# SIEMENS

## DESIGO PXC CONTROLLERS

# Create High-Performing Buildings
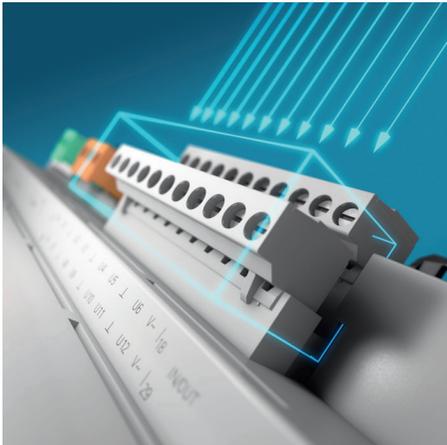
usa.siemens.com/desigo-automation

# 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 future-proofs your building and starts at the core of a building automation system to optimize operational HVAC asset performance with powerful Desigo PXC primary controllers. Designed to integrate with a full range of open building automation platforms, including Desigo Optic's FIN Framework, the Desigo PXC family of controllers delivers increased data processing power and memory. With these features you'll quickly transform your building into an IoT-enabled high-performing building in days, not weeks.

Desigo PXC controllers offer significantly faster, more efficient programming.

### Flexible solutions

For use in a variety of buildings from small to large, the PXC4 and PXC5 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 replacingthe 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 easy access to BACnet/SC firmware updates

> **"**
> This project took us about half the time due to the PXC controller's custom saved library."
>
> **David Carpenter**
> Controls Manager, Holbrook Service

## Intuitive engineering

This comprehensive engineering solution allows you to use the same workflow to engineer and commission your complete HVAC plant, from primary to room automation, and various connected field devices.
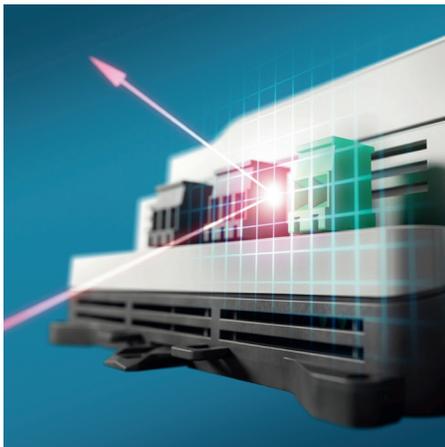
**Benefits include:**

- Seamless programming from a single, license-free tool – ABT Site – used for PXCs and DXRs, provides an intuitive user-experience to get things done easier, faster, and more reliably

- Graphical block programming guides workflows and eliminates redundant coding for faster engineering and project replication to keep your workforce productive
  - Save and access pre-programmed libraries to speed engineering workflow
  - Low-code solutions make it easier for a less experienced engineering workforce

- Easy simulation and troubleshooting tools maximize implementation and commissioning workflows
  - Built-in simulation tool allows remote data point modeling prior to installation
  - Live data de-bugging while programming logic operates without interruption or system downtime
  - Faster point check out and commissioning with instant access to the data through wireless on-site connection to your PC or ABT Go mobile app
  - Effortlessly deliver remote digital service and diagnostics through a built-in web interface to cut truck roll costs

- 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 easy simulation and troubleshooting tools.

## Advanced cybersecurity

Today's advanced devices require the highest level of data security. That is why the PXC controllers come with strong, built-in features. Server communication is encrypted via https and the system benefits from password protection and hotspot disabling when unused. Furthermore, for controllers that are ready for BACnet Secure Connect, the certificate handling enables optimally secure operation.

- Ready for BACnet/SC compliance to harden buildings to the highest security standard with encrypted and authenticated datalink

- Secure local connectivity with WLAN access

- Certificate management provides secure connectivity – remote and onsite – to the device's browser-based web interface

- Proactive firmware management with signature protects your device before it leaves the factory

# **Powerful controllers** with extensive functionalities for your building

Desigo PXC4 and PXC5 support you throughout all the phases of your building project to make your work better, faster and easier. And they grow with you as your building automation needs expand, through seamless integration with Desigo Optic building automation software or other open platforms.

**Discover the power of Desigo PXCs to eliminate inefficiencies, improve decision-making and sharpen building operations. They're your entry to a new era of automation control.**



### Engineering
Start the engineering of your PXC controllers with ABT Site. Easily set-up the 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 configurable I/O points, you can expand based on your building's unique needs without the added cost of replacing the controller.



### Programming
Still on ABT Site, use the program and function blocks to save valuable time on your programming. Add the application examples and assign the field devices with the click of a mouse and simply drag and drop. Graphical block programming reduces code and speeds up engineering workflow through the use of saved and pre-programmed libraries.



### Commissioning
Download the application and enjoy fast commissioning with live values displayed in ABT Site or the built-in web interface. To ensure maximum flexibility, use the ABT Go mobile app for efficient point testing and essential documentation.



### Maintenance
It has never been easier to maintain your automation system than with ABT Site to reduce equipment downtime and improve response times. No need to travel on-site, just access the device using your preferred remote connection through the cloud to identify the error and correct it from your PC.

## Functions at a glance

| | PXC4*<br>HVAC controller | PXC5<br>System controller |
|---|:---:|:---:|
| System functions (alarming, scheduling, trending) | ✓ | ✓ |
| Freely programmable with function blocks in libraries | ✓ | ✓ |
| Built-in web interface to view and command datapoints | ✓ | ✓ |
| 16 onboard IOs: 12 universal input/outputs and 4 relay outputs | ✓ | |
| Expand physical points using broad assortment of TX-I/O modules. Maximum number of onboard plus expansion points is 40. | ✓ | |
| Increased system functions and supervisory capabilities | | ✓ |
| MS/TP to IP routing of up to 60 devices (2 trunks, 30 devices each) | | ✓ |
| Integration of Modbus data points (TCP and/or RTU) | 40 | 500 |

*PXC4 is available in a BACnet IP and BACnet MS/TP type. PXC4 Small without 3rd party integration available

## Extension I/O examples

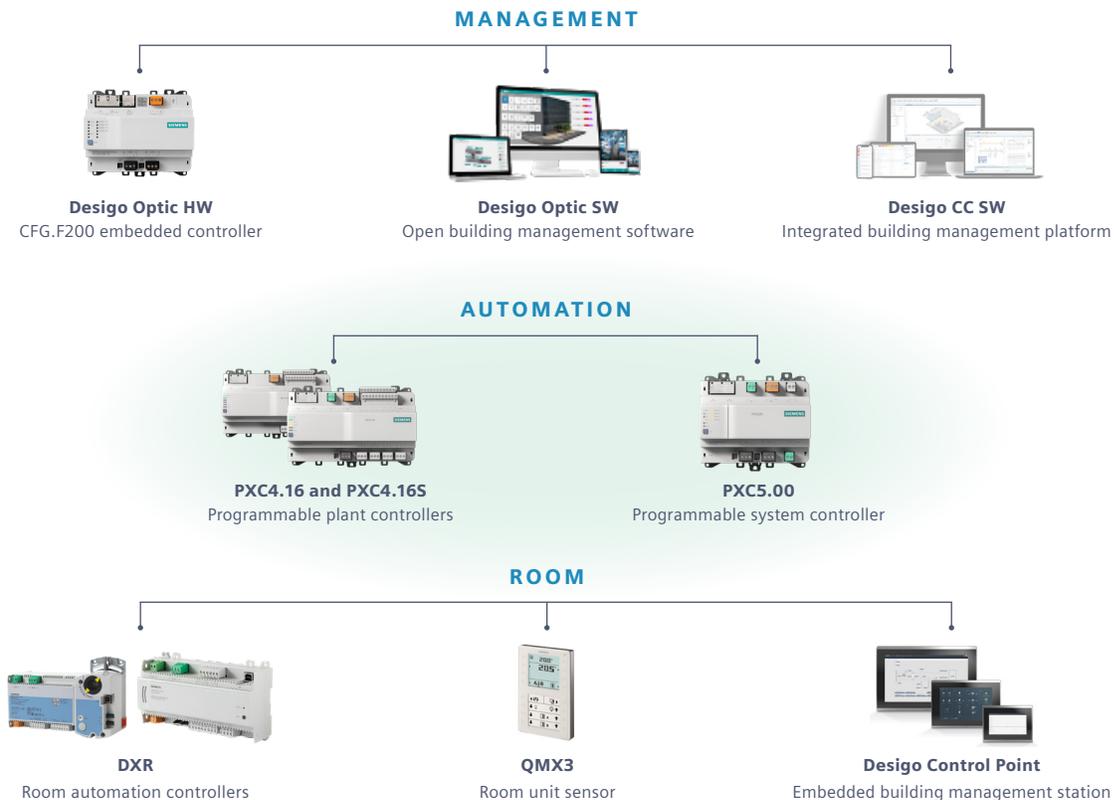| Type | Description |
|---|---|
| TXM1.16D | 16 Digital Input module |
| TXM1.8D | 8 Digital Input module |
| TXM1.6R | 6 Relay Output module |
| TXM1.6R-M | 6 Relay Output module (with override) |
| TXM1.4D3R | 4 Digital Input & 3 Relay Output module |
| TXM1.8U | 8 Universal I/O module |
| TXM1.8U-ML | 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) |

Further I/O extension modules, devices and accessories can be found in the product catalog on hit.sbt.siemens.com

# Desigo Building Automation solutions for optimal building management

Desigo Building Automation PXC4 and PXC5 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 right tools for getting the most out of any building.

Desigo provides the right hardware and software for every level in small, medium or large buildings. 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.

## Desigo Building Automation Solution

**MANAGEMENT**

**Desigo Optic HW**
CFG.F200 embedded controller

**Desigo Optic SW**
Open building management software

**Desigo CC SW**
Integrated building management platform

**AUTOMATION**

**PXC4.16 and PXC4.16S**
Programmable plant controllers

**PXC5.00**
Programmable system controller

**ROOM**

**DXR**
Room automation controllers

**QMX3**
Room unit sensor

**Desigo Control Point**
Embedded building management station

# "

We have to maintain this building for our tenants under contract and for health and safety standards. So, when you have something that's quick and easy to install, you just can't put a price on that."

**Mike Spratt, Lowell 17** LLC
Lead Building Engineer of Mixed-Use Medical Building
Denver, Colorado

Information in this publication is based on
current specifications.The company reserves
the right to make changes in specifications and
models as design improvements are introduced.