Samsung SDS BMS Ver.2.0

Technical Specification

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Main Features

Samsung SDS BMS consists of four components, Base, Energy, Facility and Integration.
It also provides the following features:

BMS Base

Category	Function	Description
HVAC, Electricity and Lighting Control	Environment Control	- HVAC, electricity and lighting control - Alarm notification and management
	Flexible System Integration	- HVAC, electricity and lighting system integration - Industry standard open protocol support - Extensive list of protocol drivers
	Programmable DDC Controller	- User-friendly logic programming tool (Logic builder/monitor) - Function Block Diagram (FBD) and User Defined Function Block (UDFB)
	Built-in Energy Saving Logic	- Scheduling, sunrise/sunset time-based dynamic scheduling - Enthalpy, duty cycle, night purge control - Demand control - Occupancy-based control
Real-time Monitoring	System Monitoring	- Real-time facility monitoring - Facility status display in tree map format - Alarm notification when a value goes outside of a user-defined range
	Graphic Monitoring	- Simple and intuitive views of facility - A variety of graphical elements such as images, texts, icons, and animated objects. - Animated icons to show facility status

Category	Function	Description
	Control Logic Monitoring	- User-friendly block diagram based control logic and monitoring - 250 built-in function blocks - FBD(Function Block Diagram), User Defined Function Block (UDFB)
Alarm Management	Alarm Detection	- User configurable alarm range - Multiple types of event detection algorithm change of state, change of value, out of range - System and process alarm - Graphic page or control logic auto pop up when an alarm occurs
	Alarm Notification and Acknowledgement	- Priority based alarm management - Real-time alarm notification via SMS, e-mail, and push service - Alarm pop-up and sound alerts - Alarm acknowledged by operators
	Alarm History Management	- System and process alarm list - Alarm analysis and reporting - Alarm statistical summary
Trends and Totalization	Data Collection and Real-time Trend Analysis	- Facility operation data collection - Real-time data display - Visual representation of data in tables, charts - Multiple data comparison
	Totalization	- Multiple types of totalization data support (accumulation, runtime, pulse, etc) - Visual representation of totalization data in tables, charts
	Historical Data Management	- High-resolution historical data collection (one minute basis) - Visual representation of data in tables, charts

BMS Energy

Category	Function	Description
Energy Consumption Management	Real-time Energy Consumption Monitoring	- Real-time energy usage data collection and visualization - Multiple types of data chart (bar, line, pie, donut, bubble, etc)
	Energy Baseline Management	- Baseline model generation and savings tracking - Energy savings calculation - Visualization of energy savings performance
	Energy Consumption Forecast	- Energy consumption forecast through trend analysis - Energy consumption forecast through weather & energy consumption - Energy shortage and waste prevention
	Demand Forecast	- Hourly electricity demand forecast - Electricity peak management
Fault Detection and Diagnosis / Operational Guidelines	Fault Detection and Operational Guidelines	- Abnormal energy usage detection through equipment operation analysis - Equipment fault detection using fault detection and diagnosis engine - Guidelines to equipment faults
	Improved Efficiency through Fault Diagnosis	- Equipment fault prediction - Operational guidelines to equipment faults - Potential risk detection to reduce maintenance costs
	Alarm Notification	- Alarm notification via SMS or e-mail - Fault history management
Equipment Performance Evaluation	Equipment Performance Evaluation Data	- Anomaly detection through performance evaluation - Performance comparison of multiple equipment - Simple and intuitive evaluation chart
	Performance Diagnosis and Operation Improvement	- Performance indicators trend analysis - Early detection of performance degradation (e.g. using Coefficient of Performance) - Decision making support
	Report on Performance Data	- A variety of visualization forms and templates - Easy to export data to Excel

Category	Function	Description
Energy Dashboard	Multi-site Dashboard	- Building information display using GIS map - Event summary on individual buildings - Energy consumption comparison between buildings and between actual and benchmarks
	Single Building Dashboard	- Monthly energy consumption data - Energy consumption display again the baseline - Building and equipment status information - Major event lists display
	Weather Data	- Current weather condition display - 3 day weather forecast

BMS Facility

Category	Function	Description
Equipment and Materials Management	Equipment Management	- Standardized equipment list - Equipment data . Model name and image . Equipment components . Related documents . Operation history
	Materials Management	- Materials management support - Materials data . Materials information . Redundant materials . Materials shipping and receiving history
	Mobile Service Support	- Quick access to equipment and material information using QR code

Category	Function	Description
Work management	Standard Work Process	- Standardized work category - Standardized work order process
	Work Order management	- Process-based work order (Type, Assignment, Individual work schedule Work history and statistics) - Work status management
	Mobile Service Support	- Work assignment and notification via SMS and push message service - Work result management (Time spent, issue, related images)
Operation result analysis	Meter Management	- Meter categorization - Meter information and data management
	Energy Management	- Periodical energy consumption data collection - Operation history in chart or table form - Operation data analysis (Energy consumption pattern, Equipment operation pattern such as on/off, runtime)
	Work History and Statistics	- Statistics on work history (Work history by group and individual, Group ranking based on total time spent on work, Material used and replaced, Equipment maintenance statistics chart) - Facility maintenance status
Floor plan, , Supplier and security area management	Floor Plan	- Floor plan management - Document upload and download - Document modification history management
	Supplier	- Supplier list - Supplier information - Contract information and contract status
	Security area (Patrol)	- Patrol and security area management - Patrol support using mobile devices, QR code and RFID - On-site security status and patrol history management

BMS Integration

Category	Function	Description
System Integration	Multi-system Integration	- HVAC, electricity, lighting, CCTV, security, parking, network, audio/video, elevator, fire alarm systems integration - Single point of access to manage and monitor multi-system - Various control features
	Open Standard and Proprietary Protocols	- Support for standard protocols – BACnet, LonMark, Modbus, OPC, Web Services (XML/SOAP, REST), IEEE 802.15.4 wireless, etc. - Support for proprietary protocols to integrate non-standard equipment
	Web-based User Interface	- Support for standard web browser - Remote access using mobile devices - Various user authentication mechanism (User ID and password, OTP)
System interlocking	Interlocking control	- Multi-system interlocking based on open standard protocols - Optimal control and automated process support
	Scenario-based Integration	- Scenario-based integrated control - Simple and intuitive logic diagram - Real-time monitoring of system integration (system, graphic, integration monitor)
	Priority-based Alarm Notification	- Four level alarm priority(critical, high, medium, low) - SMS, Email, push service, pop-up and sound alerts
	Event History Management	- On/off line history - Interlocking event and history management - Inter-system event notification history management
Multi-site management	Single Point of Access	- Efficient monitoring and control for multiple buildings - Consistency for integrated monitoring
	Single Point of Management	- Building data sharing - Real-time emergency alerts - Decision making support and response to emergency
	User management	- Role based user management (Administrator, engineer, operator, user, user group) - RBAC(Role-based access control) for multi-buildings
	Simple Integration and Easy Operation	- Flexible structure for building system integration (Easy to integrate new system, efficient interface using open standard protocols) - Simple and intuitive operation (Graphical user interface)

Requirement

1. System Requirements

This part describes the system requirements for the computer used for BMS server.

- OS: Microsoft Windows 7 (64-bit) with Microsoft IIS
  ※ When installing more than two Components, Windows Server 2012 Standard (64-bit) is recommended.
- Web Browser: Chrome latest version
  ※ When installing BMS Base or BMS Integration, Chrome Version 43 is recommended.
  ※ Samsung SDS BMS is based on HTML5, it is compatible with other browsers.
  But some functions may not work properly in other browsers.
- Monitor resolution: 1920 x 1080 or higher resolution

2. Recommendations

• The screen resolution used by Samsung SDS BMS is 1920 x 1080. Graphs or charts may not work properly in low resolution mode. Please check the screen resolution.

• When installing BMS Base or BMS Integration, Chrome Version 43 is recommended. It is compatible with other browsers, but some functions may not work properly in other browsers.

• If you enter wrong password five times, the account will be locked temporarily. To use the account again, only an administrator can unlock the account.

• If you close the browser without clicking logoff and reconnect, you will probably encounter the message. “You have logged from other browser or other PC. Do you want to disconnect the previous connection and reconnect?”

• The encrypted files cannot be used for import function. The encrypted files should be decrypted before using import function.

Sales Items

Sales Items of Samsung SDS BMS are following:

BMS Base

Sales Item	Description	Detail
CC-BMS-3K	BMS Base Web version (~3,000 points)	- Apply 'Building Point' license policy - Points are determined by summing physical points (ex. AI, AO, BO, MSI, MSO, PI etc.) and interface points - Licenses are the same regardless of Main server or Standby server - Provides Configuration Tool(Install Package) and Mobile functions - In case of repurchase for renovation or remodeling of the Samsung SDS BMS applied building, the supply price is only 50%
CC-BMS-5K	BMS Base Web version (3,001~5,000 points)	
CC-BMS-10K	BMS Base Web version (5,001~10,000 points)	
CC-BMS-30K	BMS Base Web version (10,001~30,000 points)	
CC-BMS-P5K	BMS Base Web version (+5,000 points)	- When it gets over 30,000 points, additional costs is charged per 5,000 points
CC-BMS-USER-EX	BMS Base USER (Extended)	- The default number of users by BMS Base site or building 1) Under 3,000 points: 3 Users 2) 3,001~5,000 points: 5 Users 3) 5,001~10,000 points: 10 Users 4) 10,001~30,000 points: 20 Users - In case of exceeding the default number, add 5 users each - The maximum number of concurrent user of BMS Base is 30
CCNX-S	BMS Base C/S version (Server)	- The number of server license is defined as the number of server which is physically setup.
CCNX-C	BMS Base C/S version (Client)	- The number of client license is defined as the number of PC which is connected with BMS server physically.

BMS Energy

Sales Item	Description	Description
CC-BEMS-5K	BMS Energy Web version (~5,000 points)	- Apply 'Building Point' license policy - Points are determined by summing physical points (ex. AI, AO, BO, MSI, MSO, PI etc.) and interface points - Licenses are the same regardless of Main server or Standby server - Provides Configuration Tool(Install Package) and Mobile functions - In case of repurchase for renovation or remodeling of the Samsung SDS BMS applied building, the supply price is only 50%
CC-BEMS-10K	BMS Energy Web version (5,001~10,000 points)	
CC-BEMS-30K	BMS Energy Web version (10,001~30,000 points)	
CC-BEMS-P5K	BMS Energy Web version (+5,000 points)	- When it gets over 30,000 points, additional costs is charged per 5,000 points
CC-BEMS-USER-EX	BMS Energy USER (Extended)	- The default number of users by BMS Energy site or building 1) Under 5,000 points: 5 Users 2) 5,001~10,000 points: 10 Users 3) 10,001~30,000 points: 20 Users - In case of exceeding the default number, add 5 users each - The maximum number of concurrent user of BMS Energy is 30

BMS Facility

Sales Item	Description	Description
CC-BFMS	BMS Facility Web version	- Points which are related with other systems are given different licenses
CC-BFMS-USER-EX	BMS Facility USER (Extended)	- Default number of BMS Facility users: 5 users by site (building) * Mobile App users included. If one person uses desktop and mobile at the same time, calculated as 2 users - In case of exceeding the default number, add 5 users each - The maximum number of concurrent user of BMS Facility is 50

BMS Integration

Sales Item	Description	Description
CC-IBMS-5K	BMS Integration Web version (~5,000 points)	- Apply 'Building Point' license policy - Points are determined by summing physical points (ex. AI, AO, BO, MSI, MSO, PI etc.) and interface points - Licenses are the same regardless of Main server or Standby server - Provides Configuration Tool(Install Package) and Mobile functions - In case of repurchase for renovation or remodeling of the Samsung SDS BMS applied building, the supply price is only 50%
CC-IBMS-10K	BMS Integration Web version (5,001~10,000 points)	
CC-IBMS-30K	BMS Integration Web version (10,001~30,000 points)	
CC-IBMS-P5K	BMS Integration Web version (+5,000 points)	- When it gets over 30,000 points, additional costs is charged per 5,000 points
CC-IBMS-VBD	BMS Integration VBD	- When the interface points get over 40,000, a physically separated VBD server has to be build - Range of interface points can be connected to a physically separated VBD: 40,001~50,000
CC-IBMS-VBD-EX	BMS Integration VBD (Stand alone, Extended)	- When the interface points get over 50,000 (BACnet + NonBACnet), build an additional separated VBD server until 30,000 points
CC-IBMS-USER-EX	BMS Integration USER (Extended)	- The default number of users by BMS Integration site or building 1) Under 5,000 points: 5 Users 2) 5,001~10,000 points: 10 Users 3) 10,001~30,000 points: 20 Users - In case of exceeding the default number, add 5 users each - The maximum number of concurrent user of BMS Integration is 30