Whether administration and office buildings, shopping malls, hotels, airports, ships or exhibition centers – all of these facilities have one thing in common: power must be available everywhere. Commercial and industrial buildings only start to pulse when they have a seamlessly planned and harmonized power supply system. The busbar trunking systems from Siemens ensure safe and flexible power distribution.

With the CD-K, BD01, BD2, LD, LX and PEC systems, you now have a complete range of busbar trunking systems from Siemens that really cover every task. As part of Siemens’ Totally Integrated Power, these systems allow for a consequently integrated and harmonized power distribution from the medium-voltage level through the low-voltage level down to the socket outlet – with all the inherent economic advantages of a busbar.
Busbar instead of cable: Many advantages no matter how you look at it

Simpler in design
Busbar trunking systems from Siemens cost-effectively bring power on track. Simply designed: distributed power distribution and transparent network structures make planning and implementation far easier. In this case, powerful planning tools such as SIMARIS design, Busbarplan or Busbar select provide valuable support. SIMARIS design dimensions the power distribution, recommends the required equipment and components and displays the dimensions of the selected switchboards and distribution systems.

Quicker to install
Two-man mounting/installation for busbar trunking systems saves, when compared to complex cable installation, both time and money. And not only this, installation mistakes are practically excluded thanks to the safe and guided connection system.

Safer, thanks to a high short-circuit rating and minimal combustive energy
A safety advantage already integrated in our factory: the high short-circuit rating. Short-circuit protection close to the loads simplifies faultfinding. It also shows some clear advantages when it comes to combustive energy: the combustive energy of the system BD2 A – 250 is, for example, 1.32 kWh/m – the comparable cable (NYY 4 x 95/50 mm²) has 5.19 kWh/m. And not only this, the busbars are halogen-free.

More flexible for modification and expansion
Your power distribution system must be adapted to current requirements? You can reach your target quickly using busbars. Tap-off units and system components increase the degree of flexibility. Your system can be easily modified – costly downtimes are significantly minimized.

Cable installation means higher combustive energy.

With a cable installation, new loads have to be connected via an additional sub-distribution board, involving more time and expense.

Tested fire barrier for busbar trunking systems.

Busbar trunking systems increase your degree of flexibility. New tap-off units are easily plugged in, decreasing your costs of modification.
CD-K System:
Attractive design loaded with energy

The CD-K system is designed for applications from 25 A to 40 A. It is used particularly where attractive appearance is important, such as in department stores, supermarkets or furniture stores, and offers efficient power supply to lighting installations and small loads. Thanks to its IP54 degree of protection, it can also be utilized in moist environments – in greenhouses, for example.

Flexible and reliable
The tap-off point locations, arranged at regular intervals, facilitate the highest degree of flexibility when locating loads. Further, luminaires from any manufacturer can be supplied at any location. If the installation layout changes, then the CD-K system can be disassembled and re-assembled at another location. With its selection of versions 2 x 25 A, 30 A and 40 A, the possibility of coding the tap-off elements and tap-off point locations, and its high-quality design, the CD-K system is the first choice for all lighting systems.

Quick and cost-saving
The joint blocks ensure guided and safe installation. They prevent mistakes being made in the installation phase and permit quick, cost-saving installation without any special tools.

With the CD-K system, the current can be fed in at the beginning or the end of the trunking units.

Any commercially available lighting system can be easily suspended from any point along the trunking unit.

The attractive system design means that it can be installed in highly visible areas.

Joint blocks enable rapid, uncomplicated assembly of the trunking units – without tools.
BD01 System: Simple Design and Safe Distribution of Power

The BD01 system is designed for applications from 40 A to 160 A. It is primarily used in trade and industry to provide a safe power supply for small loads and to feed the CD-K system.

The asymmetrical design of the joint blocks ensures fault-free installation of the trunking units. The design-imposed fitting of the tap-offs on the trunking unit ensures a high degree of safety for operating personnel. The tap-off points only open automatically when the tap-off units are fitted. They close automatically when the tap-off units are removed.

Flexible power supply
The power supply for the BD01 system is provided via end or center feeder units as required. These can be positioned at joint blocks on the trunking run and ensure flexibility to match changing site conditions. The flexible junction unit enables the run to be adapted to any building layout.

Tap-off units are available in four sizes for equipping with devices of your choice or ready-fitted with protective devices (fuses, MCBs) or protective devices combined with Schuko and/or CEE sockets. Combined with pre-wired ancillary equipment units, the result is a wide range of solutions for many different applications.

Furthermore, the galvanized and painted enclosure of the trunking unit ensures optimum protection against corrosion.

Simple design
Just one size for five different current ratings means minimum stock inventory and uncomplicated design.

The variable mounting position – edgewise or flat – ensures straightforward engineering without derating. The sophisticated BD01 system, with the mechanical and electrical connection of the trunking units accomplished in a single operation, reduces installation time – therefore reducing assembly costs.
**BD2 System:**
**High Power in the Smallest Space**

The BD2 system was developed for applications from 160 A to 1250 A. It is used in large buildings and in every field of industry to provide the power supply for medium-size loads as well as to supply the smaller systems BD01 and CD-K.

**Double the safety**
The fact that the tap-off units cannot be accidently rotated and the design-imposed fitting sequence of the BD2 system increase the safety of your personnel. When fires occur, the fire barrier reliably prevents gases, vapors and liquids escaping. And the tested functional endurance that is retained when fires occur means that important electrical equipment continues to operate (e.g. lighting for emergency exit routes) for a specific time.

The different lengths and angle elements of the trunking units as well as flexible junction units allow the busbar trunking system to be optimally adapted to your building structure.

**Low space requirements**
A large number of pre-assembled tap-off units fitted with a wide range of components make the BD2 system suitable for universal use. The compact design of the BD2 system means that space is saved when installing the busbar runs vertically in small riser ducts. There are only two sizes for a total of nine current ratings, which means less stock inventory and simplified work for the designer. The inherently low combustive energy significantly reduces the amount of damage resulting from a fire.

The use of busbar trunking systems is also increasing in the field of ship building. Busbar trunking is suitable for use in the riser zones extending up through all of the decks and for power supply to the cabins because of its safety during operation, the considerably lower combustive energy involved, the reduced space requirements, the quick and simple engineering and installation, and the unmatched flexibility.

**The load tap-off units of the BD2 system arranged regularly ensure a high degree of flexibility. The system is quickly installed using a plug-in terminal up to 400 A.**

**Compact feeder units are available for the incoming supply.**

**Specific requirements for use on ships – no problem for System BD2.**

**High system and personnel protection due to low combustive energy.**

**Junction units permit optimum adaption to building structures.**
LD System:
For Reliable Electrical Power

The LD system covers the current range from 1100 A to 5000 A. It is ideal for linking transformers, main distribution boards and sub-distribution boards in production units with a high power requirement, such as for welding lines in the automotive industry, or industrial furnaces.

A separate PE bar increases the conductor cross-section and ensures low impedance in the event of a fault. This enables longer bus-bar runs and a reliable response from the protective device even where long current paths are involved.

**For all power networks**
The choice of a 4- or 5-conductor system makes it suitable for a wider range of applications. The high short-circuit rating enables protection using medium-voltage breakers when transmitting power between the transformer and the main feeder unit.

The single bolt joints offer a high degree of connection security and allow all of the cross-sections to be connected in one step. This also includes connecting the two conductor materials – aluminum and copper – with one another. As a result of the crank on the busbars, the correct phase assignment is guaranteed when installing the system. This reliably eliminates any mistakes. Tap-off units can be individually equipped therefore providing you with solutions for a wide range of applications.

**Quick mounting**
The compact design of the LD system saves space. The plug-in connections and quick fixing through the use of a single bolt joint ensure straightforward, cost-efficient assembly.

Power is fed from the transformer to the LD busbar trunking system via feeder units with connection lugs prepared for transformer lug intervals of 150 to 750 mm.

The LD system allows high power levels to be cost-effectively transmitted in modern production facilities.

Where required, power is simply tapped via tap-off units.

Direction changes are possible in three axes.
The LX system with its “sandwich” construction is designed for applications from 800 A to 6300 A. It is used in multi-storied buildings and wherever high power levels must be flexibly transmitted.

The standard high IP54 degree of protection of the complete LX system guarantees reliable power distribution, even in environments that either have a high level of accumulated dirt or moisture. The tap-off units have an orientation feature, which ensures fault-free installation due to the design-imposed fitting sequence. This, together with the automatic protective mechanism at the tap-off points, ensures a high degree of protection from accidental contact for operating personnel.

Operational reliability in sensitive environments
The conductor configurations with double N conductors and clean earth ensure an overload-free neutral conductor even with imbalanced loads. Sensitive loads such as computers are not put at risk by earth faults to the enclosure if they are connected to the clean earth.

Flexibility in every position
The electrical load-bearing capacity of the LX system is not affected by its installation position. This enables optimum flexibility where busbar run routing is concerned. The distortion-resistant aluminum enclosure is light and is highly resistant to chemical and climatic effects.

Compact and light
The compact sandwich design with a low impedance ensures low voltage drops and allows high power levels to be economically transmitted over long distances. Quick connection reduces assembly times, as does the low weight of the LX busbar system.

Optimum matching to building layouts.

Quick, safe mounting of structural elements.

Voltage drop comparisons.
The cast-resin busbar trunking system has been developed for the transmission and distribution of electrical energy where environmental factors such as humidity and corrosive or saline atmospheres may affect conventional metal-clad systems. It is designed for applications between 800 A and 6000 A, although this can be increased in special cases through the addition of modules with the corresponding calculation.

It has been designed in accordance with IEC/EN 60439-1 and -2.

**Reliability under tough ambient conditions**

Mechanical rigidity is achieved by insulating the conductors in the center of the trunking, with an agglomerate of quartz and polyester. This is highly resistant to chemical agents and mechanical stress, offering IP68 protection level and high short-circuit resistance.

**Flexible and effective**

This compact construction allows the trunking to be positioned either flat or on its edge, vertically or horizontally, retaining its characteristics at all times and eliminating the chimney effect. The close proximity of the conductors and their layout result in low reactance and so minimal voltage drop. The PEC cast-resin busbar trunking system can be connected to the LX busbar system using a transition element.

Cast-resin busbar trunking systems can be simply adapted to the building layout. This is achieved by using angles, sets and T-units to change direction or to negotiate obstacles – and with the lowest space requirement.
The rising demand for dynamic data for building and industrial automation, as well as the increasing requirement for diagnostic information, has driven the need for intelligent networking of installed applications.

The next logical step
The networking of applications in the tap-off units of our busbar trunking systems is the logical development for busbar trunking systems. Based on standard types of tap-off units combined with an additional ancillary equipment unit, the network is formed by laying a bus cable in a special cable duct on the busbar trunking and connecting components to this bus. Open multivendor bus systems with a high level of interoperability form the substructure of networkable tap-off/ancillary equipment unit combinations.

The networking components
The use of networkable components with the BD01, BD2, LD and LX systems, and a well-designed accessory package with a special bus duct, enables the networking of all current ranges and also allows existing installations to be upgraded. The EIB (European Installation Bus System) – that has been specifically designed for installation in buildings – offers a high degree of functionality and can be simply commissioned and modified by combining and parameterizing the various devices. The EIB is used in the tap-off units with switching outputs (actuators) that are used to control lighting systems. For instance in furniture or DIY stores. On the other hand, the rugged AS-Interface network is especially designed for industrial applications. The user can quickly implement and modify the connection from PLC modules with the input/output modules connected to the AS-Interface bus.

To control lighting systems and to monitor and remotely control switching states in industrial applications, the AS-Interface input/output modules are the basis for additional ancillary equipment units.
Tap-off/ancillary equipment unit combination networked on a BD01 system using EIB, enables the switching of the phase conductors L1 to L3 of the connected CD-K system. This CD-K system is used for the flexible power supply and attaching luminaires. This type of configuration allows the control of an extensive lighting system to be implemented simply and quickly.

Tap-off/ancillary equipment with combination networked on a BD2 system using AS-Interface, such as for remote monitoring and switching of switch disconnectors. Cable connection using cables with insulation displacement connections maintains the flexibility of the application.

Available ancillary equipment units

**Lighting control**
- BD01-GK-BL-EIB = EIB system
- BD01-GK-BL-AS-Interface = AS-Interface system
- BD2-GK-BL-EIB = EIB system
- BD2-GK-BL-AS-Interface = AS-Interface system

**Switching and signalling**
- GK-M-AS-Interface = signalling function
- GK-SM-AS-Interface = switching/signalling function

**Consumption measurement**
- GK-V-AS-Interface-G/-U = consumption measurement with AS-Interface
- GK-MV-AS-Interface-G/-U = consumption measurement and signalling function with AS-Interface
- GK-SMV-AS-Interface-G/-U = Consumption measurement and switching/signalling function with AS-Interface
  
(G = calibrated/ U = uncalibrated)

Standard tap-off units

**Standard functions**

**Function expansion**
- Lighting control for extensive lighting systems
- Switching/signalling
- Remote operation/remote monitoring

**Bus connection**

EIB

Instabus EIB
The information provided in this brochure contains merely general descriptions or characteristics of performance which in case of actual use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.