can be recycled an average of five times before retirement (see Web site for further details).



POP™ Box

In this package, the cable is coiled into a box. The product pays out through a tube opening in the box. This design does not allow for the cable to be removed as a unit from the box.



Ribbed Spool

Cable is wound onto a black, ribbed, plastic recyclable spool. The spool is rugged, robust and easy to handle. Spools are smaller than wood or steel reels.



Reel-in-a-Box

This package is dual purpose. In this design the cable is placed onto a plastic spool, which is placed into a box. The spool may be taken from the box for installation or may be left in the box where the cable pays out through a slotted opening.

Terms and Conditions of Sale

For Communication and Energy Cable, Wire and Connectivity Products

1. GENERAL

These Terms and Conditions of Sale (the "Terms") govern Buyer's purchase of any communication and energy cable, wire and connectivity products (the "Products") from Superior Essex International LP ("Seller"). Buyer's purchase of the Products is limited to the terms and conditions contained herein. If these Terms are first tendered to Buyer before Buyer tenders a purchase order or similar document to Seller, these Terms are in lieu of any terms later submitted by Buyer and Seller rejects all additional or different terms and conditions of Buyer, whether confirmatory or otherwise. If Seller tenders these Terms after the tender by Buyer of other terms, whether as part of a purchase order or otherwise, then Seller's acceptance of any offer by Buyer associated with Buyer's terms is expressly conditioned upon Buyer's acceptance of these Terms exclusively and to the exclusion of any proffered Buyer terms or conditions, regardless of whether these Terms contain any terms additional to, or different from, any terms proffered by Buyer. Buyer's performance, or acceptance of, or payment for, any products from Seller will constitute Buyer's acceptance of these Terms exclusively. If there is an executed written sales agreement or quotation in effect between the parties (a "Sales Agreement"), these Terms form a part thereof. Waiver by Seller of any breach, remedy or provision of these Terms shall not be construed to be a waiver of any succeeding breach or any other provision or legal remedy of Seller. The section headings of these Terms are for ease of reference only and shall not be admissible in any action to alter, modify or interpret the contents of any section hereof. The International Convention on the Sale of Goods shall have no application to any sales of Products hereunder.

2. PRICE, CHARGES AND PAYMENT

Orders are not binding upon Seller until accepted by Seller in its sole discretion. No order submitted by Buyer shall be deemed accepted by Seller unless and until either confirmed in writing by Seller or by delivery of the Product specified in the order, and then only on these Terms. Seller may modify Buyer's order where necessary as follows: (a) substituting the latest or correct part number or part description for the part number or part description set forth on the order; (b) substituting Seller's prices in effect as applicable to the order; (c) substituting an estimated delivery schedule which is reasonable (considering Seller's stock availability and lead time); and (d) correcting any stenographical or typographical error. The price of any Product sold to Buyer shall be Seller's price in effect at time of order entry. Prices for energy cable products will be adjusted at the time of shipment to reflect the closing COMEX metal price on the date prior to the ship date. Seller's current ancillary charges apply as applicable to the order such as parallel, cut, wood lagging, gas pressure, pulling eye and lift gate charges.

Fees for and relating to the Products are subject to adjustment in the event there are cost increases created by circumstances such as, but not limited to, changes in government energy policies, fuel and energy increases, metal premium or metal processing charges, chemical or material price increases, material and supply shortages, transportation and shipping costs. Any accepted order requiring special manufacturing processes, inspection, specified weight, packaging, test results, certification, etc., is subject to additional charges.

Unless otherwise agreed to by Seller in writing, Buyer agrees to pay all amounts due to Seller within thirty (30) days from the date of invoice. Overdue payments shall bear interest and service charges from the due date until paid at a rate of 1.5% (015) per month or the maximum legal rate, whichever is less, and any collection costs of Seller. FAILURE TO PAY ANY AMOUNT WHEN DUE VOIDS ALL WARRANTIES.

Credit is extended at the sole discretion of Seller. If credit has been extended, the amount of credit may be changed or credit withdrawn by Seller at any time, in its sole discretion. If a cash discount is stipulated, it is subject to Buyer's entire account being current. Any discounts given to Buyer by Seller in relation to the price of the Products are conditional upon payment for the Products being made strictly in accordance with the Sales Agreement and these Terms and to Buyer's entire account for all products purchased from Seller being current.

3. DELIVERY, TITLE, RISK OF LOSS, AND SHIPPING OF PRODUCTS

Title to and risk of loss of the Products shall pass to Buyer upon tender of such Products to Buyer at Seller's factory or a common carrier. Unless otherwise agreed by Seller in writing, shipping terms shall be Ex Works (Incoterms 2010) Seller's factory or warehouse. Seller's weights shall govern provisional and final settlement. Any shipping date provided by Seller is the Seller's best estimate and will not operate to bind Seller to ship or make deliveries on such date. All shipments shall be subject to Seller's then current shipment terms, including its Freight Policies, Freight Damage Policies, and minimum order values.

Buyer must thoroughly inspect the Products at the time of receipt for signs of damage, discrepancies or a shortage. Inspections of the Products at the time of delivery shall be commenced in the presence of the carrier's driver and Buyer shall note on the freight bill any shortages, discrepancies or damages of any Product received on the carrier's receipt. If concealed loss or damage is discovered, Buyer must report it to the carrier within 15 days from the date of receipt.

4. LIMITED WARRANTIES AND DISCLAIMERS

Seller warrants to Buyer that at the time of delivery the Products will conform substantially to Seller's specifications identified in the applicable Product Data Sheets ("Specifications"). As Buyer's sole and exclusive remedy and Seller's entire liability for any breach of the foregoing warranty, Seller will, at its sole option and expense, either refund the purchase price paid, repair or replace the Product which fails to meet this warranty upon return of the nonconforming Product; provided, Buyer notifies Seller of noncompliance in writing:

- for Fiber to the Premises Closure Products ("FTTP"), within ten (10) years of delivery for external plastic and metal parts of the closure and within one (1) year of delivery for internal fiber splice, attachment and management components; and
- for all other Products, within one (1) year of delivery of such Product.

Transportation charges to and from Seller's location for the return of all nonconforming Products to Seller and their re-shipment to Buyer and the risk of loss thereof will be borne by Seller. Buyer shall use Seller's designated carrier for all re-shipments. These warranties do not apply to any Product that was not properly stored or handled by the Buyer, that was repaired or altered or was otherwise subject to abuse, neglect or improper use by Buyer or a third party, or that has any stage of processing performed on it which causes the defect. EXCEPT WITH RESPECT TO THE SPECIFIC WARRANTIES SET FORTH IN THIS SECTION 4 OF THESE TERMS, SELLER MAKES NO OTHER WARRANTIES WHATSOEVER, EXPRESS OR IMPLIED, REGARDING THE PRODUCTS OR PERFORMANCE OF ITS OBLIGATIONS HEREUNDER, AND SPECIFICALLY DISCLAIMS ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Without limitation, under no circumstances shall Seller be liable for any costs associated with reworking, re-manufacturing or scrapping goods in which defective Product supplied by Seller was incorporated, for any costs associated with production stoppages, machinery breakdown or recall campaigns, or for any troubleshooting, administrative or engineering charges.

5. CLAIMS OF PATENT INFRINGEMENT

Seller shall conduct, at its own expense, the entire defense of any claim, suit, action or other proceedings ("Claim") brought against Buyer by a third party alleging that any Product manufactured by Seller infringes upon any United States patent of any third party; provided, however: (i) Seller receives prompt written notice of the Claim; (ii) Seller has full control of the defense and all related settlement negotiations; (iii) the Products are made according to a specification or design furnished by Seller, or if a process patent is involved, the process performed by the Products are recommended in writing by Seller; and (iv) Buyer provides Seller with all necessary assistance, information and authority to perform the defense and negotiate settlement thereof. Provided all four of the foregoing conditions are met, Seller shall, at its own expense, either settle said Claim or shall pay all damages (excluding incidental, consequential, statutory, or punitive damages) and costs awarded by the court therein. If the use or resale of such Products is finally enjoined, Seller shall, at Seller's option, procure for Buyer the right to use or resell the Products, replace them with equivalent non-infringing Products, modify them so they become non-infringing but equivalent, or remove them and refund the purchase price (less a reasonable allowance for use, damage or obsolescence). Buyer shall indemnify and hold Seller harmless from all Claims based upon (i) the use of a Product customized for Buyer based on Buyer's ideas, specifications or designs, (ii) the performance of a process performed by the Products not recommended in writing by Seller, or (iii) the use or sale of the Products delivered hereunder in combination with other products not delivered to Buyer by Seller.

6. EXCUSABLE PERFORMANCE

Seller is excused from performing any of its obligations under these Terms, any order or Sales Agreement if its performance is prevented, hindered or delayed by delays of suppliers, acts of God, nature, governments or their agencies, terrorism, war or sabotage, compliance in good faith with any applicable foreign or domestic governmental regulation or order (whether or not it proves to be invalid), fires, riots, inability to supply or obtain products, materials, raw materials, supplies, fuel or utilities from normal sources of supply, labor disputes, work stoppages, lockouts, delays in transportation, earthquakes, floods, storms

or other severe weather conditions, power shortages or power failures or any other events or circumstances beyond Seller's reasonable control (an "Event"). To the extent an Event delays Seller's performance, such performance shall be extended for as many days beyond the due date until the delay concludes; provided, however, if Seller is unable to perform any of its obligations under any order due to an Event for more than thirty (30) days, it may in its sole option terminate, without liability or penalty, any Sales Agreement, order or obligation in whole or in part. It is expressly understood that the Seller has available a limited source for the materials used by Seller in the manufacture of the Products. If there is an interference, limitation or cessation of any material from Seller's source of supply for any reason, Buyer agrees to relieve the Seller temporarily, proportionately, or permanently of liability under these Terms or any Sales Agreement or order, depending upon whether the interruption of the source of supply is a temporary interruption, a reduced delivery of materials, or a permanent cessation of supply. In the event there is a Product shortage pursuant to this section, Seller may ration and distribute such Products as it deems appropriate.

7. TAXES AND EXPORTS

Any and all taxes (not including any U.S. income or excess profit taxes attributable to Seller) which may be imposed by any taxing authority, arising from the sale, delivery or use of the Products and for which Seller may be held responsible for collection or payment, either on its own behalf or that of Buyer, shall be paid by Buyer to Seller upon Seller's demand. Export orders are subject to applicable export regulations and requirements. Buyer disclaims in favor of Seller any right or interest in, the drawback of duty, taxes or surcharges paid on imported material contained in the Products.

8. FINANCIAL RESPONSIBILITY OF BUYER

Buyer's solvency is a condition of Seller's performance and Seller may, at any time, in its sole discretion for credit reasons (including a good faith belief that a current or future payment is or may be impaired) or because of Buyer's breach of this or any other agreement with Seller, suspend or change credit terms, fix a limit on credit, require progress payments, demand payment in full of any outstanding balance, withhold shipments, demand COD or request other assurances of payment, cancel or terminate any order or agreement or repossess all Products previously delivered, which Products shall become the absolute property of Seller subject to credit therefore. Buyer grants to Seller a security interest in Products delivered hereunder to secure Buyer's obligations under these Terms and any Sales Agreement and grants to Seller the right to execute, deliver, and/or file any financing statement or do any other thing reasonably necessary to perfect Seller's security interest. Notwithstanding any other provision of these Terms, Seller reserves the right in its absolute discretion from time to time to require payment in full of the price of the Products before delivery of all or any of the Products.

Seller may terminate any order or Sales Agreement by written notice to Buyer if (i) a receiver or trustee is appointed for any of Buyer's property; (ii) Buyer is adjudicated or voluntarily becomes bankrupt or a debtor under any bankruptcy, dissolution or reorganization laws or similar law; (iii) Buyer becomes insolvent or makes an assignment for the benefit of creditors; (iv) an execution is issued pursuant to a judgment rendered against Buyer; or (v) Buyer is unable or refuses to make payment to Seller. If any order or Sales Agreement is terminated by Seller pursuant to this section, Seller shall be relieved of any further obligation to Buyer and Buyer shall reimburse Seller for its termination costs and expenses and a reasonable allowance for profit.

In addition to any right of set off or recoupment provided by law, Buyer agrees that all its accounts with Seller will be administered on a net settlement basis and that Seller may set off debits and credits, including Seller's attorney fees and costs of enforcement, against any of Buyer's accounts regardless of the basis for such debits and credits and without advance notice. In this section, "Seller" includes Seller's parent, subsidiaries and affiliates, and "Buyer" includes Buyer's parent, subsidiaries and affiliates.

9. CANCELLATIONS AND RETURNS

All orders accepted by Seller are non-cancelable unless (i) such order is cancelled in writing thirty (30) days prior to the scheduled ship date and (ii) the Products ordered were not manufactured as special or customized items. A cancellation fee of 10% of the quoted price shall apply. If paid for, cancelled Products may be returned for credit only. Return of any Product must be authorized by Seller. Seller will provide Buyer a Return Material Authorization number for all authorized returns which must be shown on the returned Product and associated shipping documents. Standard stock items are returnable at invoice price less a 20% restocking charge, freight prepaid by Buyer to the plant of manufacture or Seller's designated location. Non-stock items, special items and/or custom length cut reels of energy cables are final sales and not subject to return. All material must be returned to Seller undamaged and in the original packaging.

10. CHANGES — PROCESS, MATERIAL AND PRODUCT DESIGN

Seller continually develops and uses new processes, materials and product designs in an effort to improve its Products, while maintaining conformity to the Specifications. If Buyer's applications of the Products rely upon any performance, dimensional or constant criteria other than as required by the applicable Specifications, Buyer must conduct regular testing or evaluation of those specific Products. Seller makes no warranty or representation of any nature that any material shipped conforms to any material of like product description as may have previously been delivered to Buyer.

11. LIMITATION OF LIABILITY

IN NO EVENT WILL SELLER BE LIABLE TO BUYER FOR ANY INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE, DELAY, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOSS OF DIRECT OR INDIRECT PROFITS, REVENUE, OR USE, WHETHER ARISING IN CONTRACT, TORT, OR OTHERWISE, EVEN IF BUYER OR ANY OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT WILL SELLER'S AGGREGATE LIABILITY TO BUYER EXCEED ALL AMOUNTS ACTUALLY PAID BY BUYER TO SELLER. THESE LIMITATIONS SHALL APPLY NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF THE LIMITED REMEDY SET FORTH IN SECTION 4.

12. CONFIDENTIALITY

Buyer will not disclose to third persons any proprietary or confidential information of Seller concerning its business and operations, including without limitation, pricing information, for a period of five (5) years from the date such confidential information was learned or for confidential information meeting the definition of "trade secret" under applicable law, until such information is no longer a "trade secret." The obligations of confidentiality in this Section 12 do not apply to Confidential Information to the extent that the Confidential Information becomes readily ascertainable by proper means by the public other than through breach of this Section 12 by Buyer.

13. CHOICE OF LAW

These Terms and all accepted orders shall be construed in accordance with the laws of the State of Georgia, United States of America without regard to its conflict of law principles. Buyer agrees that any and all disputes with Seller, including contract and tort claims, shall be resolved in the state and federal courts situated in Georgia, and that these courts shall have the exclusive jurisdiction over all such disputes and Buyer consents to the personal jurisdiction in these courts. Any action brought by Buyer against Seller shall be within one (1) year after the cause of action arises or it shall be deemed forever waived.

14. ADDITIONAL TERMS

The provisions of these Terms and the Sales Agreement, if any, constitute the entire agreement between Buyer and Seller with respect to the matter contained herein and supersedes any prior oral or written communications, understanding, representations, proposals or agreements with respect to such subject matter. Seller may revise these Terms from time to time. These Terms may not be amended or modified by the Buyer except upon the execution of a written agreement signed by both parties indicating an intent to modify these Terms. Neither Buyer nor Seller may assign any of its rights or obligations hereunder or under any order; provided, however, that Seller shall be permitted to assign any of its rights or obligations under these Terms, Sales Agreement or any order in connection with the sale or transfer of all or substantially all of its business, whether by merger, reorganization, consolidation, transfer of assets, transfer of equity interests, or otherwise. If any provision of these Terms or a Sale Agreement is invalid, unenforceable or in conflict with any law, such provision shall be deemed severed from these Terms and/or the Sale Agreement and the validity of the remainder of these Terms and/or the Sale Agreement shall not be affected thereby. The provisions of these Terms that by their nature are reasonably intended by the parties to survive the expiration or termination of the Terms or any accepted order, including without limitation sections 4, 5, 11, 12, 13 and this section 14, shall survive the expiration or termination of the Terms or any accepted order.

Part Number Index

Part Number	Page	Part Number	Page	Part Number	Page	Part Number	Page	Part Number	Page	Part Number	Page
2F-11x-91	A-3	2F-33x-93	A-3	2F-A3x-32	A-11	2F-C3x-31	A-9	2F-E3x-43	A-9	K2F-219-92	A-7
2F-11x-92	A-5	2F-33x-94	A-5	2F-A3x-43	A-9	2F-C3x-32	A-11	2F-E3x-44	A-11	K2F-229-91	A-7
2F-11x-93	A-3	2F-41x-91	A-3	2F-A3x-44	A-11	2F-F1x-31	A-9	2F-F1x-31	A-9	K2F-229-92	A-7
2F-11x-94	A-5	2F-41x-92	A-5	2F-A4x-31	A-9	2F-C3x-44	A-11	2F-F1x-32	A-11	K2F-239-91	A-7
2F-12x-91	A-3	2F-41x-93	A-3	2F-A4x-32	A-11	2F-C4x-31	A-9	2F-F1x-43	A-9	K2F-239-92	A-7
2F-12x-92	A-5	2F-41x-94	A-5	2F-A4x-43	A-9	2F-F1x-32	A-11	2F-F1x-44	A-11	K2F-319-91	A-7
2F-12x-93	A-3	2F-42x-91	A-3	2F-A4x-44	A-11	2F-C4x-43	A-9	2F-F2x-31	A-9	K2F-319-92	A-7
2F-12x-94	A-5	2F-42x-94	A-5	2F-A5x-31	A-9	2F-C4x-44	A-11	2F-F2x-43	A-9	K2F-329-91	A-7
2F-13x-91	A-3	2F-51x-31	A-9	2F-A5x-32	A-11	2F-F2x-44	A-11	2F-F2x-44	A-11	K2F-329-92	A-7
2F-13x-92	A-5	2F-51x-32	A-11	2F-A5x-43	A-9	2F-C5x-32	A-11	78-107-91	A-18	K2F-339-91	A-7
2F-13x-93	A-3	2F-51x-43	A-9	2F-A5x-44	A-11	2F-C5x-43	A-9	78-107-9P	A-18	K2F-339-92	A-7
2F-13x-94	A-5	2F-51x-44	A-11	2F-A6x-31	A-9	2F-F5x-44	A-11	78-11A-9R	A-17	K2F-419-91	A-7
2F-14x-91	A-3	2F-51x-91	A-3	2F-A6x-32	A-11	2F-C6x-32	A-11	78-147-91	A-14	K2F-419-92	A-7
2F-14x-92	A-5	2F-51x-92	A-5	2F-A6x-43	A-9	2F-C7x-31	A-9	78-147-9P	A-14	K2F-429-91	A-7
2F-14x-93	A-3	2F-51x-93	A-3	2F-A6x-44	A-11	2F-C7x-32	A-11	78-148-91	A-14	K2F-519-91	A-7
2F-14x-94	A-5	2F-51x-94	A-5	2F-A7x-31	A-9	2F-C7x-43	A-9	78-14C-91	A-14	K2F-519-92	A-7
2F-15x-93	A-3	2F-52x-31	A-9	2F-A7x-32	A-11	2F-C7x-44	A-11	78-16C-91	A-16	K2F-529-91	A-7
2F-21x-91	A-3	2F-52x-32	A-11	2F-A7x-43	A-9	2F-D1x-31	A-9	78-558-91	A-20	K2F-529-92	A-7
2F-21x-92	A-5	2F-52x-43	A-9	2F-A7x-44	A-11	2F-D1x-32	A-11	78-55C-91	A-20	K2F-539-91	A-7
2F-21x-93	A-3	2F-52x-44	A-11	2F-B1x-31	A-9	2F-D1x-43	A-9	79-107-91	A-18	K2F-539-92	A-7
2F-21x-94	A-5	2F-52x-91	A-3	2F-B1x-32	A-11	2F-D1x-44	A-11	79-107-9P	A-18	KC-919-45	A-14
2F-22x-91	A-3	2F-52x-92	A-5	2F-B1x-43	A-9	2F-D2x-31	A-9	79-11A-9R	A-17	KC-919-E5	A-14
2F-22x-92	A-5	2F-52x-93	A-3	2F-B1x-44	A-11	2F-D2x-32	A-11	79-11B-9R	A-17		
2F-22x-93	A-3	2F-52x-94	A-5	2F-B2x-31	A-9	2F-D2x-43	A-9	79-147-91	A-14		
2F-22x-94	A-5	2F-53x-31	A-9	2F-B2x-32	A-11	2F-D2x-44	A-11	79-147-9P	A-14		
2F-23x-91	A-3	2F-53x-43	A-9	2F-B2x-43	A-9	2F-D3x-31	A-9	79-148-91	A-14		
2F-23x-92	A-5	2F-53x-91	A-3	2F-B2x-44	A-11	2F-D3x-32	A-11	79-558-91	A-20		
2F-23x-93	A-3	2F-53x-92	A-5	2F-B3x-31	A-9	2F-D3x-43	A-9	86-57D-A1	A-21		
2F-23x-94	A-5	2F-53x-93	A-3	2F-B3x-32	A-11	2F-D3x-44	A-11	AC-A1x-55	A-13		
2F-31x-91	A-3	2F-53x-94	A-5	2F-B3x-43	A-9	2F-E1x-31	A-9	AC-A1x-68	A-13		
2F-31x-92	A-5	2F-A1x-31	A-9	2F-B3x-44	A-11	2F-E1x-32	A-11	AC-A2x-55	A-13		
2F-31x-93	A-3	2F-A1x-32	A-11	2F-C1x-31	A-9	2F-E1x-43	A-9	AC-A2x-68	A-13		
2F-31x-94	A-5	2F-A1x-43	A-9	2F-C1x-32	A-11	2F-E1x-44	A-11	K2F-119-91	A-7		
2F-32x-91	A-3	2F-A1x-44	A-11	2F-C1x-43	A-9	2F-E2x-31	A-9	K2F-119-92	A-7		
2F-32x-92	A-5	2F-A2x-31	A-9	2F-C1x-44	A-11	2F-E2x-32	A-11	K2F-129-91	A-7		
2F-32x-93	A-3	2F-A2x-32	A-11	2F-C2x-31	A-9	2F-E2x-43	A-9	K2F-129-92	A-7		
2F-32x-94	A-5	2F-A2x-43	A-9	2F-C2x-32	A-11	2F-E2x-44	A-11	K2F-139-91	A-7		
2F-33x-91	A-3	2F-A2x-44	A-11	2F-C2x-43	A-9	2F-E3x-31	A-9	K2F-139-92	A-7		
2F-33x-92	A-5	2F-A3x-31	A-9	2F-C2x-44	A-11	2F-E3x-32	A-11	K2F-219-91	A-7		

**MADE
IN THE USA**



Corporate Headquarters | Atlanta, GA



Product Development Center | Kennesaw, GA



Brownwood Communications Plant | Brownwood, TX



Hoisington Communications Plant | Hoisington, KS



6120 Powers Ferry Road, Suite 150
Atlanta, Georgia 30339

P 770.657.6000
T 800.551.8948
F 877.291.7919

SuperiorEssex.com