

SIEMENS

DESIGO™ BUILDING AUTOMATION

Desigo PXC for High-Performing Buildings

usa.siemens.com/desigo-automation



The next step in **building automation control**

Today's buildings must be ready to effectively manage energy consumption, securely connect intelligent devices, and ensure the well-being of their occupants. This digital transformation starts at the core of a building automation system by optimizing HVAC asset performance with powerful Desigo™ Building Automation System PXC primary controllers. Designed to integrate with a full range of open building automation platforms, the Desigo PXC controllers deliver increased data processing power and memory to quickly transform your building into an IoT-enabled high-performing building.

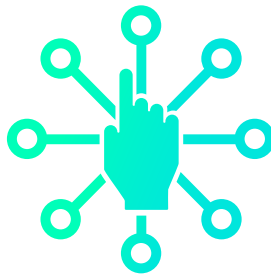
Open building automation redefined

Evolve your building automation system as you need, standardizing with Desigo building automation. If you're using Siemens legacy control systems today, Desigo building automation is backwards compatible with both systems, making modernization to the latest Desigo PXC innovations easier, more reliable, and cost effective. Modernize at your own pace without the cost, labor, and downtime of a full control system replacement.



No Limits

Freely programmable Desigo building automation controllers are part of the Siemens Xcelerator open digital platform for more powerful performance and continuous innovation.



More Choices

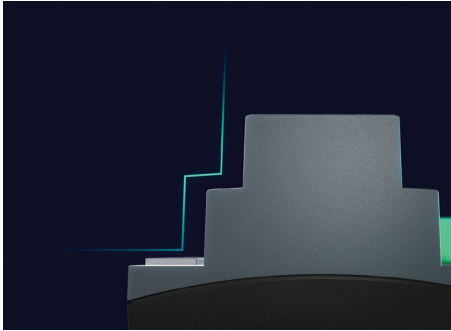
You are in command of how you experience Siemens. Our Siemens offices and approved partners provide you more choices of who you work with to support your building automation requirements.



Greater Value

Desigo building automation is backwards compatible so you leverage existing investments and can cost-effectively and smoothly upgrade to the latest innovations when you're ready.

Programming that is **significantly faster and more efficient**

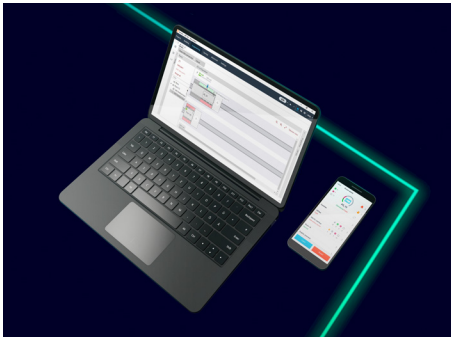


Flexible solutions

For use in a variety of buildings from small to large, Desigo PXC controllers allow you to configure, scale and accommodate a broad range of HVAC applications from central plant to room control.

Benefits include:

- Increase and adapt automation as your portfolio and system needs grow
- Expand to meet your building's unique automation needs – now and in the future – with software configurable I/O points, so you use what you need without adding or replacing the controller
- Open connectivity to third-party devices and software via the latest standards and protocols, including Modbus TCP/RTU, BACnet MS/TP or IP, and BACnet Secure Connect included with the system



Intuitive engineering

The ABT programming software allows you to use the same workflow to engineer and commission your complete HVAC plant, from primary to room automation and connected field devices.

Benefits include:

- AI Assistant in ABT Site offers guidance for engineering tasks
- Seamless programming from a single, license-free software program – ABT Site – provides an intuitive user experience to get things done faster and easier
- Graphical block programming guides workflows and eliminates redundant coding for faster engineering and project replication to keep your workforce productive
- Easy simulation and troubleshooting tools maximize implementation and commissioning workflow
- Across the controller network, central functions automatically distribute intelligence and aggregate information to simplify system set up and further reduce engineering code

Maximize implementation and commissioning workflows with AI assistant in ABT Site for easy simulation and troubleshooting



Future-proof cybersecurity

Today's systems require higher levels of data security. That's why Desigo PXC controllers have built-in cyber features. Web-based user interface communication is encrypted via https and the system benefits from strong password protection with configurable user roles and access levels for least privilege. BACnet Secure Connect (BACnet/SC) protocol is available with all Desigo PXC controllers, a crucial requirement to secure connected building automation systems and defend against cyber attacks.

Benefits include:

- BACnet/SC compliant to harden buildings to the highest security standard with an encrypted and authenticated datalink
- Independent IEC62443 certification for security by design
- Siemens decentralized hub-of-hub architecture creates a more robust, resilient, and IT-friendly network security solution for scalability to support complex, distributed building networks across multiple hubs
- Secure local connectivity with Wi-Fi. Variants without Wi-Fi available to meet IT and cybersecurity requirements
- Certificate management provides secure connectivity – remote and onsite – to the device's HTML5 web-based user interface
- Proactive firmware management with factory-imprinted signature protects your device before it leaves the factory



Compatibility by design

When it comes to modernization, you can keep pace with changing technologies while building on your past investments. The Desigo Automation controller portfolio includes the PXC.A series with compatibility mode, which is interoperable with existing Siemens systems. Any Desigo controller can be extended to cost-effectively improve the existing infrastructure with valuable new features.

Compatibility by design is part of our ongoing commitment to bring the latest technology to any building, whether it is new construction or an existing facility, using Siemens legacy controls. Our approach goes beyond forward and backwards compatibility of products. Engineering and commissioning software, training, documentation and product support are all designed to maximize the benefits of compatibility.

Benefits include:

- Protect and extend your existing building system investment with increased functionality and reliability – without major equipment changes
- Modernize cost-effectively without the expense, labor, risk, or disruption of a full controls replacement
- Reduce total lifecycle costs with a clear upgrade path from Siemens legacy system to Desigo Building Automation PXC

Cost-effectively
upgrade or extend
existing installations
with Desigo PXC.A

Accelerate your **smart building transformation**

Take advantage of the latest building automation technology without buying a whole new system. Desigo PXC.A controllers make modernization easy so you can start doing more, now.

- Become more energy efficient
- Reduce your costs
- Increase visibility of HVAC systems
- Improve strategic decision-making
- Employ predictive maintenance
- Enhance OT network security
- Operate with confidence
- Meet your sustainability goals



The biggest payoff is that I don't have to worry about anything. My team is getting the peace of mind they need. They feel good and confident about the equipment they are working with. Everything just works."

Steven Boyce
Vice President, Mission Critical Building
NOVA Data Centers

Powerful controllers for all buildings

Desigo PXC controllers support you throughout all the phases of your building project, whether you are a new or existing customer, to make your work better, faster and easier. And they grow with you as your building automation needs expand, through seamless integration with Siemens building automation software or other open platforms.

Increase efficiencies, improve decision-making and sharpen building operations with Desigo building automation.



Connectivity

Standard, open and secure networking options, including BACnet and direct connection to field level and integrated networks. Connectivity allows various building systems like HVAC equipment, lighting and security to communicate, enabling centralized monitoring and control of a building's functions via a unified interface.



Engineering

Set up data points no matter if they are from BACnet or Modbus. The hardware and software remain the same, making your work much easier. With easily expandable and configurable I/O points, you can scale and adapt based on your building's unique needs without the added cost of replacing the controller.



Programming

Experience flexibility in programming framework to meet your needs. If you are an existing customer, you can save valuable time using our modernization solutions. If you are a new customer, you can leverage a library of customizable applications with the option to freely program to suit your needs.



Commissioning

Enjoy fast commissioning with live values displayed in a variety of intuitive user interfaces, including a mobile app, web interface and PC-based tools. To ensure maximum flexibility, use the mobile app for efficient point testing and essential documentation.





Maintenance

Maintain your automation system with a variety of intuitive user interfaces for improved visibility of the system to reduce equipment downtime and improve response times. No need to travel on-site; just access the system using your preferred remote connection to identify, troubleshoot and optimize, lowering your overall cost of system ownership.

For new building projects:

Desigo PXC functions at a glance

	Desigo PXC4 HVAC controller	Desigo PXC5.E24 HVAC controller	Desigo PXC7 HVAC controller	Desigo PXC5.E003 System controller
BTL certified 	✓	✓	✓	✓
UL 864 Smoke Control System Equipment (UUKL) certified	✓	✓	✓	✓
BACnet/SC  (complete system, including certificate manager)	✓	✓	✓	✓
System functions (alarming, scheduling, trending)	✓	✓	✓	✓
Increased system functions (higher limits and supervisory capabilities)		✓	✓	✓
Freely programmable (block programming)	✓	✓	✓	✓
Built-in web interface (view and command points)	✓	✓	✓	✓
Wi-Fi and no-Wi-Fi hardware variants		✓	✓	
I/O functionality via onboard and/or expansion (Total I/O = Onboard + Expansion)	✓ (50) ^a	✓ (80)	✓ (400) ^c	
Integration of Modbus data points (Modbus points)	✓ (40) ^b	✓ (80)	✓ (400) ^d	✓ (500) ^f
Integration of KNX PL-Link devices (PL-Link devices)	✓ (64) ^b	✓ (64)	✓ (64)	✓ (64)
Integration of MS/TP devices (trunks x devices per trunk)		✓ (2x60)	✓ (4x60) ^e	✓ (2x60)

See datasheet for details.

- a. All PXC4 types have 16 onboard I/O with optional 24 expansion I/O
- b. PXC4.x16S models do not include Modbus or KNX PL-Link integration
- c. Up to 400 expansion I/O points. Depends on PXC7 type; S, M, or L

d. Up to 400 Modbus points. Depends on PXC7 type; S, M, or L

e. Up to 4 MS/TP trunks. Depends on PXC7 type; S, M, or L

f. Maximum of 2000 integration data points: 500 base + 1500 additional with licenses available in 300 data point increments



EcoTech Certified




Make more sustainable choices with [Siemens EcoTech](#)

Siemens EcoTech is a label for sustainable products, providing transparency on environmental performance. It uses a robust Eco Design approach, assessing products across three life cycle dimensions. All EcoTech products are made with 100% renewable electricity and meet strict environmental standards.

Desigo PXC and TX-I/O modules are EcoTech products. Learn more by downloading the EcoTech Profiles found at: usa.siemens.com/desigo-automation or by reading our [Environmental Product Declaration \(EPD\)](#) to learn how Siemens products are made and how they impact the environment across product life cycle.

For modernization of existing Siemens systems:

Desigo PXC.A functions at a glance

	Desigo PXC4.A HVAC controller	Desigo PXC5.A HVAC controller	Desigo PXC7.A HVAC controller
BTL certified 	✓	✓	✓
UL 864 Smoke Control System Equipment (UUKL) certified*	✓	✓	✓
BACnet/SC  (complete system, including certificate manager)	✓	✓	✓
System functions (alarming, scheduling, trending)	✓	✓	✓
Increased system functions (higher limits and supervisory capabilities)	✓	✓	✓
Freely programmable (compatible line programming)	✓	✓	✓
Built-in web interface (view and command points, view trends and acknowledge alarms)	✓	✓	✓
Wi-Fi and no-Wi-Fi hardware variants		✓	✓
I/O functionality via onboard and/or expansion (Total I/O = Onboard + Expansion)	✓ (48)	✓ (120)	✓ (500)
Integration of MS/TP devices (trunks x devices per trunk)		✓ (2x60)	✓ (4x60)
Modbus RTU integration		✓ (2x60)	✓ (4x60)
Integration of P1 devices		✓	✓
EcoTech certified 	✓	✓	✓

*UL 864 Smoke Control System Equipment (UUKL) certified for Wi-Fi hardware variants only

Desigo™ Rooftop Unit Controller

The Desigo DXP2 is a single-zone RTU controller that operates at extended temperature ranges (-40 to 158°F) suitable for rooftop installations. The DXP2 is compatible with a variety of Siemens building automation systems, using ABT Site to configure or fully program an RTU application type. It features improved circuit protection for temperature extremes, as well as BACnet/SC support, KNX PL-Link integration, built-in web interface, and application support for lights and shades.

Key features

- BACnet Secure Connect, IP, or MS/TP communication
- 18 onboard I/O (4 UI, 2 DI, 8 triac, 4 AO)
- Integrate KNX PL-Link devices
- Application support for HVAC, lights and shades
- 2-port ethernet switch for daisy chaining (E type only)

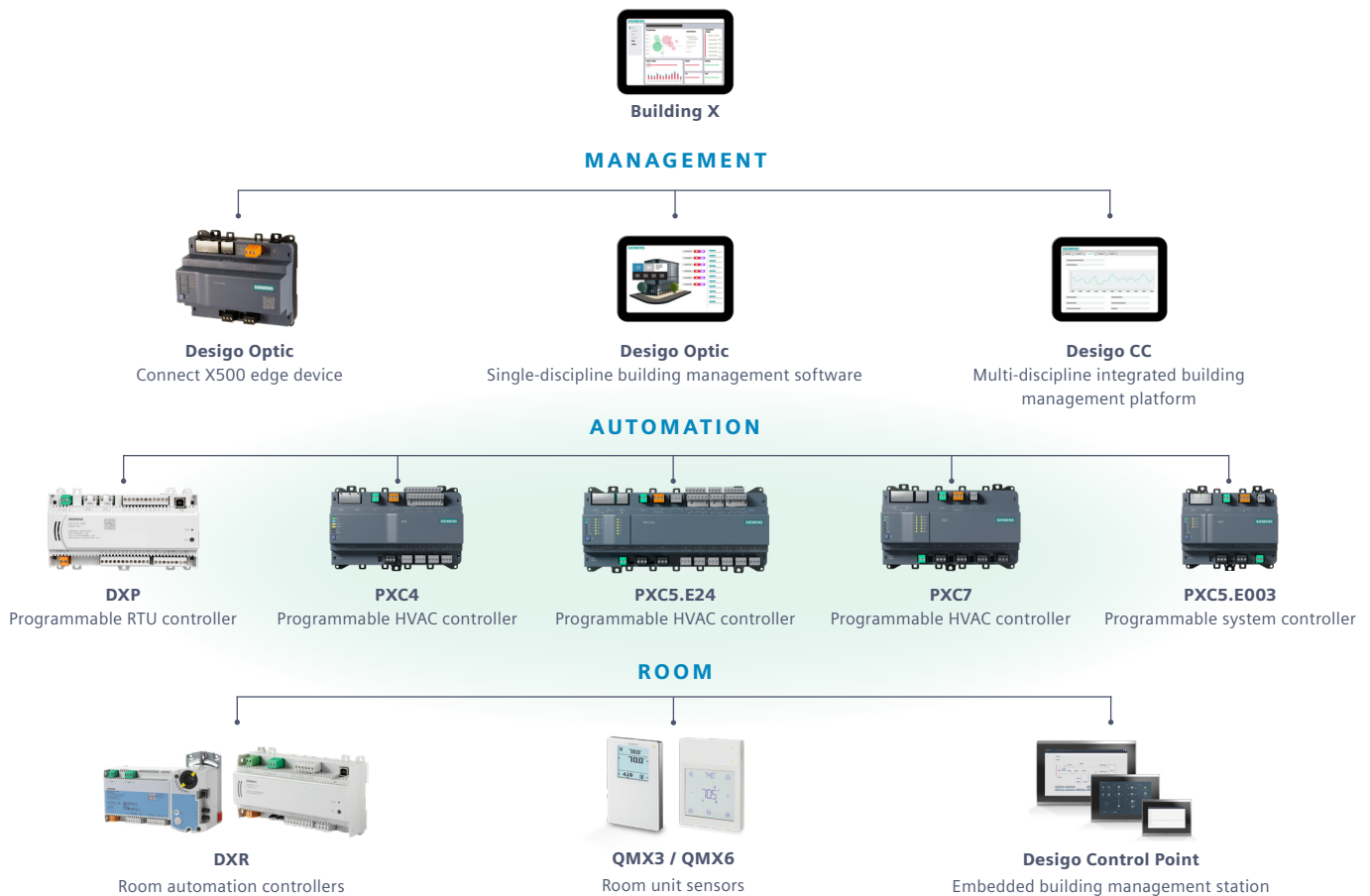


Desigo Building Automation for optimal building management

Desigo building automation controllers share a single platform for optimal building management that allows you to configure, scale and accommodate a wide range of HVAC applications from central plant to room control. Creating high-performing buildings requires a holistic system that can constantly evolve and provide the perfect tools for getting the most out of any building.

Desigo provides the right hardware and software for every building type. Our solutions can address connected devices, room automation, HVAC automation, building automation systems software and cloud solutions. With the Desigo building automation system, it is easy to automate, engineer, operate and manage any high-performing building, regardless of size.

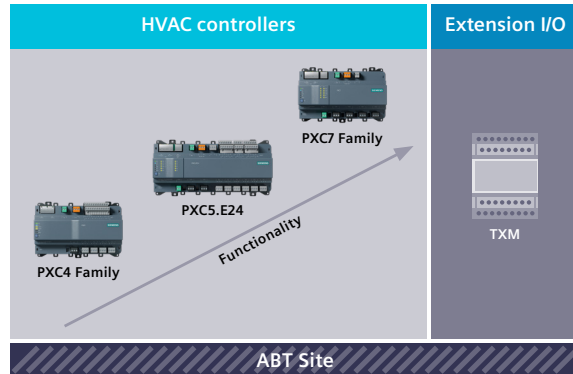
Desigo Building Automation System



Flexible controller solutions that **grow with your needs**

Desigo PXC controllers feature a wide variety of software configurable extension I/O modules that attach to the end of the controller, allowing the system to scale without the need to replace the controller. This allows users to optimize their point utilization and scale as their building needs grow.

Desigo PXC controller family



TX-I/O modules

TX-I/O modules snap on to the end of the controller in a self-forming bus that provides power and communications between all modules and the controller. Modules include I/O point modules, power supply and interface modules extending the bus between multiple DIN rails and even multiple cabinets.



Available extension I/O

Type	Description
TXM1.16D	16 Digital input module
TXM1.8D	8 Digital input module
TXM1.6R	6 Relay output module
TXM1.6R-M	6 Relay output module (with override)
TXM1.4D3R	4 Digital input and 3 relay output module
TXM1.8U	8 Universal I/O module
TXM1.8U-ML	8 Universal I/O module (with override and display)
TXM1.8X	8 Super universal I/O module
TXM1.8X-ML	8 Super universal I/O module (with override and display)
TXA1.K12	Address keys 1-12 (other addresses available)

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