



# APOGEE<sup>®</sup> Building Automation

Expand, upgrade, and optimize your facility systems with a comprehensive, customized solution that makes buildings more comfortable, safe, productive, efficient... and less costly to operate.

**Answers for Infrastructure**

**SIEMENS**

# Open System Architecture...

**The open structure of the APOGEE® Building Automation System makes all of the information throughout a facility accessible to those who need it... whenever they need it... wherever they are.**

## **Investment protection**

Faced with an uncertain future, forward-thinking means keeping your options open. You need a system that delivers facility management solutions well into the future while protecting your past investments. With the longest compatibility record of any single designed system—we always deliver unmatched value and ongoing commitment.

## **Expanding with your needs**

Like every past enhancement, the power of the APOGEE Automation System can be immediately applied

to the latest technology trends in information, communication, and building automation. With unmatched flexibility, the APOGEE Automation System builds on your past investments, responds to present challenges and anticipates your future needs.

## **Compatibility by design**

The APOGEE System's backward and forward compatibility will help you to continually improve performance, expand functionality and adapt to the future, while protecting past investments and your bottom line.



## At Siemens, it's all about you.

As a single-source provider of integrated automation, fire, security, energy and service solutions we take immense pride in not only getting the job done, but getting the job done exceedingly well. We invite you to discover how you can:

- Manage all facility systems and equipment from one workstation, from anywhere in the world.
- Access, view, command and control in real-time over the intranet or Internet.
- Monitor critical environments with remote notification by pager, phone or e-mail.
- Compile, organize and analyze information with automated data archiving and reporting.
- Take advantage of new technologies each time you want to upgrade or expand.

**You know the feeling you get when everything goes your way?  
With Siemens... expect it.**



**Remote Notification**

- Pager
- Cell Phone
- SMS
- PDA
- E-mail

**Management Level Network (MLN)/Automation Level Network (ALN) - Ethernet TCP/IP/BACnet IP**



**APOGEE GO®**  
• Insight®  
• InfoCenter Suite®



PXC Compact



PXC Modular with TX-I/O™



**InfoCenter Suite®**  
• Report Manager  
• Utility Cost Manager  
• OPC®



**Insight® Server**  
• OPC®  
• BACnet®

Field Level Network (FLN)



Actuating Terminal Equipment Controller (ATEC)

Field Level Network (FLN)



Point Pickup Module (PPM)



Digital Energy Monitor (DEM)



Bus Interface Module (BIM) with TX-I/O™

**Automation Level Network (ALN)**



Modular Equipment Controller (MEC)



Point Expansion



Firefighters Smoke Control Station



Modular Building Controller (MBC)



Wireless Field Level Network (WFLN)



TEC



Terminal Equipment Controllers (TEC)



Wireless Sensor



Sensor

Field Level Network (FLN)



Actuating Terminal Equipment Controller (ATEC)



Differential Pressure Monitor



Fume Hood Controller

Lab Room Controller  
Factory-Mounted on Venturi Airvalve







**Insight® Client**  
 • OPC®  
 • BACnet®



**Terminal Services Client**  
 • Insight®



UL Listed  
 Insight® Fire  
 Workstation



PXC Modular  
 Controller



Fire Alarm Panel



PXC Modular  
 Controller



PXC Compact



Modular  
 Equipment  
 Controller  
 for LonWorks  
 network (LMEC)

Lab Room Controller  
 Factory-Mounted on  
 Terminal Unit



Variable Frequency  
 Drives and Other  
 Third-Party Devices

LonWorks Floor Network



Other  
 LonMark®  
 Devices



LonMark® Terminal  
 Equipment  
 Controller (LTEC)



BACnet® Terminal  
 Equipment  
 Controller (TEC)



BACnet®  
 Actuating Terminal  
 Equipment  
 Controller (ATEC)



Wireless Sensor

BACnet MS/TP

## Integrate

### Systems

- Air Compressor
- Elevator
- Emergency Generator
- Fire/Life Safety
- Fuel Tanks
- Gas Detection
- Hotel
- HVAC/Mechanical
- Industrial Control
- Laboratory
- Lighting
- Particle Measurement
- Power Management
- Programmable Logic Controllers (PLCs)
- Security/Access
- UPS
- Other Building Automation Systems



## APOGEE...

ap.o.gee [ăp'ə-jē] – noun

1. Astronomy. The point in the orbit of a heavenly body, esp. the moon, or of a man-made satellite at which it is farthest from the earth.
2. The highest or most distant point; apex.
3. The highest point in building automation management and control.

### Open Standards Support

- |  |                       |
|--|-----------------------|
| ■ Management/Automation Level Networks | ■ Field Level Network |
| ■ BACnet®                              | ■ Modbus®             |
| ■ OPC® over TCP/IP                     | ■ LonWorks®           |
| ■ Browser-based Web access             | ■ BACnet®             |
| ■ Terminal Services                    |                       |
| ■ Modbus® TCP/IP                       |                       |

### Remote Communication Options

- Access remote sites simultaneously from each Insight workstation.
- Dial into Insight workstations to report alarms or upload performance data from remote sites.
- Monitor and command the system remotely via Web browsers with APOGEE GO or Terminal Services.
- Secure access via SSL with APOGEE GO.
- Utilize existing intranet and/or Internet for MLN's and ALN's.
- Send critical alarms and system event notifications to pagers, phones, SMS or email using RENO.

### Information Management

- Create reports using the Insight Report Builder or InfoCenter Suite and automatically schedule reports to any Ethernet printer or file.
- Achieve long-term, enterprise-wide data processing, archiving and reporting with InfoCenter Suite.
- Includes a wide range of applications designed to give the right people the right information at the right time.
- Maintain accreditation, regulatory and energy conservation goals with InfoCenter Suite.
- Manage the entire life cycle of an alarm issue through tracking and enforcing mandatory operator actions toward alarm resolution.



## System Scalability

- Unlimited Insight workstations on the MLN.
- Up to 64 ALN's per Insight workstation.
- Up to 100 controllers and Insight workstations per ALN.
- Up to 96 floor level devices per PXC Modular and MEC with the FLN option.
- Up to 127 LonWorks nodes per MEC with LonWorks option.
- Insight Base and Advanced versions match user needs. Base Insight can grow into Advanced by adding workstation applications.
- Sophisticated facility-wide control applications with an enterprise network.
- Controllers custom tailored to the customer's specifications with application-specific controllers.
- Accommodate future expansion with flexible I/O point options.
- Custom control sequences for any unique facility need.





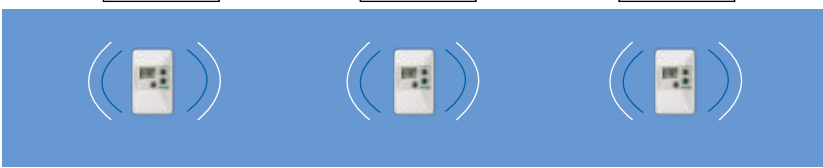
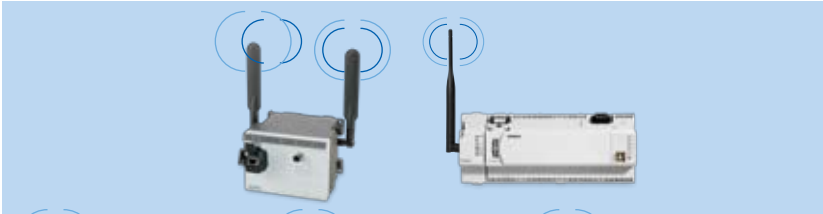


## Facility Management

- Monitor, command and program system controllers from any Insight workstation on the MLN.
- Logs commands, overrides and system changes made by system operators to the Insight System Activity application.
- Locate and troubleshoot problems quickly using the Insight System Profile and Dynamic Plotter applications.
- Quickly schedule and modify facility usage with the Insight Scheduler.
- Use Site-wide Licensing solutions to cost effectively add multiple Insight workstations.
- Assign each user unique system-wide access privileges based on name and password.
- Incorporate UL Listed fire alarm monitoring, control, and integration with the Insight Life Safety Option.
- Reliably control critical areas such as laboratories, clean rooms and operating suites within precise operating parameters.
- Make modifications using complete suite of system design and commissioning tools.
- Insight Redundancy solution for mission critical facilities.

## Systems Integration

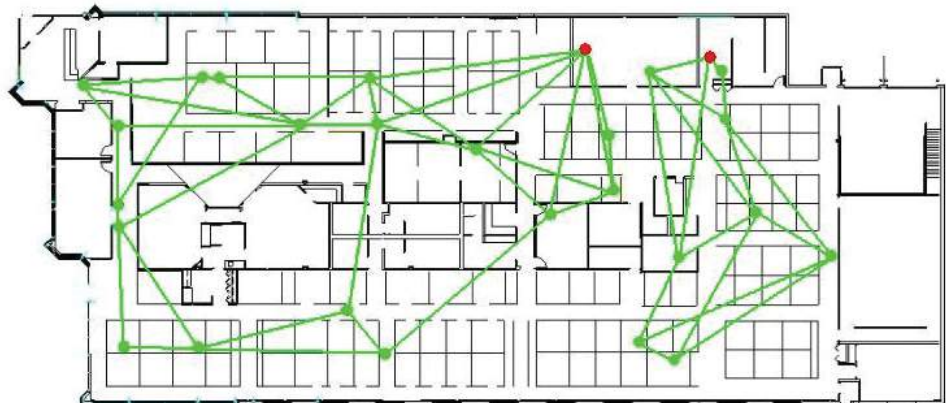
- Communicate with hundreds of other building systems, devices, controllers and networks, available from hundreds of different third-party suppliers.
- Multiple options for integration to third-party systems, including:
  - Direct connect FLN and Lon FLN solutions
  - Hundreds of drivers available via an ALN controller
  - Management-level integration via the Insight workstation
- Integrated points look and control just like native APOGEE Building Automation System points and can utilize the full range of APOGEE facility management applications and remote communication options.
- Proven track record of thousands of successful integration project implementations. Look for the APOGEE Anywhere™ trademark to assure APOGEE compatibility.



## Comfort, convenience and confidence. Guess who made it all mesh?

Count on Siemens to invent the first wireless building automation system to feature wireless technology throughout its architecture. APOGEE Wireless utilizes leading-edge mesh technology to create a self-forming, self-healing network – virtually transparent to the system and the end user. The mesh network topology ensures

reliability by creating multiple redundant paths of communication. Because a signal is able to circumvent obstructions as it seeks and ultimately finds its target, the network cannot be compromised. Reliability, increased comfort and convenience are just a few of the advantages APOGEE Wireless offers.



Communication links for two wireless mesh controller networks.



### **Market-specific and custom solutions.**

From schools and office buildings to complex, mission-critical environments like data centers, and labs, Siemens expertise extends to a broad range of markets and facilities. By developing an intimate understanding of a customer's organization, we design solutions that meet specific facility and business requirements. From Building Education™ programs to meeting 21 CFR Part 11 requirements, our solutions contribute to our customers' success.

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OPC is a registered trademark of the OPC Foundation.

LonWorks is a registered trademark of Echelon Corporation.

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