

## SIVACON 8PS BUSBAR TRUNKING SYSTEMS

# Next Generation: Power and Data via **Busbar**

### **Smart, secure, and efficient – data transmission via SIVACON 8PS**

State-of-the-art smart grids do not just need a reliable power distribution, they also require the transmission of energy data – for energy management and predictive maintenance of the energy systems.

The new powerline 2.0 technology enables a very efficient data transfer directly through the SIVACON 8PS busbar trunking system, with no need for additional wiring. Benefit from the advantages of powerline 2.0 technology for transparent and efficient operation in your industry or infrastructure through to electromobility infrastructure.

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

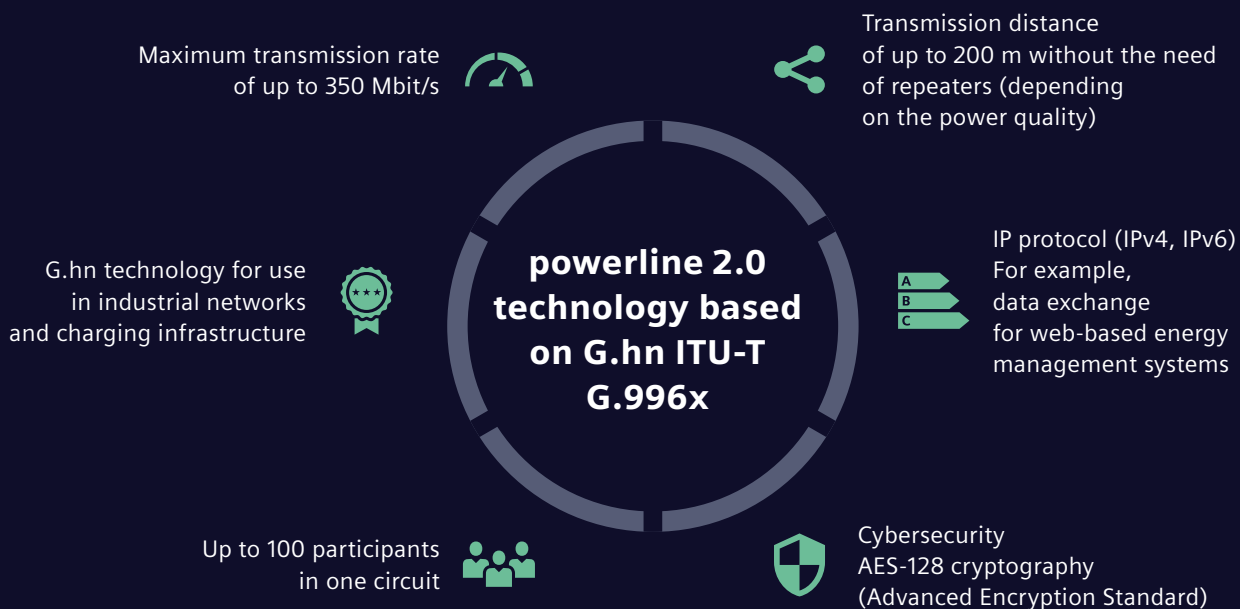
# SIEMENS

### Making energy data available the easy way

With the proven SIVACON 8PS busbar trunking systems, you can now also enjoy the benefits of the powerline 2.0 communication (PLC). It is easy to integrate your communication-capable measuring and switching devices in the tap-off units of the busbar trunking system. You do not need a separate cable to transfer data: Thanks to the PLC technology, data is transmitted securely and reliably via the conductors of the busbar. SIVACON 8PS powerline 2.0 technology is also designed for plug-and-work: It can even be retrofitted to your existing SIVACON 8PS power distribution system. That means you can adapt your power distribution system optimally at any time to automated operating procedures, machine operations, and process flows with a higher transparency.

### A powerful and secure standard

The powerline 2.0 standard was developed especially for data transmission in smart grids and industrial networks to turn simple power distribution systems into smart networks and open up new opportunities for operators. In this context, particular attention was paid to a very reliable, fast and secure data transmission. Your advantage: Thanks to the wide range and the high transmission rate, you can also easily transmit data over long distances without the need of repeaters.



### Your benefits

- Space-saving and easy installation
- Cost-efficient, fast, and secure power and data transmission
- Optimized maintenance measures based on operational data
- Transparent power flows for identification of potential savings and allocation of energy costs (for example, for cost-center accounting)
- Easy cross-linking of the charging infrastructure; for example, in parking garages
- Future-oriented solution thanks to possible integration in cloud-based solutions (IoT)

## Four dedicated system solutions

SIVACON 8PS offers you powerline 2.0 technology with four different busbar trunking systems specifically designed for a variety of uses.



### **BD2 system – the versatile solution**

The universal busbar for high performance in a small space



### **LI system – compact comprehensive system in a sandwich design**

An integrated solution for a reliable and efficient power supply for infrastructure and industry



### **LD system – specifically designed for the requirements of industrial production**

The proven busbar for production areas



### **LData system – so data centers can count on a reliable power supply**

Efficient and reliable power supply for data centers

- Current ratings up to 2500 A
- No fixed grid dimension for tap-off units

# SIVACON 8PS can achieve more – with powerline 2.0

Using the "powerline box" or even integrated in the tap-off unit – depending on the system installed –, the powerline 2.0 technology handles data transmission with no need for additional transmission media.

Extra-smart: The required sensors are included in the system, so you can easily collect and transmit your energy data.

The integrated powerline 2.0 modem modulates the data onto the low-voltage network to ensure a wide range and reliable data transmission with no additional wiring expenses. For example, the energy data is received and demodulated by the powerline 2.0 module in the low-voltage switchboard, and made available for further use.

Easy and space-saving installation based on the plug-and-work principle is the name of the game, not only for power distribution with SIVACON 8PS, but also for the energy data. Two versions are available for the BD2, LD, and LI systems of SIVACON 8PS:

- A complete solution for new projects consisting of tap-off unit, measuring equipment, and the powerline 2.0 data transmission
- A kit for retrofitting to existing systems

With the LData system, our system specifically for data centers, the powerline 2.0 components can be pre-integrated into the tap-off units as an option.



# Benefit from your energy data – and do it systematically

## Define your goals

Low-voltage switchgear systems and components lay the technical foundation for the collection, transmission, and forwarding of data to higher-level evaluation and automation systems.

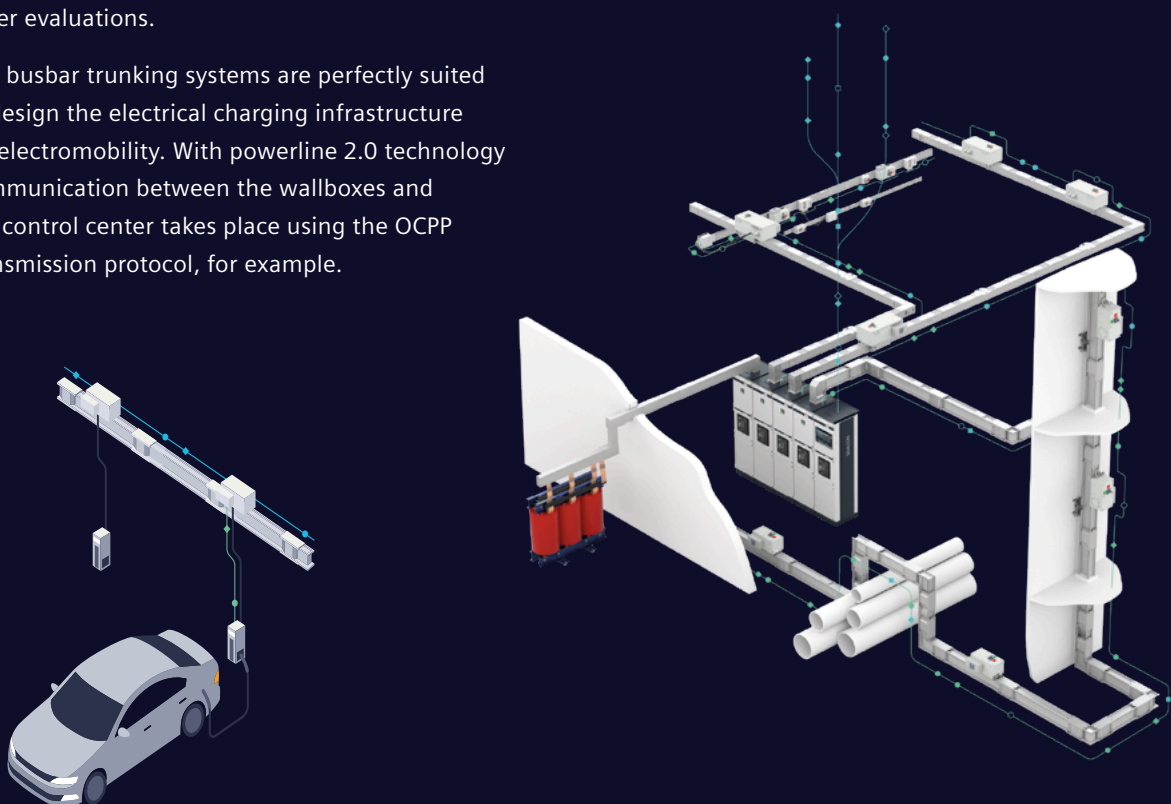
## Benefit from the potential your energy data offers

Depending on what you want to get out of your state-of-the-art power distribution system, SIVACON 8PS with powerline 2.0 technology has the right communications solution for you. If you want a high level of availability for your production plant or infrastructure, you need a reliable power distribution system to match. Greater transparency based on operational and energy data gives you the ability to identify trends, predict outages, and reliably estimate the remaining service life of your system. You also have access to the data you need for many other evaluations.

The busbar trunking systems are perfectly suited to design the electrical charging infrastructure for electromobility. With powerline 2.0 technology communication between the wallboxes and the control center takes place using the OCPP transmission protocol, for example.

## Link to automation and energy management systems as well as to cloud-based solutions (IoT)

Our software applications, platforms, and components also support links to automation and energy management systems. The data can also be linked to cloud-based solutions, no matter whether through the SIMARIS control diagnostics station, the cloud-based IoT data platform SENTRON Powercenter 3000, or the power monitoring software SENTRON Powermanager.





Energy data diagnostics and display – with SIMARIS control

**SIMARIS control diagnostics station – your ace card for high transparency**

Continuous analysis of the energy data is important in order to achieve high process quality in the process industry, in data centers, and in critical infrastructure systems. Integrated in the SIVACON S8<sup>plus</sup> low-voltage switchboard, the SIMARIS control diagnostics station provides support for these tasks, including the preparation of all measured values, statistical data, and error messages from the system. SIMARIS control helps you keep an eye on your power distribution system, and improve system availability and energy efficiency by maintaining transparent power flows. The Health Index function also lets you exploit the potential offered by predictive maintenance. Energy and condition data is also available to higher-level systems and cloud-based analytical systems.



Cloud-based IoT data platform  
SENTRON Powercenter 3000

**SENTRON Powercenter 3000 – your entry into the IoT**

The cloud-based IoT data platform SENTRON Powercenter 3000 offers you easy access to energy management in accordance with ISO 50001, and it is cost-efficient for businesses of all sizes. Communication-capable SENTRON devices record energy values like current and voltage, and transmit them using powerline 2.0 technology directly via the SIVACON 8PS conductors to the SENTRON Powercenter 3000. There they are collected for analysis in an integrated, browser-based interface, in higher-level power monitoring systems, or in cloud applications.



Analysis of power flows –  
with SENTRON Powermanager

**SENTRON Powermanager – a constant eye on your energy needs**

SENTRON Powermanager is our power monitoring software for your system. Transmit data from your system components with powerline 2.0 technology. SENTRON Powermanager supports the creation of audit reports in accordance with the ISO 50001 and ISO 50006 standards. SENTRON Powermanager can be used as a stand-alone solution or integrated in the Desigo CC building management system.



Data analysis  
with SENTRON Powermind

**SENTRON Powermind – cloud-based power and condition monitoring**

You would like to have full transparency over your power distribution system – everywhere and at any time? At the same time, there is no point in building up your own IT infrastructure in your small or medium-size enterprise? In this case, we have the right solution for you with our cloud application SENTRON Powermind: It uses the Siemens cloud solution.



Greater transparency for energy  
and operational data with Building X

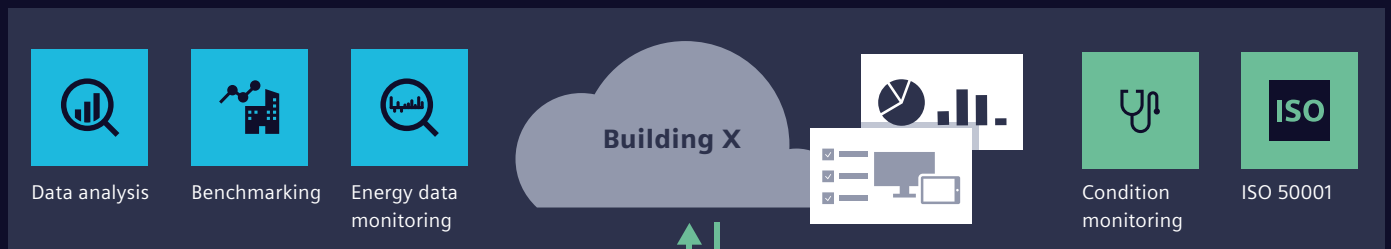
**Building X – suite of AI-capable apps and interfaces**

The data of the entire building periphery is bundled and unified in a cloud platform. Various applications and services are set up on this basis, which retrieve their data from the platform. Different user groups can easily and flexibly access all data and achieve their individual business goals.

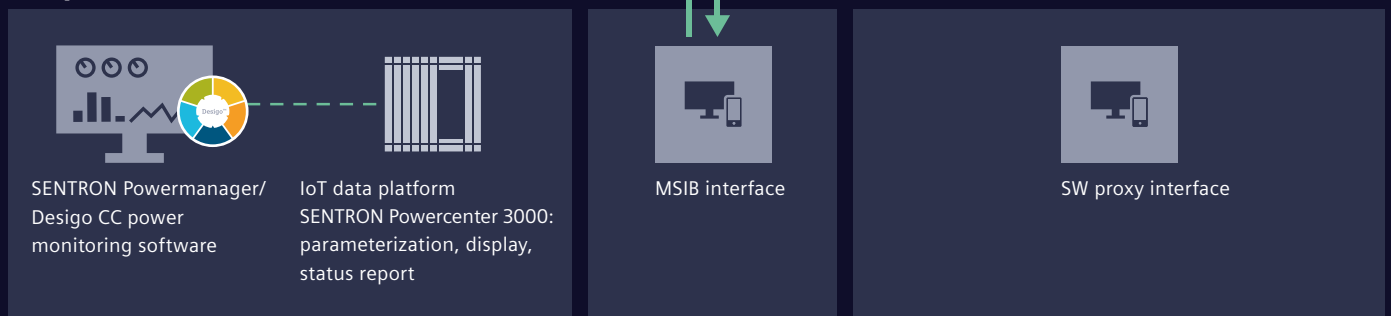
# Energy management locally or in the cloud

Benefit from energy data – for infrastructure

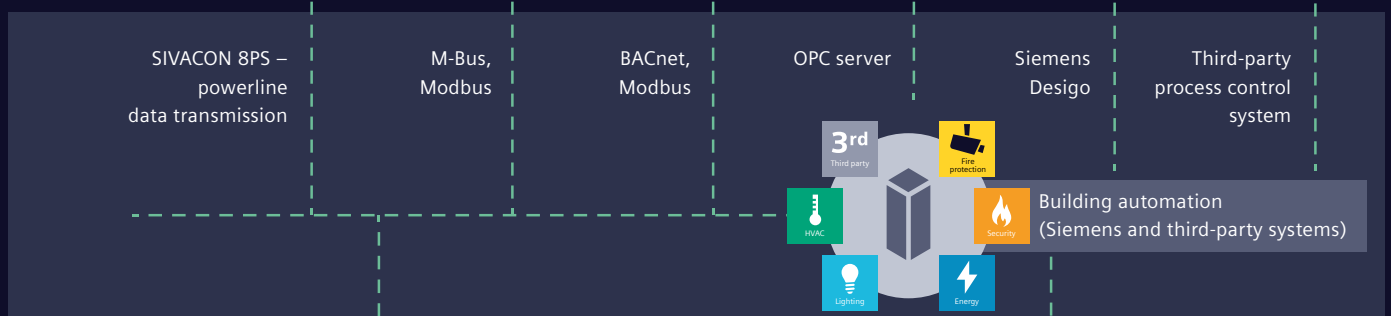
## Analytical system



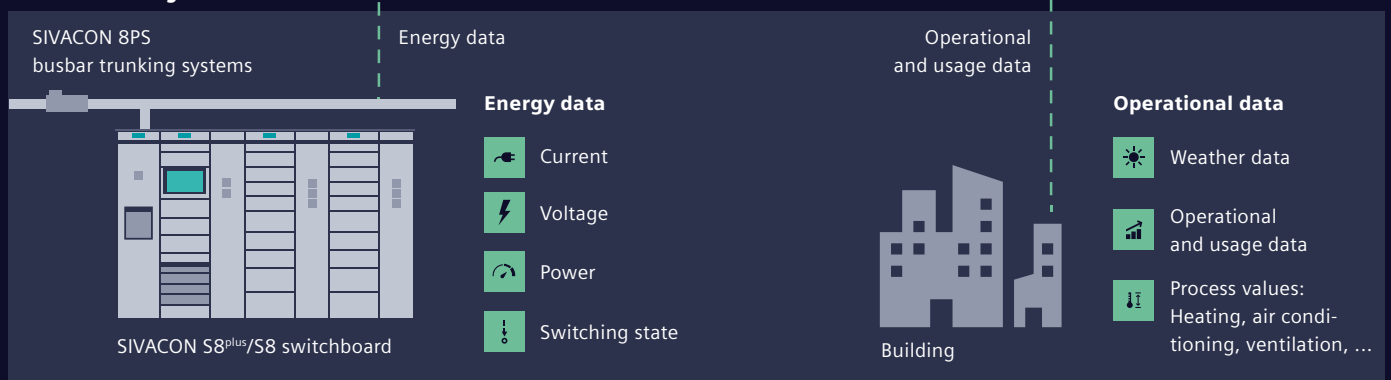
## On-premise



## Interfaces



## Field and system levels

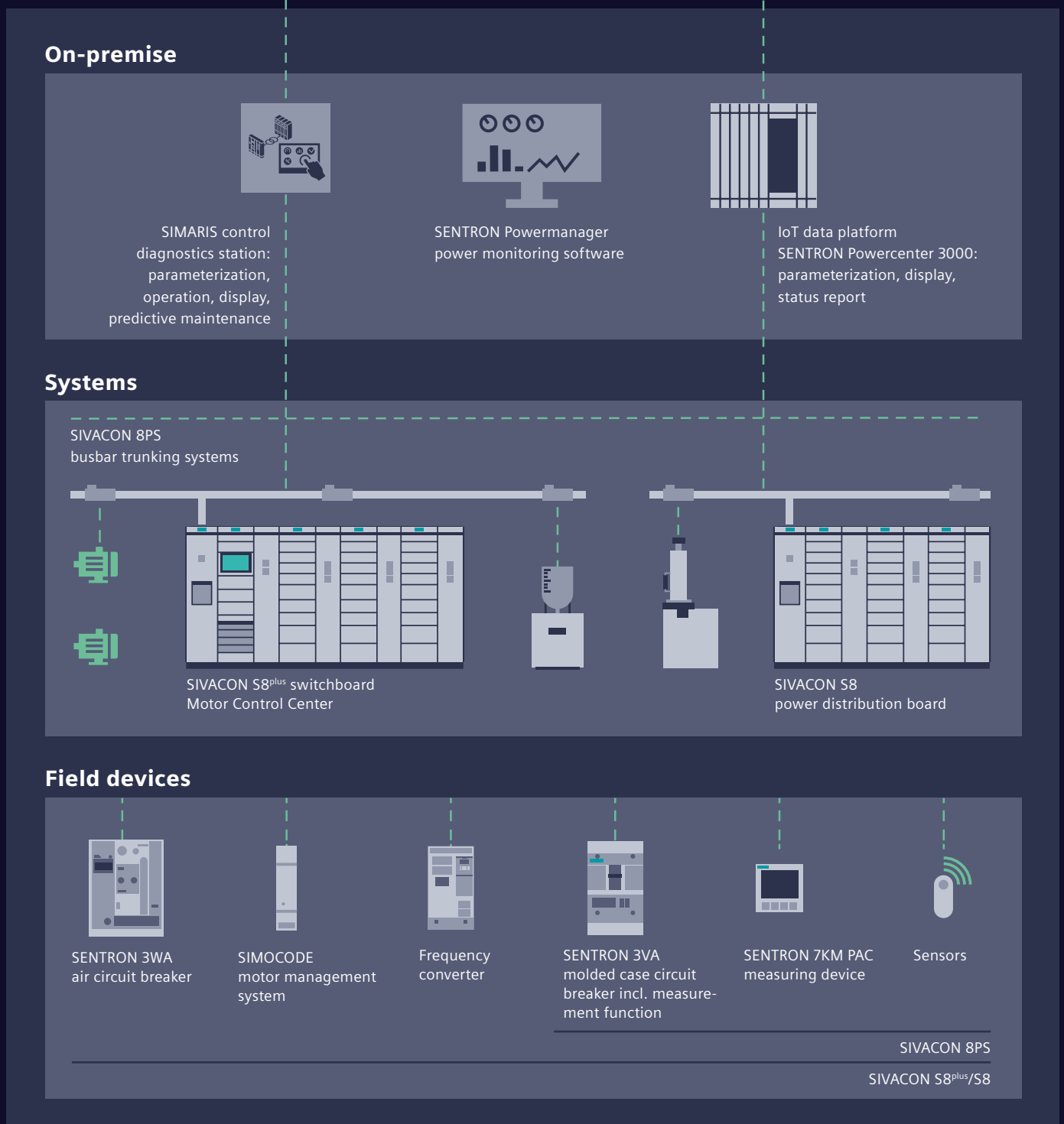


# Benefit from energy data – for industry

## Cloud-based analytical systems



## Power distribution



# The right answer to all your requirements

No matter what you want from the new transparency you get with the new powerline 2.0 technology of the SIVACON 8PS busbar trunking systems – Siemens has the right solution to display, analyze, and store the data. And this at transmission rates of up to 350 Mbit/s! Explore the new world of transparency thanks to smart digitalization.

## Technical data

Standards	G.hn ITU-T G.996x
Standard sensor technology in the tap-off unit	SENTRON PAC2200 or communication-capable SENTRON switching and protection devices
Supported protocols	Modbus TCP (IPv6, IPv4, IEEE 802.3), OCPP
Data encryption	128 Bit AES
powerline module per tap-off unit	1
powerline module as receiver	1
Max. number of powerline tap-off units	100
Max. transmission distance	Approx. 200 m between 2 modules
Gross data transmission rate	350 Mbit/s
powerline frequency band used	2 to 50 MHz
PLC coupling	1 or 3 phases to neutral
Voltage level	230 V / 400 V
Device connections	Screw-type terminals, wire cross-section 0.18 mm <sup>2</sup> to 6 mm <sup>2</sup> L1/L2/L3/N/PE; 1 x Ethernet RJ45
Plug-and-work capability	Yes
Can be retrofitted as powerline kit	Yes

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