Features

Simplex BACpac™ portal provides fire alarm system status using the ASHRAE BACnet™ building automation communication protocol*

BACnet protocol:

- Building Automation Control Network
- ANSI/ASHRAE standard 135-1995

Connections:

- To fire alarm system via its RS-232 computer output port
- Output port provides RS-232, Point-to-Point BACnet protocol

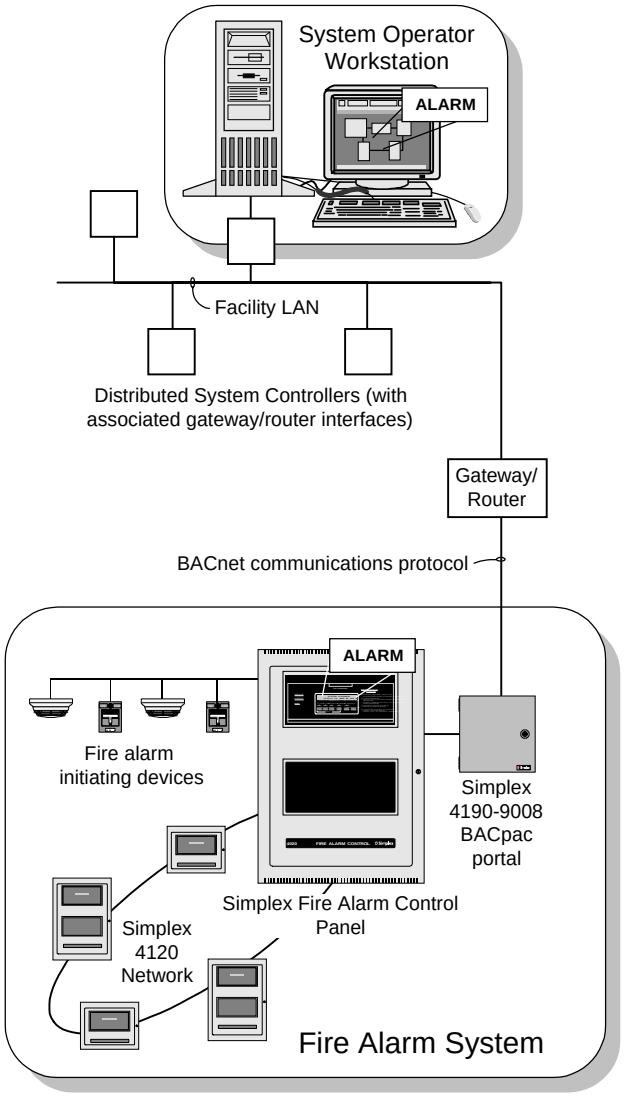
BACpac portal is pre-programmed:

- Up to 600 status changes (monitor point status) can be recognized from the fire alarm control panel
- Custom programming is easily accomplished at the fire alarm control panel

Portal is mounted separately from fire alarm control panel:

- 120 VAC input power
- NEMA 1 cabinet

Compatible with Simplex 4020, 4100, 4120 series fire alarm control panels, and 4120 NDU (software revision updating may be required)



Typical Building Automation LAN with
Simplex Fire Alarm Control Panel and BACpac Portal

Description

The 4190-9008 BACpac portal provides a supplementary communications interface that converts computer terminal information from a compatible Simplex fire alarm control panel into the building automation protocol of BACnet. With this portal, status information from the fire alarm control panel can be provided to other components of the building automation network with the detail and information format required. This allows the other systems to properly respond to fire alarm system activity in addition to the primary fire alarm response that is under the control of the fire alarm control panel.

This document is a summary of the flexibility available with BACnet communications. Please contact Simplex for further information concerning your specific application.

* BACpac is a trademark of Simplex Time Recorder Co., BACnet is a trademark of ASHRAE, American Society of Heating, Refrigeration, and Air Conditioning Engineers.

Systems Responsibilities

Fire Detection and Alarm Systems are distributed throughout buildings to monitor for indications of the presence of smoke or fire. When a fire alarm condition is determined, the fire alarm system communicates that information with sufficient detail to allow the proper fire response to begin. The fire alarm system may perform other control functions such as fan shutdown and elevator recall, or those actions may be performed by other systems that also handle those functions for normal conditions as well as for abnormal conditions.

Building Automation Systems. As buildings increase in size and complexity, control of the electrical and mechanical systems requires coordination. This process has evolved into the general category of Building Systems Automation and includes systems such as heating, ventilation, and air conditioning (HVAC), elevator controls, security controls, lighting controls, and other similar building functions.

Typical responses to fire alarm system status changes might include: HVAC fan control operation, elevator capture, lighting control, and security system awareness. Specific examples could include turning on lighting where needed, aiming security cameras on specific areas, providing door release, and implementing detailed fan exhaust and/or pressurization instructions.

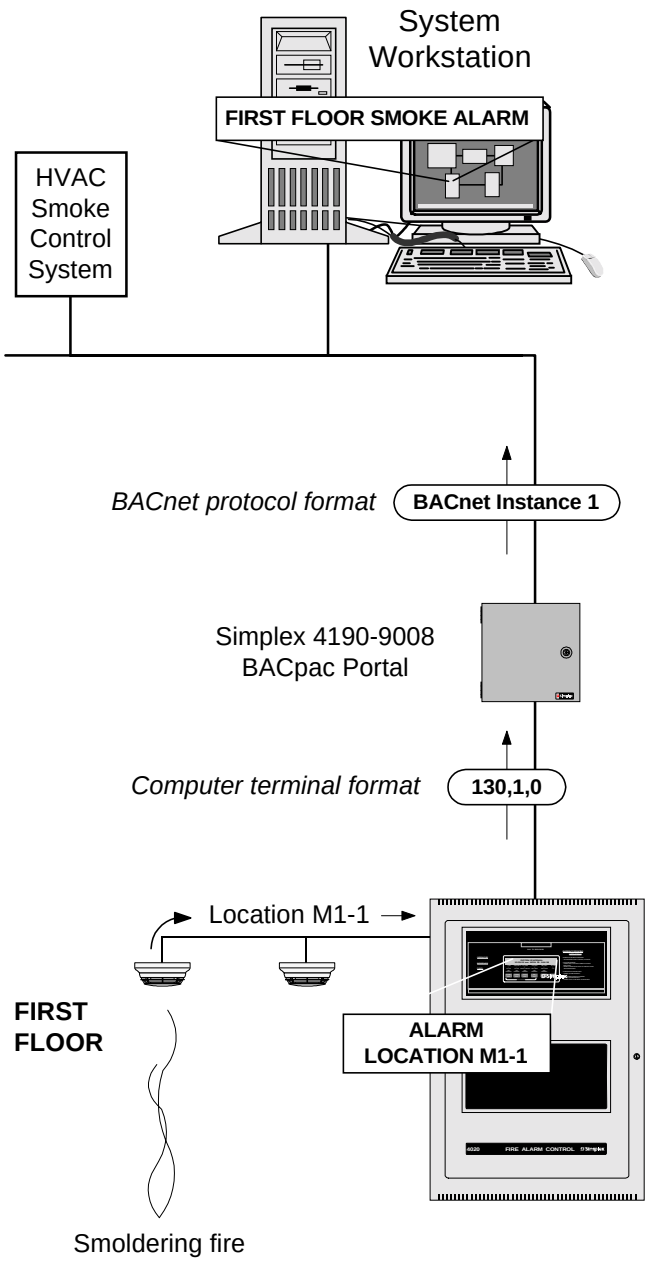
Systems Communications

Communications Between Systems. Building systems need to be integrated as fully as possible. Traditional communications have included simple relay interfaces, proprietary and complicated interface devices (gateways), as well as using a single supplier for all of the building automation functions. Each of these compromises has its limitations.

With the Simplex BACpac portal, the common building control language of the BACnet protocol allows a Simplex fire alarm system to be considered based upon its fire alarm merits and not simply on its interconnection capability.

Communications Example

The example to the right shows how a smoldering fire located on the first floor can be detected by the fire alarm control panel, processed by the BACpac portal, and then sent to the building automation system using the BACnet protocol. It is the responsibility of the fire alarm control panel to initiate the required notification and related fire responses. However, when connected to a BACpac portal, the fire alarm system can make status information available to the other building systems allowing them to be informed about facility fire detection activity.



Typical Alarm Flow from Fire Alarm Control Panel to BACpac Portal to Building Automation Systems

BACnet Protocol Implementation Conformance Statement (PICS) Details

CATEGORY	IMPLEMENTATION
BACnet Conformance Class Supported	Class 3
BACnet Functional Groups Supported	• Clocks • Reinitialize • Device Communications
Standard Objects Supported	• Binary input, No Writeable Properties • Binary Output, Present Value Writeable Properties • Binary Value, Present Value Writeable Properties • Device
Data Link Layer Options	Point-to-Point RS-232, baud rates to 38,400
Character Sets Supported	ANSI X3.4
Special Functionality	• Segmented Requests *not* supported • Segmented Responses *not* supported

BACnet Standard Application Services Supported

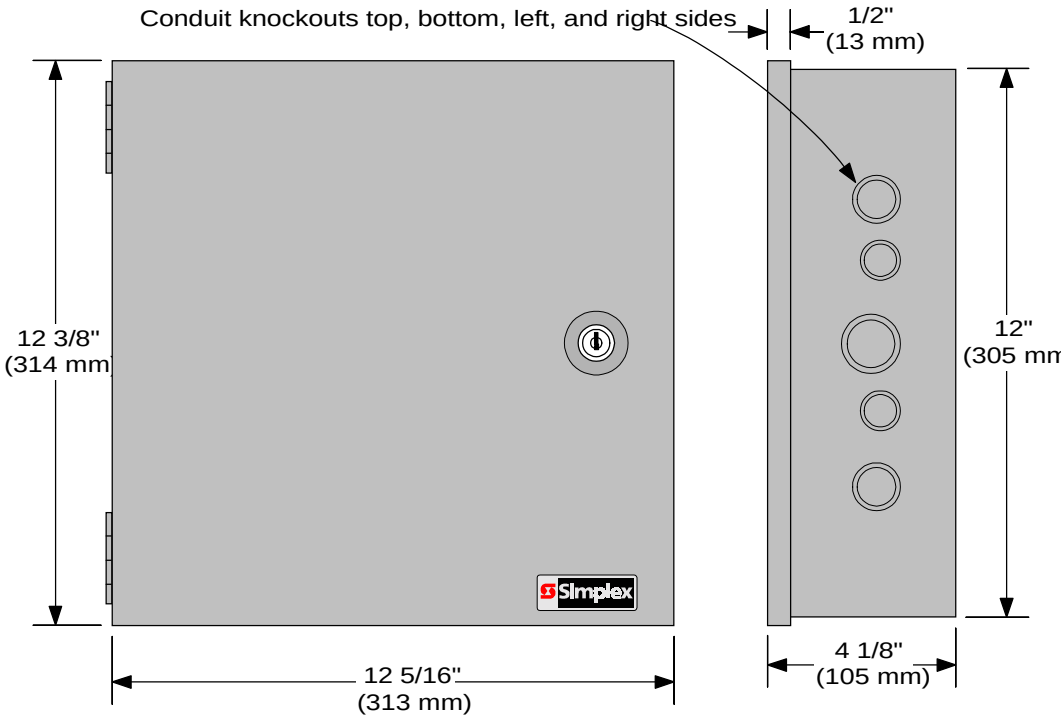
APPLICATION SERVICE	INITIATES REQUESTS	EXECUTES REQUESTS
Read Property	yes	yes
Read Property Multiple		yes
Write Property	yes	yes
Write Property Multiple		yes
Who-Has		yes
I-Have	yes	
Who-Is		yes
I-AM	yes	

Specifications

Input Power	100 mA @ 120 VAC, 60 Hz, UL listed Class 2 input transformer rated @ 40 VA
Data Input	• RS-232 ASCII data from fire alarm control panel via computer terminal port • Pluggable terminal block connections
Data Output	• RS-232 communications formatted with BACnet protocol • Fixed terminal block connections
Operating Temperature Range	32° F to 113° F (0° C to 45° C)
Humidity Range	10% to 95% RH from 32° F to 122° F (0° C to 50° C), non-condensing
Cabinet*	NEMA 1 enclosure, UL and CSA listed (ref. Hoffman Cabinet catalog # A-HE12X12X4)
BACpac Portal Electronic Module*	Low voltage, UL listed to standard 916, Open Energy Management Equipment
Cabinet Color	Grey
Cabinet Dimensions	Refer to diagram below

* The 4190-9008 BACpac portal consists of a UL listed 120 VAC input power transformer, low voltage electronic interface module listed to UL Standard 916 (PAZX) and ULC22.2 No. 205-M19, and a UL and CSA listed cabinet.

Cabinet Dimensions



Gardner, Massachusetts 01441-0001 USA
visit us on the world wide web at ***www.simplexnet.com***