

BUS SIZING CABLE BUS SIZING
QUALITY CONTROL
D CABLE BUS MODELLING

**WE BUILT
THE BEST
CABLE BUS
PERIOD.**

SUPERIOR**BUS**TM

superiortray.com Integrity, Ingenuity, Innovation



THE INDUSTRY LEADER IN **CABLE BUS**

Introduction to SUPERIORBUS™	2
Standard System Features	4
Ownership Benefits	6
Custom Design & Fabrication	8
Custom Layout Solutions	10
Corrosive Environments	11
Cable Bus Components	12
System Balance & Optimization	14
Technical Information	16
Ampacity Comparison	18
SUPERIORBUS™ Sizing	18
Trenched Systems	22
Integrated Walkway	24
HIGHBUS	26
Clients	28

WE ARE *SUPERIOR***BUS**

Superior Tray is a major manufacturer in the cable bus and cable tray industries. Superior Tray is a Canadian owned and operated company.

Located in Delta, British Columbia, Superior Tray was established in 1996 as a custom metal fabrication shop. Superior Tray expanded into cable management and power distribution systems in 2004, and has since redesigned the manufacturing of cable bus and cable tray, expanding and developing product lines for the 21st century. Superior Tray continues to design and develop new electrical distribution and cable management systems while still offering exceptional craftsmanship.

Our agents and dealers form a complete distribution network to serve our valued customers in Canada, the United States, Australia, and Latin America. Each agent is a trained specialist in our product line, and is backed up by an expert technical team of designers and engineers at our head office. The entire Superior Tray team works hard to support our customers by providing answers to our customer's questions quickly and directly. No job is too big for our distribution network to handle. Combined with the shortest lead times in the industry and competitive pricing, Superior Tray takes pride in supplying products that are done right, on budget, and on time.

You can be assured Superior Tray will exceed your expectations with our state-of-the-art facility equipped with CNC machinery, automated production lines, robotics, and highly trained technical staff. We can take a blueprint, CAD model, sketch, or even a simple thought to turn your concept into the perfect solution. Superior Tray will work with you every step of the way to ensure your complete satisfaction. Our product line is not limited to one facet; we are constantly developing and expanding concepts to push the envelope of design. Some examples of this include our Integrated Walkway and Service Chase Way systems. These integrated systems incorporate cable bus or steam, water, gas or any other process lines into a walkway or chase way. Doing so dramatically reduces the footprint and the cost as compared to separate installations.

Products manufactured by Superior Tray are fabricated to the highest level of standards. We have received numerous CSA and UL certifications for our products. CSA (Canadian Standards Association) and UL (Underwriters Laboratories) are third party independent product safety testing organizations, which perform thorough testing of any product we produce before issuing a certification. Product certifications and standards information from CSA and UL can be found at www.csa.ca, and www.ul.com, respectively.

*SUPERIOR***BUS**TM Systems

SuperiorBusTM is more than a highly efficient power distribution system. It is a system engineered to meet your exact requirements.

THE NEW AGE OF ELECTRICAL DISTRIBUTION

SuperiorBusTM is a custom-engineered cable bus power distribution system using multiple parallel conductors braced in a rigid enclosure. Each conductor is insulated and fully continuous from source to load. Standard SuperiorBusTM systems can carry 400 - 10,400A per phase with voltages from 600V to 218kV. Custom systems can be designed to meet specific customer requirements. SuperiorBusTM is fully certified and easy to install.



Centers for Information Systems



Standard System Features

All SuperiorBus™ packages are delivered with these industry leading features.

WATERTIGHT SEALS

Injection moulded rubber seals and gaskets
No sealant required and no drying time

VENTILATED COVERS

Achieves free air rating
No current de-rating is required

SHOCK ABSORBERS

Allows for thermal expansion
Protects cable insulation during short circuit

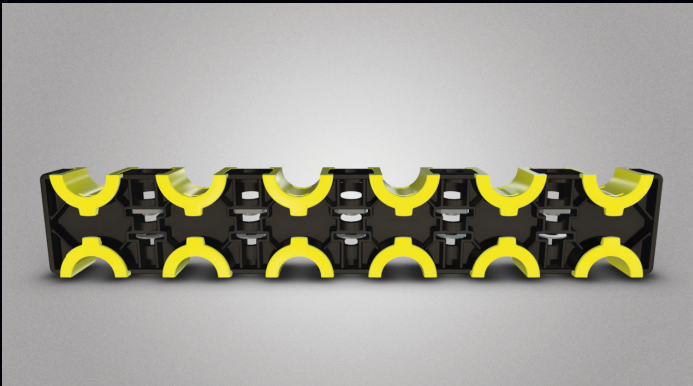
CONTINUOUS CONDUCTORS

100% maintenance free
Fully insulated from source to load



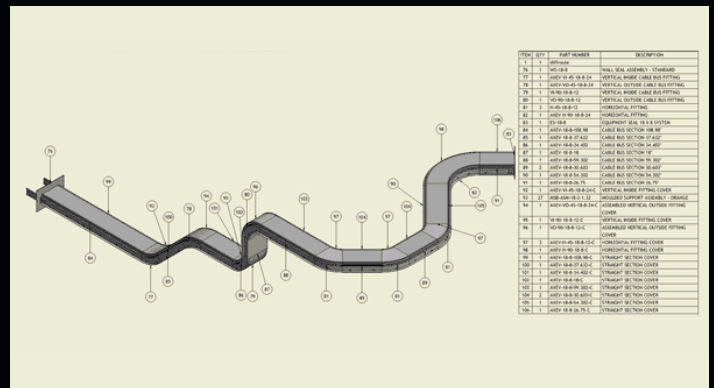
SHORT CIRCUIT BRACING

Our industry-exclusive MSB cable supports are easier to install than ever before, even in vertical or overhead situations. Ultra low friction cable guides allow cables to be pulled in easily and permits thermal expansion. The system is colour coded, allowing for positive visual confirmation on large projects with multiple ampacities. Every cable is surrounded by a shock absorber and mounted within an extremely rigid support system, thus protecting the cable during a short circuit event.



FULL LAYOUT

We provide a complete system layout with every SuperiorBus™ project. Our clients have successfully installed SuperiorBus™ in every environment imaginable. With our in-depth design knowledge, we develop a layout with everything you could possibly need for a simple installation.



CONTINUOUS CONDUCTORS

In any electrical system, splices are a point of failure. This is a point of failure you will never find in a SuperiorBus™ system. Continuous insulated power cables travel from source to load, without any splices. This contributes to the long service life of the system and dramatically improves system uptime.

Ownership Benefits

Faster Installation

- Built to suit your job site
- Lightweight and easily installed by 2 people

Reliability

- 100% maintenance free
- No intermediate splices or connections

Adaptability

- Custom fittings and sizing to overhaul failing electrical infrastructure

Small Footprint

- Special data center profile available with 30% reduced footprint

Cost Savings

- Reduced material cost as no current de-rating is required
- Rapid installation minimizes labour

Safer

- Lower short circuit forces than bus duct

UNMATCHED FLEXIBILITY

The flexibility of SuperiorBus™ makes installation incredibly fast and easy. It can be easily cut on site and does not need precise alignment to connect with the bus bars inside equipment. You can install SuperiorBus™ where other systems could never fit.





Custom Design & Fabrication

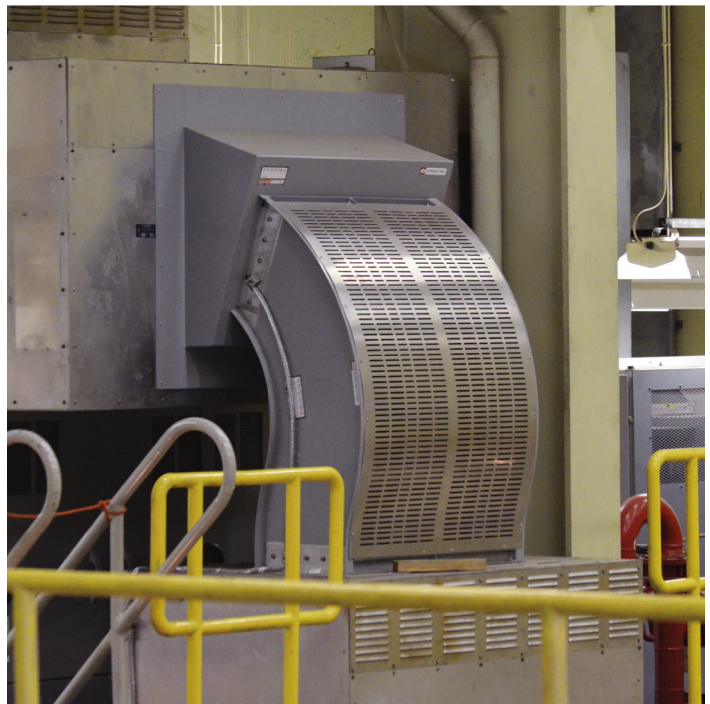
Our experienced team can design a SuperiorBus™ system that suits your specific needs.

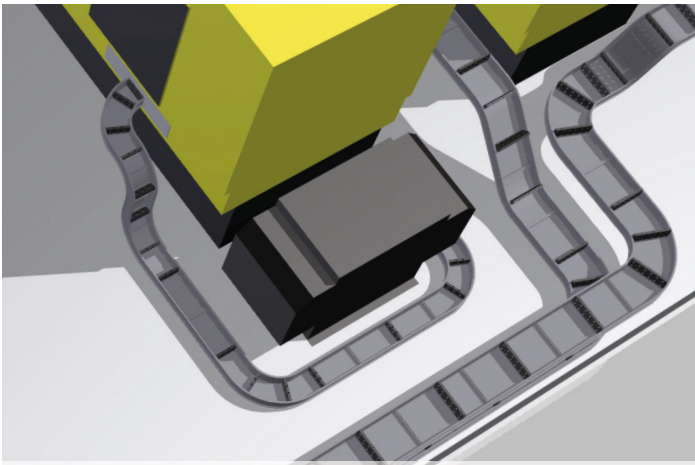
ENCLOSURES

Enclosures are available up to NEMA 4X and designed to suit system specific requirements. They can be bolted directly to transformer or switchgear equipment and allow for easy terminations.

FITTINGS

Custom fittings are the perfect answer to routing in tight areas. Non-standard radius and angle fittings are available to suit your job site, no matter how it's configured.





System layout by Superior Tray Systems



Actual SuperiorBus™ system install

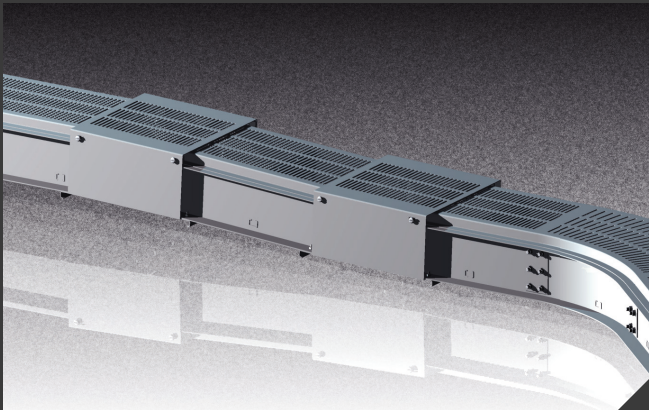
COLOUR MATCH

Enclosure can be painted to colour match the building exterior. This is used in residential areas or where the appearance of cable bus is to be minimized.



FROST HEAVE

Certain soil conditions exist where underground ice can form and cause the ground to heave. Hinged fittings are available to accommodate the potentially damaging effect of frost heave.



ISOLATION

Sections of Superior Bus can be fabricated from UV resistant UHMW polyethylene. This is done to electrically isolate a section of cable bus enclosure from the remainder of the system.



Custom Layout Solutions

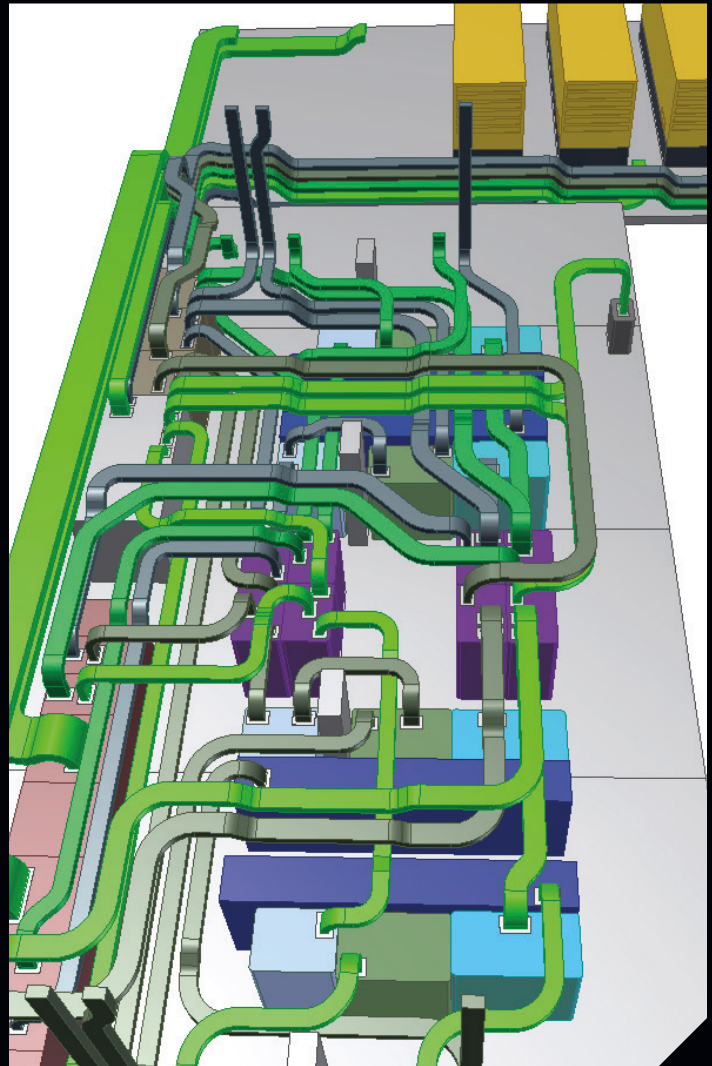
We coordinate and design complex layouts to achieve a trouble-free installation.

DATA CENTERS

Electrical rooms generally include the largest number of cable bus systems, while allowing the smallest amount of free space for routing. Further adding to the complexity is the fact that installations and upgrades may be completed in separate stages. Layouts developed by our experienced designers ensure that there is a clear working envelope for installation.

Layout Services

The optimal system layout requires input from all stakeholders in a project. Our designers work with architects and engineers to coordinate and develop the ideal layout. This includes the ability to route around existing equipment and architectural features.



Corrosive Environments

The stainless steel SuperiorBus™ system is designed and manufactured to withstand highly corrosive environments.

System Features

Complete SuperiorBus™ systems are available in stainless steel grades for high corrosion resistance. These systems combine an extra level of corrosion protection with all of the benefits of our standard systems.

Accessories

All system accessories in a stainless steel SuperiorBus™ package uphold the same high resistance to corrosion. Environmental wall seals are supplied in stainless steel, as are all fasteners. MSB dry seals and gaskets are chemical and UV resistant.

Industries

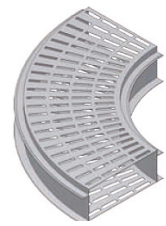
- Potash mining
- Sewage water treatment
- Chemical plants
- Marine installations



SUPERIORBUS™ Typical Components and Fittings

Horizontal Elbows

Horizontal elbows are used to make 15 to 90 degree horizontal directional changes in the **SUPERIORBUS™** system. Horizontal elbows come complete with support blocks, ventilated covers, splice plates, hardware, and fittings. The standard radius of a horizontal elbow is 24 inches, however, custom designed elbows are available to suit the bending radii and directional requirements for a specific installation.



Vertical Elbows

Vertical elbows are similar to horizontal elbows but are used to make changes in the vertical direction of the **SUPERIORBUS™** system from 15 to 90 degrees. Unlike horizontal elbows, these fittings come in two types: the inside vertical elbow to change the upward direction and conversely the outside vertical elbow to change the direction downward.



Environmental Seals

An environmental seal is used when a **SUPERIORBUS™** passes through a wall, roof or any structure requiring isolation from environmental elements such as water, air, gas, etc. A watertight seal is made at every point of contact between the cable bus/cables to the environmental flange plate and supporting structure.



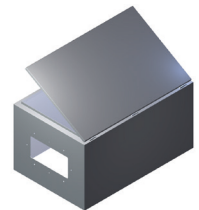
Tap Box

A tap box is used when it is necessary to “tap-off” a portion of current flow from the main **SUPERIORBUS™** run to an intermediary load. Tap boxes consist of an aluminum or steel housing complete with bus bars and insulators. Superior tap boxes are suitable for both indoor and outdoor use and are available with CSA certification and NEMA 3R weatherproof rating.



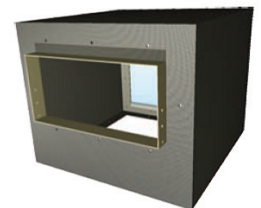
Equipment Box

An equipment box is used when **SUPERIORBUS™** has to terminate power cables at outdoor electrical equipment such as transformers or motors. The equipment box provides the work space to facilitate the separation of phases and cable terminations. Standard outdoor equipment/termination boxes are made of aluminum, provide grounding to equipment enclosures, and are water-tight with a NEMA 4 rating.



Box Connections

Box connectors are used when terminating the **SUPERIORBUS™** enclosure to indoor electrical equipment such as motor control centers, power distribution panels, switchgears or other metal structures.



MCT Fire Stop

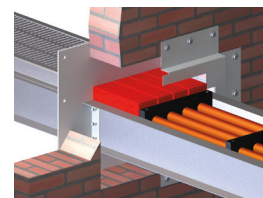
The MCT Fire Stop provides a fireproof seal rated for up to 4 hours, for use when the **SUPERIORBUS™** passes through a wall, floor, deck, bulkhead, etc. Constructed from a neoprene based product that forms a complete seal, the MCT is suitable for unstable and hazardous locations, being both air and water-tight, even under high shock or high vibration conditions. While maintaining dielectric strength, the MCT is compact and can accommodate a large variety of power cables, as well as other conduits, piping and tubings.



SUPERIORBUS™ Typical Components and Fittings

Environmental Seal/FIRESTOP Pillow Combination

This environmental seal combined with mineral fiber fire stop pillows is suitable for applications where a **SUPERIORBUS™** penetrates a wall or opening that is required to be fire rated. The pillows are tightly packed and inserted lengthwise into openings between conductors. If the pillows are exposed to fire, they rapidly expand to lock the seal in place.



Cable Terminations

The power cables are supplied with heat or cold shrink termination kits. Cold shrink termination kits are used for 5kV and higher voltage applications. The outdoor termination kit (with sheds) and indoor termination kit (without sheds) are medium voltage cold shrink polymer terminations that are designed for fast, easy and reliable installation. No heat or complicated assembly is required. The termination shrinks evenly as the inner support core is removed creating a tight void free interface between the termination and the power cable. The installed termination kit also provides a superior moisture seal to the power cable.

Heat shrink termination materials are used for 600V systems. The heat shrinkable cable sleeves provide reliable performance for terminations as well as mechanical and environmental protection. Heat shrink terminations are UV, abrasion, and fungus resistant, as well as self extinguishing. They are split resistant and fast shrinking for ease in installation.



Compression Lugs

Two hole long barrel compression lugs that are UL listed and CSA Certified are supplied for the power cables. The compression terminal lugs are temperature rated to a minimum of 90°C and are tin-plated to inhibit corrosion and provide improved electrical bonding between parts. Compression terminal lugs are suitable for stranded copper conductor and have completely closed transitions to protect the end of the power cable from environmental hazards.



System Accessories

Support Frame

The **SUPERIORBUS™** systems are supported according to NEMA standards and supports are installed up to 20 ft on center. **SUPERIORBUS™** supplies a variety of structural and trapeze supports, including T-type, frame support, pedestal support and wall support. This support frame is connected to the support structure and holds the load of the total cable bus system with the help of the support structure.



Support Structure

The support structure is the main support system which will carry the load of the whole **SUPERIORBUS™** through the support frame. This support structure can be the main structure of the project which can support not only cable bus system but also other systems installed in the project. With our advanced manufacturing facility and experienced engineering and design team, we build a cost effective, reliable and safe support structure that can be used for the **SUPERIORBUS™** system as well as for other systems.



System Balance & Optimization

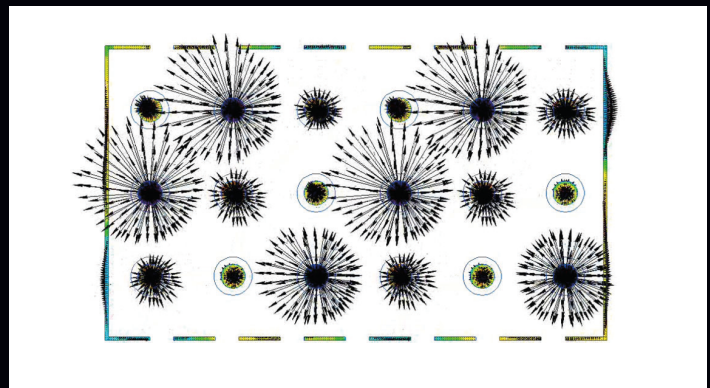
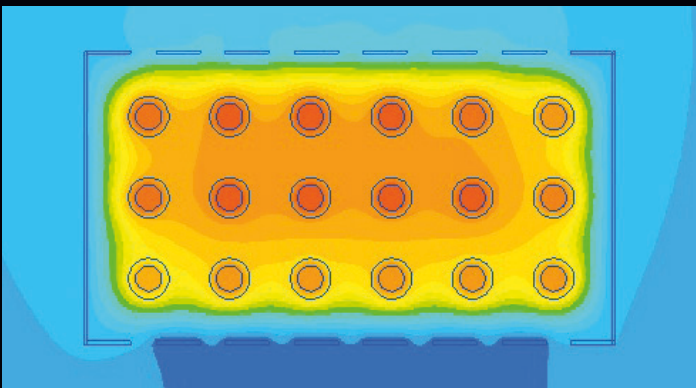
We model the conductors, insulation, shielding, jacket, and the ventilated enclosure in FEA. The result is a safe and highly efficient system.

CURRENT BALANCING

Superior Tray Systems achieves proper current balance through their FEA analysis, which is provided as a report included with every system. A balanced system runs cooler, which extends its life and reduces conductor cost.

SHORT CIRCUIT FORCES

In a balanced system, a short circuit is carried evenly by all conductors. Cables are arranged such that short circuit magnetic forces will be minimized, and thus reduces the risk of damaging the cable insulation.



VOLTAGE DROP

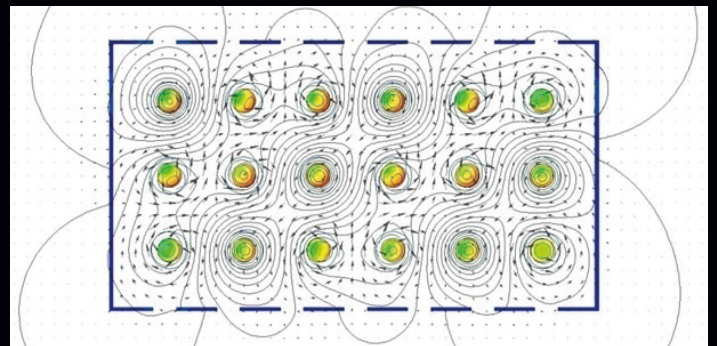
In the design of an electrical system, the voltage drop in the power feeders as well as the entire power system must be considered. However, it should be noted that this data is easily modified since it is a function of conductor sizing. Impedance in a conductor for a given amperage is inversely proportional to the size of the conductor. A larger power cable will result in a lower voltage drop if ampacity is held constant. This fact is an important consideration in determining the optimal ratio between material and operating expenses.

Voltage drops of 3% to 4% for power feeders and 5% or less for the entire power system are within standard acceptable limits. SuperiorBus™ systems are designed to attain a low-voltage drop and can often achieve a voltage drop of less than 1% while minimizing conductor materials.



MAGNETIC FIELDS

Power distribution systems will generate electromagnetic interference (EMI), which is highly undesirable in data centers and around EMI sensitive equipment. By optimizing the phase arrangement, internal field cancellations result in lower EMI generation.



VALIDATION & TESTING

SuperiorBus™ has been put to the test - quite literally. The system has been short circuit tested to 200KA. This type of test verifies the system integrity under fault conditions. A test of this magnitude far exceeds even the highest requirements of any customer application. The system performed flawlessly without any damage over the 12 cycle short circuit. The enclosure, support blocks, phase arrangement, and cables all contribute to this success

Technical Information

The electrical design principles and values described here are useful in understanding the fundamentals of a ***SUPERIORBUS™*** system.

Electrical Properties

Parameter	Specification
Material:	6063-T6 Aluminum
Resistance:	16 $\mu\Omega$ /ft
Resistance across splice:	11 $\mu\Omega$
Resistance of 24 ft length with splice:	197 $\mu\Omega$
Copper equivalent:	1250 MCM
Continuous current rating (50°C Rise):	1260 A
One second rating (50°C Rise):	68,500 A
Continuous current rating (50°C Rise):	1260 A
Conductivity:	53%
Electrical resistance @ 20°C:	15.37 $\mu\Omega$ / in ² / ft

SUPERIORBUS™ System

Parameter	Specification
Power Configuration	3-Phase 3-Wire (Delta), 3-Phase 4-Wire (Wye)
Ampacity	Unlimited ampacities; standard systems range from 400-10,000A All systems are CEC and NEC compliant
Voltage	208V to 218kV (AC/DC)
Certification	CSA certified cable bus, UL certified grounding conductor
Free Air Rating	Yes
Grounding	UL certified as grounding conductor with conducting equivalency to a 1250MCM copper cable
Short Circuit	Tested up to 200 KAIC

Enclosure

Parameter	Specification
Material	6063-T6 Aluminum, Stainless Steel
Size (WxH)	Minimum 9" x 4.5", Maximum 48" x 16", and up
Fitting radius	12", 18", 24", 36", and up
Cover types	Ventilated, Solid, Peaked, Louvered

Support Blocks

Parameter	Specification
Material	Glass Fibre Reinforced Polymer, UHMW PE
Spacing	18" (vertical sections), 36" (horizontal sections)

Cables

Parameter	Specification
Material	Copper, Aluminum
Insulation	EPR/XLPE standard; custom variations available
Certification	FT1 or FT4 Fire Rating
Lugs	Two-hole long-barrel compression lugs
Termination	600V terminated with heat shrink; 5kV and up terminated with cold shrink termination kit (available with or without sheds)

Ampacity Comparisons

Based on the NEC & ICEA Tables at 90°C in 40°C Ambient, the following table illustrates the greater current carrying capacity of **SUPERIORBUS™** as compared to other methods:

SYSTEM	CONDUCTOR SIZE (MCM)	SUPERIORBUS™ NEC AMPACITY (AMP) OF 90°C RATED CONDUCTOR AND 40°C AMBIENT TEMPERATURE	SUPERIORBUS™ CANADIAN SYSTEMS AMPACITY (AMP) OF 90°C RATED CONDUCTOR AND 30°C AMBIENT TEMPERATURE	INTERLOCKED ARMORED CABLE (IN TRAY) (AMP)	THREE SINGLE CONDUCTOR CABLES IN CONDUIT (IN AIR) (AMP)
600V System	500	637	660	405	477
	750	805	845	500	598
	1000	960	1000	585	689
5kV System	500	695	730	425	473
	750	900	945	525	579
	1000	1075	1129	590	659
15kV System	500	685	719	470	481
	750	885	929	570	588
	1000	1060	1113	650	677

Superior Cable Bus Sizing- Ampacity Listing

1. The reference figures shown are the typical arrangement of power cables in a multi-layered **SUPERIORBUS™** System.
2. Each system is designed to ensure reliable performance and the client's unique requirements.
3. We custom build **SUPERIORBUS™** with different dimensions for clients where there are space restrictions at the project sites.
4. For higher cable bus voltage (35kV, 69kV, and up) contact Superior Tray at info@superiortray.com or +1-604-572-4419.
5. Ampacity ratings are given based on a 90°C operating temperature.

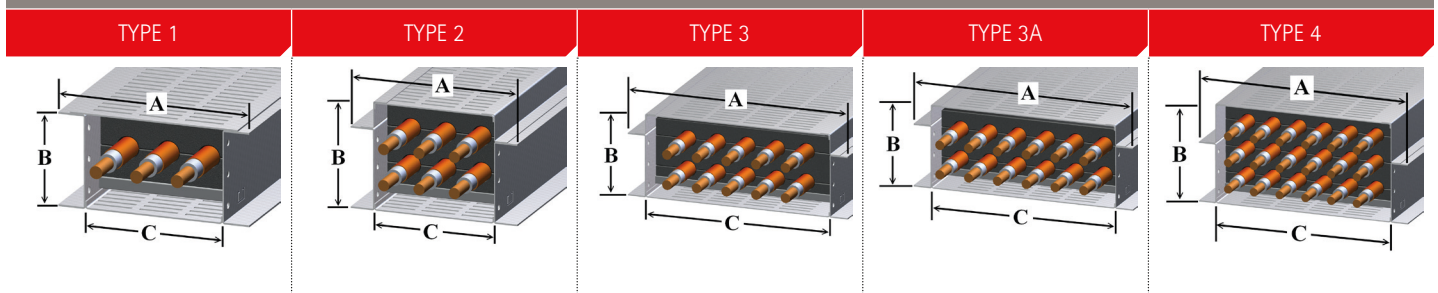
TABLE A - 600 VOLTS 3-PHASE, 3-WIRE SYSTEM
(AMPACITY AT 40°C AMBIENT FOR NEC EXCEPT THOSE MARKED * WHICH IS AT 30°C AMBIENT FOR CEC)

A	AMPACITY (AMPS)	VOLTAGE (V)	SYSTEM CONFIGURATION	ENCLOSURE DIMENSIONS (IN INCHES)			FIGURE REFERENCE
				A	B	C	
	800	600	3-Phase, 3-Wire	12 1/2	6	9	Type 1
	1200	600	3-Phase, 3-Wire	12 1/2	6	9	Type 2
	1300	600	3-Phase, 3-Wire	12 1/2	6	9	Type 2
	1400	600	3-Phase, 3-Wire	12 1/2	8	9	Type 2
	1600	600	3-Phase, 3-Wire	12 1/2	8	9	Type 2
	1750	600	3-Phase, 3-Wire	12 1/2	8	9	Type 2
	1950	600	3-Phase, 3-Wire	15 1/2	6	12	Type 3
	2100	600	3-Phase, 3-Wire	21 1/2	8	18	Type 3
	2600	600	3-Phase, 3-Wire	21 1/2	6	18	Type 3A
	2800	600	3-Phase, 3-Wire	21 1/2	8	18	Type 3A
	3100	600	3-Phase, 3-Wire	21 1/2	8	18	Type 3A
	3300	600	3-Phase, 3-Wire	21 1/2	8	18	Type 3A
	3500	600	3-Phase, 3-Wire	21 1/2	8	18	Type 3A
	3900	600	3-Phase, 3-Wire	21 1/2	10	18	Type 4
	4200	600	3-Phase, 3-Wire	21 1/2	10	18	Type 4
	4700	600	3-Phase, 3-Wire	21 1/2	10	18	Type 4
	5000	600	3-Phase, 3-Wire	21 1/2	10	18	Type 4
	5300	600	3-Phase, 3-Wire	21 1/2	10	18	Type 4
	5300-11000	600	Custom designed and built, please contact Superior Tray for more information.				
	Heavy Duty System of Up To 20,000	600					

TABLE B - 600 VOLTS 3-PHASE, 4-WIRE SYSTEM
(AMPACITY AT 40°C AMBIENT FOR NEC EXCEPT THOSE MARKED * WHICH IS AT 30°C AMBIENT FOR CEC)

B	AMPACITY (AMPS)	VOLTAGE (V)	SYSTEM CONFIGURATION	ENCLOSURE DIMENSIONS (IN INCHES)			FIGURE REFERENCE
				A	B	C	
	800	600	3-Phase, 4-Wire	15 1/2	6	12	Type 1A
	1200	600	3-Phase, 4-Wire	15 1/2	6	12	Type 2A
	1300	600	3-Phase, 4-Wire	15 1/2	6	12	Type 2A
	1400	600	3-Phase, 4-Wire	15 1/2	8	12	Type 2A
	1600	600	3-Phase, 4-Wire	15 1/2	8	12	Type 2A
	1750	600	3-Phase, 4-Wire	15 1/2	8	12	Type 2A
	1950	600	3-Phase, 4-Wire	21 1/2	6	18	Type 3A
	2100	600	3-Phase, 4-Wire	21 1/2	8	18	Type 3A
	2600	600	3-Phase, 4-Wire	21 1/2	6	18	Type 3B
	2800	600	3-Phase, 4-Wire	27 1/2	8	24	Type 3B
	3100	600	3-Phase, 4-Wire	27 1/2	8	24	Type 3B
	3300	600	3-Phase, 4-Wire	27 1/2	8	24	Type 3B
	3500	600	3-Phase, 4-Wire	27 1/2	8	24	Type 3B
	3900	600	3-Phase, 4-Wire	21 1/2	8	18	Type 4A
	4200	600	3-Phase, 4-Wire	27 1/2	10	24	Type 4A
	4700	600	3-Phase, 4-Wire	27 1/2	10	24	Type 4A
	5000	600	3-Phase, 4-Wire	27 1/2	10	24	Type 4A
	5300	600	3-Phase, 4-Wire	27 1/2	10	24	Type 4A
	5300-11000	600	Custom designed and built, please contact Superior Tray for more information.				
	Heavy Duty System of Up To 20,000	600					

REFERENCE FIGURES FOR TABLE A: 600 VOLT, 3 PHASE, 3 WIRE



REFERENCE FIGURES FOR TABLE B: 600 VOLT, 3 PHASE, 4 WIRE SYSTEMS

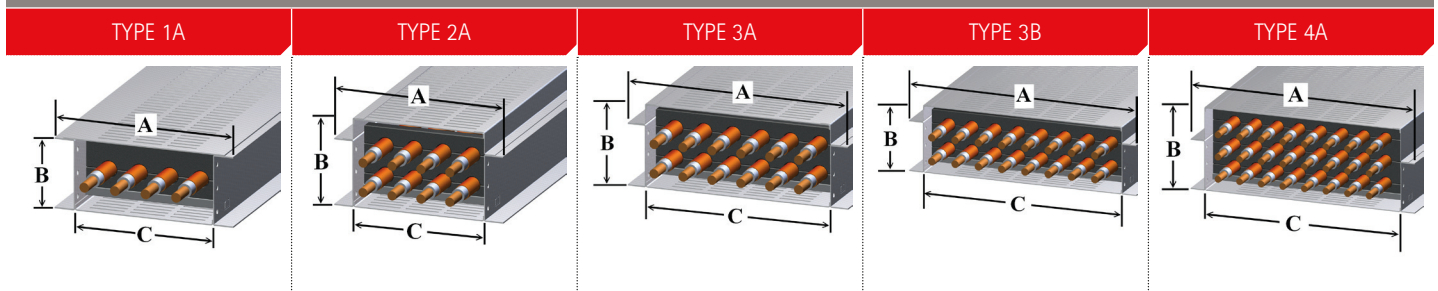


TABLE C - 5kV 3-PHASE, 3-WIRE SYSTEM
(AMPACITY AT 40°C AMBIENT)

C	AMPACITY (AMPS)	VOLTAGE (kV)	SYSTEM CONFIGURATION	ENCLOSURE DIMENSIONS (IN INCHES)			FIGURE REFERENCE
				A	B	C	
	1100	5	3-Phase, 3-Wire	12 1/2	6	9	Type 2
	1300	5	3-Phase, 3-Wire	12 1/2	8	9	Type 2
	1800	5	3-Phase, 3-Wire	12 1/2	8	9	Type 2
	2000	5	3-Phase, 3-Wire	21 1/2	8	18	Type 3
	2200	5	3-Phase, 3-Wire	21 1/2	6	18	Type 3A
	2700	5	3-Phase, 3-Wire	21 1/2	8	18	Type 3
	3600	5	3-Phase, 3-Wire	21 1/2	8	18	Type 3A
	4100	5	3-Phase, 3-Wire	21 1/2	10	18	Type 4
	5400	5	3-Phase, 3-Wire	21 1/2	10	28	Type 4
	Above 5400	5	Custom designed and built, please contact Superior Tray for more information.				

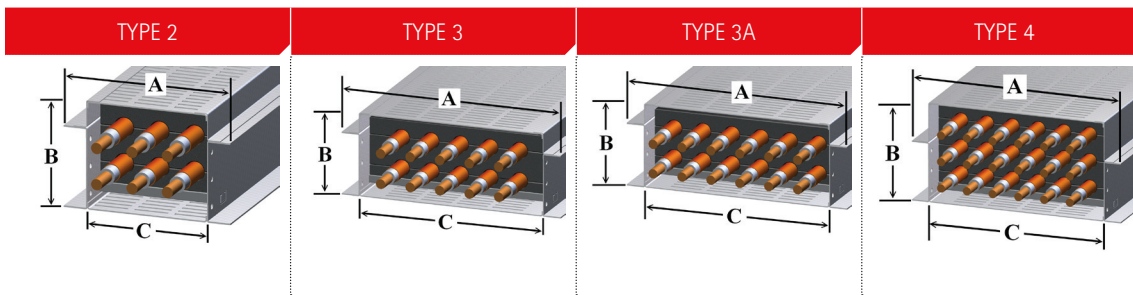


TABLE D - 5kV 3-PHASE, 4-WIRE SYSTEM
(AMPACITY AT 40°C AMBIENT)

D	AMPACITY (AMPS)	VOLTAGE (kV)	SYSTEM CONFIGURATION	ENCLOSURE DIMENSIONS (IN INCHES)			FIGURE REFERENCE
				A	B	C	
	1100	5	3-Phase, 4-Wire	15 1/2	6	12	Type 2A
	1300	5	3-Phase, 4-Wire	15 1/2	8	12	Type 2A
	1800	5	3-Phase, 4-Wire	15 1/2	8	12	Type 2A
	2000	5	3-Phase, 4-Wire	21 1/2	8	18	Type 3A
	2200	5	3-Phase, 4-Wire	21 1/2	6	24	Type 3B
	2700	5	3-Phase, 4-Wire	21 1/2	8	18	Type 3A
	3600	5	3-Phase, 4-Wire	21 1/2	10	18	Type 4
	4100	5	3-Phase, 4-Wire	27 1/2	10	24	Type 4A
	5400	5	3-Phase, 4-Wire	33 1/2	10	24	Type 4A
	Above 5400	5	Custom designed and built, please contact Superior Tray for more information.				

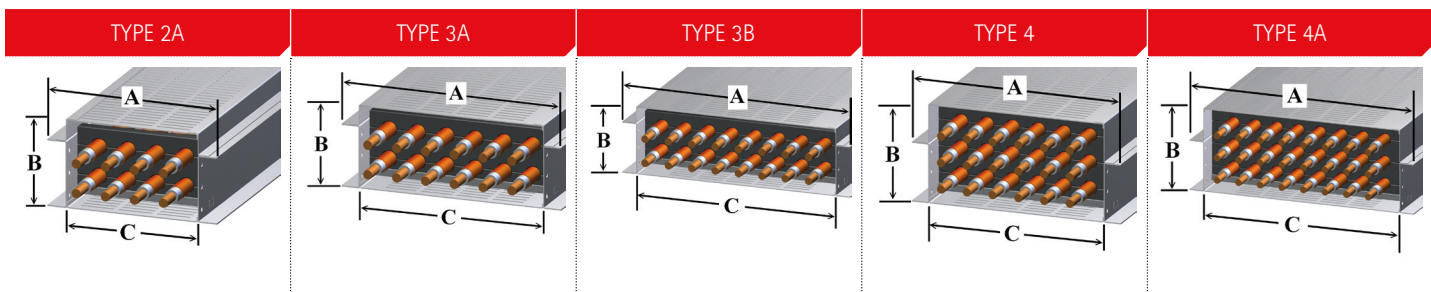


TABLE E - 15kV 3-PHASE, 3-WIRE SYSTEM
(AMPACITY AT 40°C AMBIENT)

E	AMPACITY (AMPS)	VOLTAGE (kV)	SYSTEM CONFIGURATION	ENCLOSURE DIMENSIONS (IN INCHES)			FIGURE REFERENCE
				A	B	C	
	1100	15	3-Phase, 3-Wire	12 1/2	8	9	Type 2
	1300	15	3-Phase, 3-Wire	12 1/2	8	9	Type 2
	1700	15	3-Phase, 3-Wire	15 1/2	8	12	Type 2
	2000	15	3-Phase, 3-Wire	21 1/2	8	18	Type 3
	2200	15	3-Phase, 3-Wire	21 1/2	8	18	Type 3A
	2700	15	3-Phase, 3-Wire	21 1/2	8	18	Type 3A
	3500	15	3-Phase, 3-Wire	27 1/2	8	24	Type 3A
	4100	15	3-Phase, 3-Wire	21 1/2	10	18	Type 4
	5300	15	3-Phase, 3-Wire	27 1/2	12	24	Type 4
	Above 5300	15	Custom designed and built, please contact Superior Tray for more information.				

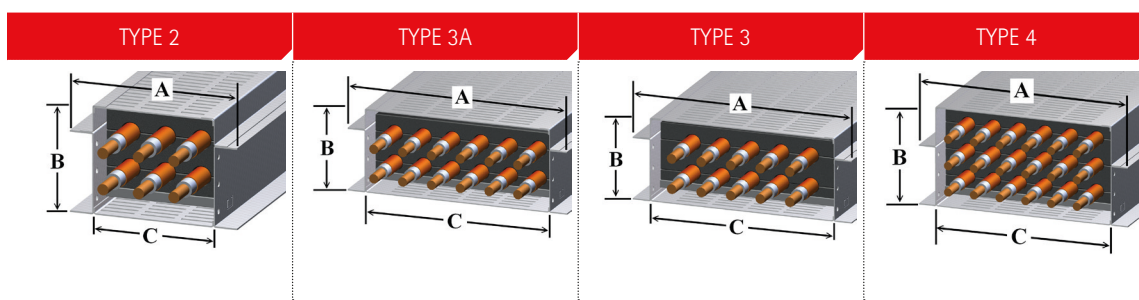
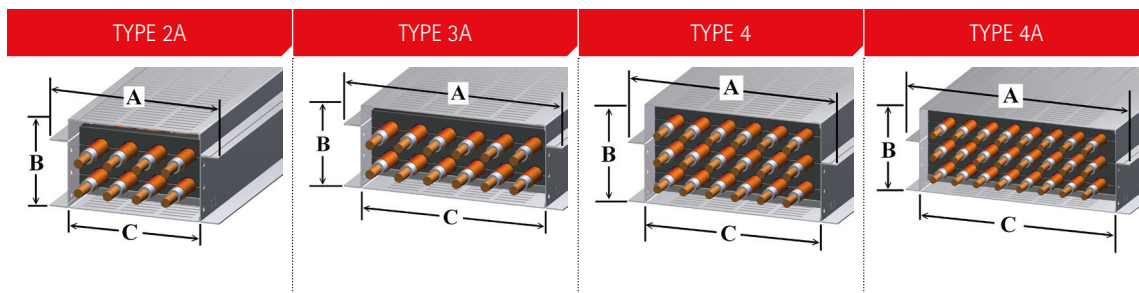
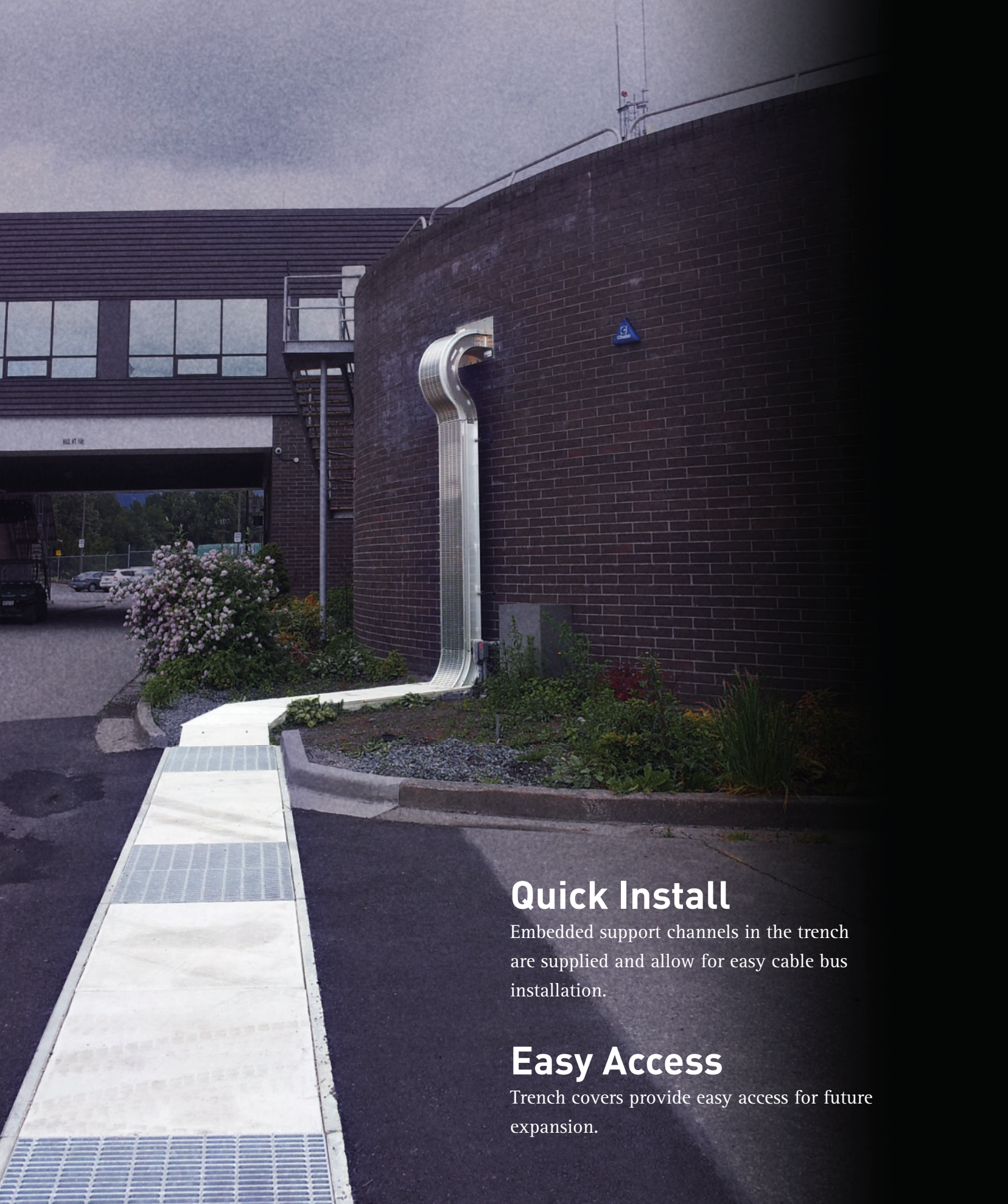


TABLE F - 15kV 3-PHASE, 4-WIRE SYSTEM
(AMPACITY AT 40°C AMBIENT)

F	AMPACITY (AMPS)	VOLTAGE (kV)	SYSTEM CONFIGURATION	ENCLOSURE DIMENSIONS (IN INCHES)			FIGURE REFERENCE
				A	B	C	
	1100	15	3-Phase, 4-Wire	15 1/2	8	12	Type 2A
	1300	15	3-Phase, 4-Wire	15 1/2	8	12	Type 2A
	1700	15	3-Phase, 4-Wire	21 1/2	8	18	Type 2A
	2000	15	3-Phase, 4-Wire	21 1/2	8	18	Type 3A
	2200	15	3-Phase, 4-Wire	21 1/2	10	18	Type 4
	2600	15	3-Phase, 4-Wire	27 1/2	8	24	Type 3A
	2700	15	3-Phase, 4-Wire	27 1/2	10	18	Type 4
	3500	15	3-Phase, 4-Wire	27 1/2	12	24	Type 4
	4100	15	3-Phase, 4-Wire	27 1/2	10	24	Type 4A
	5300	15	3-Phase, 4-Wire	33 1/2	12	30	Type 4A
	Above 5300	15	Custom designed and built, please contact Superior Tray for more information.				





Quick Install

Embedded support channels in the trench are supplied and allow for easy cable bus installation.

Easy Access

Trench covers provide easy access for future expansion.

Trenched Systems

SuperiorBus™ integrated with a precast concrete trench allows for efficient underground system installation.

UNDERGROUND INSTALLATION

Trenched systems are ideal for outdoor projects in which vehicle traffic or road crossings would be impeded by above ground cable bus support structures. Concrete trenching is available up to 24" deep x 48" wide. The system is durable and can be supplied in HS20 loading for a road crossing rated to 32,000 lbs/axle.

Concrete trenching is available with ventilated covers which maintain a free air rating. Conductor sizing can be adjusted for solid covers and non-free air as per customer requirements.

Multi Purpose

A control cable tray can be accommodated alongside the primary SuperiorBus™ run within a single trench.



Integrated Walkway

Merge multiple electrical lines with a low maintenance walkway to save time & money.

DUAL PURPOSE

The lightweight and modular system features a decking assembly which both supports cables and serves as part of the structural support. This provides a structurally sound walkway that is cost effective and easy to install.

Visual Appeal

The all-aluminum construction will not rust and never needs to be painted. The smooth radius follows transit lines.

Maintenance

Integrated walkway is a low maintenance system with a 99 year design lifetime.

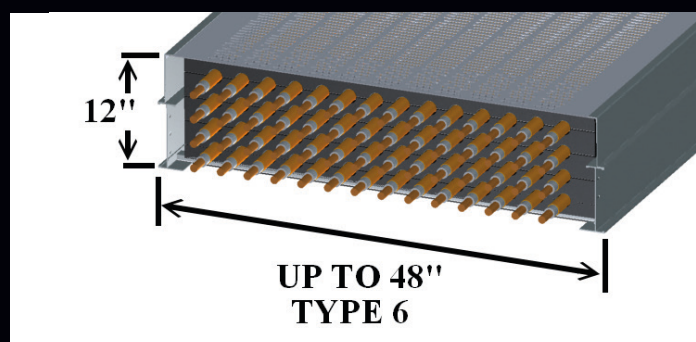
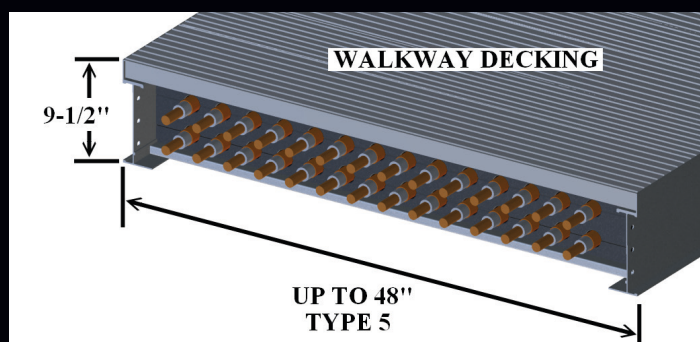


Specifications - Type 5 Walkway

Ampacity (A)	Configuration	Voltage (V)	Span	Width	Height
10,200	3-Phase, 3-Wire	600-35,000	10' max	48" max	9-1/2"
7,900	3-Phase, 4-Wire	600-35,000	10' max	48" max	9-1/2"

Specifications - Type 6 Walkway

Ampacity (A)	Configuration	Voltage (V)	Span	Width	Height
20,000	3-Phase, 3-Wire	600-35,000	10' max	48" max	12"
11,000	3-Phase, 3-Wire	600-35,000	20' max	48" max	12"
18,000	3-Phase, 4-Wire	600-35,000	10' max	48" max	12"
9,000	3-Phase, 4-Wire	600-35,000	20' max	48" max	12"



Other Specifications: Custom designed and built, please contact Superior Tray for more information.

Anti Slip

Decking has a tread grip rating of 55 BPN.

System Safety

Seismic bracing and thermal expansion joints are included features. All systems are fully grounded and bonded.

HIGHBUS*

Modular Electrical Distribution Systems for High Rises

HighBus is the first riser system that can be used as temporary power during high rise construction.

COST EFFICIENT

- ✓ Includes watertight seals, water dams, and fire stops, which reduces installation time
- ✓ Wet-dry rated High Bus system eliminates replacement costs of water damaged electrical systems during installation and service life
- ✓ Ease of installation reduces labour costs
- ✓ Reduces maintenance requirements

INTRINSICALLY SAFE & RELIABLE

- ✓ Balanced system with verified phase arrangement
- ✓ Protects against injury and property damage with fire stops and watertight seals
- ✓ Flexibility tolerates building sway

DURABLE

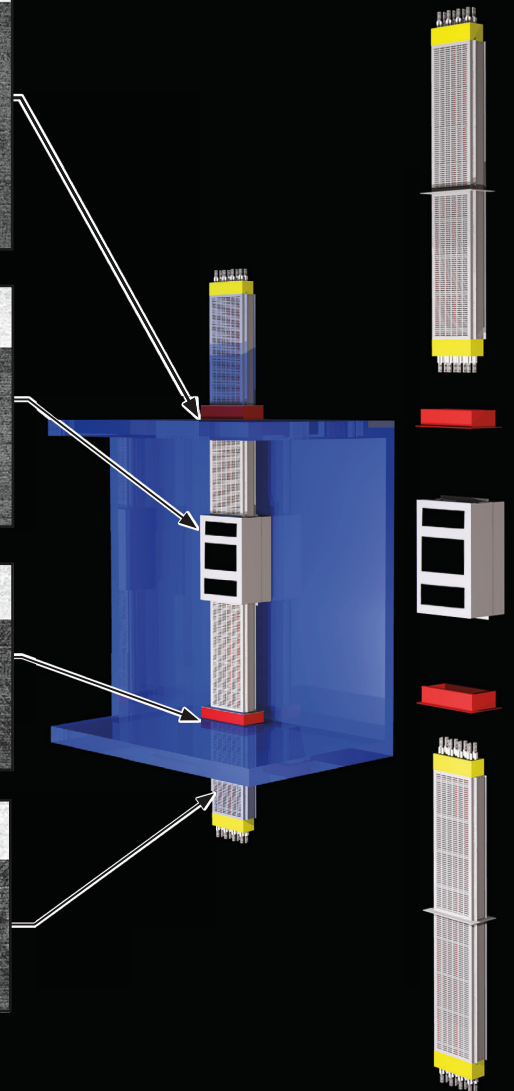
- ✓ Water dam and watertight seals endure up to 12" of water flooding
- ✓ Water dam acts as structural support for High Bus sections

CUSTOMIZED DESIGN

- ✓ Configured to suit building requirements, with customized lengths for specific floor heights
- ✓ Reduced footprint by up to 50% compared to standard bus duct



*PATENT PENDING



HighBus System

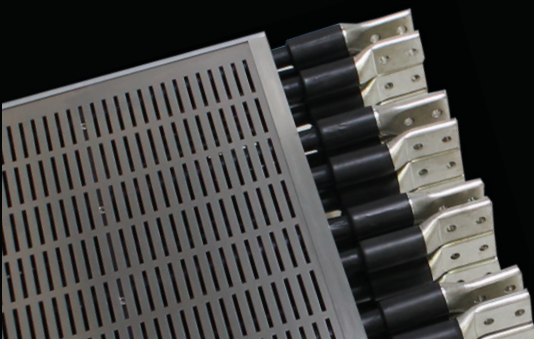
Parameter	Specification
Power Configuration	3-Phase 3-Wire (Delta), 3-Phase 4-Wire (Wye)
Ampacity	2500A or 4000A
Voltage	600V for residential buildings
Certification	CSA certified cable bus, UL certified as a grounding conductor
Free Air Rating	Yes
Grounding	500MCM aluminum cable
Short Circuit	Tested up to 200 KAIC
Material	6063-T6 Aluminum, Stainless Steel

Pre-Configured Splitter System

Parameter	Specification
Terminations	Pre-configured for direct connection to splitter system
Splitter System	Standard set for up to four 600A draws

MODULES

HighBus is fully customized to suit individual customer requirements. It is supplied in customized lengths to match specific floor heights. The system is designed, manufactured and assembled in our production facility and the complete system is shipped in modular pieces.



SAFETY

Most electrical distribution system failures in high rises are the result of water damage from rain during construction, flooding, sprinklers, etc. HighBus is designed as a “wet/dry system” that can be used in outdoor or indoor conditions due to both weather-proofing and water-proofing.



100%

At Superior Tray Systems, we strive for 100% customer satisfaction. In order to accomplish this we work directly with the client to fulfill all their needs. With our knowledgeable and highly experienced staff, we have supplied numerous customers with products and equipment of the highest quality, developing long-term working relationships with clients such as:

- SNC – Lavalin Inc.
- Zodiac – DBC Marine Safety Systems Ltd.
- Tyco Manufacturing Inc.
- North American Construction (1993) Ltd.
Seymour Capilano Filtration Plant
- Albion Sands Energy Inc.
- Suncor
- BC Ferries
- BC Hydro
- Canadian Process and Control
- Meridian Power Systems Inc.
- Western Integrated Electrical Ltd.
- Houle Electric
- Iconic Power
- Beldon
- F.A.S.T.—First Aid & Survival Technologies

WWW.SUPERIORTRAY.COM



SUPERIOR TRAY
SYSTEMS INC

QUOTE FORM:

For a quote, please fill in as much information as you can and we will recommend the rest. You may also attach any specification concerning your request and fax to +1-604-572-4416 or email quotations@superiortray.com

CONTACT INFORMATION

PROJECT NAME:		BID DUE DATE:	
DESTINATION:		SHIP DATE:	
OWNER:			
ENGINEERING FIRM		CONTACT NAME	
ADDRESS:			
TEL:		FAX:	
EMAIL:			
TYPE OF QUOTATION <input type="checkbox"/> PURCHASE <input type="checkbox"/> BUDGETARY			
CABLE BUS APPLICATION:			
WHO WILL BUY:		WHEN:	

SUPERIORBUS

- 1 Amperage: _____
- 2 Voltage: ☐ 600v ☐ 5kv ☐ 8kv ☐ 15kv ☐ Other _____
- 3 ☐ Grounded ☐ Ungrounded
- 4 System: ☐ 3 Phase-3 Wire ☐ 3 Phase- 4 Wire With Full Neutral ☐ 3 Phase- 4 Wire With Half Neutral
☐ 3 Phase - 4 Wire Reduced Neutral (Specify In %) _____ % ☐ Single Phase A.C. ☐ Two Pole D.C
- 5 Housing Material: ☐ Aluminum ☐ Stainless Steel
- 6 Cables/Conductor Material: ☐ Copper ☐ Aluminum ☐ No Preference
- 7 Ambient Temperature (If Not 40°C) _____
- 8 Conductor Operating Temperature (If Not 90°C) _____
- 9 Cable Preference (If None, Superior Tray Will Recommend)
 Insulation Type: ☐ Cross-Linked Polyethylene ☐ Ethylene-Propylene Rubber ☐ Other _____
☐ Shielded ☐ Unshielded
- 10 System Length: ☐ Horizontal Footage _____ ☐ Vertical Footage _____
- 11 ☐ Fire Stop _____ ☐ Wall Seal _____ ☐ Wall Seal (fire rated) _____ ☐ Tap Box _____ ☐ Junction Box _____
- 12 Box Connector: ☐ Indoor _____ ☐ Outdoor _____
- 13 Horizontal Elbow: •90° _____ •60° _____ •45° _____ •30° _____
- 14 Vertical Elbow: •90° _____ •60° _____ •45° _____ •30° _____
- 15 Type Of Electrical Termination Preferred: _____
- 16 Custom Design Transformer Enclosure (Complete With Internal Cable Bracing) ☐ Yes ☐ No
- 17 Special Requirements: _____



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Web: www.superiortray.com