SOLUTION GUIDE

BUSBAR SOLUTIONS

INNOVATIVE AND RELIABLE POWER DELIVERY MADE SIMPLE

Molex busbar solutions deliver reliable, compact and cost-effective power distribution systems designed to meet the evolving demands of modern applications. Engineered for superior thermal management, mechanical robustness and seamless system integration, Molex busbars empower design engineers to optimize space, enhance durability and accelerate time-to-market.

Customers benefit from global field application engineer support and localized engineering engagement, offering quick-turn design assistance and customization through regional busbar design teams. With NPI cell capabilities, Molex can also efficiently produce and test prototypes, ensuring fast turnaround times for your design.

SOLVING INDUSTRY CHALLENGES

ENHANCED RELIABILITY AND SAFETY

Busbar systems reduce the number of connections and solder joints; these systems are often enclosed and insulated. This protects against short circuits, vibration and environmental factors.

WEIGHT REDUCTION

Busbars allow for efficient current distribution with less conductor material compared to traditional wiring harnesses, reducing overall weight.

SPACE EFFICIENCY

Busbars have a compact, flat-form factor that can be integrated into tight spaces, enabling more streamlined designs.

IMPROVED ELECTRICAL PERFORMANCE

Busbars provide lower electrical resistance and inductance than wire bundles, leading to reduced power losses, better current carrying capacity and improved voltage stability.

CUSTOMIZATION AND FLEXIBILITY

Busbars can be designed in various shapes and sizes to fit specific architectures.

FOCUS MARKETS

- Energy Storage
- Data Center
- Aerospace and Defense
- Electrification
- Industrial Automation
- Telecom and Networking

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BUSBAR TYPE	FEATURES	ADVANTAGES
Flexible Busbars	Highly customizable rope or braid Multi-Layered Flex (laminated) with thinly stacked layers of copper Welded or brazed flexible to rigid hybrid assemblies: rope, braid or multi-layered flex	Space adaptability: routed through complex geometries and confined spaces Vibration resistance: less mechanical stress on connections Ease of installation: reduced need for multiple connectors and complex wiring
Laminated Busbars	Standard insulation types including Mylar, Nomex, PET and others available Halogen free, tin-, nickel- and silver-plating options available; powder coating Offer multiple layers of conductors adhered together by heat-activated insulation	Reduced the size and weight of electrical assemblies Minimized parasitic inductance and electromagnetic interference Improved thermal management Enhanced reliability Easier to integrate in complex power distribution systems
Rigid Busbars	Available in copper and aluminium: sheet (laser, turret, stamping), Bar (CNC punch) and Rod Welded and brazed assemblies; swaging, edge bending, and complex forming Tin-, nickel- and silver-plating options available with powder coating choice for customers seeking high-performance solutions	High-current capacity: suitable for very high current applications Reliability: reduced risk of deformation or damage over time Thermal management: handles heat generated by high current loads Simplified assembly: pre-formed shapes can be designed for specific layouts Durability: resists wear, vibration and mechanical stresses

INTERCONNECT AND ASSEMBLY OPTIONS

Whether you need busbar assemblies, high-current connectors or custom cable assemblies, Molex provides scalable, customizable solutions backed by global engineering expertise. This integration reduces system complexity, improves electrical performance and meets stringent industry standards with confidence.

COEUR Socket Technology

Multiple configurations available

Offers low contact resistance

Maintains the same overall height

PowerPlane Busbar Connectors

High reliability for enhanced performance

Multiple current ratings and attachment methods utilizing the same separable interface

One part number mates with 3.00- and 3.18mm-thick busbar tabs

www.molex.com/busbars

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