

Automation Server

Enables StruxureWare Building Operation v1.3

A StruxureWare™ Building Operation server is the core of the system and performs key functionality, such as control logic, trend logging, and alarm supervision. The Automation Server software is pre-loaded on Schneider Electric supplied hardware that supports communication and connectivity to the I/O and field buses. The distributed intelligence of the Automation Server ensures fault tolerance in the system and provides a fully featured user interface through WorkStation and WebStation.



Automation Server

Automation Server Features



Automation Server



PRODUCT AT A GLANCE

- Communications hub
- Variety of connectivity options
- WorkStation/WebStation interface
- Native support for open protocols – BACnet, LonWorks and Modbus
- Web Services support
- EcoStruxure Web Services support
- Scalable custom configurations
- Two programming options
- 4 GB of memory for data and backup
- IT friendly and secure
- Hot-connect / Hot-swap
- Patented two-piece design
- Auto-addressing
- Simple DIN-rail installation

The Automation Server is a powerful device that can act as a standalone StruxureWare Building Operation server and also control I/O modules and monitor and manage field bus devices. In a small installation, the embedded Automation Server acts as a stand-alone StruxureWare Building Operation server, mounted with its I/O modules in a small footprint. In medium and large installations, functionality is distributed over multiple Automation Servers that communicate over TCP/IP.

Communications hub

Capable of coordinating traffic from above and below its location, the Automation Server can deliver data directly to you or to other servers throughout the site. The Automation Server can run multiple control programs, manage local I/O, alarms, and users, handle scheduling and logging, and communicate using a variety of protocols. Because of this, most parts of the system function autonomously and will continue to run as a whole even if communication fails or individual servers or devices go offline.

Variety of connectivity options

The Automation Server has numerous ports that enable it to communicate with a wide range of protocols, devices, and servers. The Automation Server has one 10/100 Ethernet port, two RS-485 ports, and one built-in I/O bus port. Additionally, there are two USB host ports and one USB device port. The device port allows you to upgrade and interact with the Automation Server using the Device Administrator.

WorkStation/WebStation interface

Through any client, the user experience is similar regardless of which StruxureWare Building Operation server the user is logged on to. The user can log directly on to an Automation Server to engineer, commission, supervise, and monitor the Automation Server as well as its attached I/O modules and field bus devices. See the WorkStation and WebStation data sheets for additional information.

Native support for open protocols

One of the cornerstones of StruxureWare Building Operation is support for open standards.

Native BTL-listed BACnet support

The Automation Server communicates directly to BACnet/IP and BACnet MS/TP networks. Compliant with ASHRAE 135-2004, the Automation Server is BTL-listed as a BACnet Building Controller (B-BC)*, the most advanced BACnet Device Profile and as a BACnet Operator Workstation (B-OWS)*. This capability provides access to the full range of BACnet devices from Schneider Electric and other vendors. The Automation Server can also serve as a BACnet Broadcast Management Device (BBMD) to facilitate BACnet systems that span multiple IP networks.

Automation Server Features (continued)

Native LonWorks support

The Automation Server has a built in FTT-10 port for integrated LonWorks functionality to enable access to any Schneider Electric LonWorks field controller or third-party LonWorks devices. Lonworks networks can be commissioned, bound, and configured from the Automation Server using the built-in LonWorks Network Management Tool. No third-party tools are needed. A protocol analyzer with powerful debugging and network quality monitoring features is also included.

Native Modbus support

The Automation Server natively integrates Modbus RS-485 master and slave configurations, as well as TCP client and server. This allows full access to third-party products and the range of Schneider Electric products that communicate on the Modbus protocol, such as power meters, UPS, circuit breakers, and lighting controllers.

Web Services support

The Automation Server supports the use of Generic Web Services based on open standards such as SOAP and REST to consume data into StruxureWare Building Operation. Use incoming third-party data (e.g. temperature forecast, energy cost) over the Web to determine site modes, scheduling and programming.

EcoStruxure Web Services support

EcoStruxure Web Services, Schneider Electric's Web Services standard, is natively supported in the Automation Server. EcoStruxure Web Services offers extra features between compliant systems whether within Schneider Electric or authorized third-party systems, including system directory browsing, read/write of current values, alarm receipt and acknowledgement, and historical trend log data. EcoStruxure Web Services is secure. User name and password are required to log on to the system.

Scalable custom configurations

The Automation Server and its family of I/O modules were designed to meet the unique needs of each installation. Depending on the configuration, each Automation Server can control up to 464 I/O points. Because power and communications are delivered along a common bus, multiple modules can be plugged together without tools in a simple one-step process using the built-in connectors.

Two programming options

Unique to the industry, the Automation Server has both Script and Function Block programming options. This flexibility ensures that the best programming method can be selected for the application.

4 GB of memory for data and backup

The Automation Server has an available capacity of 4 GB of memory. This represents 2 GB for application and historical data and 2 GB dedicated for backup storage. This ensures that all data is safe from damage, loss, or unintended edits. Users can also manually back up or restore the Automation Server to a storage location on a PC or network. Through the Enterprise Server, users have the ability to perform scheduled backups of associated Automation Servers to network storage for even greater levels of protection.

IT friendly and secure

The Automation Server communicates using networking standards, such as DHCP, HTTP, and HTTPS (see sidebar for more). This makes installation easy, management simple, and transactions secure.

Hot-connect / Hot-swap

Because critical applications require 24-hour operation, Schneider Electric designed the entire family of I/O modules for hot-connection of terminal bases and hot-swapping of modules to and from their bases. This design ensures continuous power and communication during many service operations.

Patented two-piece design

Each module can be separated from its terminal base to allow the site to be wired prior to the installation of the electronics. The patented locking mechanism serves as handles for removing the module from its base. All critical components have a protective cover that permits natural convection cooling to occur.

Auto-addressing

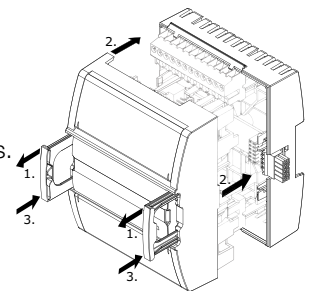
The auto-addressing feature eliminates the need for setting DIP switches or pressing commission buttons. With the Automation Server family, each I/O module automatically knows its order in the chain and assigns itself accordingly.

Simple DIN-rail installation

Fasteners easily snap into a locked position for panel installation. The fastener has a quick-release feature for easy DIN rail removal.

Supported Protocols

- IP addressing
- TCP communications
- DHCP / DNS for rapid deployment and lookup of addresses
- HTTP/HTTPS - Internet access through firewalls, enabling for remote monitoring and control
- NTP (Network Time Protocol) for time synchronization throughout the system
- SMTP enables sending email messages



Automation Server Specifications

v1.3 Specifications

Electrical

DC input

Nominal voltage

24 VDC

Power consumption

Max. 7 W

Mechanical

Enclosure

Eco Friendly ABS/PC

Enclosure rating

IP 20

Plastic rating

UL94-5VB rated plastic

Dimensions (including terminal base)

90 W x 114 H x 64 D mm
(3.6 W x 4.5 H x 2.5 D in.)

Weight (including terminal base)

0.294 kg (0.65 lb)

Weight (excluding terminal base)

0.194 kg (0.43 lb)

Installation

DIN-rail or panel installation

Operation environment

Ambient temperature, operating

0 °C to 50 °C (32 °F to 122 °F)

Ambient temperature, storage

-20 °C to +70 °C (-4 °F to +158 °F)

Humidity

Max. 95 % RH (non-condensing)

Agency compliances

Emission

C-Tick; EN 61000-6-3;

FCC Part 15, Sub-part B, Class B

Immunity

EN 61000-6-2

Safety

UL 916 C-UL US Listed

Real-Time Clock backup

30 days

Communications

Ethernet LAN interface

10/100 Mbit/s; twisted pair cable with RJ-45 connector

USB

1 device and 2 host ports

BACnet

BACnet/IP and MS/TP

BTL B-BC (BACnet Building Controller)*

BTL B-OWS (BACnet Operator

Workstation)*

WSPCert

*Specific firmwares versions may be required for BTL Listing status see: <http://www.bacnetinternational.net/btl/index.php?m=20>

LonWorks

TP/FT-10

COM A

2-wire RS-485

COM B

2-wire RS-485 and 3.3 VDC

I/O Modules

RS-485

TCP

Binary, port configurable,

default 4444

HTTP

Non-binary, port configurable, default 80

HTTPS

Encrypted supporting SSL 1.0, 2.0, 3.0

and TSL 1.0, port configurable

default 443

SMTP

Email sending, port configurable,

default 25

CPU

Frequency

160 MHz

SDRAM

128 MB

Flash memory

4 GB

Part numbers

Automation Server

P/N: SXWAUTSVR10001

TB-AS-W1, Terminal Base for Automation Server

(Required for each Automation Server)

P/N: SXWTBASW110001

Add-on options

SW-EWS-1, EcoStruxure Web Services (run-time) option – Consume only for one Automation Server, no maintenance

P/N: SXWSWEWSX00001

SW-EWS-2, EcoStruxure Web Services (run-time) option – Serve & Consume for one Automation Server, no maintenance

P/N: SXWSWEWSX00002

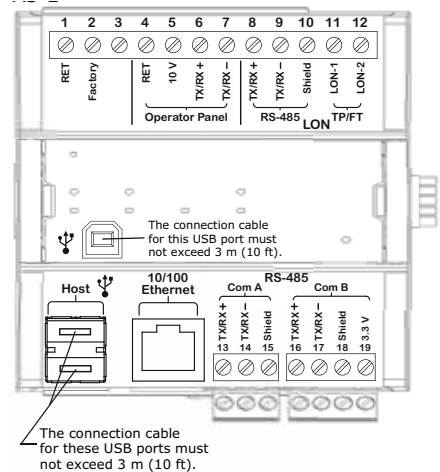
SW-EWS-3, EcoStruxure Web Services (run-time) option – Serve & Consume, plus Historical trend log data for one Automation Server, no maintenance

P/N: SXWSWEWSX00003

SW-GWS-1, Web Services (Generic Consume) option for one Automation Server, no maintenance

P/N: SXWSWGWSX00001

Connectors



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