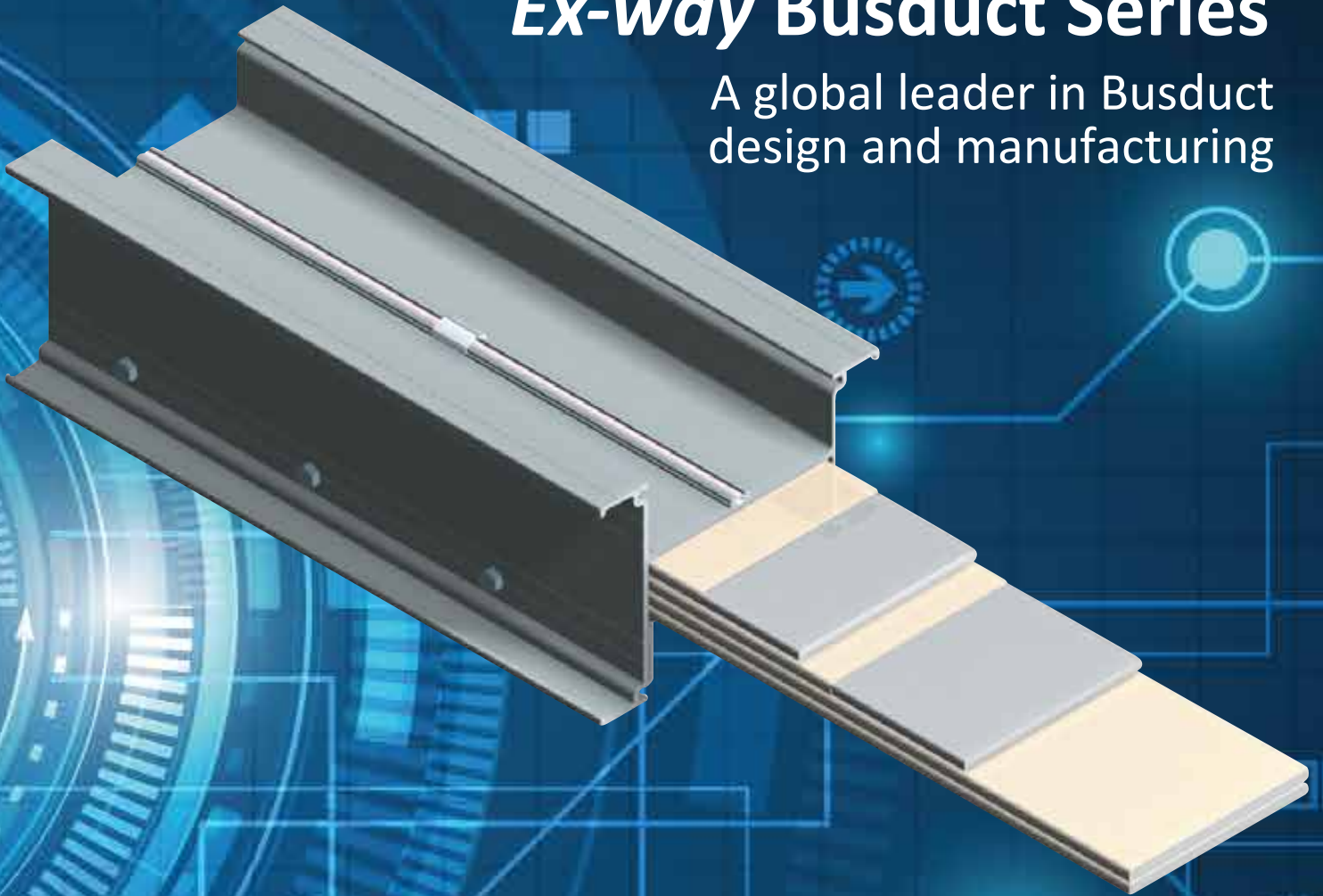


Ex-way Busduct Series

A global leader in Busduct design and manufacturing



Excellence Is In Our **DNA.**

Overview

LS Cable & System is a global leader in the design and manufacture of busduct for a wide array of applications. Ex-way busduct is a totally enclosed, non-ventilated, true sandwich design rated at 600V. Ex-way is available in either copper or aluminum busbar in an all-aluminum, two-piece housing that provides excellent mechanical strength and heat radiation properties. The aluminum housing can be used as a protection conductor (PE) due to its high-level conductivity and cross-sectional area. An optional optical fiber can be installed on the housing to provide temperature monitoring capabilities. Ex-way Busduct can carry up to 6000A with reduced loss. The extremely low impedance of Ex-way Busduct results in a low voltage drop. And its effective design produces a very high short-circuit withstand capability. Ex-way Busduct performs with a safe, flexible, reliable and economic efficiency. The simplified design of the Ex-way Busduct system allows for easy routing, extension, relocation, replacement and maintenance of power loads. It is ideal for multi-story commercial buildings, airports, data centers, hospitals, stadiums and industrial facilities.

Service Conditions:

Ambient temperature: -15°C – 55°C
Relative humidity: 95% or below

Feeder Busway:

Current: 630 to 6000A Aluminum
630 to 6000A Copper

Contact Points: Tin plated (Silver optional)

Insulation: Epoxy, Class B (130°C) Standard
Applied with fluidized bed process

Connection: Joint Kit (dual-head bolt with
Visible indication of proper torque)

Housing: All aluminum, two-piece, painted
(provides 100% rated grounding path)

Protection: IP54 Standard (IP42 through IP 65 available)

Standard Length: 10 ft (3M)

Plug-in Feeder:

Current: 630 to 6000A Aluminum
630 to 6000A Copper

Contact Points: Tin plated (Silver optional)

Insulation: Epoxy, Class B (130°C) Standard
Applied with fluidized bed process

Connection: Joint Kit (dual-head bolt with
Visible indication of proper torque)

Housing: All aluminum, two-piece, painted
(provides 100% rated grounding path)

Protection: IP54 Standard (IP42 through IP 65 available)

Standard Length: 10 ft (3M)

Fabrication Process



ASSEMBLY EQUIPMENT AUTOMATIVE
(ONLY SCREW MANUALLY BY AIR HORSE)



Plug-in Units

Ex-way Plug-in feeders can be provided with either tap-off boxes or plug-in boxes to distribute power to the load. Plug-in boxes can be outfitted with MCCB's ranging from 50A through 800A. There are six standard enclosure styles available.

Features and Benefits

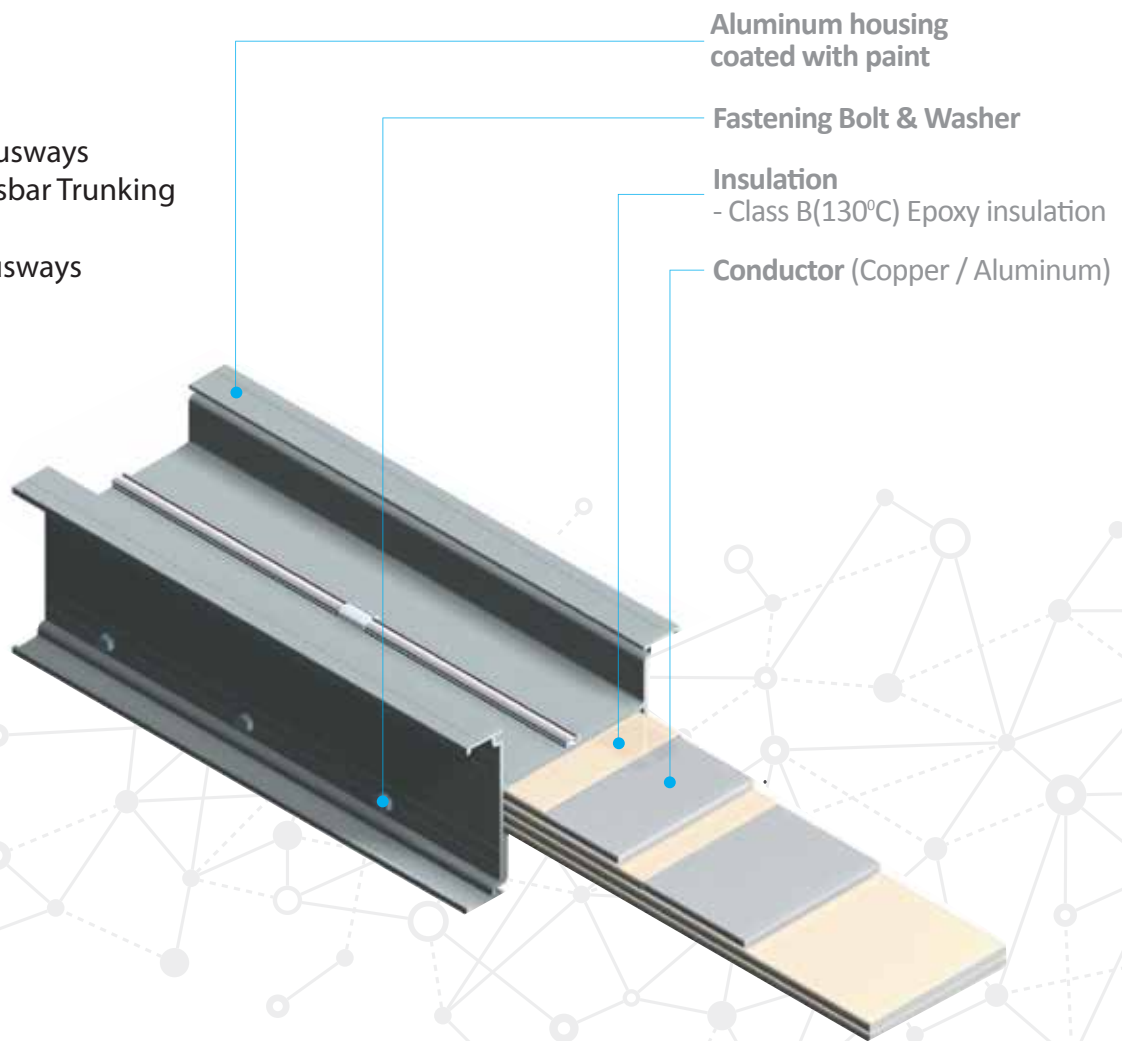
The unique design of Ex-way Busduct results in a high short-circuit capability. Its all-aluminum housing provides for effective heat radiation resulting in fewer conductors and a smaller size. Ex-way's compact size requires less space than cable and its light weight construction makes installation easier and faster. These features contribute to a more economical installation.

The flexibility of horizontal and vertical installation makes Ex-way ideal for equipment room applications. And the plug-in boxes provide means to directly distribute loads. The seismic and explosion proof design of Ex-way provides greater safety than other means of power distribution. Plus, the high current density of the busbar design results in higher efficiency and Ex-way's extremely low impedance path leads to a low voltage drop.

Ex-way contains no hazardous substances, making it an Eco-friendly product.

Standards:

ANSI/UL 857
NEMA BU 1.1 Busways
IEC 61439-6 Busbar Trunking
Systems
BS EN 61439 Busways
AS/NZS 3439.2



Housing

The unique all-aluminum, two-piece housing design provides several benefits. The light weight of the housing enables easy installation with less time and lower cost than other design incorporating steel. The housing profile provides effective heat radiation of the conductors which allows the size of the conductors to be smaller, thereby reducing the physical size. The cross-sectional area of the housing is over 100% of each phase conductor. Thereby, reducing or eliminating the need for additional ground bars and further reducing the size and weight of the busduct.

Busbar

Ex-way is available with either copper or aluminum busbars. The copper busbars have a conductivity of 99% or more while the aluminum busbars have a conductivity of 61% or more. Electrical contact surfaces are tin plates (silver is an option) in order to reduce contact resistance and prevent contact surface corrosion.

Short Circuit Strength

Phase to Phase Short Circuit Rating

Ampere(A)	AL		CU	
	Short Circuit Strength (RMS kA)	Reinforced type (1 sec)	Short Circuit Strength (RMS kA)	Reinforced type (1 sec)
630	30	30	35	36
800	30	42	35	36
1,000	65	50	50	51
1,250	65	62	50	65
1,600	65	95	50	95
2,000	80	121	85	129
2,500	125	132	85	150
3,200	125	169	125	191
3,600	125	169	125	191
4,000	125	200	125	200
5,000	125	200	125	200
6,000	125	200	125	200



* Above RMS data is also available in 1 second (60 cycles).

** For reinforced type, it is third party certified by KEMA and for its 3 second data, please contact our engineering team.

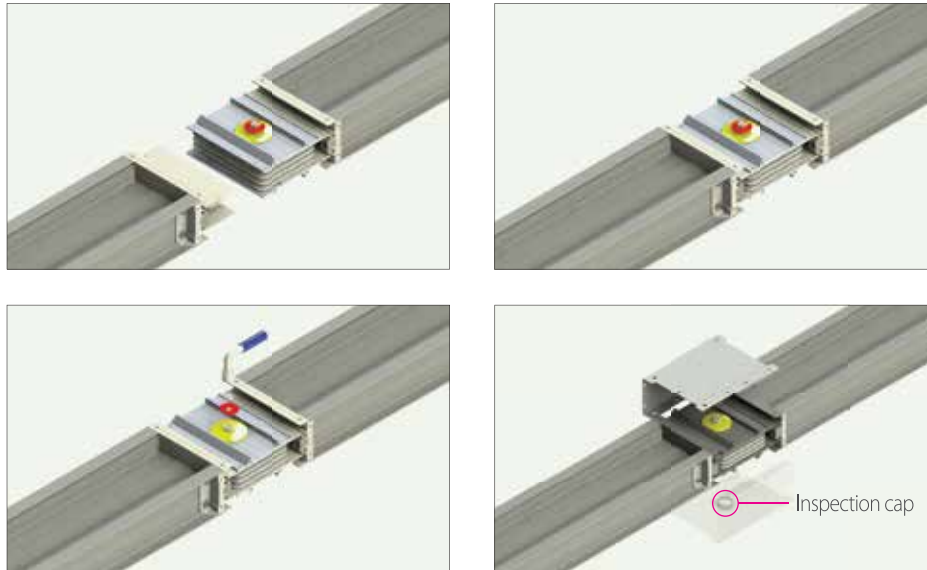
Insulation Properties

The phase and neutral busbars are insulated with a Class B (130°C) thermosetting epoxy dielectric material that is applied using a fluidized bed process. This application method provides a uniform thickness and a smooth surface, reducing the possibility of pinholes that can affect the dielectric strength. The Class B thermal rating exceeds the maximum approved operating temperature prescribed by UL for busway. This epoxy dielectric material exhibits excellent thermal conduction properties resulting in a lower operating temperature.

Joint Connection

Both joint plates of the joint kit and the conductors are tin plated (A silver plated option is available). It prevents the joint plate from discoloration and corrosion. In order to ensure reliability, proper installation and easy maintenance, a disk spring used in conjunction with double-headed bolts and visible indicators. The number of double headed bolts is dependent on the current rating of the busway. Double-headed bolts are used to ensure a proper torque level when installing the joint kit. The disk spring provides an even pressure across the contact surface. When the proper torque is applied (694~868ft-lbs), the outer bolt head will shear off automatically, allowing the indicating label to be discarded. The remaining bolt head can be re-used during maintenance. After installing the joint cover, with proper torque applied, a red line at the end of the double headed bolt should be visible through the inspection cap.

Joint Kit



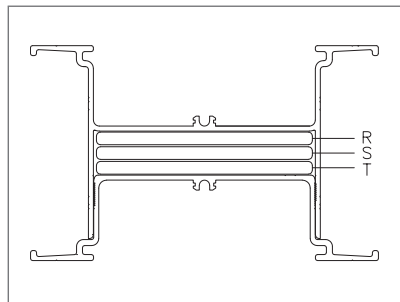
Number of Double headed bolts

Number of D.H bolts		1	2	4	6
Ampere (A)	AL	630, 800, 1000, 1250	1600, 2000, 2500	3200, 3600, 4000	5000, 6000
	CU	630, 800, 1000, 1250, 1600, 2000	2500, 3200, 3600, 4000	5000	6000

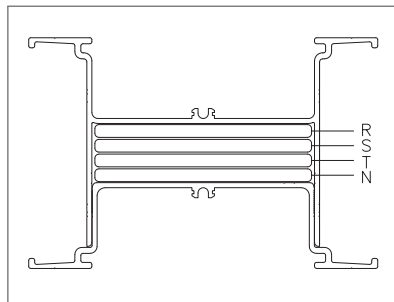
Grounding and Harmonics

Large grounding capacities can be achieved with Ex-way Busduct. The aluminum housing alone provides over 100% of the internal conductor area at the 2500A rating. The housing acts both as a low impedance ground path as well as an efficient thermal radiator. Additional grounding capacity can be provided with internal ground busbars to achieve a 50% or 100% increase in ground path.

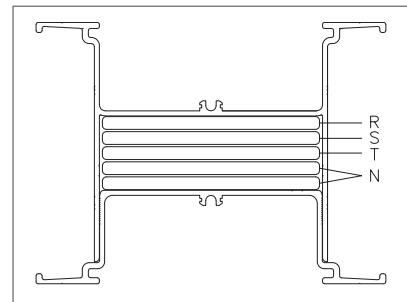
Where non-linear loads are expected, Ex-way offers an option for additional neutral busbar capacity that can handle either 100% or 200% of the harmonic currents. This added neutral busbar minimizes harmonic effects and helps ensure safe operating conditions within rated heat limits.



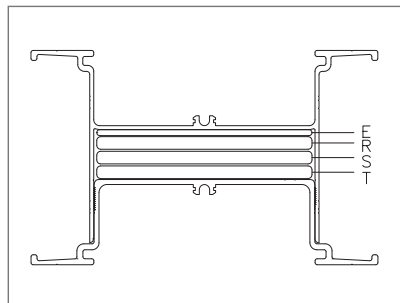
[3W+GE]



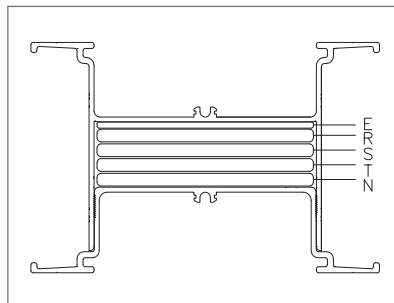
[4W+GE]



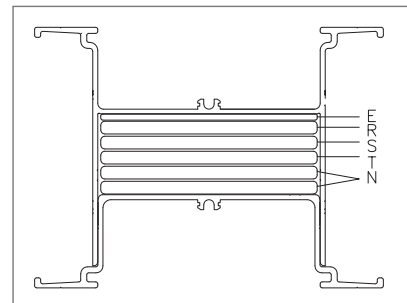
[4W(200%N)+GE]



[3W+50%E, 100%E]



[4W+50%E, 100%E]



[4W(200%N) + 50%E]

Fittings

Ex-way Busduct has a wide range of fittings to satisfy any layout required. These include elbows, offsets, combination, tees, flanged ends, expansion joints, reducers, and phase transpositions.

Hangers

Hangers are available in both spring and rigid type for vertical mounting. Horizontal hangers are available for general applications and wall bracket type.

Plug-in Units

Feeder busduct is available with both plug-in and tap-off box features. The length of feeder and the location of the plug-in and tap-off boxes can be made to order. Standard bus duct length is 10 feet. For plug-in feeder, the maximum rating per plug is 800A and the maximum tap-off rating is 1200A.

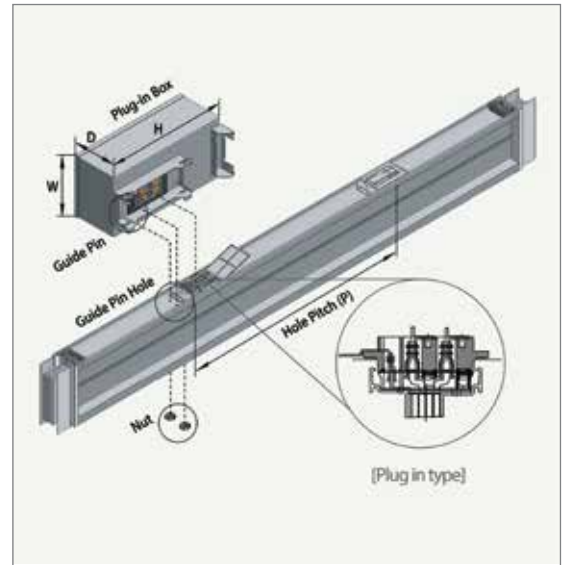
Molded case circuit breakers are available for branch circuits ranging from 50A to 1200A and 220V to 600V. Type ABS is standard, while Type ABH is high capacity and ABL is current limiting.

Plug-in Feeder

MCCB Frame (AF)	Plug-in Hole Intervals(P)	
	(mm)	(inch)
50, 125, 250	650	25.59
400	900	35.43
630, 800	1,000	39.37
1,000, 1,250	1,300	51.18

Plug-in Box

MCCB Frame (AF)	W				D		H		Fig.
	3W (mm)	3W (inch)	4W (mm)	4W (inch)	mm	inch	mm	inch	
125	200	7.87	230	9.06	200	7.87	360	14.17	E5-1
250	200	7.87	230	9.06	200	7.87	360	14.17	
400	230	9.06	280	11.02	200	7.87	800	31.5	
630, 800	300	11.81	370	14.57	200	7.87	800	31.5	
1000, 1250, 1600	400	15.75	450	17.72	230	9.06	1,200	47.24	E5-2

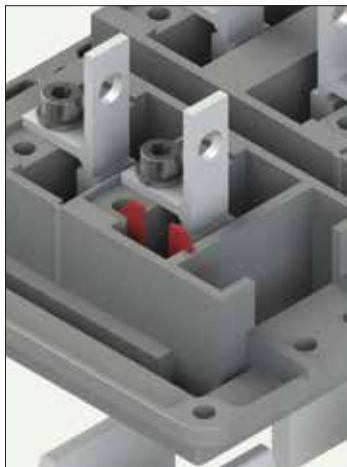


[Fig. E5-1]

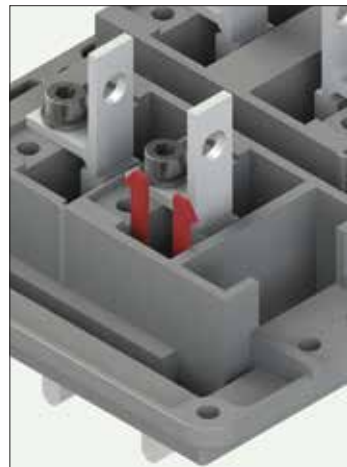
Inspection Pin

This pin is used to check the insertion of the box.

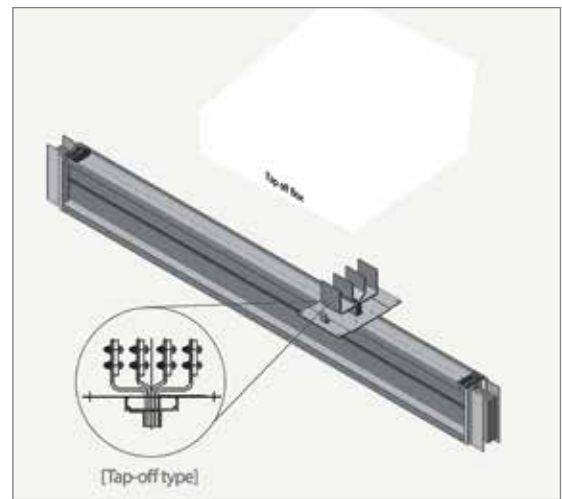
* Available from 400AF box



[Before]



[After]



[Fig. E5-2]

Excellence

Is In Our DNA.



About LS Cable & System USA

LS Cable & System, created in May 1962, was spun off from LG in 2003 as a group specializing in Energy, Electrics, Electronics and material. LS consists of about 40 affiliates including LS Cable & System, LSIS, LS-Nikko Copper, LS Mtron and Gaon Cable. In 2006, to expand its presence in the US, LS Cable & System acquired Superior Essex, known as the leader in medium voltage, high voltage, and extra high voltage underground cables, and subsequently launched its Energy Division.

In April 2017, the LS Group acquired the Energy division from Superior Essex to create a subsidiary the under LS Cable & System umbrella – LS Cable & System USA, Inc. A leader in the global busduct industry, LS Cable & System has over 30 years of experience in the design and manufacture of superior quality busduct products.



LG



- LS Cable & System
- LSIS
- LS Nikko Copper
- LS Mtron
- E1
- Yesco
- Gaon Cable



LG

- LG Electronics
- LG Chemical
- LG Display
- LG Telecom



GS

- GS Caltex
- GS Engineering & Construction
- GS Retail
- GS Homeshopping



LS Cable & System USA
Your Link to ENERGY®

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Peachtree Corners, GA 30092