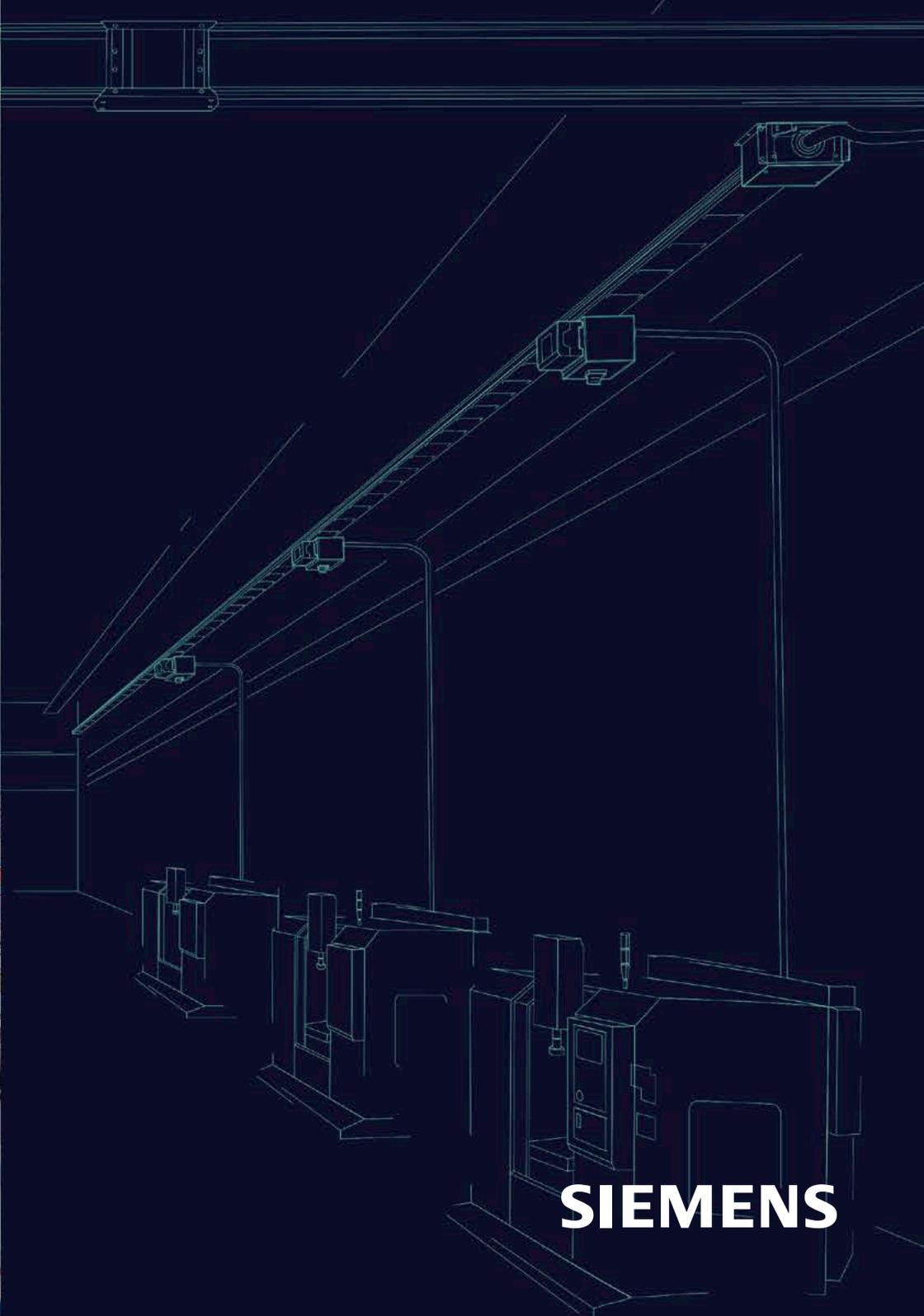


SIVACON 8PS BUSBAR TRUNKING SYSTEMS

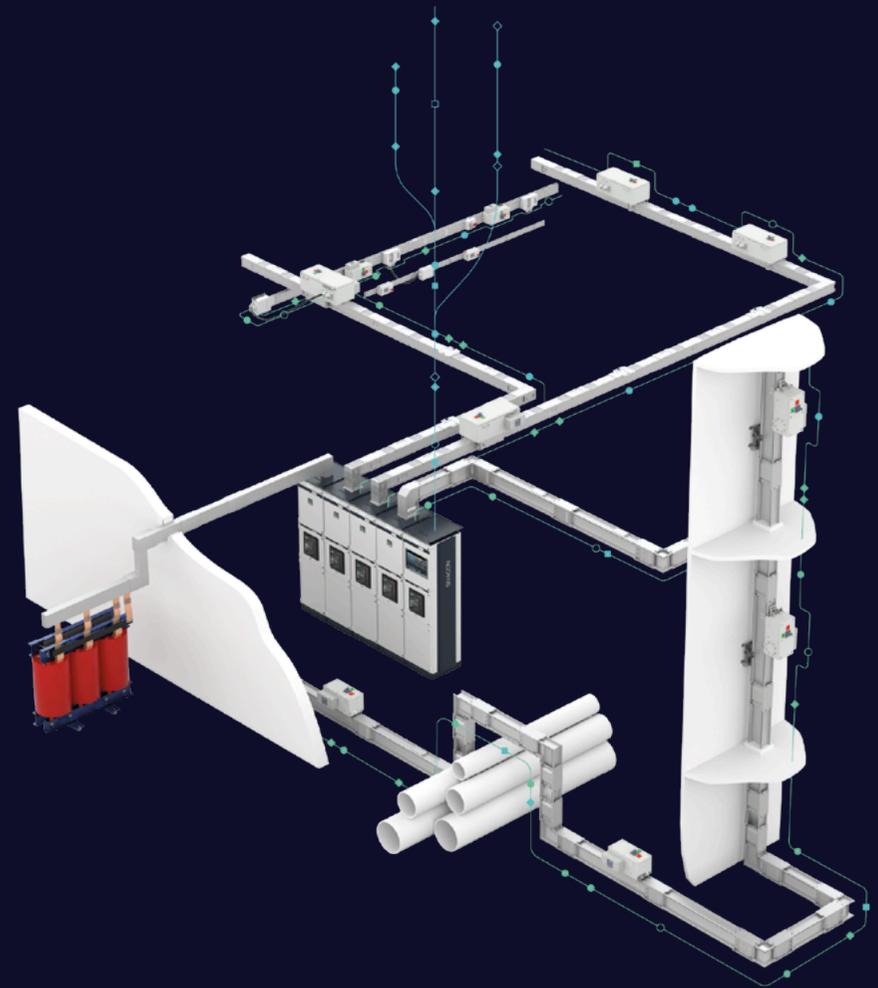
# Energy and data – successfully put on track



**SIEMENS**

# Contents

<b>Smart power distribution all the way to the consumer</b>	<b>3</b>
<b>Sustainable system advantages for your success</b>	<b>4</b>
<b>Busbars instead of cables</b>	<b>8</b>
<b>Flexible and open to new applications</b>	<b>10</b>
<b>SIVACON 8PS portfolio</b>	
Overview	16
BD01 system	20
BD2 system	22
LI system	24
LD system	26
LDM system	28
LData system	30
LR system	32
<b>Support</b>	<b>34</b>



# New paths to the future

Powerful, flexible, cost-efficient, and sustainable, SIVACON 8PS busbar trunking systems are ready for tomorrow's tasks today and enable you to raise your power distribution to a new level of performance.

- **Innovative:** the alternative to conventional cables
- **Well-conceived:** solutions for all power transmission and distribution tasks
- **Sustainable:** resource-saving, reusable, and easy to recycle
- **Flexible:** easy to adapt to new consumers and modified layouts
- **Smart:** acquires energy data and directly transmits it via the busbar without cables or wireless networks

## Highly available systems ex works

With SIVACON 8PS, you are already at the finish line, because your power distribution already fulfills the calculated values you want to achieve ex works – regardless of the installation, and with the triple advantage that mounting is easier, faster, and more reliable compared with cable installation.

## Distribute power more efficiently

Cost-efficiency means safe and reliable power distribution in every process step. With SIVACON 8PS, you will benefit from the coordinated interaction of all components and tools – for efficient processes, from planning through installation to operation and maintenance:

- SIMARIS busbarplan ensures that planning complies with BIM (Building Information Modeling).
- The BusbarCheck app enables safe and targeted installation.
- powerline technology makes smart communication incredibly easy for your energy data management system.

## Extra sustainability in power distribution

With SIVACON 8PS, sustainability starts with the system's long service life, as it saves valuable resources. The system family has many additional features:

- SIVACON 8PS systems are resource-saving, reusable, and easy to recycle.
- Custom solutions specifically for wind and PV plants are available.
- When server racks are used, the LData system for data centers reduces energy losses thanks to larger cross-sections – and electromagnetic radiation is minimized.
- Certificates document the systems' environmental profile (like the carbon footprint and RoHS).



## SIVACON 8PS – high operational safety and availability

- Design verified busbar trunking systems and connections to SIVACON S8 switchboards in accordance with IEC 61439-1/-6
- Product features ensured ex works
- High short-circuit withstand strength
- Low fire load

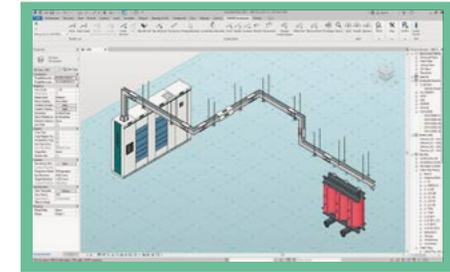
## SIVACON 8PS – higher efficiency ensured systematically

- Compact, space-saving design
- High system flexibility for planning and operation
- Transparent power flows facilitate process optimizations
- System data provides optimal support for maintenance work

## SIVACON 8PS – environmentally friendly power distribution

- Optimized use of materials and durable components
- Helps reduce your carbon footprint
- Extremely low electromagnetic radiation

# You benefit during **planning,** **installation, and operation**



## Optimal planning

Planning your power distribution with SIVACON 8PS offers many benefits, especially in three vital areas:



**1. Time.** Time is a cost factor that you can reduce. Software tools from the SIMARIS Suite make your work much faster while also improving quality and safety. They not only contain your system data, they also provide all the relevant standards that need to be covered.

**2. Transparency.** At the same time, using the SIMARIS software tools increases the transparency of your project. Even when things get extremely complex, everything stays under your control.

**3. Future-proof design.** Thanks to integrated BIM data, your planning is ready for the future. For example, you can use SIMARIS busbarplan to design three-dimensional routing diagrams for the BD01, BD2, LD, LDdata, LI, and LR busbar trunking systems as digital twins.

## Planning tools in the SIMARIS Suite

### SIMARIS design

Minimum input effort, maximum result: With SIMARIS design, you can calculate grids – including short-circuit current – based on real products.

### SIMARIS project

Thanks to SIMARIS project, you will know exactly how much space is required for electric power distribution in your building, and you can generate budget prices and tender specification texts.

### SIMARIS sketch

You need routing diagrams for the BD01, BD2, LD, LI, and LR busbar trunking systems in 3D, but you do not have CAD knowledge? No problem with SIMARIS sketch!

### SIMARIS busbarplan

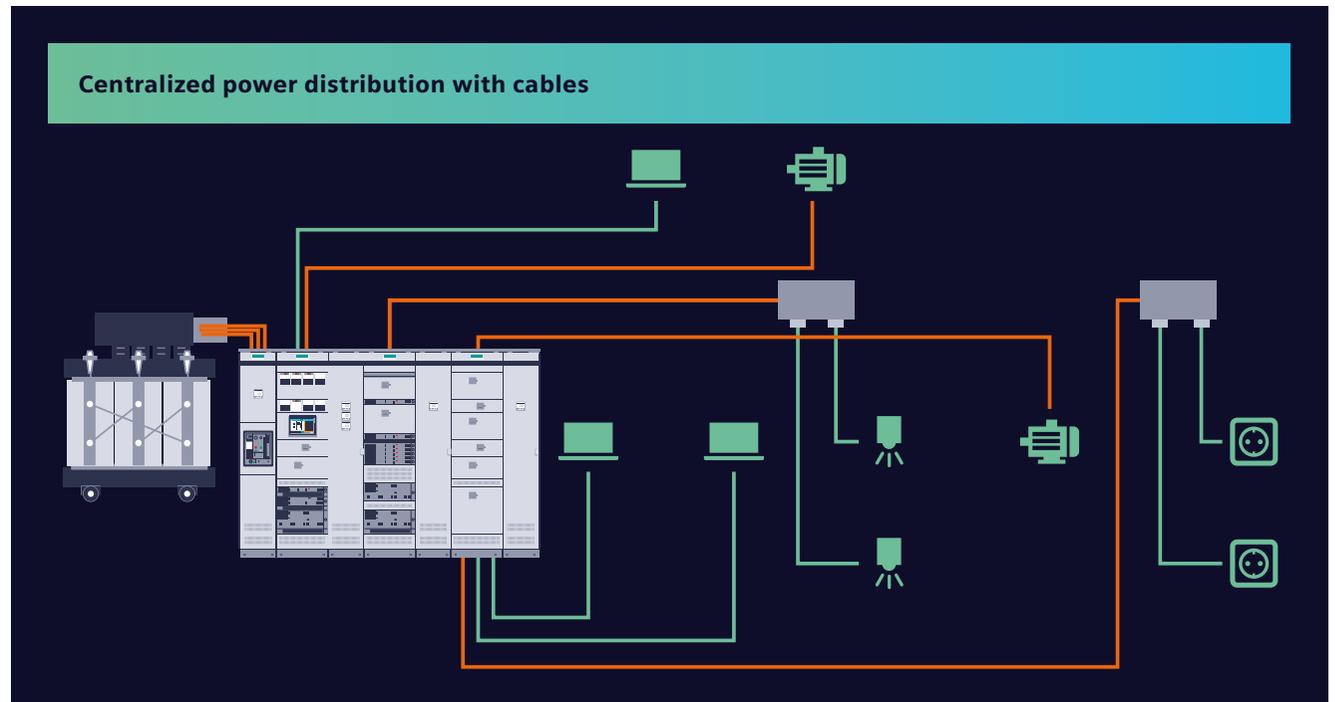
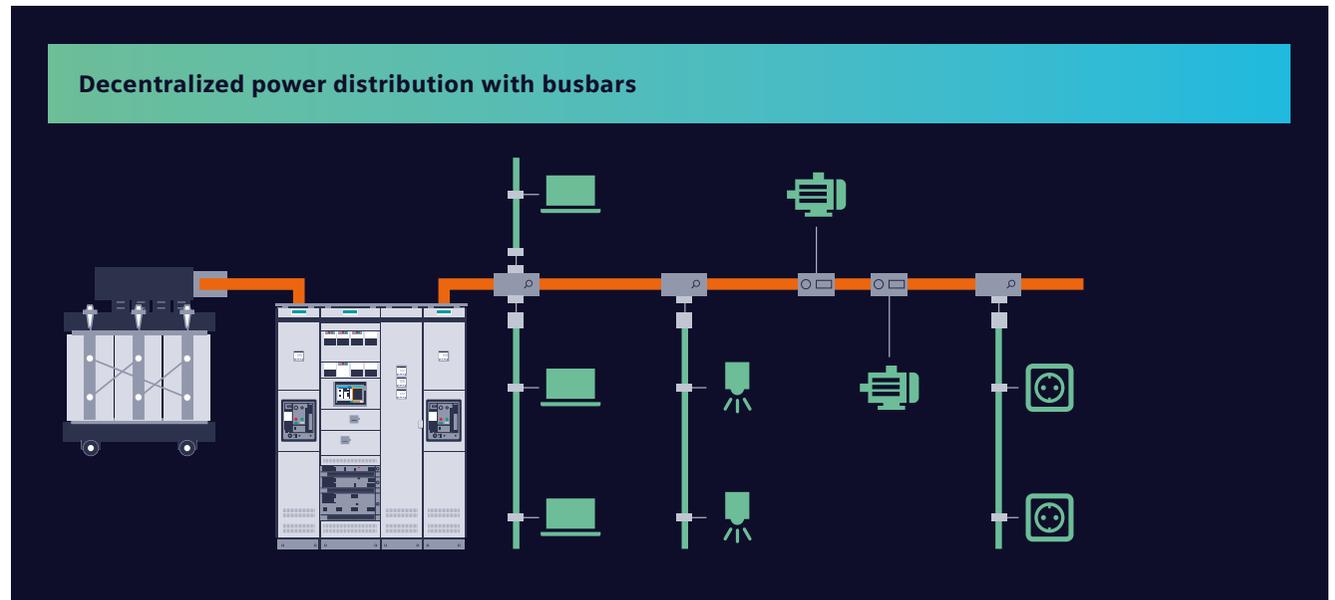
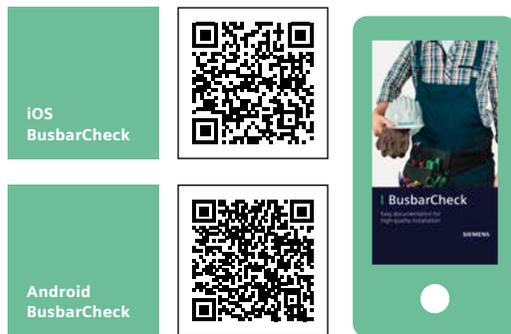
The professional planning tool for designing the digital twin of your busbar run. Select the right busbar trunking system for your project and plan the busbar run in the building in 3D while complying with BIM – quickly and easily.



## Clever installation

- With SIVACON 8PS busbar trunking systems, you will enjoy the many benefits of smart power distribution compared with conventional cable installation. This is most apparent during installation: innovative and safe technology that is quick and easy to install using, among other things, the practical BusbarCheck installation app.
- Provides all the information necessary for installation (like installation instructions).
- Helps identify and visually document each connection.
- At the push of a button, a digital protocol of all connection points is generated from this – to document the high-quality installation.
- The effect: It is the better and faster way to create an operational system.

### Downloadable app:

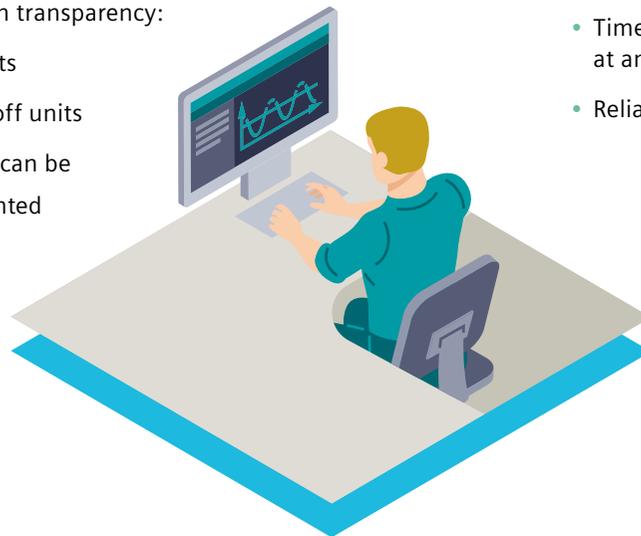


## Transparent and efficient operation

Operational safety and system availability are top priorities in power distribution. But what if usage requirements change? Then, speed and flexibility in designing a future-oriented power distribution are essential.

The answer is SIVACON 8PS. It allows you to achieve more flexibility and an optimal assignment of switching and protection devices to consumers. Any errors are also quickly corrected thanks to the boost in transparency:

- Optimal interaction of all components
- Freely selectable positioning of tap-off units
- System expansions or modifications can be easily planned and flexibly implemented



## Your start in digitalization

With SIVACON 8PS, you will take advantage from the digital age. The SIVACON 8PS powerline technology supports smart power distribution:

- Operation and energy data from your power distribution are acquired in a distributed way
- Smart data transmission via the conductors of the busbar trunking system to higher-level analysis systems or IoT applications
- powerline modules are easy to retrofit

Simply use the data potential:

- Overview of trends in the development of your system data
- Timely replacement of components, as possible failures are detected at an early stage
- Reliable estimation of the remaining service life of a system

# Busbar versus cable:

## Benefits at a glance

	SIVACON 8PS busbar trunking systems	Cables
 <b>Conformity with standards</b>	<ul style="list-style-type: none"> <li>• Design verified system in accordance with IEC 61439-1/-6</li> <li>• High current-carrying capacity, operational safety, and short-circuit withstand strength</li> </ul>	<ul style="list-style-type: none"> <li>• Individual solution; compliance with standards much more difficult to prove (for example, consideration of derating factors)</li> </ul>
 <b>Sustainability</b>	<ul style="list-style-type: none"> <li>• Custom-fit manufacturing</li> <li>• Resource-saving</li> <li>• Reusable</li> <li>• Easy to recycle</li> </ul>	<ul style="list-style-type: none"> <li>• Cable waste</li> <li>• Limited reuse</li> <li>• Costly and time-consuming to separate and recycle</li> </ul>
 <b>Fire barrier</b>	<ul style="list-style-type: none"> <li>• Very low fire load</li> <li>• Halogen-free</li> </ul>	<ul style="list-style-type: none"> <li>• Very high fire load, dependent on cable type</li> </ul>
 <b>Flexibility in the event of modifications, expansions, or the relocation of load focal points</b>	<ul style="list-style-type: none"> <li>• Very high flexibility thanks to variable tap-off units that can be modified, added, or replaced as required, even while energized<sup>1</sup></li> <li>• No total system downtimes</li> <li>• Adaptable power supply</li> </ul>	<ul style="list-style-type: none"> <li>• High effort: replacement of existing devices, or expansion with additional outgoing feeders in the switchboard and the associated modifications in the cable installation</li> <li>• Long downtimes</li> <li>• Rigid power supply</li> </ul>
 <b>Space requirements</b>	<ul style="list-style-type: none"> <li>• Very low thanks to compact design and installation with contours matching the building structure</li> <li>• Smaller installation surface thanks to reduced size of the central switchboard</li> </ul>	<ul style="list-style-type: none"> <li>• High due to bending radii, installation method, and accumulation</li> <li>• Larger installation surface of the central switchboard due to integrated switching and protection devices</li> </ul>

## SIVACON 8PS busbar trunking systems

## Cables



### Troubleshooting and error correction

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

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



### Electromagnetic influence

- Low influence thanks to suitable arrangement of conductors

- Relatively high for standard cables
- No defined arrangement of conductors, dependent on the individual installation



### Installation time

- Short installation time thanks to prefabricated trunking elements

- Time-consuming due to many work operations on site



### System lifecycle

- High level of safety and availability thanks to preconfigured and standardized tap-off units
- Planning: safety in quality and costs
- Installation: plug & work, easy configuration changes
- Operation: design verified standard/modular system for easy configuration changes, maintenance, and spare part management

- High effort for cable installation and for centrally arranged switching and protection devices
- Planning: Detailed planning and budgeting are required in advance
- Installation: Changes on-site or later during operation are complicated
- Operation: Configuration changes are only possible when the system or complete sections are shut down



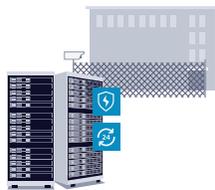
### Connection to automation and energy management systems as well as to the cloud (IoT)

- Simple and cost-efficient integration thanks to standardized and retrofittable powerline technology

- Complicated due to installation of parallel communication cables

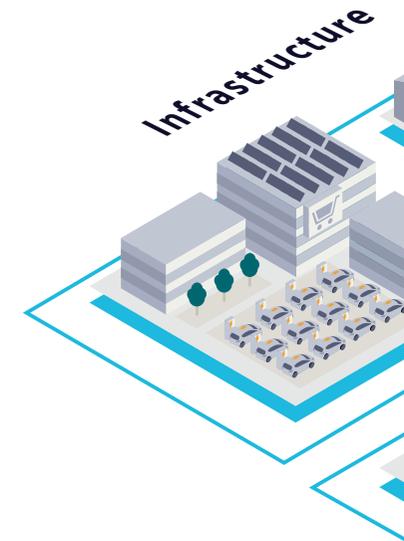
1 In accordance with EN 50110-1 (VDE 0105-1); please always observe national regulations/standards.

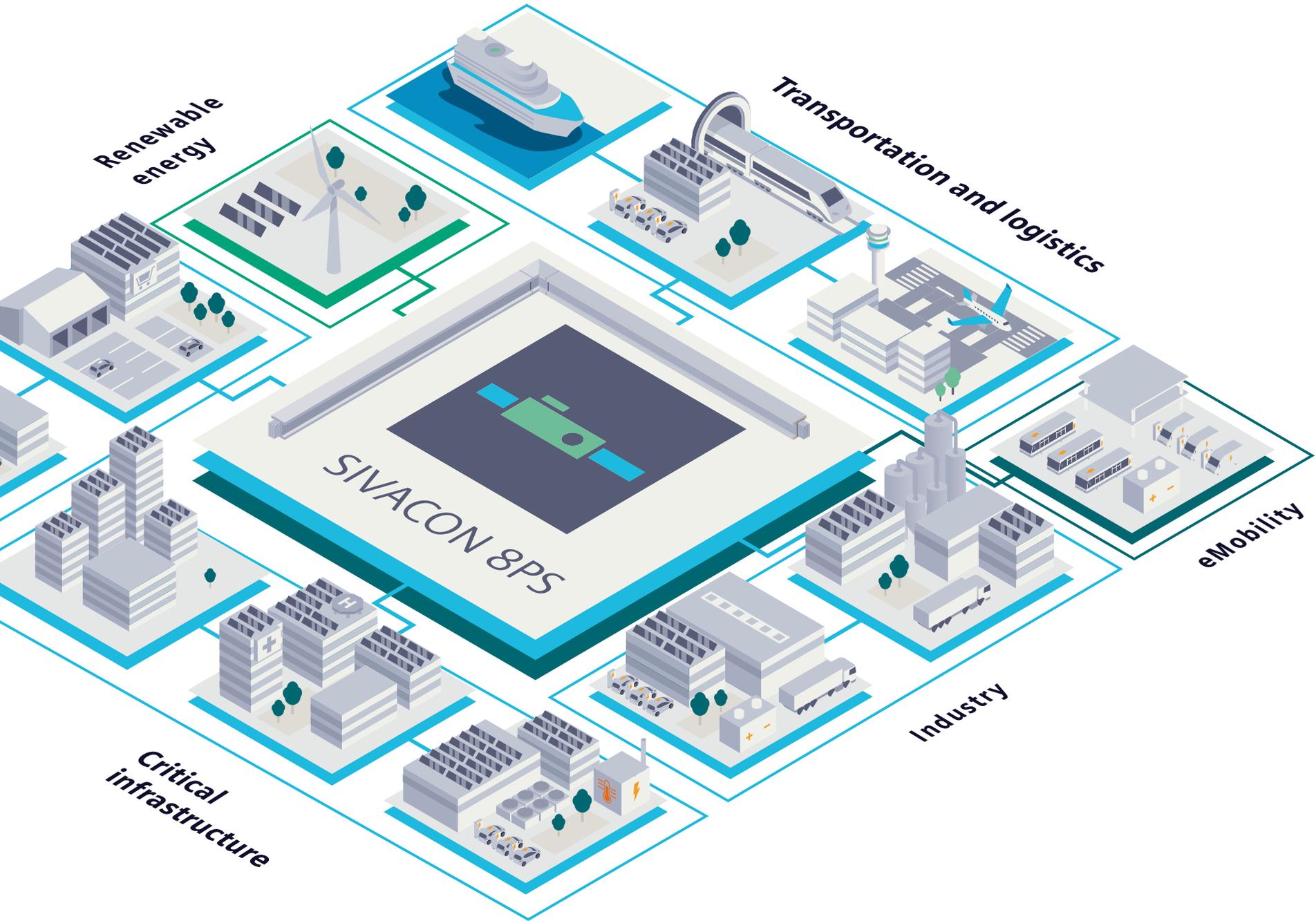
# Reliable power – at all locations, in all scenarios



## **SIVACON 8PS for perfect interaction**

For shopping malls, hospitals, factory floors, office buildings, and commercial buildings, or for connecting e-car charging stations: SIVACON 8PS ensures reliable and cost-efficient power distribution at all locations. From planning through installation and operation to expanding your power supply, you will benefit from efficiency, convenience, high adaptability to new use concepts, and communication with higher-level systems or clouds.



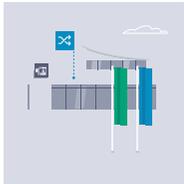


## Infrastructure



### Shopping malls and supermarkets

Shopping malls and supermarkets often change how they use space. In most cases, power has to be transported across long distances or to multiple building levels – that is where the extreme flexibility of the LI, BD2, and BD01 systems proves its value.



### Exhibition halls

Spatial configurations in exhibition and event halls are always changing. Distributing power requires suitably flexible and robust systems. The LD, LI, BD2, and BD01 busbar trunking systems are the ideal solution.



### Home improvement centers

Home improvement centers sell products that are easily ignitable. The LI, BD2, and BD01 busbar trunking systems are the best choice in this setting thanks to their high level of safety and low fire load.



### Workshops

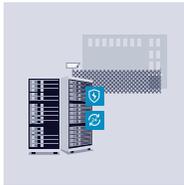
Workshops and production facilities generally need smaller volumes of power as close as possible to the consumer load location – no problem for BD2 and BD01 busbar trunking systems.



### High-rise buildings

SIVACON 8PS busbar trunking systems supply power to high-rise buildings and large office buildings quickly, reliably, and cost-efficiently. In this case, the riser shaft is equipped with the LI system, while BD01 and BD2 systems serve the individual floors. Their low fire load ensures a high level of safety.

## Critical infrastructure



### Data centers

Power failures in data centers can have serious consequences. To ensure that data centers have a safe, reliable, and integrated power supply, the LI system provides transmission busbars while the BD01, BD2, and LData systems are used as distribution busbars. With a current rating of up to 2500 A, the LData system can already meet your future needs today.



### Hospitals

Highly sensitive, life-saving systems in hospitals must be protected from interruptions and faults in the power supply. The LD, LI, and BD2 systems provide especially safe and reliable protection.

## Transportation and logistics



### Ships

The LR, LD, BD2, and BD01 systems are certified for use on ships and ensure a reliable power supply even under harsh conditions like salty, highly humid air, swells at sea, and vibration. Their special ship bulkheads and low weight offer more advantages compared to cable installation.



### Tunnels and underground

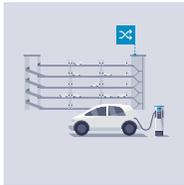
Smoke extraction fans and other power consumers in the underground require safe, secure, and reliable power transmission solutions. Key factors in these applications include a high level of personnel protection and prevention of vandalism – areas where the LR system is strongest.



### Airports

The number and requirements of consumers in airports are constantly changing. What does stay the same is the high demand for an extremely safe, reliable, and flexible power distribution. The LI system is designed for a comprehensive, end-to-end, and efficient infrastructure.

## eMobility



### Multistory and underground parking garages

Charging infrastructures in the multistory and underground parking garages at high-rise buildings have tremendous potential for growth. The BD01 and BD2 systems are expandable and powerful, including the acquisition and transmission of energy data to higher-level systems without cables.



### e-bus depots

The LD system is perfectly designed for the requirements of large e-bus depots thanks to its high power density, short charging time, changing usage criteria, and extreme safety. It offers eMobility an innovative alternative to cables.

## Industry



### Automotive industry

As the automotive industry becomes increasingly flexible, power distribution to production sites has to keep pace. No problem! The LD system handles large production lines, while the BD01 and BD2 systems supply power to the infrastructure systems.



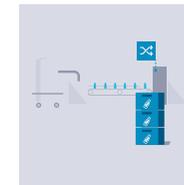
### Manufacturing industry

Production lines require reliable power distribution as well as integration in energy management. The LI, LD, BD2, and BD01 systems offer a high short-circuit withstand strength and mechanical safety – and the LI, LD, and BD2 systems also provide high-performance powerline technology.



### Semiconductor production

With its high short-circuit withstand strength and low fire load, the compact LD system is ideal for the energy-intensive and highly complex processes in the semiconductor industry.



### Food and beverage industry

SIVACON 8PS makes power distribution in the food and beverage industry flexible and reliable. The LD and LI systems supply power to consumers with high power loads while also feeding the smaller BD01 and BD2 systems. The result is high production quality and safety.

## Renewable energies



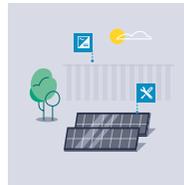
### **Chemical industry**

The high safety standards in chemical plants also apply to power distribution. The reliable, compact, and cost-efficient LR and LI busbar trunking systems comply with these standards thanks to design verified components and sophisticated connection technology, and a high degree of protection.



### **Wind turbines**

Wind turbines must be capable of transmitting the power they generate in a cost-efficient, reliable, and space-saving manner. The LD and LDM busbar trunking systems simplify planning, installation, commissioning, and removal.



### **Photovoltaic and container stations**

Custom-made for individual requirements, fast to install, with current ratings up to 7000 A, and precisely configured to other products like inverters and transformers: The LDM-P system is ideal for highly efficient use in photovoltaic and container stations.

# One family – many possibilities

## Power distribution on a systematic basis

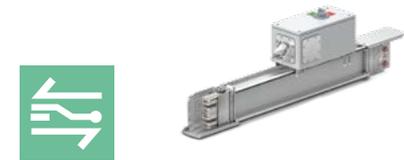
### BD01 system



### BD2 system



### LI 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

An integrated and universal solution for safe and efficient power supply in infrastructure and industry for the global IEC market

#### Typical application

- Workshops and production
- Supermarkets
- Data centers
- High-rise buildings
- Exhibition halls
- Automotive industry
- Ship applications
- eMobility

- Workshops and production
- Manufacturing industry
- Home improvement centers
- Data centers
- High-rise buildings
- Food and beverage industry
- Exhibition halls
- Hospitals
- Automotive industry
- Ship applications
- eMobility

- High-rise buildings
- Data centers
- Manufacturing industry
- Chemical industry
- Airports
- Exhibition halls
- Hospitals
- Home improvement centers
- Shopping malls and supermarkets
- eMobility



Data transmission  
with powerline technology

## LD system



The long-time proven high-current busbar for industrial and special applications

- Automotive industry
- Manufacturing industry
- Food and beverage industry
- Exhibition halls
- Wind turbines
- Semiconductor production
- Ship applications
- eMobility
- DC applications

## LDM system



The application-specific, air-insulated busbar for safe and efficient power transmission in wind turbines, photovoltaic stations, and container stations

- Wind turbines
- Photovoltaic stations
- Container stations

## LData system



Efficient and reliable power supply for data centers now and in the future

- Data centers

## LR system



The reliable busbar for high protection in harsh ambient conditions, e.g., for outdoor networking of building sections, or for the supply of tunnels

- Chemical industry
- Oil and gas
- Tunnels and underground
- Outdoor applications
- Ship applications

## Technical details



**BD01 system**<sup>1, 5</sup>



**BD2 system**<sup>1, 5</sup>



**LI system**<sup>2, 3, 5</sup>

Rated insulation voltage $U_i$	400 V AC	690 V AC	1000 V AC
Rated operational voltage $U_e$	400 V AC	690 V AC / DC	1000 V AC
Degree of protection	IP54, IP55	IP54, IP55	IP55, IP66 <sup>2</sup>
Rated current $I_{nA}$	40 A to 160 A	160 A to 1250 A	800 A to 6300 A
Rated peak withstand current $I_{pk}$	Up to 15.3 kA	Up to 90 kA	Up to 330 kA
Rated short-time withstand current $I_{cw}$ (1 s)	Up to 2.5 kA	Up to 34 kA	Up to 150 kA
Number of conductors	5 conductors (PE = enclosure)	5 conductors	4 to 6 conductors (incl. 200% N or add. Clean Earth)
Tap-off 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	Up to 3 per 3 m length (per side)
Tap-off unit	Up to 63 A	Up to 550 A	Up to 1250 A
Data transmission	Data cable	powerline, data cable	powerline, data cable
Connection technology	Connecting flanges with integrated expansion compensation	With integrated expansion compensation, single-bolt terminal	Hook and bolt connection with shear-off nut
Conductor material	Aluminum or copper	Aluminum or copper	Aluminum or copper
Enclosure material (trunking unit, feeding unit)	Galvanized and powder-coated sheet steel	Galvanized and powder-coated sheet steel	Powder-coated aluminum



### LD system<sup>1, 5</sup>

1000 V AC
1000 V AC / DC
IP34, IP54
1100 A to 5000 A
Up to 286 kA
Up to 116 kA
4 or 5 conductors
Every 1 m on one side
Up to 1250 A
powerline, data cable
Single-bolt clamped connection with hook and bolt
Aluminum or copper
Galvanized and powder-coated sheet steel



### LDM system<sup>5</sup>

1000 V AC
1000 V AC
LDM: IP21 with salt mist and condensation test, LDM-P: IP00
800 A to 8200 A
Up to 255 kA
Up to 116 kA
3 to 10 conductors per trunking unit (application-specific, multiple circuits possible)
–
–
–
Separate single-bolt joint block with hook system
Aluminum
Galvanized sheet steel



### LData system

600 V AC
600 V AC
Trunking units: IP21 Tap-off units: IP21, IP41
1000 A to 2500 A
84 kA
40 kA
5 conductors
Can be plugged on/off all along the system
Up to 250 A
powerline, data cable
Direct hook and bolt connection (LD technology)
Aluminum
Galvanized and powder-coated sheet steel



### LR system<sup>1, 3, 4, 5</sup>

1000 V AC
1000 V AC
IP68
400 A to 6300 A
Up to 275 kA
Up to 125 kA
4 or 5 conductors
Every 1 m on one side
On request
–
Bolt joint block
Aluminum or copper
Epoxy resin

#### Marine classification societies:

1 DNV GL

2 IP66 purely for power transmission runs without tap-offs

3 Seismic Qualification Certificate (seismic test)

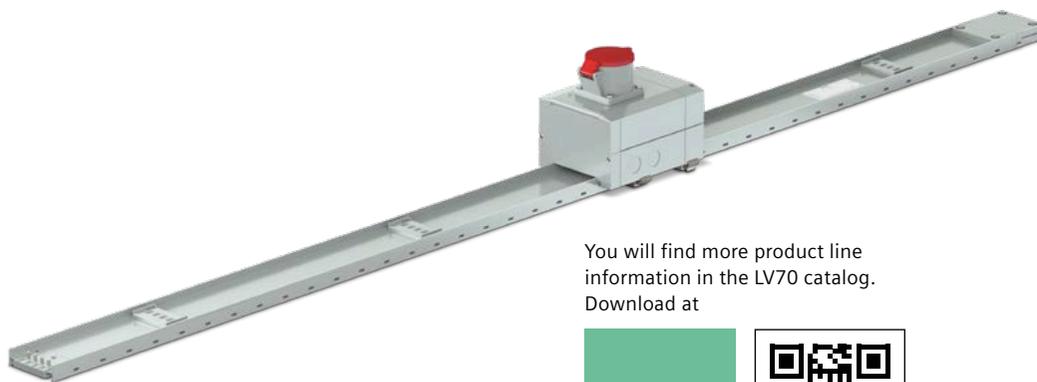
4 ATEX

5 Product Environmental Profile (PEP), Environmental Product Declaration (EPD)

# BD01 system – ideal for craft and industrial enterprises

## Safe power distribution for small consumers

In craft and industry, power has to be available at all times and everywhere, and it has to be accessible and controllable. With the BD01 busbar trunking system, everything is visible and under your control. It was developed to safely supply small consumers with power and to implement the infeed of a lighting system. You will benefit from an advanced and cost-efficient power supply.



You will find more product line information in the LV70 catalog. Download at



A variety of versions, for example, trunking unit with fuse-bases



Feeding unit attachable at any connection point

## Smart features ...

- Ideal for applications from 40 A to 160 A
- One size available with five current ratings
- Tap-off units up to 63 A that can be plugged on/off while energized<sup>1</sup>
- Finger-proof mounting by automatic opening and closing of tap-off point
- Easy handling using connecting flanges with integrated expansion compensation
- Reliable mechanical and electrical connection technology for error-free installation thanks to the asymmetry of the connection point
- Optionally available with tested fire barrier

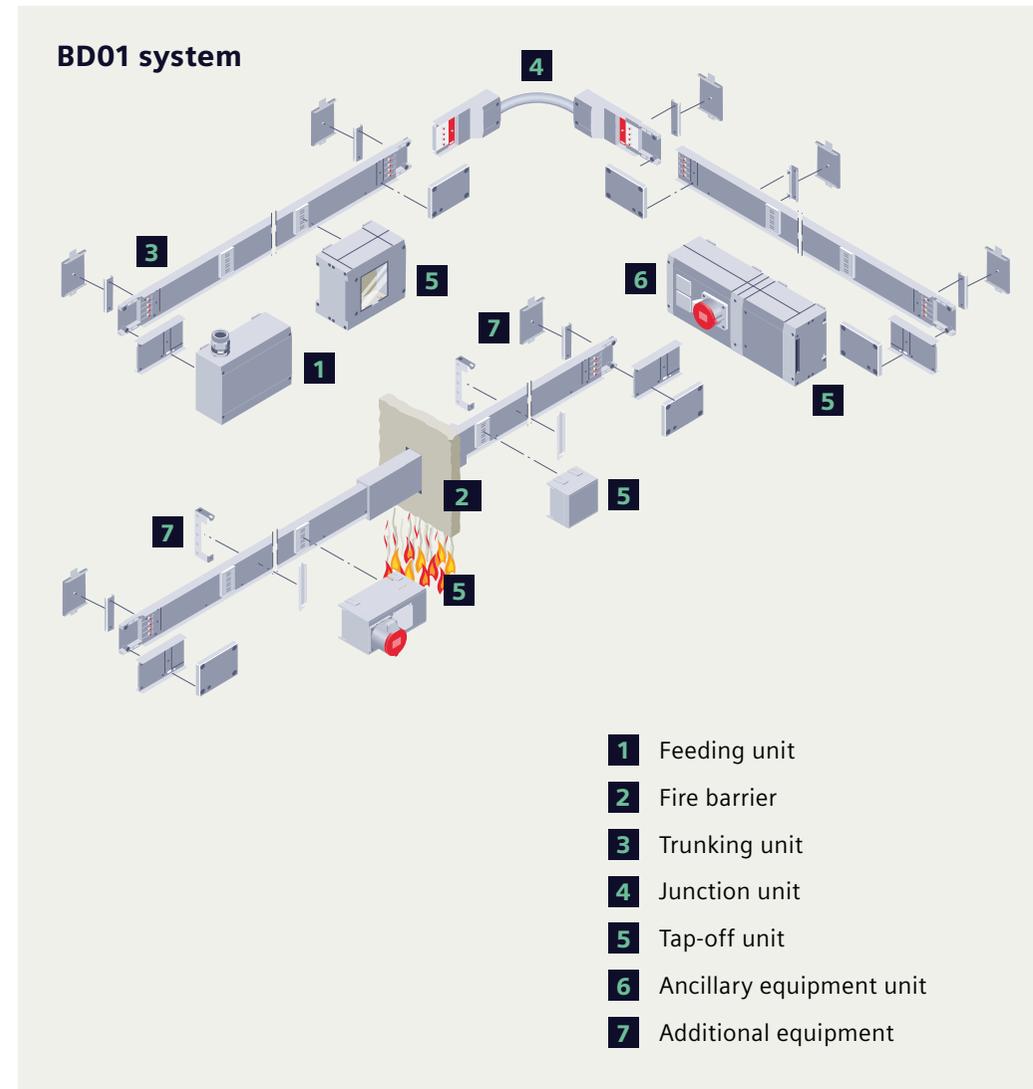
## ... that benefit you

- Simple planning, modification, and expansion of power distribution
- Tap-off units available pre-wired or for individual equipping
- Flexible adaptation to every building structure by means of 3D junction units

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

## 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	5 conductors (PE = enclosure)
Fire load	Max. 0.76 kWh/m
Tap-off point	Either 0.5 m or 1 m on one side
Tap-off unit	Up to 63 A
Connection technology	Connecting flanges with integrated expansion compensation
Conductor material	Aluminum or copper
Enclosure material	Galvanized and powder-coated sheet steel



# BD2 system – maximum power in the smallest space

## High performance, tested fire barrier

With its tested fire barrier and functional endurance in case of fire, the BD2 system ensures safety even in an emergency. Thanks to its compact design, it requires surprisingly little space and ensures safety not just during system operation but also during installation: The anti-rotation feature and guided installation make it fast and easy to install. Because the busbar trunking system is communication-capable, you will benefit from fully transparent operation with the advantage of a high level of system availability.

You will find more product line information in the LV70 catalog. Download at



Junction unit for optimum adaptation to building structures



Individually equipped tap-off units up to 550 A can be plugged on/off while energized<sup>1</sup>



Tap-off unit with powerline technology

## Smart features ...

- Ideal for applications from 160 A to 1250 A
- Two sizes up to 1250 A in seven current ratings with aluminum or copper conductors
- Large selection of tap-off units with different protection and measuring devices
- Integrated expansion compensation
- Consumption recording and remote monitoring as well as lighting control
- Can also be used to feed the smaller BD01 system
- Optionally available with tested fire barrier

## ... that benefit you

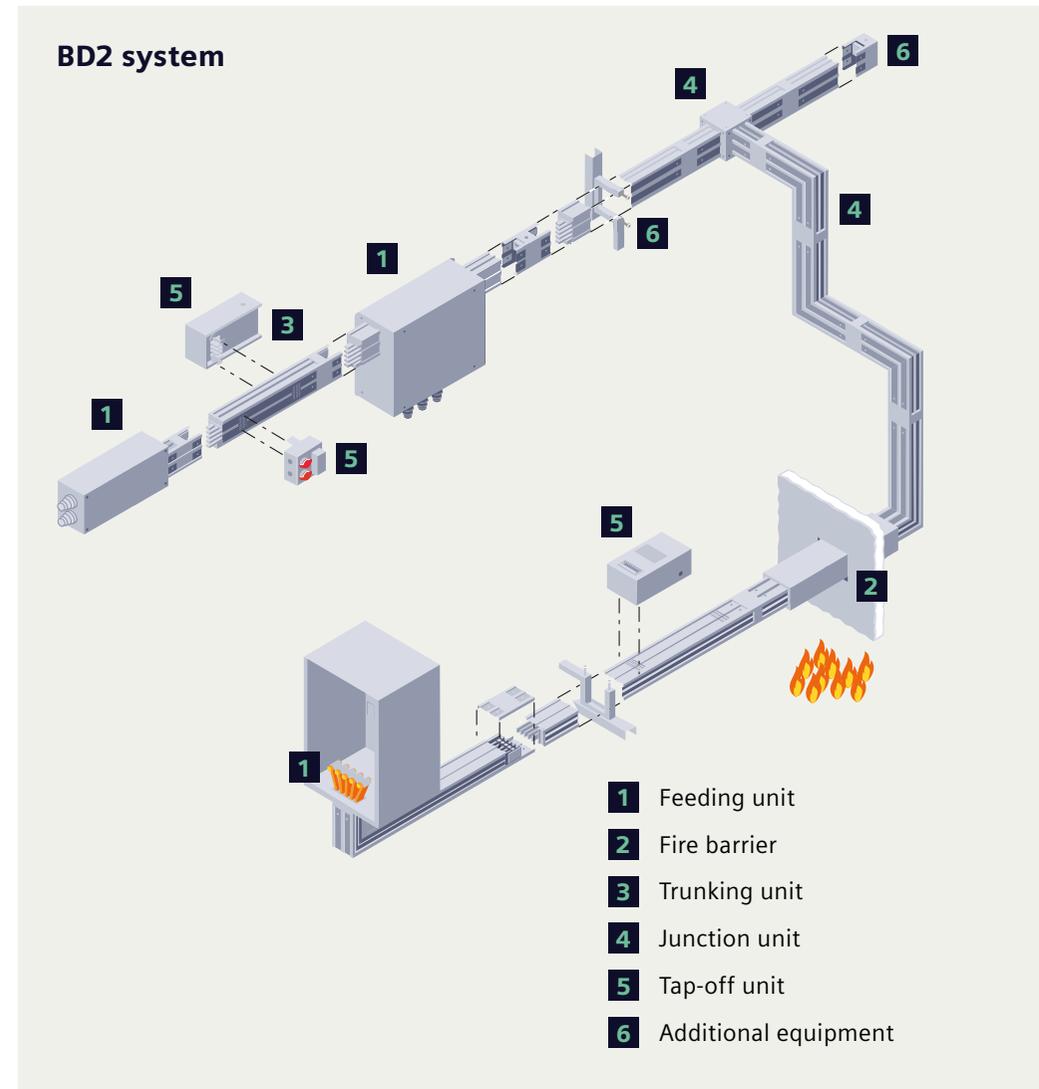
- Universal solution with low space requirements
- Easy and quick installation with access protection
- Protection from unauthorized access thanks to sealable tap-off points
- Flexible adaptation to every building structure by means of 3D junction unit up to 800 A
- Increased transparency of operation thanks to communication capability
- Smart data transmission thanks to powerline technology



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

## Technical data

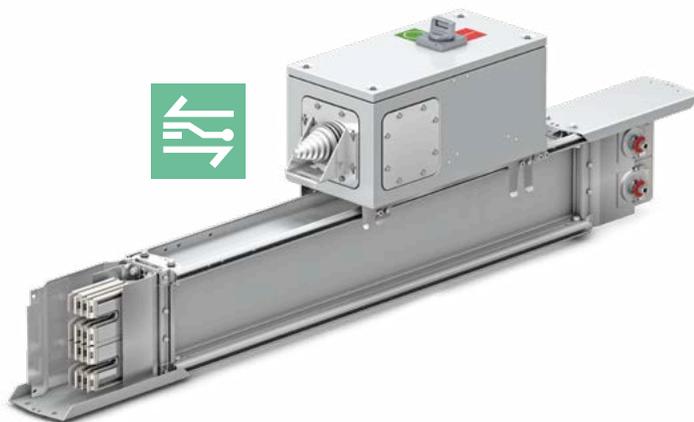
Rated insulation voltage $U_i$	690 V AC
Rated operational voltage $U_e$	690 V AC / DC
Degree of protection	IP54, IP55
Cost-efficient data transmission with powerline technology	160 A to 1250 A
Rated peak withstand current $I_{pk}$	Up to 90 kA
Rated short-time withstand current $I_{cw}$ (1 s)	Up to 34 kA
Number of conductors	5 conductors
Fire load	Max. 2.0 kWh/m
Tap-off point	Every 0.5 m on one side, offset on both sides every 0.25 m
Tap-off unit	Up to 550 A
Data transmission	powerline or conventionally wired
Connection technology	With integrated expansion compensation, single-bolt terminal
Conductor material	Aluminum or copper
Enclosure material	Galvanized and powder-coated sheet steel



# LI system – high-current busbar in sandwich design

## Reliability and high performance on all levels

Do you need to distribute power over long distances? Horizontally as well as vertically? In multistory buildings or industrial plants? This is exactly what the LI system was designed to do. It handles large amounts of power up to 6300 A on all levels. Thanks to its special sandwich design, it allows power transmission with a low voltage drop. It can also run at full load at high temperatures<sup>1</sup> without derating.



Easy adaptation to building structures by means of junction units



Various transformer connections for safe power transmission



Tap-off unit with powerline technology

## Smart features ...

- Current ratings from 800 A to 6300 A
- Compact sandwich design
- Design verified trunking units and tap-off units (IEC 61439-1/-6)
- Tap-off units with communication-capable measuring and switching devices
- High degree of protection IP55, IP66 for power transmission
- Optionally available with tested fire barrier
- Optionally available with tested functional endurance 180 min in accordance with the IEC 60331 cable standard

## ... that benefit you

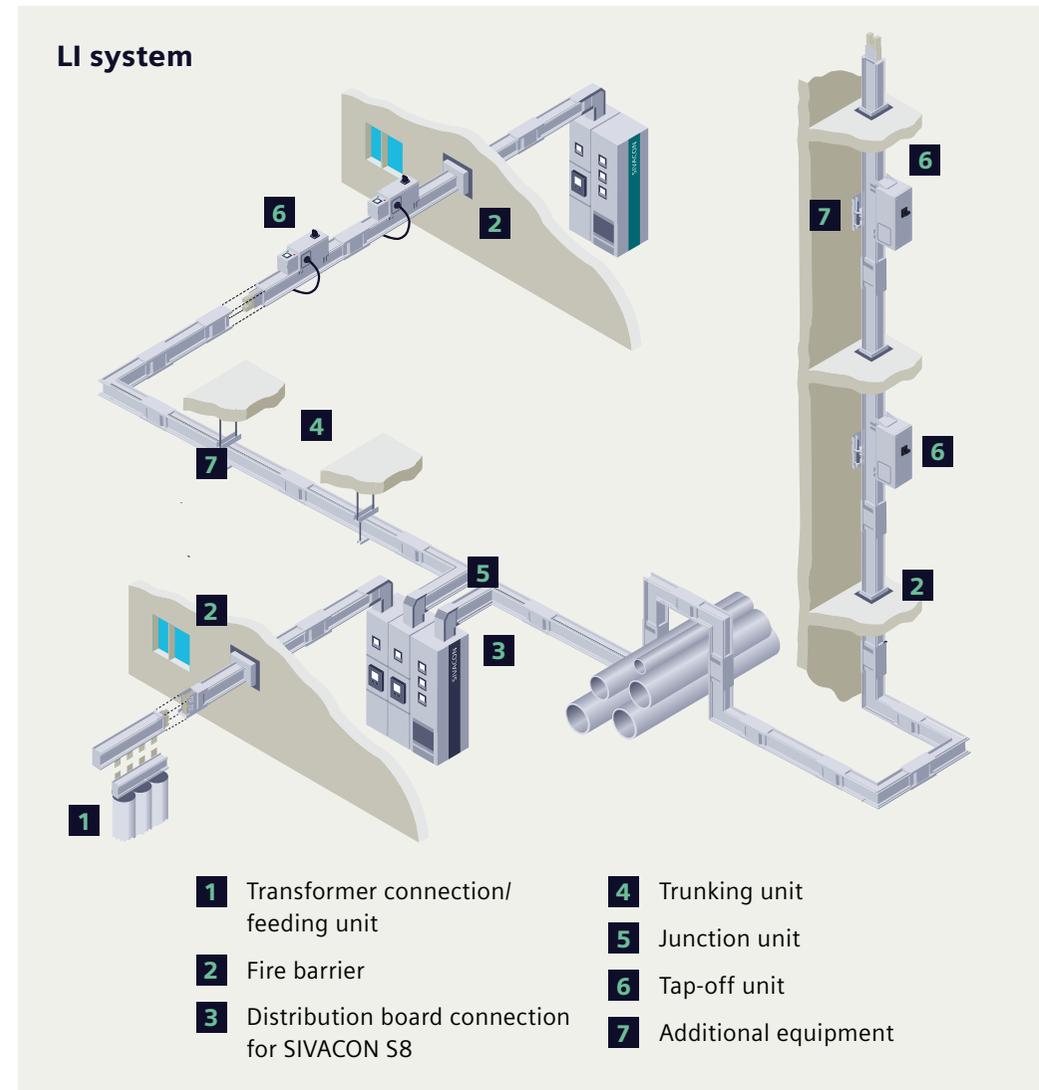
- High level of safety for personnel and equipment
- Meets high demands for energy efficiency
- Low space requirements
- Flexible design of your power supply thanks to a variety of conductor configurations, modular tap-off units, and junction units
- Reliable installation thanks to durable hook and bolt connection
- Cost-efficient data transmission with powerline technology

<sup>1</sup> System-specific sizes of the LI system can run at full load at up to 40° C in the 24-h mean without derating

## Technical data

Rated insulation voltage $U_i$	1000 V AC
Rated operational voltage $U_e$	1000 V AC
Degree of protection	IP55, IP66 <sup>2</sup>
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	4 to 6 conductors (incl. 200% N or add. Clean Earth)
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
Data transmission	powerline or conventionally wired
Connection technology	Hook and bolt connection with shear-off nut
Conductor material	Aluminum or copper
Enclosure material	Powder-coated aluminum

2 IP66 for mere power transmission runs without tap-offs



# LD system – handles even enormous power requirements

## Safe power distribution and data transmission

For five decades, the LD system has been proving its worth worldwide. Thanks to its ongoing development, it is extremely reliable and user-friendly. Its specialty is the transmission and distribution of power between the transformer, main power distribution board, and sub-distribution boards on production sites with high power requirements, for example, for welding lines in the automotive industry. The high short-circuit withstand strength and compact design open up many fields of application, while powerline technology enables efficient data transmission. The LD system is perfect for high energy transparency and advanced energy management in accordance with ISO 50001.



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



Basic tap-off unit



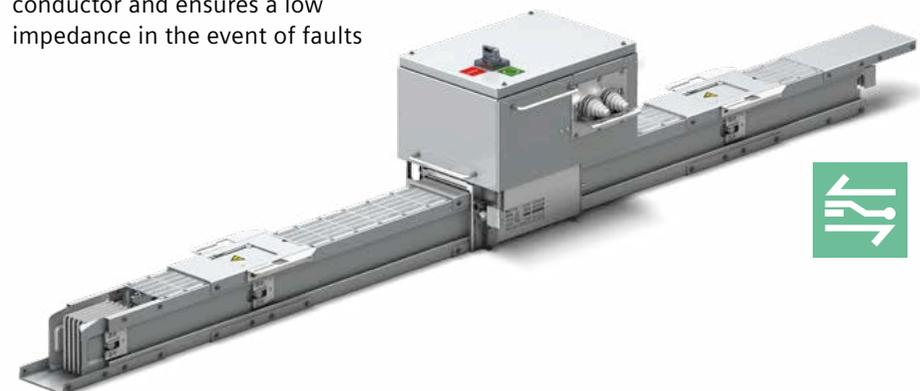
LD system with powerline technology

## Smart features ...

- Ideal for high power requirements; tap-off units up to 1250 A
- Robust and compact design with only two sizes for 1100 A to 5000 A
- Reliable installation thanks to durable hook and bolt connection
- Appropriate water protection (epoxy coating, sprinkler-suitable) and carbon dust tested
- Optionally available with tested fire barrier
- Scalable tap-off units: available as basic, premium, or empty unit version
- An internal PE conductor increases the cross-section of the protective conductor and ensures a low impedance in the event of faults

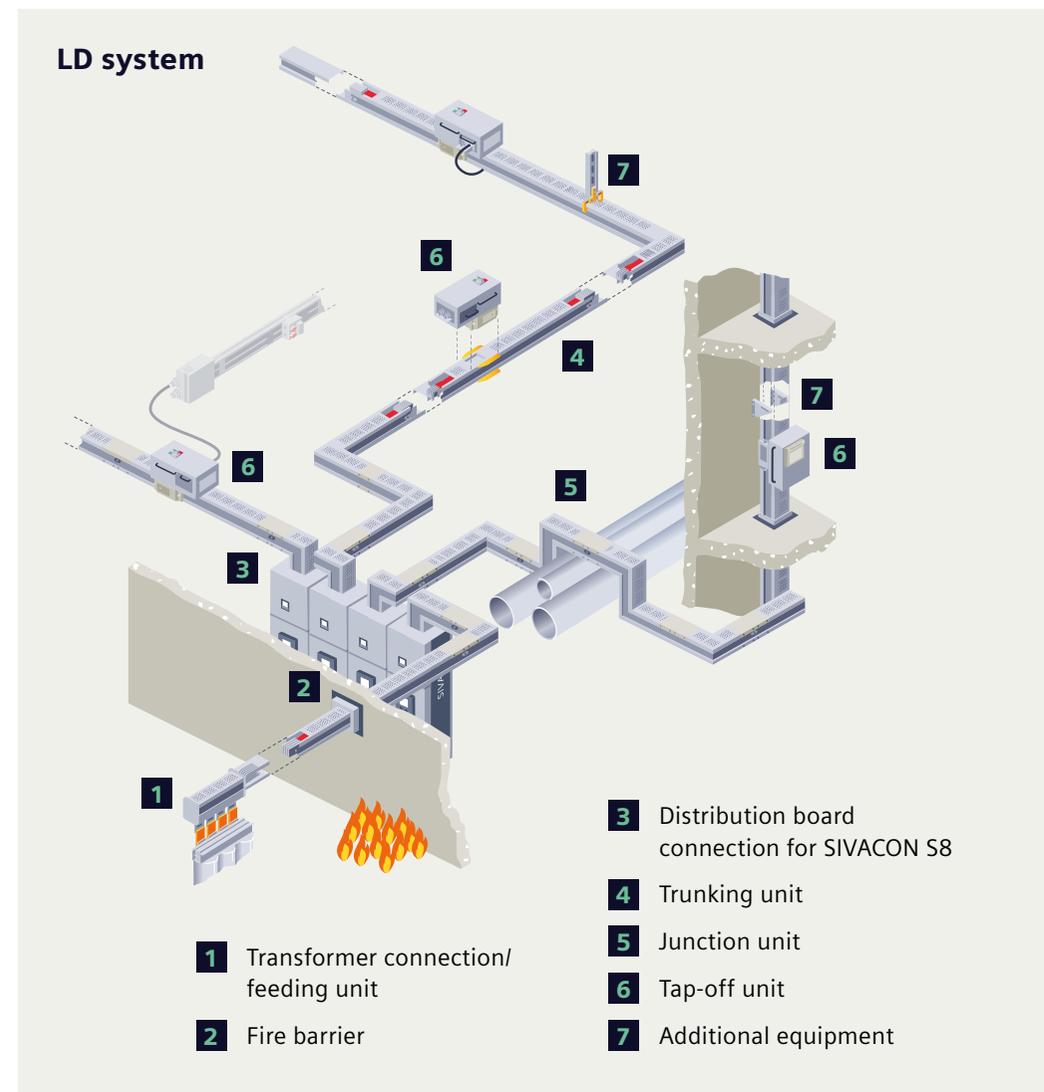
## ... that benefit you

- Highly reliable and user-friendly
- Numerous fields of application thanks to its high short-circuit withstand strength
- Smart planning thanks to a safe connection to SIVACON S8 switchboards and transformers
- Efficient infrastructure thanks to compact design
- Cost-efficient power transmission with powerline technology



## Technical data

Rated insulation voltage $U_i$	1000 V AC
Rated operational voltage $U_e$	1000 V AC / DC
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 or 5 conductors
Fire load	Max. 11.99 kWh/m
Fire load (per tap-off point)	Max. 12.96 kWh
Tap-off point	Every 1 m on one side
Tap-off unit	Up to 1250 A
Data transmission	powerline or conventionally wired
Connection technology	Single-bolt clamped connection
Conductor material	Aluminum or copper
Enclosure material	Galvanized and powder-coated sheet steel



# LDM system – power distribution meets sustainability

## Power distribution for renewable energy sources

How safe is the power transmission between the nacelle and tower base of a wind turbine? How can high power densities in photovoltaic stations be transmitted in small installation spaces? For renewable energy sources, power distribution requirements are highly specific, but safe, reliable, and cost-efficient power transmission is always among them. We have developed special busbar trunking systems for this purpose: the LDM system for wind turbines and the LDM-P system for photovoltaic (PV) plants. Take advantage of our experience and the systems' modularity, and let us work with you to design a customized solution.



Segment connectors for easy connection of the pre-assembled trunking units in the wind tower



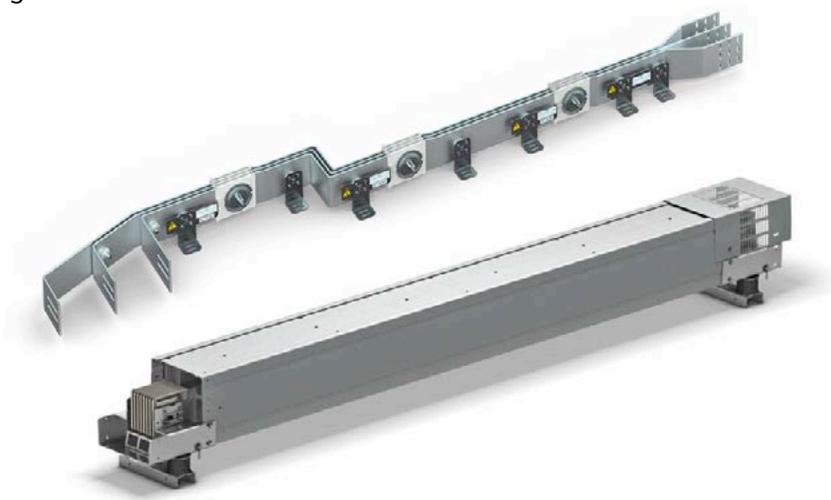
Feeding unit for cable connection at the tower base and nacelle

### Smart features ...

- LDM conducts current ratings up to 8200 A
- Design verified, halogen-free, reliable, and safe (IEC 61439-1/-6)
- Compact, maintenance-free busbar trunking systems
- Pre-assembled trunking units
- Defined impedances and technical features
- Optimized use of materials and reusability

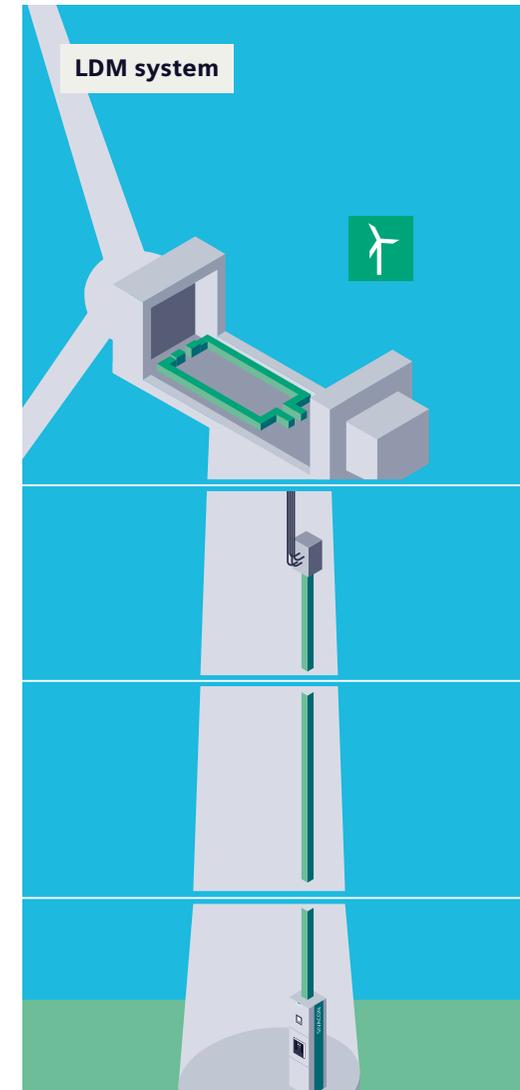
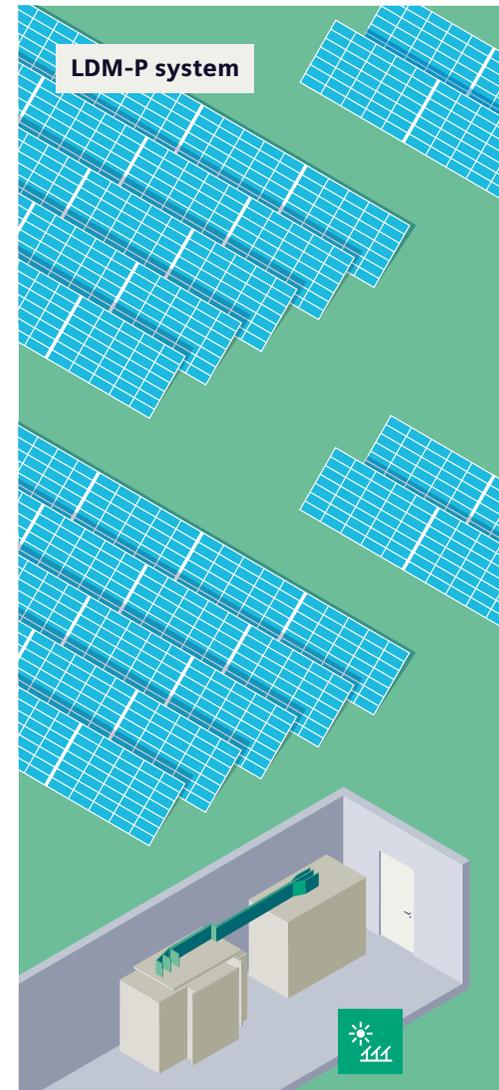
### ... that benefit you

- Can be modified to meet individual requirements
- Especially cost-efficient in terms of planning, installation, commissioning, and removal
- High availability and operational safety
- Space-saving thanks to a very compact design
- Low-loss connection technology
- Low fire load



## Technical data

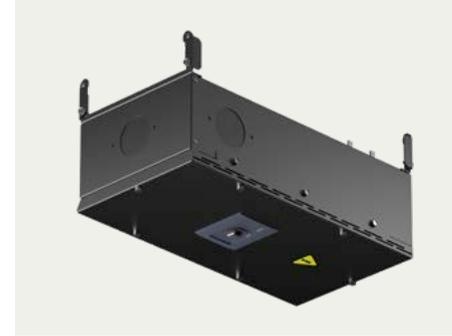
Rated insulation voltage $U_i$	1000 V AC
Rated operational voltage $U_e$	1000 V AC
Degree of protection	LDM: IP21 with salt mist and condensation test LDM-P: IP00
Rated current $I_{nA}$	800 A to 8200 A
Rated peak withstand current $I_{pk}$	Up to 255 kA
Rated short-time withstand current $I_{cw}$ (1 s)	Up to 116 kA
Number of conductors	3 to 10 conductors per trunking unit (application-specific, multiple circuits possible)
Fire load	Application-specific
Connection technology	Separate single-bolt joint block with hook system
Conductor material	Aluminum
Enclosure material	LDM: galvanized sheet steel (optionally powder-coated in RAL color) LDM-P: without enclosure
Standards	IEC 61439-1/-6



# LData system – for data centers now and in the future

## Rely on your power supply

A reliable, continuous power supply is a substantial cost factor for data centers that continues beyond the procurement stage. It should be possible to retrofit and upgrade power distribution without interrupting operations – and that is the case with the LData system, which also supports easy planning and rapid installation. Current ratings up to 2500 A, compact and modular tap-off units, and powerline technology for energy transparency are just some of the many significant benefits of the smart system. Sustainability is also one of its strengths. It lets you decide whether the system will only offer the admissible power loss values in accordance with the standard or if losses will be capped well below these values to protect the environment and significantly reduce power consumption.



Cubic tap-off unit



L-shaped tap-off unit

## Smart features ...

- Current ratings up to 2500 A
- Application: high-performance data centers with high power density
- Compact, modular tap-off units for plugging in exactly as needed
- Easily adaptable to other SIVACON 8PS systems
- Larger cross-sections reduce power losses

## ... that benefit you

- Flexible and cost-efficient even as power requirements continue to increase
- Future-proof thanks to powerline technology and integration in higher-level or cloud-based solutions
- Cost-efficient thanks to space-saving, modular design
- Fast and easy installation and expansion
- Excellent support with comprehensive solutions that save money

## Technical data

### LData system

Rated operational voltage $U_e$	600 V AC						
Rated frequency	50 Hz						
Ambient temperature min./max./24-h mean	[°C] -5/+40/+35						
Standards and regulations	IEC 61439-1/-6						
Degree of protection	IP21						
Color	RAL 9005 (black)						
Rated current $I_{nA}$ horizontal	[A]	1000	1250	1600	2000	2250	2500
Rated peak withstand current $I_{pk}$	[kA]	84	84	84	84	84	*
Rated short-time withstand current $I_{cw}$ (1 s)	[kA]	40	40	40	40	40	*
Fire load	[kWh/m]	3.65	3.60	3.79	4.12	4.38	*
Maximum fixing distances	[m]	3	3	3	3	3	*
Conductor material	Aluminum						
Conductor cross-section (phases, N, PE)	[mm <sup>2</sup> ]	524	524	698	1014	1203	*
Enclosure dimensions H x W	[mm]	180x220	220x220	220x220	220x220	220x220	*
Weight	[kg/m]	20	20	23	27	31	*

### Tap-off units

	Cubic	L-shaped
Rated current $I_{nc}$	Up to 250 A	Up to 250 A
Rated operational voltage $U_e$	415 V	415 V
<b>Miniature circuit breaker</b>		
Operational current up to 32 A	●	●
Switched poles single-/three-/four-pole	●	●
<b>Molded-case circuit-breaker</b>		
Switched poles three-/four-pole	●	●
Operational current 16 A ... 125 A 160 A ... 250 A	● ●	●
Rated short-time withstand current $I_{cw}$ (1 s) 25 kA/36 kA/55 kA	●	●
Customer connection Direct connection CEE socket outlet CEE socket outlet	● ● ●	● ● ●
Data transmission powerline technology Conventionally wired	● ●	● ●

# LR system – robust and flexible

## For the harshest ambient conditions

Whether it is high humidity, corrosive or salty atmospheres, or outdoor applications, the LR system is well equipped to handle the harshest conditions. Thanks to its epoxy cast-resin enclosure designed with a high IP68 degree of protection and its extraordinary short-circuit withstand strength, it ensures reliable power transmission – even in flat, upright, vertical, and horizontal configurations. With only minimum space requirements, it can be optimally adjusted to the construction conditions with elbow, knee, Z-, and T-elements for change of direction. And of course, it can also be quickly installed and combined with other systems like LI and LD.



Safe connection to LI or LD systems via adapters



Numerous transformer connections for safe power transmission

## Smart features ...

- Current ratings from 400 A to 6300 A
- Optionally available with tested fire barrier
- Optionally available with tested functional endurance
- Available with copper or aluminum conductors
- Can be combined ... with LI and LD systems

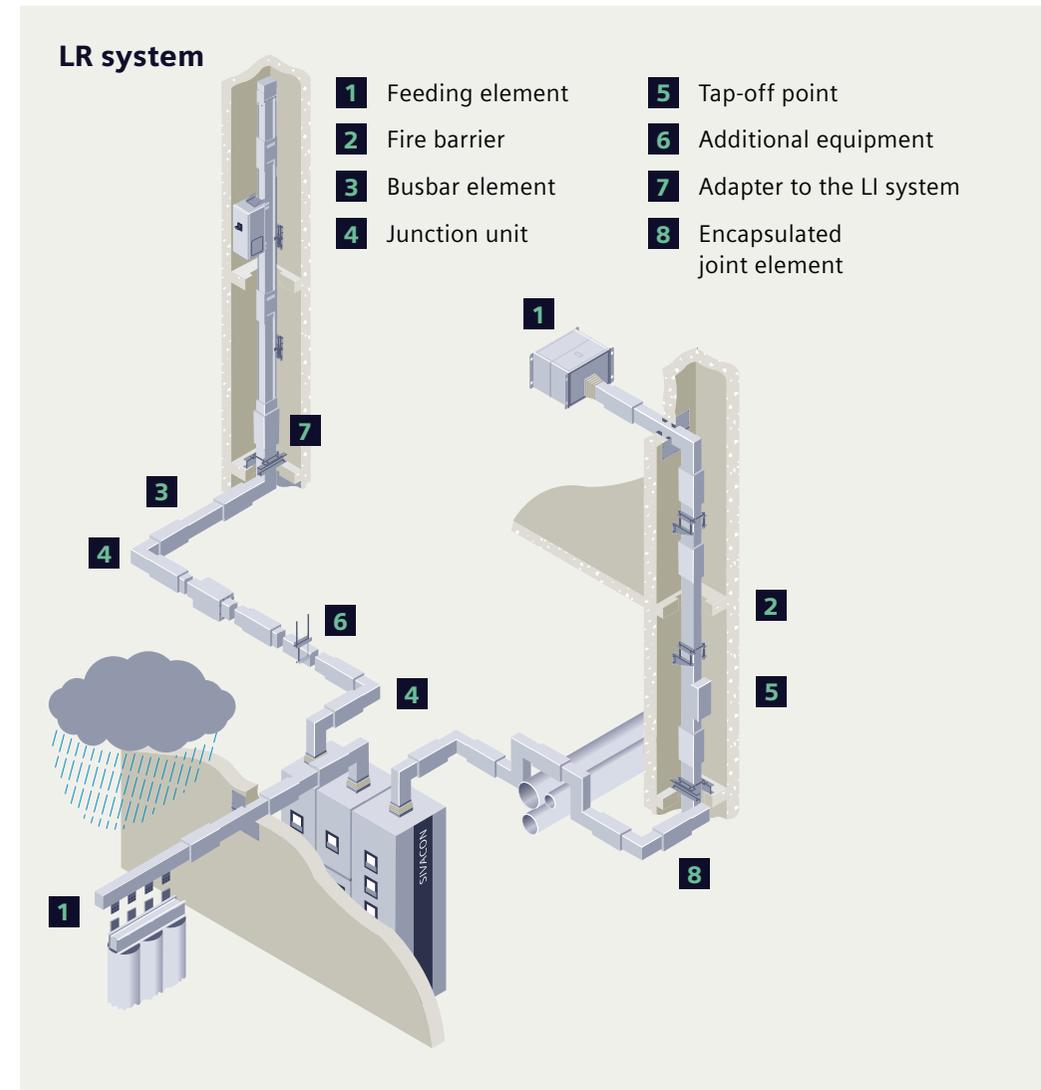
## ... that benefit you

- Flexible power transmission for both indoor and outdoor applications
- Robust with strong resistance to chemical substances, and high short-circuit withstand strength
- Suitable for outdoor applications thanks to its high degree of protection IP68
- High flexibility and reliability with minimum space requirements
- Fast and easy to install



## 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 6300 A
Rated peak withstand current $I_{pk}$	Up to 275 kA
Rated short-time withstand current $I_{cw}$ (1 s)	Up to 125 kA
Number of conductors	4 conductors, 5 conductors
Fire load	Max. 87 kWh/m
Tap-off point	Every 1 m on one side
Tap-off unit	On request
Connection technology	Bolt joint block
Conductor material	Aluminum or copper
Enclosure material	Epoxy resin



# Support – we are here for you

## Reliable service on site

Our service is there for you around the world. We support you not just with innovative solutions for your power supply, but also with project management assistance and financial services.



## TIP Consultant Support

Our team for planning and designing your electric power distribution systems.



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

## SIVACON 8PS – website

All the information you need plus helpful tools for the SIVACON 8PS busbar trunking systems.



[siemens.com/sivacon-8PS](https://www.siemens.com/sivacon-8PS)

## Your local contact partners

You will find your local SIVACON 8PS contact partners or services here.



[siemens.com/sivacon8PS-contact](https://www.siemens.com/sivacon8PS-contact)

## SIVACON 8PS – videos

Discover SIVACON 8PS and its advantages on our YouTube channel.



[Power Distribution – SIVACON](#)

## Straightforward planning with SIMARIS tools

Planning electric power distribution for industrial plants, infrastructure, and buildings is becoming more and more complex. Fortunately, you have the SIMARIS Suite: Discover the innovative SIMARIS software tools for a successful planning process.

### SIMARIS design

Dimension smart electrical networks and automatically select components.

### SIMARIS project

Conveniently determine space requirements and budget for your power distribution.

### SIMARIS sketch

Easily design routing diagrams in 3D for the BD01, BD2, LD, LI, and LR busbar trunking systems.

### SIMARIS busbarplan

Select the right busbar trunking system and plan the busbar run – quickly, easily, in 3D, and in compliance with BIM.



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

### BIM data for boosting efficiency

Ensure quality while saving time and money. With BIM, you will benefit from easy exchange of all relevant building data, from planning to facility management.



[siemens.com/bim-eplanning](https://www.siemens.com/bim-eplanning)

### Technical documentation

Access technical documentation for the SIVACON 8PS busbar trunking systems with a single click.



[siemens.com/lowvoltage/product-support/8PS](https://www.siemens.com/lowvoltage/product-support/8PS)

### Tender specification texts

We support you with numerous tender specification texts.



[siemens.com/specifications/8PS](https://www.siemens.com/specifications/8PS)

### Build on a sound basis

Our courses offer you solid foundations for your business success. Our experts provide you with the necessary theoretical and practical information relating to our SIVACON 8PS busbar trunking systems.



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

### BusbarCheck – easy installation and documentation via an app

Fast and convenient installation and documentation: This installation and commissioning app for the SIVACON 8PS busbar trunking systems delivers excellent results.



iOS BusbarCheck



Android BusbarCheck

### Catalog LV70

You will find comprehensive product line information on the BD01 and BD2 systems in the LV70 catalog.



[siemens.com/LV70](https://www.siemens.com/LV70)



[siemens.com/sivacon-8PS](https://www.siemens.com/sivacon-8PS)

**Published by  
Siemens AG**

Smart Infrastructure  
Electrification & Automation  
Mozartstrasse 31c  
91052 Erlangen  
Germany

**For the U.S. published by  
Siemens Industry Inc.**

100 Technology Drive  
Alpharetta, GA 30005  
United States

For more information,  
please contact our  
Customer Support Center.  
Tel.: +49 9131 1743072  
(Charges depending on provider)  
E-mail: [support.ea.si@siemens.com](mailto:support.ea.si@siemens.com)

Article No. SIEA-B10024-01-7600  
Dispo 30407 TH S24-230260 BR 1023  
© Siemens 2023

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.

All product designations may be trademarks or product names of Siemens AG or other companies whose use by third parties for their own purposes could violate the rights of the owners.