

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

SIEMENS

PXC16.2-E.A

16-POINT BACNET BUILDING CONTROLLER

Used with the applicable PXC Compact controllers configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Siemens official manufacturer documentation

PXC Compact Series for BACnet Networks



Figure 1. PXC Compact Series Controllers (PXC-24 and PXC-36 shown).

Description

The PXC Compact Series (Programmable Controller–Compact) for BACnet networks is a high-performance Direct Digital Control (DDC) supervisory equipment controller, which is an integral part of the APOGEE Automation System. The controllers are classified as either a BACnet Building Controller (B-BC) with support for BACnet/IP or BACnet MS/TP protocols.

The PXC Compact Series offers integrated I/O based on state-of-the-art TX-I/O™ Technology, which provides superior flexibility of point and signal types, and makes it an optimal solution for Air Handling Unit (AHU) control. The PXC Compact operates stand-alone or networked to perform complex control, monitoring, and energy management functions without relying on a higher-level processor.

The PXC Compact Series communicates with other field panels or workstations on a peer-to-peer Automation Level Network (ALN), or on the Field Level Network (FLN), and supports the following communication options:

- Native BACnet/IP communications over 10/100 MB Ethernet networks
- Native BACnet MS/TP on RS-485

The PXC Compact is available with 16, 24, or 36 point terminations. Selected models in the Compact Series provide the following options:

- Support for MS/TP or P1 FLN devices.
- Support for MS/TP FLN devices.
- An extended temperature range for the control of rooftop devices.
- Support for Island Bus, which uses TX-I/O modules to expand the number of point terminations for high-speed loop control. For PXC-36 only.

Features

- BACnet Testing Laboratories (BTL) certified Classified as BACnet Building Controllers (B-BC) using the BACnet/IP protocol and/or BACnet MS/TP, or BACnet Advanced Application Controllers (B-AAC) using the BACnet MS/TP protocol for specific models.
- DIN rail mounted device with removable terminal blocks simplifies installation and servicing.
- Proven program sequences to match equipment control applications.
- Built-in energy management applications and DDC programs for complete facility management.
- Comprehensive alarm management, historical data trend collection, operator control, and monitoring functions.
- Sophisticated Adaptive Control, a closed loop control algorithm that auto-adjusts to compensate for load/seasonal changes (License required with Firmware revision 3.5.1 and higher).

- Message control for terminals, printers, pagers, and workstations.
- Highly configurable I/O using Siemens state-of-the-art TX-I/O™ Technology.
- HMI RS-232 port, which provides laptop connectivity for local operation and engineering.
- Extended battery backup of Real Time Clock.
- Persistent database backup and restore within the controller.
- Optional HOA (Hand/Off/Auto) module for swappable and configurable HOA capability.
- Optional extended temperature range for rooftop installation.
- Optional support for MS/TP or P1 FLN devices.
- Optional support for P1 Wireless FLN.
- Optional operation as a MS/TP or P1 device with default applications.
- PPCL performance during an internal database backup has been significantly improved. PPCL will consistently execute during the backup cycle.
- Unused Ethernet ports are now disabled and do not require the field panel to cold start.
- The handling of COV subscriptions for large databases has been improved.
- The HMI prompt was changed from A, N, **M** (Application/flNdevice/Mstp) to A, N, **B** (**Application/flNdevice/Bacnet**); allowing the configuration of routed FLN types and clarifying that any BACnet device (MS/TP or IP) can be added to the BACnet ALN.
- The Available memory report has been extended to show installed Memory (physical memory installed in hardware), in addition to the existing metrics already provided:
 - Available RAM left
 - Number of Fragments of memory
 - Largest Contiguous memory
- Auto Save allows the database to be backed up to flash memory automatically whenever the database is changed, instead of being an operator-selected function. It does not provide any safeguard or protection against power loss.
- PXM10T and PXM10S support: Optional LCD Local user interface with HOA (Hand-off-auto) capability and point commanding and monitoring features.
- MS/TP Point Pickup Module (PPM) support: Universal Inputs can be configured for analog or digital input. Input/Output type is configured by writing to BACnet object properties.
- The Simple Network Management Protocol (SNMP) Agent allows points in the field panel to communicate with an SNMP manager over Ethernet.
- The Meter Proxy allows a PXC Compact 16 or 24 field panel to act as an FTP client and send files (for example, Trend Sample Report) containing trend data directly to an FTP server. All trend data points contained in the PXC Compact 16 or 24 field panel are uploaded to an FTP server at a scheduled time interval. You can schedule the trend data file upload by configuring a trigger point that is commanded by the BACnet Scheduler or PPCL code.

The Compact Series

In addition to building and system management functions, the Compact Series includes several styles of controllers that flexibly meet application needs.

PXC-16

The PXC-16 provides control of 16 points, including 8 software-configurable universal points.

Point count includes: 3 Universal Input (UI), 5 Universal I/O (U), 2 Digital Input (DI), 3 Analog Output (AOV), and 3 Digital Output (DO).

PXC-24

The PXC-24 provides control of 24 points, including 16 software-configurable universal points.

Point count includes: 3 Universal Input (UI), 9 Universal I/O (U), 4 Super Universal I/O (X), 3 Analog Output (AOV), 5 Digital Output (DO).

PXC-16 Unitary Equipment Controller

The PXC-16 Unitary Equipment Controller provides control of 16 points, including 8 software-configurable universal points.

PXC-24 Unitary Equipment Controller

The PXC-24 Unitary Equipment Controller provides control for 24 points including 16 software configurable universal points, with point types as listed in PXC-24 above. The PXC-24 Unitary Equipment Controller is a BACnet MS/TP device that can be configured as a programmable, stand-alone FLN device when a workstation is not present. When a workstation is connected through a PXC Modular or Compact with MS/TP capability, the PXC-24 Unitary Equipment Controller can operate as either an ALN or FLN device.

Agency Listings

OSHPD Seismic Certification

Product meets OSHPD Special Seismic Preapproval certification (OSH-0217-10) under California Building Code 2010 (CBC2010) and International Building Code 2009 (IBC2009) when installed within the following Siemens enclosure part numbers: PXA-ENC18, PXA-ENC19, or PXA-ENC34.

BTL

BACnet Testing Laboratories (BTL) Certified, Firmware Revision 3.0 and later

Ordering Information

PXC Compact Series

Part Number	Description
PXC16.2-E.A	PXC Compact, 16 point, BACnet/IP ALN
PXC16.2-EF.A	PXC Compact, 16 point, BACnet/IP ALN, P1 or MS/TP FLN
PXC16.2-EF32.A	PXC Compact, 16 point, BACnet/IP ALN, FLN enabled
PXC16.3-UCMR.A	PXC Unitary Equipment Controller, 16 point, BACnet MS/TP, Rooftop Model
PXC24.2-E.A	PXC Compact, 24 point, BACnet/IP ALN
PXC24.2-EF.A	PXC Compact, 24 point, BACnet/IP ALN, P1 or MS/TP FLN
PXC24.2-EF32.A	PXC Compact, 24 point, BACnet/IP ALN, P1 or MS/TP FLN
PXC24.2-ER.A	PXC Compact, 24 point, BACnet/IP ALN, rooftop
PXC24.2-ERF.A	PXC Compact, 24 point, BACnet/IP ALN, rooftop, P1 or MS/TP FLN
PXC24.3-UCMR.A	PXC Unitary Equipment Controller, 24 point, BACnet MS/TP, Rooftop Model
PXC36-E.A	PXC Compact, 36 point, BACnet/IP or MS/TP ALN
PXC36-EF.A	PXC Compact, 36 point, BACnet/IP or MS/TP ALN, Island Bus, P1 or MS/TP FLN

Optional Licenses

Product Number	Description
LSM-FLN	License to enable FLN support on models PXC-16-EF.A or PXC-24-EF.A
LSM-FLN36.A	License to enable FLN support on models PXC36-E.A and PXC36-PE.A
LSM-IB36.A	License to enable 4 TX-I/O modules on the Island Bus on models PXC36-E.A and PXC36-PE.A
LSM-36.A	License to enable 4 TX-I/O modules on the Island Bus and FLN support on models PXC36-E.A and PXC36-PE.A
LSM-SNMP	License to enable SNMP Agent on Siemens Modular or Compact hardware with BACnet Firmware Revision 3.2.3
LSM-ADAPT	License to use the Adaptive Control added in FW 3.5.1/2.8.18 and later

*) Field Panel Web Services are no longer available for sale. Launch Pad is a free download available from X:\StdApps\APOGEE_Products_FW_SW\Integrated_Solutions.

Accessories

Product Number	Description
PXA-COMP.CON	PXC Compact Connector Kit - Fits one PXC-36, PXC-24 or PXC-16

Service Boxes and Enclosures

Product Number	Description
PXA-SB115V192VA	PX Series Service Box—115V, 24 Vac, 50/60 Hz, 192 VA
PXA-SB115V384VA	PX Series Service Box—115V, 24 Vac, 50/60 Hz, 384 VA
PXA-SB230V192VA	PX Series Service Box—230V, 24 Vac, 50/60 Hz, 192 VA
PXA-SB230V384VA	PX Series Service Box—230V, 24 Vac, 50/60 Hz, 384 VA
PXA-ENC18	18" Enclosure (Utility Cabinet) (UL Listed NEMA Type 1 Enclosure)
PXA-ENC19	19" Enclosure (UL Listed NEMA Type 1 Enclosure)
PXA-ENC34	34" Enclosure (UL Listed NEMA Type 1 Enclosure)

Documentation

Product Number	Description
553-104	PXC Compact Series Owner's Manual
125-1896	APOGEE Powers Process Control Language (PPCL) User's Manual

Disposal

	The device is considered an electronic device for disposal in accordance with the European Guidelines and may not be disposed of as domestic garbage. • Dispose of the device through channels provided for this purpose. • Comply with all local and currently applicable laws and regulations.
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