

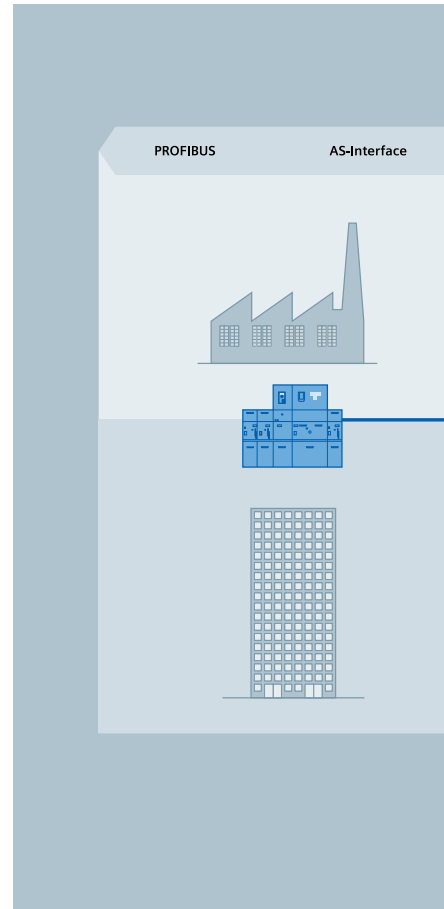
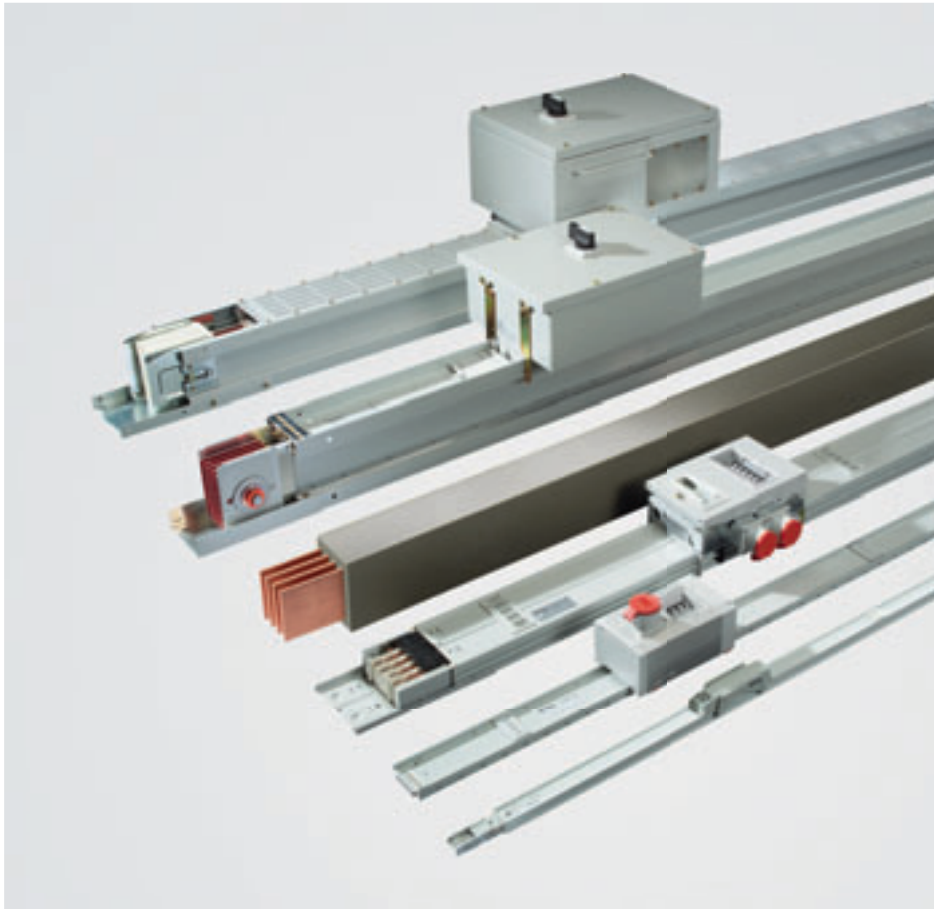


Safe and Flexible Power Distribution
in Multi-Story Functional Buildings

SIVACON

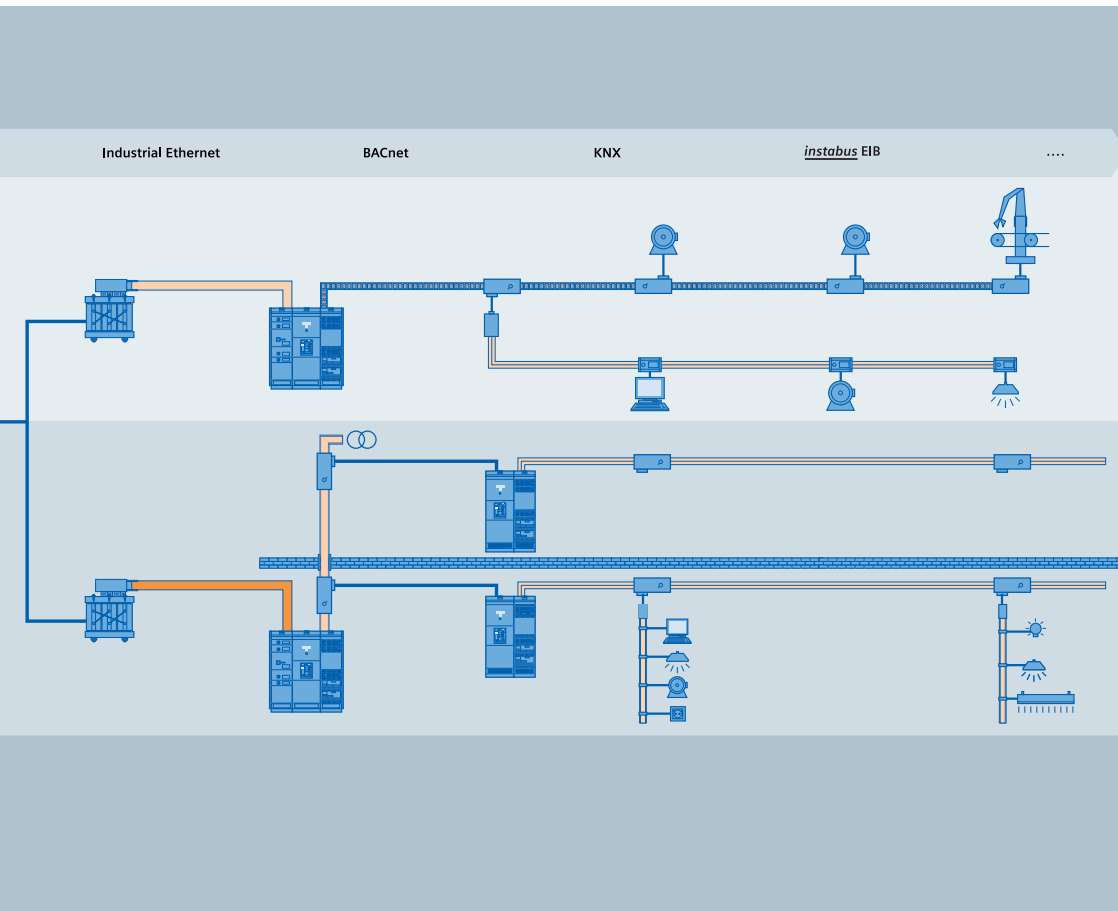
Answers for industry.

SIEMENS



Aim High – with SIVACON Busbar Trunking Systems

A safe and reliable power supply is absolutely essential for the efficient utilization of functional buildings. The employed system has to be characterized by a particularly low fire load and minimum space requirements – particularly for multi-story buildings. A further important aspect for power distribution in functional buildings is that of flexibility, as both the spatial arrangement as well as the type and number of consumers may frequently change over the building's service life.



Siemens provides the perfect answer to all these requirements – with the SIVACON® 8PS busbar trunking system. As intelligent alternative to conventional wiring, this system offers numerous advantages.

Right of way for the busbar

SIVACON busbar trunking systems significantly reduce the entire wiring. They can be easily installed and retrofitted. The consumers' current tapping is realized directly on site via plug-in tap-off units. This allows for effortless adjustments to changed requirements with minimum expenditures. In addition, the simultaneously distributed and central consumption detection supports maximum transparency.

Improved operational reliability

Compared to cable-based power distributions, SIVACON busbar trunking systems are characterized by a considerably lower fire load and high short-circuit strength.

A further argument in favor of our innovative busbar trunking systems is their significantly improved temperature behavior, which supports higher rated currents. In addition, current reduction only has to be considered as of an ambient temperature of 35 °C in 25-h average.

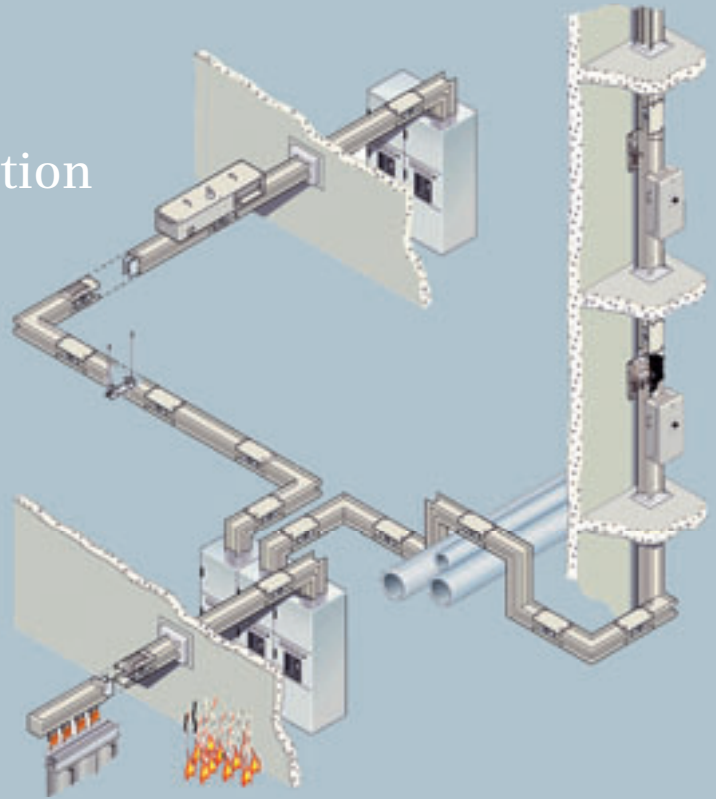
Integrated power distribution

The SIVACON 8PS busbar trunking system is suitable for power transportation and power distribution from 25 A to 6,300 A. It represents an important module of our low-voltage power distribution portfolio, which also comprises power distribution boards, protection, switching and measuring devices as well as intelligent power management solutions. Six systems, whose design is perfectly tailored to various applications and application conditions, are offered in the SIVACON 8PS range. SIVACON 8PS forms part of Totally Integrated Power, our integrated concept for reliable, safe and efficient power distribution – from the medium-voltage supply to the socket outlet.

Efficient overall planning

Our portfolio is rounded off by comprehensive service and support – competent and personal. Innovative tools support an optimum planning and realization of power distributions from the very beginning. For efficient dimensioning, we offer a tried-and-tested TÜV-certified software for electrical planners: SIMARIS® design. This software easily, rapidly and safely guides the user through all planning steps and offers considerable time savings for routine tasks, variant selection and budget calculation.

LX System: The Safe and Flexible Busbar for Multi-Story Power Distribution



Whether in hotels, office buildings or hospitals: Whenever large power volumes have to be flexibly transported over long distances and several stories, the LX system comes in as the optimum solution – particularly for applications from 800 A to 6300 A. Thanks to its compact sandwich design, low impedance and position-independent current carrying capacity, the LX system safely and efficiently meets all relevant requirements. With its high degree of protection IP55, it can also be employed in strongly contaminated or humid environments. Furthermore, the LX system also demonstrates its strengths with consumers susceptible to interference thanks to conductor configurations with double N conductors and clean earth.

Fit for all eventualities

With many functional buildings, the exact utilization of the various stories is not yet known in the planning phase. Moreover, the utilization may time and again change over the building's service life – also necessitating an adjustment of the existing power concept. For this reason, the power distribution's flexible adjustability to changed requirements has to be ensured for the various stories from the very start. This is supported by busbar-based concepts.

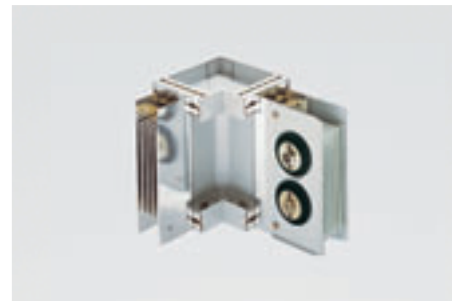
Systematic power distribution – from simple to redundant

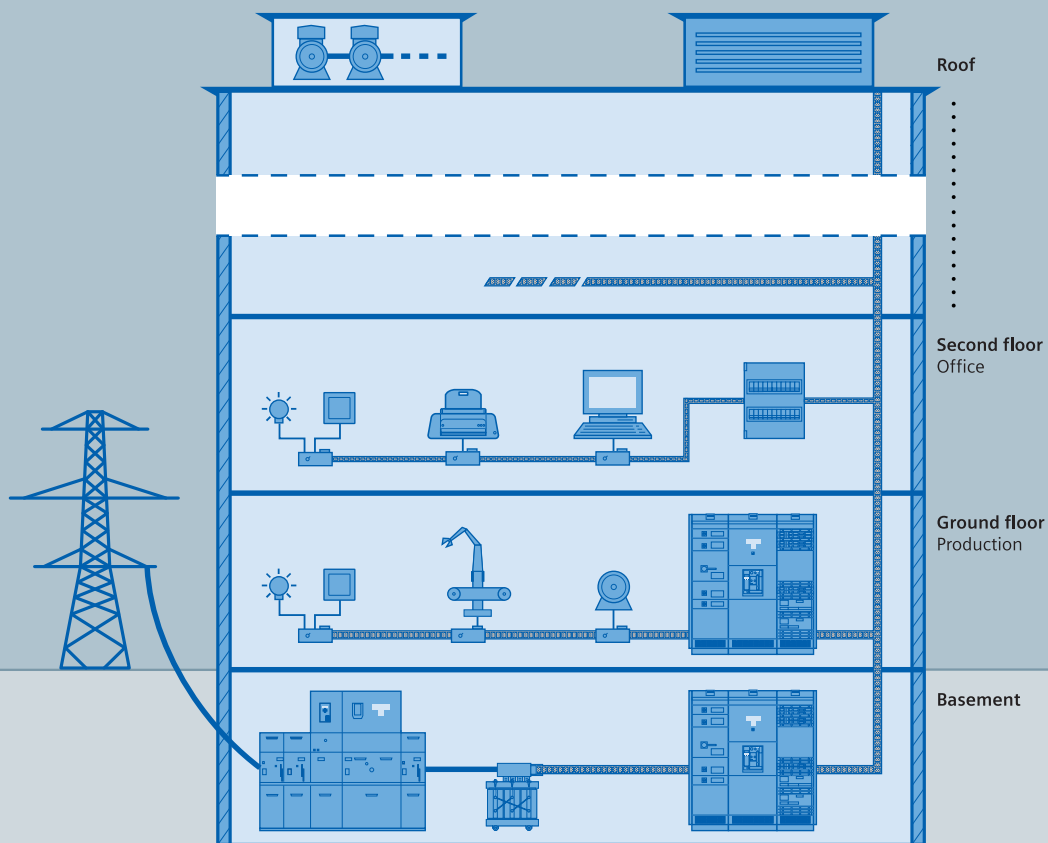
The most basic application of the LX system in risers: The main distribution feeds the building's riser cable supplying the sub-distributions on the various stories. Furthermore, SIVACON busbar trunking systems facilitate the realization of diverse redundancy concepts, which can be perfectly tailored to specific building and customer requirements. Compared to conventional cable solutions, busbars offer clear advantages in terms of transparency and space requirements.



Easy planning, effortless mounting, fast adjustability

The busbar trunking systems can be rapidly assembled, adjusted and expanded thanks to the maintenance-free connection system based on bolt-type terminal blocks. Both sides of the modular busbar can be equipped with connections for tap-off units in regular distances. Via these units, large consumers as well as smaller busbar trunking systems of the 8PS, BD2 or BD01 ranges can be fed in. Via a plug-in contact system with Lyra contacts, the tap-off units can be re-defined or subsequently adjusted as required – also while energized¹⁾. The tap-off units are equipped with an anti-rotation element which ensures fault-free installation through positively driven mounting. Together with the automatic protective devices of the tap-off openings, this ensures maximum touch protection for your operating personnel.





Technical data

Rated insulation voltage U_i	AC/DC 1000 V
Rated operational voltage U_e	AC 690 V
Degree of protection	IP54/IP55
Rated current I_e	800 to 6300 A ²⁾
Rated peak withstand current I_{pk}	Up to 255 kA
Rated short-time withstand current I_{cw} (0.1 sec)	Up to 150 kA
Number of conductors	3, 4, 5, clean earth, optional 200 % N conductor
Fire load	Max. 16.6 kWh/m
Fire load (per tap-off point)	2.9 kWh
Tap-off point	0.5 m each on both sides
Tap-off unit adjustable while energized ¹⁾	Up to 630 A
Connection system	Bolt-type terminal block with tear-off screw head
Communication capability	<i>instabus EIB</i> , AS-Interface
Conductor material	Insulated Al bar or Cu bar
Enclosure material	Al varnished



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

2) Upon request.

For further technical data, please ask your Siemens contact partner.



Advantages of the LX System at a Glance

Improved safety

- Safe operation through type-tested low-voltage switchgear and controlgear assemblies (TTA) in accordance with IEC/EN 60439-1 and -2
- Safe and easy planning of the power distribution through type-tested connection to SIVACON distribution boards and transformers
- Splash water protection through high degree of protection IP55 (also suitable for sprinklers)
- Low fire load and high corrosion resistance through aluminum enclosure

Improved efficiency

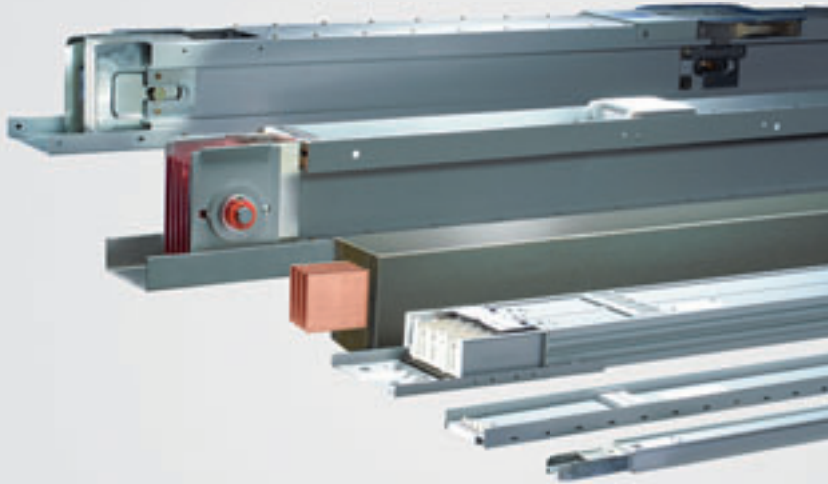
- Easy and rapid mounting through bolt-type terminal block with tear-off nut
- Fast and easy adjustability and expandability through tap-off units up to 630 A pluggable while energized¹⁾
- High availability through tap-off units with circuit breakers from 800 A to 1250 A
- Transmission of high currents with low line voltage drops through sandwich design

Improved consistency

- Operational transparency through communication-capable busbar system for consumption detection, remote switching and monitoring

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

System Overview SIVACON 8PS



CD-K system



The design busbar for lighting systems and small consumers

- 25 A to 40 A
- 400 V Ue max.
- Up to IP55
- *instabus EIB*, Dali

BD01 system



The flexible power supplier for commerce and trade

- 40 A to 160 A
- 400 V Ue max.
- Up to IP55
- *instabus EIB*, AS-Interface

BD2 system



The universal solution for maximum power in minimum space

- 160 A to 1250 A
- 690 V Ue max.
- Up to IP55
- *instabus EIB*, AS-Interface, PROFIBUS

LD system



The safe busbar for production

- 1100 A to 5000 A
- 1000 V Ue max.
- IP34/IP54
- *instabus EIB*, AS-Interface, PROFIBUS

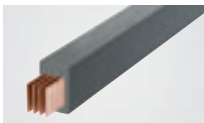
LX system



The flexible system for multiple-story power supply

- 800 A to 6300 A
- 690 V Ue max.
- Up to IP55
- *instabus EIB*, AS-Interface, PROFIBUS

LR system



The reliable busbar for high protection in harsh environments

- 630 A to 6300 A
- 1000 V Ue max.
- IP68

Communication-capable busbar trunking units



Power distribution

Power transmission

Planning advantages

Feature	Busbar	Cable
Current carrying capacity	High current carrying capacity through TTA; limit values indicated in table p. 6	Limit values have to be determined or calculated in dependence of the routing type and operating temperature
Temperature range	Standard 35 °C in 24-hour average; max. 40 °C; according to EN 60439-1/-2	Standard 30 °C
Derating	Fixed derating factors through TTA	Have to be determined or calculated in dependence of ambient temperature and cumulation; mutual heating must be observed
Electromagnetic impact	Low impact through sheet-steel enclosure	Relatively high with standard cables; no shielding
Planning	Only the total connected load has to be known; low calculation and determination expenditures	Individual tap-offs have to be exactly known for planning; high calculation and determination expenditures
Planning support	Siemens offers planning and tender support	No support by the manufacturer

Installation advantages

Feature	Busbar	Cable
Mounting tools	Only few tools such as torque wrench required; low tool costs; low wear	Numerous tools such as deflection pulleys, cable grips, supports for cable drums, etc., required; high tool costs and wear
Mounting time	Reduced mounting times; higher turnover with identical personnel expenditure; higher added value	Long mounting times; high personnel expenditure with low turnover; low added value
Fire protection bulkhead	Tested fire protection bulkhead ex works according to DIN 4102 Part 9	Depending on the respective workmanship quality
Functional endurance	Tested functional endurance according to DIN 4102 Part 12	Depending on the respective workmanship quality
Line length with parallel routing	Consistently identical line lengths	Various lengths and respectively differing loads depending on the routing
Wage share	Small wage share, low calculation risk; higher material expenditures than with cables, but more accurately calculable in advance	Large wage share, high calculation risk
Material waste	No material waste, resulting in reduced calculation risks	High waste rate resulting in increased calculation risk; waste on both cable sides due to unclear connection situation during the installation phase
Weight	Only 1/2 to 1/3 of the comparable cable weight	Very high: twice to three times as high as with comparable busbar trunking unit
Excess	No excess as project-specific orders are placed with parts list	As cables are sold in complete drums at marketable prices, most projects result in excess quantities

Operation advantages

Feature	Busbar	Cable
Space requirements	Very low through compact design, angles and current carrying capacity	Very high due to bending radii, routing type, cumulation as well as current carrying capacity
Fire load	Very low; values indicated in table p. 6	Very high; depending on cable type
Absence of PVC / halogen	Trunking units are generally halogen-free	Standard ranges are not PVC- or halogen-free; halogen-free ranges are extremely expensive and have long delivery periods
TTA	High operational reliability and short-circuit strength through type test according to IEC/EN 60439-1/-2	Operational reliability depends on the respective workmanship quality
Flexibility for adjustments, expansions and shifting of load consumer centers	Very high flexibility through variable tap-off units which can be adjusted, expanded or replaced as required, even while energized; no downtimes; adjustable power supply	Mostly new installation or high expenditure required due to new splicers, clamping points, bushings, parallel ranges, etc.; long downtimes; inflexible power supply
Space requirements for LVMD	Reduced space requirements as switching and protection devices can be decentrally arranged in the tap-off units	Large space replacement
Troubleshooting and fault rectification	Easy and fast thanks to transparent installation and consumer-close protective devices	Very time-consuming due to non-transparent installation and consumer-far protective devices
Clear assignment of protective organs	Easy thanks to decentral arrangement	Difficult due to central arrangement

DISTRIBUTING MANAGING	<input type="checkbox"/> Power management system
	<input type="checkbox"/> SIVACON power distribution boards
	<input type="checkbox"/> SIVACON busbar trunking systems
SWITCHING, PROTECTING & MEASURING	<input type="checkbox"/> SIVACON cubicle systems
	<input type="checkbox"/> SENTRON circuit breakers
	<input type="checkbox"/> SENTRON switch disconnectors
POWER DISTRIBUTION SOFTWARE	<input type="checkbox"/> SENTRON multimeters
	<input type="checkbox"/> Dimensioning with SIMARIS design
	<input type="checkbox"/> Totally Integrated Power

Information material

Please send the selected information material to the following address

Company/department

Name

Street, ZIP/city/country

Telephone/fax

E-mail

Further information on our portfolio on the Internet:

SIVACON 8PS website:
www.siemens.com/busbar

Sector portal automotive industry:
www.siemens.com/automotive

Totally Integrated Power:
www.siemens.com/tip

Download of catalogs and information material:
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For further information, please contact your local Siemens sales partner.

For technical questions, please contact:
Technical Assistance
Tel.: +49 (911) 895-5900
E-mail: technical-assistance@siemens.com

Siemens AG
Industry Sector
Low-Voltage Controls and Distribution
P.O. Box 48 48
90327 NUREMBERG
GERMANY

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