Product Selection Guide

EcoStruxure™ Building

Integrated building management system

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Life Is On Schneider Electric

EcoStruxure™ Innovation At Every Level

Building

Unlock building value, unleash productivity

Next generation EcoStruxure™ Building from Schneider Electric is The Open Innovation Platform of Buildings – a collaborative Internet of Things (IoT) solution that features a scalable, secure and global architecture to create future-ready smart buildings.

EcoStruxure Building securely connects hardware, software, and services over an Ethernet IP backbone to:

- Maximize building efficiency
- Optimize comfort and productivity
- Increase building value

EcoXperts™ and other system integrator partners also benefit from many new deployment tools to achieve:

- Up to 30% increase in engineering efficiency
- Up to 20% faster commissioning and installation
- 10x more scalability for large and multisite building needs

The Connected Room Solution delivers buildings of the future

Our latest IP-enabled hardware and software helps create engaging environments with personalized comfort and increased operational and energy efficiency. Harness the power of today's smart buildings and the IoT to:

- enable Building Owners to **future-ready** their building's infrastructure for easier expansions & retrofits
- offer a **personalized experience** to Tenants and Occupants
- enable System Integrators to **increase project capacity** and cost-competitiveness

EcoStruxure Building delivers Innovation At Every Level

EcoXpert™ Partner Program

One Program. One Network. Endless Opportunities.

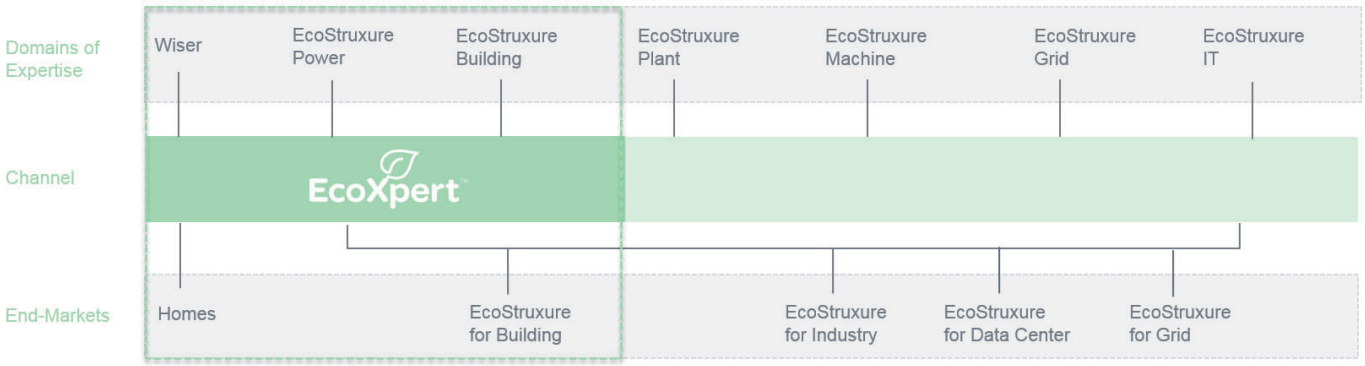
Innovating smarter buildings, more reliable infrastructures, and optimized efficiency.

At Schneider Electric, we constantly look beyond the norm to provide innovative solutions, both in technology and in the way we do business. That's the idea behind the EcoXpert™ Partner Program – an esteemed partnership between Schneider Electric and more than 3,000 of the world's leading technology providers with best-in-class systems integration competencies. Working with partners we trust is as important to us as it is to our customers. Spanning more than 50 countries, EcoXpert companies are certified on our IoT-enabled EcoStruxure™ architecture and platform, enabling them to deliver innovative and sustainable solutions, through integrated technology and digitization, to our shared customers.

The EcoXpert Program enables our certified partners and valued customers to share in the experience of ensuring that **Life Is On** everywhere, for everyone, and at every moment.

Our mission is to connect expertise, ignite growth and enable success for our EcoXpert partner companies, because together we deliver best-in-class services and solutions to our valued customers.

Our EcoXpert partners are the implementation arms of EcoStruxure in Homes and Buildings



Discover more about the EcoXpert Partner Program:
https://www.schneider-electric.com/ecoxpert

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Disclaimers

- Not all products in the guide may be available in every country, please check availability with the local Schneider Electric office.
- Some product images are not images of the exact model, but are represented by a “series” image.
- Information within this guide is subject to change without notice.
- Schneider Electric is not responsible for inadvertent typographical errors or omissions.

Flexible, personalized user workspace

EcoStruxure solution provides an attractive, modern interface that can be organised by individual users to suit their needs. These preferences follow users regardless of where they log on. The information each user can access, such as graphics and alarms, can be managed at the job function, or individual level for added security and accountability.

EcoStruxure™ Building Operation

EcoStruxure™ Building Operation software is the edge control heart of the EcoStruxure Building system to monitor, manage and control building systems. With an open integration platform, it securely facilitates the exchange of data from both Schneider Electric and third-party energy, lighting, HVAC, fire safety, security and workplace management systems to create future-ready smart buildings.

Enterprise Central dedicated supervisory server at the top of the EcoStruxure Building system architecture can integrate up to 10 Enterprise Servers, hosting as many as 2,500 SmartX Edge Servers (AS-P and AS-B) to easily scale operations management across the largest buildings, campuses, and multisite real estate portfolios from a single location.

Enterprise Server, the Windows® applications version of the Building Operation Server, is the single point of administration through WorkStation, WebStation, and mobile applications. Enterprise Server collects site-wide data and configures, controls and monitors the entire system. It generates aggregated reports, standardizes critical security policies, normalizes alarm presentation and prioritization, and audits activity across the entire organization.

SmartX Edge Servers at the edge control level of the architecture are automation servers for use in any application. Including the AS-P and AS-B versions, SmartX Edge Servers feature dual Ethernet ports to elevate BACnet field bus communication to the IP level to modernize existing building management systems while keeping in place existing field buses and devices.

WorkStation interface provides users and engineers with access to SmartX Edge Servers and Enterprise Servers to view and manage graphics, alarms, scheduling, trend logs and reports. WorkStation now offers a new array of engineering efficiency tools and features to speed administrative functions, including standard applications, mass change/mass update; custom types and libraries, and more.

WebStation user interface provides a truly mobile experience for anytime, anywhere access to commonly used functions of EcoStruxure Building Operation on any platform without the installation of additional software. Developers can now engineer once and the workspace automatically adapts the same high-quality user experience for desktop, tablet and mobile devices, saving valuable engineering time and resources.

Smart Connector is an open, extensible and configurable application framework that allows developers to create innovative new capabilities, applications and solutions that extend and enhance EcoStruxure™ Building. Smart Connector infuses a new level of flexibility and openness by enabling rapid, repeatable, and flexible integration with third-party systems or other data sources systems.

SmartDriver is a custom driver for connection with other intelligent building devices that use non-native protocols (available with Building Operation v1.8.1 and later versions).

EcoStruxure Energy Expert is an embedded software module that enables energy usage to be monitored, and managed in the same system as HVAC, lighting and fire safety. Designed specifically for non-electrical experts in buildings with non-critical power needs.

Part Number	Product Name	Description
Enterprise Central		
SXWSWECXX00005	Enterprise Central - 5	The Enterprise Central is the Windows® application that aggregates and archives data from up to 5 EcoStruxure Enterprise Servers
SXWSWECXX00010	Enterprise Central - 10	The Enterprise Central is the Windows® application that aggregates and archives data from up to 10 EcoStruxure Enterprise Servers
Enterprise Server		
SXWSWESXX00010	Enterprise Server - 10	The Enterprise Server is the Windows® application that aggregates and archives data from up to 10 EcoStruxure SmartX Edge Servers
SXWSWESXX00050	Enterprise Server - 50	The Enterprise Server is the Windows® application that aggregates and archives data from up to 50 EcoStruxure SmartX Edge Servers
SXWSWESXX00100	Enterprise Server - 100	The Enterprise Server is the Windows® application that aggregates and archives data from up to 100 EcoStruxure SmartX Edge Servers
SXWSWESXX00250	Enterprise Server - 250	The Enterprise Server is the Windows® application that aggregates and archives data from up to 250 EcoStruxure SmartX Edge Servers
SXWSWASES00001	ES Hosting AS Pack -1	Allows the addition of one more SmartX Edge Servers than were supported by the original Enterprise Server purchased
SXWSWNDES00010	ES Hosting AS Pack - 10	Allows the addition of 10 more SmartX Edge Servers than were supported by the original Enterprise Server purchased
SXWSWNDES00005	ES Hosted Node Pack - 5	Allow the addition of 5 servers or controllers to any of the interfaces supported by the Enterprise Server
SXWSWNDES00010	ES Hosted Node Pack - 10	Allow the addition of 10 servers or controllers to any of the interfaces supported by the Enterprise Server
SXWSWNDES00025	ES Hosted Node Pack - 25	Allow the addition of 25 servers or controllers to any of the interfaces supported by the Enterprise Server
SXWSWNDES00050	ES Hosted Node Pack - 50	Allow the addition of 50 servers or controllers to any of the interfaces supported by the Enterprise Server
SXWSWNDES00100	ES Hosted Node Pack - 100	Allow the addition of 100 servers or controllers to any of the interfaces supported by the Enterprise Server
SXWSWNDES00300	ES Hosted Node Pack - 300	Allow the addition of 300 servers or controllers to any of the interfaces supported by the Enterprise Server
SXWSWNDES00600	ES Hosted Node Pack - 600	Allow the addition of 600 servers or controllers to any of the interfaces supported by the Enterprise Server

* The Enterprise Server is BACnet B-OWS and B-BC certified; the testing for this certification included the use of EcoStruxure Building Operation WorkStation as the HMI.

EcoStruxure™ Building Operation (continued)

Part Number	Product Name	Description
Clients		
SXWSWCLIENT0001	Building Operation Client - 1	Fully featured environment for operating and administering all aspects of the system – 1 seat
SXWSWCLIENT0005	Building Operation Client - 5	Fully featured environment for operating and administering all aspects of the system – 5 seats
SXWSWCLIENT0010	Building Operation Client - 10	Fully featured environment for operating and administering all aspects of the system – 10 seats
SXWSWCLIENT0025	Building Operation Client - 25	Fully featured environment for operating and administering all aspects of the system – 25 seats
SXWSWCLIENT0999	Building Operation Client - unl	Fully featured environment for operating and administering all aspects of the system – Unlimited seats
Driver		
SXWSWSDRV00001	Smart Driver License	Allow "drivers" to be deployed, loaded and run on the Enterprise Server and the SmartX Controller - AS-P
Engineering Tools		
SXWSWWORK00002	WorkStation Professional	A full environment for operating and engineering all aspects of EcoStruxure Building Operation
SXWSWEDIT00001	Editors	An environment that provides the ability to edit graphics, script programs and function block programs.
Add-On Features		
SXWSWSNMP00001	SNMP Alarming	This option provides support for SNMP alarm traps v3.0 notifications on any EcoStruxure Building server.
SXWSWEWSX00001	EWS 1	A common integration method to other Schneider Electric systems and services. Consume
SXWSWEWSX00002	EWS 2	A common integration method to other Schneider Electric systems and services. Consume and serve
SXWSWEWSX00003	EWS 3	A common integration method to other Schneider Electric systems and services. Consume, serve and gather history
SXWSWGWSX00001	GWS	An integration method to other systems and services
SXWSWDASH00001	Personal Dashboards license	Enables Personal Dashboard feature on one Enterprise Server or Enterprise Central
SXWSWECDBTS001	TimescaleDB connection license	Enables high capacity historical storage in TimescaleDB on one Enterprise Central
SXWSWESDBTS001	TimescaleDB connection license	Enables high capacity historical storage in TimescaleDB on one Enterprise Server
EcoStruxure Energy Expert		
PSWPMNCZZSPEZZ	Energy Expert Base	Energy Expert software module license for a PC server (no maintenance subscription included)

(*) Only supported by Managed Device / BYOD Customized deployment method.

(**) Supported by Managed Device / BYOD Customized and Generic: this requires an unlimited devices deployment license.

Functionality matrix

WorkStation Standard - WorkStation software without graphics editor, script and function block programming editors.
WorkStation Pro - WorkStation software including graphics editor, script and function block programming editors.
WebStation - Direct access to an Automation Server and/or Enterprise Server using a web browser.
WebReports - Direct access to the Reports Server using a web browser.

• Full functionality o Partial functionality	WorkStation Standard	WorkStation Pro	WebStation	WebReports
Dashboards				
View public dashboards			Full	
Create and edit public dashboards	Partial	Partial	Full	
View personal dashboards			Full	
Create and edit personal dashboards			Full	
View slideshows			Full	
Create and edit slideshows	Full	Full	Full	
Alarms				
View alarms	•	•	•	
Manage alarms	•	•	•	
Edit alarms	•	•	o *2	
Create alarms	•	•		
Support for flashing & audible alarms	•	•		
BACnet™				
View priority array	•	•	•	
Edit priority array	•	•	•	
Create devices (includes device discovery)	•	•		
Manage BACnet backup and restore	•	•		
Graphics				
View Graphics	•	•	•	
Create and edit graphics		•		
Logs & Extended Logs				
View logs	•	•	•	
Edit logs	•	•	o *4	
Create logs	•	•	o *5	
View multi trend log lists	•	•	•	
Create and edit multi trend log lists	•	•		
Export to CSV and XML	Full	Full		
Export to Microsoft Excel	Full	Full	Full	
View extended logs	•	•	•	
Edit extended logs	•	•	o *4	
Create extended logs	•	•		
LON				
Create devices (includes device discovery)	•	•		
Manage devices	•	•		
View Network Variables (NVs) and Configuration Parameters (CPs)	•	•	•	
Edit NVs and CPs	•	•	•	
Modbus®				
Create devices	•	•		
Manage devices	•	•		
View values	•	•	•	
Edit values	•	•	•	
Point Values - e.g. Temperature Setpoint				
View values	•	•	•	
Edit values - e.g. "change setpoint"	•	•	•	
Programs				
Create and edit customised programs		•		
View graphical function block viewer	•	•		
Program MNL/MNB controllers		• *7		

* 1 Supports alarm acknowledgement.
* 2 Edit alarm ranges, text, delay times, shunt variables, assignments, deadband.
* 3 View in list format.
* 4 Change parameters - e.g. interval time.
* 5 Create interval log type.
* 6 NVs and CPs are displayed only in SI units.

Functionality matrix, continued

• Full functionality o Partial functionality	WorkStation Standard	WorkStation Pro	WebStation	WebReports
Reports				
View reports	•	•	•	•
Edit reports	•	•	• *8	•
Create & configure reports	•	•		
Administer reports				•
Schedules & Calendars				
View schedules and calendars	•	•	•	
Edit schedules and calendars	•	•	•	
Create schedules and calendars	•	•		
Users & User Groups				
Create and edit users	•	•	o *9	
Create and edit user's group membership	•	•	o *9	
Create and edit groups	•	•		
Create and edit permissions	•	•		
User Experience				
View customised workspaces	•	•	•	
Log on as windows Active Directory user	•	•	•	
Automatic guest account log on			•	
Password management	•	•	•	
Create and edit saved searches	•	•		
View saved search	•	•	•	
Ad hoc search	•	•	•	
Kiosk mode			•	
Bookmarking to a particular web view			•	•
Support for localisation	•	•	•	
Support for translation	•	• *10	•	o *11
Ability to change language on the client side	•	•	•	
Other				
Configure & edit I/O points, field buses, and communication ports	•	•		
Create and edit logical structure	•	•		
Create and edit viewers, panels and workspaces	•	•		
View & configure Watch pane	•	•	•	
View events	•	•	•	
Administer backup/restore of database	•	•		
Manage archiving	•	•		

*8 Edit some parameters per report, save changes or make a copy of the report with changes.
*9 Cannot assign permissions.
*10 Translation is only supported in the WorkStation interface; it is not supported for graphics and programming editors.
*11 Report text can be edited and translated using a Report Definition Language (RDL) editor such as Microsoft® Report Builder.

SmartX Edge Server – AS-P

The SmartX Edge Server – AS-P is a EcoStruxure server device at the Edge Level of the architecture. With superior performance, the AS-P simplifies system integration and transition, and is the preferred choice for large, complex enterprise applications.

SmartX Edge Server – AS-P

The SmartX Edge Server – AS-P and AS-B feature dual Ethernet ports to elevate BACnet field bus communication to the IP level. Modernize the BMS while keeping in place legacy field buses and devices to future-ready current systems and move buildings into the 21st century!

	AS-P	ASP-SMK
Part Number	**SXWASPXXX10001**	**SWXASPXXX1S001**
Communications		
Communication Interface	LonWorks FTT-10, BACnet/IP, BACnet MS/TP, Modbus TCP (Client+Server), Modbus serial (Master+Slave), EWS, Generic WebSevice consume	LonWorks FTT-10, BACnet/IP, BACnet MS/TP, Modbus TCP (Client+Server), Modbus serial (Master+Slave), EWS, Generic WebSevice consume
Software		
Programability	Function Block/Script Programmable	Function Block/Script Programmable
Physical		
Dimensions	90 W x 114 H x 64 D mm (3.60 W x 4.50 H x 2.50 D in.)	90 W x 114 H x 64 D mm (3.60 W x 4.50 H x 2.50 D in.)
Weight (including baseplate)	0.245 kg (0.54 lb)	0.245 kg (0.54 lb)
Power		
Power	24 VDC	24 VDC
Consumption	10 W	10 W
Environmental		
Operating Range	0°C to 50°C (32°F to 122°F) 0-95% RH (non-condensing)	0°C to 50°C (32°F to 122°F) 0-95% RH (non-condensing)
CPU Internals		
CPU	SPEAr320S, ARM926 core	SPEAr320S, ARM926 core
Memory	4 GB	4 GB
Battery	No	No
Real time clock	Yes -10 days backup/Super Capacitor	Yes -10 days backup/Super Capacitor
External Features		
Enclosure rating	Eco Friendly ABS/PC, UL94 5VB, IP 20 (<12.5 mm protection)	Eco Friendly ABS/PC, UL94 5VB, IP 20 (<12.5 mm protection)
HOA Switches (DO/AO)	N/A	N/A
Manual Override of Outputs	N/A	N/A
Digital Status LEDs	Yes	Yes
Service Port	Yes	Yes
Terminals		
I/O Expansion	Yes - Up to 29 modules/464 max I/O	Yes - Up to 29 modules/464 max I/O
External Enclosure/Mounting		
Mounting	DIN-rail or wall mount	DIN-rail or wall mount
Certifications		
BTL	Yes	Yes
FCC	47 CFR § 15, Class B (Emission)	47 CFR § 15, Class B (Emission)
Industry Canda (IC)	ICES-003 (Emission)	ICES-003 (Emission)
UL	UL-916 (Energy Management Equipment)	UL-916 (Energy Management Equipment)
C-UL US	Yes	Yes
CE - EU	Yes	Yes
WEEE - Directive of the European Union	Yes	Yes
RoHS Directive	Yes	Yes
RCM	Yes	Yes
US Patent	8 207 842, 8 271 102, 7 994 438	8 207 842, 8 271 102, 7 994 438
UL-864	No	Yes

*Notes: EcoStruxure solution installations or BMS transitions requiring UL-864 certifications must use the SmartX Controller AS-P-SMK (listed above).

SmartX Controller - AS-P and AS-B conform to the BACnet® Building Controller (B-BC) profile at protocol revision 12 by the BACnet Testing Laboratories (BTL ®). StruxureWare™ Building Operation v1.9 is the certified firmware revision.

Power Supply and Module Terminal Bases

The PS-24V is a power supply module that accommodates 24 VAC or 24 VDC input power. Each power supply module delivers reliable and consistent output power of 24 VDC to the backplane. It can deliver power to the AS-P and a number of I/O modules calculated from the Power Budget Table (located below). If more I/O modules are needed, another power supply can be added to the bus. The power supplies are isolated from each other while also providing communication pass-through.

PS-24V
Automation Server Power Supply

Part Number	Product Name	Description
SXWPS24VX10001	PS-24V	Power Supply 24 VAC or 21-30 VDC
SXWTBPSW110001	TB-PS-W1	Terminal Base Power Supply (Terminal Base required for each power supply)
SXWTBASW110002	TB-ASP-W1	Terminal Base AS-P (Terminal base required for each AS-P)
SXWTBIOW110001	TB-IO-W1	Terminal Base I/O (Terminal Base required for each I/O module)

I/O Module
Terminal Base and Module Detail

NOTE: An appropriate terminal base is required for each module, including the AS-P, Power Supply and I/O Modules. See the above table for the correct part numbers.

Power Supply Selection Table

Power Requirements	
SmartX Edge Server – AS-P	24 VDC / 10 W
SmartX Edge Server – AS-B	24 VDC / 10 W 24 VAC / 15 VA
Power Requirements - Input only I/O	**24 VDC Power**
DI-16	1.6 W
RTD-DI-16	1.6 W
UI-16	1.8 W
Power Requirements - Output only I/O	**24 VDC Power**
DO-FA-12	1.8 W
DO-FA-12-H	1.8 W
DO-FC-8	2.2 W
DO-FC-8-H	2.2 W
AO-8	4.9 W
AO-8-H	4.9 W
AO-V-8	0.7 W
AO-V-8-H	0.7 W
Power Requirements - Mixed I/O	**24 VDC Power**
UI-8/DO-FC-4	1.9 W
UI-8/DO-FC-4-H	1.9 W
UI-8/AO-4	3.2 W
UI-8/AO-4-H	3.2 W
UI-8/AO-V-4	1.0 W
UI-8/AO-V-4-H	1.0 W

Please refer to the appropriate Data Sheets for more information.

I/O Modules

The Automation Server includes support for a broad spectrum of I/O modules. The variety of modules available ensures the right combination of points for any project, which keeps costs down for our customers. Some modules are available with Hand/Off/Auto (HOA) switches to provide override control of the outputs.

UI-16
16 Channel Universal Input

DI-16
16 Channel Digital Input

AO-8, AO-8-H
8 Channel Analog Output

	UI-16	DI-16	AO-8, AO-8-H
Part Number	**SXWUI16XX10001**	**SXWDI16XX10001**	**SXWAO8XXX10001, SXWAO8HXX10001**
Physical			
Dimensions	90 W x 114 H x 64 D mm (3.60 W x 4.50 H x 2.50 D in.)	90 W x 114 H x 64 D mm (3.60 W x 4.50 H x 2.50 D in.)	90 W x 114 H x 64 D mm (3.60 W x 4.50 H x 2.50 D in.)
Weight (including baseplate)	0.269 kg (0.59 lb.)	0.255 kg (0.56 lb.)	0.279 kg (0.62 lb.)
Power			
Power	24 VDC	24 VDC	24 VDC
Consumption	1.8 W	1.6 W	0.7 W
Environmental			
Operating Range	0 °C to 50 °C (32 °F to 122 °F) 0-95% RH (non-condensing)	0 °C to 50 °C (32 °F to 122 °F) 0-95% RH (non-condensing)	0 °C to 50 °C (32 °F to 122 °F) 0-95% RH (non-condensing)
External Features			
Enclosure rating	Eco Friendly ABS/PC, UL94 5VB, IP 20 (<12.5 mm protection)	Eco Friendly ABS/PC, UL94 5VB, IP 20 (<12.5 mm protection)	Eco Friendly ABS/PC, UL94 5VB, IP 20 (<12.5 mm protection)
HOA Switches (DO/AO)	No	No	Available on -H model
Digital Status LEDs	Yes	Yes	No
Service Port	No	No	No
Terminals			
I/O Terminals	Terminal base	Terminal base	Terminal base
External Enclosure/Mounting			
Mounting	DIN-rail or wall mount	DIN-rail or wall mount	DIN-rail or wall mount
Certifications			
FCC	47 CFR § 15, Class B (Emission)	47 CFR § 15, Class B (Emission)	47 CFR § 15, Class B (Emission)
Industry Canada (IC)	ICES-003 (Emission)	ICES-003 (Emission)	ICES-003 (Emission)
UL	UL-916 (Energy Management Equipment)	UL-916 (Energy Management Equipment)	UL-916 (Energy Management Equipment)
C-UL US	No	No	No
CE - EU	Yes	Yes	Yes
WEEE - Directive of the European Union	Yes	Yes	Yes
RoHS Directive	Yes	Yes	Yes
RCM	Yes	Yes	Yes
US Patent	7 994 438	7 994 438	7 994 438

I/O Modules, continued

AO-V-8 , AO-V-8-H
8 Channel Analog Output
Voltage Points

DO-FA-12 , DO-FA-12-H
12 Channel Digital Output,
Form-A

DO-FC-8, DO-FC-8-H
8 Channel Digital Output,
Form-C

	AO-8-V, AO-8-V-H	DO-FA-12, DO-FA-12-H	DO-FC-8, DO-FC-8-H
Part Number	**SXWAOV8XX10001, SXWAOV8HX10001**	**SXWDOA12X10001, SXWDOA12H10001**	**SXWDOC8XX10001, SXWDOC8HX10001**
Physical			
Dimensions	90 W x 114 H x 64 D mm (3.60 W x 4.50 H x 2.50 D in.)	90 W x 114 H x 64 D mm (3.60 W x 4.50 H x 2.50 D in.)	90 W x 114 H x 64 D mm (3.60 W x 4.50 H x 2.50 D in.)
Weight (including baseplate)	0.279 kg (0.62 lb.)	0.317 kg (0.70 lb.)	0.332 kg (0.73 lb.)
Power			
Power	24 VDC	24 VDC	24 VDC
Consumption	0.7 W	1.8 W	2.2 W
Environmental			
Operating Range	0 °C to 50 °C (32 °F to 122 °F) 0-95% RH (non-condensing)	0 °C to 50 °C (32 °F to 122 °F) 0-95% RH (non-condensing)	0 °C to 50 °C (32 °F to 122 °F) 0-95% RH (non-condensing)
External Features			
Enclosure rating	Eco Friendly ABS/PC, UL94 5VB, IP 20 (<12.5 mm protection)	Eco Friendly ABS/PC, UL94 5VB, IP 20 (<12.5 mm protection)	Eco Friendly ABS/PC, UL94 5VB, IP 20 (<12.5 mm protection)
HOA Switches (DO/AO)	Available on -H model	Available on -H model	Available on -H model
Digital Status LEDs	No	Yes	Yes
Service Port	No	No	No
Terminals			
I/O Terminals	Terminal base	Terminal base	Terminal base
External Enclosure/Mounting			
Mounting	DIN-rail or wall mount	DIN-rail or wall mount	DIN-rail or wall mount
Certifications			
FCC	47 CFR § 15, Class B (Emission)	47 CFR § 15, Class B (Emission)	47 CFR § 15, Class B (Emission)
Industry Canada (IC)	ICES-003 (Emission)	ICES-003 (Emission)	ICES-003 (Emission)
UL	UL-916 (Energy Management Equipment)	UL-916 (Energy Management Equipment)	UL-916 (Energy Management Equipment)
C-UL US	No	No	Yes
CE - EU	Yes	Yes	Yes
WEEE - Directive of the European Union	Yes	Yes	Yes
RoHS Directive	Yes	Yes	Yes
RCM	Yes	Yes	Yes
US Patent	2002/96/EC	2002/96/EC	2002/96/EC

I/O Modules, continued

UI-8/AO-4, UI-8/AO-4-H
8 Channel Universal Inputs
with 4 Analog Outputs

UI-8/AO-V-4, UI-8/AO-V-4-H
8 Channel Universal Inputs
with 4 Channel Voltage
Outputs
(UI-8/AO-V-4-H shown)

UI-8/DO-FC-4, UI-8/DO-FC-4-H
8 Channel Universal Inputs with 4
Channel Digital Outputs, Form-C

	UI-8/AO-4, UI-8/AO-4-H	UI-8/AO-V-4, UI-8/AO-V-4-H	UI-8/DO-FC-4, UI-8/DO-FC-4-H
Part Number	**SXWUI8A4X10001, SXWUI8A4H10001**	**SXWUI8V4X10001, SXWUI8V4H10001**	**SXWUI8D4X10001, SXWUI8D4H10001**
Physical			
Dimensions	90 W x 114 H x 64 D mm (3.60 W x 4.50 H x 2.50 D in.)	90 W x 114 H x 64 D mm (3.60 W x 4.50 H x 2.50 D in.)	90 W x 114 H x 64 D mm (3.60 W x 4.50 H x 2.50 D in.)
Weight (including baseplate)	0.276 kg (0.61 lb.)	0.276 kg (0.61 lb.)	0.304 kg (0.67 lb.)
Power			
Power	24 VDC	24 VDC	24 VDC
Consumption	3.2 W	1.0 W	1.9 W
Environmental			
Operating Range	0 °C to 50 °C (32 °F to 122 °F) 0-95% RH (non-condensing)	0 °C to 50 °C (32 °F to 122 °F) 0-95% RH (non-condensing)	0 °C to 50 °C (32 °F to 122 °F) 0-95% RH (non-condensing)
External Features			
Enclosure rating	Eco Friendly ABS/PC, UL94 5VB, IP 20 (<12.5 mm protection)	Eco Friendly ABS/PC, UL94 5VB, IP 20 (<12.5 mm protection)	Eco Friendly ABS/PC, UL94 5VB, IP 20 (<12.5 mm protection)
HOA Switches (DO/AO)	Available on -H model	Available on -H model	Available on -H model
Digital Status LEDs	Yes	Yes	Yes
Service Port	No	No	No
Terminals			
I/O Terminals	Terminal base	Terminal base	Terminal base
External Enclosure/Mounting			
Mounting	DIN-rail or wall mount	DIN-rail or wall mount	DIN-rail or wall mount
Certifications			
FCC	47 CFR § 15, Class B (Emission)	47 CFR § 15, Class B (Emission)	47 CFR § 15, Class B (Emission)
Industry Canada (IC)	ICES-003 (Emission)	ICES-003 (Emission)	ICES-003 (Emission)
UL	UL-916 (Energy Management Equipment)	UL-916 (Energy Management Equipment)	UL-916 (Energy Management Equipment)
C-UL US	Yes	Yes	Yes
CE - EU	Yes	Yes	Yes
WEEE - Directive of the European Union	Yes	Yes	Yes
RoHS Directive	Yes	Yes	Yes
RCM	Yes	Yes	Yes
US Patent	7 994 438	7 994 438	7 994 438

I/O Modules, continued

RTD-DI-16
16 Channel Inputs (RTD and Digital) Combination Module

	RTD-DI-16
Part Number	**SXWRTD16X10001**
Physical	
Dimensions	90 W x 114 H x 64 D mm (3.60 W x 4.50 H x 2.50 D in.)
Weight (including baseplate)	0.269 kg (0.59 lb.)
Power	
Power	24 VDC
Consumption	1.6 W
Environmental	
Operating Range	0 °C to 50 °C (32 °F to 122 °F) 0-95% RH (non-condensing)
External Features	
Enclosure rating	Eco Friendly ABS/PC, UL94 5VB, IP 20 (<12.5 mm protection)
HOA Switches (DO/AO)	No
Digital Status LEDs	Yes
Service Port	No
Terminals	
I/O Terminals	Terminal base
External Enclosure/Mounting	
Mounting	DIN-rail or wall mount
Certifications	
FCC	47 CFR § 15, Class B (Emission)
Industry Canada (IC)	ICES-003 (Emission)
UL	UL-916 (Energy Management Equipment)
C-UL US	Yes
CE - EU	Yes
WEEE - Directive of the European Union	Yes
RoHS Directive	Yes
RCM	Yes
US Patent	7 994 438

I/O Modules – Inputs and Outputs

	UI-16	DI-16	AO-8, AO-8-H	AO-8-V, AO-8-V-H	DO-FA-12, DO-FA-12-H	DO-FC-8, DO-FC-8-H
Part Number	SXWUI16XX10001	SXWDI16XX10001	SXWAO8XXX10001, SXWAO8HXX10001	SXWAOV8XX10001, SXWAOV8HX10001	SXWDOA12X10001, SXWDOA12H10001	SXWDOC8XX10001, SXWDOC8HX10001
Universal Inputs	16					
Digital Contact	•					
Digital Counter - Low Speed						
Digital Counter - Medium Speed	•					
Digital Counter - High Speed						
Digital Supervised	•					
Analog Voltage - 0-1 V	•					
Analog Voltage - 0-5 V	•					
Analog Voltage - 0-10 V	•					
Analog Voltage - 2-10 V	•					
Analog Current - 0-20 mA	•					
Analog Current - 4-20 mA	•					
Analog Resistance	•					
Analog Thermistor - 10 k	•					
Analog Thermistor - 1.8 k	•					
Analog Thermistor - 1 k	•					
Analog Thermistor - 20 k	•					
Analog Thermistor - 2.2 k	•					
Analog RTD - Pt100						
Analog RTD - Pt1000						
Analog RTD - Ni1000						
Analog RTD - LG Ni1000						
Digital Inputs		16				
Digital Contact		•				
Counter - Low Speed						
Counter - Medium Speed		•				
Counter - High Speed						
Digital Outputs					12	8
Form A, SPST					•	
Form C, SPDT						•
Triac						
Analog Outputs			8	8		
Voltage - 0-10 V			•	•		
Current - 0-20 mA			•			

I/O Modules – Inputs and Outputs, continued

	UI-8/AO-4, UI-8/AO-4-H	UI-8/AO-V-4, UI-8/AO-V-4-H	UI-8/DO-FC-4, UI-8/DO-FC-4-H	RTD-DI-16
Part Number	SXWUI8A4X10001, SXWUI8A4H10001	SXWUI8V4X10001, SXWUI8V4H10001	SXWUI8D4X10001, SXWUI8D4H10001	SXWRTD16X10001
Universal Inputs	8	8	8	16*
Digital Contact	•	•	•	•
Digital Counter - Low Speed				
Digital Counter - Medium Speed	•	•	•	•
Digital Counter - High Speed				
Digital Supervised	•	•	•	
Analog Voltage - 0-1 V	•	•	•	
Analog Voltage - 0-5 V	•	•	•	
Analog Voltage - 0-10 V	•	•	•	
Analog Voltage - 2-10 V	•	•	•	
Analog Current - 0-20 mA	•	•	•	
Analog Current - 4-20 mA	•	•	•	
Analog Resistance	•	•	•	•
Analog Thermistor - 10 k	•	•	•	
Analog Thermistor - 1.8 k	•	•	•	
Analog Thermistor - 1 k	•	•	•	
Analog Thermistor - 20 k	•	•	•	
Analog Thermistor - 2.2 k	•	•	•	
Analog RTD - Pt100				•
Analog RTD - Pt1000				•
Analog RTD - Ni1000				•
Analog RTD - LG Ni1000				•
Digital Inputs				
Digital Contact				
Counter - Low Speed				
Counter - Medium Speed				
Counter - High Speed				
Digital Outputs			4	
Form A, SPST				
Form C, SPDT			•	
Triac				
Analog Outputs	4	4		
Voltage - 0-10 V	•	•		
Current - 0-20 mA	•			

SmartX Edge Server – AS-B

The SmartX Edge Server – AS-B is the most compact, all-in-one BMS. It features flexible on-board universal I/O configurations and built-in power supply. An EcoStruxure server device, its powerful, compact design is ideal for small-to-medium main plant control applications. It offers lower total installation costs.

SmartX Edge Server – AS-B

Note: Screw terminal blocks for the AS-B and AS-BL must be ordered separately. Please find the AS-B Connector Kit part number in the Accessories section on page E16.

	AS-B-24(H)	AS-B-36(H)
Part Number	**SXWASB24(X,H)10001**	**SXWASB36(X,H)10001**
Communications		
Communication Interface	BACnet/IP, BACnet MS/TP, Modbus TCP (Client+Server), Modbus serial (Master+Slave), EWS, Generic WebSevice consume	BACnet/IP, BACnet MS/TP, Modbus TCP (Client+Server), Modbus serial (Master+Slave), EWS, Generic WebSevice consume
Software		
Programmability	Function Block/Script Programmable	Function Block/Script Programmable
Physical		
Dimensions	198 W x 110 H x 64 D mm (7.8 W x 4.3 H x 2.5 D in.)	198 W x 110 H x 64 D mm (7.8 W x 4.3 H x 2.5 D in.)
Weight (including baseplate)	0.504 kg (1.111 lb)	0.504 kg (1.111 lb)
Power		
Power	24 VAC/DC	24 VAC/DC
Consumption	10 W	10 W
Environmental		
Operating Range	0°C to 50°C (32°F to 122°F) 0-95% RH (non-condensing)	0°C to 50°C (32°F to 122°F) 0-95% RH (non-condensing)
CPU Internals		
CPU	SPEAr320S, ARM926 core	SPEAr320S, ARM926 core
Memory	4 GB	4 GB
Battery	No	No
Real time clock	Yes -10 days backup/Super Capacitor	Yes -10 days backup/Super Capacitor
External Features		
Enclosure rating	Eco Friendly ABS/PC, UL94 5VB, IP 20 (<12.5 mm protection)	Eco Friendly ABS/PC, UL94 5VB, IP 20 (<12.5 mm protection)
HOA Switches (DO/AO)	N/A	N/A
Manual Override of Outputs	Yes - On 'H' model	Yes - On 'H' model
Digital Status LEDs	Yes	Yes
Service Port	Yes	Yes
Terminals		
I/O Expansion	No	No
External Enclosure/Mounting		
Mounting	DIN-rail or wall mount	DIN-rail or wall mount
Certifications		
BTL	Yes	Yes
FCC	47 CFR § 15, Class B (Emission)	47 CFR § 15, Class B (Emission)
Industry Canada (IC)	ICES-003 (Emission)	ICES-003 (Emission)
UL	UL-916 (Energy Management Equipment)	UL-916 (Energy Management Equipment)
C-UL US	Yes	Yes
CE - EU	Yes	Yes
WEEE - Directive of the European Union	Yes	Yes
RoHS Directive	Yes	Yes
RCM	Yes	Yes
US Patent	8 207 842, 8 271 102, 7 994 438	8 207 842, 8 271 102, 7 994 438

*Notes: EcoStruxure Building installations or BMS transitions requiring UL-864 certifications must use the SmartX Edge Server AS-P-SMK (see page E6).

SmartX Edge Server - AS-P and AS-B conform to the BACnet® Building Controller (B-BC) profile at protocol revision 12 by the BACnet Testing Laboratories (BTL®). EcoStruxure™ Building Operation v1.9 is the certified firmware revision.

SmartX Edge Server – AS-B – Inputs and Outputs

	AS-B-24(H)	AS-B-36(H)
Part Number	**SXWASB24(X,H)10001**	**SXWASB36(X,H)10001**
Universal Inputs/Outputs	12-Ua 4-Ub	20-Ua 8-Ub
Digital Contact	Ua/Ub	Ua/Ub
Digital Counter - Low Speed		
Digital Counter - Medium Speed	•	•
Digital Counter - High Speed		
Digital Supervised	Ua/Ub	Ua/Ub
Analog Voltage - 0-1V	Ua/Ub	Ua/Ub
Analog Voltage - 0-5V	Ua/Ub	Ua/Ub
Analog Voltage - 0-10V	Ua/Ub	Ua/Ub
Analog Voltage - 2-10V	Ua/Ub	Ua/Ub
Analog Current - 0-20mA	Ub	Ub
Analog Current - 4-20mA	Ub	Ub
Analog Resistance	Ua/Ub	Ua/Ub
Analog Thermistor - 10k	Ua/Ub	Ua/Ub
Analog Thermistor - 1.8k	Ua/Ub	Ua/Ub
Analog Thermistor - 1k	Ua/Ub	Ua/Ub
Analog Thermistor - 20k	Ua/Ub	Ua/Ub
Analog Thermistor - 2.2k	Ua/Ub	Ua/Ub
Analog RTD - Pt100		
Analog RTD - Pt1000	Ua/Ub	Ua/Ub
Analog RTD - Ni1000	Ua/Ub	Ua/Ub
Analog RTD - LG Ni1000	Ua/Ub	Ua/Ub
Digital Inputs	4	
Digital Contact	•	
Counter - Low Speed		
Counter - Medium Speed		
Counter - High Speed		
Digital Outputs	4	8
Form A, SPST	•	4
Form C, SPDT		
PWM	•	•
Triac		4

Key:
Ua – Universal Type A
Ub – Universal Type B
I – Input
O – Output

Automation Server Family of Modules

Accessories

The following accessories are available for the Automation Server Family of modules.

Part Number	Product Name	Description
SXWDINEND10001	DIN-RAIL-CLIP-25	DIN-Rail End Clip, package of 25 pieces
SXWTERLBL10011	PRINTOUT-A4-W1	A4-Size blank printable adhesive label sheets for terminals (100 Sheets, 18 labels per Sheet)
SXWTERLBL10012	PRINTOUT-LTR-W1	Letter-size blank printable adhesive label sheets for terminals (100 Sheets, 16 labels per Sheet)
SXWSCABLE10002	S-CABLE-L-1.5M	S-Cable extension cord for Automation Server I/O bus, L shaped connectors, 1.5 m
SXWSCABLE10003	S-CABLE-L-0.75M	S-Cable extension cable for Automation Server I/O bus, L-shaped connectors, 0.75 m
SXWASBCON10001	AS-B connector kit	Screw terminals for all AS-B models. Note: Ordered separately, not delivered with the controller
SXWASBINS10001	AS-B installer kit	Dummy unit, no electronics, just terminals. Supports easy wiring in the panel shop
SXWUSBADP10001	USB-485-INET Interface Adapter	I/NET Adapter: Seperate hardware component, added to a SmartX Controller - AS-P or Automation Server

SmartX Edge Server add-on options

Add-on option part numbers are required to activate certain features. SmartX Servers require an embedded license to activate features. An embedded license is not interchangeable with a Windows license.

Part Number	Product Name	Description
SXWSWSNMPX0001	EBO SNMP Alarming - SmartX	Alarm notifications via SNMP – SmartX Server
SXWSWEWSXX0001	EBO WS EWS Consume - SmartX	EcoStruxure Web Services (run-time) option – Consume only – SmartX Server
SXWSWEWSXX0002	EBO WS EWS C+Serve - SmartX	EcoStruxure Web Services (run-time) option – Serve & Consume – SmartX Server
SXWSWEWSXX0003	EBO WS EWS C+S+Hist - SmartX	EcoStruxure Web Services (run-time) option – Serve & Consume, plus Historical trend log data – SmartX Server
SXWSWGWSXX0001	EBO WS Gen Consume - SmartX	Web Services (Generic Consume) option – SmartX Server
SXWSWDASHX0001	Personal Dashboards - SmartX	Built-in dashboard functionality which enables users to create their own pages to get an overview of how buildings perform – SmartX Server
SXWSWASDBXS001	Timescale DB Option - SmartX	Integration of an open, external SQL database for long term data and audit trail storage – SmartX Server
SXWSWCLIEX00001*	EBO Client - 1 - SmartX	WebStation, 1 concurrent user license for use at the SmartX Server only
SXWSWCLIEX00005*	EBO Client - 5 - SmartX	WebStation, 5 concurrent user license for use at the SmartX Server only

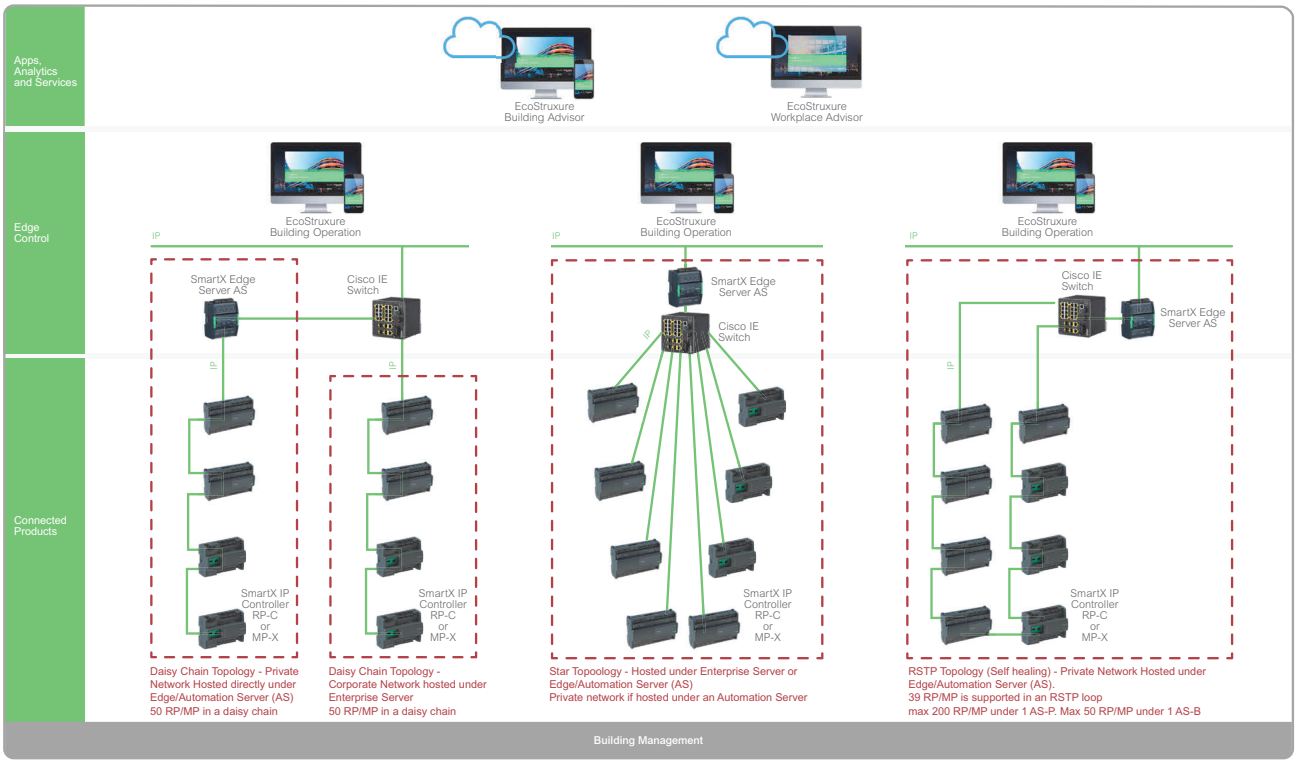
* An embedded client license that will be activated on a SmartX Server will always allow for the operation of a WebStation only. In order for WorkStation to operate it must have access to a Windows license on a PC that is running a Windows OS. Since WorkStation software requires a Windows operating system, then the license might be installed on the same PC or it might make use of a demo license.

SmartX Advanced Display

Portable or permanent-mount tablet HMI specifically configured to interact with EcoStruxure Building user interfaces.

Part Number	Product Name	Description
SXWADBUND10002	Advanced Display 10-inch Bundle	Includes tablet, mounting frame, and bezel
SXWADUSBA10001	USB cable, 1.5 m (5 ft)	For connection to AS-P or USB power adapter
SXWADUSBA10002	USB cable, 3.0 m (10 ft)	For connection to AS-P or USB power adapter
SXWADUSBB10001	USB cable, Y-shaped, 1.5 m (5 ft)	For connection to automation server and USB power adapter
SXWADUSBB10002	USB cable, Y-shaped, 3.0 m (10 ft)	For connection to automation server and USB power adapter

Reference Architecture



SmartX IP Controllers

SmartX IP Controller

RP-C HVAC

Room Purpose Controller for HVAC (RP-C HVAC) gives occupants the ability to control the room environment and personalize comfort while serving as a data hub for IoT devices. It leverages the latest wireless technologies for easy integration of IoT devices and fast installation. It is built on a flexible architecture that enables deployment with EcoStruxure Building Operation or any BMS.

SmartX IP Controllers – RP-C HVAC

The RP-C for HVAC controllers are designed for fan coil, chilled beam and ceiling based systems. These scalable and secure BACnet IP-based room controllers enable connected room solutions. With an open IoT hub, it meets customers' future needs, including light and blind control and easy re-zoning. Also save time by managing commissioning conveniently with the SmartX eCommission Mobile App.

SmartX IP Controller – RP-C

SmartX IP Controller – RP-C with external terminal cover

	RP-C-12A-F-24V	RP-C-12B-F-24V	RP-C-12C-F-24V	RP-C-16A-F-230V
Part Number	**SXWRCF12A10001**	**SXWRCF12B10001**	**SXWRCF12C10001**	**SXWRCF16A10002**
Communications				
Communication Interface	BACnet/IP, BTL B-AAC	BACnet/IP, BTL B-AAC	BACnet/IP, BTL B-AAC	BACnet/IP, BTL B-AAC
Software				
Programability	Function Block/Script Programmable	Function Block/Script Programmable	Function Block/Script Programmable	Function Block/Script Programmable
Physical				
Dimensions	180 W x 110 H x 64 D mm (7.1 W x 4.3 H x 2.5 D in.)	180 W x 110 H x 64 D mm (7.1 W x 4.3 H x 2.5 D in.)	180 W x 110 H x 64 D mm (7.1 W x 4.3 H x 2.5 D in.)	180 W x 110 H x 64 D mm (7.1 W x 4.3 H x 2.5 D in.)
Weight (including terminal blocks)	0.370 kg (0.816 lb)	0.390 kg (0.86 lb)	0.390 kg (0.86 lb)	0.720 kg (1.587 lb)
Power				
Power	24 VAC/DC	24 VAC/DC	24 VAC/DC	230 VAC
Consumption	23 VA	23 VA	23 VA	65 VA
Environmental				
Operating Range	0°C to 50°C (32°F to 122°F) -40°C to 60°C (-40°F to 140°F) for rooftop	0°C to 50°C (32°F to 122°F) -40°C to 60°C (-40°F to 140°F) for rooftop	0°C to 50°C (32°F to 122°F) -40°C to 60°C (-40°F to 140°F) for rooftop	0°C to 50°C (32°F to 122°F)
Internals				
CPU	ARM Cortex-A7 single-core	ARM Cortex-A7 single-core	ARM Cortex-A7 single-core	ARM Cortex-A7 single-core
On-board Bluetooth Low Energy	Yes	Yes	Yes	Yes
Battery	No	No	No	No
Real time clock	Yes -7 days	Yes -7 days	Yes -7 days	Yes -7 days
External Features				
Enclosure rating	UL94 5VB, Plenum rated, IP 20 (<12.5 mm protection)	UL94 5VB, Plenum rated, IP 20 (<12.5 mm protection)	UL94 5VB, Plenum rated, IP 20 (<12.5 mm protection)	UL94 5VB, IP 20 (<12.5 mm protection)
Manual Override of Outputs	No	No	No	No
Optional cover	Yes	Yes	Yes	Yes
Intelligent Sensors	SmartX Living Space Sensors	SmartX Living Space Sensors	SmartX Living Space Sensors	SmartX Living Space Sensors
Sensor Bus	Yes	Yes	Yes	Yes
Room Bus	Yes	Yes	Yes	Yes
Terminals				
I/O terminals	Screw terminals	Screw terminals	Screw terminals	Screw terminals
External Enclosure/Mounting				
Mounting	DIN-rail or wall mount	DIN-rail or wall mount	DIN-rail or wall mount	DIN-rail or wall mount
Certifications				
BTL	Yes	Yes	Yes	Yes
FCC	47 CFR §15, Subpart A and C, Class B (Emission)	47 CFR §15, Subpart A and C, Class B (Emission)	47 CFR §15, Subpart A and C, Class B (Emission)	No
REACH	Yes	Yes	Yes	Yes
Innovation, Science and Economic Development Canada (ISED)	Class B (Emission)	Class B (Emission)	Class B (Emission)	No
UL	UL-916 (Energy Management Equipment)	UL-916 (Open Energy Management Equipment)	UL-916 (Open Energy Management Equipment)	No
C-UL US	Yes	Yes	Yes	No
CE - EU	Yes	Yes	Yes	Yes
WEEE - Directive of the European Union	Yes	Yes	Yes	Yes
RoHS Directive	Yes	Yes	Yes	Yes
RCM	Yes	Yes	Yes	Yes
eu.bac	No	No	No	Yes

All eu.bac certified products are found on the eu.bac web site www.eubaccert.eu

SmartX IP Controllers RP-C HVAC – Inputs and Outputs

	RP-C-12A-F-24V	RP-C-12B-F-24V	RP-C-12C-F-24V	RP-C-16A-F-230V
Part Number	**SXWRCF12A10001**	**SXWRCF12B10001**	**SXWRCF12C10001**	**SXWRCF16A10002**
Universal Inputs/Outputs	8-Ub	8-Ub	4-Ub	8-Ub
Digital Input	Ub	Ub	Ub	Ub
Counter Input	Ub	Ub	Ub	Ub
Supervised Input	Ub	Ub	Ub	Ub
Voltage Input (0-10 VDC)	Ub	Ub	Ub	Ub
Resistive Input	Ub	Ub	Ub	Ub
Current Input (0-20 mA)	Ub	Ub	Ub	Ub
Temperature Input	Ub	Ub	Ub	Ub
2-wire RTD Temperature Input	Ub	Ub	Ub	Ub
Thermistor Input - 10k	Ub	Ub	Ub	Ub
Thermistor Input - 1.8k	Ub	Ub	Ub	Ub
Thermistor Input - 1k	Ub	Ub	Ub	Ub
Thermistor Input - 20k	Ub	Ub	Ub	Ub
Thermistor Input - 2.2k	Ub	Ub	Ub	Ub
RTD Temp Input - Ni1000	Ub	Ub	Ub	Ub
RTD Temp Input - Pt1000	Ub	Ub	Ub	Ub
RTP Temp Input - LG-Ni1000	Ub	Ub	Ub	Ub
Voltage Output (0-10 VDC)	Ub	Ub	Ub	Ub
Digital Outputs				
Solid-state Relay Output (MOSFET)	4		4	4
Relay Output (Form A)		3	3	3
High Power Relay Output (Form C)		1	1	1

Key: Ub – Universal Type B

SmartX IP Controllers RP-C HVAC – Accessories

The following accessories are available for the SmartX IP Controller – RP-C HVAC.

Part number	Product Name	Description
SXWRPCCOV10001	RP-C external terminal covers	Optional external covers for RP-C HVAC

SmartX IP Controller – RP-C with optional covers

SmartX IP Controller

MP Series

Next-generation IP field controllers and accessories extend the reach of EcoStruxure Building's open innovation platform with seamless scalability and flexible topologies that enable data transmission from connected equipment, and enhance the ability to diagnose and resolve issues faster

SmartX IP Controllers – MP Series

The MP Series are designed for VAVs and fan coil, heat pump, roof top and air handling units. They feature scalable and flexible topologies that enable data transmission from connected equipment, which enhance the ability to diagnose and resolve issues faster. Also manage commissioning activities conveniently from mobile devices with the eCommission SmartX IP Controller Mobile App.

SmartX IP Controller – MP-C

Note: Screw terminals are prepopulated. Spare is available. See accessories section on page S6.

	MP-C-15A	MP-C-18A	MP-C-18B	MP-C-24A	MP-C-36A
Part Number	SXWMPC15A10001	SXWMPC18A10001	SXWMPC18B10001	SXWMPC24A10001	SXWMPC36A10001
Communications					
Communication Interface	BACnet/IP, BTL B-AAC	BACnet/IP, BTL B-AAC	BACnet/IP, BTL B-AAC	BACnet/IP, BTL B-AAC	BACnet/IP, BTL B-AAC
Software					
Programability	Function Block/Script Programmable	Function Block/Script Programmable	Function Block/ Script Programmable	Function Block/ Script Programmable	Function Block/ Script Programmable
Physical					
Dimensions	153 W x 110 H x 64 D mm (6.0 W x 4.3 H x 2.5 D in.)	153 W x 110 H x 64 D mm (6.0 W x 4.3 H x 2.5 D in.)	153 W x 110 H x 64 D mm (6.0 W x 4.3 H x 2.5 D in.)	234 W x 110 H x 64 D mm (9.2 W x 4.3 H x 2.5 D in.)	234 W x 110 H x 64 D mm (9.2 W x 4.3 H x 2.5 D in.)
Weight (including terminal blocks)	0.358 kg (0.789 lb)	0.371 kg (0.818 lb)	0.361 kg (0.796 lb)	0.495 kg (1.091 lb)	0.547 kg (1.206 lb)
Power					
Power	24 VAC/DC	24 VAC/DC	24 VAC/DC	24 VAC/DC	24 VAC/DC
Consumption	12 W	12 W	12 W	15 W	18 W
Environmental					
Operating Range6	0°C to 50°C (32°F to 122°F) 0-95% RH (non-condensing) -40°C to 60°C (-40°F to 140°F) for rooftop	0°C to 50°C (32°F to 122°F) 0-95% RH (non-condensing) -40°C to 60°C (-40°F to 140°F) for rooftop	0°C to 50°C (32°F to 122°F) 0-95% RH (non-condensing) -40°C to 60°C (-40°F to 140°F) for rooftop	0°C to 50°C (32°F to 122°F) 0-95% RH (non-condensing) -40°C to 60°C (-40°F to 140°F) for rooftop	0°C to 50°C (32°F to 122°F) 0-95% RH (non-condensing) -40°C to 60°C (-40°F to 140°F) for rooftop
CPU Internals					
CPU	ARM Cortex-A7 dual-core	ARM Cortex-A7 dual-core	ARM Cortex-A7 dual-core	ARM Cortex-A7 dual-core	ARM Cortex-A7 dual-core
Memory	128 MB (DDR3 SDRAM)	128 MB (DDR3 SDRAM)	128 MB (DDR3 SDRAM)	128 MB (DDR3 SDRAM)	128 MB (DDR3 SDRAM)
Battery	No	No	No	No	No
Real time clock	Yes -7 days minimum	Yes -7 days minimum	Yes -7 days minimum	Yes -7 days minimum	Yes -7 days minimum
External Features					
Enclosure rating	Eco Friendly ABS/ PC, UL94 5V, IP 20 (<12.5 mm protection)	Eco Friendly ABS/ PC, UL94 5V, IP 20 (<12.5 mm protection)	Eco Friendly ABS/ PC, UL94 5V, IP 20 (<12.5 mm protection)	Eco Friendly ABS/ PC, UL94 5V, IP 20 (<12.5 mm protection)	Eco Friendly ABS/ PC, UL94 5V, IP 20 (<12.5 mm protection)
HOA Switches (DO/AO)	Add-On (see accessories)	Add-On (see accessories)	Add-On (see accessories)	Add-On (see accessories)	Add-On (see accessories)
Manual Override of Outputs	Yes	Yes	Yes	Yes	Yes
Digital Status LEDs	Yes	Yes	Yes	Yes	Yes
Intelligent Sensors	SmartX Livings Space sensors	SmartX Livings Space sensors	SmartX Livings Space sensors	SmartX Livings Space sensors	SmartX Livings Space sensors
Sensor Bus	Yes	Yes	Yes	Yes	Yes
Terminals					
I/O terminals	Two-piece terminal	Two-piece terminal	Two-piece terminal	Two-piece terminal	Two-piece terminal
External Enclosure/Mounting					
Mounting	DIN-rail or wall mount	DIN-rail or wall mount	DIN-rail or wall mount	DIN-rail or wall mount	DIN-rail or wall mount
Certifications					
BTL	Yes	Yes	Yes	Yes	Yes
FCC	47 CFR § 15, Class B (Emission)	47 CFR § 15, Class B (Emission)	47 CFR § 15, Class B (Emission)	47 CFR § 15, Class B (Emission)	47 CFR § 15, Class B (Emission)
REACH	Yes	Yes	Yes	Yes	Yes
Innovation, Science and Economic Development Canada (ISED)	Class B (Emission)	Class B (Emission)	Class B (Emission)	Class B (Emission)	Class B (Emission)
UL	UL-916 (Energy Management Equipment)	UL-916 (Energy Management Equipment)	UL-916 (Energy Management Equipment)	UL-916 (Energy Management Equipment)	UL-916 (Energy Management Equipment)
C-UL US	Yes	Yes	Yes	Yes	Yes
CE - EU	Yes	Yes	Yes	Yes	Yes
WEEE - Directive of the European Union	Yes	Yes	Yes	Yes	Yes
RoHS Directive	Yes	Yes	Yes	Yes	Yes
RCM	Yes	Yes	Yes	Yes	Yes
US Patent					

SmartX IP Controllers MP-C and MP-V conform to the BACnet® Advanced Application Controller (B-AAC) profile at protocol revision 12 by the

SmartX IP Controller MP-V

SmartX Controller – MP-V

Note: Screw terminals are prepopulated. Spare is available. See accessories section on page S6.

	MP-V-7A	MP-V-9A
Part Number	**SXWMPV7AX10001**	**SXWMPV9AX10001**
Communications		
Communication Interface	BACnet/IP, BTL B-AAC	BACnet/IP, BTL B-AAC
Software		
Programability	Function Block/Script Programmable	Function Block/Script Programmable
Physical		
Dimensions	161 W x 198 H x 63 D mm (6.3 W x 7.8 H x 2.5 D in.)	161 W x 198 H x 63 D mm (6.3 W x 7.8 H x 2.5 D in.)
Weight (including baseplate)	1.13 kg (2.5 lb)	1.13 kg (2.5 lb)
Power		
Power	24 VAC	24 VAC
Consumption	21 VA	22 VA
Environmental		
Operating Range	0°C to 50°C (32°F to 122°F) 0-95% RH (non-condensing)	0°C to 50°C (32°F to 122°F) 0-95% RH (non-condensing)
CPU Internals		
CPU	ARM Cortex-A7 dual-core	ARM Cortex-A7 dual-core
Memory	128 MB (DDR3 SDRAM)	128 MB (DDR3 SDRAM)
Battery	No	No
Real time clock	Yes -7 days minimum	Yes -7 days minimum
External Features		
Enclosure rating	Eco Friendly ABS/PC, UL94 V-0, IP 20 (<12.5 mm protection), Plenum Rated	Eco Friendly ABS/PC, UL94 V-0, IP 20 (<12.5 mm protection), Plenum Rated
HOA Switches (DO/AO)	N/A	N/A
Manual Override of Outputs	Yes	Yes
Digital Status LEDs	Yes	Yes
Sensor Bus	Yes	Yes
Terminals		
I/O Expansion	No	No
External Enclosure/ Mounting		
Mounting	wall mount	wall mount
Certifications		
BTL	Yes	Yes
FCC	47 CFR § 15, Class B (Emission)	47 CFR § 15, Class B (Emission)
REACH	Yes	Yes
Innovation, Science and Economic Development Canada (ISED)	Class B (Emission)	Class B (Emission)
UL	UL-916 (Energy Management Equipment)	UL-916 (Energy Management Equipment)
C-UL US	Yes	Yes
CE - EU	Yes	Yes
WEEE - Directive of the European Union	Yes	Yes
RoHS Directive	Yes	Yes
RCM	Yes	Yes
US Patent		

SmartX IP Controllers MP-C and MP-V conform to the BACnet® Advanced Application Controller (B-AAC) profile at protocol revision 12 by the BACnet Testing Laboratories (BTL®).

SmartX IP Controllers MP-C – Inputs and Outputs

	MP-C-15A	MP-C-18A	MP-C-18B	MP-C-24A	MP-C-36A
Part Number	SXWMPC15A10001	SXWMPC18A10001	SXWMPC18B10001	SXWMPC24A10001	SXWMPC36A10001
Universal Inputs/Outputs	8-Ub	10-Ub	10-Ub	16-Ub, 4Uc	20-Ub, 8Uc
Digital Input	Ub	Ub	Ub	Ub/Uc	Ub/Uc
Counter Input	Ub	Ub	Ub	Ub/Uc	Ub/Uc
Supervised Input	Ub	Ub	Ub	Ub/Uc	Ub/Uc
Voltage Input - (0-10V)	Ub	Ub	Ub	Ub/Uc	Ub/Uc
Resistive Input	Ub	Ub	Ub	Ub/Uc	Ub/Uc
Thermistor Input - 10k	Ub	Ub	Ub	Ub/Uc	Ub/Uc
Thermistor Input - 1.8k	Ub	Ub	Ub	Ub/Uc	Ub/Uc
Thermistor Input - 1k	Ub	Ub	Ub	Ub/Uc	Ub/Uc
Thermistor Input - 20k	Ub	Ub	Ub	Ub/Uc	Ub/Uc
Thermistor Input - 2.2k	Ub	Ub	Ub	Ub/Uc	Ub/Uc
RTD Temp Input - Pt100					
RTD Temp Input - Pt1000	Ub	Ub	Ub	Ub/Uc	Ub/Uc
RTD Temp Input - Ni1000	Ub	Ub	Ub	Ub/Uc	Ub/Uc
RTD Temp Input - LG-Ni1000	Ub	Ub	Ub	Ub/Uc	Ub/Uc
Voltage Output (0-10V)	Ub	Ub	Ub	Ub/Uc	Ub/Uc
Current Output (0-20mA)				Uc	Uc
Digital Outputs	7	8	8	4	8
Form A Relay, SPST		3		4	8
Form C Relay, SPDT					
Triac	6	4	8		
Form A High Power Relay, SPST	1	1			

Key: Ub – Universal Type B, Uc – Universal Type C

SmartX IP Controllers MP-V – Inputs and Outputs

	MP-V-7A	MP-V-9A
Part Number	SXWMPV7AX10001	SXWMPV9AX10001
Universal Inputs	3	4
Digital Input	Yes	Yes
Counter Input	Yes	Yes
Supervised Input	Yes	Yes
Voltage Input - (0-10V)	Yes	Yes
Resistive Input	Yes	Yes
Thermistor Input - 10k	Yes	Yes
Thermistor Input - 1.8k	Yes	Yes
Thermistor Input - 1k	Yes	Yes
Thermistor Input - 20k	Yes	Yes
Thermistor Input - 2.2k	Yes	Yes
RTD Temp Input - Pt100		
RTD Temp Input - Pt1000	Yes	Yes
RTD Temp Input - Ni1000	Yes	Yes
RTD Temp Input - LG-Ni1000	Yes	Yes
Voltage Output (0-10V)	Yes	Yes
Current Output (0-20mA)		
Damper Position Feedback	Yes	Yes
Velocity Pressure Sensor	Yes	Yes
Digital Output	3	3
Form C Relay, SPDT		
Triac	Yes	Yes
Form A High Power Relay, SPST		
Analog Output	1	2
Voltage outputs (0-10 VDC)	Yes	Yes
Current Output (0-20 mA)	Yes	Yes
Damper Outputs		

SmartX IP Controllers – IP-IO Series

As a network level IO resource the IP-IO Series is capable of sharing its local IO resources across one or multiple SmartX IP Controllers or EcoStruxure Building Edge Servers over BACnet network.

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SmartX IP Controller – IP-IO

Note: Screw terminals are prepopulated. Spare is available. See accessories section on page S6.

	IP-IO-DI10	IP-IO-UIO10	IP-IO-UIO5DOFA4
Part Number	**SXWIPIOAA10001**	**SXWIPIOBA10001**	**SXWIPIOCA10001**
Communications			
Communication Interface	BACnet/IP, BTL B-AAC	BACnet/IP, BTL B-AAC	BACnet/IP, BTL B-AAC
Physical			
Dimensions	153 W x 110 H x 64 D mm (6.0 W x 4.3 H x 2.5 D in.)	153 W x 110 H x 64 D mm (6.0 W x 4.3 H x 2.5 D in.)	153 W x 110 H x 64 D mm (6.0 W x 4.3 H x 2.5 D in.)
Weight (including terminal blocks)	0.358 kg (0.789 lb)	0.358 kg (0.789 lb)	0.358 kg (0.789 lb)
Power			
Power	24 VAC/DC	24 VAC/DC	24 VAC/DC
Consumption	9 W	9 W	9 W
Environmental			
Operating Range6	0°C to 50°C (32°F to 122°F) 0-95% RH (non-condensing) -40°C to 60°C (-40°F to 140°F) for rooftop	0°C to 50°C (32°F to 122°F) 0-95% RH (non-condensing) -40°C to 60°C (-40°F to 140°F) for rooftop	0°C to 50°C (32°F to 122°F) 0-95% RH (non-condensing) -40°C to 60°C (-40°F to 140°F) for rooftop
CPU Internals			
CPU	ARM Cortex-A7 dual-core	ARM Cortex-A7 dual-core	ARM Cortex-A7 dual-core
Memory	128 MB (DDR3 SDRAM)	128 MB (DDR3 SDRAM)	128 MB (DDR3 SDRAM)
Battery	No	No	No
Real time clock	Yes -7 days minimum	Yes -7 days minimum	Yes -7 days minimum
External Features			
Enclosure rating	Eco Friendly ABS/PC, UL94 5V, IP 20 (<12.5 mm protection)	Eco Friendly ABS/PC, UL94 5V, IP 20 (<12.5 mm protection)	Eco Friendly ABS/PC, UL94 5V, IP 20 (<12.5 mm protection)
Add-on HOA / Display	Add-On (see accessories)	Add-On (see accessories)	Add-On (see accessories)
Manual Override of Outputs	N/A	Yes	Yes
Digital Status LEDs	Yes	Yes	Yes
Intelligent Sensors	No	No	No
Sensor Bus	No	No	No
Terminals			
I/O terminals	Two-piece terminal	Two-piece terminal	Two-piece terminal
External Enclosure/Mounting			
Mounting	DIN-rail or wall mount	DIN-rail or wall mount	DIN-rail or wall mount
Certifications			
BTL	Yes	Yes	Yes
FCC	47 CFR § 15, Class B (Emission)	47 CFR § 15, Class B (Emission)	47 CFR § 15, Class B (Emission)
REACH	Yes	Yes	Yes
Innovation, Science and Economic Development Canada (ISED)	Class B (Emission)	Class B (Emission)	Class B (Emission)
UL	UL-916 (Energy Management Equipment)	UL-916 (Energy Management Equipment)	UL-916 (Energy Management Equipment)
C-UL US	Yes	Yes	Yes
CE - EU	Yes	Yes	Yes
WEEE - Directive of the European Union	Yes	Yes	Yes
RoHS Directive	Yes	Yes	Yes
RCM	Yes	Yes	Yes
US Patent			

SmartX IP Controllers - IP-IO Series is pending certification of the BACnet Application Specific Controller (B-ASC) profile at protocol revision 14 by the BACnet Testing Laboratories (BTL®).

SmartX IP Controllers IP-IO – Inputs and Outputs

	IP-IO-DI10	IP-IO-UIO10	IP-IO-UIO5DOFA4
Part Number	**SXWIPIOAA10001**	**SXWIPIOBA10001**	**SXWIPIOCA10001**
Digital Inputs	10		
Universal Inputs/Outputs		10-Ub	5-Ub
Digital Input		Ub	Ub
Counter Input		Ub	Ub
Supervised Input		Ub	Ub
Voltage Input - 0-10V		Ub	Ub
Resistive Input		Ub	Ub
Thermistor Input - 10k		Ub	Ub
Thermistor Input - 1.8k		Ub	Ub
Thermistor Input - 1k		Ub	Ub
Thermistor Input - 20k		Ub	Ub
Thermistor Input - 2.2k		Ub	Ub
RTD Temp Input - Pt100			
RTD Temp Input - Pt1000		Ub	Ub
RTD Temp Input - Ni1000			
RTD Temp Input - LG Ni1000		Ub	Ub
Voltage Output 0-10V		Ub	Ub
Current Output 0-20mA			
Digital Outputs			4
Form A Relay, SPST			3
Form C Relay, SPDT			
Triac			
Form A High Power Relay, SPST			1

Key: Ub – Universal Type B, Uc – Universal Type C

SmartX IP Controllers – Accessories

The following accessories are available for the SmartX IP Controllers.

Part Number	Product Name	Description
SXWMPCDSP10001	MP-C DISPLAY	MP-C override display module
SXWDINEND10001	DIN-RAIL-CLIP	DIN-rail end clip, package of 25 pieces
SXWMPVCON10001	MP-V Connector Kit	Spare screw terminals for all MP-V models
SXWMPCCON10001	MP-C Connector Kit	Spare screw terminals for all MP-C models
SXWBTAECXX10001	eCommission Bluetooth Adapter	

MP-C DISPLAY

SXWMPCCON10001

DIN-RAIL-CLIP

SXWMPVCON10001

SmartX Living Space Sensor

SmartX sensors use an RJ-45 sensor bus that provides communication and power from the SmartX IP Controller. For quick installation, up to four SmartX sensors may be connected to each SmartX IP Controller through the RJ-45 sensor bus using Cat 5/6 cable (22 to 26 AWG).

With the exception of two sensor bases which include covers, sensors are ordered in two parts: the sensor base and the cover. Four sensor base models can be paired with any one of six covers.

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SXWSCDXSELXX

SXWSC3PSELXX

SXWSATXXXSLX

SXWSCDPSELXX

SmartX Living Space Sensor – Bases

Part number	Description	Temp	Humidity	CO2	LCD Display	Cover	Communication
SXWSBTXXXSXX	Sensor Base,Temp	•				Not included	MP Sensor Port
SXWSBTHXXSXX	Sensor Base, Temp, Humidity	•	•			Not included	MP Sensor Port
SXWSBTXCXSXX	Sensor Base, Temp, CO2	•		•		Not included	MP Sensor Port
SXWSBTHCXSXX	Sensor Base,Temp, Humidity, CO2	•	•	•		Not included	MP Sensor Port
SXWSATXXXSLX	Sensor, Temp, LCD, 3 Button, w/Cover	•			•	Cover included	MP Sensor Port
SXWSATXXXRXX	Sensor, Temp, 10KT3, No Comms, w/Cover	•				Cover included	Resistive Only (10K Type 3)

SmartX Living Space Sensor – Covers

Part number	Description	Occupancy Sensor	Override	Setpoint Adjust	Full Color Touch Display*
SXWSCDXSELXX	Cover Plate, User Interface, Basic		•	•	•
SXWSCDPSELXX	Cover Plate, User Interface, Basic, Occ	•	•	•	•
SXWSC3XSELXX	Cover Plate, Override, Setpoint		•	•	
SXWSC3PSELXX	Cover Plate, Override, Setpoint, Occ	•	•	•	
SXWSCBXSELXX	Cover Plate, Blank Cover				
SXWSCBPSELXX	Cover Plate, Blank Cover, Occ	•			

*Touch Display supports user access to the following settings: HVAC mode (Cooling/Heating/Auto), Setpoint adjust, Override and Fan (On/Off/Auto)

SmartX IP Controllers – Accessories (continued)

Actassi Structured Cabling Solution

Actassi connectivity work seamlessly with SmartX IP Controllers. Get simple installation and ease of engineering deployment with a single source for BMS and network cabling needs. These physical network infrastructure solutions offer reliable and scalable SmartX IP backbone that enable a responsive BMS network.

Part number	Region	Description (system)
Global		
ACTPG6TLU001	Global	Cat 6 field-term plug, UTP
ACTPG6PTU100	Global	Cat 6 pass-through plug, UTP, 100-pack
ACTTLCPT	Global	Actassi crimping tool
ACTPG5EPTU100	Global	Cat 5e pass-through plug, UTP, 100-pack
AMER		
ACT4P6UCP1ARXGR	AMER	Cat 6 cable, UTP, 1000 ft (305 m), CMP, green
ACTPC6UBCP30AGR	AMER	Cat 6 patch cord, UTP, 30 ft (9 m), CMP, green
ACTPC6UBCP50AGR	AMER	Cat 6 patch cord, UTP, 50 ft (15 m), CMP, green
ACTPC6UBCP70AGR	AMER	Cat 6 patch cord, UTP, 70 ft (21 m), CMP, green
ACTPC6UBCP90AGR	AMER	Cat 6 patch cord, UTP, 90 ft (27 m), CMP, green
ACT4P5EUCP1ARXGR	AMER	Cat 5e cable, UTP, 1000 ft (305 m), CMP, green
ACTPC5EUBCP30AGR	AMER	Cat 5e patch cord, UTP, 30 ft (9 m), CMP, green
ACTPC5EUBCP50AGR	AMER	Cat 5e patch cord, UTP, 50 ft (15 m), CMP, green
ACTPC5EUBCP70AGR	AMER	Cat 5e patch cord, UTP, 70 ft (21 m), CMP, green
ACTPC5EUBCP90AGR	AMER	Cat 5e patch cord, UTP, 90 ft (27 m), CMP, green
EMEA		
VDICD116118	EMEA	Cat 6 cable, UTP, 305 m (1000 ft), Euroclass D, green
ACTPC6UBLS100GR	EMEA	Cat 6 patch cord, UTP, 10 m (32 ft), LSZH, green
ACTPC6UBLS150GR	EMEA	Cat 6 patch cord, UTP, 15 m (49 ft), LSZH, green
ACTPC6UBLS200GR	EMEA	Cat 6 patch cord, UTP, 20 m (65 ft), LSZH, green
ACTPC6UBLS250GR	EMEA	Cat 6 patch cord, UTP, 25 m (82 ft), LSZH, green
VDICD115118	EMEA	Cat 5e cable, UTP, 305 m (1000 ft), Euroclass D, green
ACTPC5EUBLS100GR	EMEA	Cat 5e patch cord, UTP, 10 m (32 ft), LSZH, green
ACTPC5EUBLS150GR	EMEA	Cat 5e patch cord, UTP, 15 m (49 ft), LSZH, green
ACTPC5EUBLS200GR	EMEA	Cat 5e patch cord, UTP, 20 m (65 ft), LSZH, green
ACTPC5EUBLS250GR	EMEA	Cat 5e patch cord, UTP, 25 m (82 ft), LSZH, green
PACIFIC		
ACT4P6UCM3RBGR	PACIFIC	Cat 6 cable, UTP, 305 m (1000 ft), PVC, green
ACTPC6UBCM100GR	PACIFIC	Cat 6 patch lead, UTP, 10 m (32 ft), PVC, green
ACTPC6UBCM150GR	PACIFIC	Cat 6 patch lead, UTP, 15 m (49 ft), PVC, green
ACTPC6UBCM200GR	PACIFIC	Cat 6 patch lead, UTP, 20 m (65 ft), PVC, green
ACTPC6UBCM250GR	PACIFIC	Cat 6 patch lead, UTP, 25 m (82 ft), PVC, green
ACT4P5EUCM3RBGR	PACIFIC	Cat 5e cable, UTP, 305 m (1000 ft), PVC, green
ACTPC5EUBCM100GR	PACIFIC	Cat 5e patch lead, UTP, 10 m (32 ft), PVC, green
ACTPC5EUBCM150GR	PACIFIC	Cat 5e patch lead, UTP, 15 m (49 ft), PVC, green
ACTPC5EUBCM200GR	PACIFIC	Cat 5e patch lead, UTP, 20 m (65 ft), PVC, green
ACTPC5EUBCM250GR	PACIFIC	Cat 5e patch lead, UTP, 25 m (82 ft), PVC, green

a) Abbreviations: UTP (Unshielded Twisted Pair), CMP (Plenum-rated cable),