SIEMENS

Ingenuity for life

Desigo – the state-of-the-art building automation system

One system for all requirements of an intelligent building

Desigo helps create your own perfect place

People spend about 90 percent of their lives indoors. As a result, buildings are becoming more important for the way we live and learn the most important lessons in life, and the way we grow and develop our best ideas. Our state-of-the-art building automation system Desigo™ helps you make buildings perfect places – secure, comfortable, safe and protected with a healthy and pleasant climate that spurs productivity.

Desigo offers the flexibility required to realize perfect conditions for new workplace concepts. Another aspect is cost- and energy-efficient operation: Today, buildings account for 40 percent of global energy consumption. Desigo helps reduce both this cost factor and your CO_2 emissions through significant energy savings, while offering a healthier room climate and higher user satisfaction – in your own perfect place.

The all-in-one innovative system for efficiency, value and comfort

Maximum flexibility for long-term investment protection

If you change the usage of your building or if the layout of the building changes, Desigo can be quickly adapted to the new situation. Open communication standards offer cost-effective integration capabilities for any building requirement. The system is designed for small and medium-sized buildings as well as large ones and building complexes.

Superior comfort for **maximum performance**

An optimized room climate has a positive effect on room users, whether it is better motivation, improved concentration or higher performance. Desigo makes it particularly easy to achieve the ideal room climate using system-wide intelligent control strategies.
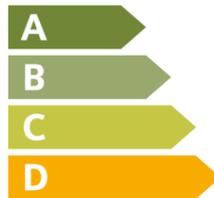
Saving energy and achieving **highest efficiency** classes

Using proven libraries containing tested applications as well as energy saving and monitoring functions on all system levels, Desigo allows you to permanently lower your energy costs without sacrificing room comfort. Another way to save energy is to actively involve room users via room operator units featuring the Green Leaf.

Standards and certifications

Desigo meets the international BACnet standard and AMEV[1] recommendations

Desigo accomplishes the highest building certification levels in accordance with LEED[2], DGNB[3] or BREEAM[4]

1) AMEV: Arbeitskreis Maschinen- und Elektrotechnik staatlicher und kommunaler Verwaltungen (Mechanical and Electrical Engineering Working Party of National, Regional and Local Authorities – Germany)

2) LEED: Leadership in Energy and Environmental Design (USA)

3) DGNB: Deutsches Gütesiegel Nachhaltiges Bauen (German Sustainable Building Certification – Germany)

4) BREEAM: BRE's Environmental Assessment Method (UK)

Desigo is ready for building information modeling (BIM)

The future of the construction industry is digital and BIM is the right method to support efficient planning, construction and operation in a holistic approach connecting all parties involved. Customers benefit from earlier conflict and error detection, improved budget reliability, faster project delivery, higher building quality and a sound basis for lifecycle cost optimization.

Desigo is ready for BIM: With a wide range of products with BIM data in standard BIM formats, Siemens makes it easy to experience the future of construction. BIM data from Siemens, which is regularly updated, can be used directly in REVIT or converted to IFC, so you can be sure your BIM data is up to date.
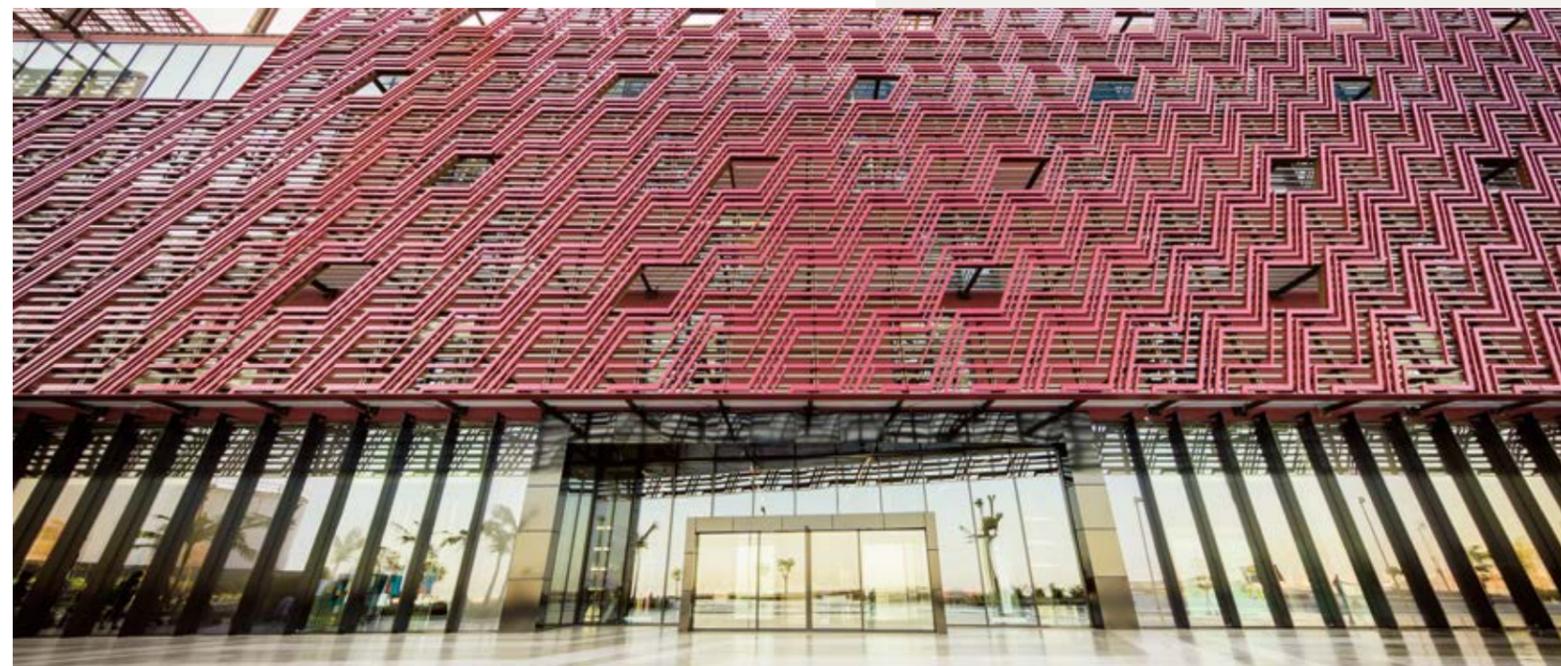
Aïshti Foundation in Beirut (Lebanon)
Dramatically modern, this "big boat by the water" breaks all conventions. It's an upscale shopping mall and also an art gallery. Siemens' full solution for this unconventional and worldwide recognized complex includes the building management platform Desigo CC, the automation stations Desigo PX, KNX communicating room thermostats, among others, which guarantee a highly efficient and sustainable building.

Desigo – a flexible building automation system that covers all your building needs

Desigo can cover all automation levels, room automation and building management needs. Maximum flexibility has become a key argument for investors and tenants. The Desigo building automation system can easily adapt to changing requirements, offering optimized usability and comfort, and improving performance in a perfect place.

An intelligent building automation system creates the ideal framework for meeting the requirements of efficiency class A under European Standard EN 15232, and other similar, global standards. This allows offices to save up to 30 percent thermal and up to 10 percent electrical energy compared to efficiency class C.

BACS efficiency classes – EN 15232	Thermal energy	Electrical energy
High energy performance BACS and TBM — ✓ **A**	0.70	0.87
Advanced BACS and TBM — **B**	0.80	0.93
Standard BACS — **C**	1.00	1.00
Non-energy-efficient BACS — **D**	1.51	1.10

Efficiency factors

BACS   Building Automation and Control System
TBM   Technical Building Management System
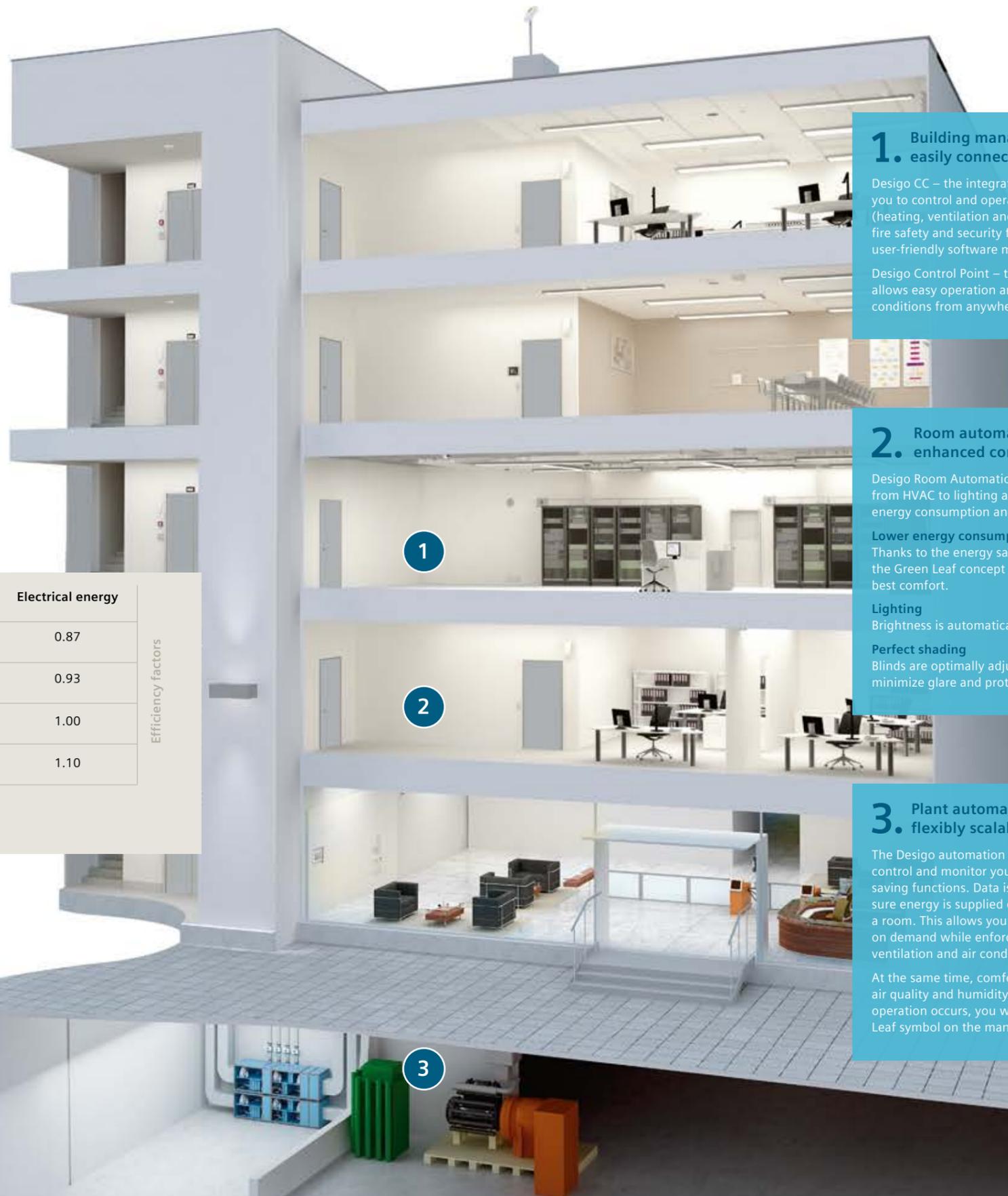
1. Building management – easily connect, monitor and control your facility

Desigo CC – the integrated building management platform allows you to control and operate one or multiple disciplines like HVAC (heating, ventilation and air conditioning), lighting, shading, fire safety and security from one central location. Its modular, user-friendly software makes operation easy and intuitive.

Desigo Control Point – the embedded building management station allows easy operation and monitoring, creating perfect building conditions from anywhere.

2. Room automation – enhanced comfort and productivity

Desigo Room Automation integrates all room disciplines – from HVAC to lighting and shading. This allows you to lower your energy consumption and costs while increasing room comfort.

Lower energy consumption
Thanks to the energy saving functions and user interaction, the Green Leaf concept decreases energy consumption with best comfort.

Lighting
Brightness is automatically adjusted to keep lighting levels constant.

Perfect shading
Blinds are optimally adjusted to allow the use of natural light, minimize glare and protect against heat and cold.

3. Plant automation – flexibly scalable

The Desigo automation stations and operator units efficiently control and monitor your building plants using a variety of energy saving functions. Data is exchanged with room automation to make sure energy is supplied only when needed to heat, cool or ventilate a room. This allows you to optimize the air volume flow based on demand while enforcing energy-efficient operation of your ventilation and air conditioning plants.

At the same time, comfort control ensures that temperature, air quality and humidity limits are not exceeded. If inefficient operation occurs, you will be notified automatically via the Green Leaf symbol on the management platform or room operator unit.

Desigo CC – the integrated building management platform

Single-discipline
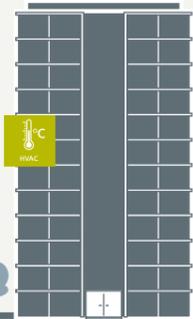
Combi-discipline

Multi-discipline

3rd Party integration

Security

HVAC

HVAC

Fire safety

HVAC

Fire safety

Lighting

Lighting

Power
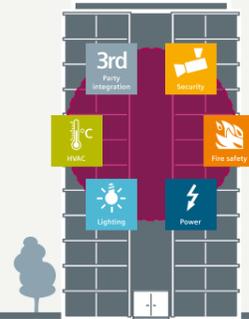
From single- to multi-discipline, for all building types

Desigo CC is highly adaptable and covers anything from simple, single-discipline systems to fully integrated buildings. Easy to operate, monitor, supervise, optimize and manage functions, Desigo CC sets industry standards.

The management platform features templates and tools that help you set initial parameters for your buildings and then adapt them based on changing needs and conditions. Data aggregation pulls information from many different sources. Historical analysis gives you side-by-side trend comparisons.

With investigative event treatment, you can easily navigate the system to visualize logged events. You can start with a piece of equipment, then quickly and easily access all related information. The management platform helps you drill down to the information you need to address issues, solve problems and adapt to changes in your unique facility and organization.

A management platform that grows with your needs

Every building presents unique challenges. Desigo CC was designed to help you manage and adapt to the changing needs of your facility and organization. You can customize the interface to show the details you need about a system, area or piece of equipment. Desigo CC also grows with your business needs, in project size and functionality as well as disciplines. As a building management platform based on open architecture, Desigo CC easily adapts to your needs today and tomorrow, so it can also ensure and prepare your installed system for future migration.

The building management platform Desigo CC is designed to create comfortable, safe and secure facilities. The development of this software is based on our state-of-the-art technology, extensive international expertise and more than 30 years of experience in building technology.

Central efficiency monitoring

The Green Leaf symbol in the plant graphic provides valid information to ensure economically and environmentally sensible building operation with a single mouse click. This prevents unnecessary energy consumption and lowers operating costs.

Indication of energy-efficient plant operation

The Green Leaf symbol with its harmonized operating concept indicates the energy efficiency status of both room and primary plants, allowing you to easily identify possible energy savings.

HOTEL

SCHOOL

MALL

Desigo Control Point – the embedded building management station

Desigo Control Point helps you to simplify your building automation tasks, maximize room comfort, lower maintenance and energy costs. Desigo Control Point consists of touch panels in several sizes for user control of air conditioning, lighting and shading in individual rooms. It also offers web servers that enable comprehensive, remote control of entire buildings as well as monitoring and optimizing energy consumption.

As installation and operation are straightforward and intuitive, Desigo Control Point can easily be used by anyone. It also complements our building management platform Desigo CC in large or multi-discipline buildings. All of this makes it the right solution for small to medium-sized buildings, combining plant operation, remote operation, and room operation in one device – all at the touch of your fingertips. The use of native BACnet ensures that third-party devices can also be integrated and operated.
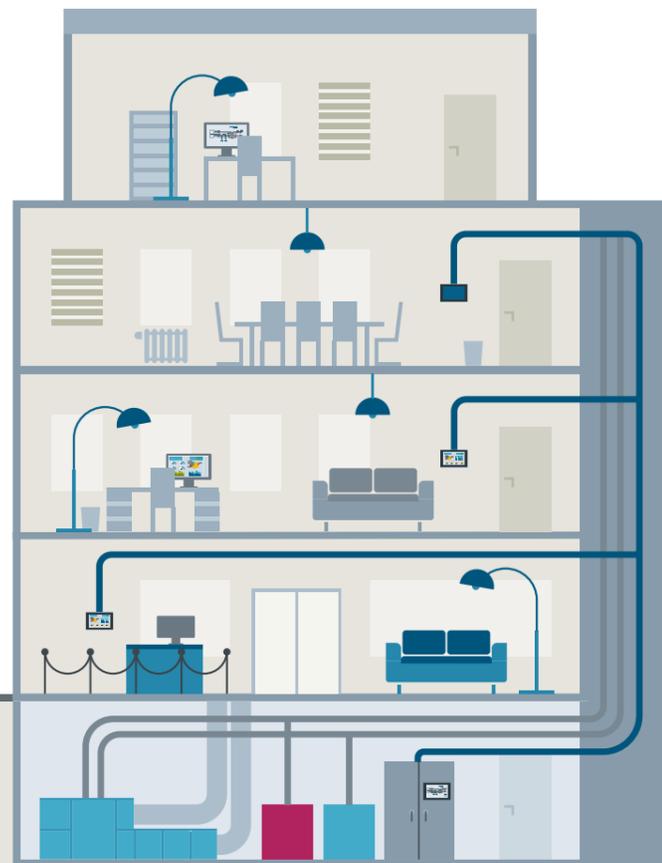
Simplified building management
Desigo Control Point is a consistent concept to simplify operation and monitoring of HVAC, lighting and shading with a user-friendly interface.

Intuitive room operation
Desigo Control Point makes operation of HVAC, lighting and shading of meeting rooms, offices, conference and event rooms easy.

Easy monitoring of energy consumption
Desigo Control Point provides energy dashboards for public involvement or taking fast action to reduce energy consumption.

User-friendly operation and monitoring
Desigo Control Point is ready to operate and monitor the systems in just a few seconds.

Accessibility from anywhere
Desigo Control Point allows you to access your plant from your web browser. You can monitor and optimize your plant from your office and mobile devices.

Access your plant from wherever you are

Desigo Control Point is the embedded building management station designed for small and medium-sized buildings offering easy operation and monitoring to create perfect building conditions.

Facility managers or operators can remotely access the buildings when away. Desigo Control Point allows secure access to the building from a number of different devices such as tablets or mobile phones, anywhere, anytime.

Easy and flexible building automation management

Simple and fast
Desigo Control Point is easy to use and simplifies access to the system from any smart device. You can monitor and operate your building, configure a schedule, create trends and reports, and manage your alarms easily. The intuitive user interface can be used without training or special commissioning tools, which significantly reduces complexity.

Scalable, flexible, open
Desigo Control Point comes in three distinctive touch panel sizes and can be used in small to medium-sized buildings. It also supports comprehensive projects under Desigo CC and allows you to connect with your building and operate it remotely from multiple devices thanks to standardized HTML 5.0 web technology. Native BACnet means you can easily integrate and operate third-party equipment intuitively. Native support of the Haystack interface means you can further utilize the data your building generates. This scalability, flexibility and openness makes Desigo Control Point the optimal solution for buildings – today and tomorrow.

Customizable
Thank to its fully customizable interface, Desigo Control Point supports a multitude of applications featuring plant graphics, floor plans, dashboards, and room interfaces. This way Desigo Control Point is useful in any building and can offer a unique appearance thanks to its customizable user interface.

Plant operation
Desigo Control Point allows you to operate and monitor your plant state using graphics or generic data point lists via a touch panel mounted on cabinet doors. Also included are alarm management, trend display, schedules, heating curves, and animated graphics.

Desigo Room Automation – flexible and modular for any type of room

Experience maximum comfort while increasing performance

Intuitive room operator units

In addition to room sensors, Desigo offers a broad range of room operator units: for HVAC or lighting and shading, with or without Green Leaf symbol, flush- or wall-mounted. The high-quality, IP-compatible touch room operator unit features a capacitive color display and can be installed horizontally or vertically.

Integrated room
Links all disciplines within a room and ensures the perfect interplay between HVAC, lighting and shading

Flexible room
The scalable system concept allows you to stagger your investments and offers potential tenants more design freedom

Green Leaf
Engages room users to be actively involved and reset energy to the optimal level

Powerful tools for perfect places – on their own or in combination

Demand-controlled supply
Exchange of demand signals between room automation and primary plant is the key

Room

Primary

RoomOptiControl
Innovative and unique energy efficiency functions detect unnecessary energy consumption

A
B
C
D

Intelligent comfort for any room

Desigo Room Automation links all disciplines within a room and ensures the perfect interplay between heating, ventilation, air conditioning, lighting and shading. Desigo Room Automation ensures a comfortable room climate, good air quality and optimal lighting conditions with as little energy as possible.

In addition, all room disciplines can be operated easily and intuitively from a single room operator unit. This creates a pleasant workplace environment and increases the motivation and productivity of room users.

Modular: more flexibility for your plans

Business goals and room use change, and customer requirements grow. Desigo Room Automation can be expanded step by step, allowing you to add new features when you need them. Since it supports international communication standards, it can be integrated seamlessly into existing installations. With its advanced segment concept, both building floor and room layout can be adjusted easily and quickly – without modifying electrical or HVAC installations resulting in less initial effort and lower costs for basic configuration.

High energy efficiency for your building

AirOptiControl guarantees that temperature, air quality and humidity limits are not exceeded and reduces energy consumption by up to 30 percent as compared to modulated constant pressure control. Through demand-controlled supply and exchange of demand signals between room automation and primary plants, only actually required energy is supplied without ever compromising comfort.

Save up to 25 percent energy by involving room users

A study conducted by the Technische Universität München suggests that actively involving room users in the energy saving process can reduce energy consumption by up to 25 percent. Desigo Room Automation helps you leverage this additional potential. The unique Green Leaf symbol turns red when unnecessary energy consumption occurs and alerts room users to take corrective action. Simply pressing the Green Leaf symbol returns room automation to the most energy-efficient mode.

Through intelligent, energy-saving control of lighting and shading, Desigo Room Automation ensures optimized lighting conditions in the workplace. For example, artificial lighting is switched on/off depending on natural light and information from presence detectors and controlled by integrated brightness sensors. Blinds are optimally adjusted to minimize glare, to make use of natural light, and to protect users against heat and cold.

°C

CO₂

IAQ
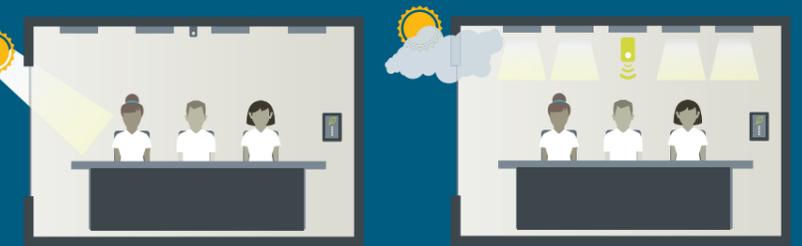
Flexible and scalable plant automation

On-board I/Os

Open standards

BACnet/IP
BACnet/LonTalk®
KNX
Modbus
M-bus
LonWorks®
etc.

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Compact or modular controllers

Scalable using I/O extensions

Reliable thanks to proven applications

Easy integration with modules

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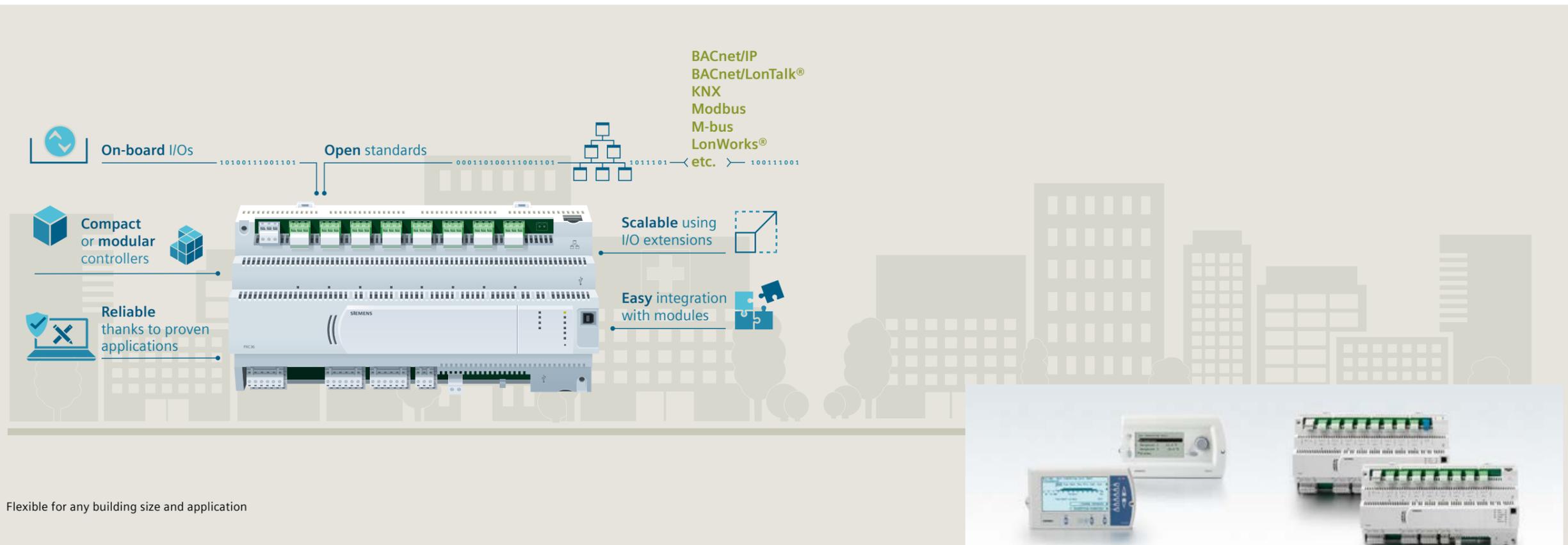
Flexible for any building size and application

Tested quality
BACnet® Testing Laboratories (BTL) is a registered trademark. Products that were successfully tested by BACnet Testing Laboratories are allowed to carry the BTL trademark.

Maximum scalability for any type of building
Desigo has the answer for the different type of plants with its compact and modular stations, for today and tomorrow. The Desigo PX range of programmable automation stations for primary plants offers outstanding scalability and consistent system openness. Desigo PX reliably performs all tasks required of building technology. Its scalable system concept makes it perfect for the relevant requirements and needs. The modular automation stations can be flexibly equipped with TX I/O modules for controlling, measuring, metering, switching and setting, making them the ideal solution for environments with many data points. In new buildings as well as modernization projects, it is only necessary to invest in system components that are needed. The innovative system concept means that

Desigo PX can be gradually extended to a large building automation system at any time. This flexible concept provides building users like hotel guests, hospital patients, university students and office workers with more comfort and increases productivity, while reducing costs. In addition, building owners can protect their investment by being open to future extensions, integration, and adaptation to changing requirements.

Open system architecture and easy integration
The open BACnet communication protocol used by the Desigo PX automation stations and the ability to add interfaces to connect devices that communicate via KNX, LonWorks®, Modbus, M-bus, etc. ensure an open system architecture. This allows for integrating third-party systems and components easily and cost-effectively.

With Desigo PX and Desigo Control Point you tailor control and monitoring of your HVAC and other building systems to your exact needs.

Energy efficiency based on tested applications
You can access extensive, proven libraries featuring tested applications for efficient commissioning and maintenance. They help to significantly reduce energy consumption and costs by means of built-in energy-saving functions. Thermally active building systems (TABS), solar systems, solar position, and current weather data, for example, can all be integrated into the building automation system using applications.

People spend about 90 percent of their time indoors.

Improve the places where they spend their lives and
you improve their lives.

With our people and technology, our products and services,
our aim is to create perfect places.

For every stage of life.

When building technology creates perfect places –
that's Ingenuity for life.

#CreatingPerfectPlaces
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