

Licenses of savic-net™

for Integrated Building Management Systems, and for FDA Title 21 CFR Part 11 Compliance

General

The savic-net for Integrated Building Management Systems (hereinafter referred to as savic-net for IBMS), savic-net for FDA Title 21 CFR Part 11 Compliance (hereinafter referred to as savic-net for Part11) are suites of software and hardware products for applications that display, control, manage and analyze data.

Different types of the station licenses and the driver licenses are combined in the system.

- The Base Station consists of all the supervisory and control functions including inter-node messaging.
- The Human-machine Interface (HMI) Station (standalone) consists of all the supervisory and control functions without any inter-station communication capability.
- The Communication Server consists of all the supervisory and control functions including inter-node messaging but with a user interface limited to one graphic.
- The Client Station consists of all the supervisory and control functions including internode messaging but without any direct access to the industrial equipment (no communication protocols).
- The Web Client Station is a remote control and monitoring station using a simple web browser.

Note:

* FDA stands for Food and Drug Administration.

* CFR stands for the Code of Federal Regulations.

Safety Instructions

Please read instructions carefully and use the product as specified in this manual. Be sure to keep this manual nearby for ready reference.

Usage Restrictions

This product is targeted for general air conditioning. Do not use this product in a situation where human life may be affected. If this product is used in a clean room or a place where reliability or control accuracy is particularly required, please contact Azbil Corporation's sales representative. Azbil Corporation will not bear any responsibility for the results produced by the operators.

CAUTION




-  • Installation must be performed by qualified personnel in accordance with all applicable safety standards.
-  • Use the product under the operating conditions (temperature, humidity, power, vibration, shock, mounting direction, atmospheric condition, etc.) as listed in the specifications.
Failure to do so might cause fire or device failure.
-  • Use the product within the rated operating ranges as listed in the specifications.
Failure to do so might cause device failure.

Table 1 Station license comparison table

	Base Station	HMI Station	Communication Server
2D Graphics	✓	✓	
3D Graphics	✓	✓	
Alarms & Events	✓	✓	✓
Recipes	✓	✓	✓
Historical trending & log	✓	✓	✓
Scripting VBA & SCADA-Basic	✓	✓	✓
Native Communication drivers	✓	✓	✓
OPC Client	✓	✓	✓
OPC Server	✓	✓	✓
Client-Server & redundancy	✓	✓	✓
Development option	✓		✓
Data Export	✓	✓	
Web Services Client option	✓		
Notes	* Full functionality station for distributed and/or redundant architectures.	* Without client & redundancy support. * Suitable for standalone application.	* Full functionality station without graphic visualization.

	Client Station	Web Client Station
2D Graphics	✓	✓
3D Graphics	✓	
Alarms & Events	✓	✓
Recipes	✓	
Historical trending & log	✓	✓
Scripting VBA & SCADA-Basic	✓	
OPC Server	✓	
Client-Server & redundancy	✓	
Data Export	✓	
Notes	* Without direct communication with equipment. * Requires a Base Station or a Communication Server available on the network.	* It provides remote display and control of the process.

Model Numbers

Base Station

Model number										Product Name / Specifications	
B	S	-	7	0	0	B	S	S	T		Base Station License WITH USB dongle, Program DVD-R, EULA, License sheet
										C	Complete Mode
				0	2						2,000 properties *
				0	5						5,000 properties *
				6	5						65,000 properties *
						0					BACnet Communication Channel
						1					BACnet & Modbus Communication Channel
						2					BACnet & OPC Communication Channel
						3					All Communication Channels
							0				No Web Clients
							1				1 Web Client
							2				2 Web Clients
							3				5 Web Clients
								0			No Data Export
								1			Data Export
									0		No Web Services Client
									1		1 Web Services Client
										R	Run Time Mode
				0	2						2,000 properties *
				0	5						5,000 properties *
				6	5						65,000 properties *
						0					BACnet Communication Channel
						1					BACnet & Modbus Communication Channel
						2					BACnet & OPC Communication Channel
						3					All Communication Channels
							0				No Web Clients
							1				1 Web Client
							2				2 Web Clients
							3				5 Web Clients
								0			No Data Export
								1			Data Export
									0		No Web Services Client
									1		1 Web Services Client

* NOTE: Please count 5 properties per external point for reference.

Human-machine Interface (HMI) Station

Model number										Product Name / Specifications	
B	S	-	7	0	0	H	S	S	T		Human-machine Interface (HMI) Station License WITH USB dongle, Program DVD-R, EULA, License sheet
										C	Complete Mode
				0	2						2,000 properties *
				0	5						5,000 properties *
				6	5						65,000 properties *
						0					BACnet Communication Channel
						1					BACnet & Modbus Communication Channel
						2					BACnet & OPC Communication Channel
						3					All Communication Channels
							0				No Web Clients
							1				1 Web Client
							2				2 Web Clients
							3				5 Web Clients
								0			No Data Export
								1			Data Export
										R	Run Time Mode
				0	2						2,000 properties *
				0	5						5,000 properties *
				6	5						65,000 properties *
						0					BACnet Communication Channel
						1					BACnet & Modbus Communication Channel
						2					BACnet & OPC Communication Channel
						3					All Communication Channels
							0				No Web Clients
							1				1 Web Client
							2				2 Web Clients
							3				5 Web Clients
								0			No Data Export
								1			Data Export

* NOTE: Please count 5 properties per external point for reference.

Communication Server

Model number										Product Name / Specifications		
B	S	-	7	0	0	C	S	S	T			Communication Server License WITH USB dongle, Program DVD-R, EULA, License sheet
										R		Run Time Mode
											6 5	65,000 properties *
											0	BACnet Communication Channel
											1	BACnet & Modbus Communication Channel
											2	BACnet & OPC Communication Channel
											3	All Communication Channels
											0	Fixed

* NOTE: Please count 5 properties per external point for reference.

Client Station

Model number										Product Name / Specifications		
B	S	-	7	0	0	C	L	S	T			Client Station License WITH USB dongle, Program DVD-R, EULA, License sheet
										R		Run Time Mode
											P R	Unlimited properties
											0	Fixed
											0	No Web Clients
											1	1 Web Client
											2	2 Web Clients
											3	5 Web Clients
											0	No Data Export
											1	Data Export

Web Server Station

Model number										Product Name / Specifications		
B	S	-	7	0	0	W	S	S	T			Web Server Station License, 1 server WITH USB dongle, Program DVD-R, EULA, License sheet
											1	1 Web Client
											2	2 Web Clients
											3	5 Web Clients

Dream Report™

Model number										Product Name / Specifications		
B	S	-	7	0	0	D	R	S	T			Dream Report™ Package license WITH USB dongle, Program DVD-R, EULA, License sheet
											2 5 2	250 points, 2 Web Clients
											2 K 5	2,000 points, 5 Web Clients
											0	No Life Sciences option
											1	Life Sciences option

SYSTEM ARCHITECTURE

- Portability of applications from previous versions
- Open architecture
- Alarm processing
- Archive processing
- Client/server architecture
- Real time multi-tasking kernel
- Bilingual facility for menus and application
- Optimized data sharing among savic-net network stations
- Native, optimized redundancy of data acquisition & historical data
- Product structure facilitating integration of vertical approach
- Full object-oriented technology

DISTRIBUTED APPLICATIONS

- Inter-station messaging using TCP/IP
- Exchanging values of variables in real time: internal, equipment and historical
- Single configuration of the database for distributed architectures
- Concentrator station and archive server
- Administration of network users' access rights
- System variables to indicate the status of network stations and of the connections between them
- Deployment of changes and creation of variables across the network at run time

DATA ACQUISITION

- Native BACnet® driver
- Modbus TCP/IP slave
- OPC & XML data client and server

REALTIME DATA

- Object-oriented Variables Tree
- Hierarchical variable name structure
- Variable types: bits, registers, texts, and alarms
- Conversion to physical values
- Deadband
- Discrepancy checking
- Expressions and formula calculations
- Chronometer and counter variables
- Level threshold detection system plus hysteresis on analog variables
- Associated labels for variables to describe them explicitly in mimics, alarm lists and event logs
- Multiple boolean & text user attributes associated with variables
- Filter-Search-Sort that can be applied to alarm, historical and trend viewers depending on those attributes

ARCHIVING DATA

- System variables to monitor data archiving
- Log lists allow recording & displaying events, alarms and user actions in the same event log
- Back-up/restore mechanism from archive unit folder to the back-up folder

ACTIONS

- Sending recipes and commands according to a weekly timetable, managing exception periods for public holidays
- Event-driven actions on variable & alarm changes
- Cyclical actions: run periodic script
- Send Email and Short Message Service (hereinafter referred to as SMS) on event with template & auto completion

GRAPHICAL INTERFACE

- Object-oriented graphical Interface
- Color selection by color picker
- Color palette of up to 16 million colors
- Color gradients for 3D effects
- Blinking and transparent colors
- Microsoft VBA included in the graphical interface
- Integration and manipulation of ActiveX components by VBA
- Supported image formats: WMF, EMF, GIF (static, animated), BMP, JPEG, PNG, and AVI
- Animation of real 3D embedding objects using DirectX technology
- Mimics that can be automatically re-sized if the display resolution changes
- Vector drawing tool
- Versatile ways of notifying loss of communication with equipment
- Visual browser to display and change object properties without ungrouping them: Graphic Explorer
- Totally configurable appearance of windows, including to/from child and parent windows 16 design layers with locking according to user's access level
- Decluttering support to hide or display graphic elements according to zoom layers
- Zooming on-the-fly to enlarge an area of a mimic on a separate display
- Object visibility dependent on zoom level
- Over 60 animations including text, color, position, and send command
- Use of expressions and substitution strings in animations
- Integrated support for multi-screen applications
- Unlimited number of mimics
- Multiple animations that can be applied to the same drawing element
- Mimics up to 10,000 x 10,000 pixels in size
- Iconizing of mimics

ALARM

- 5 alarm states and 30 alarm levels
- Filter, Search and Sort on alarms by state, levels and/or attributes - modifiable online
- Filtering of alarm processing by station
- Alarm counters by value, level, attributes etc.
- Automatic masking by dependency and manually masking by user action
- Alarm viewers and log viewers with column based sorting
- Customizable alarm viewer
- User masking of insignificant alarms with password locking (30 levels of masking)
- Action / tip information associated with each alarm
- Fully configurable alarm colors according to level and state
- Logging of alarms to disk and/or continuous printing

EVENT LOG

- Access to Client/Server event log
- Option to append comments to events in the event logs
- Dynamically modifiable filters by attribute
- Customizable event viewer
- Recording of data to one or more archive units
- Recording of data in binary, ASCII or SQL Server formats
- Formats for historical logging that are configurable for easy export to third party software
- Logging of alarm values, user login/logout, program execution, alarm masking, changes to variable states, etc.
- Filtering and sorting of events

TREND

- Dynamic configuration of Trend Viewer look and feel in design and run modes, with optional locking
- $Y=f(t)$ trends logarithmic trends
- Customizable trend viewer
- Simultaneous display of real time and historical data
- Zoom in and zoom out in time axis or both time and value axes
- Cursor for reading selected values
- Multiple dynamic and scrolling scales
- Dynamic addition, deletion and substitution of variables by operator at run time
- Event-driven recording to minimize use of disk storage
- Data recording in one or more archiving units
- Data export to Excel using database software or HDS module
- Printing of displayed trends on graphical printers
- Ability to draw lines for thresholds, Min & Max
- Specific colors when the trend rises above or falls below thresholds, Min or Max values

ACCESS RIGHTS

- Unlimited number of users
- Single-Sign On Support: simpler management of user rights
- Management by profile for maximum flexibility
- Password strength control
- Up to 30 hierarchical profile levels
- Facility for locking access to particular mimics, command variables, log variables, alarm acknowledgement and masking, Web client, etc.
- Control of reading, creation, changing and sending of recipes
- Station dependant access profiles for multi-station architectures
- Password validity limited by date
- Ability to require password change on first login

REPORTS AND SUMMARIES

- Data export as text files or into Excel
- Facility to export all archived bit and register data, from event logs and log lists
- Data extraction using criteria by date, batch number, etc.
- Extraction request built using a graphical editor
- Sampling period from 1 second to several days
- Facility to extract data from savic-net or ODBC archive units
- Automatic running of requests for savic-net to generate summaries, at end of each batch run, change of team, day, week, month, etc.
- Automatic starting of an Excel macro after data extraction for report formatting
- Real time reporting generator
- Electronic signature function for reporting

BROWSER ACCESS

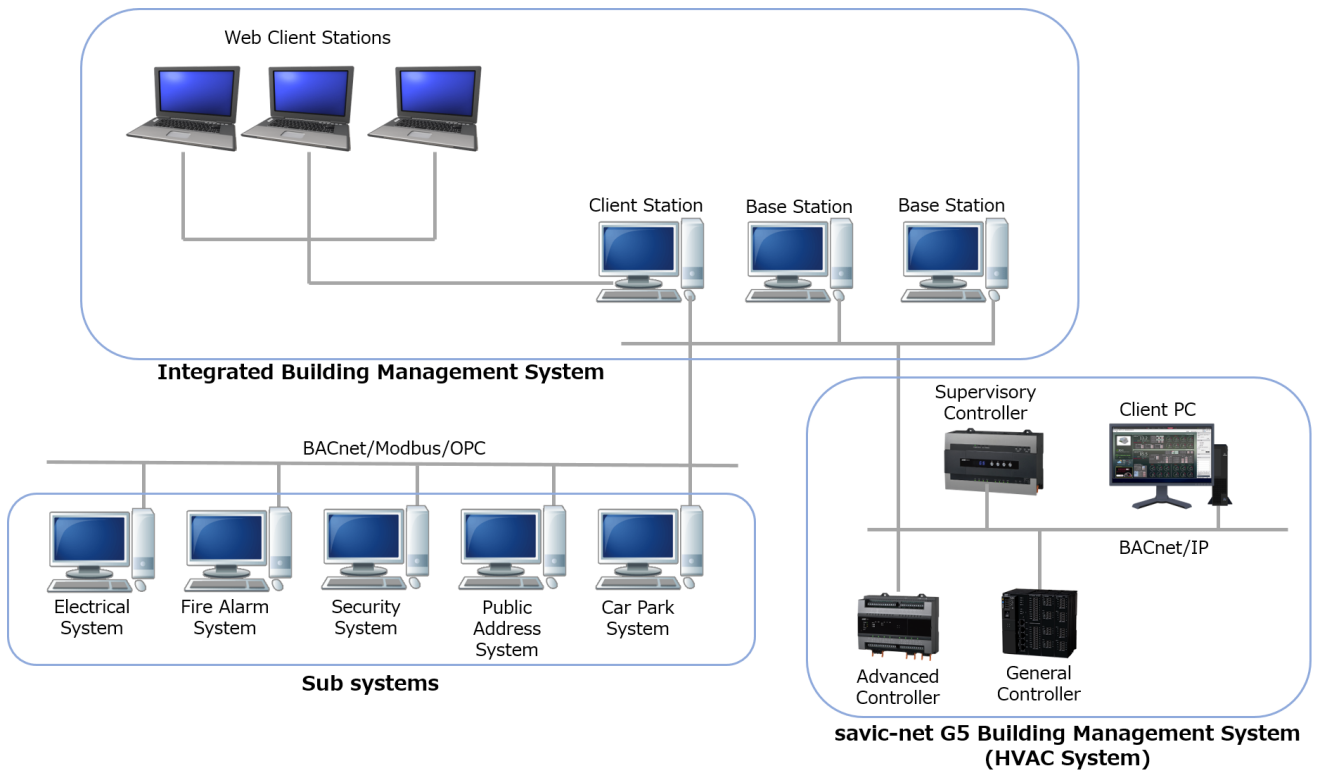
- Sun's JAVA technology as a base and available on Microsoft Windows, Linux, Unix, Macintosh, etc.
- Enables display of real-time data and access to historical data, trends, and events
- Facilities for remote commands and acknowledgement of alarms (according to user rights)
- No software installation necessary on the remote station
- Optimized data exchange for mimic updates
- Encrypted data exchange to prevent problems of hacking
- Access to savic-net data server via IIS in XML SOAP
- Station for production maintenance staff, or for all occasional users
- Simultaneous access from multiple users to the supervisory application managed by the web server station
- No license required on the client station

Operating System and PC Requirements

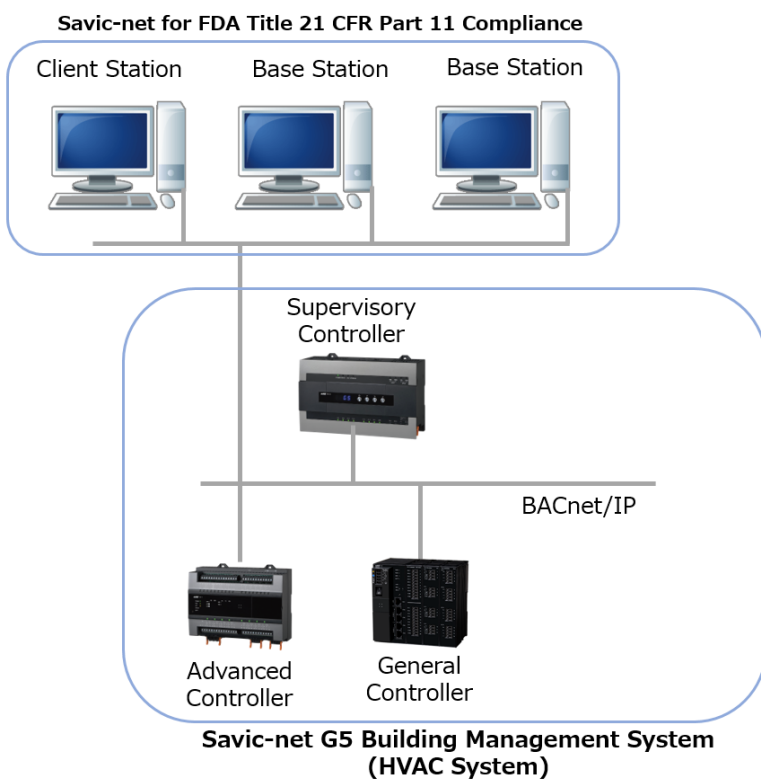
Table 2 Specifications of the system components

Item	Requirement
Operating System	<ul style="list-style-type: none"> ● Windows 10 version 1607 or later - Professional and Enterprise editions ● Windows 11 - Professional and Enterprise editions ● Windows Server 2016 - Foundation, Essentials, Standard and Datacenter editions ● Windows Server 2019 - Foundation, Essentials, Standard and Datacenter editions ● Windows Server 2022 - Foundation, Essentials, Standard and Datacenter editions Note: <ul style="list-style-type: none"> • For all operational versions of Windows 10 and Windows 11, only the x64 processor architecture is supported. • All operational versions of Windows Server shall be installed with the 'Desktop Experience' option.
Web Browser	Desktop web browsers: <ul style="list-style-type: none"> ● Google Chrome™ 46 and later ● Mozilla Firefox™ 45 and later ● Microsoft Edge™ 38.14393 and later ● Apple Safari for MacOS 10.5 and later Mobile web browsers: <ul style="list-style-type: none"> ● Google Chrome™ for Android™ 46 and later ● Apple Safari for iOS 10 and later ● Android™ WebView 5 and later
Microsoft SQL Server	If your project is to use the Historic Data Server (HDS) for archiving, one of the following versions of SQL Server is required. <ul style="list-style-type: none"> ● Microsoft SQL Server 2014 ● Microsoft SQL Server 2016 ● Microsoft SQL Server 2017 ● Microsoft SQL Server 2019 ● Microsoft SQL Server 2022
Recommended minimum PC configuration	<ul style="list-style-type: none"> ● Processor - x64-compatible AMD or Intel CPU (or equivalent) - 1.4 GHz dual core minimum. ● System Memory* - 4 GB of RAM. ● Available hard disk space - At least 10 GB. ● Graphics - 1024×768 display for Windows Server platforms. In addition, for Windows Client platforms, support for DirectX 9 graphics device with WDDM driver. ● Network Interface Card - At least 1. ● Drive - A DVD drive, as appropriate, is required for installation from disc. An available USB port is required if you use a hardware protection dongle. *If you are using SQL Server or RDS (Remote Desktop Services, formerly Terminal Services) or IIS(Web Server), please contact Global Sales Dept. or Product Marketing Dept. for advice about memory requirements.

Solution model -1: Integrated Building Management Systems



Solution model -2: FDA Title 21 CFR Part 11 Compliance



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