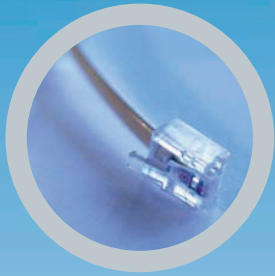




LSC Bus Way System

[Ex/Ez/Ef-Way™ / Mini-Way™]



LS Cable is Everywhere!

From power plants to industrial fields, mammoth buildings and factories to Automotives, ships, railway vehicles and houses, the technology of LS cable is shining brightly in every corner of the world.





Commitment to Our Customers

As an extra high voltage cable and accessories manufacturer and a division of LS Cable, we never stop researching, designing, developing, and manufacturing products with the higher level of quality to address the ever-changing demands in everyday life as well as in the industry.

Our quality control meets the most delicate requirements of international standards and the high level of quality is recognized both by local and international clients. Our commitment to develop and deliver solutions to address our customers' needs and challenges keep our technology on the cutting edge and our know-how in the field more valuable, which our customers highly appreciate.

We are looking forward to working with you.



LSC Bus Way System

[Ex/Ez/Ef-Way™ / Mini-Way™]

LS Cable

Korea's foremost cable maker in both product list and service range, LS Cable has an integrated supply system from basic raw materials to ultrahigh voltage cables, optical fiber cables, system engineering and installation works. In non-cable sector as well, LS Cable flourishes as a top-rate supplier of information and communication networks, connectors, lead frames, industrial rubber, and aluminum products. Reputed for its outstanding technology and quality, LS Cable is at the service of customers within and outside Korea. Armed with the world's leading technology in electric power and optic fiber, it has been successful with four joint ventures in Malaysia and Vietnam. It has thus demonstrated leadership in establishing a global network in the domains of electric power, other energy and information.



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[Ex/Ez/Ef-way™]

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LSC Bus Way System

[EX/EZ/EF-WAY™]

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1.1 High Quality & Reliable Power Distribution System

The demand for the economical and efficient distribution of electric power for business and industrial applications continues to grow.

LS Bus Duct has been designed and manufactured to provide the following features:

High Current Density

LS Bus Duct can carry up to 7500A with reduced loss. It is ideal for both high-rise buildings and industrial applications, and performs with a safe, flexible, reliable and economical efficiency.

The simplified design of the LS Bus Duct system allows for easy routing, extension, relocation, replacement and maintenance of power loads.

These features are well suited to the needs modern architecture.

Service Conditions

Ambient temperature : $-15^{\circ}\text{C} \sim 55^{\circ}\text{C}$
Relative humidity : 95% or below

Bus Bar

Copper bus bars have a conductivity of 99% or more.
Aluminum bus bars have a conductivity of 61% or more.
Electrical contact surfaces are:

- Tin-plated : (copper bus duct)
- Silver-plated : (aluminum bus duct)

The plating reduces contact resistance and prevents contact surface corrosion.

Temperature Rise Stability

Temperature rise limits are within 55°C or less on the external duct surface, as specified in IEC 60439-1, -2.

Insulation Properties

Class B (130°C) is applied to the conductors. Epoxy, PET and mica (1200°C , for fire resistance) are available options.

FRP (fiber reinforced plastic) is used as a spacer between conductors or between the conductor and the duct housing. These insulating materials have very high dielectric properties.

LS Bus Duct systems are rated up to 1000V service capacity.

Lower Voltage Drop & High Short-Circuit Ratings

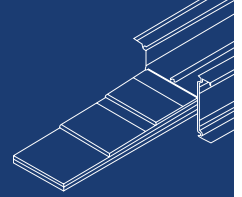
Because of the extremely low impedance, the resultant voltage drop is also low.

The effective design allows power to be delivered with the greatest possible efficiency.

LS Bus Duct also has a very high shortcircuit with stand strength.

This ensures LS Bus Duct can be safely applied in commercial and industrial environments.

1.2 Easy Maintenance & Intelligent Monitoring System



LS Bus Duct has a very compact design, and uses an effective heat-radiating aluminum housing profile to protect the conductors from the environment. The light weight construction allows for easier installation and maintenance.

LS Bus Duct offers an optional intelligent temperature monitoring system. An optical fiber is attached to the bus duct housing and is used to measure real time temperature conditions along the length of the installed bus duct system.

Compact Size

The efficient heat radiating design allows the use of smaller bus bars. The aluminum housing makes the system lighter than other conventional duct. LS Bus Duct requires less space than wire or conduit for a given application.

Economical and Easy Installation

LS Bus Duct uses an extruded aluminum housing and an efficient joint kit. Reduced weight and simple joint connections make the installation process faster and less costly.

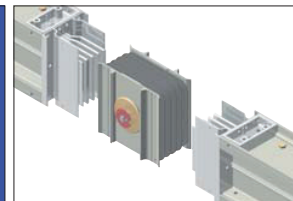
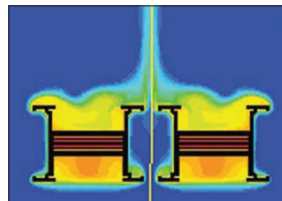
Temperature Monitoring of Bus Duct Line(optional)

A real-time integrated monitoring system of the bus duct distribution line senses temperature, fire, vibration, etc. and issues an alarm when abnormal conditions are detected.



Standards

IEC 60439-1	: Low-voltage Switchgear and Controlgear Assemblies
IEC 60439-2	: Busways
BSEN 60439	: Busways
NEMA BU 1.1	: Busways
KSC IEC 60439-2	



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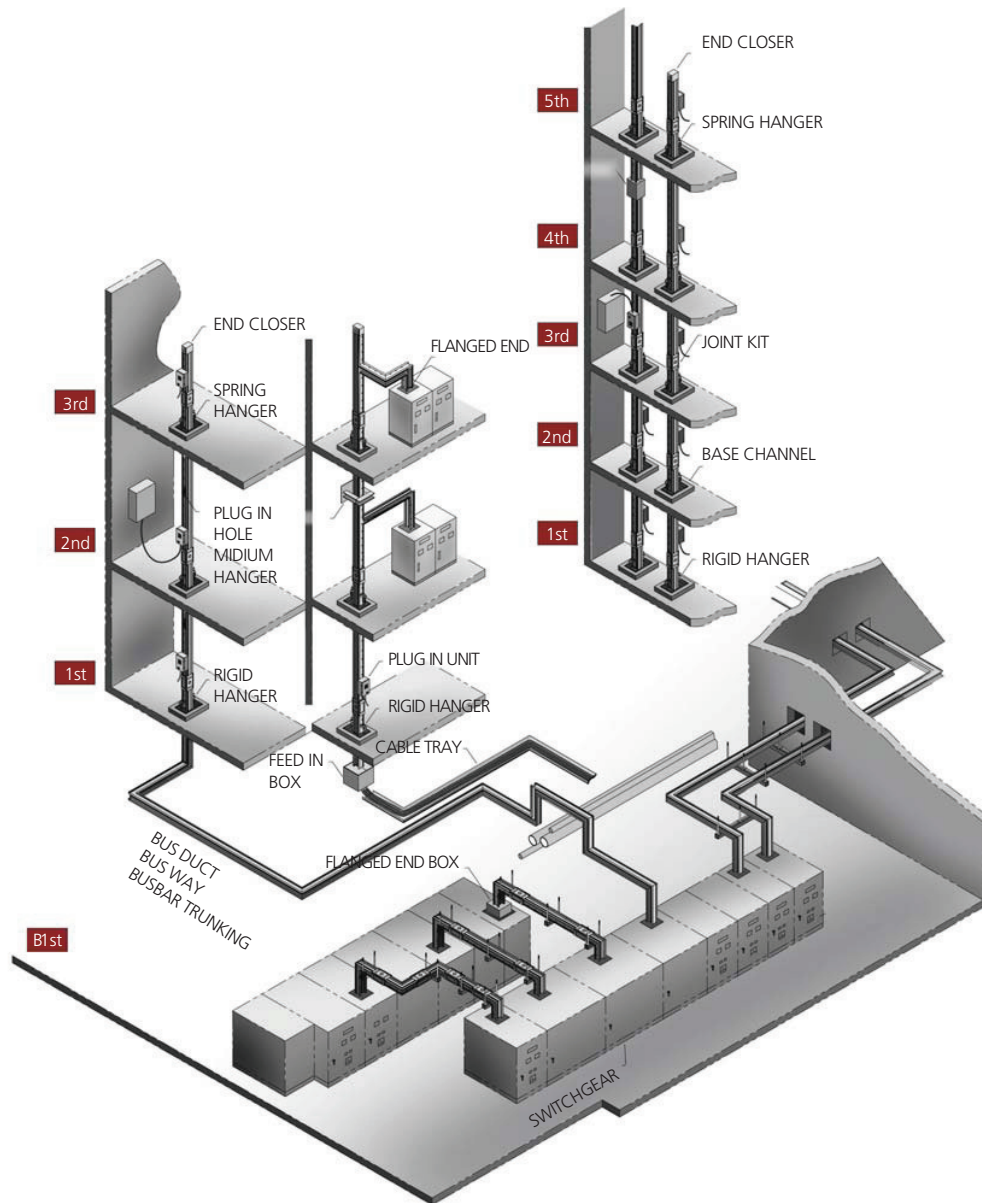
General Specifications

Structure Data

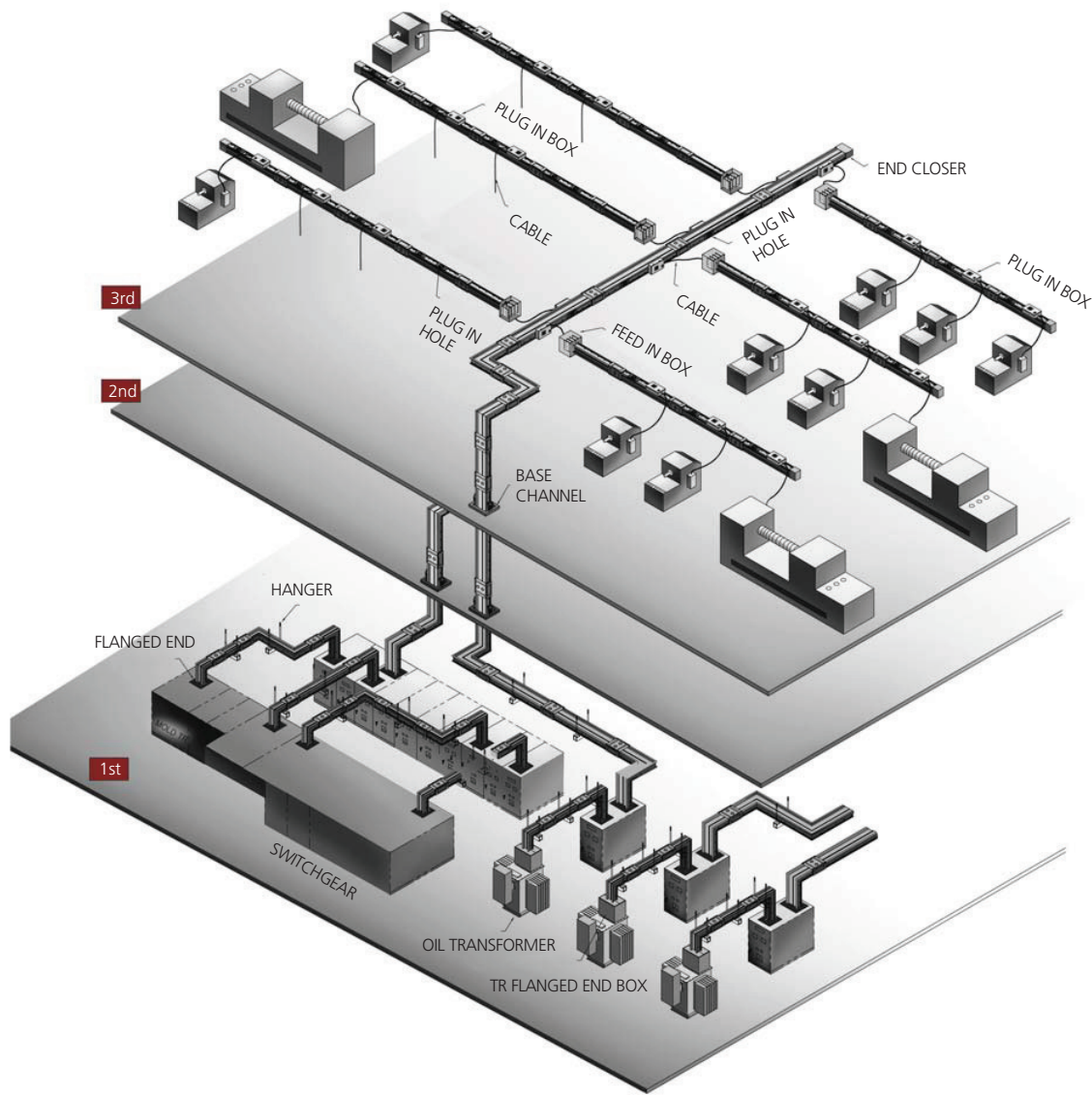
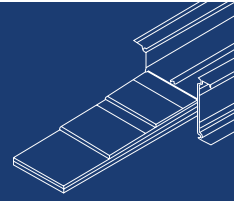
Technical Data

Introduction

1.3 Bus Way System in Building



1.4 Bus Way System in Factory



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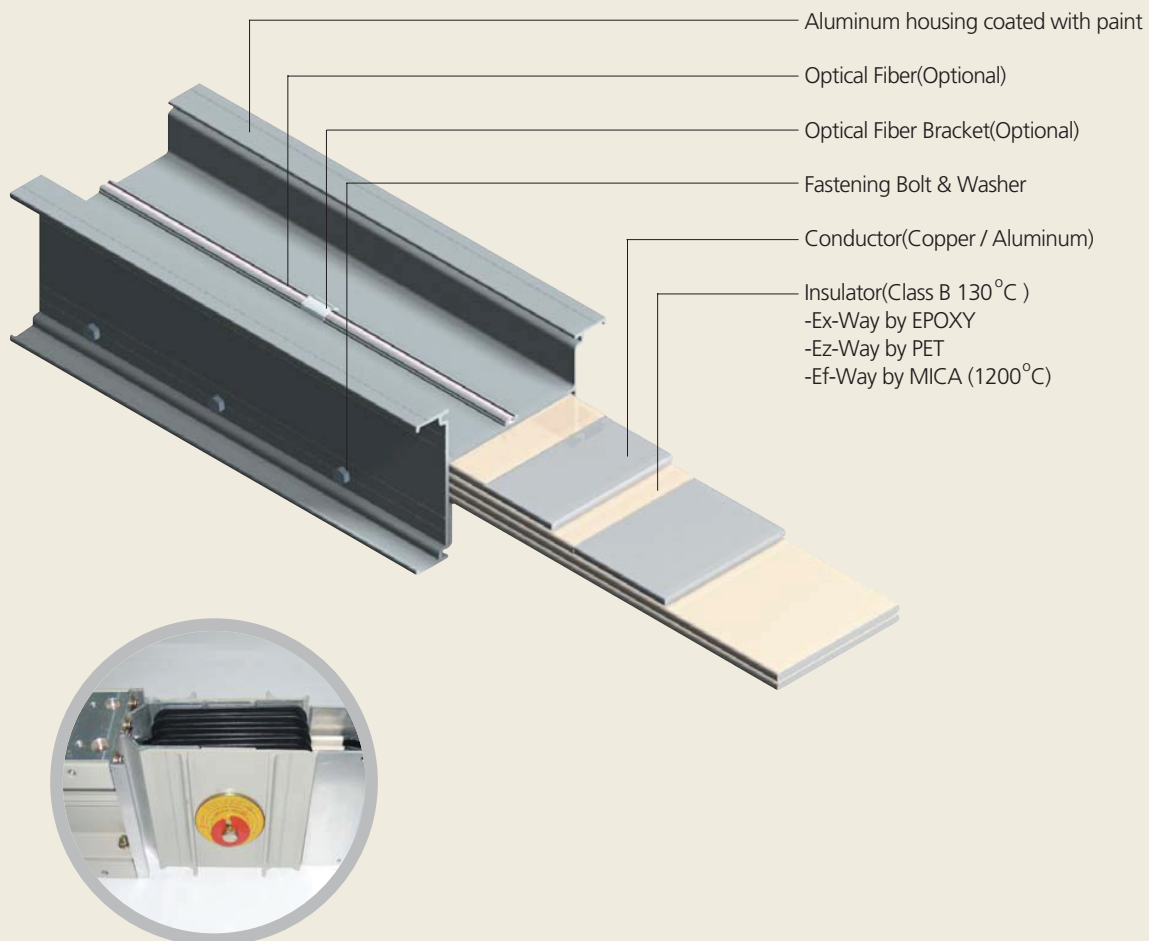
General Specifications

2.1 LS Bus Duct Series

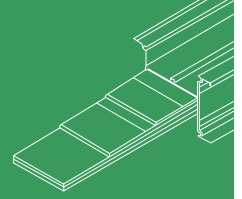
LS Bus Duct offers a wide range of distribution capacities for buildings and factories, from 600A up to 7500A.

Since LS Bus Duct is very compact and light weight, it can be easily installed using the low contact resistance joint kits.

LS Bus Duct comes with a standard IP54 rating and can be upgraded to an IP65 rating on request. An optional temperature monitoring system is also available.



2.2 Grounding and Harmonics



LS Bus Duct can provide large grounding capacities depending on the type of end flange configuration. The housing alone provides over 100% of the internal conductor area at the 2500A ampacity rating. The housing acts both as a low impedance ground path as well as an efficient thermal radiator.

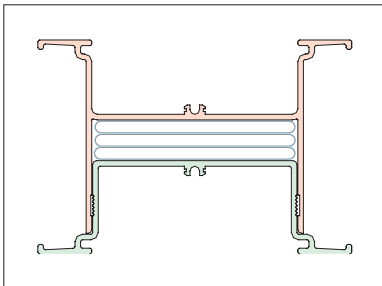
If increased ground capacity is required, additional internal ground bus bars can be added to the assembly, providing a 50% or 100% increase in ground path.

Where non-linear loads are anticipated, LS Bus Duct offers an additional neutral bus option that can handle 100% or 200% of the harmonic currents.

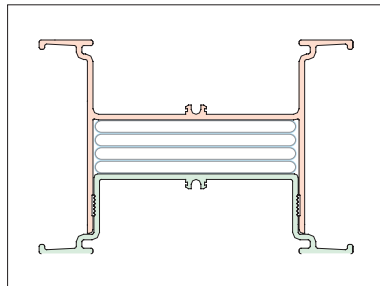
As modern industrial and commercial non-linear applications increase, the induced harmonic currents in the bus duct system require an increase in the ampacity of the neutral bus bar.

Even in a balanced 3-phase system, these harmonics still exist, and can lead to the reduced performance of the distribution system and operating equipment.

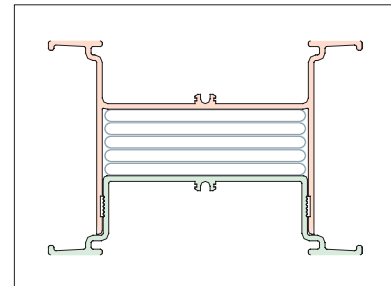
This added neutral bus bar minimizes harmonic effects and helps ensure safe operating conditions within rated heat limits.



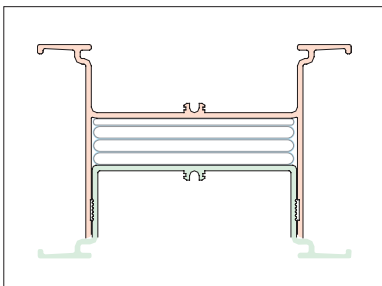
3W+GE [Fig. 13-1]



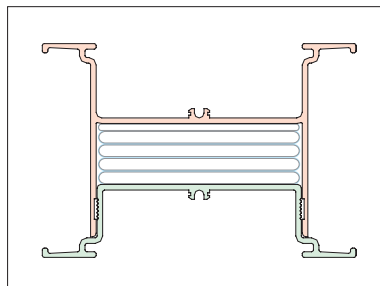
4W+GE [Fig. 13-2]



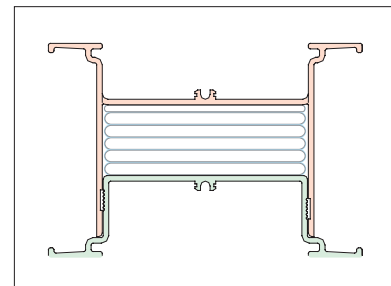
4W(200%N)+GE [Fig. 13-3]



3W+50%E, 100%E [Fig. 13-4]



4W+50%E, 100%E [Fig. 13-5]



4W(200%N) + 50%E [Fig. 13-6]

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2.3 Special Bolt / Nut used for Maintenance Free Installation

Construction Options

Table 14

No. of DH bolt	Ampere (A)		No. of DH bolt	Ampere (A)	
	Cu	Al		Cu	Al
1	630, 800, 1000, 1250, 1600, 2000	630, 800, 1000, 1250	4	5000	3200, 3600, 4000
2	2500, 3200, 3600, 4000	1600, 2000, 2500	6	7500	5000, 6000
3	6000	-			

Double-headed bolts are used to ensure proper torque levels when installing the joint kit. A long-handled wrench applied to the outer bolt head will shear off the head of the bolt when the proper torque has been applied (700 ~ 1000kgf·cm)

The remaining bolt head can be re-used when tightened to 800kgf·cm using a torque wrench.

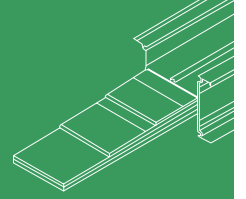


Top [Fig. 14-1]



Bottom [Fig. 14-2]

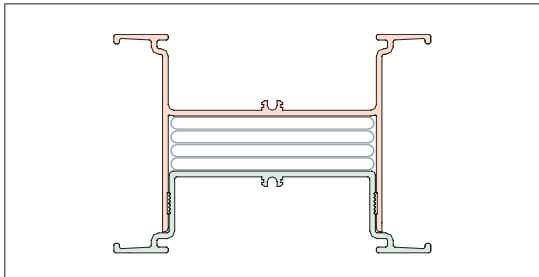
2.4 IP Degree



LS Bus Duct is designed with a standard IP54 rating, and can be upgraded to IP65 for service in adverse conditions. The addition of a sealant between the extruded housing sections allows LS Bus Duct to provide optimum performance in the most demanding applications. Through superior design and applied materials technology, system uptime and reliability are ensured even in the most severe-duty environments.

Protection Degree IP54

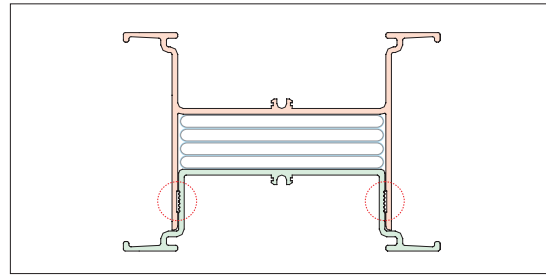
Feeder, plug-in and tap-off bus duct are available in either drip-proof or splash-proof construction. Here the special sealing design between the housing sections is used.



[Fig. 15-1]

Protection Degree IP65

With an IP65 rating, the bus duct is ideal for use in corrosive environments. Here the special sealing design between the housing sections is upgraded to seal off water, dust and gasses with the addition of a polymer barrier.



[Fig. 15-2]

Construction Options

Table 15

IEC Degree of Protection	Available Bus Duct	Construction Type
IP54	Feeder, Plug-in, Riser	Drip-proof / Splash-proof
IP65	Feeder	Water Jet-proof

※Outdoor applications for horizontal edge-wise, riser, plug-in and joint applications require advance discussion with the manufacturer.

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2.5 Temperature Monitoring(Optional)

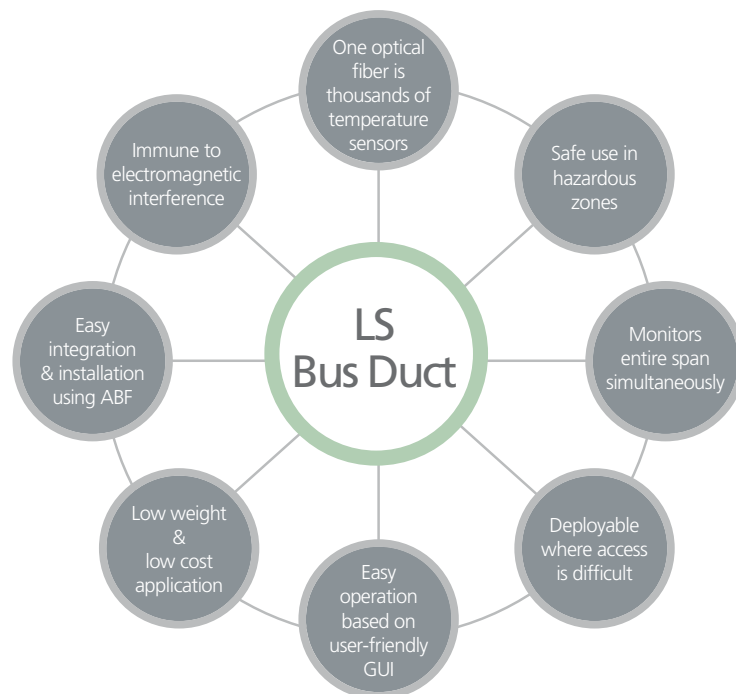
One of the unique features of LS Bus Duct is the ability to monitor the bus duct system performance under actual load conditions. The installation of the temperature monitoring system in buildings and factories permits an early warning of any potentially unsafe conditions.

The temperature monitoring function uses an optical fiber mounted to the bus duct housing as the temperature sensor.

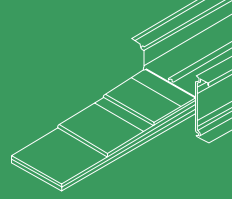
Using a single fiber, the system can measure distributed temperatures over several kilometers.

ABF (Air Blown Fiber) enables easy integration and installation where access is difficult, and can be added to a previously installed bus duct line.

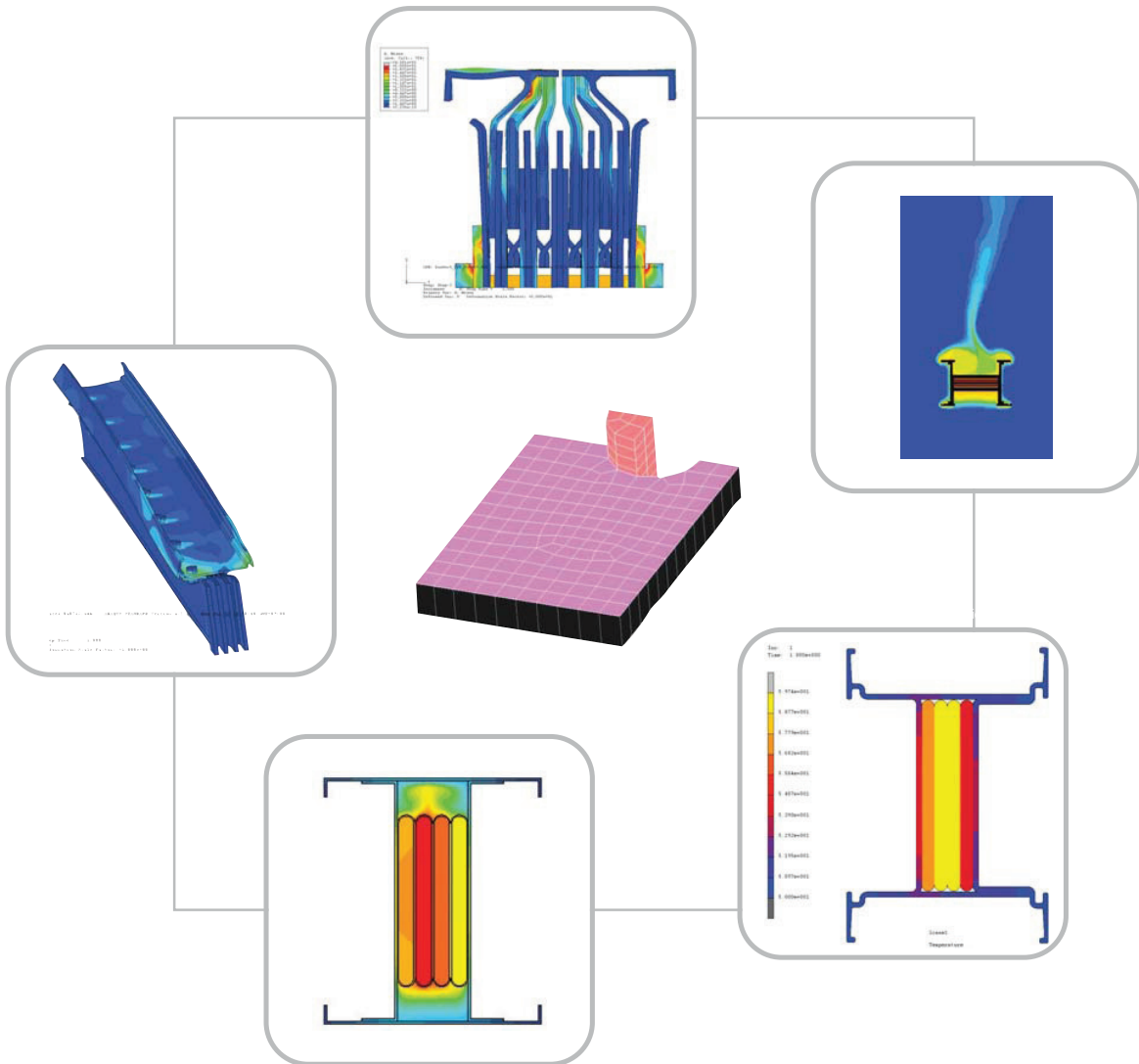
Simple operation & user-friendly GUI (Graphic User Interface) software.



2.6 Design Simulations



The design of LS Bus Duct is carried out under detailed CAE (Computer Aided Engineering) simulation processes. Dynamic analysis of mechanical, thermal and electrical simulations greatly increases the quality and performance of the LS Bus Duct product line.



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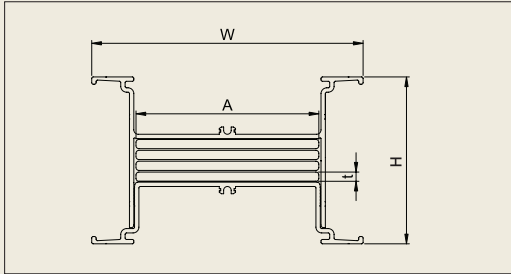
Structure Data

Technical Data

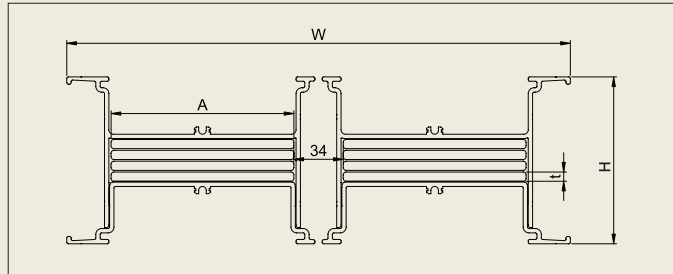
Physical Data

3.1 Straight Feeders

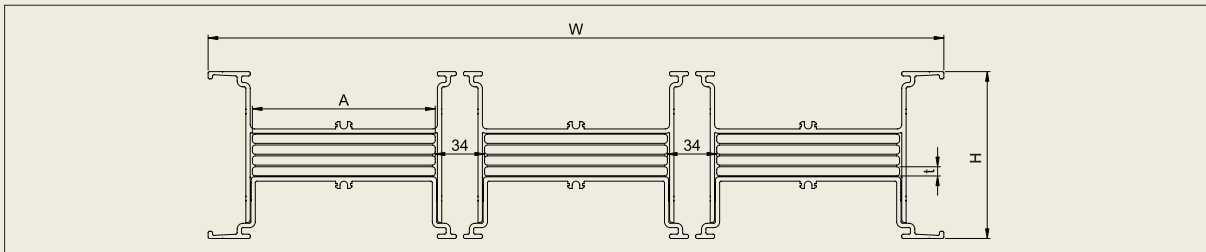
Construction Options



[Fig. 18-1]



[Fig. 18-2]

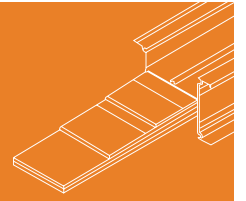


[Fig. 18-3]

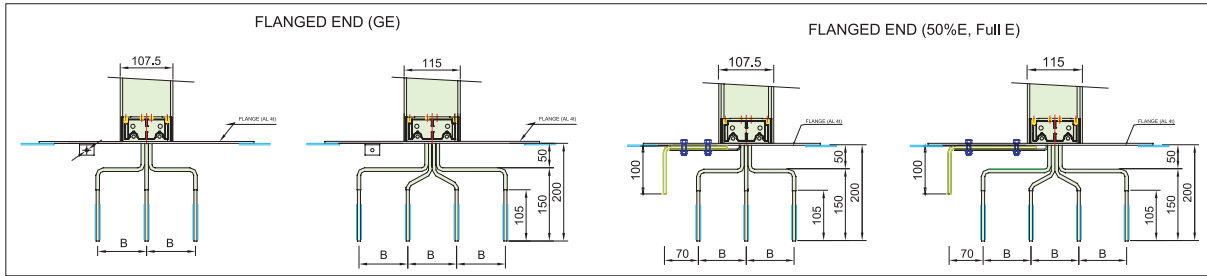
Table 18

Ampere (A)	Dimension(mm)			Weight(kg/m)				Fig.
	t	A	W	3W	4W	4W+50%E	4W+100%E	
630	6.35	41	107	6.1	6.8	7.1	7.4	18-1
800		62	128	8.3	9.6	10.0	10.7	
1,000		86	152	9.1	10.8	11.3	12.0	
1,250		108	174	10.6	12.6	13.3	14.3	
1,600		164	230	14.4	17.4	18.5	20.0	
2,000		210	276	17.5	21.3	22.8	24.7	18-2
2,500		(2)126	352	23.6	28.4	29.9	32.2	
3,200		(2)164	428	28.8	34.8	37.0	40.0	
3,600		(2)184	468	31.6	37.8	40.8	44.0	
4,000		(2)210	520	36	42.6	45.6	49.3	
5,000	(3)184	686	47.4	56.7	61.2	64.4	18-3	
6,000	(3)210	764	52.5	63.9	68.3	74.0		
630	6.35	41	107	10.9	13.3	14.3	15.5	18-1
800		41	107	10.9	13.3	14.3	15.5	
1,000		57	123	13.9	17.2	18.6	20.3	
1,250		73	139	16.9	21	22.9	25.1	
1,600		108	174	24.4	29.5	32.4	35.6	
2,000		145	211	30.3	39.5	42.3	46.7	18-2
2,500		195	261	39.6	50.7	55.8	61.6	
3,200		(2)108	316	48.8	59	64.7	71.2	
3,600		(2)126	352	53.6	67.6	74.4	82.0	
4,000		(2)145	390	60.6	79	84.7	93.4	
5,000	(2)195	490	79.2	101.4	111.6	123.3	18-3	
6,000	(3)145	569	90.9	118.5	127.0	140.0		
7,500	(3)195	719	118.8	152.1	167.5	184.9		

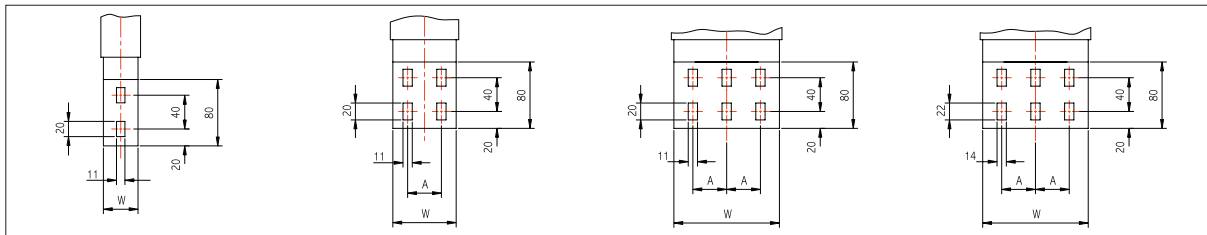
※ H : 107.5(3W+GE, 3W+50%E) / 115(4W+GE, 4W+50%E) / 125(4W+100%E)



Flanged End



[Fig. 19-1]



BAR WIDTH 41~62mm
[Fig. 19-2]

BAR WIDTH 73~108mm
[Fig. 19-3]

BAR WIDTH 126~145mm
[Fig. 19-4]

BAR WIDTH 164~210mm
[Fig. 19-5]

Table 19-1

AMP	Dimension(mm)				Fig.
	t	W	A	B	
630	6.35	41	~	100	19-2
800		62	~		
1,000		86	40		
1,250		108	50	130	19-3
1,600		164	60		
2,000		210	70		
2,500		(2)126	40		
3,200		(2)164	60	19-5	
3,600		(2)184	60		
4,000		(2)210	70		
5,000	(3)184	60			
6,000	(3)210	70			

※ t : Conductor Thickness / A : Hole Pitch

Table 19-2

AMP	Dimension(mm)				Fig.
	t	W	A	B	
630	6.35	41	~	100	19-2
800		41	~		
1,000		57	~		
1,250		73	40	130	19-3
1,600		108	50		
2,000		145	50		
2,500		195	70		
3,200		(2)108	50	19-4	
3,600		(2)126	40		
4,000		(2)145	50		
5,000	(2)195	70			
6,000	(3)145	50			
7,500	(3)195	70			

※ t : Conductor Thickness / A : Hole Pitch

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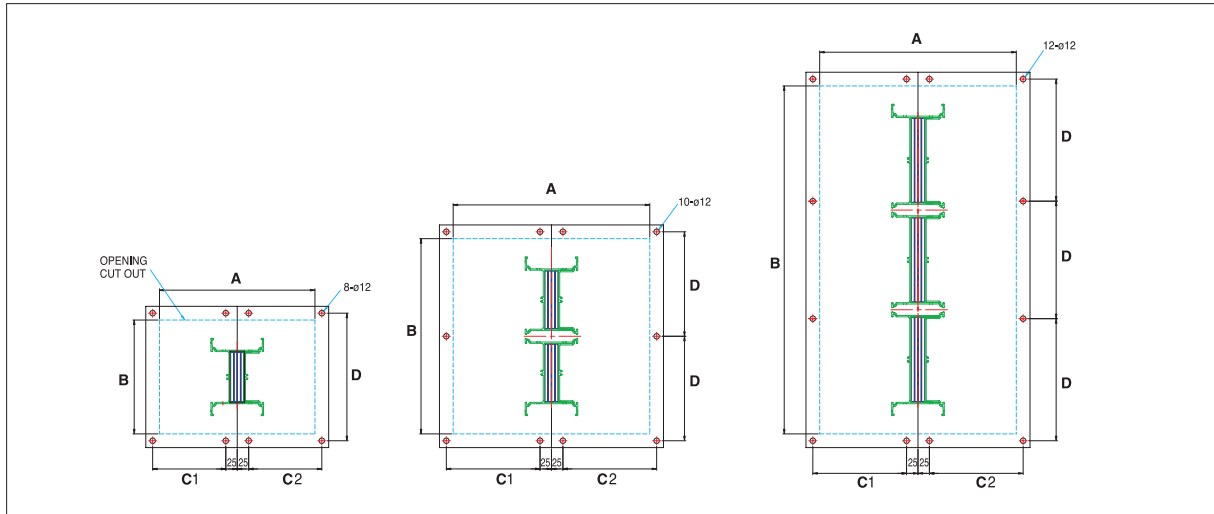
General Specifications

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3.1 Straight Feeders

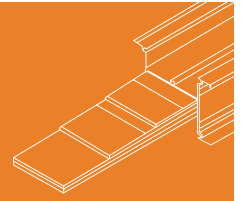
Cutout and Drilling Pattern for Flanged End



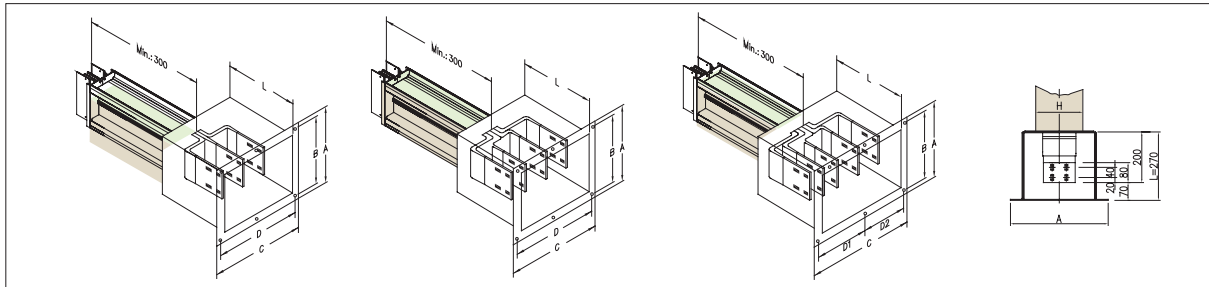
[Fig. 20]

Table 20

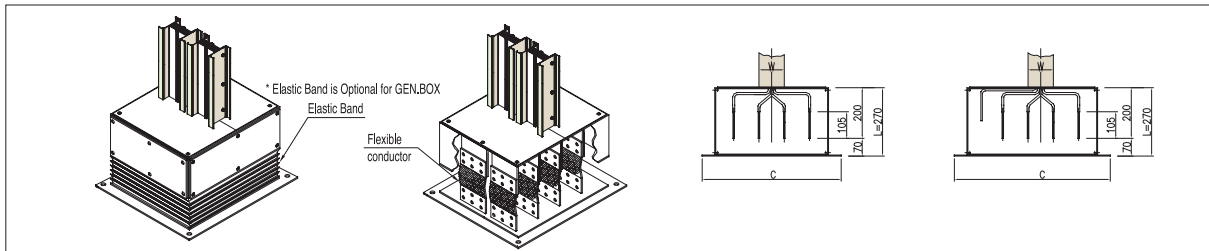
AMPS	Stacks	3W Dimension(mm)				4W Dimension(mm)				4W+50%E, 100% E Dimension(mm)				Fig.	
		A	B	C1, C2	D	A	B	C1, C2	D	A	B	C	D		
AL	630	1	240	125	110	155	340	125	160	155	410	125	225	165	155
	800	1	240	146	110	176	340	146	160	176	410	146	225	165	176
	1,000	1	240	170	110	200	340	170	160	200	410	170	225	165	200
	1,250	1	240	192	110	222	340	192	160	222	410	192	225	165	222
	1,600	1	240	248	110	278	340	248	160	278	410	248	225	165	278
	2,000	1	240	294	110	324	340	294	160	324	410	294	225	165	324
	2,500	2	300	371	140	200	430	371	205	200	500	371	270	210	200
	3,200	2	300	447	140	239	430	447	205	234	500	447	270	210	239
	3,600	2	300	487	140	258	430	487	205	258	500	487	270	210	258
	4,000	2	300	539	140	284	430	539	205	284	500	539	270	210	284
	5,000	3	300	705	140	245	430	705	205	245	500	705	270	210	245
	6,000	3	300	783	140	271	430	783	205	271	500	783	270	210	271
CU	630	1	240	125	110	155	340	125	160	155	410	125	225	165	155
	800	1	240	125	110	155	340	125	160	155	410	125	225	165	155
	1,000	1	240	141	110	171	340	141	160	171	410	141	225	165	171
	1,250	1	240	157	110	187	340	157	160	187	410	157	225	165	187
	1,600	1	240	192	110	222	340	192	160	222	410	192	225	165	222
	2,000	1	240	229	110	259	340	229	160	259	410	229	225	165	259
	2,500	1	240	279	110	309	340	279	160	309	410	279	225	165	309
	3,200	2	300	335	140	182	430	335	205	182	500	335	270	210	182
	3,600	2	300	371	140	200	430	371	205	200	500	371	270	210	200
	4,000	2	300	409	140	220	430	409	205	220	500	409	270	210	220
	5,000	2	300	509	140	270	430	509	205	270	500	509	270	210	270
	6,000	3	300	588	140	206	430	588	205	206	500	588	270	210	206
7,500	3	300	738	140	256	430	738	205	256	500	738	270	210	256	



Flanged End Box / Feed in Box



[Fig. 21-1]



[Fig. 21-2]

Table 21

AMPS	No. of Stacks	3W(mm)					4W(mm)					4W+50%E, 100% E(mm)						
		A	B	C	D	L	A	B	C	D	L	A	B	C	D1	D2	L	
AL	630	1	347	297	410	180X2	270	347	297	510	230X2	270	340	297	580	300	230	270
	800	1	379	329	410	180X2	270	379	329	510	230X2	270	379	329	580	300	230	270
	1,000	1	392	342	410	180X2	270	392	342	510	230X2	270	392	342	580	300	230	270
	1,250	1	414	364	410	180X2	270	414	364	510	230X2	270	414	364	580	300	230	270
	1,600	1	470	420	410	180X2	270	470	420	510	230X2	270	470	420	580	300	230	270
	2,000	1	516	466	410	180X2	270	516	466	510	230X2	270	516	466	580	300	230	270
	2,500	2	592	542	470	210X2	270	592	542	600	275X2	270	592	542	670	345	275	270
	3,200	2	668	618	470	210X2	270	668	618	600	275X2	270	668	618	670	345	275	270
	3,600	2	708	658	470	210X2	270	708	658	600	275X2	270	708	658	670	345	275	270
	4,000	2	760	710	470	210X2	270	760	710	600	275X2	270	760	710	670	345	275	270
CU	5,000	3	926	876	470	210X2	270	926	876	600	275X2	270	926	876	670	345	275	270
	6,000	3	1004	954	470	210X2	270	1004	954	600	275X2	270	1004	954	670	345	275	270
	630	1	347	297	410	180X2	270	347	297	510	230X2	270	347	297	580	300	230	270
	800	1	347	297	410	180X2	270	347	297	510	230X2	270	347	297	580	300	230	270
	1,000	1	363	313	410	180X2	270	363	313	510	230X2	270	363	313	580	300	230	270
	1,250	1	379	329	410	180X2	270	379	329	510	230X2	270	379	329	580	300	230	270
	1,600	1	414	364	410	180X2	270	414	364	510	230X2	270	414	364	580	300	230	270
	2,000	1	451	401	410	180X2	270	451	401	510	230X2	270	451	401	580	300	230	270
	2,500	1	501	451	410	180X2	270	501	451	510	230X2	270	501	451	580	300	230	270
	3,200	1	556	506	470	210X2	270	556	506	600	275X2	270	556	506	670	345	275	270
3,600	2	592	542	470	210X2	270	592	542	600	275X2	270	592	542	670	345	275	270	
4,000	2	630	580	470	210X2	270	630	580	600	275X2	270	630	580	670	345	275	270	
5,000	2	730	680	470	210X2	270	730	680	600	275X2	270	730	680	670	345	275	270	
6,000	3	809	759	470	210X2	270	809	759	600	275X2	270	809	759	670	345	275	270	
7,500	3	959	909	470	210X2	270	959	909	600	275X2	270	959	909	670	345	275	270	

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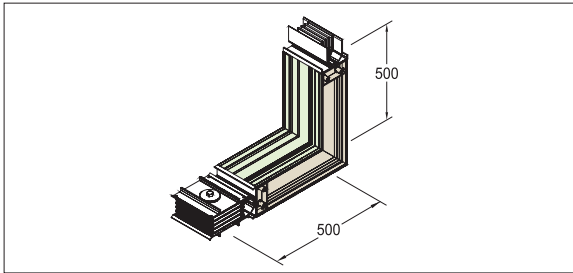
Physical Data

3.2 Fittings

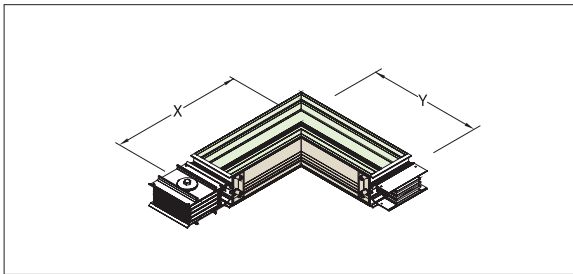
LS Bus Duct has a complete range of fittings to satisfy all lay-out conditions. Angles other than 90° are available.

Fittings designations are shown in the following figures and are based on the source-side and the load-side of the device. Offset and combination elbows are used where standard elbows are not feasible.

Elbow-Fittings

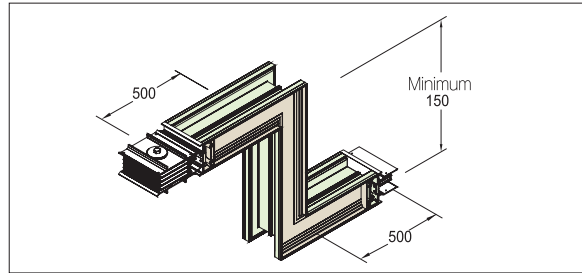


Horizontal Elbow [Fig. 22-1]

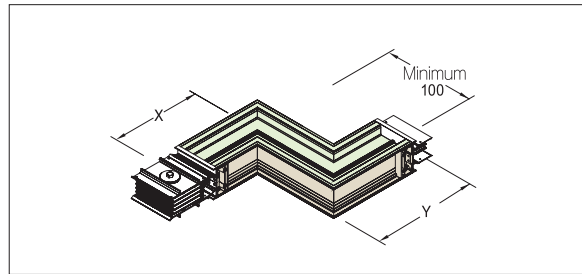


Vertical Elbow [Fig. 22-2]

Offset



Horizontal Offset [Fig. 22-3]



Vertical Offset [Fig. 22-4]

Ver. Elbow

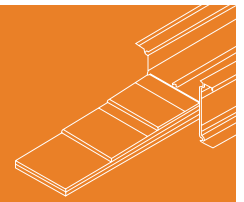
Table 22-1

AMPS	Standard Dimension		
	Ver. Elbows		
	X (mm)	Y (mm)	
AL	630~1,250	500	500
	1,600~3,200	600	600
	3,600~4,000	700	700
	5,000~6,000	800	800
CU	630~2,000	500	500
	2,500~4,000	600	600
	5,000~6,000	700	700
	7,500	800	800

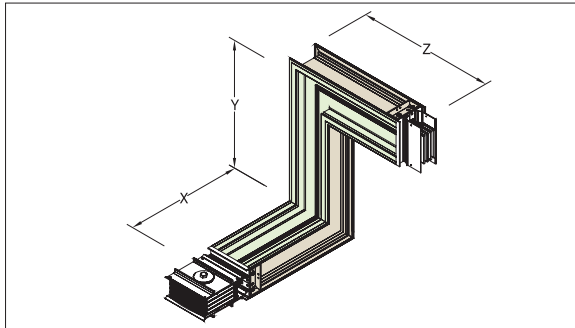
Ver. Offset

Table 22-2

AMPS	Standard Dimension			
	Ver. Elbows			
	X (mm)	Y (mm)	Z (mm)	
AL	630~1,250	500	150	500
	1,600~3,200	600	150	600
	3,600~4,000	700	150	700
	5,000~6,000	800	150	800
CU	630~2,000	500	150	500
	3,000~4,000	600	150	600
	5,000~6,000	700	150	700
	7,500	800	150	800



Combination

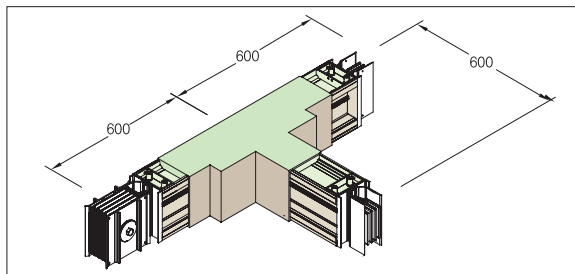


[Fig. 23-1]

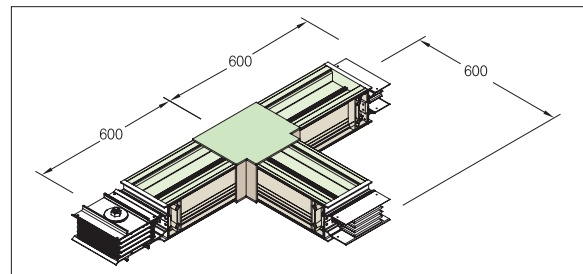
Table 23-1

AMPS	Standard Dimension Combination Elbow		
	X	Y	Z
	(mm)	(mm)	(mm)
AL	630~1,250	500	500
	1,600~3,200	600	600
	3,600~4,000	700	700
	5,000~6,000	800	800
CU	630~2,000	500	500
	3,000~4,000	600	600
	5,000~6,000	700	700
	7,500	800	800

Tee



Horizontal Tee [Fig. 23-2]



Horizontal Tee [Fig. 23-3]

Ver. Tee

Table 23-2

AMPS	Standard Dimension Ver. Tee		
	X	Y	Z
	(mm)	(mm)	(mm)
AL	630~1,250	500	500
	1,600~3,200	600	600
	3,600~4,000	700	700
	5,000~6,000	800	800
CU	630~2,000	500	500
	3,000~4,000	600	600
	5,000~6,000	700	700
	7,500	800	800

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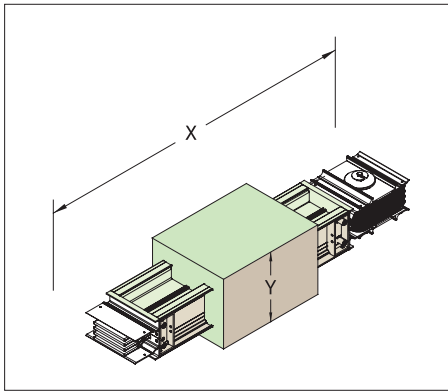
Physical Data

3.2 Fittings

Expansion(if needed)

This fitting is designed to allow for up to 60mm of linear expansion.

Table 24-1



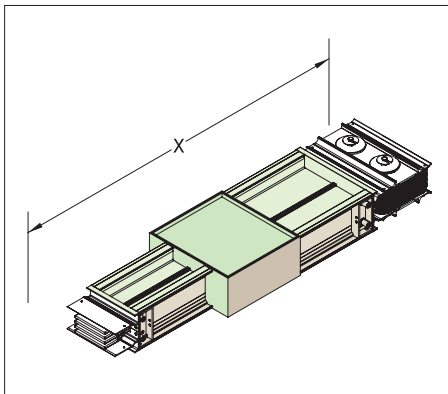
[Fig. 24-1]

AMP.Rating(A)	Standard Dimension	
	X (mm)	Y (mm)
630~7,500	1,500	360

Reducer

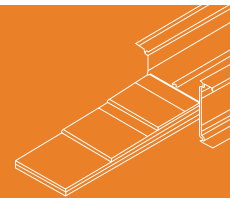
This fitting offers an economical way to distribute reduced current from a higher ampacity feeder.

Table 24-2



[Fig. 24-2]

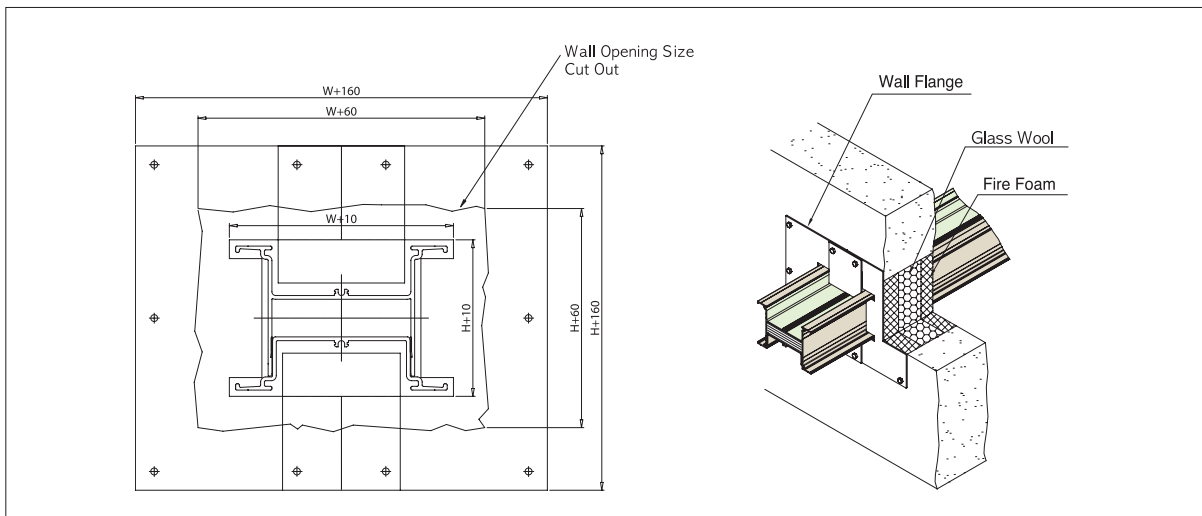
Ampere (A)		Standard Dimension X(mm)
Primary	Secondary	
1,000	630~800	1,000
1,250	800~1,000	
1,600	1,000~1,250	
2,000	1,250~1,600	
2,500	1,600~2,000	
3,200	2,000~2,500	
4,000	2,500~3,200	
5,000	3,200~4,000	
6,000	4,000~5,000	
7,500	5,000~6,000	



Wall Flange

A flange is used to seal the wall, ceiling and floor openings through which the bus duct passes.

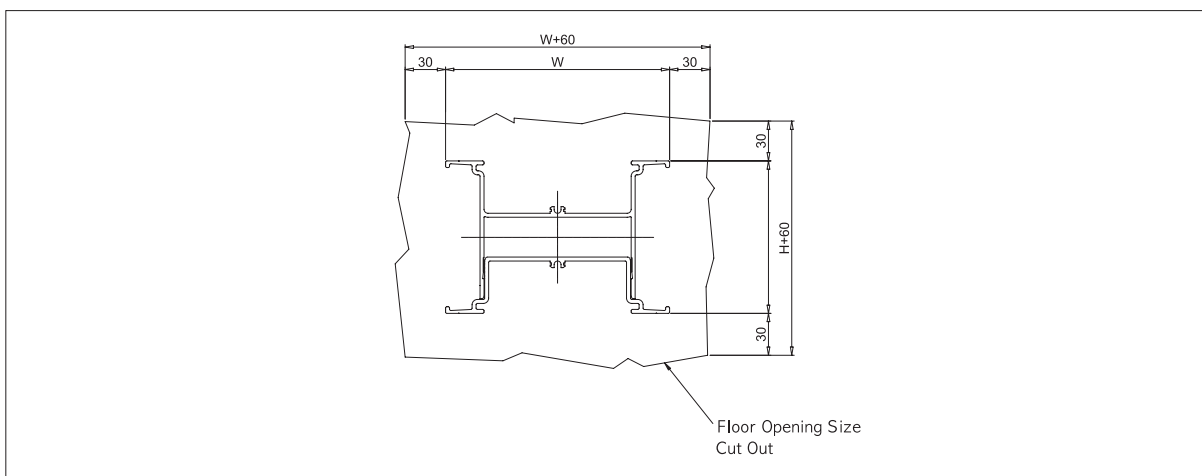
The dimensions of a wall opening (cutout) should be 30mm larger than the external dimensions of the LS Bus Duct.



[Fig. 25-1]

Floor Openings

The dimensions of a floor opening (cutout) should be 30mm larger than the external dimensions of the LS Bus Duct.



[Fig. 25-2]

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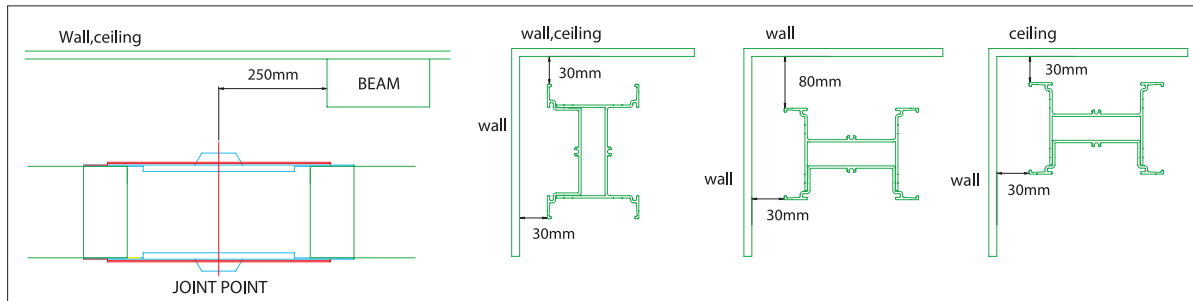
Technical Data

Physical Data

3.3 Proximity

Minimum Clearances for Heat Dissipation

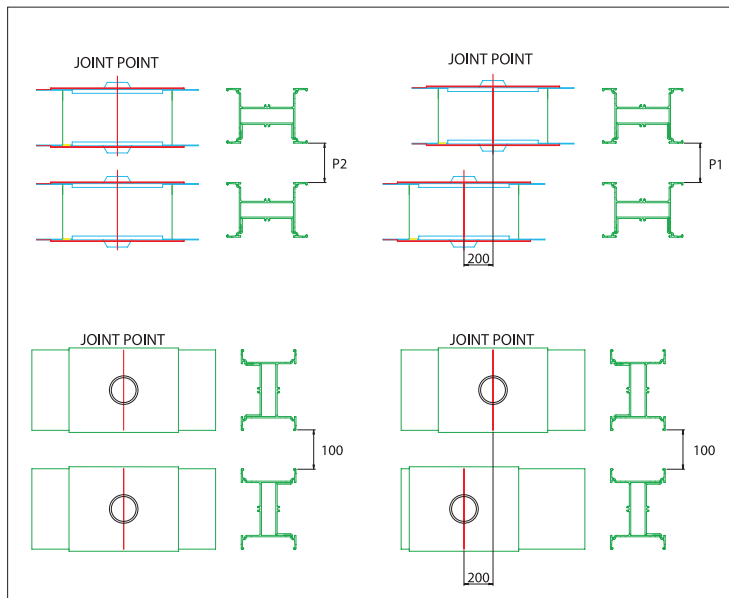
Minimum clearances between the bus duct and walls, ceiling or beams are shown.



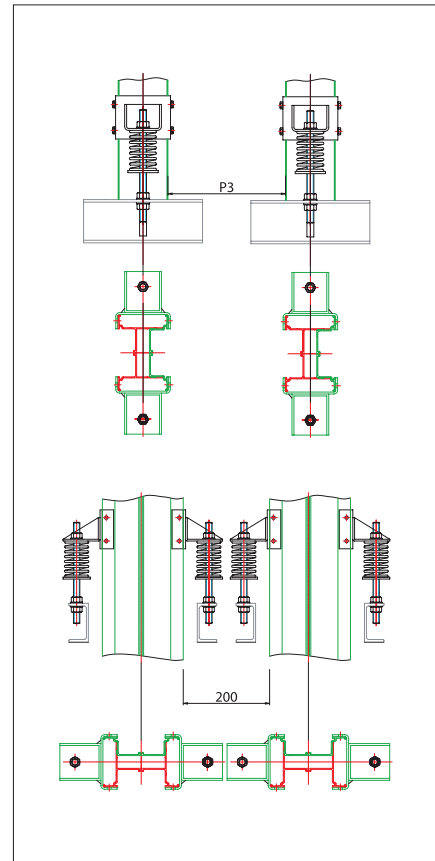
[Fig. 26-1]

Minimum Distances

Examples of minimum distances between parallel runs of bus duct are shown in the figures below.



[Fig. 26-2]



[Fig. 26-3]

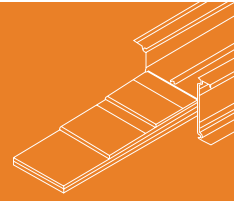
Minimum Distance of Ez-way

Table 26

	3W AND 3W(mm)	3W AND 4W(mm)	4W AND 4W(mm)
P1	110	135	130
P2	150	175	180
P3	190	215	230

※ Outdoor applications for horizontal edge-wise, riser, plug-in and joint applications require advance discussion with the manufacturer.

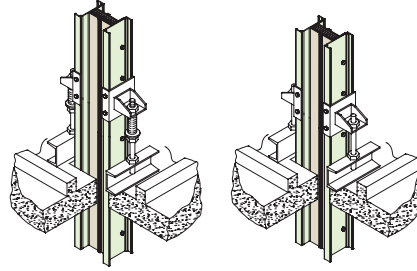
3.4 Hangers



Vertical Mounting Hangers

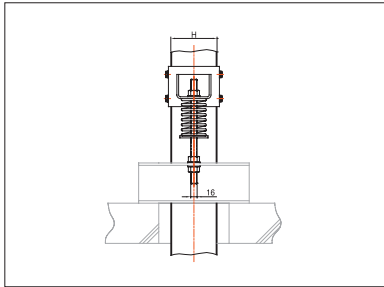
Spring hangers are used to support the bus duct between floors. The number of springs (rods) per hanger depends on the weight of the installed duct. When the distance between floors exceeds 4.5 m, a center support is required. Mounting locations correspond with floor flanges and are easily adjusted.

Rigid hangers (no spring) are also available, and are used for support at the center and ends of a bus duct run.

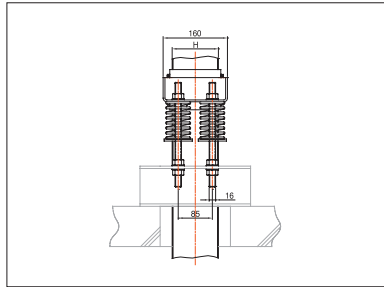


[Fig. 27-1]

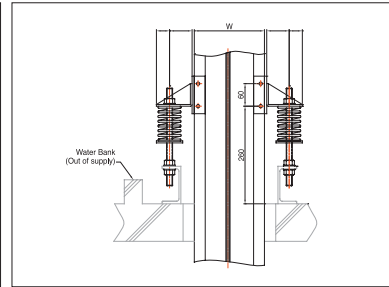
Spring Vertical Hanger



[Fig. 27-2]

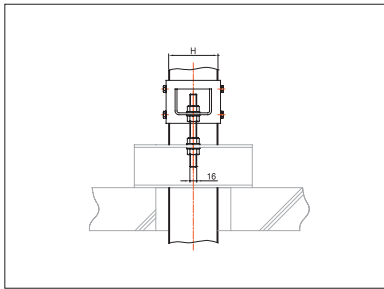


[Fig. 27-3]

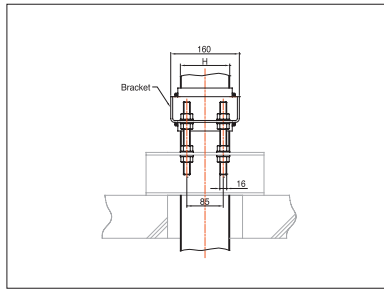


[Fig. 27-4]

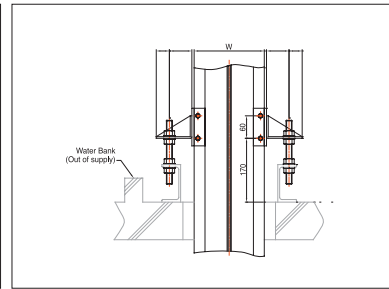
Rigid Vertical Hanger



[Fig. 27-5]



[Fig. 27-6]



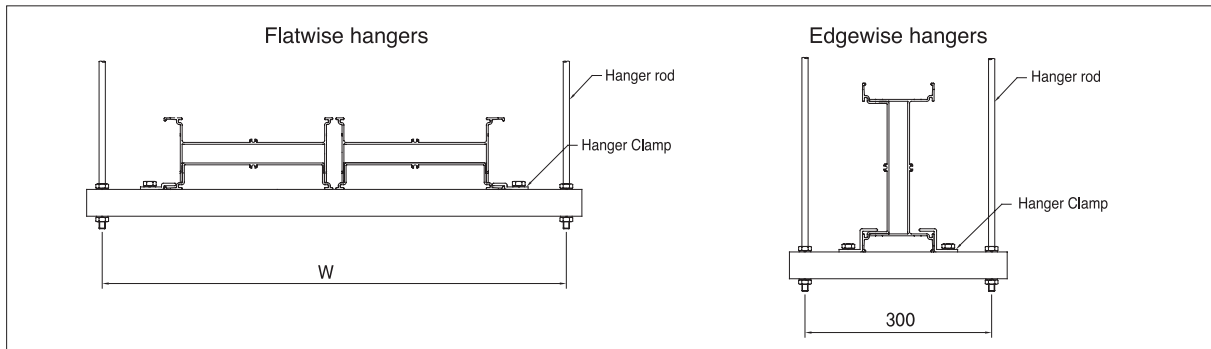
[Fig. 27-7]

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Horizontal Hangers

1. Trapeze Hangers & Single Drop Rod Hangers

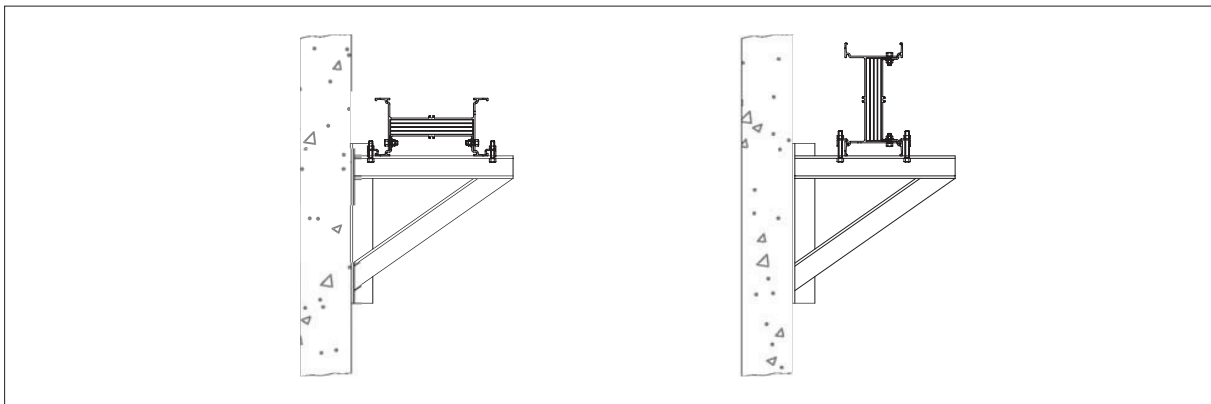
These hangers are intended for support at 1.5 m intervals. They are designed to be used with 12mm diameter drop rods.



[Fig. 28-1]

2. Wall Hangers

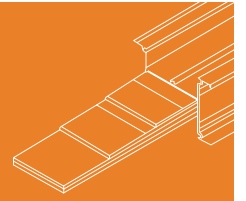
When trapeze or single drop rod hangers are not feasible, wall hangers can be used as shown below.



[Fig. 28-2]

Physical Data

3.5 Plug-in Feeders



Straight Lengths: Plug-in and Tap-off

The length of plug-in, tap-off and feeder bus duct, and the position of plug-in and tap-off locations can be made to order.

Standard bus duct length is 3000mm.

For plug-in feeder, the maximum rating per plug-in unit is 800A. Maximum tap-off rating is 1200A.

Plug-in Feeder

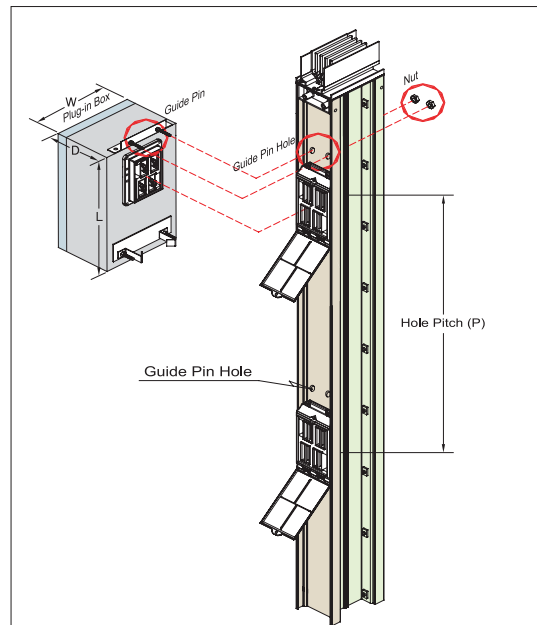
Table 29-1

MCCB FRAME (AF)	"Minimum required Plug-in Hole Pitch (P)" (mm)
50, 60, 100	650
200	650
400	900
600, 800	1000
1000, 1200	1300

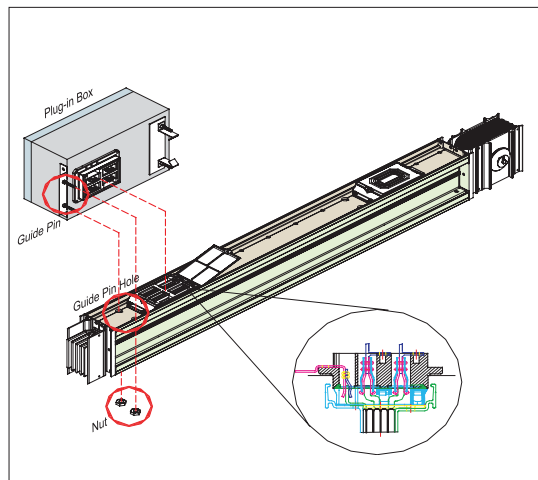
Plug-in Box

Table 29-2

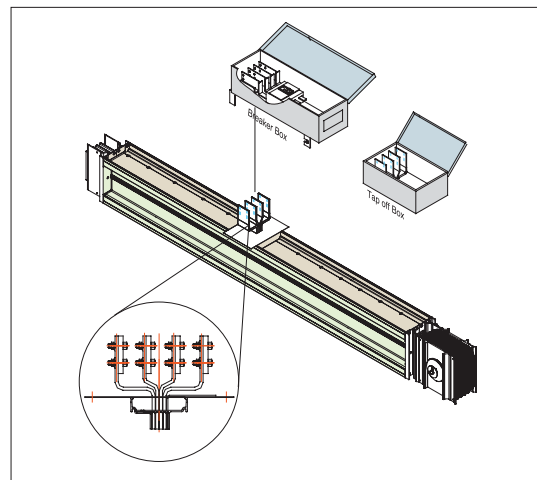
MCCB FRAME (AF)	Dimension (mm)			
	3W	4W	H	D
50, 60, 100	200	250	450	220
225	200	250	450	220
400	250	300	750	220
600, 800	350	400	800	220
1000,1200	400	450	1200	220



[Fig. 29-1]



[Fig. 29-2]



[Fig. 29-3]

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3.6 MCCB (Molded Case Circuit Breaker)

Molded case circuit breakers are available ranging from 15A to 1200A, 220V to 600V.
MCCB Metasol type ABS is standard (ABH, ABL is high capacity and option)
MCCB Susol is highest breaking capacity
All models comply with K&C 8321, JIS C3870 and IEC 60157-1.
Ics100%Icu, Ui750V, Uimp8KV, Endurance Mechanical/Electrical : 25.000/10.000



[Fig. 30-1]

Table 30

MCCB Ratings							
Model	Frame (AF)	Poles	Trip Range (AT)	Interrupting Ratings RMS Symmetrical (kA)			
				220V	380V	460V	600V
MCCB Metasol Type ABS	50	3, 4	5, 10, 15, 20, 30, 40, 50	35	22	18	5
	125	3, 4	15, 20, 30, 40, 50, 60, 75, 100, 125	85	42	37	8
	250	3, 4	100, 125, 150, 175, 200, 225, 250	85	42	37	8
	400	3, 4	250, 300, 350, 400	75	65	50	8
	600	3, 4	500, 630	85	75	65	10
	800	3, 4	700, 800	85	75	65	10
	1,200	3, 4	1,200	100	65	65	45

Design for technical strong point: The Susol MCCB

SuSol Series MCCB is available for world best breaking capacity up to 150kA, and MS is seal structure for hidden electricity Arc.

SuSol product represents simultaneously simple and complicated design for using cut diamond motive to emphasis on the hardness of industrial product.

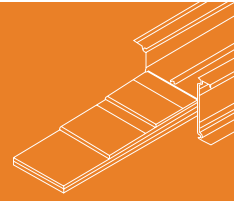
And we applied the identity of product image by designing same concept MCCB and MS which is installed to cubicle.

SuSol Series acquire the competitive power through getting the picking up GD product and winning IF Design Award.

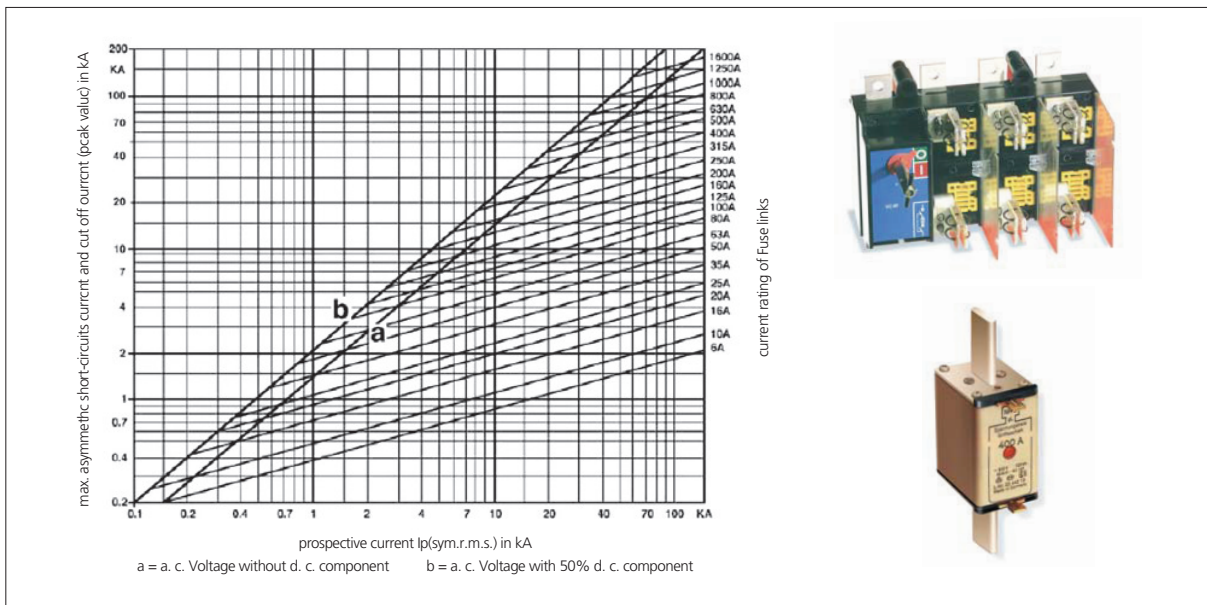


* Note: Other brands of MCCB are on request.

3.7 FDS (Fusible Disconnect Switch)



FDS is a fusible disconnect switch available for plug-in and tap-off units. The graph shows available short-circuit capacities.



[Fig. 31-1]

Table 31

FDS		Type og Fuse	MCCB Ratings
Model	Poles	Din 43620 gL	Model
VC1F	3,4	NH 00	32, 45, 63, 80
VC2F	3,4	NH 0	100, 125, 160
VC3F	3,4	NH 1	200, 250
VC4F	3,4	NH 2	315, 400
VC5F	3,4	NH 3	630, 800

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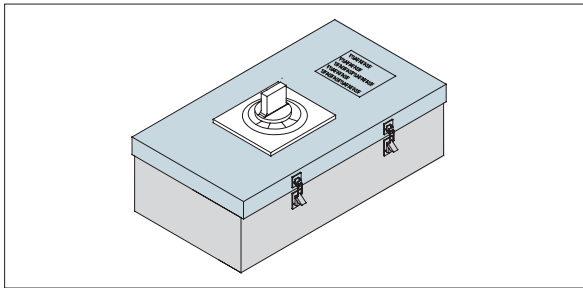
3.6 Additional Attachments

Determine Additional Attachments, etc.

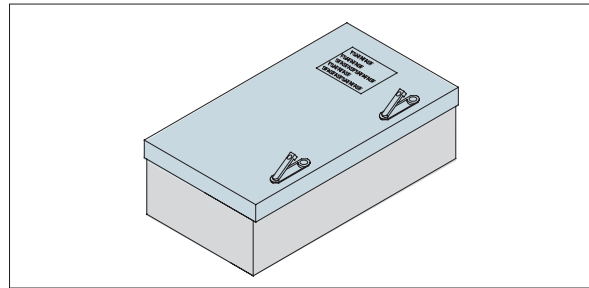
CT(current transformer), TD(transducer) and auxiliary devices can be incorporated in the branch unit or breaker to permit monitoring of the system. Customer must provide branch circuit specifics.

Determine Operating Method: External Door Type

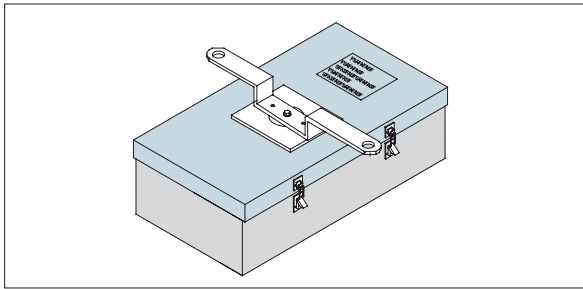
Various door types are available for the branch unit. Examples are shown below.



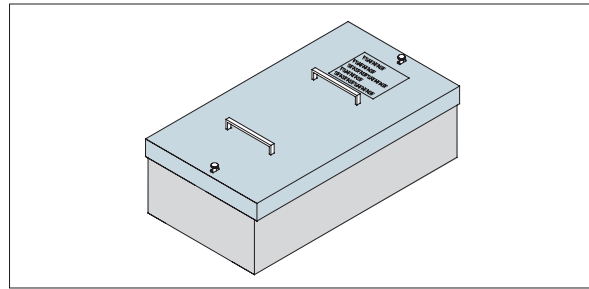
External handle [Fig. 32-1]



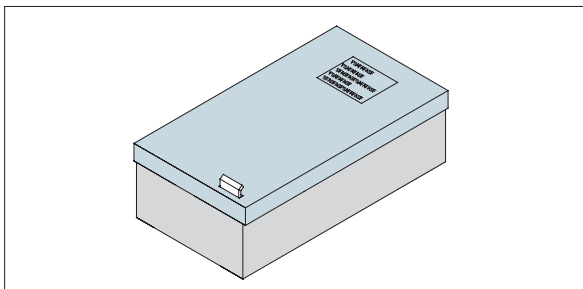
Push Button [Fig. 32-2]



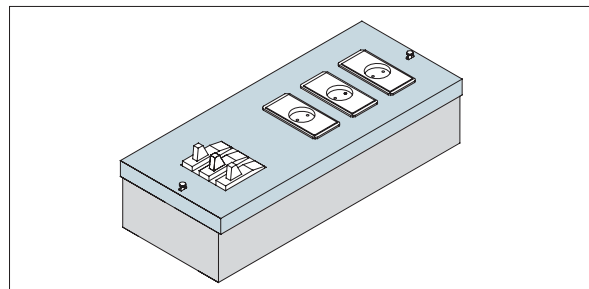
External lever interlock [Fig. 32-3]



Bolt Fastening [Fig. 32-4]



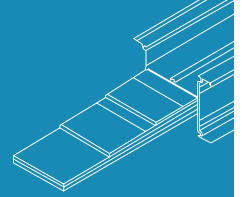
Button [Fig. 32-5]



Outlet [Fig. 32-6]

Technical Data

4.1 Impedance and Voltage Drop



The impedance and voltage drop values for aluminum and copper conductors are shown in the tables below. The values listed are measured between line and neutral phases at 60 Hz. For a 50 Hz installation, multiply the reactance (X) by 0.83. The resistance (R) remains unchanged due to the negligible difference in frequency.

Calculate voltage drop of line to line as following equation. $\cos \theta$ is power factor.
 Voltage Drop (Vd) = rated load amperes $\times \sqrt{3} (R \cos \theta + X \sin \theta)$

Aluminum Bus Bar

Table 33-1

AMP Rating	Impedance $\times 10^3 \Omega/100m, 60Hz$			Voltage Drop/(100m)							
	R	X	Z	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
630	13.98	4.07	14.56	8.82	10.17	11.48	12.71	13.85	14.87	15.66	15.25
800	7.97	2.62	8.39	6.77	7.74	8.66	9.53	10.32	11.01	11.52	11.04
1,000	6.83	2.21	7.18	7.21	8.25	9.24	10.17	11.02	11.77	12.32	11.84
1,250	5.55	1.82	5.84	7.36	8.41	9.41	10.35	11.22	11.97	12.52	12.01
1,600	3.82	1.23	4.02	6.43	7.36	8.25	9.09	9.85	10.52	11.02	10.60
2,000	3.08	1.00	3.24	6.52	7.46	8.35	9.19	9.96	10.63	11.12	10.67
2,500	2.40	0.80	2.53	6.41	7.32	8.18	9.00	9.74	10.39	10.86	10.40
3,200	1.91	0.61	2.00	6.41	7.34	8.22	9.05	9.82	10.48	10.98	10.56
3,600	1.72	0.55	1.81	6.52	7.46	8.36	9.21	9.99	10.67	11.18	10.74
4,000	1.54	0.50	1.62	6.50	7.43	8.32	9.16	9.93	10.60	1.09	10.64
5,000	1.15	0.37	1.21	6.03	6.90	7.74	8.52	9.24	9.87	10.34	9.94
6,000	1.02	0.33	1.08	6.49	7.43	8.32	9.15	9.92	10.58	11.08	10.63

Copper Bus Bar

Table 33-2

AMP Rating	Impedance $\times 10^3 \Omega/100m, 60Hz$			Voltage Drop/(100m)							
	R	X	Z	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
630	7.49	4.07	8.53	6.69	7.34	7.94	8.46	8.90	9.21	9.30	8.18
800	7.49	3.84	8.42	8.20	9.04	9.80	10.49	11.07	11.50	11.67	10.38
1,000	5.49	2.99	6.25	7.79	8.55	9.24	9.85	10.35	10.72	10.82	9.52
1,250	4.39	2.45	5.03	7.91	8.66	9.34	9.94	10.44	10.78	10.86	9.50
1,600	3.10	1.71	3.54	7.09	7.77	8.39	8.94	9.40	9.72	9.80	8.60
2,000	2.40	1.35	2.76	6.96	7.61	8.21	8.73	9.17	9.46	9.53	8.32
2,500	1.86	1.05	2.13	6.73	7.37	7.95	8.45	8.87	9.16	9.22	8.06
3,200	1.54	0.85	1.76	7.05	7.73	8.35	8.89	9.34	9.66	9.75	8.55
3,600	1.35	0.74	1.54	6.94	7.61	8.22	8.75	9.20	9.51	9.60	8.42
4,000	1.20	0.67	1.37	6.93	7.58	8.18	8.70	9.13	9.42	9.49	8.29
5,000	0.93	0.52	1.06	6.71	7.35	7.92	8.43	8.84	9.13	9.19	8.03
6,000	0.80	0.45	0.91	6.92	7.57	8.17	8.69	9.11	9.41	9.48	8.28
7,500	0.62	0.35	0.71	6.71	7.34	7.91	8.42	8.83	9.12	9.18	8.02

$$1) \text{ Actual Voltage Drop} = \alpha \times Vd \times \frac{\text{Actual load current}}{\text{Rated load current}} \times \frac{\text{Actual distance(m)}}{100m}$$

- 2) α (Load Distribution Constant)
- i) $\alpha = 1$, Concentrated load
 - ii) $\alpha = 0.5$, Distributed load



F : Flanged End(Panel Connection)
 P : Plug-in Unit

4.2 Short-Circuit Withstand Characteristics

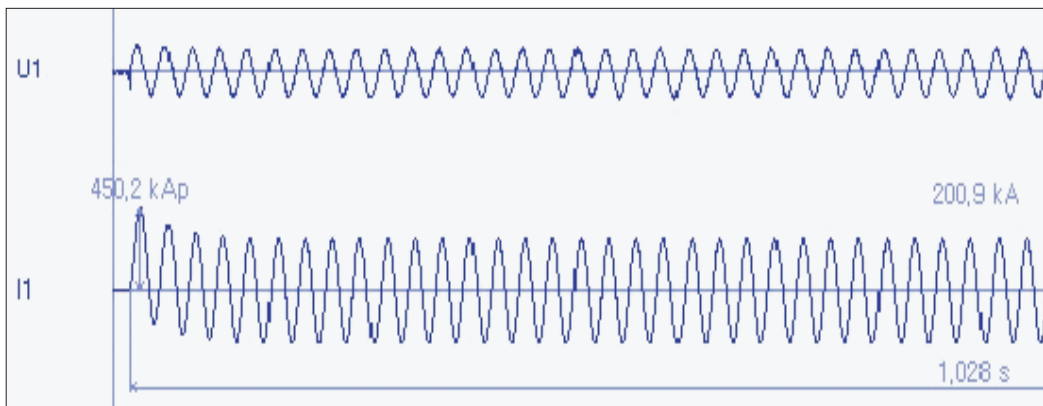
LS Bus Duct has been tested under actual short-circuit conditions according to IEC 60439 1 & 2 as witnessed by ASTA and KEMA. The above figure shows 4000A bus duct under test, and includes the associated phase-to-phase oscillogram.

LS Bus Duct has been confirmed to have high short-circuit strength because of its reinforced housing design.
The 4000A bus duct has a 200kA short-circuit rating.

Short Circuit Ratings of Phase to Phase(kA)

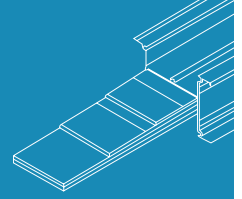
Table 34

AMP Rating	Aluminum		Copper	
	1 sec	3 sec	1 sec	3 sec
630	24	14	36	21
800	42	24	36	21
1,000	50	29	51	29
1,250	62	36	65	37
1,600	95	55	95	55
2,000	121	70	129	75
2,500	132	76	150	107
3,200	169	97	191	110
4,000	200	140	200	149
5,000	200	150	200	200
6,000	200	150	200	200
7,500	-	-	200	200



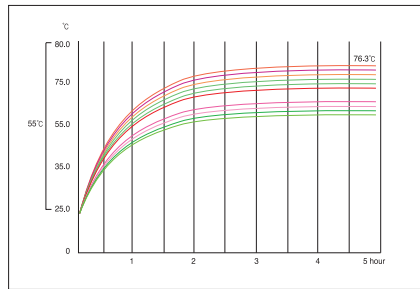
[Fig. 34]

4.3 Temperature Rise Test

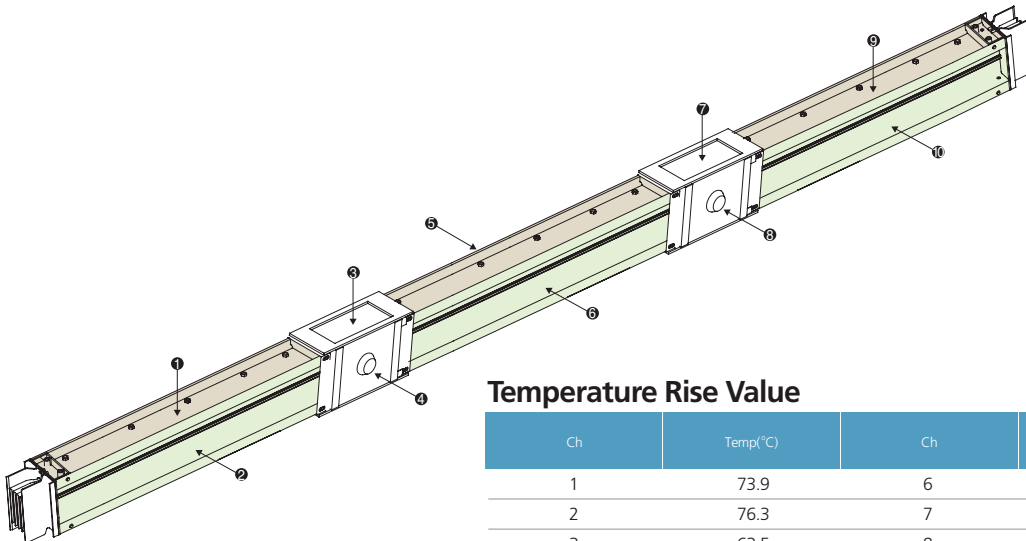


The temperature rise values for LS Bus Duct shall not exceed 70°C at connectors and the duct exterior shall not exceed 55°C.

The profile and thermal properties of the housing prevent the overheating of the bus bars, the joint area and the duct exterior when LS Bus Duct is operated within rated current limits according to IEC 60439 1 & 2.



[Fig. 35]



Temperature Rise Value

Table 35

Ch	Temp(°C)	Ch	Temp(°C)
1	73.9	6	75.3
2	76.3	7	61.8
3	63.5	8	64.0
4	65.5	9	72.4
5	75.6	10	74.3

Remarks : Ch 1, 2, 5, 6, 9, 10 are surface of housing
Ch 3, 4, 7, 8 are surface of joint cover.
Ambient temperature : 25°C

Introduction

General Specifications

Physical Data

Technical Data

Temperature Monitoring System (Optional)

Installation Procedure

Introduction

General Specifications

Structure Data

Technical Data

Temperature Monitoring System(Optional)

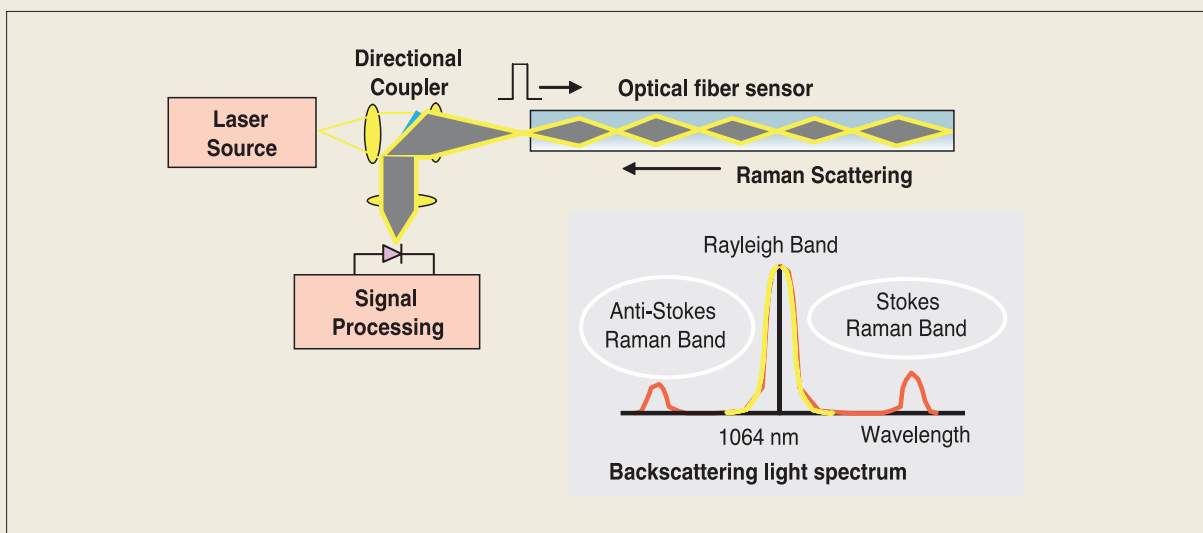
5.1 Overview

5.2 Principle of Operation

The bus duct temperature monitoring system uses an optical fiber as the sensor, and can measure distributed temperatures over several thousand meters with an accuracy of $\pm 0.5^{\circ}\text{C}$.

ABF(air blown fiber) technology enables easy integration and installation of the system.

Easy operation & user-friendly GUI(Graphic User Interface)



Principle of Operation [Fig. 36]

Temperature Measurement

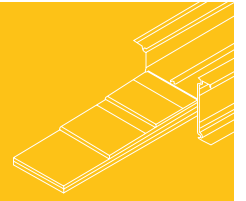
When the laser pulse passes through the optical fiber, backscattered reflections are returned to the input. The intensity of the Raman scattering is temperature dependent, giving an accuracy of $\pm 0.5^{\circ}\text{C}$.

Distance Measurement

The location of a temperature measurement is determined by calculating the length of time for the backscattered light to return to the input. This is similar to an OTDR (Optical Time Domain Reflectometer). Distance resolution is within 1 m.

5.3 Bus Duct Application

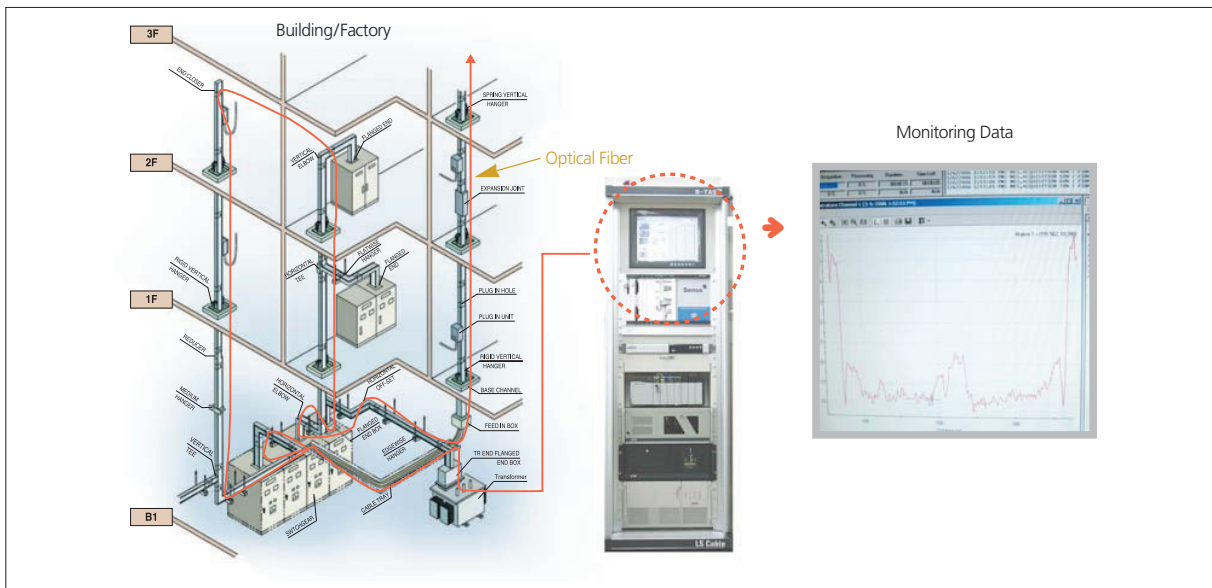
5.4 Temperature Monitoring System Profile



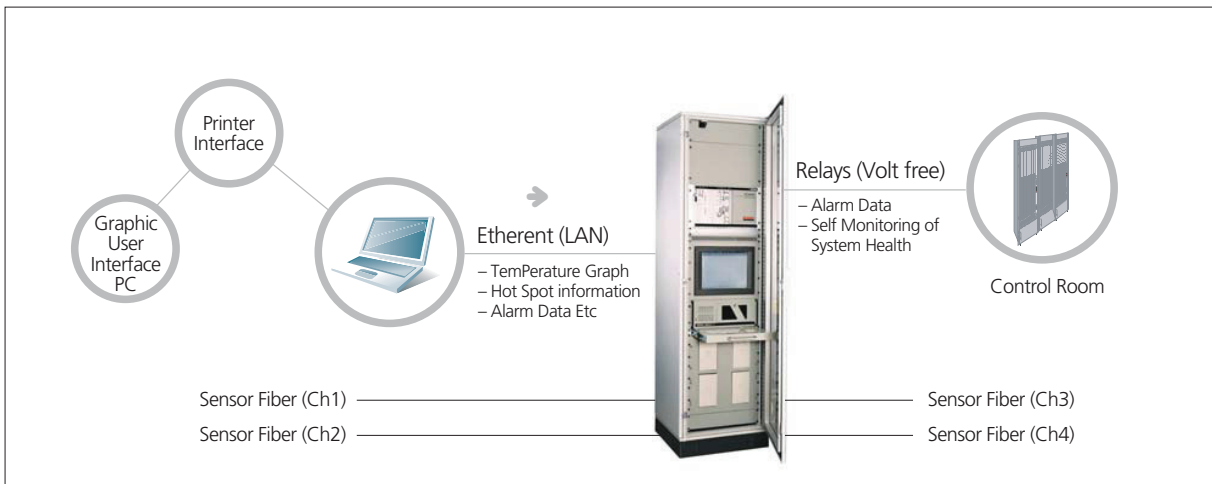
Bus duct / transformer temperature
Fire alarm for building and factory
Bus duct / transformer vibration & noise
Video image transmission



Safety
Early detection and warning of abnormal conditions



Bus Duct Application [Fig. 37-1]



Temperature Monitoring System Profile [Fig. 37-2]

- Introduction
- General Specifications
- Physical Data
- Technical Data
- Temperature Monitoring System (Optional)
- Installation Procedure
- Introduction
- General Specifications
- Structure Data
- Technical Data

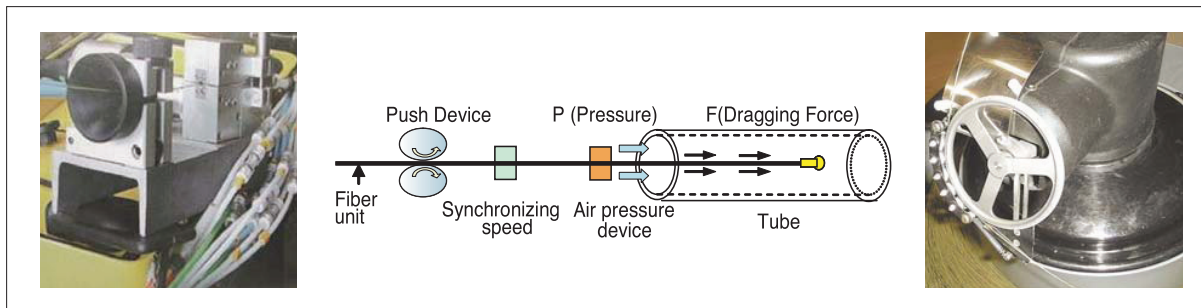
Temperature Monitoring System(Optional)

5.5 Fast & Easy Installation in Bus Duct line

5.6 System Products

ABF(Air Blown Fiber) Technology

After the installation of the flexible tube, the optical fiber is blown into the tube with compressed air. The use of various tube connectors allows for easy installation in narrow and curved locations. Reduced installation time, minimal optical joints and uncomplicated replacement.



Fast & Easy Installation in Bus Duct line [Fig. 38-1]

The LS Bus Duct Temperature Monitoring System can be configured for various operating modes according to the customer's requirements.


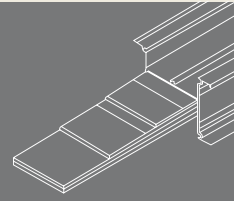


Table 38

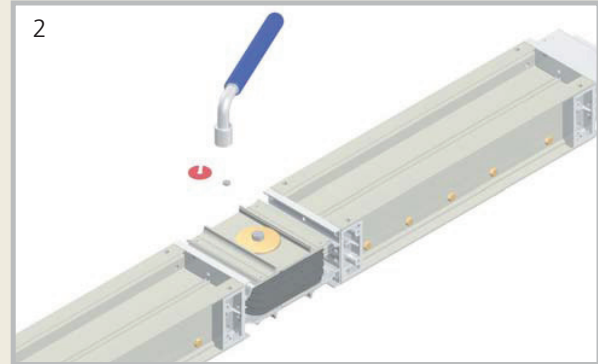
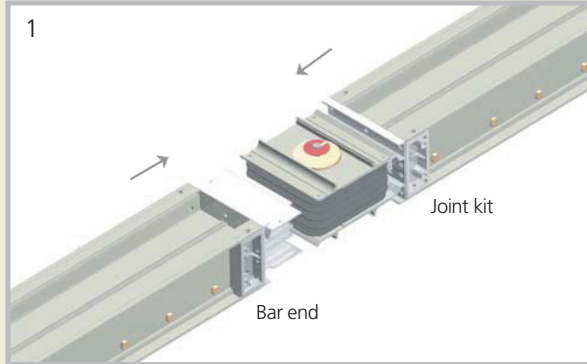
Fiber Type	Model	Range(km)	Channels	Sampling Resolution [m]	Accuracy [°C]
Multi mode	M2	2	2, 4, 6	1	0.5
	M4	4			
	M8	8			1
	M10	10			
Single mode	M12	12	1, 2, 4	2	2
	S15	15			
	S20	20			
	S30	30			

System Products [Fig. 38-2]

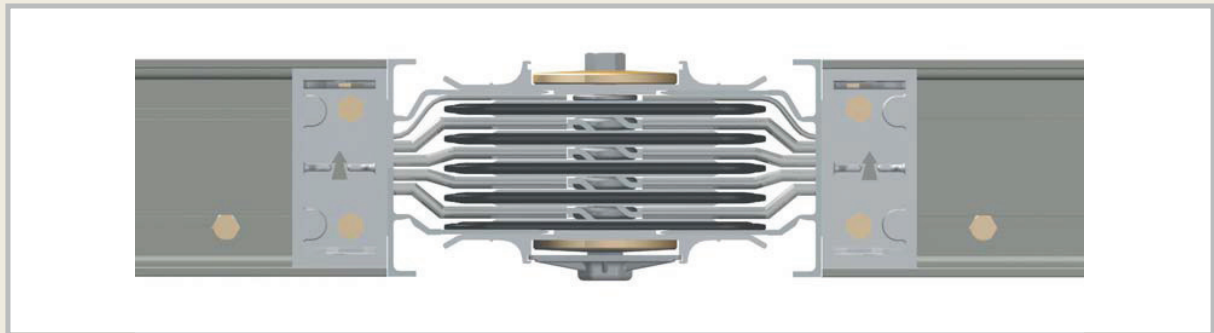
Installation Procedure



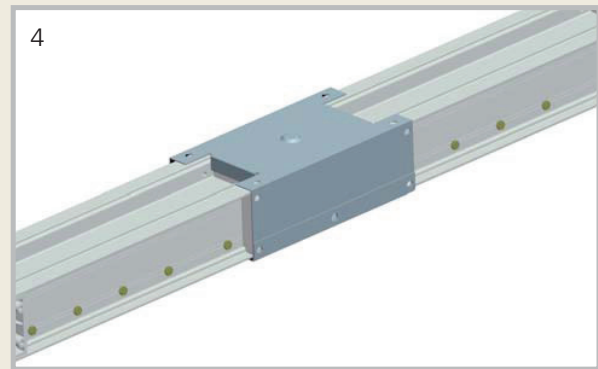
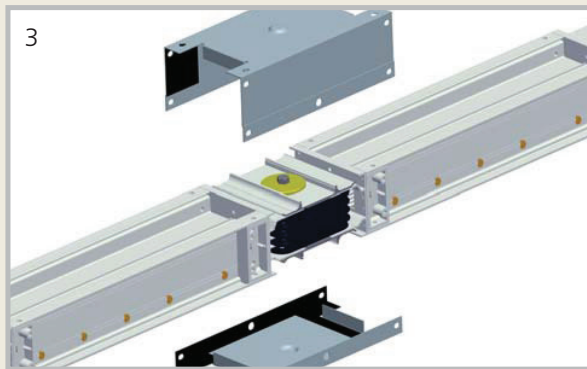
Joint Assembly Instructions



- Check contact surfaces for damage or contamination
- Ensure proper alignment in all planes
- Slowly insert the bar ends into the joint kit



Using a torque wrench, tighten the outer bolt head until it breaks off (shear force = 700~1,000 kgf.cm)



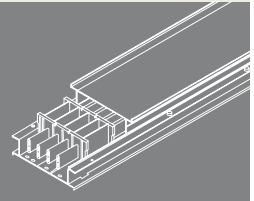
Introduction
General Specifications
Physical Data
Technical Data
Temperature Monitoring System (Optional)
Installation Procedure
Introduction
General Specifications
Structure Data
Technical Data

Installation Procedure

Please confirm the following information in the case of order or technologic inquiry

Basic Information of the Project			
Purpose	Quotation () Confirming ()	Application	System design () Producing instruction () Confirming ()
Project details		Delivery details	
Project name		Drawings	
Customer		Materials	
Contractor		Installation	
Consultant		Powering	
Bus Duct Specification and Scope			
Type	Insulation (), Fire resistance (), Mini (), Baby ()		
Conductor	Cu (), Al ()	Voltage	
Plating method	Silver plate (), Tin plate ()		
Grounding method	Housing (), Internal busbar (50% , 100%)		
IP degree	IP42 (), IP54/55 (), IP65/66 ()		
Duct quality	AL (), SPCC (), SGP (), SUS ()		
Wiring	3P3W (), 3P4W (), ()P ()W(100, 200%)N, Refer to the drawing ()		
Supplying scope	Flexible (), Connection bar (), Hanger bar (), Others ()		
Installation specification and scope			
Installation method	Edgewise (), Flatwise (), Riser (), Mixed ()		
Installation site	Indoor (), Outdoor (), Mixed (), Installation level (BOB=FL+ mm)		
Plug in Unit Specification and Scope			
Plug in unit type	ABS (), ABH (), ABL ()	Magnetic number	3P (), 4P (), 2P ()
Door operation	Standard interlock (), Bolting (), Push button (), External Lever int. (), button ()		
Switch ampere	Voltage (V), 22kA (), 42kA (), 85kA (), 100kA (), Others ()		
Prequalified Document for System Design			
1. Busduct basic layout drawing	: Y (), N ()		
2. TR and Panel specification	: Y (), N ()		
3. Busduct installation part construction drawing	: Y (), N ()		
4. Utility	: Y (), N ()		

Certificates



Certificate No. 16606

ASTA CERTIFICATE

Laboratory Ref. No. 102728

CERTIFICATE OF COMPLETE TYPE TESTS

APPARATUS: 2000 A, 1000 V / 8 kV (LS-UK/MS), single stack busbar trunking system incorporating a flanged end and one, two and 2 in straight header sections. The busbar trunking system comprises three-phase and neutral polymer film insulated, round edged copper busbars and a 50 % earth round edged copper busbar, in an aluminium enclosure.

DESIGNATION: 4WHE 2500A

MANUFACTURER: LS Cable Ltd
555 Hoggae-dong, Dongan-gu, Anyang-shi,
Gyeonggi-do, 431-431
South Korea

TESTED BY: Teatung & Certification Australia
18 Marsh Road, Lane Cove, NSW 2000 Australia

DATE(S) OF TEST: 16 March to 17 May 2007

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this certificate has been subjected to the series of proving tests in accordance with IEC Publication 60439-2: 2005, Consolidated Edition 2.1 and BS EN 60439-2: 2005 with Amendment 1:2006 Clauses 9.2.1, 9.2.2, 9.2.3, 9.2.4, 9.2.5, 9.2.6, 9.2.7, 9.2.8, 9.2.9, 9.2.10, 9.2.11, 9.2.12, 9.2.13, 9.2.14 and 9.2.15

The results are shown in the record of Proving Tests and the oscillograms attached hereto. The values obtained and the general performance are considered to comply with the above Standards and to justify the ratings assigned by the manufacturer as stated below.

For ratings assigned by the manufacturer and proved by the tests see page 1.

The record of Proving Tests applies only to the apparatus tested. The responsibility for conformity any apparatus bearing the same designations with that tested rests with the Manufacturer.

This Certificate comprises 20 pages, 2 Reports, 4 oscillograms, 20 photographs, 14 drawings and 10 other sheets, as detailed on page 2.

This design complies with the conditions, or modifications of this scope enumerated for its approval which are stated in the signed test certificate of the apparatus tested, as permitted under other provisions for CE Marking Conformance Evidence, when issued, as detailed on page 2.

P. J. Ryan
ASTA Observer

[Signature]
CERTIFICATION DIRECTOR

17th July 2007 Date

UKAS
ASTA

KEMA

ATTESTATION OF CONFORMITY

No. 20070220

Issued to: LS Cable Ltd
555, Hoggae-dong, Dongan-gu,
Anyang-shi,
Gyeonggi-do 431-431
SOUTH KOREA

For the product: low-voltage busbar

Title name: LS Cable Ltd

TypeMark: 82-way

Rating: 2000 A, 2000 V, 4000 A, 1000 V

Manufactured by: LS Cable Ltd
555, Hoggae-dong, Dongan-gu,
Anyang-shi,
Gyeonggi-do 431-431
SOUTH KOREA

Reference: IEC 60439-2, 1st ed., 2005-03
Clause: 9.2.1, 9.2.2, 9.2.3 and 9.2.4

This attestation is granted on account of an examination by KEMA, the results of which are laid down in a certificate No. 02067621.

The examination has been carried out on one single specimen of the product, submitted by the manufacturer. The attestation does not include an assessment of the manufacturer's production. Conformity of the producer with the provisions stated by IEC 60439-2 is not the responsibility of KEMA.

KEMA Quality & EHS
Address: 8531637
KEMA, 1975
KEMA, 1975
KEMA, 1975

[Signature]
KEMA, 1975

* If the product is intended for use in a specific installation, it is the responsibility of the user to ensure that the product is suitable for that use.
KEMA Quality & EHS | Ummweg 103, 48151 Aachen, P.O. Box 9100, 48033 Aachen, The Netherlands
T +31 43 203 26 25 | F +31 43 203 26 26 | support@kema.com | www.kema.com | Registered in the Netherlands
Examination No. 02067621

TUV NORD

Certificate of conformity with the following European Directives:

Registered in Regulation No. **K1198/L06**

Low Voltage Directive 73/23/EEC amended by the Directive 93/68/EEC

Product Group	EN Standard	IEC Standard	EN Standard	IEC Standard
1	EN 60439-2	IEC 60439-2	EN 60439-2	IEC 60439-2

This is to certify that the following product complies with the above mentioned European Directives and the following standards:

Certificateholder: LS Cable Ltd
555 Hoggae-dong, Dongan-gu, Anyang City,
Gyeonggi-do 431-243, Korea

Manufacturer: Same as above

Product: BUS DUCT

Type designation(s): AL-FE-GE, CU-FE-GE, AL-FE-PE, CU-FE-PE

Standard(s): EN 60439-1:1999
EN 60439-2:2000

This Certificate of Conformity is based on the evaluation of samples of the product. It does not imply an assessment of the production, and it does not permit the use of a mark of conformity or of a safety mark of TUV NORD.

The holder of this certificate may use the Certificate together with his IEC Declaration of Conformity.

[Signature]
TUV NORD product testing supervisor

TUV NORD
Product Testing Supervisor
TUV NORD
Product Testing Supervisor

The CE marking can be affixed on the product if all relevant and effective Directives are complied with. CE

UNDERWRITERS LABORATORIES INC.
CERTIFICATE OF REGISTRATION

ISO 9000

LS Cable Ltd.

Quality Plant: Anyang Plant
190 Gungdan-Dong 555 Hoggae-Dong
Dumji-Do 643 Anyang-Dong
Gyeonggi-Do 431-431 Anyang-Shi, Gyeonggi-Do
730-708 Korea 430-080 Korea

Underwriters Laboratories Inc. (UL) issues this certificate in the First named state, after assessing the Firm's quality system and testing in compliance with:

ISO 9001:2000, BS EN ISO 9001:2000, ANSI/ASQ Q9001:2000, AS 9001:2001

to the following scope of registration:

- 3337 (D): Drawing and Insulating of Nonferrous Wire
- 3643 (D): Core and Conductor Wire Drawing
- 3649 (D): Fabricated Rubber Products, Not Elsewhere Classified
- 3650 (D): Manufacture of Extruded Rubber Stock
- 3331 (D): Rolling, Drawing and Extruding of Copper
- 3332 (D): Manufacturing of Plastic Film and Sheet
- 3111 (D): Metallurgical and Metallurgical Apparatus
- 3334 (D): Aluminum Extruded Products
- 3335 (D): Aluminum Rolling and Drawing, Not Elsewhere Classified

The design and manufacture of copper telecommunication cables, power cables, power cables, aluminum cables, control cables, motor power cables, copper busbars, aluminum distribution cables, connections for electronic equipment, overhead AL, aluminum, OPW (optical fiber composite ground arm), aluminum conductive bars for display monitors, appliance wiring materials, busbar systems and aluminum extruded products for industrial applications.

The manufacture of magnet wires, bare conductors, communication cables(LANS), copper wire and aluminum products for cable coils.

Further certifications regarding the scope of this certificate and the applicability of ISO 9001:2000 requirements may be obtained by consulting the organization.

This quality system registration is included in U.S. Directory of Registered Firms and applies to the provision of goods and/or services as specified in the scope of registration from the anniversary date shown. By issuance of this certificate the firm represents that it will maintain the registration in accordance with the applicable requirements. This certificate is not transferable and remains the property of Underwriters Laboratories Inc. ®.

File Number: A5119
Volume: 1
Original Certification Date: July 16, 1993
ISO 9001:2000 Issue Date: November 26, 2001
Renewal Date: April 11, 2005
Renewal Date: November 24, 2007

[Signature]
J. Joe Shaha
Executive Vice President, International

UL REGISTERED FIRM

UNDERWRITERS LABORATORIES INC.
ENVIRONMENTAL MANAGEMENT SYSTEM REGISTRATION

ISO 14001

LS Cable Ltd.

555 Hoggae-Dong Dongan-Gu
Anyang-Shi
Kyungki-Do, 430-080 Korea

Underwriters Laboratories Inc. (UL) issues this certificate in the First named state, after assessing the Firm's environmental management system and testing in compliance with:

ISO 14001:1996

ENVIRONMENTAL MANAGEMENT SYSTEM
KS A 14001:1996

for the following scope of registration:

The environmental management system of LS Cable Ltd. associated with the design and manufacture of rubber insulative cables, busbar fittings and related accessories, cables, electronic wires and cables, busbars, low voltage electric cables, connections for electronic equipment, extruded tubing, electronic materials and magnet wires and the manufacture of automotive wires, lead frames for semiconductor industry and bare wires of Anyang-Shi, Kyungki-Do, Korea.

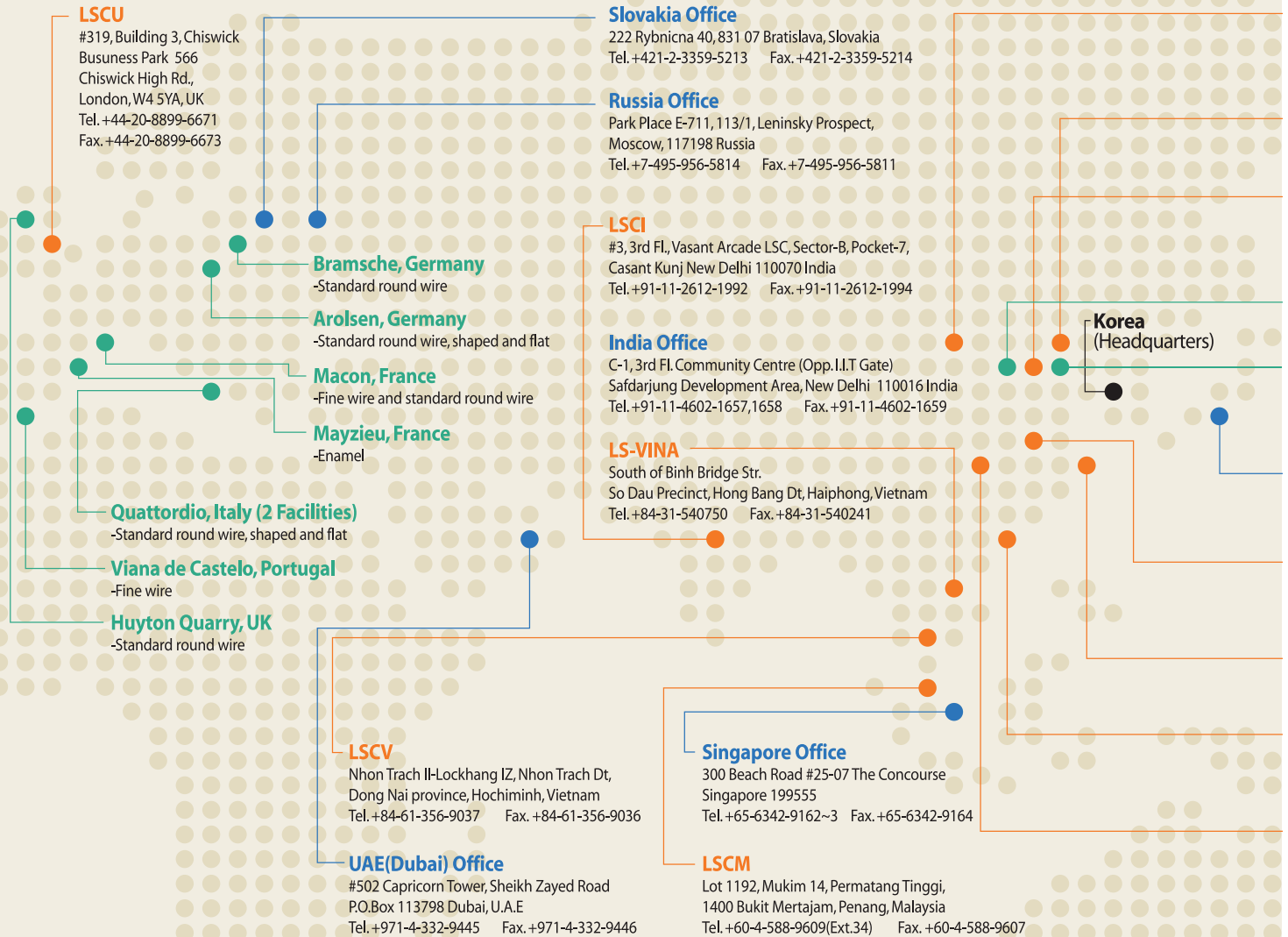
This environmental management system registration is included in U.S. Directory of Registered Firms and applies to the provision of the address(es) shown above. By issuance of this certificate the firm represents that it will maintain the registration in accordance with the applicable requirements. This certificate is not transferable and remains the property of Underwriters Laboratories Inc. ®.

File Number: A5119
Volume: 1
Issue Date: January 30, 1997
Revision Date: December 30, 2003
Renewal Date: January 30, 2007

[Signature]
J. Joe Shaha
Executive Vice President and
Chief Operating Officer - International

UL REGISTERED FIRM

Global Network



Korea Operations



Headquarters

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Gumi Plant

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Indong Plant

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Tianjin, China

-Flat and shaped products

Suzhou, China

-Standard round wire

Japan Office

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#2606, 26th Fl. CCB Sichuan Building, 88 Ti Du Street,
Chengdu 610017 China
Tel. +86-28-8676-7951 Fax. +86-28-8676-7953

Columbia City, Indiana USA

-Copper rod production

Franklin, Indiana USA (Femcoe JV)

-Standard round wire

Kendallville, Indiana USA

-Fine wire

Willowbrook, Illinois USA

-Fabricated insulation

Fort Wayne, Indiana USA

-Standard round wire, flat wire, enamel

Torreón, Mexico

-Standard round wire

Brownwood, Texas USA

-OSP, Fiber

Hoisington, Kansas USA

-Premise, OSP

Franklin, Tennessee USA

-Standard round wire (Cu and Al)

**Atlanta, Georgia
(Headquarters)**

Tarboro, North Carolina USA

-OSP

LSCA

920 Sylvan Avenue, Englewood Cliffs, NJ 07632, USA
Tel. +1-201-816-2253 Fax. +1-201-816-2984

Clifton Park, New York USA

-Fabricated insulation

Simcoe, Canada

-Round, flat and shaped wire

● Subsidiaries ● Branches ● Superior Essex



www.lscable.com

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Busduct Catalogue Ver 7.0, 2009.02

Busduct Business Team

555, Hogye-dong, Dongan-gu, Anyang-si, Gyeonggi-do, 431-831, Korea

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