



SIEMENS

Ingenuity for life

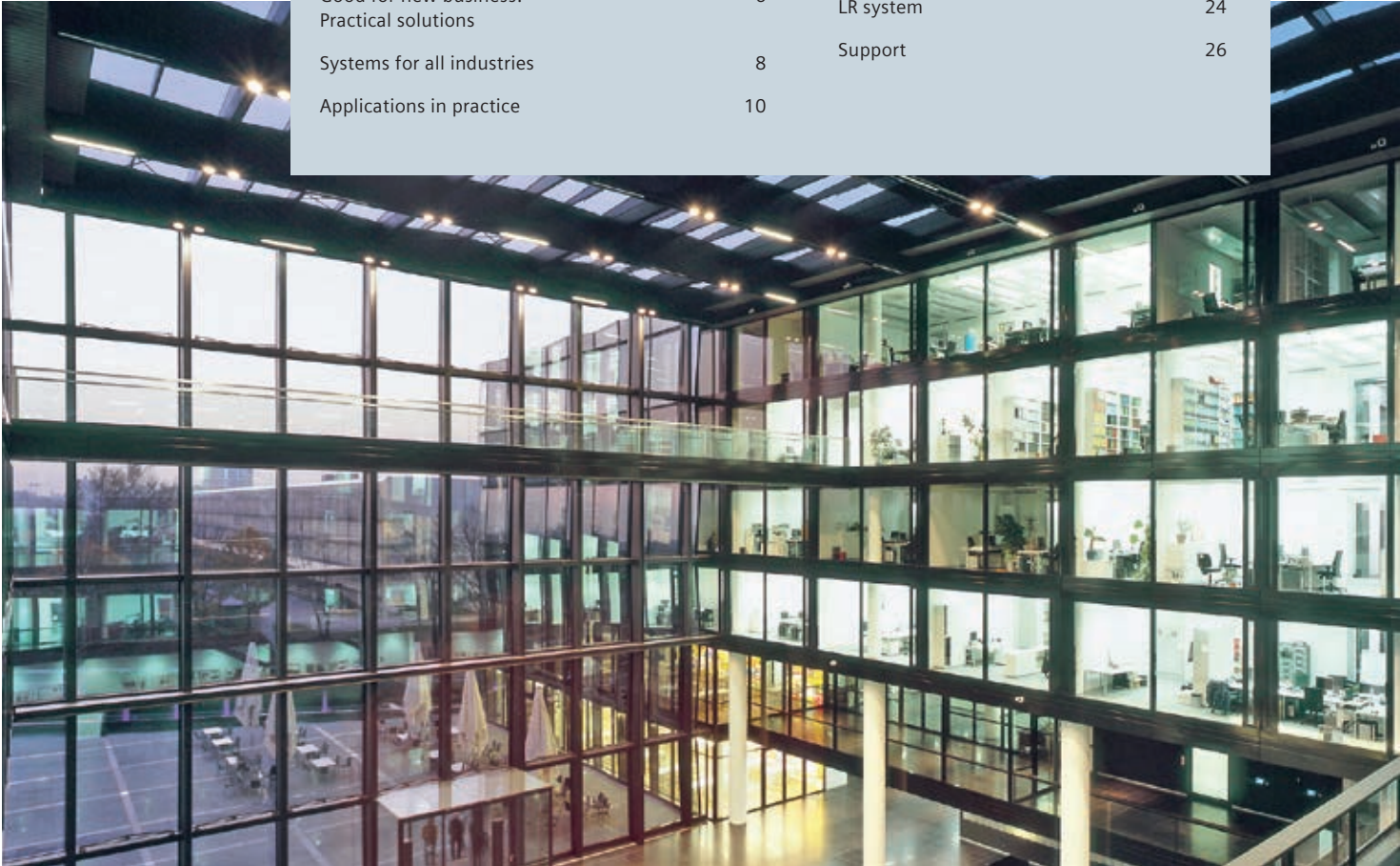
Energy:
flexible, safe,
everywhere!

Totally Integrated Power –
SIVACON 8PS busbar trunking systems

[siemens.com/busbar](https://www.siemens.com/busbar)

Table of contents

Totally Integrated Power	2	BD01 system	14
SIVACON 8PS busbar trunking systems	3	BD2 system	16
SIVACON 8PS busbar trunking systems – the innovative alternative	4	LD system	18
Good for new business: Practical solutions	6	LDM system	20
Systems for all industries	8	LI system	22
Applications in practice	10	LR system	24
		Support	26



Totally Integrated Power

Totally Integrated Power (TIP) stands for integrated power supply solutions for industries, buildings, and facilities.

Siemens' comprehensive electrification portfolio enables a reliable, safe, and efficient power supply using software and hardware products, systems, and solutions for all voltage levels. TIP comprises everything it takes to supply power for challenging environments. Smart interfaces to industrial and building automation systems are the key to tapping the full potential offered by an integrated power supply solution. The portfolio is rounded out by compre-

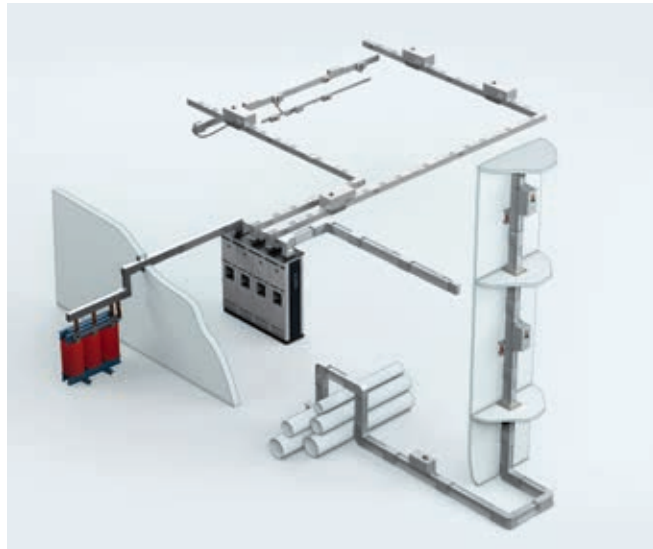
hensive support throughout the entire lifecycle – from planning to maintenance.

TIP for power distribution: Busbars instead of cables

SIVACON 8PS busbar trunking systems transmit and distribute the power safely and economically: From the transformer to the main distribution and sub-distribution systems up to the consumers, from 40 A to 8200 A. With their numerous innovative features, they are an attractive alternative to conventional cables.

SIVACON 8PS busbar trunking systems

The innovative alternative to cables, with competent support



Your benefits at a glance

Business understanding

- Enhanced planning certainty
- Space-saving due to compact design
- Easy installation
- High flexibility in planning and operation
- Energy transparency by means of communication-capable measuring and switching devices

System and operational safety

- Design verified low-voltage busbar trunking systems and connections to SIVACON S8 switchboard
- Low fire load

Reliability

- High short-circuit rating
- Good electromagnetic compatibility
- Easy trouble shooting and error correction

Innovation

- Safe, compact, and flexible solution compared to cables

One-stop shop

- Support from planning via installation to operation
- Complete portfolio from 40 A to 8200 A

Living up to complex requirements at all times

A total of six different busbar trunking systems offer everything required for modern power transmission and distribution matched to your individual requirements. With the SIVACON 8PS busbar trunking systems, you will not only benefit from a transparent and flexible solution for controlling the increasingly complex area of building management, but also considerably improve the efficiency of industrial applications by ensuring a safe and reliable power supply. As a planner, an installer and a customer, you can sustainably benefit from busbar trunking systems! Despite all differences of the sectors, whether industry or high-rise building, trade, craft, or even wind turbine: The result always offers real added value.

Reliable and safe power transmission

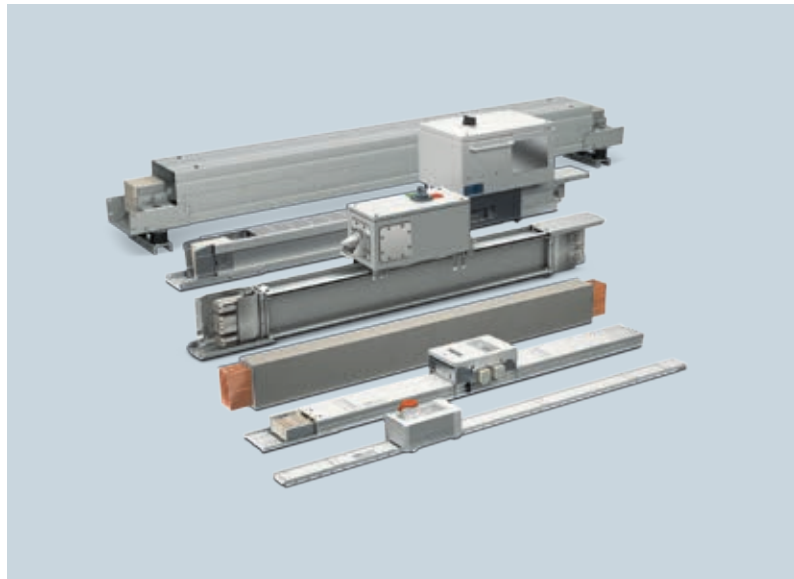
The SIVACON 8PS busbar trunking systems offer a high level of safety thanks to design verified low-voltage switchgear and controlgear assemblies in accordance with IEC 60439-1/-6. The high short-circuit rating and low fire load due to the metal housing of the systems increase safety for people and buildings.

Easy planning and flexible modification of power distribution

With SIVACON 8PS busbar trunking systems, you can easily plan and quickly assemble the power distribution within building complexes. Adaptations and expansions are possible at any time if the use of space changes.

SIVACON 8PS busbar trunking systems – the innovative alternative

Cable or busbar?



Faster, more economical and transparent

With SIVACON 8PS, the planner, installer and end customer all benefit from a series of incorporated advantages. This starts with lower costs for the installation of SIVACON 8PS thanks to the superior system technology, as the work is faster and easier to accomplish. You do not have to deal with time-consuming routine jobs, and can hand over the system earlier, ready for service. In addition, the compact design of SIVACON 8PS saves expensive installation space.

SIVACON 8PS carries along everything required for an efficient energy management, as communication-capable measuring and switching devices can be integrated in the tap-off units in order to generate the necessary data. Furthermore, the better assignability of the switching devices to the consumers provides for an enhanced operational transparency and error correction.

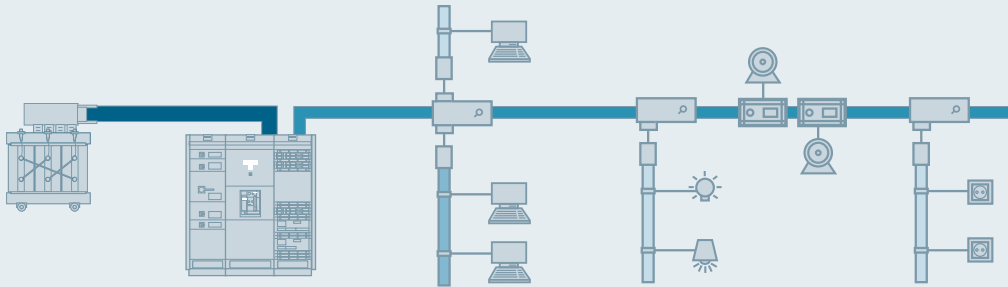
More flexible and efficient

Just as important as low costs is a high flexibility of the systems, not only in respect of planning, but also regarding future expansions of existing power supply installations. Here it becomes apparent that, during the development of SIVACON 8PS, the Siemens engineers have paid particular attention to planning security and avoidance of complexity. Everything matches here, so that system expansions or modifications (e.g. if the use of space changes) are easy to plan and implement, especially with the SIMARIS planning tools.

In contrast to conventional cable installations, with which the power can only be tapped off at the pre-defined points, current tap-offs can be individually varied with the SIVACON 8PS busbar trunking systems thanks to flexibly deployable tap-off units.



Centralised power distribution with cables



Decentralised power distribution with busbars

SIVACON 8PS busbar trunking systems

Cables

Conformity with standards

- Current carrying capacity, high operational safety and short-circuit rating by tests in accordance with IEC 61439-1/-6

- Expenditure of time and work during installation

Fire load

- Very low

- Very high depending on cable type

Flexibility in the event of changes, expansions or the relocation of load focal points

- Very high flexibility thanks to variable tap-off units, which can be modified, added or replaced as required, even while energised¹⁾
- No downtimes
- Adaptable power supply

- In most of the cases, new installation required or high efforts due to new splices, joints, junctions, parallel lines, etc.

Space requirements

- Very low thanks to compact design, with contours matching the building structure

- High due to bending radii, laying method, accumulation and current carrying capacity

Trouble shooting and error correction

- Easy, thanks to clearly arranged installation and switching devices close to the consumers

- Time-consuming, less clearly arranged installation, and switching devices far away from the consumers

Electromagnetic influence

- Low influence due to suitable arrangement of conductors

- Relatively high for cables
- No defined arrangement of conductors

Installation time

- Short installation time

- Long installation time

1) In accordance with EN 50110-1 (VDE 0105-1); please always observe national regulations/standards.

Good for new business: Practical solutions



Highlights

More safety in

every environment

- High short-circuit rating and minimum fire load

More flexibility

- Flexible tap-off units and modular components simplify modifications and expansions

More areas of application, more orders

- One system, many chances

More perspectives for planning

- Modular – for great freedom of planning

More productivity at the customer's

- Time advantage thanks to simple system installation

One system, many applications

Whether photo studio or do-it-yourself store, whether restaurant, multi-storey office complex or industrial applications: The competitive pressure imposed upon the planning and installation of power distribution systems is continuously increasing.

Today, a reliable and efficient supply of the most different consumers is no longer sufficient – more and more new factors have to be considered when a high level of cost-efficiency is requested. In fact, although power supply is absolutely indispensable for almost all enterprises, their willingness to invest in this basic technology decreases, even if the need to tap off energy at all times and at any place inside the building grows.

Busbar – the future

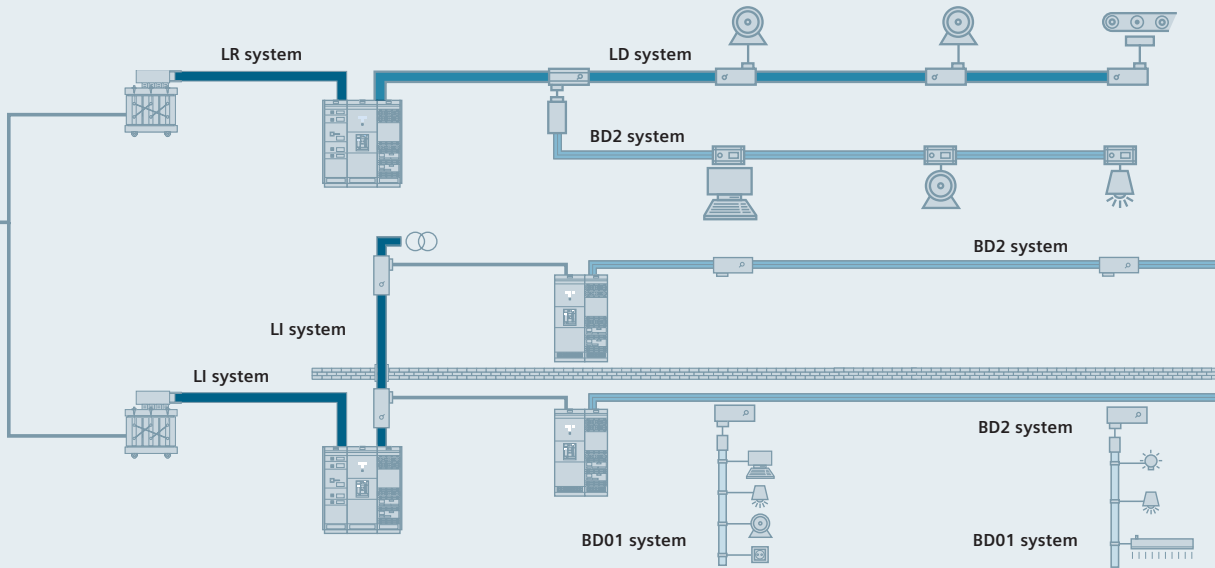
Use the benefits integrated in the SIVACON 8PS busbar trunking systems, and take the decisive competitive advantage: A high level of cost-efficiency, flexibility, and safety. SIVACON 8PS busbar trunking systems are the technologically and economically superior alternative to the use of cables. Let your existing customers benefit from this – and gain new customers with the many advantages of this technology.

Industry



Infrastructure



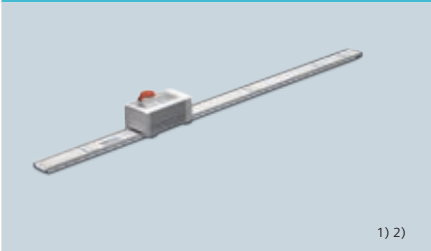





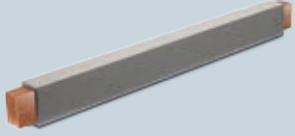
The following pages show exemplarily which system benefits you can point out as a planner or installer, in order to convince your customers of the quality of the SIVACON 8PS busbar trunking systems. The highlight: Most of these benefits depend on the design, and therefore have sustainable positive effects for your customers – this is just the right answer to permanent requests for more cost-efficiency.




Systems for all industries

SIVACON 8PS busbar trunking systems

	BD01 system	BD2 system
		
System description	The flexible power supply in workshops and production facilities of craft, trade and commercial enterprises	The universal solution for maximum power in the smallest space, above all in office buildings and industrial transfer lines
Typical application	<ul style="list-style-type: none"> • Workshops and production • Supermarkets • Data centers • High-rise buildings • Exhibition halls • Automotive industry 	<ul style="list-style-type: none"> • Workshops and production • Manufacturing industry • Home improvement centers • Data centers • High-rise buildings • Food industry • Exhibition halls • Hospitals • Automotive industry
Rated insulation voltage U_i	400 V AC	690 V AC
Rated operational voltage U_e	400 V AC	690 V AC
Degree of protection	IP54, IP55	IP52, IP54, IP55
Rated current I_{nA}	40 A to 160 A	160 A to 1250 A
Rated peak withstand current I_{pk}	Up to 15.3 kA	Up to 90 kA
Rated short-time withstand current I_{cw} (1 s)	Up to 2.5 kA	Up to 34 kA
Number of conductors	4 (PE = housing)	5
Fire load	Max. 0.76 kWh/m	Max. 2.0 kWh/m
Fire load (per tap-off point)	–	–
Tap-off point/junction point	Either 0.5 m or 1 m on one side	Every 0.5 m on one side, offset on both sides every 0.25 m
Tap-off unit/junction box	Up to 63 A	Up to 530 A
Joining system	Connecting flanges with integrated expansion compensation	With built-in expansion compensation, single-bolt terminal
Conductor material	Aluminium or copper	Aluminium or copper
Housing material	Galvanised and painted sheet steel	Galvanised and painted sheet steel

LD system	LDM system	LI system	LR system
 1) 2)	 1)	 1)	 1)
The safe busbar for industrial production lines, for exhibition halls, in wind turbines, and for ships	Safe and efficient power transmission in wind turbines	An integrated solution for safe and efficient power supply in the infrastructure – e.g. in multi-storey buildings – as well as in industrial applications	The reliable busbar for high protection in harsh ambient conditions, e.g. for outdoor networking of building sections, or for the supply of tunnels
<ul style="list-style-type: none"> • Automotive industry • Manufacturing industry • Food industry • Exhibition halls • Wind turbines • Semiconductor production 	<ul style="list-style-type: none"> • Wind turbines 	<ul style="list-style-type: none"> • Data centers • High-rise buildings • Manufacturing industry • Chemical industry • Airports • Exhibition halls • Hospitals • Home improvement centers • Shopping malls and supermarkets 	<ul style="list-style-type: none"> • Chemical industry • Oil and gas • Tunnels and underground • Outdoor applications
1000 V AC	1000 V AC	1000 V AC	1000 V AC
1000 V AC	1000 V AC	1000 V AC	1000 V AC
IP34, IP54	IP21 with saline fog and condensation test	IP55, IP66 ³⁾	IP68
1100 A to 5000 A	800 A to 8200 A	800 A to 6300 A	400 A to 6150 A
Up to 286 kA	Up to 255 kA	Up to 330 kA	Up to 220 kA
Up to 116 kA	Up to 116 kA	Up to 150 kA	Up to 100 kA
4, 5	3 to 10 conductors per trunking unit	3 to 7 conductors incl. Clean Earth and 200 % N conductor	3 and PEN or 3, N and PE
Max. 8.83 kWh/m	Depending on the application	Max. 15.54 kWh/m	Max. 77.3 kWh/m
Max. 10.8 kWh	–	0.98 kWh	–
Every 1 m on one side	–	Up to 3 per 3 m length (per side)	Every 1 m on one side
Up to 1250 A	–	Up to 1250 A	–
Single-bolt terminal connection with hook and bolt connection	Single-bolt terminal block for hook and bolt connection	Bolt terminal block with shear-off nut	Bolt terminal block
Aluminium or copper	Aluminium	Aluminium or copper	Aluminium or copper
Painted sheet steel	Steel-enclosed, separate systems possible for rotor and stator (optional coating in RAL colour)	Painted Al	Epoxy resin

Marine classification societies:

2) Det Norske Veritas (DNV) 

3) IP66 for mere power transmission runs without feeders

Applications in practice

One thing is for sure: Power supply for traditional businesses in rural environments must be as flexible and reliable as that for the innovative plastic processing plant in an urban industrial park.

As different as the individual industries may be – the SIVACON 8PS busbar trunking systems allow for easy planning and fast installation of the power supply; later adaptations are possible at any time.

Get to know the SIVACON 8PS busbar trunking systems in practice!

Flexible adaptation to the building structure

BD01 system



Requirement

An octagonal exhibition building had to be readjusted quickly to the production of a metal-working company – with flexible positioning of the machines.

Solution

- Two separate BD01 systems for the supply of loads up to 63 A
- Flexible junction units for adaptation to the building structure
- Custom-fit installation of the busbar units to the aerated concrete stone wall under the beginning of the roof (dowel)

Result

The power supply was adapted to the structural conditions by means of flexible junction units. Thanks to easy installation, modular design and the possibility to place tap-off units every 0.5 m, the power distribution can be quickly and easily readjusted to future connection requirements.

Rapid relocation of production

BD2 system



Requirement

Production downtimes had to be minimised despite the large machinery and flexible feeders for machines and manual workplaces; completion had to be ensured within a few months.

Solution

- Two busbar trunking runs in longitudinal direction
- Two compact feeding units with 400 A each
- 180 m BD2 system, suspended from the ceiling at a distance of 0.5 m
- Tap-off units for individual equipping
- Tap-offs for loads at a distance of 0.5 m
- Easy connection of suspended cubes with integrated CEE socket outlets

Result

Thanks to the decision in favour of the BD2 system, the plant was readjusted in a minimum of time, and can react quickly and flexibly to future changes in the production.

Control of high currents

LD system



Requirement

Very high demands during new construction of a production hall for solar technology: Enormously energy-intensive production processes and complicated local conditions have to be considered.

Solution

- Five LD system busbar runs for connection between the five transformers and the low-voltage main power distribution board
- Eight runs up to 4000 A for consistent power distribution; tap-off units up to 1250 A can be plugged-on/off while energised¹⁾
- Two spare runs with 2500 A each for future system expansions

Result

A compact, space-saving solution with communication-capable components offers a high operational transparency with, at the same time, a high short-circuit rating and low fire load. Easy and flexible planning or adaptation to structural conditions simplify the configuration.

Reliable, transparent power supply in the data center

LI, BD2, BD01 systems



Requirement

Data centers require high operational safety and availability, a low fire load and good EMC values – with best system transparency.

Solution

- Redundant LI busbar trunking system as energy backbone
- BD01 and BD2 busbar trunking systems as spur lines in underfloor installation for a direct supply to the racks
- Networked connection via ancillary equipment units and a standard bus system laid in parallel

Result

Automatic recording of the consumption per rack, and high reliability of supply as well as system transparency; extendable as required.

Uninterrupted power in the hospital

LI, BD2 systems



Requirement

Especially in hospitals, power supply must be particularly reliable, and protected against interruption and disturbance of the incoming lines by taking multiple measures.

Solution

- Overall power distribution concept: Medium-voltage switchgear via transformer to low-voltage main distribution board and to LI system
- Communication-capable BD2 busbar trunking system for central acquisition of energy data

Result

The compact LI and BD2 systems distribute the power safely in the hospital; they feature a low fire load and only emit small magnetic fields.

1) In accordance with DIN EN 50110-1 (VDE 0105-1); please always observe national regulations/standards

Cost-efficient supply of high-rise buildings

LI, BD2, BD01 systems



Requirement

High-rise buildings need power in a reliable, space-saving and flexible way. Safety and functional endurance in case of fire are also a key consideration.

Solution

- LI system for power transmission in riser shafts
- BD2 and BD01 systems for power distribution to the storeys

Result

Thanks to low fire loads as well as fire barriers in accordance with European Standards (tested according to EN 1366-3 and classified according to EN 13501-2), the space-saving systems help safeguard life and infrastructure in case of fire, and they can also be modified later. Communication-capable measuring and switching devices enable integration into a company-wide energy management system in accordance with ISO 50001.

Food and beverages: Safe and flexible supply

LD, LI, BD2, BD01 systems



Requirement

Infrastructure and production areas require a flexible and reliable power distribution, including integration into the energy management. In the production, the system must offer a high degree of protection, as well as a high short-circuit rating, mechanical safety and ground clearance.

Solution

- LD or LI system for power transmission from the main distribution board to large consumers, and for supply of the BD2 and BD01 systems
- BD2 and BD01 systems for supply of small consumers
- Tap-off units with integrated communication-capable switching and measuring devices

Result

Transparent power consumption, a high power quality and availability, as well as easy adaptation or expansion of the power supply in the production lines.

Flexible safety in airports

LD, LR systems



Requirement

Safety and fast adaptation to changing requirements are also an issue for power supply in airports. Airlines, shops, logistics – all of them need power.

Solution

- LR system for power transmission to the low-voltage main distribution board
- Emergency power supply with LR system thanks to the high degree of protection
- Direct supply of the consumers via tap-off units in different sections of the building with the LD system

Result

From the transformers via the low-voltage main distribution boards up to the consumers, the power is reliably distributed in a radial system. In this context, a high level of safety and a low fire load are as natural as the connection to an energy management system. For this purpose, tap-off units offer a high flexibility regarding the adaptation of the power distribution.

**Automotive industry:
Reliable supply**

**Oil industry: Sophisticated
and safe power supply**

**Future-proof supply
and communication**

LD, BD2, BD01 systems

LD, LI, LR systems

LD, LI, BD2, BD01 systems



Requirement

With the increasing use of carbon fibre composite in automotive manufacturing, the power distribution system must operate perfectly even if the ambient air is polluted with carbon fibres. Infrastructures such as computers and lighting systems should be securely supplied with power.

Requirement

High safety standards inside and outside require accordingly safe systems for power supply in the oil and gas industry.

Requirement

The complete power distribution must increasingly communicate with the energy management of modern buildings and industrial automation, in order to make more reliable and cost-efficient use of power.

Solution

- LD system for power distribution from the low-voltage main distribution board up to the loads in the production lines
- BD01 and BD2 systems for power supply to infrastructures

Solution

- LR system with IP68 degree of protection for outdoor power transmission, between outdoor power transformers and indoor switchboard
- Further power distribution in the building with LI and LD systems through design verified LR standard connection unit

Solution

- LD, LI, BD2 and BD01 systems with integrated, communication-capable switching and measuring devices, as well as the associated components

Result

In the case of the air-ventilated LD system, the epoxy coating of the current conductors as well as the large clearances and creepage distances prevent the development of functionally critical short-circuit bridges by the deposit of carbon fibre dust. Additional benefits are the compact design, the high short-circuit rating and the sprinkler-suitable protection against water. The BD01 and BD2 systems supply the infrastructures reliably.

Result

Design verified components and connection units of the LR, LD and LI systems, as well as a high degree of protection make power supply safer; standard connections between busbar trunking systems and switchboards simplify planning and installation.

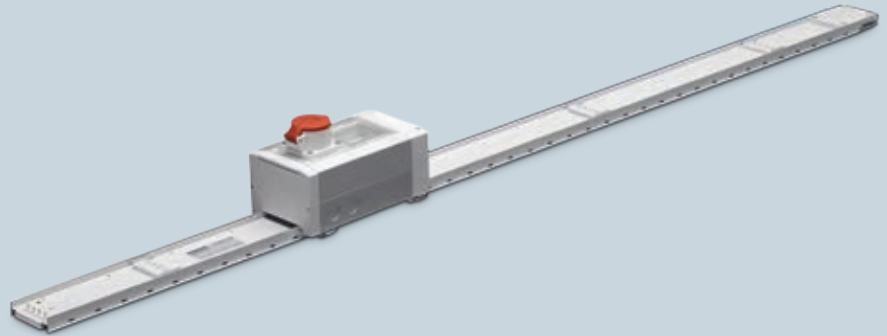
Result

The communication-capable SIVAICON 8PS busbar trunking systems support transparent power flows by monitoring, switching, indicating, and finally by measuring the consumption. Their robust structure and fast installation offer many benefits for industrial plants, which are ideally complemented with remote monitoring and remote switching.

BD01 system

Highlights

- Finger-proof mounting by automatic opening and closing of the tap-off-point
- Easy configuration and handling by connecting flanges with integrated expansion compensation
- Reliable fire protection thanks to tested fire barrier
- Flexible adaptation to every building structure by means of 3D junction units
- Easy modification or expansion via plug-on/-off tap-off units
- Reliable mechanical and electrical connection technology for error-free installation thanks to the asymmetry of the connection point



One size is available with five current ratings

Safe, demand-oriented power supply

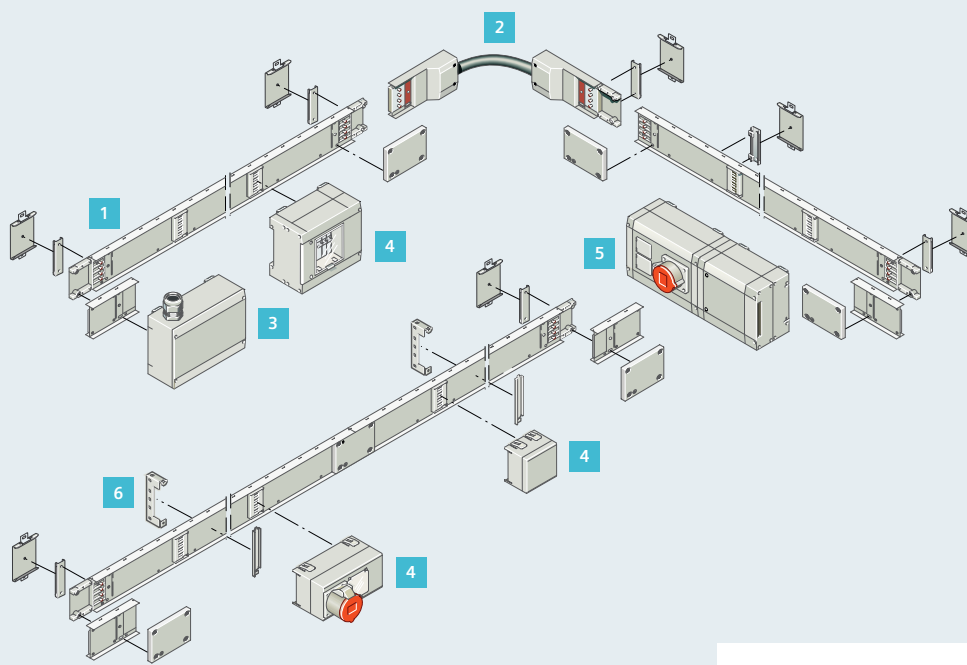
The BD01 system is designed for applications from 40 A to 160 A. It is employed in trade and industry enterprises to safely supply small consumers with power or realise the infeed of a lighting system. Planning is especially simple and it ensures a flexible power supply. In addition to the pre-wired tap-off units, which can also be individually equipped with components, numerous add-on devices such as protection devices or combinations with SCHUKO or CEE socket outlets are available. Tap-off units up to 63 A that can be plugged on/off while energised¹⁾ enable quick and easy modification or expansion of the power distribution.

Guided mounting and clear consumer assignment

The reliable mechanical and electrical connection technology ensures error-free installation thanks to the asymmetry of the connection point of the BD01 system. The codable tap-off points and units can be clearly assigned to the consumers. The operating personnel are afforded a high degree of protection by the guided mounting of the tap-off units. The tap-off points are only automatically opened upon connection of the tap-off units. As soon as these units are removed, the tap-off points close automatically.

Simple planning of a modern network structure

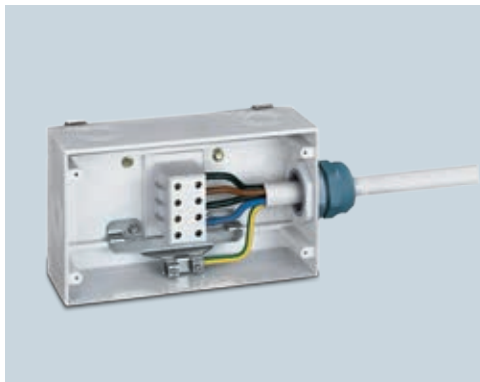
The tap-off units can be plugged onto all system sizes. Feeding units can be used as incoming, end or center feeding unit. These two facts make both planning and stock keeping easier. Numerous components are available, so that power supply can be flexibly adapted to all building structures using 3D junction units.



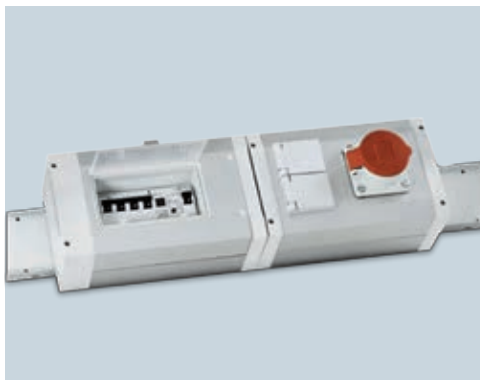
- 1 Trunking unit
- 2 Junction unit
- 3 Feeding unit
- 4 Tap-off unit
- 5 Ancillary equipment unit
- 6 Suspension bracket

Technical data

Rated insulation voltage U_i	400 V AC
Rated operational voltage U_e	400 V AC
Degree of protection	IP54, IP55
Rated current I_{nA}	40 A to 160 A
Rated peak withstand current I_{pk}	Up to 15.3 kA
Rated short-time withstand current I_{cw} (1 s)	Up to 2.5 kA
Number of conductors	4 (PE = housing)
Fire load	Max. 0.76 kWh/m
Fire load (per tap-off point)	–
Tap-off point	Either 0.5 m or 1 m on one side
Tap-off unit	Up to 63 A
Joining system	Connecting flanges with integrated expansion compensation
Conductor material	Aluminium or copper
Housing material	Galvanised and painted sheet steel



Feeding unit attachable to any connection point



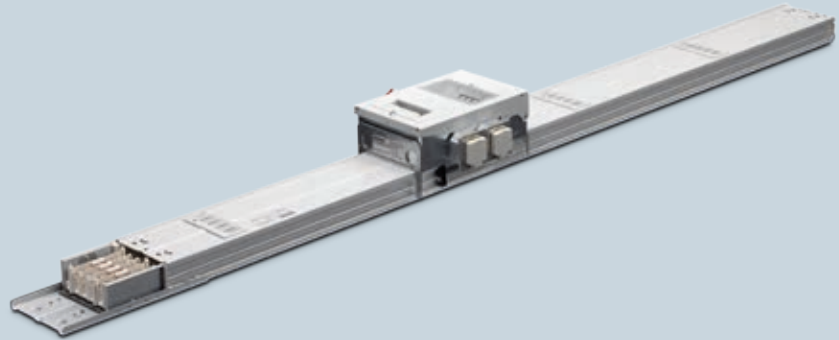
Ancillary equipment units for increased functionality

1) In accordance with EN 50110-1 (VDE 0105-1); please always observe national regulations/standards

BD2 system

Highlights

- Flexibility by two sizes up to 1250 A in seven current ratings with aluminium or copper conductors
- Protection against unauthorised access by sealable tap-off points
- Flexible adaptation to every building structure by means of 3D junction units up to 800 A
- High degree of safety in the case of fire by tested fire barrier and functional endurance
- Low space requirements



Load value detection, remote monitoring, and remote switching to increase transparency of operation

Safe operation and reliable fire protection

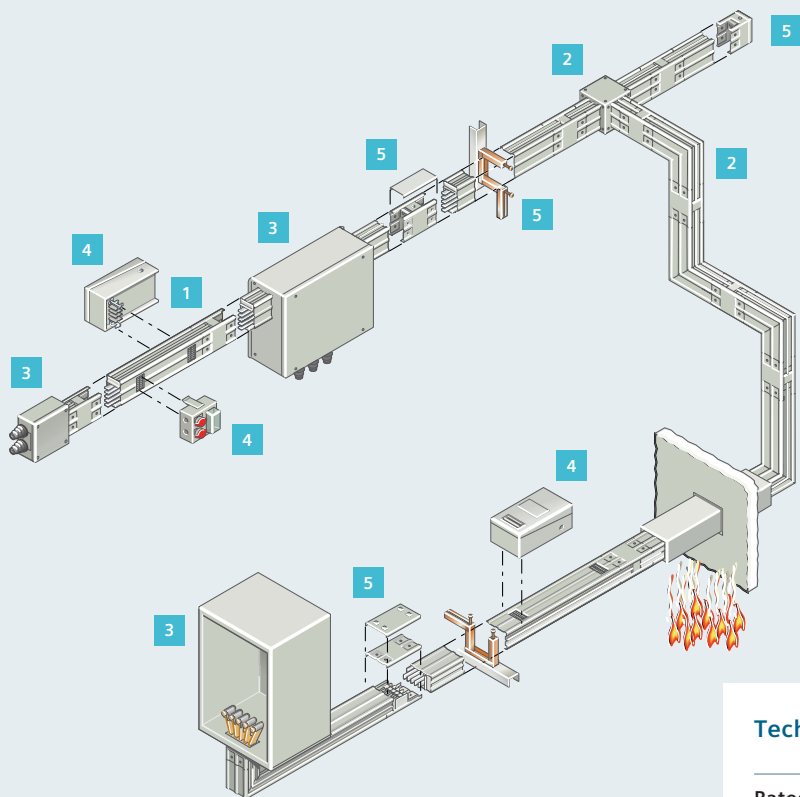
The BD2 system is particularly suited for applications from 160 A to 1250 A with increased safety requirements. The tested fire barrier and functional endurance in case of fire ensure a high degree of safety – and thus represent an optimum solution for large buildings and industrial applications, as well as for shipbuilding. The compact system not only stands out for its safe operational behaviour, but also for its low space requirements. It can also be used for the infeed of the smaller BD01 system.

Easy and quick installation with access protection

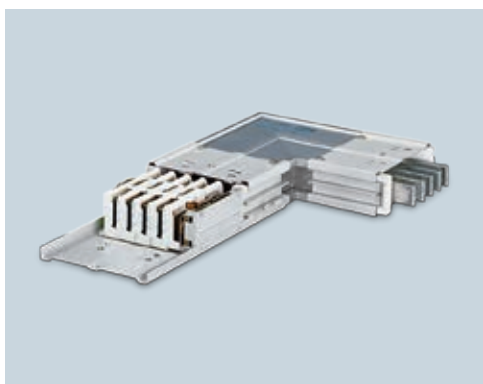
The anti-rotation feature and guided installation increase safety during the installation of the system. The clamp terminal, which includes a single-bolt terminal, permits simple and quick installation with integrated expansion compensation. Sealable tap-off points protect against unauthorised access. In addition, numerous components such as 3D junction units permit a flexible adaptation to the building structure in question.

Increased transparency of operation thanks to communication capability

The communication-capable BD2 busbar trunking system with its load detection, remote monitoring and switching, as well as its lighting control increases system availability, ensuring greater transparency in your operation.



- 1 Trunking unit
- 2 Junction unit
- 3 Feeding unit
- 4 Tap-off unit
- 5 Accessories



Junction unit for optimum adaptation to building structures



Individually equipped tap-off units up to 530 A can be plugged on/off while energised¹⁾

Technical data

Rated insulation voltage U_i	690 V AC
Rated operational voltage U_e	690 V AC
Degree of protection	IP52, IP54, IP55
Rated current I_{nA}	160 A to 1250 A
Rated peak withstand current I_{pk}	Up to 90 kA
Rated short-time withstand current I_{cw} (1 s)	Up to 34 kA
Number of conductors	5
Fire load	Max. 2.0 kWh/m
Fire load (per tap-off point)	–
Tap-off point	Every 0.5 m on one side, offset on both sides every 0.25 m
Tap-off unit	Up to 530 A
Joining system	With integrated expansion compensation, single-bolt terminal
Conductor material	Aluminium or copper
Housing material	Galvanised and painted sheet steel

1) In accordance with EN 50110-1 (VDE 0105-1); please always observe national regulations/standards

LD system

Highlights

- Reliable and easy planning by means of safe connection to SIVACON S8 switchboards and transformers
- Appropriate water protection (sprinkler-suitable)
- Also optimal for high current demands; tap-off units up to 1250 A
- High short-circuit rating
- Cost-efficient infrastructure due to compact design
- High degree of safety due to arc-resistant tap-off units



Robust and compact design with only two sizes for 1100 A to 5000 A

Reliable power transmission for high power requirements

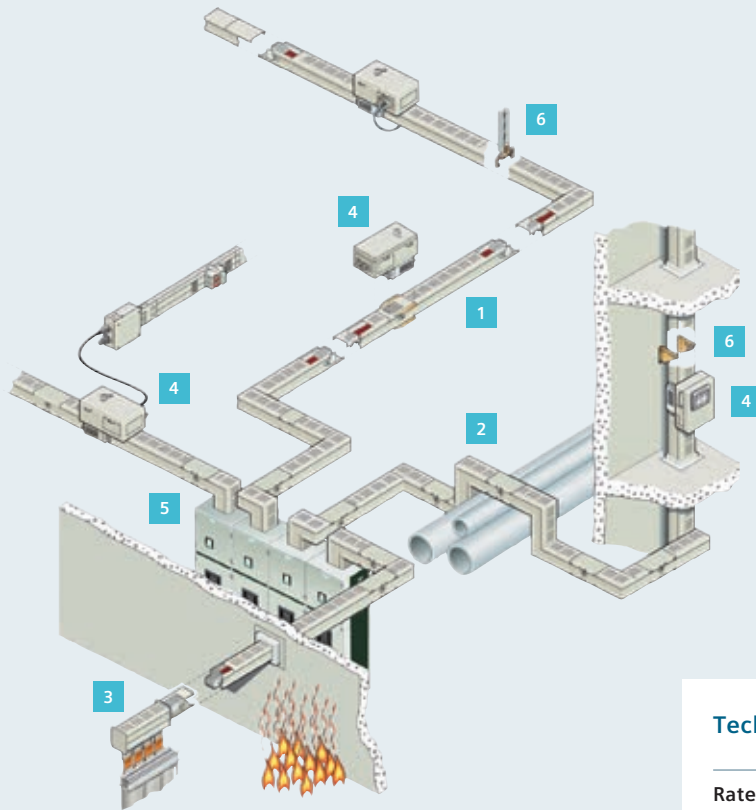
The LD system, easy and fast to install, covers the current range from 1100 A to 5000 A. It transmits and distributes the power between the transformer, main power distribution board and sub-distribution boards on production sites with high power requirements, e.g. for welding lines in the automotive industry.

More safety at long distances

A separate PE conductor increases the cross-section of the protective conductor and ensures a low impedance in the event of faults. It facilitates longer busbar runs as well as an assured response of the switching device, also for long current paths. In addition, tap-off units with circuit-breakers up to 1250 A increase the availability of the power distribution.

Numerous usage options due to high short-circuit rating

Power distribution can be reliably and simply planned thanks to the design verified connection to SIVACON S8 switchboards and safe connection to transformers. The high short-circuit rating and compact design open up many fields of application. In the ventilated system (IP34), the epoxy coating of the conductors offers additional protection against water (sprinkler-suitable).



- 1 Trunking unit
- 2 Junction unit
- 3 Feeding unit
- 4 Tap-off unit
- 5 Flanged end unit
- 6 Accessories for mounting

Technical data

Rated insulation voltage U_i	1000 V AC
Rated operational voltage U_e	1000 V AC
Degree of protection	IP34, IP54
Rated current I_{nA}	1100 A to 5000 A
Rated peak withstand current I_{pk}	Up to 286 kA
Rated short-time withstand current I_{cw} (1 s)	Up to 116 kA
Number of conductors	4, 5
Fire load	Max. 8.83 kWh/m
Fire load (per tap-off point)	Max. 10.8 kWh
Tap-off point	Every 1 m on one side
Tap-off unit	Up to 1250 A
Joining system	Single-bolt terminal connection with hook and bolt connection
Conductor material	Aluminium or copper
Housing material	Painted sheet steel

Feeding units to supply current from the transformer to the LD system



Junction units for flexible adaptation of the power supply to every building structure



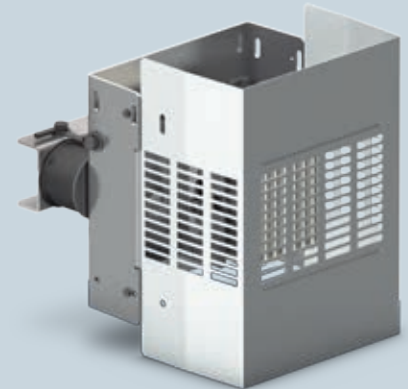
LDM system

Highlights

- Modular system for individual customer requirements
- Pre-defined impedances and stipulated technical features
- Efficient installation
- Compact, maintenance-free busbar trunking system



Compact trunking element with a length of up to 3200 mm



Joint bracket for easy connection of trunking elements

Proven contribution to sustainable power distribution

Within the scope of sustainable power generation, wind energy is becoming more and more important. At the same time, manufacturers of wind turbines are exposed to a constantly increasing cost pressure: Their plants must transmit the generated power in a safe, reliable, and cost-efficient way. With the proven LD busbar trunking system, Siemens has more than a decade of experience in safe and reliable power transmission between the nacelle and the tower base of innumerable wind turbines.

Customer-specific solution

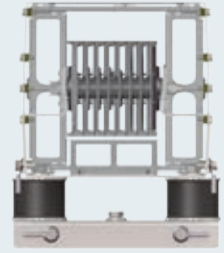
The LDM system, which has been especially conceived to meet the demands of wind turbines, is built upon this experience, adding a special, modular design. This makes it possible to offer wind turbine manufacturers a customer-specific solution for each task.

Efficient solution

The LDM busbar trunking system conforms to the latest standards IEC 61439-1/-6, and is therefore particularly reliable and safe. As a design verified system it offers – compared with cables – defined electrical and mechanical properties, it is halogen-free, and convinces by its low fire load. The system's compact design, low-loss joining system, pre-assembled busbar elements, optimised use of material, as well as recyclability make planning, installation, commissioning and removal especially cost-efficient.

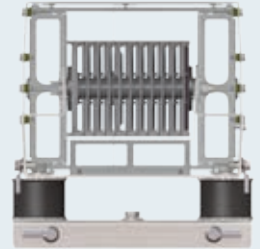
Mono

Voltage level	1000 V
Current-carrying capacity at 35 °C	800 A – 4100 A ¹⁾
Short-circuit rating	Scalable max. 116 kA
Degree of protection	IP21



Twin

Voltage level	1000 V
Current-carrying capacity at 35 °C	Rotor: 800 A – 1000 A Stator: 800 A – 3050 A
Short-circuit rating	Scalable max. 116 kA
Degree of protection	IP21



Technical data

Rated insulation voltage U_i	1000 V AC
Rated operational voltage U_e	1000 V AC
Degree of protection	IP21 with saline fog and condensation test
Rated current I_{nA}	800 A to 8200 A
Rated peak withstand current I_{pk}	Up to 255 kA
Rated short-time withstand current I_{cw} (1 s)	Up to 116 kA
Number of conductors	3 to 10 conductors per trunking unit
Fire load	Depending on the application
Joining system	Hook and bolt system
Conductor material	Aluminium
Housing material	Steel-enclosed, separate systems possible for rotor and stator (optional coating in RAL colour)
Standards	IEC 61439-1/-6, North-American standard in preparation
Adaptability	To standard LD system
Mounting position	Vertical
Insulation	Air-insulated
Busbar coating	Epoxy

Segment connectors for easy connection of the pre-assembled conductors in the wind turbine



Cable feeder for cable connection at the tower base and nacelle

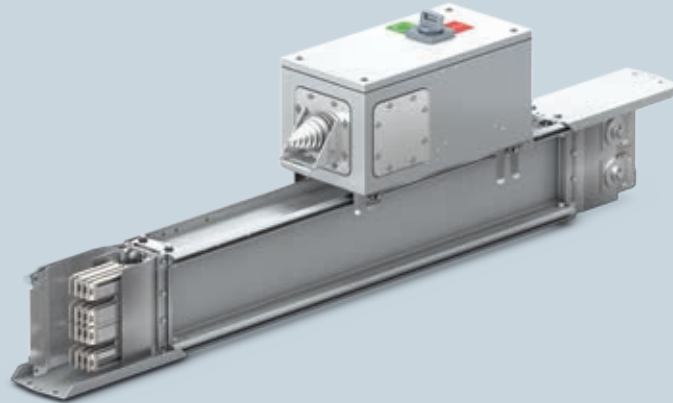


1) Up to 8200 A for two parallel systems

LI system

Highlights

- High degree of protection IP55, IP66 for power transmission
- Fire barriers tested in accordance with European Standard EN 1366-3
- Integrated, efficient and future-proof solution due to integration of measuring devices in energy management solutions in accordance with ISO 50001
- Cost-efficient infrastructure through compact sandwich design
- Reliable installation through hook and bolt connection



Transmission of high currents with low voltage drop thanks to the sandwich design

Reliable in operation

The LI system is particularly suited for applications from 800 A to 6300 A in which large amounts of power have to be flexibly transmitted over long distances, in infrastructure – for example, in multi-storey buildings – as well as in industrial applications. Thanks to its compact sandwich design, the system allows power transmission with a low voltage drop. The LI system can run at full load at high ambient temperatures up to 40 °C without derating.

Safe for people and equipment

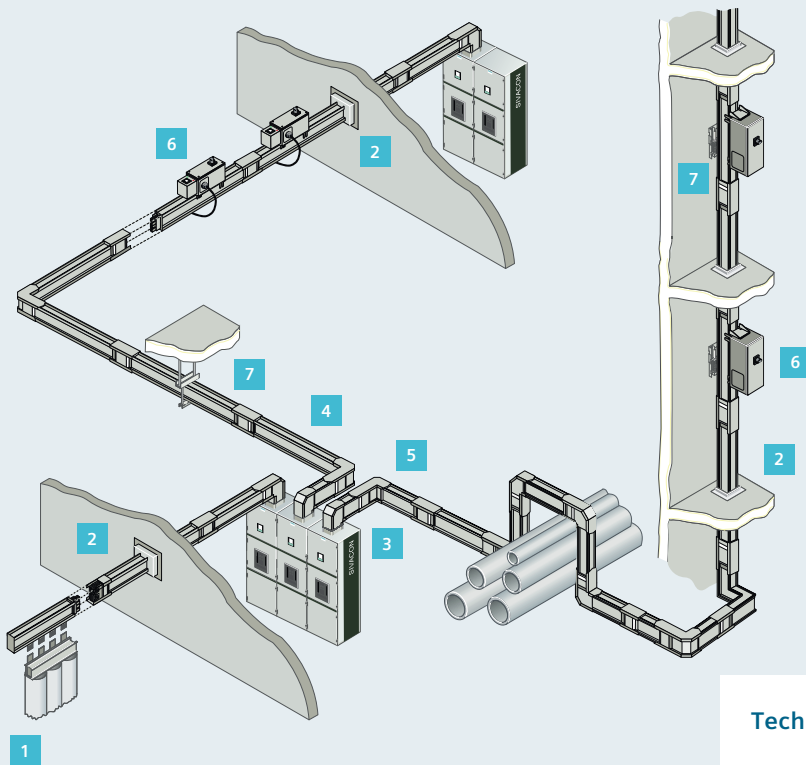
The LI system offers a large range of design verified trunking and tap-off units in accordance with the latest standards IEC 61439-1/-6, enabling high personal and equipment safety. Furthermore, the fire barrier of the LI system has been tested for fire resistance classes EI90 and EI120 in accordance with EN 1366-3 to meet European Standard building requirements.

Integrated and future-proof

Innovative technical features such as tap-off units with communication-capable measuring and switching devices enable modern energy management in accordance with ISO 50001 – meeting the latest demands for increased energy efficiency.

Efficient and flexible in planning and operation

The compact design of the LI system facilitates its integration into narrow buildings in order to achieve a cost-efficient infrastructure. Different conductor configurations, modular tap-off units equipped with circuit-breakers or fuse switch disconnectors or junction units enable a flexible design of your power supply. Furthermore, tap-off units up to 1250 A, which are connectable to energised runs¹⁾, support easy modifications and adaptations during operation.

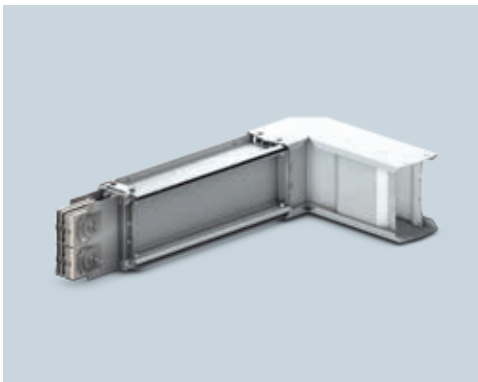


- 1 Transformer connection/feeding unit
- 2 Fire barrier
- 3 Connection/feeding unit to SIVACON S8
- 4 Straight trunking unit
- 5 Junction unit
- 6 Tap-off unit
- 7 Accessories for mounting

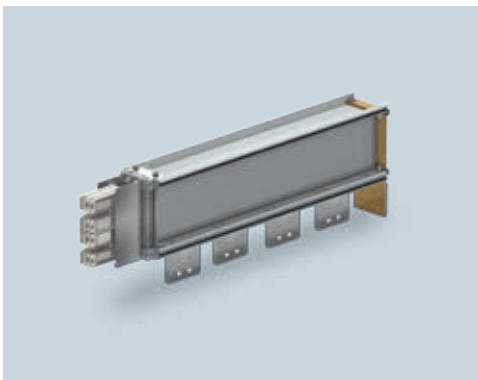
Technical data

Rated insulation voltage U_i	1000 V AC
Rated operational voltage U_e	1000 V AC
Degree of protection	IP55, IP66 ²⁾
Rated current I_{nA}	800 A to 6300 A
Rated peak withstand current I_{pk}	up to 330 kA
Rated short-time withstand current I_{cw} (1 s)	up to 150 kA
Number of conductors	3 to 7 conductors incl. Clean Earth and 200 % N conductor
Fire load	2.13 – 15.54 kWh/m
Fire load (per tap-off point)	0.98 kWh
Tap-off point	Up to 3 per 3 m length (per side)
Tap-off unit	Up to 1250 A
Joining system	Hook and bolt connection with shear-off nut
Conductor material	Aluminium or copper
Housing material	Painted Al

Easy adaptation to building structures by means of junction units



Various transformer connections for safe power transmission

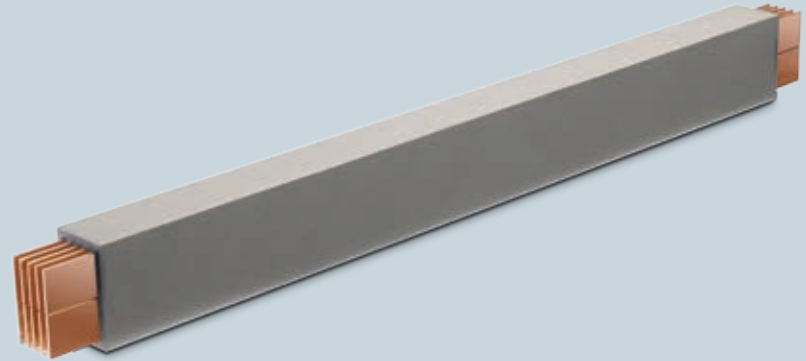


1) In accordance with EN 50110-1 (VDE 0105-1); please always observe national regulations/standards
 2) IP66 for mere power transmission runs without feeders

LR system

Highlights

- Suitable for outdoor applications thanks to high degree of protection IP68
- Strong resistance to chemical substances and high mechanical rigidity due to the use of epoxy cast-resin housing
- High flexibility and consistency thanks to integrated connection to the LI and LD systems
- Fire resistance of 180 min in accordance with IEC 60331
- Flexible power transmission with low space requirements thanks to various junction units



Available with copper or aluminium conductors

For the most adverse ambient conditions

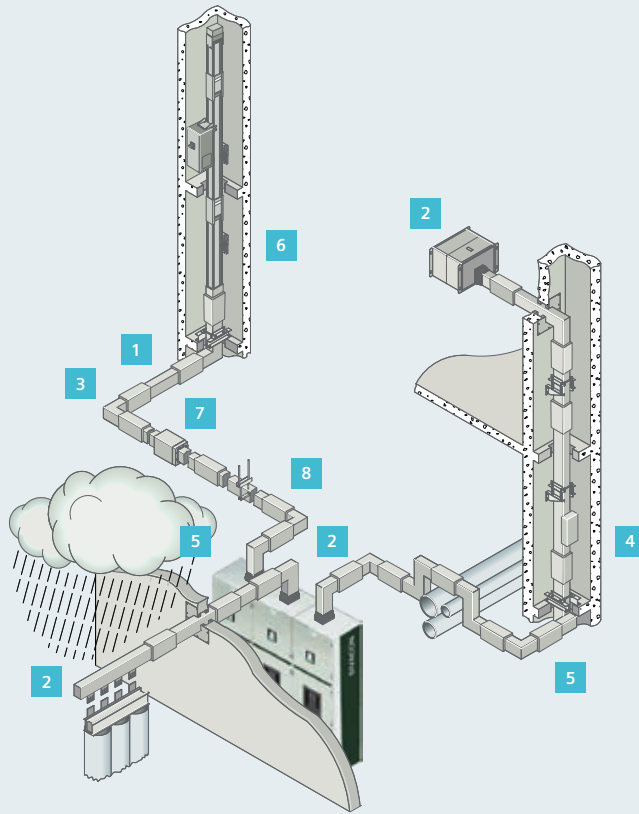
Thanks to its housing made of epoxy cast resin with a high degree of protection IP68 and high short-circuit rating, the LR system provides reliable power transmission even under adverse ambient conditions. It is impervious to environmental factors such as air humidity and corrosive or salty atmospheres.

Flexible power transmission for both indoor and outdoor applications

The robust system can be laid flat, upright, vertically or horizontally as required in applications from 400 A to 6150 A. With only minimum space requirements, it can be optimally adjusted to the construction conditions with angles, connectors and T-pieces for change of direction. The LR system is also perfectly suited for outdoor applications.

Consistency of the busbar trunking system with high currents

The LR system can be simply and quickly fitted using the bolt-type terminal block. It is consistent and can be easily combined with the LI and LD systems for indoor applications.

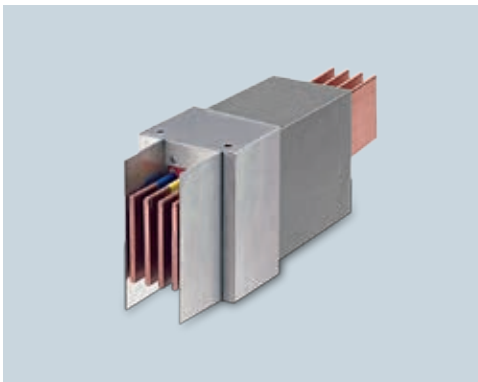


- 1 Straight trunking unit
- 2 Feeding unit
- 3 Junction unit
- 4 Junction box
- 5 Accessories
- 6 Adapter to the LI system
- 7 Expansion compensation
- 8 Cast connecting element

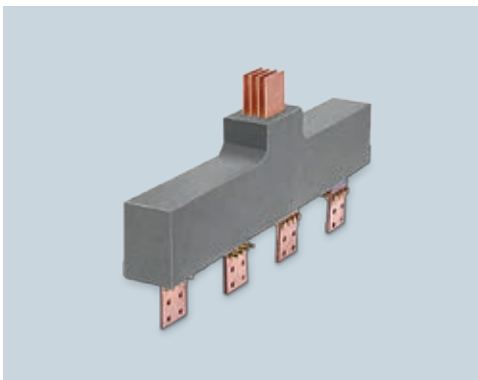
Technical data

Rated insulation voltage U_i	1000 V AC
Rated operational voltage U_e	1000 V AC
Degree of protection	IP68
Rated current I_{nA}	400 A to 6150 A
Rated peak withstand current I_{pk}	Up to 220 kA
Rated short-time withstand current I_{cw} (1 s)	Up to 100 kA
Number of conductors	3 and PEN or 3, N and PE
Fire load	Max. 77.3 kWh/m
Fire load (per junction point)	–
Junction point	Every 1 m on one side
Junction box	On request
Joining system	Bolt terminal block
Conductor material	Aluminium or copper
Housing material	Epoxy resin

Safe connection to the LI or LD system via adapters



Numerous transformer connections for safe power transmission





Support

Time optimization with Siemens as your expert partner at your side

SIVACON 8PS busbar trunking systems on the Internet

Our website offers you a wide range of promotional and technical information as well as helpful tools for the SIVACON S8 busbar trunking systems. Just click and have a look!

[siemens.com/busbar](https://www.siemens.com/busbar)

Comfortable planning: With the SIMARIS tools

Planning of electrical power distribution for industrial plants, infrastructure and buildings is increasingly complex. Innovative SIMARIS software tools provide effective support for your planning process enabling you, the electrical designer, to work better and faster under the given conditions.

SIMARIS design

Dimensioning electricity networks and selecting components automatically

SIMARIS project

Calculating space requirements and budgeting for power distribution

SIMARIS sketch

Creating 3D line routing plans for the BD01, BD2, LD and LI busbar trunking systems

[siemens.com/simaris](https://www.siemens.com/simaris)

Technical documentation on the Internet

The available technical documentation of the SIVACON 8PS busbar trunking systems is available on the Internet at

[siemens.com/lowvoltage/product-support](https://www.siemens.com/lowvoltage/product-support)

Tender specifications

We offer you a comprehensive range of tender specification texts to assist at

[siemens.com/specifications](https://www.siemens.com/specifications)

Build on a sound foundation

Our training courses provide you with a solid foundation for your business success.

Experts provide the theoretical and practical knowledge you need for our SIVACON 8PS busbar trunking systems.

[siemens.com/lowvoltage/training](https://www.siemens.com/lowvoltage/training)

Reliable on-site support

Our local experts are there for you worldwide. They help you develop power supply solutions and offer you support with their specialist knowledge in project management and financial services, while always taking important aspects such as safety, logistics, and environmental protection into account.

Expert staff from our TIP Consultant Support unit will provide you with targeted support for the planning and design of electrical power supply systems.

[siemens.com/tip-cs](https://www.siemens.com/tip-cs)

Published by
Siemens AG 2016

Energy Management Division
Freyeslebenstrasse 1
91058 Erlangen, Germany

For more information, please contact
our Customer Support Center.
Phone: +49 180 524 70 00
Fax: +49 180 524 24 71
(Charges depending on provider)
E-mail: support.energy@siemens.com

Article No. EMMS-B10032-00-7600
Printed in Germany
Dispo 30407
TH 260-150757 BR 04163.0

Subject to changes and errors.
The information given in this document only contains
general descriptions and/or performance features
which may not always specifically reflect those
described, or which may undergo modification in
the course of further development of the products.
The requested performance features are binding
only when they are expressly agreed upon in the
concluded contract.

SIVACON® and SIMARIS® are registered trademarks
of Siemens AG. Any unauthorized use is prohibited.
All other designations in this document may represent
trademarks whose use by third parties for their own
purposes may violate the proprietary rights of the
owner.

Read the
QR code with
the QR code
reader!

