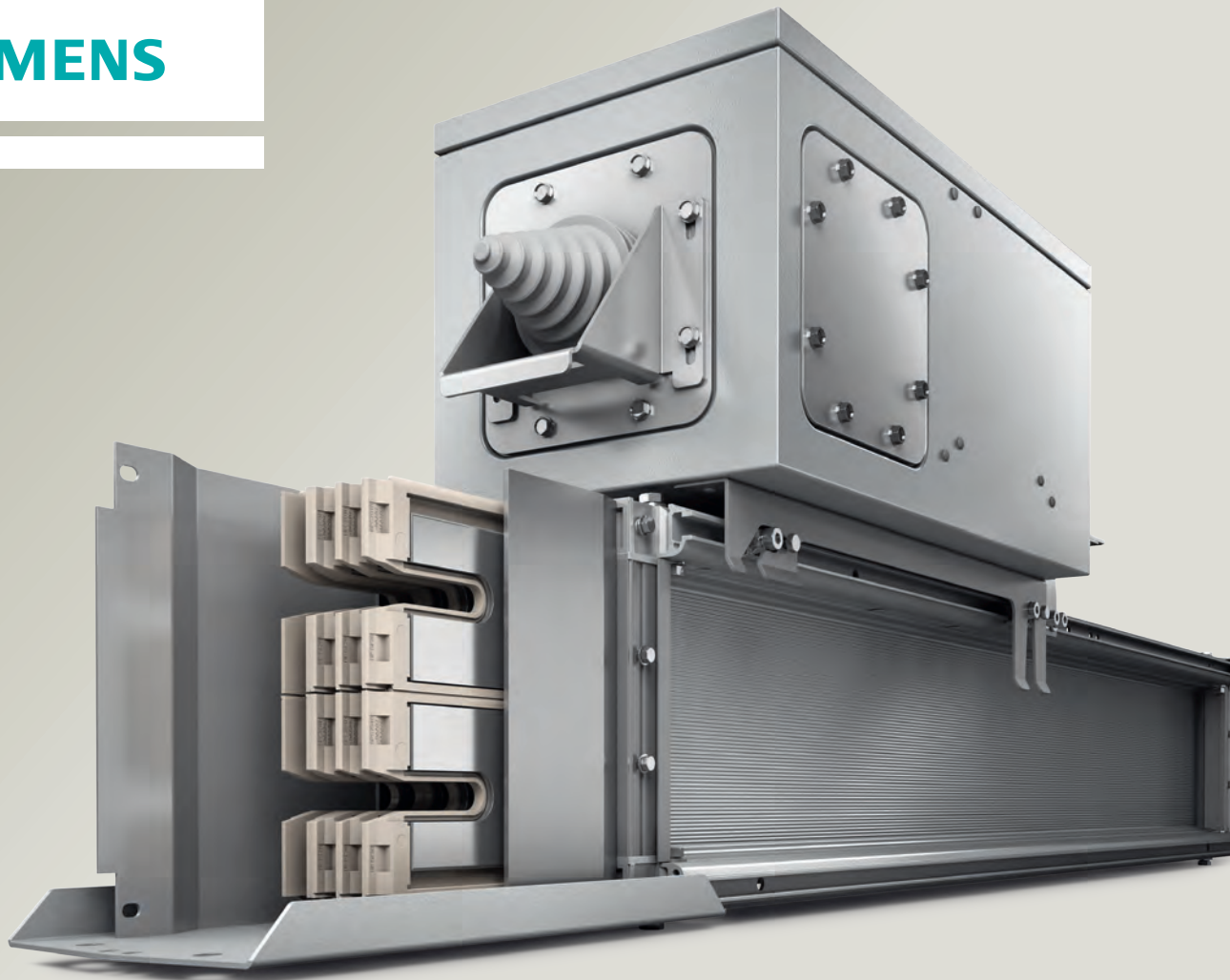


SIEMENS



Totally Integrated Power – SIVACON 8PS

An integrated solution for safe and efficient power supply

LI busbar trunking system



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Totally Integrated Power (TIP) – We bring power to the point.

Our products, systems, and solutions for low- and medium-voltage make power distribution efficient, reliable, and safe – in cities, infrastructure, buildings, and industrial plants. They can be linked to industrial and building automation, and are rounded out by comprehensive support throughout the entire lifecycle.

As part of the Totally Integrated Power concept, the LI system from the SIVACON 8PS busbar trunking system portfolio embodies the motto “We bring power to the point”. Power is delivered safely and reliably to the loads – and in a flexible and efficient way. For power transmission and power distribution in infrastructure and industrial applications from 800 A to 6300 A, the LI system provides an integrated solution to the application requirements.



SIVACON 8PS busbar trunking system – LI system

An integrated solution for safe and efficient power supply

The LI system offers a broad range of design verified trunking and tap-off units in accordance with the new IEC 61439-1/-6 standards, enabling high personnel and system safety as well as improved operational availability.

The fire barrier for the LI system has been tested for fire resistance classes EI90 and EI120¹⁾ (category of EN 13501) in accordance with EN 1366-3 to meet building requirements according to European Standards, providing a high degree of safety for your infrastructure.

Furthermore today's infrastructures require space-saving power supply. The compact design of the LI system satisfies this requirement and facilitates integration into narrow buildings in order to achieve a cost-efficient infrastructure.

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

Let us introduce to you the advantages of an integrated system with high flexibility and security of investment.

Benefits

- Integrated and future-proof at every stage
- Safe for people and plant
- Efficient in all project phases
- Flexible in planning and operation
- Reliable in operation



Applications of the LI system

Supplying large amounts of power over long distances for infrastructure and industry

Modern infrastructure and industry depend on a supply of electrical energy that is safe, flexible, reliable, and efficient.

The LI system is the right solution to these requirements. For example, a high degree of protection, a high short-circuit rating, and low voltage drops ensure optimum operational reliability combined with maximum personal safety and efficient operation. The flexibility of its tap-off units and a compact design support efficient planning and installation as well as a cost-effective infrastructure. Furthermore, as part of the SIVACON 8PS and TIP portfolio, the LI system contributes to integrated and future-proof solutions.

On the following pages you will find some key applications of the LI system.

■ High-rise structures

Typical demands

- Low fire load
- Low space requirements
- Flexibility of tap-off units

High-rise buildings need a flexible and reliable power supply in the smallest possible space. Demands vary depending on how the building is used, but safety is always the top priority, and functional endurance in case of fire is a key consideration.

In case of fire, the LI system helps in the case of fire to safeguard life and infrastructure due to low fire loads as well as fire barriers in accordance with European Standards (EI90 and EI120¹⁾).

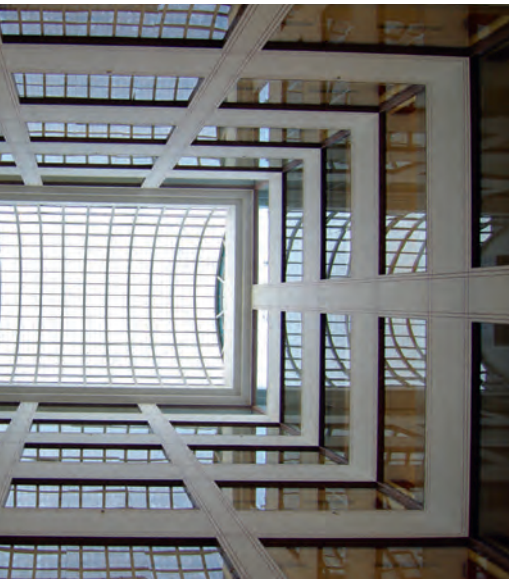
■ Data centres

Typical demands

- Standby power system
- Redundant power supply to the loads
- 200% N to avoid overloads on the neutral caused by the huge amount of electronic and single-phase loads
- Clean Earth requirement for a separate PE conductor insulated to the busbar trunking system housing

Data centres require maximum reliability of supply and transparency in power distribution, and generally have a very large power density. Built-in redundancy is essential for data centres so as to ensure perfect reliability. However, this redundancy involves a risk of phase unbalance. Electromagnetic fields may not influence the sensitive

1) In preparation



electronic loads, and the increasing amount of electronic and single-phase loads must not overload the neutral conductor.

The LI system interconnects the UPS system and the transformers with the main distribution board. With an N conductor of 200%, potential demands for increasing the cross-section of the neutral conductor can also be met. Tap-off units record the power consumption and transfer the data required to the control room via a separate bus system.

■ Infrastructure

Typical demands

- Compact design to meet the low space requirements
- Standby power system
- Redundant power supply to the loads
- Fire barriers in accordance with state-of-the-art safety standards
- Complete, design verified solution including connection between switchboard and busbar
- Integrated solutions for modern energy management in accordance with European Standards

Critical infrastructures such as airports have diverse power system requirements. The most reliable power supply possible with the lowest fire load level is required in all areas, and space must be optimally used. A radial network is used with low-voltage main distribution boards, supply ducts and channels designed to occupy the smallest possible space.

The LI system supports an integrated solution for an efficient infrastructure. Tap-off units can be equipped with communication-capable measuring devices that enable modern energy management. The compact design of the system allows cost-efficient buildings. Furthermore, features such as fire barriers enable to meet European building requirements for infrastructure.

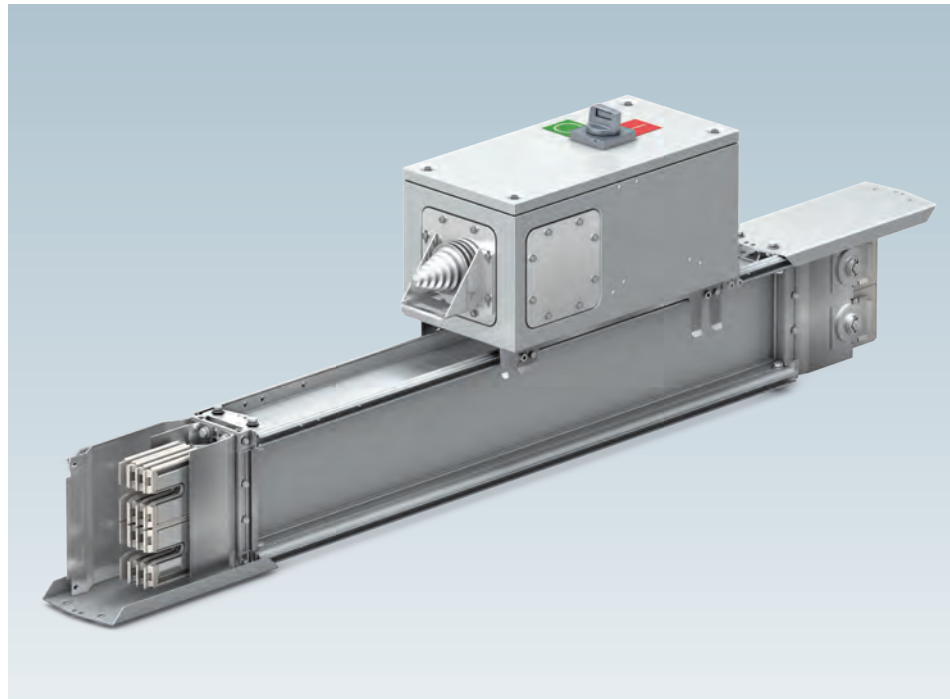
■ Manufacturing industries

Typical demands

- Concept flexibility
- Flexible tap-offs for loads
- Reliable supply and high availability
- High degree of protection
- Tap-off units up to 1250 A
- TN-S grid

Manufacturing industries such as solar and microchip require large amounts of power and therefore have their own medium-voltage transformers. Power supply must be flexible to adapt to changes in the use of manufacturing areas and the introduction of new machines with different performance demands. The high power density for electrical power distribution requires large rated currents for tap-off units, plug-on /-off up to 1250 A^{1) 2)}.

The LI system provides a safe connection between the transformer and the main distribution board. Energy can be efficiently managed with communication-capable measuring devices and built-in tap-off units with interfaces for communication via PROFIBUS, Modbus or PROFINET. Power supply is both safe – with a high degree of protection, high short-circuit rating and low fire loads – and flexible due to modular, plug-on /-off tap-off units.



Advantages of the LI system

Proven technology combined with future-proof functionalities

The LI system offers the added value of a future-proof investment due to its flexibility in load change and integration into energy management systems. A reliable and flexible system that is safe for people and plant, and highly efficient from planning via installation to operation.

**Integrated and future-proof.
Invest in an efficient power supply solution**

The LI system is part of an integrated product and system portfolio for power supply. A consistent and safe power supply is possible through design verified connections to SIVACON S8 switchboards and safe connections to transformers, as well as with the four other SIVACON 8PS busbar trunking systems, including the LR busbar trunking system for outdoor installation.

It also enables future-proof integration into a company energy management system in accordance with ISO 50001 by using built-in communication-capable measuring and switching devices. The result: improved efficiency for industrial and infrastructure applications.



Safe



Benefits

- Consistent power distribution and transmission across five SIVACON 8PS busbar trunking systems
- Design verified connection to SIVACON S8 switchboards
- Interfaces between LI system and cast-resin LR system for outdoor use
- Communication-capable measuring devices for energy management
- Communication-capable switching devices for remote switching and monitoring

Safe for people and equipment. Safeguard your investment

The LI system delivers safety for your staff and for your infrastructure. The design verified LI system in accordance with IEC 61439-1/-6, as well as its design verified connection to SIVACON S8 power distribution boards ensure optimum personnel and system protection, offering a high degree of reliability.

Features such as low fire loads, light and rugged aluminium housing, high degree of protection and high short-circuit rating help safeguard human life and your investment.

Safe installation is also supported by the hook and bolt connection with a low contact resistance. Guided plugging allows for easy and reliable installation without the risk of errors.

To meet structural requirements for preventive fire protection measures, the LI system can also be fitted with fire barriers EI90 and EI120¹⁾ (category of EN 13501), tested in accordance with EN 1366-3 to comprehensively fulfill European building regulations.

Benefits

- Design verified in accordance with current standard IEC 61439-1/-6
- Design verified connection to SIVACON S8 switchboards in accordance with IEC 61439-1/-2
- Safe hook and bolt connection
- High degree of protection IP55
- High short-circuit rating to enable safe operation even during faulty conditions
- Low fire loads to reduce combustion in the case of fire
- Low weight and high rigidity with aluminium housing
- Fire barriers tested in accordance with European Standard EN 1366-3
- Insulation made by Mylar[®] (epoxy coating with additional Mylar^{®1)} as option)

1) In preparation

Efficient



Efficient in all project phases.

Optimize your time with Siemens as a competent partner

Innovative SIMARIS software tools support your planning process effectively at every stage.

- SIMARIS design for network calculation and dimensioning
- SIMARIS project for determining the space requirements of the power distribution system, calculating the budget, and creating technical specifications
- SIMARIS sketch for simple 3D routing and visualisation of SIVACON 8PS busbar runs

As a planner, you can benefit from professional consulting, software tools, specification texts, and planning manuals provided by our experts at Totally Integrated Power (TIP).

The LI system itself contributes to an efficient planning and installation by offering a compact design for assembly, as well as integrated components such as modular tap-off units, junction units, transformer feeding units, and SIVACON S8 connections.

Benefits

- Support in all project phases from experts at Totally Integrated Power (TIP)
- Specialist SIMARIS software tools and online support
- Compact design for optimised run and assembly
- Decentralised power distribution for high transparency
- Simple fixing accessories to fit a range of building structures

Installers also have the choice between various fixing accessories for easy mounting of horizontal or vertical runs.

As the tap-off units are located close to the consumers and loads, the decentralised power distribution furthermore enables an efficient operation.

Flexible



Flexible in planning and operation. Design your safe and sustainable solution

In the planning phase, the component portfolio of the LI system allows you to design your power supply flexibly. The LI system offers a range of conductor configurations to fit any grid. Tap-off units can be equipped with switching devices, such as circuit-breakers or fuse-type devices.

Vertical and horizontal junction units as well as the compact design of the system enable busbar runs to be adapted to complex infrastructures, or easily modified if changes are required in your project.

When new production lines might, for example, require new tap-off units for the machines and workplaces, the modular design and simple assembly of the LI system makes it possible to convert the workshop within a short space of time. Such quick and easy modifications are supported by plug-on / -off tap-off units (up to 1250 A²⁾) connectable on energised runs³⁾.

Flexibility is also provided for connection to the transformer with various compatible accessories⁴⁾.

2) Tap-off units from 800 A up to 1250 A in preparation

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

4) In preparation



Reliable



Benefits

- Variety of feeding units and accessories to connect to transformers, switchboards and other power sources
- Range of conductor configurations to fit grid types
- Compact design for high current ratings as double body side-by-side for vertical runs
- Quick and easy modification or expansion with plug-on / -off tap-off units up to 1250 A²⁾ on energised³⁾ runs
- Modular tap-off unit configuration

Reliable in operation.
Secure your system availability
 Economic targets go hand in hand with high operational reliability. Thanks to the compact sandwich design, the LI system allows power transmission with a low-voltage drop. Furthermore, the LI system can run at full load at high ambient temperatures up to 40 °C, without derating.

The LI system also supports you through robust and error-free hook and bolt connections with shear-off nuts to ensure joints are adequately tightened.

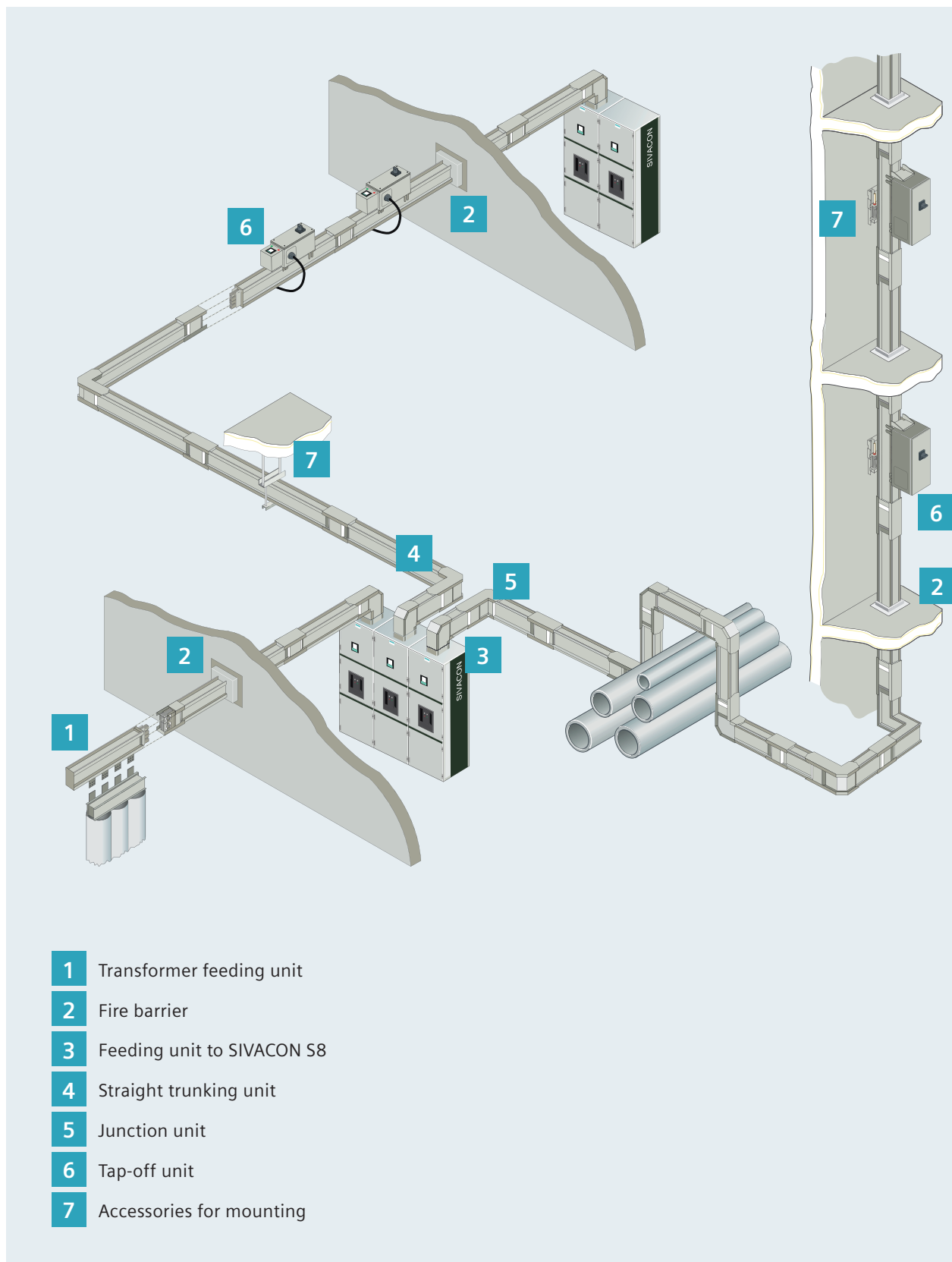
Delivering a high level of rated data such as short-circuit rating, operational voltage and degree of protection, the LI system ensures system and power supply reliability for your infrastructure.

Benefits

- Design verified in accordance with current standard IEC 61439-1 / -6
- High operating voltage ($U_e = 1000 \text{ V}$)
- High short-circuit rating
- High degree of protection IP55
- Full loads at high ambient temperature (40 °C)
- Long busbar runs with low-voltage drop due to sandwich design
- Hook and bolt connection with shear-off nut for optimised connection of the busbar trunkings

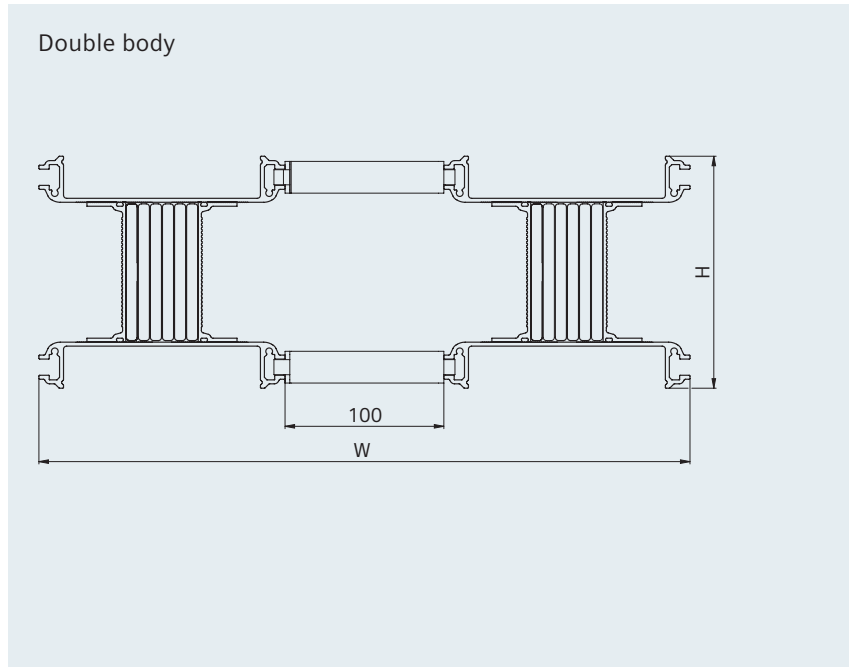
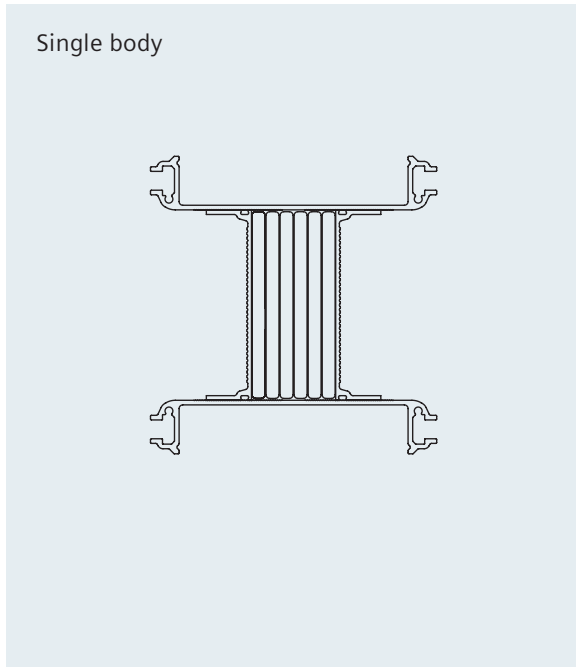
SIVACON 8PS – LI system

A compact system for safe and efficient power supply



Body sizes

Compact dimension saves space and makes installation easier



Sizes: Single body				
Material	I_e A	System	H mm	W mm
Al	800	LIA0800	111	155
Al	1000	LIA1000	132	155
Al	1250	LIA1250	146	155
Al	1600	LIA1600	182	155
Al	2000	LIA2000	230	155
Al	2500	LIA2500	297	155
Cu	1000	LIC1000	111	155
Cu	1250	LIC1250	117	155
Cu	1600	LIC1600	146	155
Cu	2000	LIC2000	174	155
Cu	2500	LIC2500	213	155
Cu	3200	LIC3200	280	155

Sizes: Double body				
Material	I_e A	System	H mm	W mm
Al	3200	LIA3200	182	410
Al	4000	LIA4000	230	410
Al	5000	LIA5000	297	410
Cu	4000	LIC4000	174	410
Cu	5000	LIC5000	213	410
Cu	6300	LIC6300	280	410

Body sizes

Various sizes are available depending on rated current and conductor material.

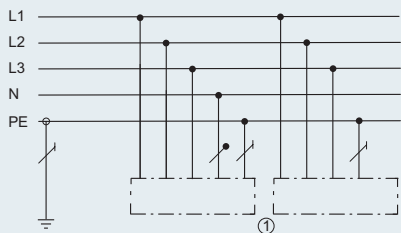
The number of aluminium or copper bars is determined by the conductor configuration required:

- Single bodies have one housing with 3 to 6 bars
- Double bodies have two housings with 6 to 12 bars

Please refer to content on page 13.

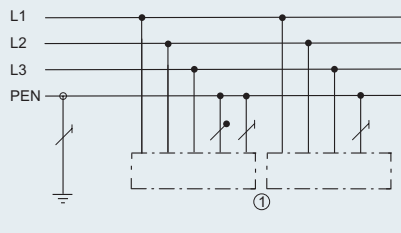
Conductor configuration

Wide range of configurations available to fit different requirements



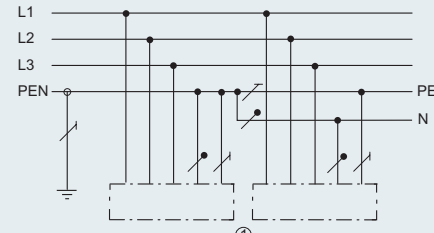
TN-S grid

The neutral conductor and protective conductor function are separated throughout the system.



TN-C grid

The neutral conductor and protective conductor function are combined throughout the system.



TN-C-S grid

Hybrid neutral conductor and protective conductor function. In one part of the system they are combined, in the other part they are separated.

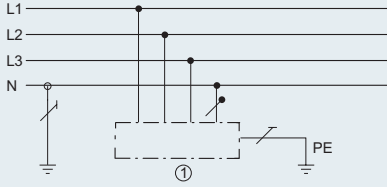
Grid type/System

Electrical equipment must be selected to fit the associated grid type/system in order to determine the protective measures that are required (in accordance with IEC 60364).

Conductor configuration – grid						
Grid type	System	Conductor configuration				
		L1. L2. L3	PEN	N	PE	Clean Earth
TN-C	LI...4B	100 %	100 % + Housing	–	–	–
TN-C-S	¹⁾					
TN-S	LI...5B	100 %	–	100 %	Housing	–
	LI...5C	100 %	–	200 %	Housing	–
	LI...5G ²⁾	100 %	–	100 %	50 % + Housing	–
	LI...5H ²⁾	100 %	–	100 %	100 % + Housing	–
	LI...6B	100 %	–	100 %	Housing	100 %
	LI...6C	100 %	–	200 %	Housing	100 %
TT	LI...5B	100 %	–	100 %	Housing	–
	LI...5C	100 %	–	200 %	Housing	–
	LI...5G ²⁾	100 %	–	100 %	50 % + Housing	–
	LI...5H ²⁾	100 %	–	100 %	100 % + Housing	–
IT	LI...3B	100 %	–	–	Housing	–

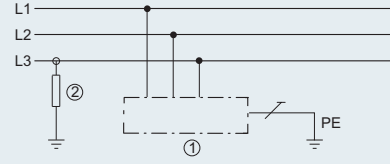
1) Can be realised by using the combination of trunking unit LI with PEN conductor (3PH-PEN) and tap-off units with N and PE conductor (3PH-N-PE)

2) Each conductor configuration contains an additional busbar as PE conductor (electrically connected to the housing)



TT grid

In TT systems, one point is directly earthed; the exposed parts of the electrical installation are connected to earth electrodes which are isolated from the system earth electrode.



IT grid

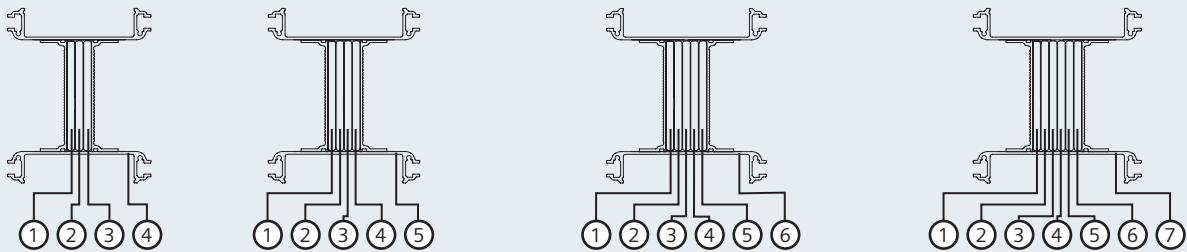
The IT system has no direct link between active conductors and earthed parts; the exposed parts of the electrical installation are earthed. Today's IT systems feature protective measures in the form of a protective conductor system.

Conductor configuration

The LI busbar trunking system has eight¹⁾ different conductor configurations depending on the system type, the N and PE cross-sections, and on whether an additional insulated PE conductor (Clean Earth) is included.

For example, when neutral conductor overload has to be avoided due to electronic loads subject to harmonics, or to prevent interference potentials in the busbar housing impairing the operating capability of loads, the configuration with double neutral provides a reliable power supply.

Conductor configuration¹⁾



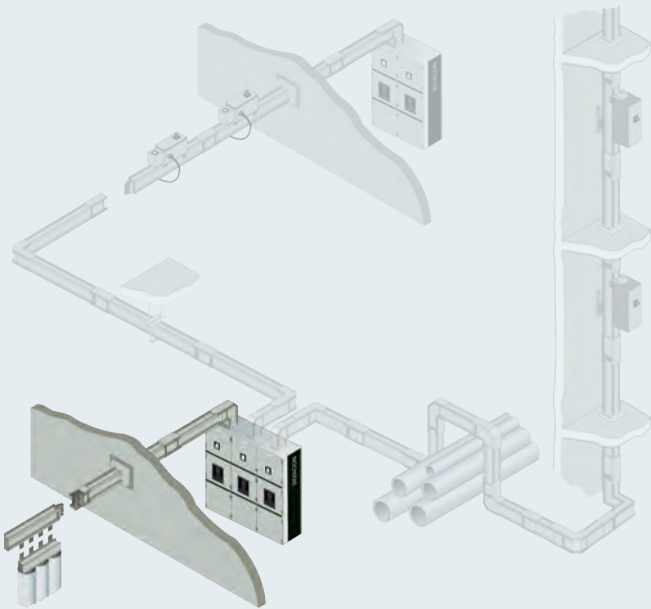
①	②	③	④	①	②	③	④	⑤	①	②	③	④	⑤	⑥	⑦							
L1	L2	L3	PE _{hsg}	PEN _{bar} + hsg	L1	L2	L3	PE _{hsg} ²⁾	N	L1	L2	L3	PEN _{50%} ²⁾ or 100% bar + hsg		N	N	L1	L2	L3	CPE	PE _{hsg} ²⁾	
				①	②	③	④	⑤	①	②	③	④	⑤	⑥								
				N	L1	L2	L3	PE _{hsg}	N	N	L1	L2	L3	PE _{hsg} ²⁾								
									①	②	③	④	⑤	⑥								
									N	L1	L2	L3	CPE	PE _{hsg} ²⁾								

1) The 50% and 100% PE bar cross-sections are defined as two different conductor configurations

2) In preparation

Power transmission

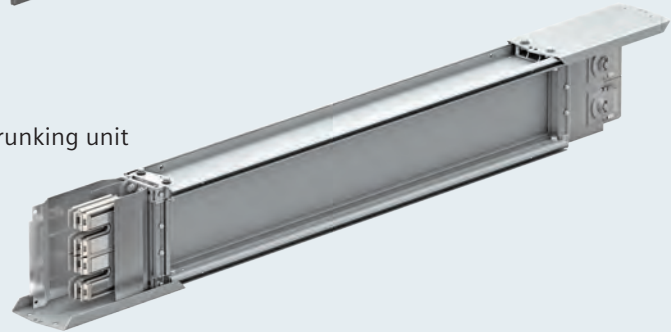
Safe, flexible and efficient solution



Transformer feeding unit



Straight trunking unit

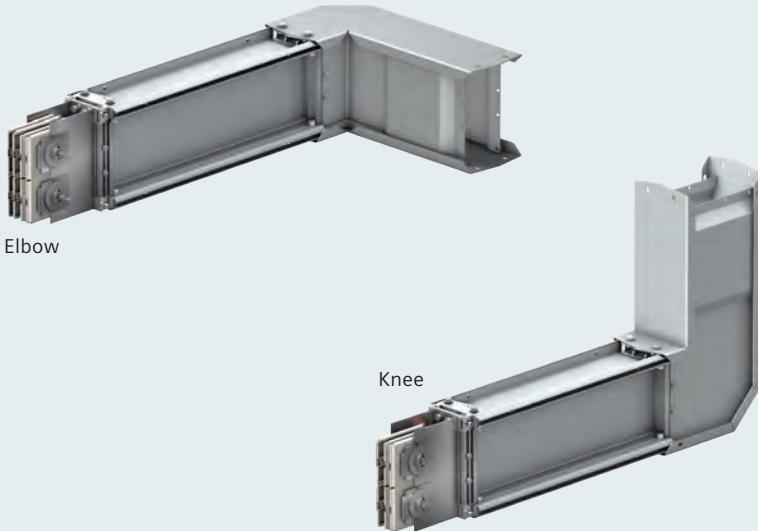


Power transmission up to 6300 A with the LI system is both flexible and reliable between transformers and low-voltage power distribution boards. Various transformer feeding units, trunking units, as well as junction units allow a high degree of flexibility in planning so as to meet the requirements of the specific application.

Various feeding units connect transformers, panels and cables

The LI system offers various transformer feeding units to fit the variety of transformers available on the market with different rated currents, phase sequences and phase distances. Up to 6300 A, the LI system offers transformer feeding units with a lateral busbar connection or with a busbar connection from the top. The universal feeding unit can also be used to connect distribution boards.

Junction units



Connection LI system / SIVACON S8



Straight trunking and junction units for a reliable and flexible run between transformer and low-voltage switchboard

The LI system transmits large amounts of power over large distances with low-voltage drops thanks to its sandwich design. Junction units like knees and elbows for changing directions into vertical and horizontal run positions serve perfectly to various building structures. Straight trunking units precisely fit your building requirements with three standard lengths and individually selectable lengths from 0.50 m up to 3.00 m on a 1 cm scale.

Furthermore, various elbows and knees are available with either standard or customised dimensions and angles to meet the exact structure of your building, however complex.

Design verified connection in accordance with IEC 61439 between LI system and SIVACON S8 panel for a safe and reliable power supply

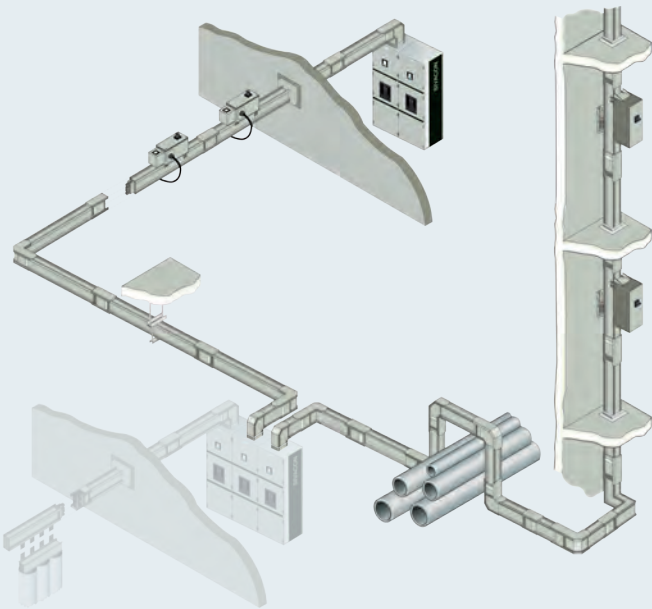
As an integrated solution, the LI system offers a design verified connection to the SIVACON S8 switchboard for rated currents up to 6300 A¹⁾. Flexible connections to the power distribution board can be made from above or on the side for a safe, reliable, and efficient power supply.

Benefits

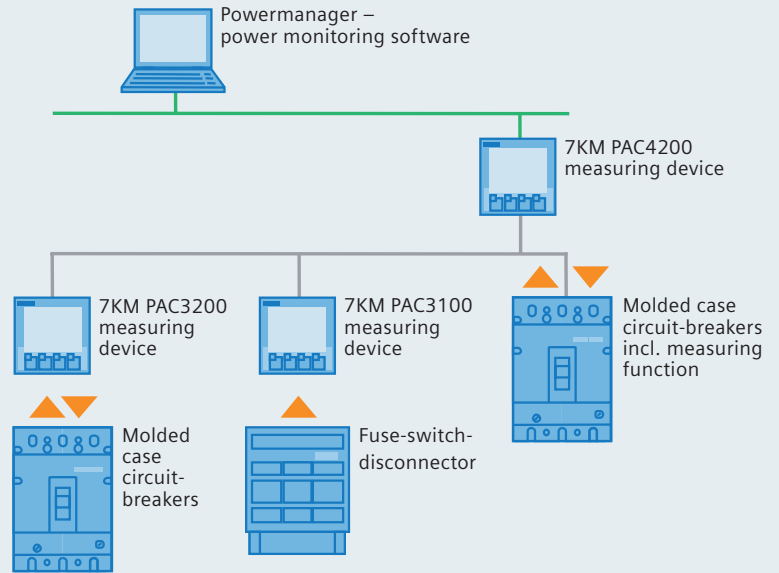
- Flexible planning thanks to various feeding units and junction units
- Efficient power transmission with low voltage drop over long distances thanks to compact sandwich design
- Safe power transmission thanks to design verified system including connection to SIVACON S8 switchboard

Power distribution

Safe, flexible, and future-proof solution



Example for power monitoring



Power distribution is the main application of busbar trunking systems. The advantage of such systems over cable installations is a high degree of flexibility allowing easy modifications in the future.

The LI system is the right solution where power distribution has to be flexibly implemented with horizontal and vertical runs.

Furthermore, its modular tap-off units allow to suit various applications. For easy integration into the energy management system, measuring devices can be built into tap-off units for a future-proof solution.

Modular tap-off units

Busbar trunking systems provide flexible power distribution via plug-on/-off tap-off units along the entire LI run. If there are changes of location or modifications of the load power, the power supply can

be easily adapted – without downtime. Power can be tapped at any given point by simply positioning a tap-off unit at the required location on the busbar. Tap-off units can be mounted on one or both sides of straight trunking units. The result is a flexible distribution system for decentralised power supply to a particular line or area.

Tap-off units are available from 50 A to 1250 A¹⁾ for load connections. They can be equipped with fuse-switch-disconnectors, switch-disconnectors with fuse, fuse-bases (NH)²⁾ or circuit-breakers.

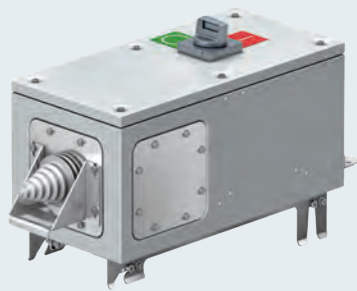
Tap-off units with fuse-switches are available up to 630 A, whereas with circuit-breakers up to 1250 A¹⁾.

The tap-off units can be used in a wide range of grid types. For conductor configurations with 200 % N, tap-off units offer a double N connector as well as Clean Earth with a separate PE connection insulated to the housing.

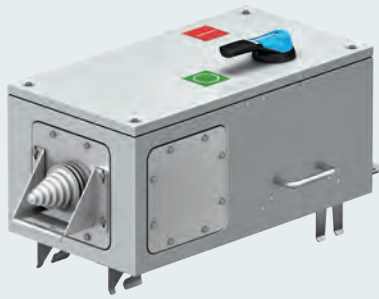
Rugged tap-off unit enclosures ensure IP55 protection irrespective of the mounting position. The rated operational voltage (U_e) is 400 V³⁾.

- 1) Size 800 A, 1000 A, 1250 A in preparation
- 2) Version with NH-fuse base must not be plug-on/-off on energised LI-runs
- 3) 690 V operational voltage on request

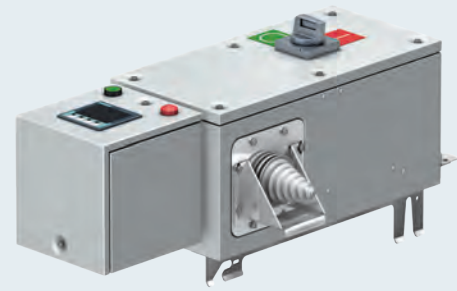
Modular tap-off units



Tap-off unit with circuit-breaker



Tap-off unit with fuse-switch device



Tap-off unit with measuring device

Modular tap-off units dimensions¹⁾

Size	I_n A	Max. dimensions (mm)		
		L	W	H
1	160	560	250	307
2	160 – 250	650	414	337
3	250 – 400	850	494	409
4	400 – 630	910	534	409
5	630	910	624	439

Future-proof system

When energy data for transparent power flows or remote switching and monitoring are required, the LI system offers integrated and communication-capable measuring devices and components for optimum energy management (including communication capabilities for Modbus TCP, PROFIBUS and PROFINET).

Cable entry to tap-off units

Cable entry is possible from the side or from the end. The basic tap-off units are designed with aluminium plates for entry of single-core cables where cable glands are supplied locally. As an accessory, cable entry plates with fitted cable grommets are available for multi-core and single-core cables.

Safe in installation and operation

- Guided plugging on the tap-off point avoids incorrect fitting, ensures IP2X, IPXXB during the plugging process, and defines a clear connected / disconnected status
- Leading PE contact ensures a protective conductor connection during assembly or disassembly
- Isolation of tap-off units during removal is assured by a compulsory sequence of operations
- Quick and easy modification or expansion with plug-on / -off tap-off units (up to 1250 A¹⁾) on energised²⁾ runs
- High protection against mechanical impact with shock resistance IK08
- Tap-off units cannot be opened unless the protection device is switched off manually
- Cable connection area is then no longer energised
- Contact device section in the front of the tap-off unit is "finger-proof"

Benefits

- Flexible planning thanks to various tap-off units
- Safe power distribution thanks to design verified system
- Flexible power distribution thanks to easy modification
- Future-proof power distribution thanks to integration in energy management solutions

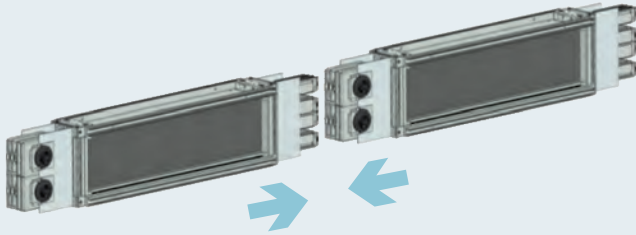
1) Bigger size for 800 A up to 1250 A in preparation

2) In accordance with EN 50110-1 (VDE 0105-1). Please observe national regulations

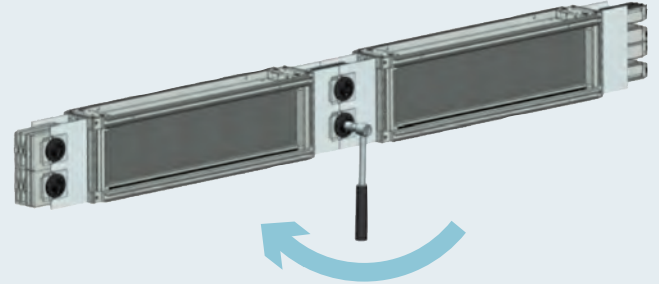
Hook and bolt connection

Safe and reliable installation

- 1 Align the trunking ends with hook and bolt. Join and connect the busbar elements.



- 2 Tighten the self-torque bolt until the outer head of the nut shears off. This indicates a correct torque level of 40 Nm.



Benefits

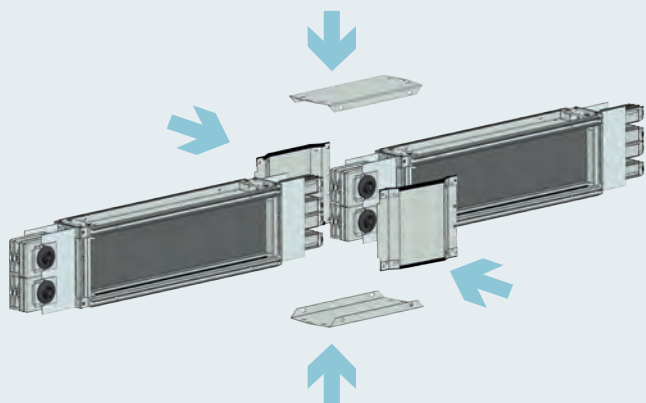
- Safe busbar trunking connection with IP55
- High connection quality with low contact resistance
- Higher rigidity of the system due to hook and bolt connection

Trunking units are assembled easily and safely using hook and bolt connections with shear-off nuts for efficient and reliable installation.

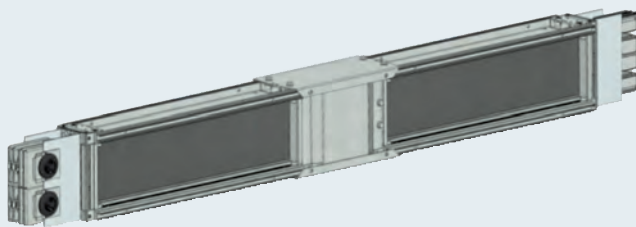
Busbar connection via terminal block

On a busbar trunking unit, the bolt is tightened using a standard spanner. When the necessary clamping pressure is reached, the upper nut head is automatically sheared off. This gives simple and instant confirmation of correct assembly. After tightening the hook and bolt connection, the clamping point is covered with a connection flange. The side protection cover can only be fitted once the upper nut head has been sheared off.

3
Install side covers followed by top and bottom covers.
Then, fasten screws.



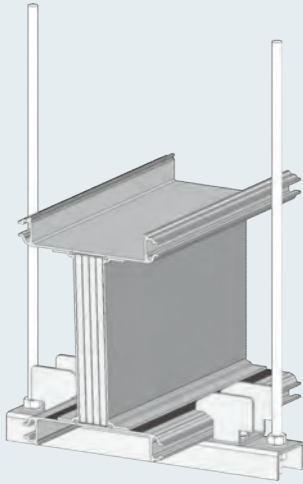
4
Final hook and bolt connection
with degree of protection IP55.



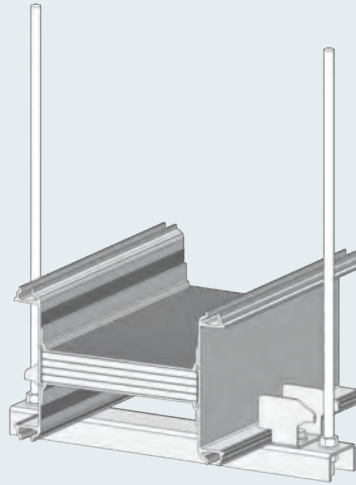
Fixing brackets

Simple fixing accessories to fit a range of building structures

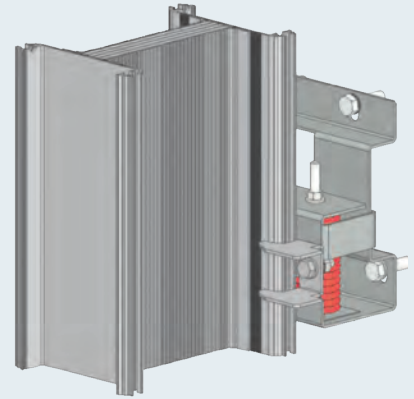
Horizontal fixing bracket,
edgewise run



Horizontal fixing bracket,
flat run



Vertical fixing bracket



Benefits

- Modular portfolio for flexible fixing
- Efficient integration in the infrastructure

With its range of fixing accessories, the LI system can be mounted efficiently either on walls or ceilings, depending on the building structure requirements.

Horizontal installation

Fixing of the LI system in horizontal edgewise and in horizontal flat mounting positions is possible with:

- 5 U-profile sizes
- 2 fixing clamp units

The combination of U-profile and fixing clamps enables optimum fixing of the LI system.

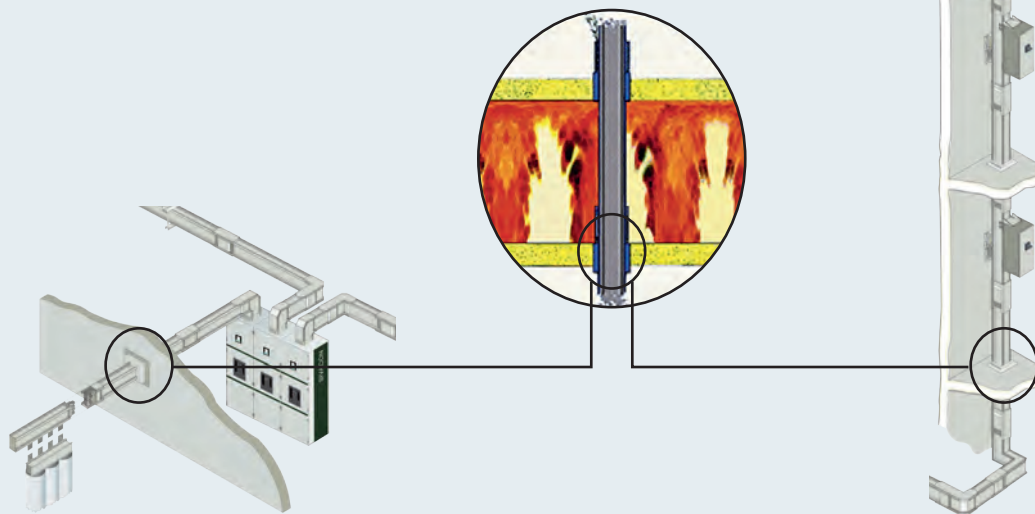
Vertical installation

Special spring brackets are required for vertical installation, in order to fix the LI run in shafts running upwards along the wall. The spring bracket is dimensioned to carry the weight of the busbar run for floor heights up to 3.90 m.

Fire barriers

Built-in prevention for a safe infrastructure

Fire barrier tested in accordance with EN 1366-3 standard for safe and reliable installation in risers and across electrical rooms



European building regulations prescribe that buildings must be designed in such a way that “fire and smoke are prevented from starting and spreading and that, if there is a fire, effective fire fighting and the saving of human and animal life is possible”. This means that no fire or fumes are permitted to spread from one floor or fire section to another.

The LI system fire barrier has been tested for fire resistance classes EI90 and EI120¹ (category acc. to EN 13501) in accordance with EN 1366-3 to meet European building requirements.

In accordance with different national requirements, various approval kits are also available on request²⁾.

Benefits

- High degree of personnel and infrastructure safety
- Tested in accordance with EN 1366-3
- Flexible with kit solution for fire barriers

1) In preparation

2) “Fire test passed” approval for various countries in preparation

Type code

Selection and ordering data

Each of the basic components of the LI system has a type code. The type is specified and selected on the basis of rated current, conductor material and system type or conductor configuration. This type code allows you to define the required system precisely.

Selection example:

A rated current of 2,500 A is calculated for a project. Aluminium conductors are to be used. A 5-pole system with housing PE (Earth) is required. The cross-section of the neutral conductor needs to be equal to the cross-section of the phase conductor.

This results in the following type code:
LI-AM25005B

Type code for trunking units	LI	-	-	-	...	-
Conductor material										
Al										A
Cu										C
Insulation material										
Mylar® film										M
Epoxy coating and Mylar® film										E
None (where feature not relevant)										N
Rated current I_n [A]										
800 (only Al)						0800				
1,000						1000				
1,250						1250				
1,600						1600				
2,000						2000				
2,500						2500				
3,200						3200				
4,000						4000				
5,000						5000				
6,300 (only Cu)						6300				
Conductor configuration¹⁾										
L1 + L2 + L3 + PE ²⁾										3B
L1 + L2 + L3 + PEN/PEN ⁶⁾										4B
L1 + L2 + L3 + N + PE ²⁾										5B
L1 + L2 + L3 + N + N ⁴⁾ + PE ²⁾										5C
L1 + L2 + L3 + N + PE/PE ⁵⁾ (PE conductor 50 %)										5G
L1 + L2 + L3 + N + N ⁴⁾ + PE/PE ⁵⁾ (PE conductor 100 %)										5H
L1 + L2 + L3 + N + (PE) ³⁾ + PE/PE ²⁾										6B
L1 + L2 + L3 + N + N ⁴⁾ + (PE) ³⁾ + PE/PE ²⁾										6C
Degree of protection										
IP55										55
Joining system										
Hook / bolt										HB
Hook										H
Bolt										B

- 1) Conductor configurations 5C, 5G, 6B and 6C are in preparation
- 2) PE conductor = housing
- 3) Separate PE conductor routed through additionally insulated busbar (Clean Earth)
- 4) An additional busbar doubles the cross-section of the neutral conductor (200 %)
- 5) PE conductor = housing and additional busbar
- 6) PEN conductor = additional busbar

Type code for tap-off units	L1	T
Rated current I_n [A]																		
50																		
63																		
80																		
100																		
125																		
160																		
250																		
400																		
630																		
800																		
1,250																		
Conductor configuration¹⁾																		
L1 + L2 + L3 + PE ²⁾																		
L1 + L2 + L3 + PEN/PEN																		
L1 + L2 + L3 + N + PE ²⁾																		
L1 + L2 + L3 + N + N ⁴⁾ + PE ²⁾																		
L1 + L2 + L3 + N + PE/PE ⁵⁾ (PE conductor 50 %)																		
L1 + L2 + L3 + N + N ⁴⁾ + PE/PE ⁵⁾ (PE conductor 100 %)																		
L1 + L2 + L3 + N + (PE) ³⁾ + PE/PE ²⁾																		
L1 + L2 + L3 + N + N ⁴⁾ + (PE) ³⁾ + PE/PE ²⁾																		
Degree of protection																		
IP55																		55
Switching devices																		
NH (00, 1, 2, 3)																		NHxx
3NP11 (33, 43, 53, 63)																		3NP11xx
3VL (17, 27, 37, 47, 57)																		3VLxx
3VA1																		3VA1
3VA2																		3VA2
3VA3																		3VA3
3VM1																		3VM1
Switch-disconnector with fuse																		FSFxxx
Number of poles of switching device																		
2-pole																		2
3-pole																		3
4-pole																		4
Operator control																		
Rocker																		RA
Manual drive																		RD
Motor drive																		MD
Manually																		MO
Plugging guides																		
With plugging guide for tap-off units \leq 630 A																		G
Without plugging guide for tap-off units $>$ 630 A																		N
Cable entry																		
Blind plate																		B
Single-core																		S
Multi-core																		M
Cable connection																		
Direct																		D
With cable lugs																		C
Communication																		
Without																		O
Modbus																		M
PROFIBUS I/O																		P
AS-Interface																		A
Current transformer																		
Without																		O
With																		T

- 1) Conductor configurations 5C, 6B and 6C are in preparation
- 2) PE conductor = housing
- 3) Separate PE conductor routed through an additionally insulated busbar (Clean Earth)
- 4) An additional busbar doubles the cross-section of the neutral conductor (200 %)
- 5) PE conductor = housing and additional busbars
- 6) The PEN bridge should be ordered as an accessory for this conductor configuration

Technical data

Standards and regulations		IEC 61439-1/-6, EN 61439-1/-6
Ambient temperature (min. / max. / 24-hour average) ¹⁾	°C	-5 / +50 / +40
Degree of protection		IP55
Mounting positions		Horizontal edgewise, horizontal flat ²⁾ , vertical
Busbar surface treatment		At the current transitions: LI-A nickel-coated and tin-plated, LI-C tin-plated
Insulation		Mylar®, epoxy coating with additional Mylar ^{®3)}
Class of protection against external mech. loads		IK08
Trunking unit material		Aluminium, powder-coated
Tap-off unit material		Steel sheet, powder-coated
Colour of trunking unit, tap-off unit		RAL 7035 (light grey)
Rated insulation voltage in acc. with IEC 61439-1	V AC	1,000
Rated operating voltage (transmission) for overvoltage category III/3	V AC	1,000
Rated operating voltage (energy distribution with tap-off units) for overvoltage category III/3	V AC	690
Frequency	Hz	50 / 60 ⁴⁾

1) Temperature factor k1 for min. and max. ambient temperature on request

2) Mounting factor k2 for mounting positions

3) In preparation

4) In accordance with IEC 61439, a reduction to 95% is required for currents > 800 A at 60 Hz frequency

LI-A

Rated current	I_{nA}	A	800	1,000	1,250	1,600	2,000	2,500	3,200	4,000	5,000
Conductor material	Aluminium										
Short-circuit rating											
Rated short-time withstand current (1s)	I_{cw}	kA	35	50	60	65	80	100	120	150	150
Rated peak withstand current	I_{pk}	kA	77	110	132	143	176	220	264	330	330

LI-C

Rated current	I_{nA}	A	1,000	1,250	1,600	2,000	2,500	3,200	4,000	5,000	6,300
Conductor material	Copper										
Short-circuit rating											
Rated short-time withstand current (1s)	I_{cw}	kA	43	60	65	80	100	100 ¹⁾	150	150	150
Rated peak withstand current	I_{pk}	kA	94.6	132	143	176	220	220 ¹⁾	330	330	330

1) For PE conductor (100%) $I_{cw} = 120$ kA, $I_{pk} = 264$ kA

Tap-off units

Installation with circuit-breaker ¹⁾		3VL1	3VL2	3VL3	3VL4	3VL5
Rated current I_e ²⁾	A	50 – 160	50 – 160	200 – 250	315 – 400	500 – 630
Rated conditional short-circuit current (I_{cc}) with switching capacity N	kA	55	55	55	55	55
Rated conditional short-circuit current (I_{cc}) with switching capacity H	kA	70	70	70	70	70
Rated conditional short-circuit current (I_{cc}) with switching capacity L	kA	–	100	100	100	100

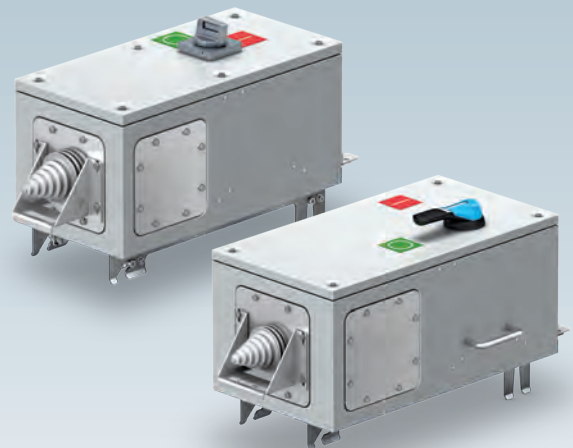
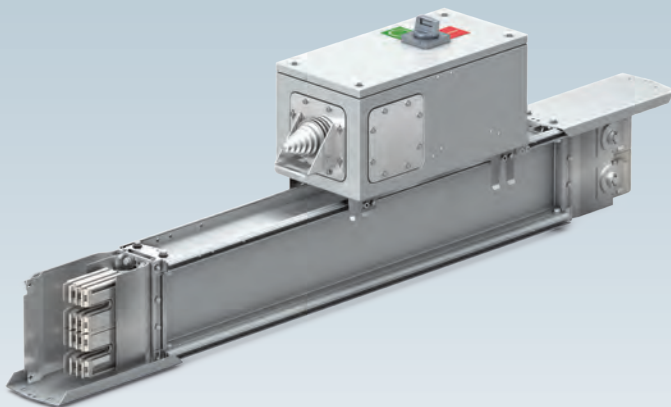
Installation with fuse-switch-disconnectors ³⁾						
Rated current I_e	A	160	250	400	630	
Short-circuit rating ⁴⁾ with fuse protection type 3NP.. with fuse protection (I_{cf})	kA	100	100	100	100	
Short-circuit rating ⁴⁾ with fuse protection type FSF.. with fuse protection (I_{cf})	kA	100	100	100	100	
Short-circuit rating ⁴⁾ with fuse protection typ NH.. with fuse protection (I_{cf})	kA	120	120	120	120	

1) Valid for $U_e = 400V$

2) On request for I_e from 800 A and 1,250 A

3) Tested with SIEMENS NH fuses, $U = 690 V$ on request

4) Depending on type and supplier of fuse

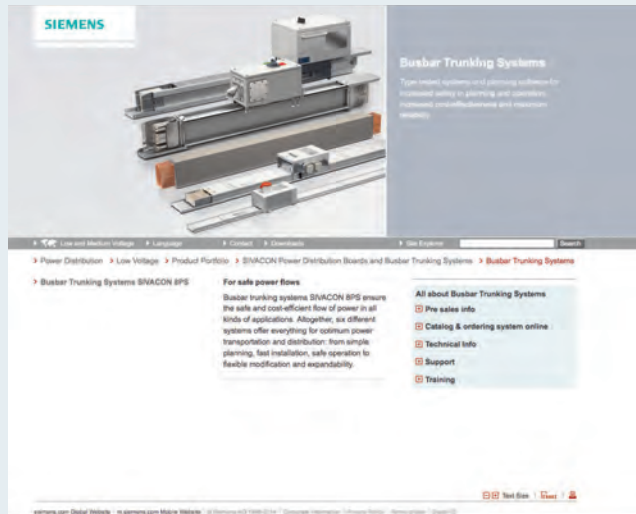


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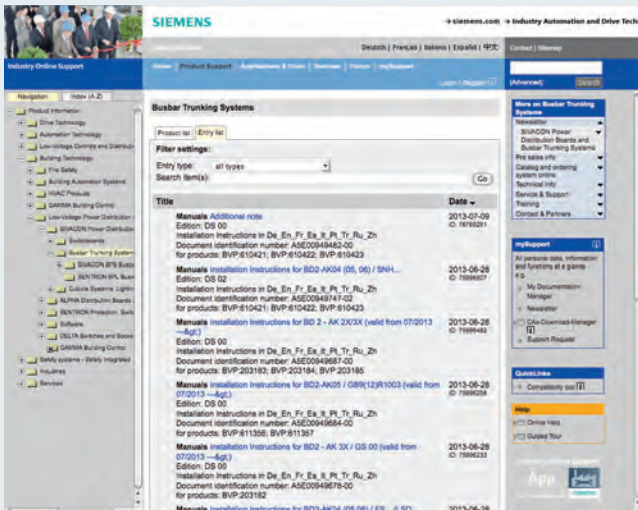
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SIMARIS design

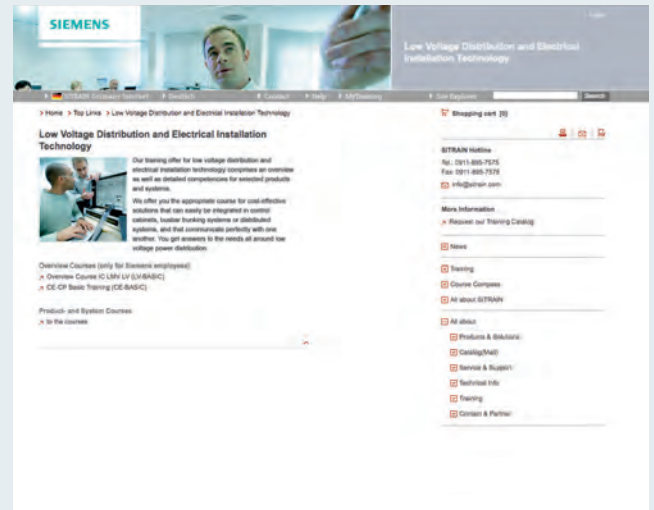
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Technical documentation on the internet
www.siemens.com/lowvoltage/product-support



Training offer
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The software tool SIMARIS project enables you to create project documents quickly, easily and clearly to fit the space and budget requirements of your complete power distribution system. Based on the systems and devices determined, you can also create a list of specifications in GAEB D81 or RTF format – in German or English – at the click of a button, since the relevant specification texts are stored for all the components, configured automatically, and compiled in a project-specific manner.

SIMARIS sketch

With SIMARIS sketch, you can intuitively create the 3D routing of the busbar trunking systems BD01, BD2, LD and LI for your particular project. These routings, including accessories, are directly represented in 3D, allowing an easy and helpful 3D visualisation of how the busbar routing will look in the project.

For further information
www.siemens.com/simaris

Technical documentation on the Internet

You will find an overview of the latest technical documentation available for SIVACON 8PS busbar trunking systems on our website (updated daily) at:
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