TECO

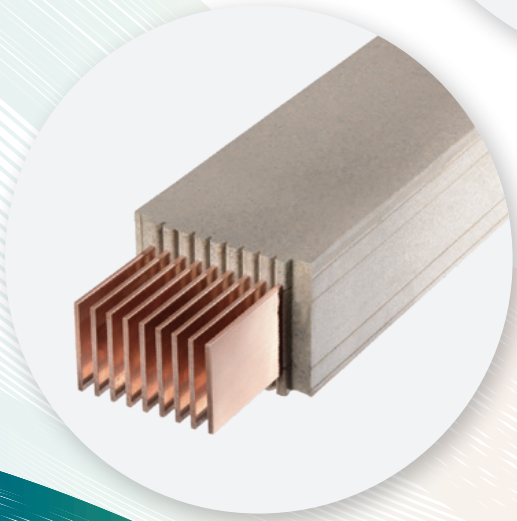
together, we empower the Future

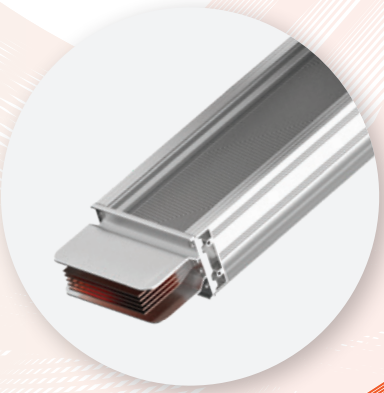
TECOBAR®
Busway Systems

Safety. Longevity. Zero Maintenance.

Power Distribution for Industrial,
Infrastructure & Mission-Critical Sites.

Up to 36 kV , up to 6300 A





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Powering industry's shift to smarter, cleaner energy.

GLOBAL EXPERTISE WITH LOCAL SUPPORT

Operating in over **30 countries** across all five continents.

BUSWAY TECHNOLOGY FOR CRITICAL ENVIRONMENTS

TECOBAR® delivers IP68, IK11 and fire-rated protection – built for safe, maintenance-free operation in critical sites.

CUSTOM PRODUCT SOLUTIONS

Our in-house Design and R&D team tailors products to suit project needs, all with quick turnaround times.

ISO 9001 ISO 45001

TECO is a global leader specialising in the manufacturing and distribution of industrial Electric Motors, Variable Speed Drives, and Renewable Energy Solutions.

Across the region, TECO combines global capability with dedicated local engineering support, offering integrated solutions that include Electric Motors, Drives, Transformers, Renewable Energy systems and TECOBAR® Busway. Designed to replace traditional cabling, TECOBAR provides a safer, cleaner and more space-efficient approach to low and medium voltage distribution, eliminating maintenance requirements and improving operational performance.

TECOBAR systems deliver certified IP68 ingress protection, IK11 impact resistance, full seismic compliance, fire-rated performance and proven ageing beyond 60 years. These characteristics make TECOBAR the preferred solution for tunnels, airports, hospitals, petrochemical facilities, power plants, water infrastructure, mining operations, high-rise developments and mission-critical industrial sites.

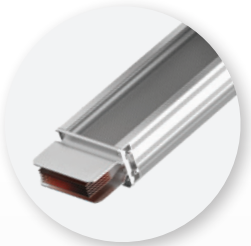
As the energy landscape evolves, TECO continues to expand its portfolio with solutions that support decarbonisation and long-term resilience. Through strong local expertise, global technical capability and a commitment to delivering high-performance power distribution, TECO enables customers across Australia and New Zealand to achieve safer, smarter and more reliable operations.

TECOBAR Low and Medium Voltage Busway Systems

Three solutions. One philosophy: Safety, Long Life, Zero Maintenance

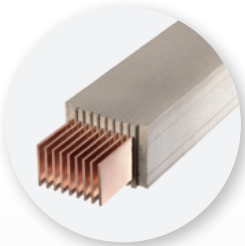
TECOBAR Busway Systems deliver safe, compact and maintenance-free power distribution for low and medium voltage distribution applications.

Designed for industrial, commercial and infrastructure environments, TECOBAR provides long-life performance, certified protection levels and simplified installation compared with conventional distribution methods.



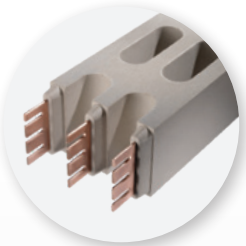
Low Voltage Sandwich Busway

Efficient and space-saving, ideal for risers and dense commercial environments.



Low Voltage Cast Resin Busway

Fully encapsulated in non-organic volcanic rock, IP68 / IP69 protection rated, fire-resistant and explosion-proof for the harshest indoor and outdoor conditions.



Medium Voltage Cast Resin Busway

Engineered up to 36 kV, with class-leading dielectric, mechanical and seismic performance for heavy industry and infrastructure.

Why engineers choose TECOBAR:

- **Longevity:** proven life span >60 years with zero maintenance after installation.
- **Certified safety:** IP68/IP69 protection, IK11 mechanical impact, seismic to IEEE 693, fire tests to IEC 60331 & BS 6387.
- **Space efficiency:** compact design saves up to 40–60% space compared with cable routes.
- **Global references:** nuclear power plants, data centres, airports, petrochemical facilities, hospitals and tunnels.

Certifications & Type Tests

- ISO 9001 / 14001 / 45001 management systems.
- IEC type tests across LV and MV families.
- Third party bodies include DEKRA / ASTA / Intertek.

Applications

TECOBAR busway is deployed where safety, uptime and space efficiency are compulsory

Commercial & Public Buildings

Hospitals & healthcare: fire-rated LV cast resin ensures patient safety and continuity of power during emergencies.

High-rise offices & shopping centres: compact sandwich busway reduces riser footprint, maximising rentable space.

Hotels & stadiums: modular design supports fast installation and upgrades in large venues.

Industrial Manufacturing

Steel, pulp & paper, food processing, chemical and pharmaceutical industries benefit from anti-corrosion, low EMC, and maintenance-free design.

Heavy motors: high short-circuit withstand and overload capacity (+20% for 2 h) protect processes.

Data Centres & Technology

Continuous 24/7 operation without downtime supported by plug-in capacity extension.

LV cast resin busway provides IP68 protection against dust and water, essential in sensitive IT environments.

LV sandwich busway provide IP54 protection suitable for white space indoor environments.

Energy & Infrastructure

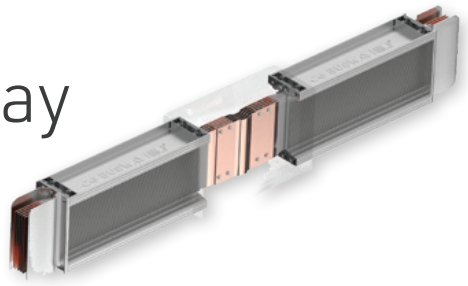
Power plants & substations: (thermal, hydro, nuclear): MV cast resin busway withstands 50 kV/1 min dielectric tests and 120 kA short-circuit currents.

Oil & Gas / Petrochemical: explosion-proof certification (IEC 60079 Ex mb IIC Gb) for hazardous zones.

Airports & tunnels: IP68 protection + fire resistance guarantee continuity under fire or flood scenarios.

Defence & government facilities: seismic compliance (magnitude >7) ensures resilience in critical operations.

Low Voltage Sandwich Busway

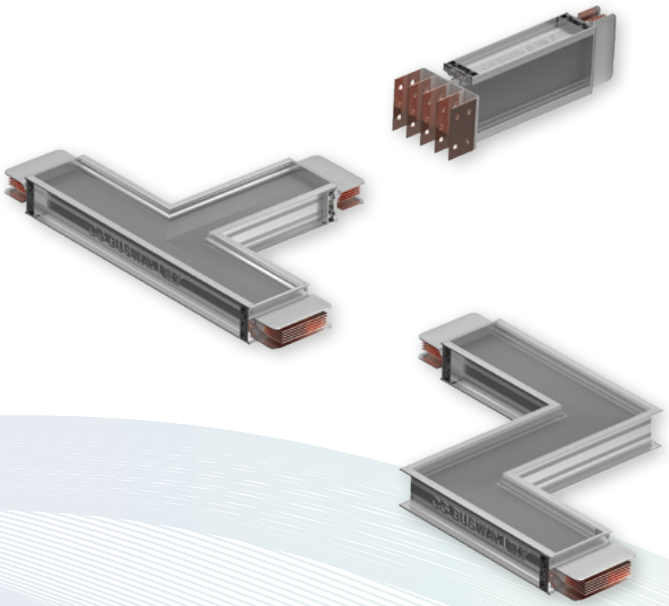


Compact distribution for high-rise and commercial applications

The TECOBAR Low Voltage Sandwich Busway is engineered for vertical risers and plant rooms in high-rise and commercial buildings. Delivering up to 6,300 A at 1,000 V, it provides a compact, reliable and cost-effective alternative to parallel cable runs.

Typical applications include dense urban developments, shopping centres, data centres and service/plant areas where space and installation efficiency are critical.

Plug-in style server rack busways, featured in routing examples, provide a seamless extension to the main high-power distribution system where needed.



Specifications & ratings

- **Rated voltage:** 1,000 V.
- **Rated current:** 400 A – 6,300 A provide capacity for large commercial feeders without parallel cabling.
- **Conductors:** copper or aluminium.
- **Insulation:** Class B 130 C.
- **Frequency:** 50 / 60 Hz.
- **Standards:** IEC 61439-6.
- **Indoor protection** IP54-IP66.
- **Modular elements** (straights, elbows, tees) enable flexible layouts and reduced installation time.
- **Applicable** to direct current power system.

Performance in service

- Low voltage drop across long runs improves efficiency and reduces energy losses.
- High short-circuit withstand provides reliable protection in facilities with heavy motors and transformers.
- Overload capacity of +20% for 2 hours ensures continuity during temporary peak demand without oversizing.
- "Sandwich" design with laminated conductors minimises thermal rise and footprint, supporting long service life.

Applications

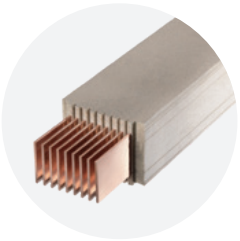
- **High-rise buildings & commercial towers:** compact riser design maximises leasable area.
- **Shopping centres & offices:** cleaner installations and simplified power distribution.
- **Hospitals, data center halls & equipment rooms:** stable low-voltage distribution with reduced congestion.

Comparison with cables

- Requires up to 5× less wiring than cable runs; avoids large cable trays.
- Lower impedance improves fault protection and reduces voltage drop.
- No wide trays required, freeing riser shaft capacity.
- Virtually maintenance-free, unlike cables that require regular inspections.

Installation & lifecycle benefits

- Modular, prefabricated lengths provide compact routing for faster installation with fewer bends and supports, while also creating cleaner layouts than multiple parallel cable runs – enhancing access, operations, and space efficiency in crowded risers and plant rooms.
- Lifecycle benefits: simpler modifications and expansion versus traditional cabling, and inherently better control of voltage drop on long feeders when combined with cast resin sections as required.



Low Voltage Cast Resin Busway

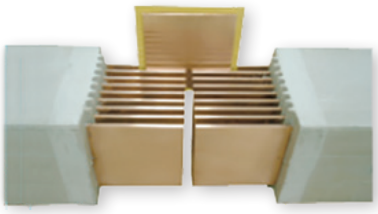
Fire, water and explosion-proof low voltage distribution

The TECOBAR Low Voltage Cast Resin Busway is engineered for environments requiring the highest levels of fire, water and explosion protection. Fully encapsulated in non-organic volcanic rock insulating material, it withstands fire at 950 °C, water immersion, mechanical impact, seismic shock and corrosive atmospheres.

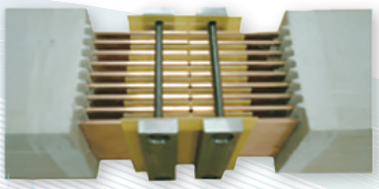
With no maintenance required after installation, it provides reliable low-voltage distribution for continuous operation over decades.

Engineered for outdoor and harsh conditions, TECOBAR LV Cast Resin Busway can achieve IP68/IP69, IK11 mechanical impact, and fire-rated protection where required.

Prepare the two sections for connection.



Insert the joint unit between the sections.



Finished joint after the resin has set.

Specifications & ratings

- **Rated voltage:** 1 kV.
- **Rated current:** 400 – 6,569 A.
- **Conductors:** copper (99.9% purity, >98% IACS) or aluminium.
- **Insulation:** epoxy resin with inorganic fillers, Class H 180 °C.
- **Frequency:** 50 / 60 Hz.
- **Standards:** IEC 61439-6.
- **Degree of protection:** IP68 /IP69 (dust-tight, immersion >1 m).
- **Mechanical impact:** IK11 (10 kg x 50 cm = 50J).
- **Fire resistance:** IEC 60331-21, BS 6387, CNS 14286 (950 °C/3 h; 840 °C/30 min).
- **Explosion proof:** IEC 60079 Ex mb IIC Gb.
- **Anti-corrosion:** verified in salt mist testing.

Performance in service

- Low voltage drop compared to cable runs improves efficiency.
- High short-circuit withstand tested to IEC requirements.
- Overload capacity of +20% for 2 hours maintains continuity during peak demand.
- Low EMC emissions make it suitable for sensitive environments such as data centres.
- Service life >40 years in operation, >60 years in testing: proven long-term reliability.
- No toxic gas emission under operation or fire conditions, ensuring safety in occupied buildings.

Safety & compliance features

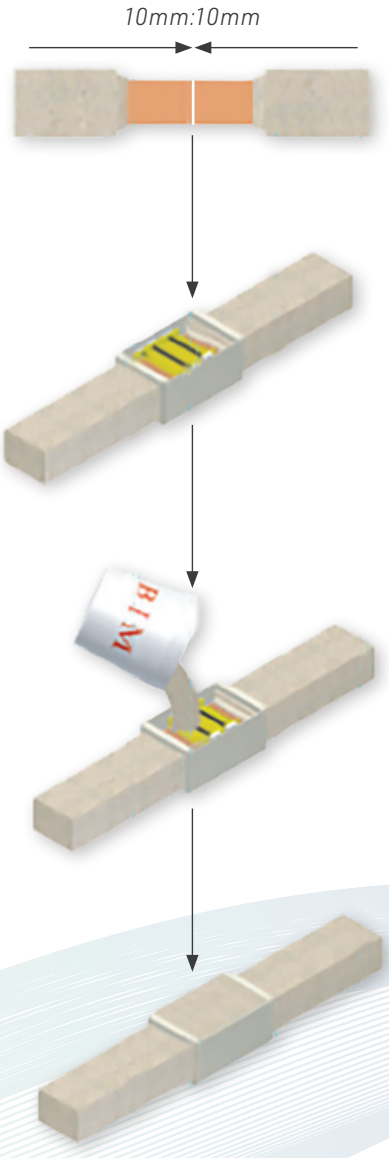
- **IP68/IP69 water proof (IEC 60529):** totally dust tight; suitable for immersion-proof beyond 1 m during test, suitable for tunnels, underground plants and flood-prone sites.
- **Epoxy resin encapsulation, Class H (180 °C):** withstands high temperatures and fire conditions, keeping critical loads energised.
- **Fire resistance (IEC 60331-21, BS 6387, CNS 14286):** certified to maintain operation at 950 °C for 3 h, 840 °C for 30 min.
- **Explosion-proof (IEC 60079 Ex mb IIC Gb):** safe for petrochemical, mining and hazardous environments.
- **Corrosion resistance (salt mist test IEC 60068-2-11):** proven in coastal and offshore applications.
- **Seismic compliance (IEEE 693):** reliable in earthquake-prone regions.

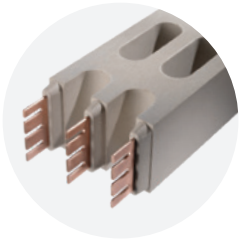
Applications

- **Hospitals & airports:** fire-rated, non-toxic performance for life-safety circuits.
- **Tunnels & metros:** IP68 protection against water ingress.
- **Chemical & petrochemical:** Ex-certified for hazardous zones.

Installation & lifecycle benefits

- **Zero maintenance:** on-site joint casting creates a permanent IP68 seal, eliminating servicing and toxic gas emission.
- **Upgrade-friendly:** old busways can be safely removed and replaced, with controlled lifting and documented casting processes.



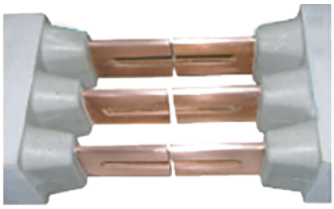


Medium Voltage Cast Resin Busway

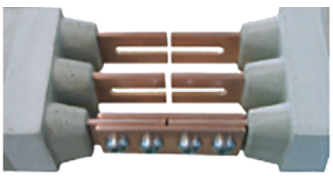
Medium voltage Busway for critical infrastructure

The TECOBAR Medium Voltage Cast Resin Busway is designed for critical infrastructure including power plants, petrochemical sites, tunnels, airports and defence installations.

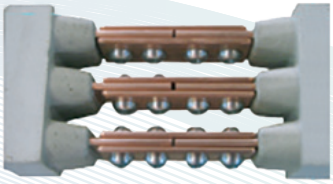
Rated up to 24 kV / 6,300 A, and tested to withstand short-circuits up to 120 kA, it combines IP68 ingress protection, seismic resistance, fire safety and long service life in a single, maintenance-free system.



Align the busway sections with the correct spacing.



Join the conductor plates to form the connection.



Secure the joint with the locking bolts.

Specifications & ratings

- **Voltage classes:** 7.2 / 17.5 / 24 kV / 36kV.
- **Rated current:** 1,000–6,300 A.
- **System:** 3Φ3W, 50 / 60 Hz.
- **Short-circuit withstand:** 25–120 kA / 1 s.
- **Dielectric withstand:** 50 kV/1 min (PE type).
- **Conductors:** copper (99.9% purity, >98% IACS) or aluminium.
- **Insulation:** epoxy resin with 85% inorganic volcanic filler, high thermal dissipation, self-extinguishing.
- **Degree of protection:** IP68/IP69 (dust-tight, water immersion >1 m).
- **Mechanical impact:** IK11 (50J).
- **Seismic:** tested to magnitude >7 earthquakes (0.8 G tri-axial).
- **Operating conditions:** −45 °C to +65 °C, humidity 0–100%, installation altitude ≤1,000 m.
- **Standards:** IEC 62271-200 / 201, IEEE C37.23.

Performance in service

- Partial discharge ≤20 pC at 1.1 × Ur confirms insulation integrity.
- Temperature rise ≤50 K at 35 °C average ambient.
- Maintenance-free after casting: joints permanently sealed.
- Service life >60 years validated by ageing tests.
- No toxic gas emission in operation or under fire conditions.

Safety & compliance features

- Compact size and easy installation reduce shaft and route dimensions by more than 40% to 50% compared with trefoil cables.
- Self-extinguishing epoxy insulation with volcanic filler prevents fire propagation and enhances thermal dissipation.
- Corrosion resistance proven by salt mist testing.
- Seismic compliance (IEEE 693) guarantees reliability under earthquakes.

Operational & lifecycle benefits

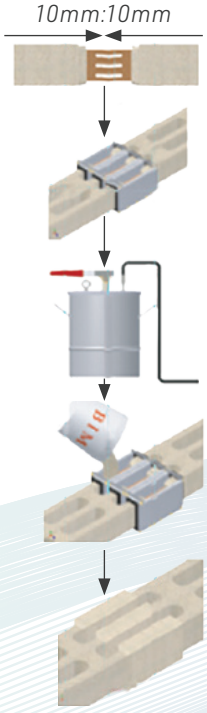
- **Safe and compliant:** MV distribution for critical infrastructure.
- **Proven reliability:** in extreme conditions (fire, flood, seismic).
- **Simplified design:** avoids complex cable routing and large bend radii.
- **Environmental resilience:** outdoor suitability without canopy, UV/corrosion resistant, IP68 /IP69 immersion tolerant, IK11 impact resistant.
- **Engineering support:** supplied with voltage drop formulas and temperature correction factors for precise sizing.

Applications

- **Power plants:** nuclear, hydro, thermal.
- **Petrochemical:** explosion zones and offshore FPSOs.
- **Airports & tunnels:** resilient under fire and flood conditions.
- **Defence:** radar stations and military facilities requiring seismic reliability.

Installation method & joints

- Elements (straights, elbows, tees, terminals) are connected via junction units and cast in site with insulation resin.
- Junction bolts tightened by torque wrench to specified values; spacing tolerances 10 mm ±10 mm.
- Standard hangers, terminal dimensions and switchgear openings defined for SH/PH/PE.
- Clearances and fixing hardware standardised for horizontal and vertical runs.



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