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Ingenuity for life

Power and data via busbar

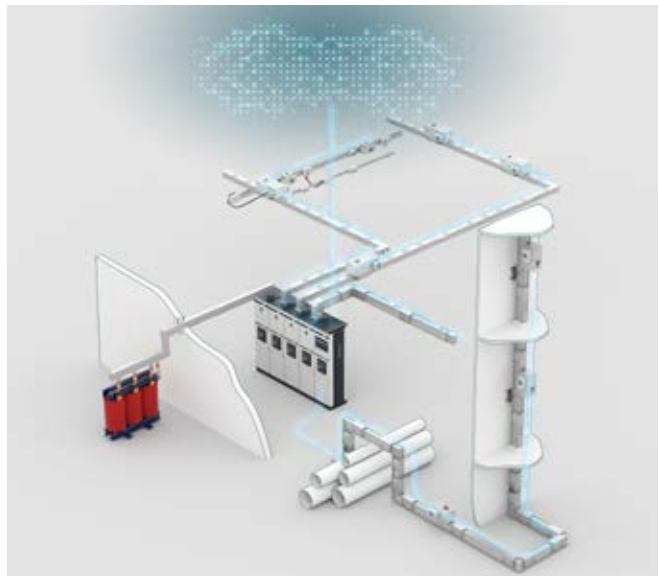
SIVACON 8PS busbar trunking systems

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

Smart, secure, and efficient – data transfer 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 G3-PLC™ powerline technology enables a very efficient data transfer directly through the SIVACON 8PS busbar trunking system, with no need for additional wiring.



Making energy data available the easy way

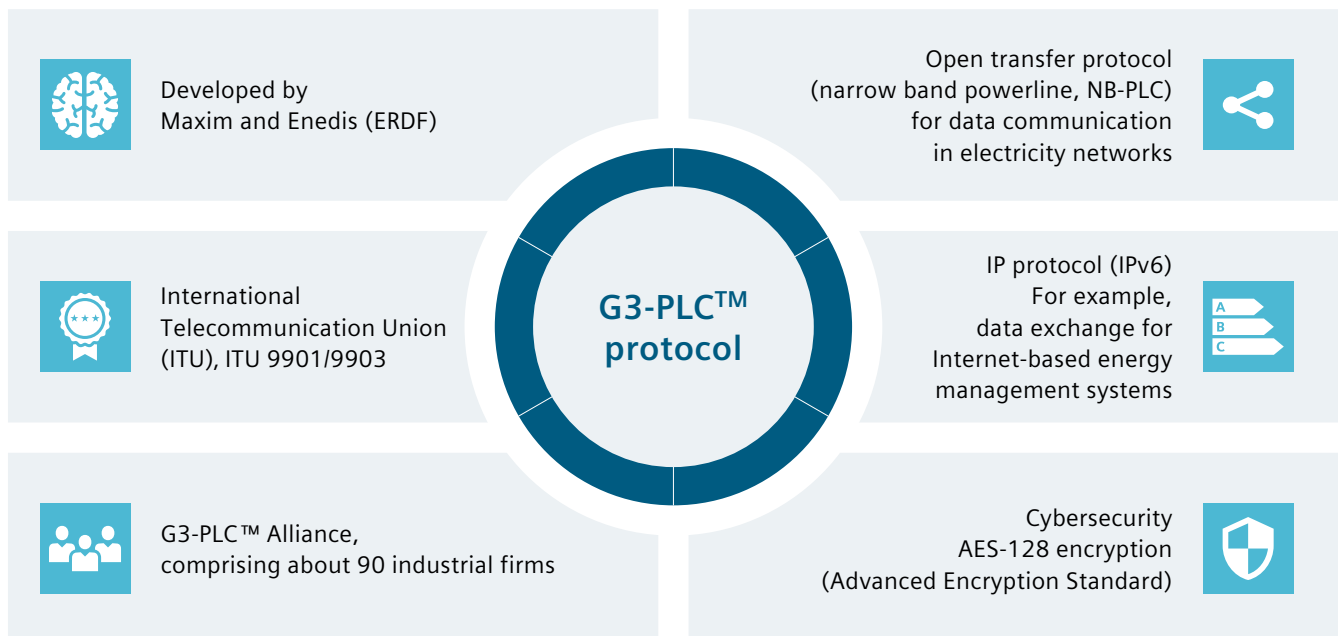
With the proven SIVACON 8PS busbar trunking systems, you can now also enjoy the benefits of the powerline communication (PLC). It is easy to integrate your communications-capable measuring and switching devices in the tap-off units of the busbar trunking system. You do not need a separate cable to transfer data: Thanks to the PLC technology, data is transmitted securely and reliably via the busbar conductors. SIVACON 8PS powerline 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 seamlessly coordinate your power distribution system at any time with automated operating procedures, machine operations, and process sequences.

A powerful and secure standard

The G3-PLC™ 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. Special emphasis was placed on ensuring highly reliable and secure data transmission over long distances. Your benefit: Thanks to its wide range, you can easily transmit data even over long distances with no need for repeaters.

Your benefits

- Compact and easy to install
- Cost-efficient and secure power and data transmission
- Optimized maintenance measures based on operational data
- Transparent power flows to help identify potential savings and allocate energy costs (for example, for cost-center accounting)
- Future-oriented solution thanks to possible integration in cloud-based solutions (such as IoT)



SIVACON 8PS can achieve more – with powerline

Four dedicated system solutions

SIVACON 8PS offers you powerline 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 2,500 A
- no fixed grid dimension for tap-off units

Using the “powerline box” or even integrated in the tap-off unit – depending on the system installed –, powerline 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 G3-PLC™ modem modulates the data onto the low-voltage network to ensure a wide range and reliable data transmission with no additional wiring expenses. The energy data is received and demodulated in the low-voltage switchboard by the powerline module or the SGW1050 communications gateway.

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 data transmission
- A kit for retrofitting to existing systems

With the LData system, our system specifically for data centers, the powerline 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 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.



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^{plus} low-voltage switchboard, the SIMARIS control diagnostics station provides support for these tasks, including the collection 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 like MindSphere.



Cloud-based IoT data platform
7KN Powercenter 3000

7KN Powercenter 3000 – your entry into the IoT

The cloud-based IoT data platform 7KN 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 technology directly via the SIVACON 8PS conductors to the 7KN Powercenter 3000, where they are collected for analysis in an integrated, browser-based interface, in higher-level energy monitoring systems, or in cloud applications like MindSphere.



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 technology, and use SIMARIS control or 7KN Powercenter 3000 as a gateway to the system. 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.

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 like MindSphere, no matter whether through the SIMARIS control diagnostics station, the cloud-based IoT data platform 7KN Powercenter 3000, or the SGW1050 communications gateway.

SGW1050 communications gateway – directly linking energy data to cloud-based IoT solutions

The SGW1050 communications gateway is secure, open, and flexible, making it ideal for use in a smart distribution network. Typically located in a switchboard or a secondary transformer substation, SGW1050 uses G3-PLC™ to communicate with measuring devices or other sensors via any kind of low-voltage infrastructure. Communication with the control center or a cloud system like MindSphere is established using the integrated Ethernet and/or cellular communications interface.



Bringing energy data directly to the cloud: SGW1050 communications gateway

SENTRON powermind – analyzing energy data in MindSphere

The MindSphere app SENTRON powermind lets you analyze energy and system data in real time regardless of the location. The pre-processed data is transmitted to MindSphere via the IoT data platform 7KN Powercenter 3000. The current power consumption and its evolution over time – both for entire systems and for individual electrical consumers – is therefore available.



Data analysis in MindSphere – with SENTRON powermind

Navigator – the cloud-based energy and asset management platform

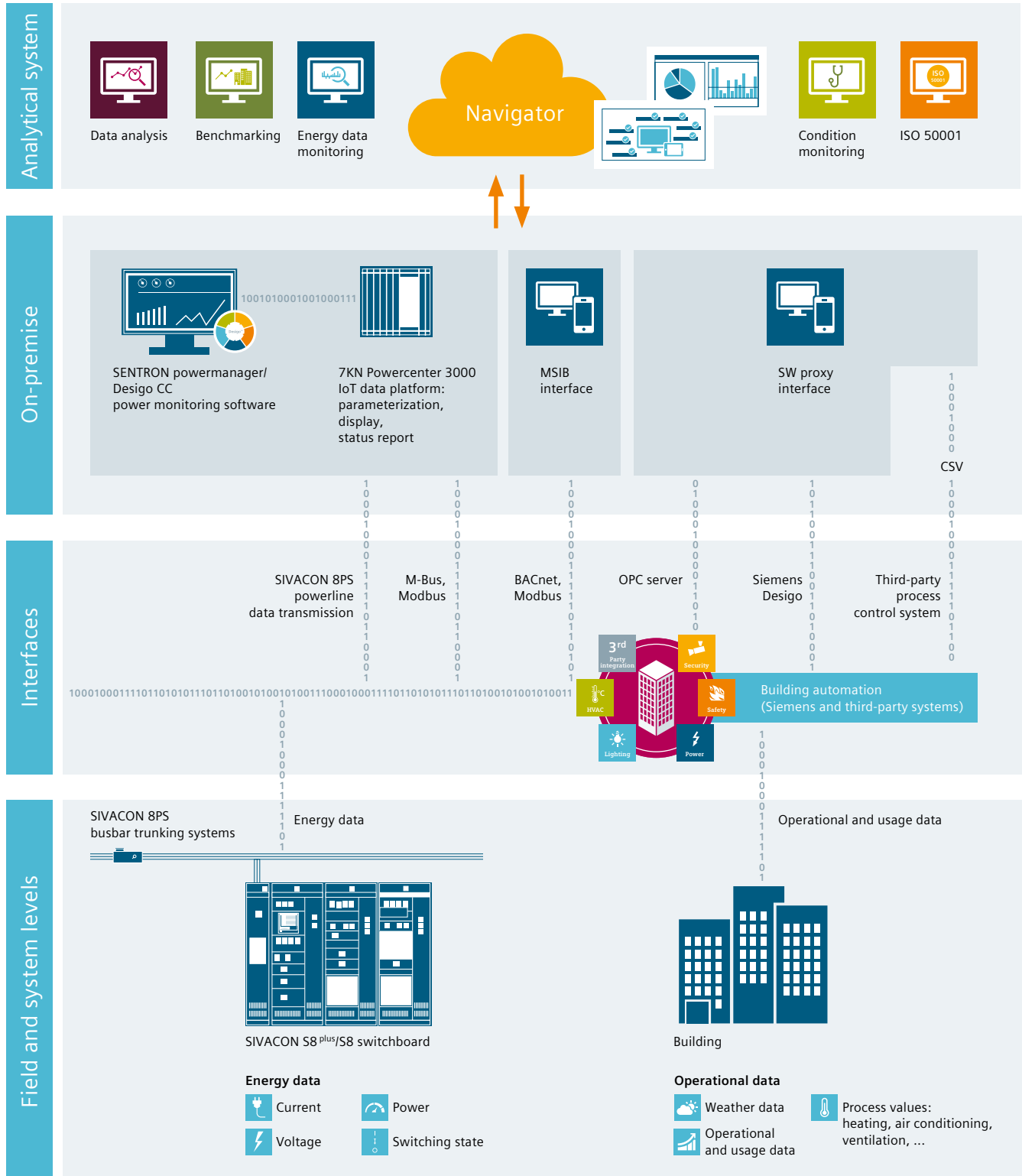
Navigator is our recommendation for the combination of energy and operational data in infrastructure and buildings. It gets you perfectly equipped for the requirements of DIN EN ISO 50001, including proof that savings measures have worked for a comprehensive energy data management. Navigator also lets you analyze and evaluate the potential for optimization, with less effort needed for data preparation thanks to automated generation of reports and benchmarks.



Greater transparency for energy and operational data with Navigator

Energy management, locally or in the cloud

Benefit from energy data – for infrastructure



Benefit from energy data – for industry

Cloud-based analytical systems



Condition monitoring



Power monitoring



Predictive maintenance

On-premise



SIMARIS control diagnostics station: parameterization, operation, display, predictive maintenance



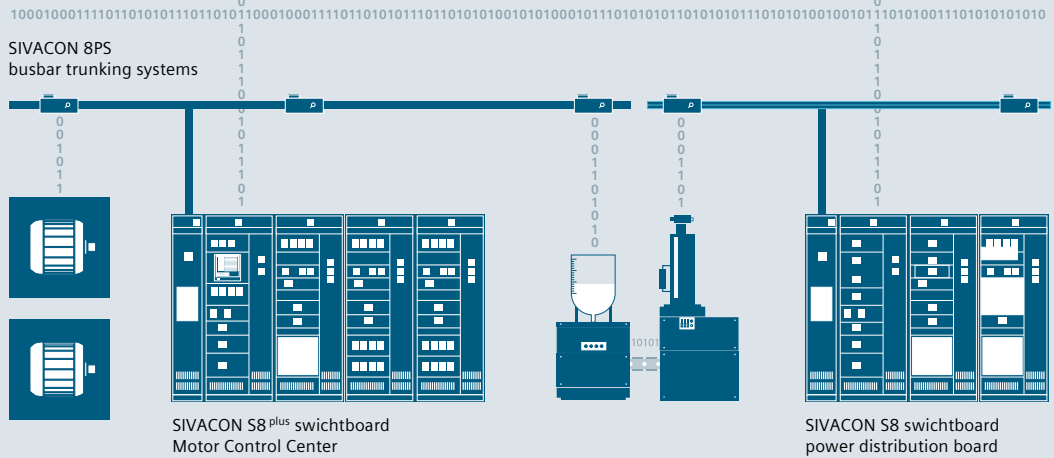
SENRON powermanager power monitoring software



7KN Powercenter 3000 IoT data platform: parameterization, display, status report

Power distribution

Systems



Field devices



3WA air circuit breaker



SIMOCODE pro motor management system



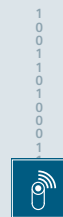
Frequency converter



3VA molded case circuit breaker including measurement function



7KM PAC measuring device



Sensors

SIVACON 8PS

SIVACON S8^{plus}/S8

The right answer to all your requirements

No matter what you want from the new transparency you get with the powerline technology in the SIVACON 8PS busbar trunking systems – Siemens has the right solution to display, analyze, and store the data. Explore the new world of transparency thanks to smart digitalization brought to you by our experts.

Technical data

Standard sensor technology in the tap-off unit	SENTRON PAC2200 or communication-capable SENTRON protection/switching devices
Supported protocols	Modbus TCP (IPv6, IPv4, IEEE 802.3)
powerline modules per tap-off unit	1
powerline modules as receivers	1
Max. number of powerline tap-off units	999
Max. transmission distance	Approx. 500 m between two modules
Gross data transmission rate	240 kbit/s
G3-PLC™ powerline frequency band used	150 to 490 kHz
PLC coupling	1 or 3 phases to neutral
Voltage level	230 V / 400 V
Plug-and-work-capable	Yes
Can be retrofitted as powerline kit	Yes

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