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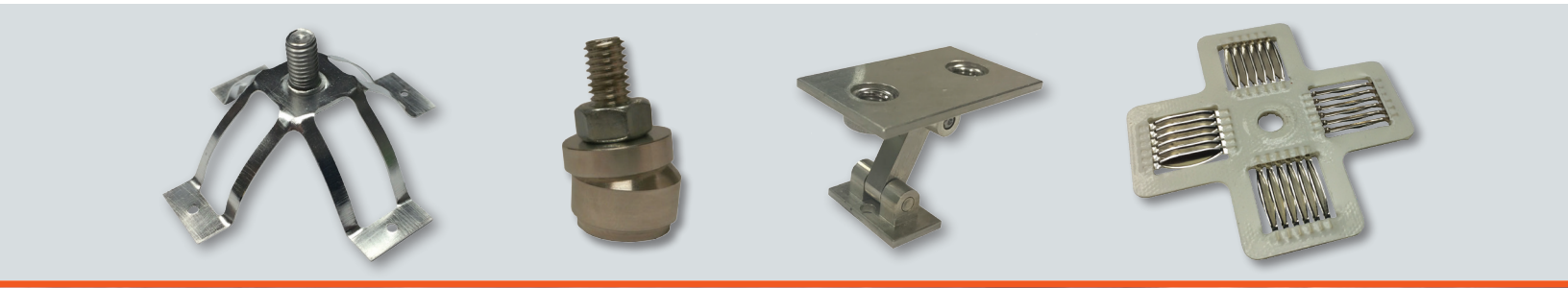
FLEXIBLE AND CONFORMING BUS BAR CONNECTORS



BusFLEXX™ CONNECTORS

Flexible where your designs cannot be!

FLEXIBLE AND CONFORMING BUS BAR CONNECTORS

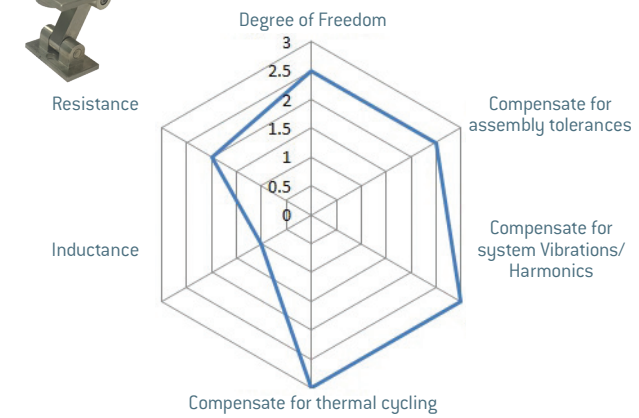
Electrical connections utilizing bus bars and other mechanical fixtures often face challenges of thermal expansion, tight tolerances and the stress of vibration based on the environment they are deployed in. This can negatively effect the performance, reliability and longevity of the application. Mersen's BusFLEXX™ line of conforming connectors are custom designed to help eliminate these challenges. A large variety of unique flexible and conforming connection features can be strategically designed into our bus bars to meet customer's specific requirements.

Mersen's innovative BusFLEXX connectors allow for connectivity of cables to bus bars, electrical/electronic components to bus bars and even bus bar to bus bars wherever there is a need for mechanical gap tolerances and/or thermal compensation. The connectors can have static or +/-1mm dynamic properties up to three rotational axis (X,Y and Z) and provide a cost effective yet long lasting connection methods. Mersen design engineers can work closely with customers to solve their specific design needs for custom-made conforming connectors. In addition, connectors can be designed with certain amount of flexibility and spring tension, reducing the harsh effect of vibration/harmonics on hard connections.

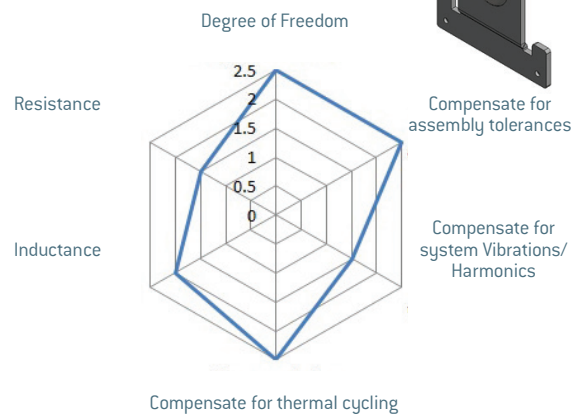
Connectors		Connection Type	Dynamic Axis	Unique Feature	Benefit for users	Typical application examples
Concept A - Key Lock Bushing		Bolted Thru	X,Y	Characteristics of conventional bushings but with axial movement (x,y).	- Field replaceable - Moves freely on bus bar, until bolted connection is made - No soldering required	Power Module/ Capacitor Connection
Concept B - Ball Socket		Bolted	X,Y,Z	Pivots, Ball & Socket Feature.	- Compensates for Angular Mismatch - Moves freely on bus bar, until bolted connection is made	Orbital Interface Connection
Concept C - Articulating Plate		Bolted	Axial Z	Louver band technology to keep electrical connection thru hinge. 0 to 90 degree connections possible.	- Dynamic Motion Possible - Compensates for Height and Angularity Mismatch - Potential situations involving harmonics & vibration	Power Distribution
Concept E - Sliding Plate		Bolted	X,Y,Z	Louver band technology to keep electrical connection thru Press fit bushings.	- Dynamic Motion in Z Axis Possible - Floating Nut Allows for Compensation in X & Y directions until bolted connection is made	Power Distribution
Concept I - Crush Bushing		Bolted Thru	X,Y,Z	Conformable.	- Makes Bushing Conformal to misalignment in the Z axis - Helps compensate for angularity mismatch between Connections - No soldering required	Power Module/ Capacitor Connection
Concept L - Flex Bridge (Eiffel Tower)		Bolted	X,Y,Z	Spring Copper Alloy.	- Dynamic Compensation for misalignment in X, Y, & Z Axis - Design can be modified for different heights, amperages, and connections types - Can be used in High Resonance Applications	Power Distribution
Concept M - Conformal Tab		Bolted	X,Y,Z	Can be soldered on or fabricated directly into conductor depending on conductor thickness.	- Will conform to mating terminals - Floating nut will allow movement in x,y directions	Power Module/ Capacitor Connection
Concept O - Captive Thread Bushing		Bolted Thru	X,Y	Characteristics of conventional bushings but with axial movement (x,y).	- Field replaceable - Moves freely on bus bar, until bolted connection is made - No soldering required	Power Module/ Capacitor Connection
Concept S - Floating Bushing		Bolted Thru	Z	Louver band technology to keep electrical connection thru soldered bushing. Slight Axial movement possible.	- Z Axis Mobility - Dynamic Applications possible	Power Module/ Capacitor Connection
Concept T - Louver Band Washer		Contact Washer	Z	To replace washers used by customers to take up gaps in assemblies. Fills gaps in planar connections.	- High Current interface between 2 flat conductors - Highly flexible - Dynamic Applications - Compensates for expansion and contraction	Power Distribution

PERFORMANCE INDICATORS - EXAMPLES

There are several performance indicators that should be considered when designing a bus bar and connector assembly. Key parameters are noted in the example spider diagrams below that help in choosing which connection feature will work for your specific application.



This is an example of a power distribution connection that can be considered for applications where compensation for thermal cycling and system harmonics exist. As shown above, the articulating plate can provide the required features.

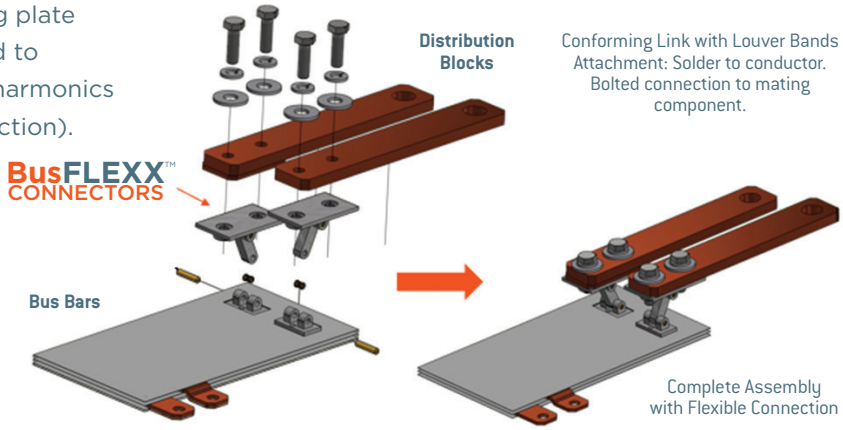


This is an example of a power electronics connection that can be considered for applications that require a large degree of freedom due to a floating nut and flexible tab. The conformal tab can be fabricated in the bus bar or surface mounted.

FLEXIBLE CONNECTION ASSEMBLY EXAMPLE

This example demonstrates the articulating plate connectors in a bus bar assembly mounted to independent distribution blocks handling harmonics or thermal movement (expansion & contraction).

- Handles independent tolerance mismatches
- Louver band technology for positive current flow
- Ease of assembly
- Collapsible design to meet difficult assembly situations



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