



ComfortPoint™ Open

Specification and Technical Data

With open native BACnet® integration capability, the ComfortPoint Open (CPO) control solution with the Enterprise Buildings Integrator (EBI) Building Manager front-end is a comprehensive building automation system that supports a new level of efficiency and functionality in today's buildings. Combined with Honeywell's EBI, CPO provides an informative and accessible building management system for all operators, enabling simpler optimization of your building.

Key Features

Total integration of Heating Ventilation and Air Conditioning systems with Energy Management Integration and interoperability with a range of BACnet® devices, enterprise systems, internet and intranet sources allowing integrated building management of facility subsystems.

Uses industry-standard hardware with Microsoft® Windows 7® and Internet Explorer®.

Easy to integrate and expand. Solution utilizes BACnet communication with BACnet BTL® listings including B-AWS, B-BC, and B-AAC.

Easy to use. Intuitive web-based user interface with object based navigation provides operators and facility engineers easy, system-wide access and enhanced user control.

Easy to engineer. Utilizing Honeywell's decades of experience in one global library of HVAC applications to effectively engineer the system 'out of the box'.

TCP/IP

MANAGEMENT LEVEL



ComfortPoint Open Studio

ComfortPoint Open Studio
 ComfortPoint Open On-Line
 ComfortPoint Open Studio LIVE & Simulation
 ComfortPoint Open Balancing Tool
 Install, Commissioning and Service (ICS) Tool
 Global Library



EBI Building Manager Server or Virtual Machine

BACnet Advanced Workstation (B-AWS)
 Software Update Service (SUS)
 Acronis® Backup and Recovery™
 McAfee® VirusScan® Enterprise



EBI Building Manager / User Interface

Microsoft® Internet Explorer® based workstation client
 Simple displays with easy access to operator resources



EBI with DSA License

Enterprise LAN/WAN Connected to ComfortPoint Open Manager via DSA
 Security Manager
 Life Safety Manager
 Building Manager
 Digital Video Manager
 Energy Manager



Internet



Web browser



Phone/SMS/Email



Smart Phone/Tablet



Attune™ Advisory Services

BACNET/IP

AUTOMATION AND FIELD LEVEL



ComfortPoint Open Plant Controller

CP-IO Bus



ComfortPoint Expansion I/O



Digital I/O Module CPO-DIO

Panel Bus



Mixed I/O Module



Panel Bus I/O Modules

Field Bus



ComfortPoint Open Field Bus Adapter

BACnet MS / TP



VAV Controllers (CP-VAV and CPO-VAV2A)



ComfortPoint Small Point Controller



ComfortPoint Open Room Controller (CPO-R family)



ComfortPoint Open LCD Wall Module

Modbus



Metering, sub-metering and other devices



ComfortPoint CP-IPC Controller

CP-IO Bus

BACnet MS / TP

Modbus



ComfortPoint CP-Core

BACnet MS / TP

Modbus



ComfortPoint JACE

Connected to EBI Building Manager via BACnet / IP

Simple LON

FTT-10 and other integration drivers

Other Honeywell and third-party BACnet devices and BACnet gateways

System Architecture

EBI Building Manager with CPO runs on industry-standard personal computers using the Windows® 2012 R2 server operating system for the EBI Server, and Windows® 10 or Windows® 7 for operator stations or point servers. Alternatively the user interface is also available on mobile devices, being supported on iOS or Android operating systems. Full support for EBI running in virtual environments is also available.

EBI Building Manager with CPO has a client/server architecture that provides a scalable system to accommodate configurations ranging from a small single-node system with stations connected across LANs or WANs to an extended system utilizing Distributed System Access (Distributed System Architecture) to serve data to Honeywell's EBI with multiple servers and stations connected across LANs or WANs.

EBI Building Manager is supported on VMware® ESX® or Hyper V® virtualization products. The server runs application software that communicates with field BACnet controllers to update both real-time and relational databases.

The EBI Building Manager server also acts as the file server for graphic displays. EBI Building Manager Browser Client provides a high-resolution, graphical interface. Up to 10 concurrent HMIWeb Browser connections are available on a single EBI Building Manager with CPO Manager Workstation. Client software can be loaded on a multitude of PCs allowing a virtually unlimited number of users to access these connections on a first-come, first-served basis. An operator may use EBI Building Manager Station or a Web browser to perform facility management tasks such as:

- Viewing and responding to alarms
- Scheduling equipment operation
- Viewing, manipulating, and analyzing data acquired from controllers
- Viewing custom displays and reports.

EBI Building Manager also includes the "zero footprint", browser agnostic Honeywell EasyMobile, designed for PDA/mobile phone browsers to remotely access, monitor, and control the facility, providing enhanced system management mobility.

The comprehensive networking capability of ComfortPoint Open, based on the industry standard TCP/IP protocol, allows communication with other ComfortPoint Open systems, PC networks, corporate management information systems, or enterprise systems via local and wide area networks.

Open Integration

EBI Building Manager with CPO provides an open system architecture that integrates supervisory functions such as alarm, events, reporting, and control into a common user framework. ComfortPoint Open then allows you to choose from a variety of controllers, standard hardware devices, and communications interfaces that can be integrated into a central system that can help improve the performance of your building or facility. From a modest-sized Building Manager system, ComfortPoint Open can be integrated through Honeywell Enterprise Buildings Integrator to provide an integrated Security, Life Safety, Energy Management and/or Building Management solution. ComfortPoint Open can integrate with the following subsystems:

- HVAC monitoring and control
- Energy management – monitoring and control
- Lighting control
- Mobile solutions – PDA, phone SMS, paging and SNMP notification systems.

ComfortPoint Open supports local or remote equipment connection via IEEE 802.3 (Ethernet). ComfortPoint Open gathers information from a wide range of field devices and presents data in a unified and consistent format.

Open Systems

In addition to being based on a range of open technologies, Honeywell EBI with CPO supports a wide variety of open systems standards for integrating other systems or subsystems. The Open System standards supported are listed in the following sections.

HTML

EBI Display Builder creates displays in native HTML format, ensuring ComfortPoint Open has enhanced open graphics capabilities. These displays can be viewed in EBI Building Manager stations and also through Microsoft® Internet Explorer.

BACnet

Building Automation Control Network (BACnet) is a standard communication protocol developed by the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE®) for Building Automation Systems (BAS) with HVAC and lighting monitoring and control functionality. EBI Building Manager and CPO support ASHRAE Standard 135, for the BACnet client implementing the BACnet Advanced Workstation Software (B-AWS) system, and BACnet Gateway functionality. EBI Building Manager and CPO support BACnet over Ethernet and IP communications. A BACnet PICS (Protocol Implementation Conformance Statement) document is available on request which details EBI Building Manager and CPO support for BACnet Standard Objects and Application Services.

Operator Interface

In emergencies, operators need access to critical data fast. Web-style menus, toolbars, and icons assist operators—regardless of their experience level—in obtaining the information they need when they need it by providing intuitive navigation and familiar controls.

The operator interface is a powerful tool for viewing the status of a facility's plant and assets and can be customized to the requirements of each individual facility. The operator interface provides:

- Intuitive navigation of the facility
- Visual awareness of unacknowledged alarms
- Status summaries by building, location, plant system, or facility-wide
- Ability to view and control HVAC equipment
- Immediate access to plant system relationships
- One-click access to comprehensive alarm data
- Ability to create and maintain schedules for equipment operation
- Ability to create and view HVAC plant trends
- Powerful and flexible predefined reports

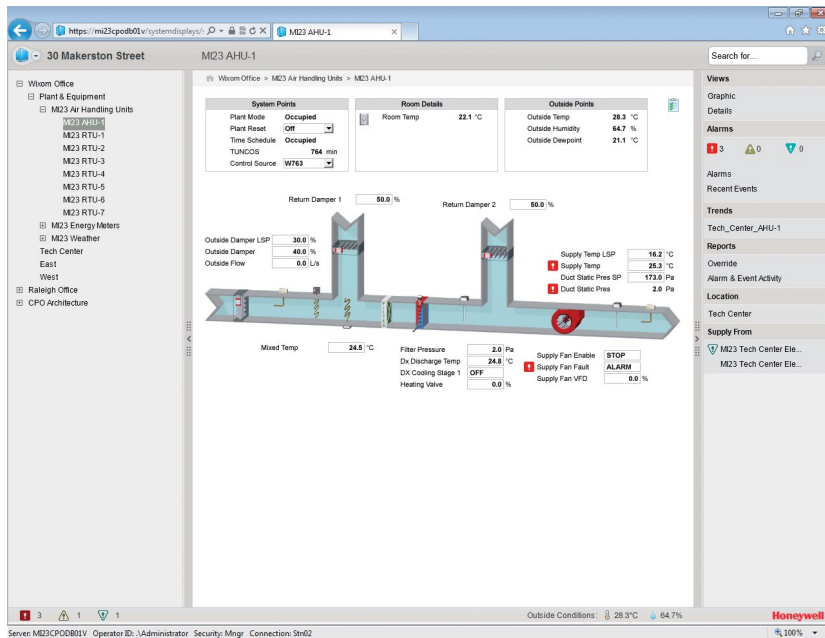
Responding to unacknowledged alarms is crucial for plant safety: dedicated alarm indicators indicate the most recent, unacknowledged alarms.

Because the operator interface is closely integrated with Microsoft® IE, an operator can quickly create Favorites for faster access to his or her preferred displays.

ComfortPoint Open Workstation

Custom displays can be created using a full-featured graphics application called EBI HMIWeb Display Builder.

A typical custom display includes several dynamic objects that indicate the status and alarm condition of the HVAC plant they represent. Popup faceplates that display device details can be added, as well as buttons for controlling plant devices, calling up other displays, generating reports and so on.



EBI display of CPO controller with BACnet point data

The use of industry-standard Web technologies promotes interoperability with other Web technologies and Web authoring tools.

Web-enabled

Because ComfortPoint Open is web enabled, the operator interface is available through a browser when connected to the Internet or your intranet. ComfortPoint Open uses robust security features such as SSL and digital certification to promote the security of business-critical data.

ComfortPoint Open can also integrate existing intranet or Internet pages into your custom displays, enabling them to incorporate external information such as outside air temperature (OAT) and humidity, utility prices, or key company policies and procedures. Alternatively, data from

ComfortPoint Open can be integrated into your company intranet, providing building occupants with live data regarding their comfort or other facility information. All such access can be strictly controlled.

Browser-independent and zeroinstall

The Honeywell EasyMobile client allows EBI Building Manager with CPO to be operated remotely from a PDA or mobile browser device.

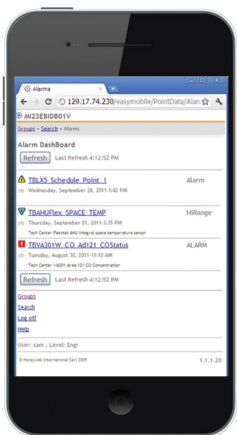
The browser-independent, "zero-footprint" client operates over LAN, WAN, 3G, or 2.5 GPRS connections and delivers ComfortPoint Open information fast.

EasyMobile supports the following capabilities:

- Each user may be assigned a default mobile point list
- Alarm page shows most recent, highest priority alarms
- Wildcard search of points
- Point faceplate information supports live updates and alarm acknowledgement
- Control of point data from the same system faceplate
- List-based display of Plant Equipment information with zero engineering required to setup and administer
- Consistent support of operator security
- Trend object showing recent, past hour, and overnight information
- All changes are logged in ComfortPoint Open
- AJAX-based client with no ActiveX/JVM to install
- Support for secure encryption

As EasyMobile is designed for mobile devices that use low bandwidth data services, no graphics are displayed, which helps reduce service provider costs and provide faster access to data.

EasyMobile can be accessed from laptops or desktop computers and works with industry-standard operating systems and browsers. This provides a broad client connection capability to support over 300 concurrent users connected and monitoring, or querying the system simultaneously. Simply Smart!



Honeywell EasyMobile Application

Operator Security

EBI Building Manager offers robust security features for controlling access to sensitive data.

Operator Sign-On

Each operator must log on to EBI Building Manager using a unique identifier (such as their full name) and password; these user credentials define their security profile. All EBI Building Manager passwords are encrypted when stored and transferred. If an operator makes multiple attempts to sign on to EBI Building Manager without using their correct user credentials, they will be locked out of the system for a configurable amount of time.

ComfortPoint Open is built to provide user authentication using a Windows Group account, or via an LDAP server, so that operators have quick, consistent access to ComfortPoint Open. This means that operators only need to remember one set of credentials, and need only sign on once to the system.

Security and Control Levels

Honeywell EBI provides security levels to allow you to control the activities that operators can perform. The system supports six levels of operator security, in addition to a control level assignment.



EBI scheduling display

Real-time database

ComfortPoint Open provides overall system management by collecting information from its field devices and using this intelligently to improve system monitoring and control. For example:

- A point exceeding a given temperature automatically triggers a particular report

ComfortPoint Open communicates to controllers that have distributed intelligence. The local DDC controller executes the HVAC control strategies, initiates alarms, collects historical information and runs schedules without input from the ComfortPoint server or BACnet client. If the communications link between a controller and the server fails, normal system functions continue to operate and the controller buffers transactions. When the communications link is re-established, this information is reported back to the server. Changes in the server database may be downloaded to the relevant subsystem controllers.

EBI schedules

Honeywell EBI provides extensive scheduling functions via CPO controllers in its easy-to-use schedules package. Integrated into the ComfortPoint Open system, the powerful Outlook-style scheduling tool allows you to create a single schedule to control multiple locations and numerous resources across different controller types regardless of BACnet schedule object support status. EBI schedules unifies the different controllers into the same common user interface, allowing facility managers to more simply and easily monitor and change the scheduling of their facility.

Other features supported within EBI schedules include:

- Easily create (or change) one-off, recurring and exception schedules
- Use one schedule to control multiple locations across different controller types
- Create schedules that span more than one day
- Configure holidays and temporary exceptions with a start and end date

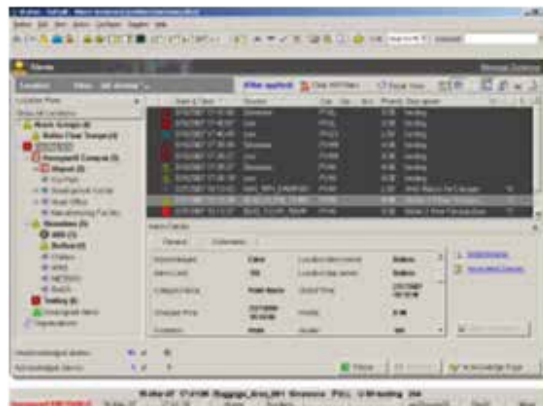
- See at a glance in a calendar view which holiday and exception schedules have been configured
- Apply a schedule to multiple resources in one step
- Apply multiple calendars to multiple resources in one step
- Set up holidays in multiple regions
- Create schedules in multiple time zones
- Configure a time for the daily automatic downloading of schedules.

EBI schedules also provides an audit trail for tracking changes to schedules. For example, if an engineer or operator overrides a schedule, an “event” is generated in EBI, so that the event or exception can be reviewed by management.

Database Partitioning

ComfortPoint Open can support the requirements of multiple buildings / locations, or multi-tenanted facilities. Using the EBI Building Facility Model, your facility is logically partitioned into separate locations, and logically segregated into plants and equipment. Each location / equipment includes a workspace with display graphic or text display and a context sensitive area with the associated alarms, trend data, reports, and supply from and supply to information. Each operator is then allowed to view, monitor, and control only those points within their designated Location or Organization and within their assigned control level where implemented/configured. In this way, you can prevent operators from viewing information from another tenancy or another part of the system that is not relevant to them.

EBI Alarm Management Display



Alarm Management

The comprehensive alarm management facilities of EBI immediately notifies operators of any attempted security violations or building anomalies. Operators can more easily respond to alarms and more quickly find relevant information in the context area.

Acknowledge. Use the mouse to select the alarm point on the display and either press the acknowledge key, or use the convenient right click context menu, to acknowledge the alarm. This action will automatically be recorded in the system event file.

Alarm Summary. The number of urgent, high and low priority alarms are displayed at the bottom of every HMIweb display allowing quick access to the entire list of CPO alarms. Alarm messages are color-coded to show priorities. From the summary display, you can acknowledge alarms and access an associated display defined for each point. You can sort alarms or filter only for certain characteristics. You can even add comments to alarms or print an appropriate alarm list.

Associated Display. Just one simple right click, and you are immediately taken to the Associated Display directly linked from the facility navigation tree. So your operator immediately has full context of the plant and building systems, along with current point values and alarm status indication.

Alarm Count. For each alarm, EBI automatically counts how many times this same alarm has recurred, which allows the Alarm Summary Display to remain less cluttered as common or nuisance alarms are aggregated into a single alarm message. In addition, EBI automatically calculates alarm metrics to quickly tell you the number of urgent, high and low priority alarms you have in each location. These alarm metrics can be sorted historically and reported on by shift boundaries or other time parameters.

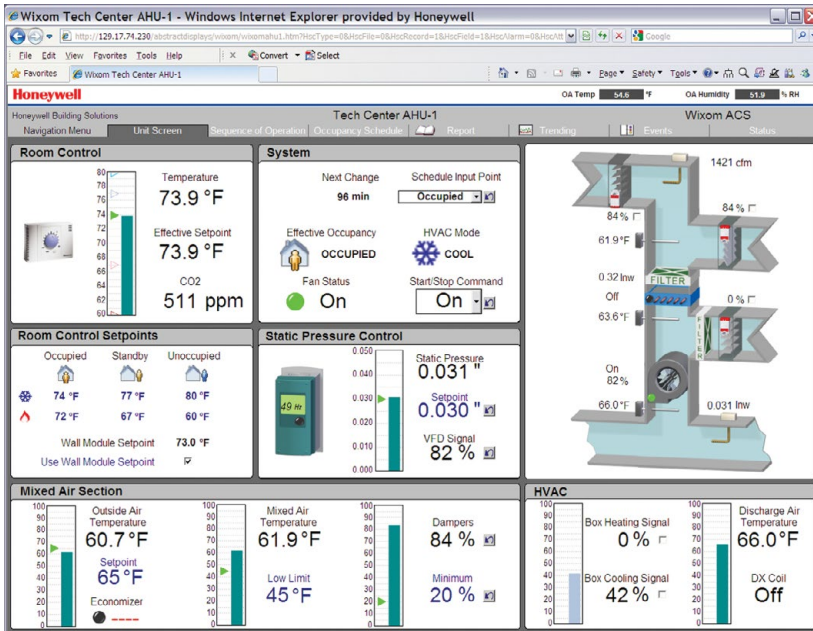
Alarm Pager

EBI Alarm Pager allows alarms to be pushed directly to pagers, mobile phones, email and SNMP managers. This is often ideal if your

operator or facility manager needs to move around the facility and desired notification of critical alarms. It is possible to nominate a range of points and the alarm priority which will cause the external system to be notified. For example, you may wish to send urgent priority alarms on your chiller to the Building Supervisor, while low level alarms during working hours may be configured for notification to the facility maintenance personnel on the current shift.

message, time of occurrence, and responsible operator.

The system event file stores event data in an on-line buffer. It is possible to store as many events as necessary – subject only to disk space on the server. When the online buffer becomes full, EBI transfers the event data to an archived buffer and to external media. The on-line buffer can continue to store events without interruption. An operator can retrieve current or archived system event data for use online or in the reports.



EBI display

Alarm Pager supports the industry standard Paging Entry Terminal (PET) protocol, Telocator Alphanumeric Protocol (TAP), or the UCP protocol to communicate with Pager Service Providers for telephone paging. Alarm Pager may optionally also direct connect through your local GSM modem, removing dependence on SMS service providers and delivering a simple direct connect mobile interface for your alarms.

When combined with the EasyMobile, Alarm Pager delivers a self-contained alarm management and control interface all accessible from your mobile devices.

Event Management

Events include alarms, point changes of state, changes in system status and all operator actions. As system events occur, EBI creates a journal of the events in an event file. Journalized event entries include a description, condition,

History and Trending

EBI provides continuous history about how operational data and points in the CPO system have been changing with time. EBI can sample and store analog and status point values as historical data. EBI supports a range of different history collection rates.

Both snapshots and averages are collected, allowing you to view what was happening on the system at any instant in time or over a longer period. This also includes the ability on the same trend display to simultaneously review point values alongside system event information, alarms, operator changes and advisories. This enables operators to more quickly perform root cause analysis from a single display.

This historical data can be viewed in several ways, for example as graphical trends (such as line or bar charts), as lists of numeric values and as event information. EBI event historical data can also be used in reports and application programs then archived to off-line media for long term storage.

Beyond the standard equipment trends are a further 500 customizable trend displays, each able to support the display of historical data for up to thirty-two points, and each can also plot two sets of data against each other (X-Y plots). The historical period of interest and the use of auto scaling for all data samples enabled Trend Displays to provide meaningful data.

Operators can zoom in on trends for closer inspection, and look forwards or backwards in time using a scroll bar or by directly entering the time of interest. Operators can even copy and paste trend data directly into Microsoft® Excel®.

Reporting

EBI provides a broad range of reporting facilities, including a multitude of standard equipment reports along with valuable energy information reports. Based on new SQL Server 2008 (R2) Reporting Services (SSRS), ComfortPoint Open offers exciting new reports and provides a framework for enabling advanced custom reports to be added to the system very simply.

Some examples of standard reporting are as follows:

- Alarm and event activity by equipment
- Override
- Daily supply temperature range
- Scheduled resources
- Supply and return temperature

All standard reports can be generated on demand from the reporting subsystem or from a custom display. Reports may be initiated directly from viewing alarms and events. Reports may also be generated periodically, such as once per day.

Extending the System

EBI with ComfortPoint Open provides a range of features and interfaces that enable further enhancement by developing custom applications or by sending ComfortPoint Open data to other

business systems. Such enhancements enable ComfortPoint Open to help meet the specific needs of your facility but with a standard platform.

System Configuration Tools ComfortPoint Open Studio

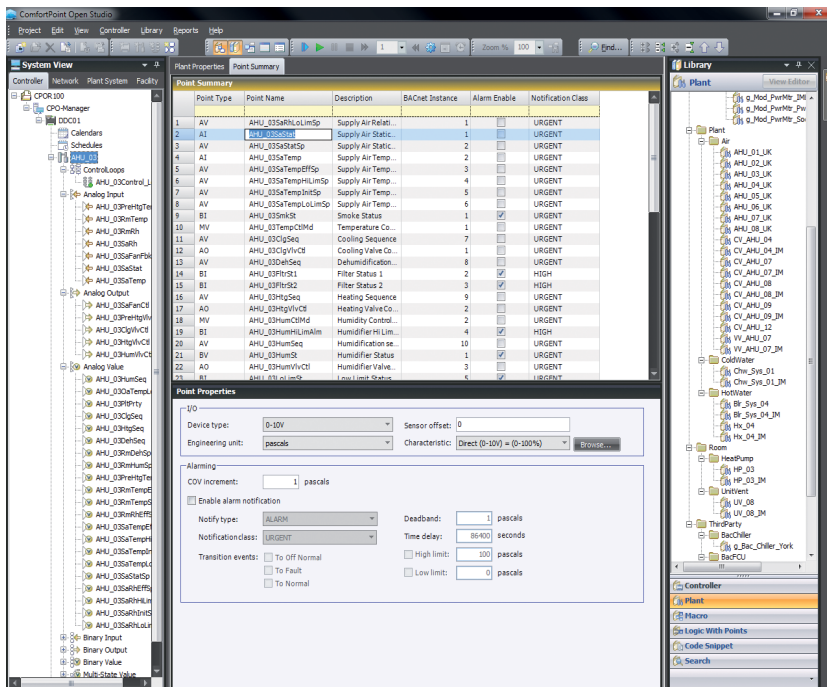
The ComfortPoint Open system is configured by Honeywell engineers and technicians using an extremely flexible and powerful engineering tool called the ComfortPoint Open Studio tool. The ComfortPoint Open Studio tool is used to create logical controllers, plants, data points, control logic, plant systems and facilities. Honeywell utilizes its vast performance application libraries to deliver projects with enhanced timeliness and consistency that help lead to improved uptime and energy saving performance.

A customer version of the ComfortPoint Open Studio tool is available for licensing so that local customer site engineers can make changes as required. Over time the use of the building and performance of the onsite assets may require changes to meet customer goals and expectations for building performance. ComfortPoint Open Studio tool allows site engineers to make changes quickly and simply.

ComfortPoint Open Studio Engineering Tool

ComfortPoint Open Studio Engineering tool Online is used to perform online operations such as uploading and downloading files, monitoring data points, and performing VAV balancing. It is mostly used in the commissioning phase of a project in conjunction with the EBI Building Manager server and remote clients.

The ComfortPoint Open Studio Engineering tool and balancing tool is also available in a separate installation package which provides a minimal footprint installation that can be distributed to Commissioning Agents and Balancing contractors. It allows these 3rd party contractors to access the system data and perform basic operations such as set point adjustments and overrides for check out and commissioning tasks as well as the ability to perform air balancing on the ComfortPoint Open VAV controllers.



CPO Studio Tool Display

Global Application Library

The ComfortPoint Open Global Applications Library contains multiple aids to assist in the consistent engineering of HVAC solutions. The packaged applications are complete with sequence of operations documents, ComfortPoint Open graphical displays, pre-configured trend sets and alarm parameters which allows repetitive use of algorithms and sequences to control HVAC equipment. In addition, the library also contains the granular elements or macros which make up the applications so customized applications can be created from proven subroutines; this in turn reduces the time required for engineers and helps increase the consistent quality of the delivered solution.

HMIWeb Display Builder

The EBI HMIWeb Display Builder is an object-based, fully integrated custom display builder for development of site-specific graphical floor plans in HTML, faceplates and alarm handling procedures.

It is easy to create displays with simple point and click operations. For example, to create a button that calls another display, you simply click on the button icon, draw the required size button, double-click on it, and enter the target page.

Static objects include text, rectangles, arcs, and circles. Dynamic objects include text, buttons, indicators, charts, check boxes, combo boxes, and scrollbars. It is easy to link dynamic objects to the database by double-clicking and choosing the point ID from a list box, allowing the display to show the doors, temperature sensors and cameras in the facility.

EBI provides a library of common symbols and indicators used in building management systems, enabling you to achieve a consistent look and feel. EBI allows you to embed ActiveX™ controls and ActiveX™ documents in displays.

Advanced users may add their own scripts to displays to animate them. HMIWeb™ Display Builder provides a VBScript editor and an object model for all display elements. Some examples of what can be done include:

- Animating fans and other equipment to show real actions
- Changing colors in response to system temperatures
- Validating data entry from operators
- Alerting operators to special conditions with messages.

HMIWeb Display Builder saves displays in HTML format which, if required, can be edited by some other HTML editors.

Product Data Summary

System Architecture

- System Architecture
- True SCADA functionalities
- Client/server architecture
- Real-time database
- Windows® 2012 R2 Server
- Embedded Microsoft® SQL Server 2014
- VMware ESX or similar Virtual platforms - subject to Technical Risk Review
- SQL Reporting Services
- Scalable from single server to Distributed System Architecture

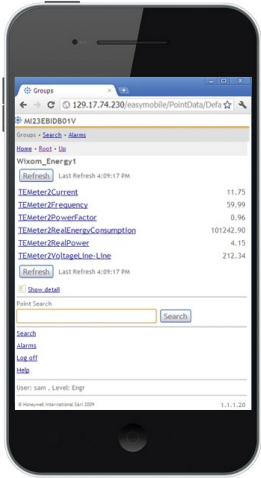
Points: Analog, digital, totalizer, access, flexible, container, Point Server, Remote

Networking

- Uses industry-standard TCP/IP networking over Ethernet
- Unlimited client capability using EasyMobile
- Full graphical client capability using HMIWebBrowser client licensed up to 10 simultaneous concurrent connections
- BACnet Controllers may be connected via Ethernet
- Remote connections via LAN, WAN, 4G or 3G
- Cloud Connectivity to Honeywell Sentience cloud is supported, for Mobile Apps including Vector and Honeywell Pulse™

Open Systems Support

- HTML graphics
- BACnet - ASHRAE BACnet standard 135. B-AWS Profile
- XML interface via SQL Reporting services



Honeywell
EasyMobile
Application

Operator Interface

EasyMobile

Designed to support multiple connections and tested to support over 300 concurrent users.

- AJAX base client, with no ActiveX or Java Runtime® (JVM) to install
- Designed for GPRS 2.5 and 3G. Operable over any LAN and WAN IP connection
- Zero footprint. Compatible with all modern browsers (Safari, IE, Firefox, Nokia®, Blackberry®)
- Wildcard point search returns first 60 matching points
- Support for 40 most recent alarms
- Integrated operator security
- Point Faceplate allows live updates, point control and alarm acknowledgement
- Point faceplate links to trend widget showing ComfortPoint Open historical data in simple convenient trend with fast, recent and shift historical data displayed

EBI Workstation

- Station and HMIWeb Browser
- Cut, copy and paste facilities for easy editing of text
- Windows® 2012 R2 Server, Windows® 10 and Windows® 7 (x64)
- User input devices include keyboard, mouse, trackball (optional), touchscreen (optional)
- Internet Explorer 11
- Use Station Client software or Internet Explorer Browser
- Windows® Terminal Services - support for up to 50 Mobile Stations on Tablet computers (iPad, Android or similar) from a single RAS server
- Over 300 preconfigured standard displays
- SafeBrowse for secure Internet/Intranet integration
- 1000 Standard Trends Animation using VB or Java Scripts
- User configurable object-based custom displays
- Third-party document integration

- Optimized for display resolution of 1280 x 1024 and higher (4K UHD screens are supported)
- Launch Windows® applications directly from displays

Note: Refer to the EBI Compatibility Matrix for current version support and compatibility

Operator Security

Six levels of access to system functions:

1. View Only
 2. Acknowledge Only
 3. Operator
 4. Engineer
 5. Supervisor
 6. Manager
- Up to 255 control levels for operator-initiated actions
 - Automatic idle time logout
 - Prompt for periodic change of passwords
 - Events logged by operator ID or full operator name
 - Individual operator profiles including Scope of Responsibility (SOR)
 - Effective data partitioning of facility into different locations
 - Command assignment to control different output states
 - Automatic change of Scope of Responsibility by time period
 - Use Windows® operator accounts or Windows® Group Accounts, or LDAP credentials for authentication in EBI

Real-time Database

Connects to BACnet Modbus® and Energy meters. Database partitioning into a hierarchy of locations (up to 10 levels deep).

- Point groups

Alarm Management

Configurable color-coded alarm summary display page with filtering by alarm priorities and area.

- 5000 concurrent alarms in alarm list, each with a count available for number of times occurred since last acknowledgement
- Four levels of alarm priority with fifteen sub-priorities
- Sort and filter alarms, add comments to alarms
- Alarm segregation through database partitioning
- Location tree summary of alarms
- Alarm parameters can be adjusted on-line
- Dedicated alarm zone displays most recent highest priority alarm
- All alarm and return-to-normal conditions logged in event summary
- Individual or page acknowledgment of alarms
- Alarm handling responses logged into event summary
- Alarm acknowledge (writes through to controller)
- Individual alarm prioritization of different input states for the same point
- Single line alarm processing (recurring individual alarms can be displayed as a single alarm with a count)

Alarm Pager

- Transmits alarms to pagers using PET, TAP or UCP protocols. This enables SMS alerts to be sent to mobile phones
- Transmits alarms to email using external SMTP server
- Transmits alarms to SNMP managers as SNMP traps

Events

System events created for all:

- Operator changes
- Point state changes
- Alarms
- Alarm acknowledgment
- Manual controls
- And for many other system activities
- Event file limited only by disk space available
- Simple archiving of events to off-line storage media
- Simple retrieval of off-line events for reporting.

Historization

Virtually unlimited historical records of both live and derived data can be stored.

Intervals include:

- 1, 2 or 5 second snapshots
- 1 hour snapshot
- 8 hour snapshot
- 24 hour snapshot
- 6 minute average
- 1 hour average
- 8 hour average
- 24 hour average
- Collection is configured per point
- Composite point parameters can all be historized
- Archive to off-line local or network attached storage
- Up to 100,000 points can be configured for each history type

Trends

Multiple formats include:

- 1000 trend displays
- Multi Line (points)
- Multi-Line (point trend with events)
- Single (bar graph)
- X Y Plot (point plot)
- Numeric (tabular)
- On-line change of trend type
- Up to thirty-two parameters on one trend
- Configurable sample densities
- Configurable sample periods
- Time of interest entry
- Individual pen enable/disable
- Rubber band zoom
- Hairline cursor readout
- Copy and paste trend data to Microsoft® Excel
- Embed trends in custom displays

Reports

Periodic, demandable, or event driven reports. Microsoft® SQL Server 2014 Reporting Services (SSRS) delivery of simple custom report interface with ComfortPoint Open.

ComfortPoint Open Standard Reports include:

Report	Description
Activity by equipment	Displays plant/equipment that have had the most alarms and/or events within a specified time range.
Activity by source	Displays the source of alarms and events grouped by plant/equipment within a specified time range.
Alarm and Event – Daily patterns	Shows a visual representation of when alarms were triggered at different times of the day and on different days.
Alarm and event summary	Lists all alarms or events matching a certain search criteria occurring over a range of time.
Override	Displays elements that are in override.
Scheduled resources	Describes the details of a resource, including the control items in the resource, the schedule start and end time, schedule name, and schedule control to state setting.
Scheduled resource details	Describes when and how a resource has been scheduled. Resources are grouped by location.
Daily supply temperature range	Displays the supply temperature range per day plotted against the outside air temperature.
Supply and Return Temperature	Displays the supply temperature against the return temperature over time.

HMIWeb Display Builder

Object-based display building package with dynamic display objects such as:

- Shapes
- Alphanumerics
- Checkboxes
- Combo boxes
- Pushbuttons
- Charts.

Many standard drawing features including:

- Tool Palette
- Color palette
- Alignment
- Group/Ungroup
- Snap to grid
- Zooming
- Resizing objects
- Horizontal and vertical spacing
- Library of commonly used symbols
- Remote engineering support.

Documentation

- Printed Documentation is Not Available
- All system documentation is delivered electronically with the ComfortPoint Open system.

Internationalization

Listed Languages – English, Spanish, Italian, German, French, Korean and Simplified Chinese.

Controller Support

Building Management Controllers:

- BACnet compatible controllers
- Honeywell ComfortPoint JACE
- Honeywell ComfortPoint
- Modbus, LON, third party supported via JACE or alternative BACnet protocol converter/transceiver.

Software License Options

- Alarm Pager (included in base packages)
- McAfee Antivirus® – extension of bundled 2 year agreement
- Acronis® back up software (included in base packages)
- Energy Manager Express
- Enterprise Dashboards

Product Specifications

Server Platform

Note: Refer to the EBI and CPO compatibility matrix documents for current version support

- Processor: Intel Xeon or equivalent capable to run Windows® 2012 R2
- Network Protocols: TCP/IP
- Memory: Minimum of 8 GB RAM
- Pointing Device: Mouse
- Keyboard: with 12 function keys
- Hard Disk: 100 GB drive or Larger
- Display Resolution: 1280 x 1024 x 65K colors
- Operating system: Windows® 7 or Windows® 2012 R2 Server

Operator (Client) Platform

- Processor: 3.0 GHz Pentium™ 4 processor or higher
- Pointing Device: Mouse
- Memory: 4 GB minimum
- Operating systems: Windows® 2012 R2, Windows® 10, Windows® 7 (x64)
- Display Resolution: 1280 x 1024 x 65K colors
- Network Protocol: TCP/IP
- Hard Disk: 60 GB drive (NTFS)
- Browser: Internet Explorer 11.0
- Keyboard: 12 function keys

Database Sizing:

The ComfortPoint Open with EBI base package includes licensing for database points and one browser.

Additional licensing for points can be purchased in quantities of the following packages to a maximum of 30,000 points per single EBI-CPO system:

- 250 point adder

Additional licensing for meters can be purchased up to a maximum of 50 meters per CPO system utilizing the Energy Manager Express offering.

Other Database parameters include the following:

Items	Maximum Number per single EBI-CPO system
Points	30,000
Meters	50 (via Energy Manager Express)
Alarms	2000* unique concurrent alarms * Each alarm is an aggregating on unlimited recurrences of the same alarm message
HMIWeb Browser Clients	Licensed individually Up to 10 concurrent connections
EasyMobile Clients	Tested to 300 connections. Virtually unlimited concurrent users.
Reports	1000 scheduled standard reports. Custom Reports may be configured within SQL reporting Services and this number is not limited.
Events	100,000 per 60 MB of disk space available
Assignable Locations	1000
Users	1000

ComfortPoint™ Open Controllers:

ComfortPoint Open Controllers are BACnet, BTL listed devices supporting the BACnet functional profiles below:

BACnet- Building Controller (B-BC) Fully Programmable Plant Controllers:

- CPO-PC-6A (Controller, router, remote IO support)
- CP-IPC (Controller, router, IO on-board and remote support)
- CP-CORE (Intelligent router/controller)
- CP-600e-AX (Niagara JACE Router, web server)
- CP-8000 (Niagara 4 JACE, controller, Router, web server)

BACnet Advanced Application Controllers (B-AAC), Fully Programmable, MS/TP bus controllers:

- CPO-VAV2A (direct coupled VAV box controller)
- CP-VAV (VAV box controller)
- CPO-R (Room Controller Family)
- CP-SPC (Small Point Controller)
- CPO-DIO (Remote I/O Controller)

Miscellaneous modules:

- CP-EXPIO (I/O module)
- CPO-FBA-1A, 2A, 3A, 4A (Remote IO modules)

Wall Modules/Sensors:

- TR40 (Sylk® bus communicating)
- TR42 (Sylk® bus communicating)
- TR23 (Multi-conductor wired wall module)

Refer to the Honeywell web site for additional Honeywell ComfortPoint Open information and specification data sheets:

www.BuildingSolutions.Honeywell.com

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Honeywell Building Solutions

1985 Douglas Drive North
Golden Valley, MN 55422
1-800-345-6770
www.honeywell.com

The Honeywell logo, consisting of the word "Honeywell" in a bold, red, sans-serif font.