Release v1.1

StruxureWare™ Building Operation

Automation Servers

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 is the hardware version of a StruxureWare Building Operation Server. The distributed intelligence of the Automation Servers ensures fault tolerance in the system and provides a fully featured user interface through WorkStation and WebStation.

AS-B

AS-L

Make the most of your energy℠

Schneider Electric

StruxureWare Building Operation Automation Server Features

AS-B AS-L

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.

PRODUCT AT A GLANCE

- Communications hub for the system
- Variety of connectivity options
- WorkStation/WebStation interface
- Native support for open protocols – BACnet, LonWorks and Modbus
- 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

Communications hub for the system

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. In the future, host ports will enable expansion of the system and integration of more devices, including serial expansion modules, other products from Schneider Electric, and products from other vendors.

WorkStation/WebStation interface

Through any client, the user experience is identical 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 WebStation datasheet for additional information.

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StruxureWare Building Operation Automation Server Features (continued)

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

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

Native LonWorks support (AS-L)
The AS-L module 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 the range of Schneider Electric products that communicate on the Modbus protocol, such as power meters, UPS, circuit breakers, and lighting controllers.

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, and HTTP (see sidebar for more). This makes installation easy, management simple, and transactions secure.

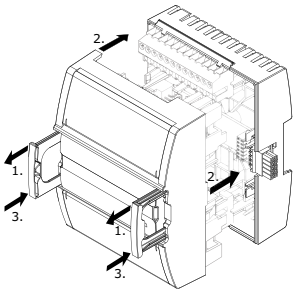
Hot-connect / Hot-swap
Because critical applications require 24-hour operation, Schneider Electric designed the entire family of I/O modules for hot-connection of terminal bases and hot-swapping of modules to and from their bases. This design ensures continuous power and communication during many service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



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StruxureWare Building Operation Automation Server Specifications

v1.1 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 (AS-B)

BACnet/IP and MS/TP

BTL B-BC (BACnet Building Controller)

WSPCert

LonWorks (AS-L)

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)

SMTP

(email sending, port configurable, default 25)

CPU

Frequency

160 MHz

SDRAM

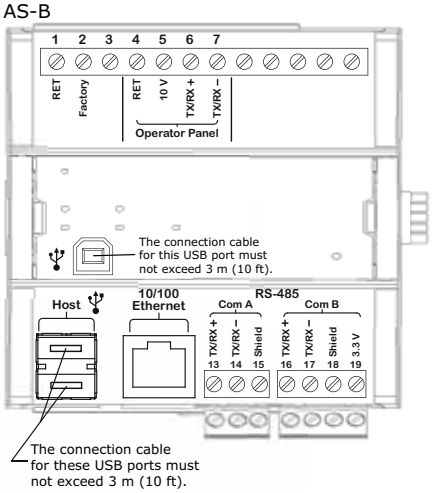
128 MB

Flash memory

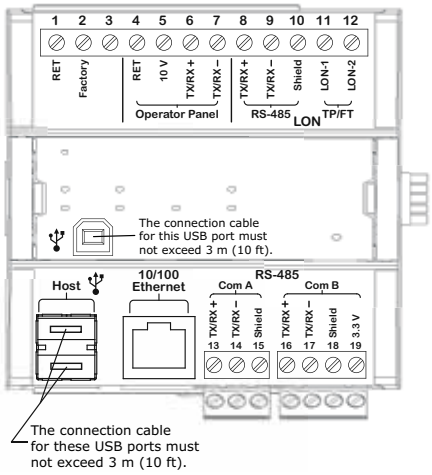
4 GB

Connectors

AS-B



AS-L



Part numbers

AS-L, Automation Server LonWorks

P/N: SXWASLXXX10001

AS-B, Automation Server BACnet

P/N: SXWASBXXX10001

TB-AS-W1, Terminal Base for Automation Server

(Required for each Automation Server: AS-B or AS-L)

P/N: SXWTBASW110001

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SDS-SXWBO-AUTOMATIONSERVER-A4.BU.N.EN.12.2011.0.00.CC January 2012 bas

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