



The Cable Bus Advantage Cable Bus vs Cable Tray

Short Circuit Rating	√	
Current balance	√	
Secure Enclosure	√	somewhat
Complete System	√	√
Engineered System	√	
Extended Service Life	√	
System Cost	√	

Due to the significant difference in the actual product and services comparing Cable Bus to single conductors in Cable Tray it is truly an apples to Oranges comparison.

Not only are there significant product differences between the two systems but Cable Bus is also supplied as a complete, engineered system containing all the necessary materials and instructions to complete the entire installation.

The following is a detail of this comparison.

Fault Current Ratings— MDF Cable Bus Systems are designed and tested to han-

dle high short circuit or fault currents. **Cable Tray systems do NOT have a short circuit rating.**

Electrical feeder systems must withstand the thermal effects and mechanical forces created by potential fault currents of power distribution systems.

Significantly large electromechanical forces are created as unusually large currents are passed through the feeder system during a fault condition. Conditions or cables of opposite phases are repelled while conductors of like phases are at-

tracted.

These substantial electro-mechanical forces can cause violent motion of the cables and damage the cable insulation and associated equipment.

Cable Bus Systems restrain conductors with cable support blocks which are spaced throughout the Cable Bus System. These cable support blocks secure the cables and prohibit the cables from excessive movement and therefore prevent potential damage during fault conditions.

Cable Bus vs Cable Tray

In Cable Tray systems, there is no short circuit rating. There is no testing of any kind to ensure that Cable tray systems using single conductors can withstand these significant forces. Violent motion of cables during high fault current conditions can easily damage cables and potentially create even more problems than the initial fault condition itself.

Current Balance — Whenever conductors are used in parallel (two or more conductors per phase) ensuring current balance between these

Secure Enclosure— MDF Cable Bus Systems employ top and bottom ventilated covers. The covers protect the conductors from potential physical damage as well as prevent entry of unwanted rodents etc that may do harm to the conductors. The covers also provide an additional margin of safety for personnel who could otherwise

Engineered System— MDF cable Bus systems are totally engineered providing detail drawings of Cable Bus routing and bus designs. Complete installation instructions with piece part identification coordinated with layout drawings. All bus sections manufactured to size.

conductors becomes very challenging. Most often the assumption is made that since the conductors are the same size and they are usually close to the same length the impedance and therefore the currents would be balanced. **This is not the case..**

Due to inductive coupling between conductors the total impedance of each conductor is also affected by the physical geometry of the system. The mutual coupling between conductors is dependent upon the spacing between conductors

come into contact with conductors. Cable Tray systems are most often supplied without covers and therefore lack the security that a well designed Cable Bus Systems will provide.

Complete System—MDF Cable bus is sold as a complete electrical feeder system. Everything that is required for the system is supplied. In addition

Extended Service Life— MDF Cable Bus Systems are supplied in corrosion resistant aluminum and also utilizes stainless steel hardware to maximize service life.

and the relationship of the phasing of each conductor in the system. Current division between improperly balanced Cable Tray systems can be **as high as a 30 to 70 percent split.** This can result in conductors carrying currents dramatically higher than rated which could substantially shorten conductor life and possibly lead to a serious fault condition. **MDF Cable Bus Systems are carefully designed to achieve the best possible balanced currents in all conductors of the system**

to the enclosure, the system also includes cables, cable connectors, high voltage termination kits, wall seals, fire stops connecting flanges, transition boxes, tap boxes, splice boxes and occasionally supports if required.

Cable Bus - The solution engineered like Bus Duct with the Forgiveness & flexibility of Cable Tray!