BOSCH

BIS - Basic Package V4.9.1

▶ Integration of Bosch and third party systems via open interfaces and SDK

▶ All relevant information in one user interface, and intuitive operation via interactive maps and dynamic action plans

▶ Fully embedded access management

▶ Full event log and audit trail for forensic investigations

▶ Scalable system that grows with your needs

The Building Integration System (BIS)
BIS is a flexible, scalable security and safety management system that can be configured to handle an enormous spectrum of operational scenarios.
It contains a huge range of applications and features which enable both the integration and coupling as well as the monitoring and control of all technical building systems.
This new version builds on Bosch's many years of experience in management systems and was considerably influenced by the following market trends:

- Increasing complexity of technical building equipment
  The increasing complexity of technical equipment inside buildings requires a powerful management system which combines the most varied functions in the best possible way. Open standards enable BIS to process and share information efficiently with a huge and growing variety of hardware devices and other sources.
- Using new technologies and standards
  While the strict regulations in the field of security technology ensure a high degree of reliability in security matters, they hinder the integrated use of new technologies from the IT world. BIS has succeeded in harnessing the benefits of non-security-based technologies (e.g. OPC, CAD, web) and harmonizing them with the world of security technologies.

- Need for complete solutions
  Facility managers and integrators are demanding a single building-management solution that is nevertheless able to integrate all their security subsystems.

System overview

The Building Integration System is a versatile product made up of a basic package plus various optional components (also known as Engines) based on a common software platform. The engines can be combined to tailor building management systems to detailed requirements.
These main components are:
- Automation Engine
- Access Engine
- Video Engine

- Security Engine
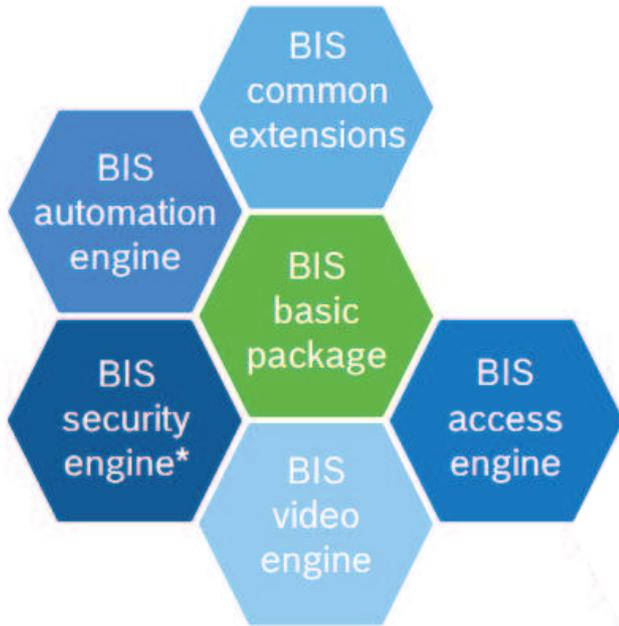
* not available in all countries
These engines are described in greater detail in separate datasheets.

Functions

System architecture
The BIS Engines provide fire and intrusion detection, access control, video surveillance, public address/alarms plus the monitoring of HVAC and other vital building systems.

BIS is based on a performance-optimized multi-tier architecture especially designed for use in LAN and WAN environments.

Subsystems are connected via the well-established, worldwide standards Classic OPC and OPC UA. These open standards make it easy to integrate BIS into existing OPC-compliant subsystems.

Optionally, individual BIS systems can cooperate by providing data to, or consuming data from, other BIS systems. The result is an open, multi-server BIS system.
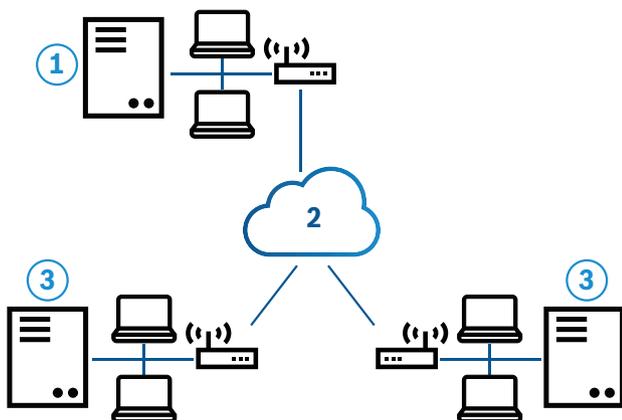
1. A BIS consumer server with workstations and router in a local area network (LAN)

2. Wide area network (WAN)

3. BIS provider servers with workstations and routers in local area networks (LAN)

Organizational structure and configuration
A number of automatic functions and easy-to-use tools make configuration installer-friendly, saving time and expense.

Hierarchical location trees can be created by the import of existing CAD data containing layers, named views and detector locations. Zooming and panning allow rapid navigation through the building.

The user interface is web -based using dynamic HTML5 pages. Default pages for different screen resolutions and formats are included in the installation package, and the default pages can easily be customized using a standard HTML editor.

BIS automatically detects the monitor resolution and provides the appropriate user interface.

Operation
The system's main task is to operate as the alarm-monitoring and control center for the various security systems within a site. Its graphical interface is designed to help the operator grasp the extent and urgency of an occurrence quickly, and to take prompt and effective action.
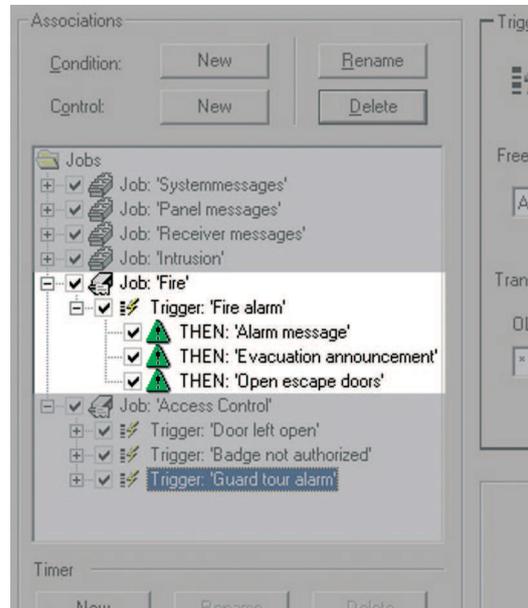
The heart of the system, the State Machine, monitors all incoming events and operator requests and, if desired, can take actions prescribed by user-defined rules, thus unburdening the operators.

System security
State-of-the-art encryption between BIS servers and workstations provides additional security in addition to configurable user-access rights. If PCs within a

corporate network are to be used as client workstations then enhanced security can be achieved by restricting operators to specific workstations or IP-addresses.
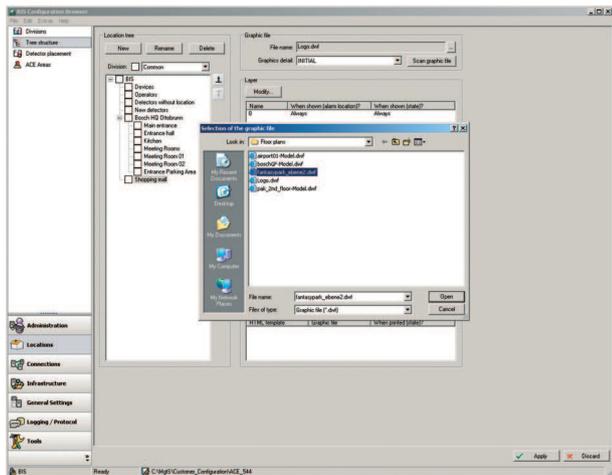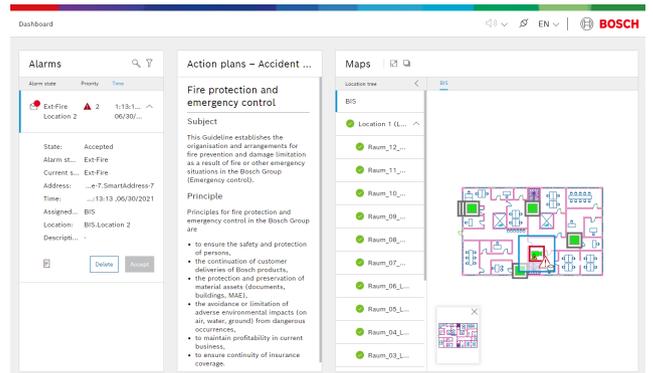
Basic package

The Building Integration System basic package provides many features used in common by the various Engines.

- Customizable device condition counters to provide an overview of the condition of subsystems across the entire BIS system
- Message processing and alarm display
- Alarm queue with up to 5000 simultaneous alarm events and detailed alarm information
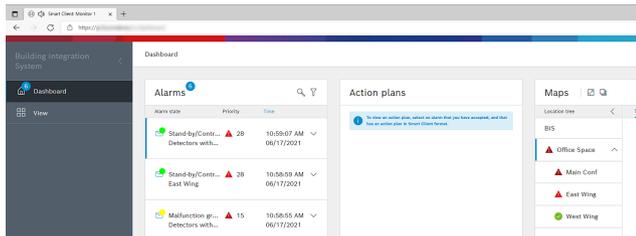

- Authentication of operators via Microsoft Active Directory, Windows or secure BIS passwords.
- Fixed assignment of operators to workstations for higher security
- State machine for automated event and alarm handling.
- Web-server-based platform allows client workstations to connect to BIS via just the browser.
- Direct support for location maps in standard AutoCAD DWF or DXF vector formats reduces configuration effort.

- Changes to architecture within a graphic (new walls, moving a door, etc.) can be implemented without changing the BIS configuration, simply import a new plot file.
- Automated workflows between operators, with message broadcasting and customizable escalation paths

- Huge library of standardized detector icons in standard vector format including color, event and control definitions
- Direct control and monitoring of detectors via the context menus of their icons in the location maps
- Direct control and monitoring of detectors via the logical tree-structure (e.g. building, floor, room) of a site, with hyperlinks to photos, manuals, instructions
- Action management for automatic and manual control into connected subsystems and their peripherals

- Ability to compartmentalize the managed site into autonomous divisions, so that several independent companies can share one system, and to restrict operators to the control of specific divisions.
- Ability to provide specific information to the operator in the form of free-form "miscellaneous" hypertext documents, including text, action buttons, etc.

- Highly configurable operator authorizations for monitoring and control of subsystems and their peripherals
- Mobile web client for Android and iOS powered devices running in different browsers. Alarms are shown and can be accepted and deleted on the phone. For Android, notifications can be configured so that alarms are notified even when the phone is in idle mode.
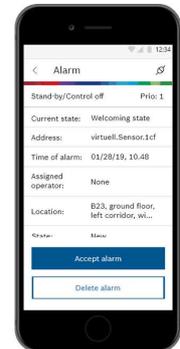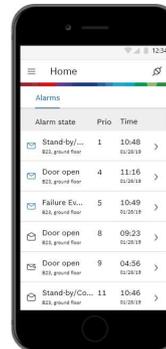

- Event log to ensure all events are completely documented (including messages received and actions taken)

- Audit trail to ensure that all configuration changes are completely documented in terms of who did what when
- Reporting services to quickly create customized and interactive reports from the event log
- Linking and embedding of OPC servers from any computer in the network
- Support of next generation OPC UA (Unified Architecture) for higher security, easier deployment and higher performance.
- Online Help

Action plans and location maps
BIS amplifies standard alarm handling by its ability to display action plans and location maps, including graphical navigation and the visualization of layers inside those maps. This ensures optimal guidance to operators especially in stress situations, such as fire or intrusion alarms.
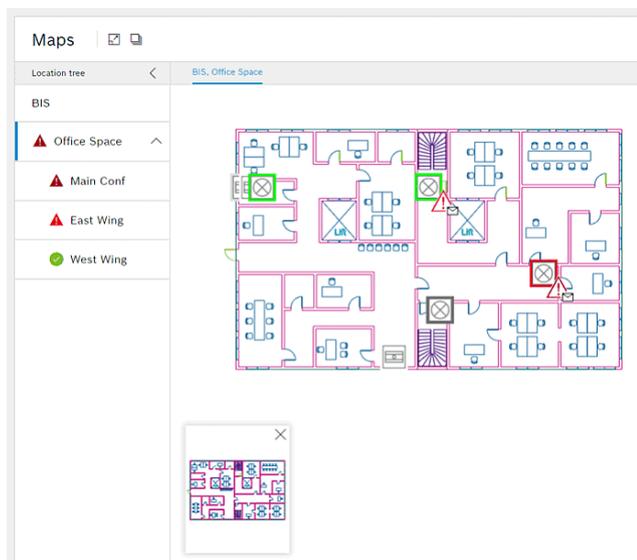
- Location maps are a visualization of premises e.g. floors, areas or rooms, based on the popular AutoCAD vector-graphics format. Detectors and other devices are represented by colored, animated icons that provide direct control via their context menus. Right-clicking an alarm causes the map to zoom in on the location where it was triggered.
- A location tree provides entry points to the location map and its graphical navigation functions (pan, zoom).
- Layer control allows the display of additional graphical information for specific situations, e.g. escape routes in case of fire alarms.

BIS optional accessories
The optional features listed below can be added to the BIS system to meet specific customer requirements. They are usable with all the BIS Engines (Automation, Access, Video and Security Engine).

Alarm management package
This package extends the standard alarm-handling of your BIS system by some additional features:

Message Distribution allows the definition of escalation scenarios which are activated automatically when an operator or operator group fails to acknowledge an alarm message within a defined period. BIS will then forward the message automatically to the next authorized operator group. The **Timer** feature allows the setup of time schedules which can be used to perform automatic control commands, such as closing a barrier at 8:00 pm, as well as for time-dependent redirection of alarm messages, e.g. within time period 1 show message to operator group 1 else to operator group 2.
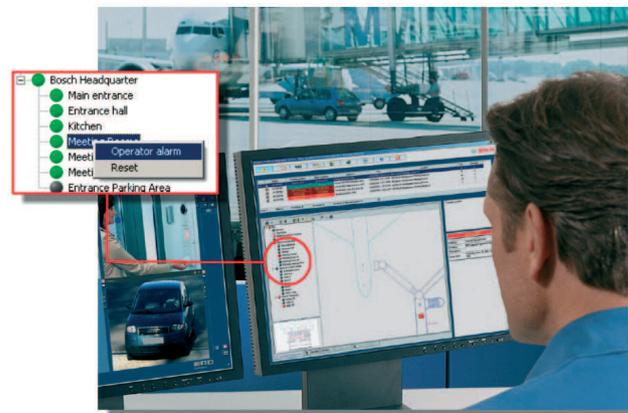
The **Operator Alarm** feature allows an operator to trigger an alarm manually from the location tree, for example, if informed by telephone of a dangerous situation. Such manual alarms are processed in the same way as those triggered by a detector: that is, the associated documents are displayed and all steps taken are recorded in the event log for thorough post-event investigation.

The **Application Launcher** allows the invocation of non-BIS applications by the system based upon predefined conditions, e.g. alarms or timers. A typical application of this would be for an automatic, scheduled system backup.

Installation/configuration notes

Building Integration System in figures

Addresses, detectors, control elements, cameras etc. which can be processed (per BIS server)	200,000
Number of events per second	500 (continuous, with higher peaks possible)

Technical specifications

Minimum technical requirements for a login or connection server

Servers	
Supported operating systems (standalone or client/server mode). Installations of BIS on other operating systems may succeed, but are entirely without warranty.	• Windows Server 2016 (64 bit, Standard, Datacenter) • Windows Server 2019 (64 bit, Standard, Datacenter) • Windows 10 Enterprise LTSC (64-bit) • **Note:** The default database delivered with this BIS Version is SQL Server 2019 Express edition with advanced services
Other Software	**Always install the latest drivers and OS updates.** • IIS 10.0 for Windows 10, Windows Server 2016 and Windows Server 2019 **Note**: IIS is not necessary on BIS connection servers • Internet Explorer 11 in compatibility mode, or Edge • Chrome, Firefox, Edge for Smart Client • .NET: – On Windows 10, Windows Server 2016 and Windows Server 2019: .NET 3.51, .NET 4.8, .NET 5.0 and Core 3.1.7
Minimum hardware requirements	• Intel i7 processor generation 8 • 16 GB RAM (32 GB recommended) • 250 GB of free hard disk space • 300 MB/s hard disk transfer rate • 10 ms or less average hard disk response time • Graphics adapter with – 256 MB RAM, – a resolution of 1920x1080 – at least 32 k colors – OpenGL® 2.1 and DirectX® 11 – WebGL2-compatible (for example, Intel UHD Graphics 600 class or comparable), non-virtualized • 1 Gbit/s Ethernet card • A free USB port or network share for installation files

Minimum technical requirements for a client computer

Clients	
Supported operating systems (standalone or client/server mode). Installations of BIS on other operating systems may succeed, but are entirely without warranty.	• Windows Server 2016 (64 bit, Standard, Datacenter) • Windows Server 2019 (64 bit, Standard, Datacenter) • Windows 10 (32 or 64 bit, Pro or Enterprise LTSC) – **Note:** with a Pro edition, updates must be deferred until 8 months after the release of the BIS version. For further information see the Microsoft technet page at https://technet.microsoft.com/en-us/itpro/windows/manage/introduction-to-windows-10-servicing
Other Software	• ASP.NET • Internet Explorer 11 in compatibility mode, or Edge (**Note**: The SEE client requires IE 9.0) • Chrome, Firefox, Edge for Smart Client • .NET: – On Windows 10, Windows Server 2016 and Windows Server 2019: .NET 3.51, .NET 4.8, .NET 5.0 and Core 3.1.7
Minimum hardware requirements	• Intel i5 (Gen 6 / Skylake or newer) or higher, multiple cores • 8 GB RAM (16 GB recommended) • 25 GB free hard disk space • Graphics adapter with – 256 MB RAM – a resolution of 1920x1080 – at least 32 k colors – OpenGL® 2.1 and DirectX® 11 – WebGL2-compatible (for example, Intel UHD Graphics 600 class or comparable), non-virtualized • 100 Mbit/s Ethernet card
Additional minimum requirements for VIE (Video Engine) clients	• No Windows Server operating systems • Intel i5 processor or higher • For camera sequencing, virtual matrix or Multiview add 4GB RAM • Latest video drivers are highly recommended. Use the Windows dxdiag tool to make sure drivers are no more than 1 year old

Minimum browser versions for optimal use of the BIS Smart Client

Web Browser	Version
Google Chrome	90 or higher
Microsoft Edge	90 or higher
Mozilla Firefox	88 or higher

Ordering information

BIS is available in the following languages:

- AR = Arabic
- DE = German
- EN = English
- ES = Spanish
- FR = French
- HU = Hungarian
- NL = Dutch
- PL = Polish
- PT = Portuguese
- RU = Russian
- TR = Turkish
- ZH-CN = Simplified Chinese
- ZH-TW = Traditional Chinese

A BIS basic license is required when setting up a new system

Ordering information

BIS-BGEN-B49 Basic license
License for the Building Integration System (BIS) product as downloaded from the website. No physical parts are delivered and the user documentation is contained in the download.
Order number **BIS-BGEN-B49 | F.01U.395.600**

BIS-BGEN-BAS49 Basic license w/o alarm documents
License for BIS without the Alarm Document package, that is without display of action plans, display of location maps, graphical navigation, and layer controlling.
Order number **BIS-BGEN-BAS49 | F.01U.395.601**

BIS-BGEN-CESB49 Central enterprise server (bundle)
License bundle for the BIS Central Enterprise Server, including AUE, ACE, 10 clients, 99 divisions, 32 doors, 10.000 cardholders.
Order number **BIS-BGEN-CESB49 | F.01U.395.639**

BIS-BGEN-LSSB49 Local site server (bundle)
License bundle for the BIS Local Site Server, including AUE, ACE, 32 doors, 500 detector points.
Order number **BIS-BGEN-LSSB49 | F.01U.395.640**

BIS-BGEN-CSSB49 Central single server (bundle)
License bundle for the BIS Central Single Server, including AUE, ACE, 32 doors, 10.000 cardholders.
Order number **BIS-BGEN-CSSB49 | F.01U.395.641**

BIS-XGEN-LSCB49 Local site client (bundle)
License bundle for the BIS Local Site Client, including 32 doors and 500 detector points.
Order number **BIS-XGEN-LSCB49 | F.01U.395.642**

BIS-FGEN-AMPK49 License for alarm management
License for the BIS Alarm Management package
Order number **BIS-FGEN-AMPK49 | F.01U.395.602**

BIS-FGEN-BVMS49 License for BVMS connectivity
License for the connection between 1 BIS and 1 BVMS installation
Order number **BIS-FGEN-BVMS49 | F.01U.395.612**

BIS-FGEN-MSRV49 License for multi server connect
License for 1 additional BIS server in a multi-server topology. Required for adding servers to a hierarchy of ACE servers providing centralized cardholder management.
Order number **BIS-FGEN-MSRV49 | F.01U.395.608**

BIS-XGEN-1CLI49 License for 1 operator client
License for 1 additional BIS Operator Client
Order number **BIS-XGEN-1CLI49 | F.01U.395.603**

BIS-XGEN-5CLI49 License for 5 operator clients
License for 5 additional BIS Operator Clients
Order number **BIS-XGEN-5CLI49 | F.01U.395.604**

BIS-XGEN-10CL49 License for 10 operator clients
License for 10 additional BIS Operator Clients
Order number **BIS-XGEN-10CL49 | F.01U.395.605**

BIS-XGEN-1DIV49 License for 1 division
License for 1 additional BIS Division
Order number **BIS-XGEN-1DIV49 | F.01U.395.606**

BIS-XGEN-10DV49 License for 10 divisions
License for 10 additional BIS Divisions
Order number **BIS-XGEN-10DV49 | F.01U.395.607**

BIS-BUPG-B2TO42 BIS Upgrade from 2.x to 4.2
License for an upgrade of BIS 2.x to BIS 4.2
Order number **BIS-BUPG-B2TO42 | F.01U.327.525**

BIS-BUPG-B3TO42 BIS Upgrade from 3.x to 4.2
License for an upgrade of BIS 3.x to BIS 4.2
Order number **BIS-BUPG-B3TO42 | F.01U.327.526**