



The Cable Bus Advantage : Cable Bus vs Bus Duct

Reliability	√	
Material Cost	√	
Labor Cost	√	
Flexibility	√	
Service Life	√	
Support Span	√	
System Weight	√	√
Enclosure Size	√	√
Voltage Drop	√	√
Fault Rating	√	√
Maintenance	√	

Cable Bus and Bus Bar systems have similar properties in several areas, such as Voltage Drop, Power Consumption, Enclosure Size, System Weight as well as short circuit capacities.

However, there are several aspects of this comparison that clearly favor Cable Bus and make it the logical choice for your next Electrical Feeder System.

Reliability— Cable Bus systems utilize fully insulated power cables installed (in the field) in continuous lengths from source to load, **eliminating all intermediate splices. The only connections are at the equipment terminations.**

Bus duct systems have bar connections at each end of every straight bus section (10 to 12 feet) and also at each end of elbows and fittings.

In addition to eliminating the conductor splices, Cable Bus Systems also **eliminate all intermediate insulation splices.** The Cable insulation, like the conductor is continuous and homogeneous from source to load.

Since connections are the cause of over 90% of all electrical failures, minimizing the conductor connections and insulation splices, **substantially increases the system reliability!**

Cable Bus vs Bus Duct

Service Life— Cable Bus systems are manufactured from corrosion resistant aluminum and MDF systems also utilize stainless steel hardware to maximize the service life of the systems. Cables used are suitable for indoor and outdoor use.

In many cases, Bus Duct systems may use painted steel enclosures as well as merely plated steel hardware.

Support Requirements

— Our standard designs can span up to 20 feet between support locations.

Bus Duct systems recommend spacing of supports which are much more frequent. On some 600 volt Bar systems, outdoor supports are required on 5 foot centers.

System Maintenance

The maintenance for Cable bus is very minimal. Basically the connections should be checked during a plants inspection. The use of a thermal image camera to check these connections for hot spots is also advantageous.

Bus Duct connections typically are required to be re-torqued every year or two for their connections. However, keep in mind that the connections will be at every section (10-12 feet) plus the end terminations.

In addition unlike Bus Duct there is no concern with the space heaters failing and creating a short circuit situation because of condensation within the enclosure.

Flexibility— Cable Bus systems are much more “forgiving” of unforeseen dimensional changes during installation. If required, Cable Bus enclosures can be cut shorter in the field as easily as cutting Cable Tray.

In most cases, Cable Bus can also accommodate an unforeseen growth in the length of the bus system of 12 inches or more. We normally supply a certain amount of contingency cable for terminations. There are typically one or two feet of excess cable available if the system length needs to be increased slightly.

In addition, Cable Bus does not have to align precisely with existing bus bars in transformer or switchgear compartments as is required with Bus Bar systems.

In fact, Cable Bus has a relatively large envelope for entry into equipment, this is due to the flexibility of the cable as well as the contingency cable length generally provided for terminations.

Material Cost — Material cost of Cable Bus systems can be as much as 20 to 30% less than comparable 5KV and 15KV Bus Duct Systems. Cable Bus systems are also very competitive to 600 Volt Bus Duct systems as well.

Labor Cost — Installation labor costs for Bus Duct systems can be less than labor costs for Cable Bus depending on the particular installation. However, due to the weight of Bus Duct, expensive lifting equipment is generally required during installation. Two men can easily lift a Cable Bus enclosure into place without the use of expensive equipment.

There are many installations where Bus Duct is more costly to install than Cable Bus.

Installed Cost — Even though Bus Duct systems may have a slight advantage in installation labor on some projects, **the significant difference in material cost favors Cable Bus for the Total Installed cost of the system. Not to mention any possible delays in startup from installation issues because of the lack of adjustability if the Bus Duct system does not properly align because of field variance & lack of adjustability of Bus Duct.**