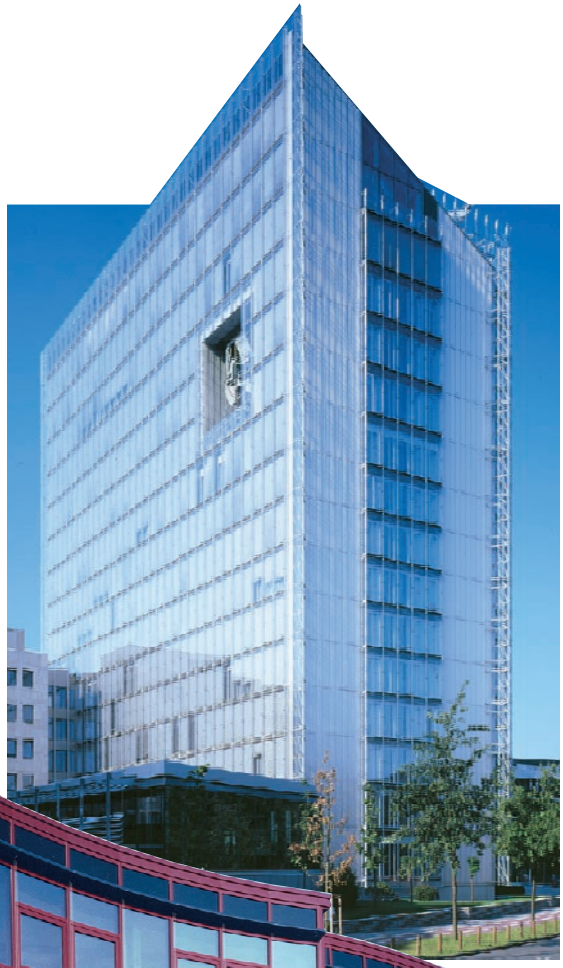
ABB i-bus® EIB

Installation systems for increased security, economic efficiency, convenience and flexibility



Modern building installation with ABB i-bus® EIB

Intelligent installation systems

ABB i-bus® EIB is the intelligent building installation system that meets the highest standards, being both future-orientated and highly flexible.

ABB i-bus® EIB provides increased security, economic efficiency, convenience and flexibility, whether in office buildings, industrial plants or residential properties.

Functions such as lighting, shutter control and heating can be individually adapted to the requirements of the user. Later changes can be easily implemented.

Switching and control – wherever you are

With ABB i-bus® EIB, you can carry out all the required functions from any location in the building. It is also possible to operate the installation remoterly, for example via a mobile or the Internet.

If several functions are to be executed using a single command, this can be implemented without problem. With central commands and user-defined procedures, all the shutters can, for example, be raised simultaneously, the constant lighting control activated and each room regulated to a separate temperature; all with a single push button action.

Automation required?

In building installations using ABB i-bus® EIB, functions are not only executed via direct manual operation.

Using “closed-loop” control systems, the user can preselect an individual daily profile for the room temperature or the room lighting level can be constantly regulated to a required value.

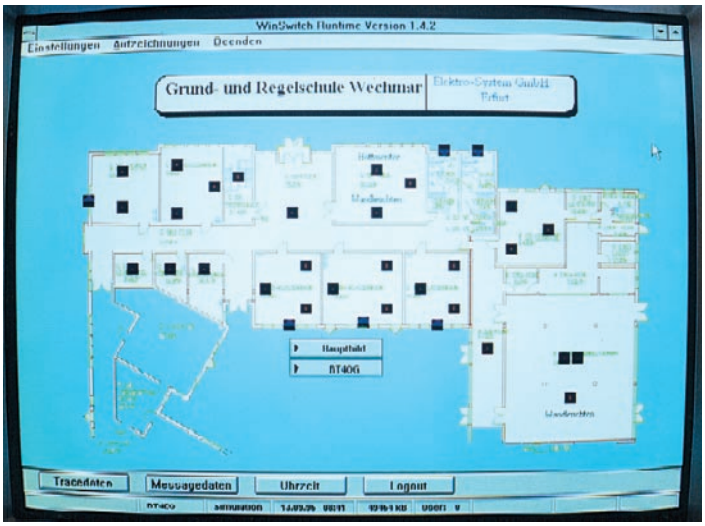
Time programs are recommended for regularly recurring events. Shutters and blinds can be raised automatically should the wind become too strong.

ABB i-bus® EIB monitors the building and can isolate, for example, electrical circuits in the event of a fire or monitor the energy consumption.

Security around the building

With ABB i-bus® EIB, professional security functions can be integrated into the building installation. A security control panel manages all security-related signals and triggers alarms.

The security control panel can also be conveniently operated via the ABB i-bus® EIB. Signals can be displayed at any location or printed out via a logging printer.



You are kept informed...

ABB i-bus® EIB makes it possible for current information about the building installation to be displayed continually.

You can see at a glance in which rooms the lights are switched on or which doors and windows are open. Measured values can be shown on a display and alarm signals inform you about possible dangers in your building.

If someone has forgotten to switch the light off, you can simply switch it off from the display terminal, without even having to walk up the stairs.

Changes implemented in a flash

The office has become a conference room? The top floor has been turned into a separate flat? The functions of the building installation need to be modified?

Modifications such as these can easily be implemented with ABB i-bus® EIB. You simply need to reprogram and the functions are already adapted to the new conditions.

From a distance

You can monitor your building via the telephone or the Internet. This is the best way to remain constantly informed....

How does ABB i-bus® EIB work?

EIB – one system has won through

ABB i-bus® EIB corresponds to the European system "**E**uropean **I**nstallation **B**us" (EIB for short) which in the meantime is being used all over the world.

Since the EIBA (European Installation Bus Association) merged with two other European organisations to form the ***Konnex Association***, KNX has become the new standard in building technology. ABB i-bus® EIB corresponds to both the **EIB** standard and the KNX standard.

Basic principle

With ABB i-bus® EIB, electrical loads are not switched directly in the circuit with switches and push buttons as in conventional electrical installations (see Diagram 1).

Commands are sent instead from sensors (e.g. electronic push buttons) on a twin-core data cable and are received by actuators. The actuators then execute these commands, for example by switching the circuit (see Diagram 2).

What does that mean in practice?

Electrical installations with ABB i-bus® EIB offer the user numerous advantages:

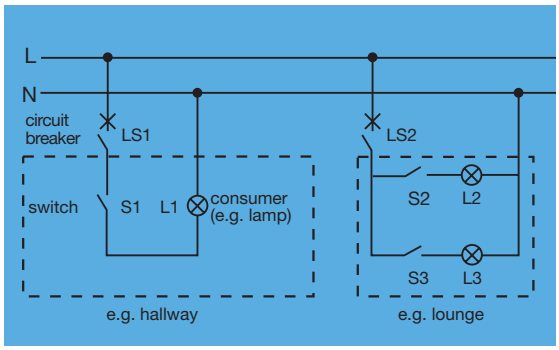


Diagram 1: Conventional electrical installation

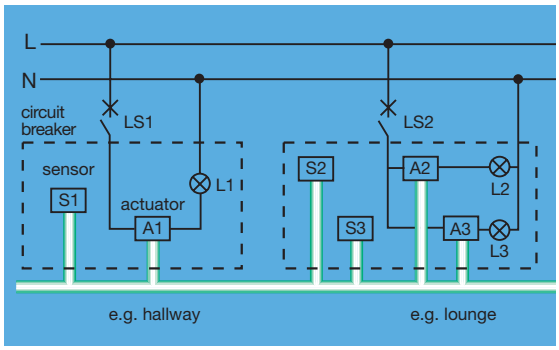


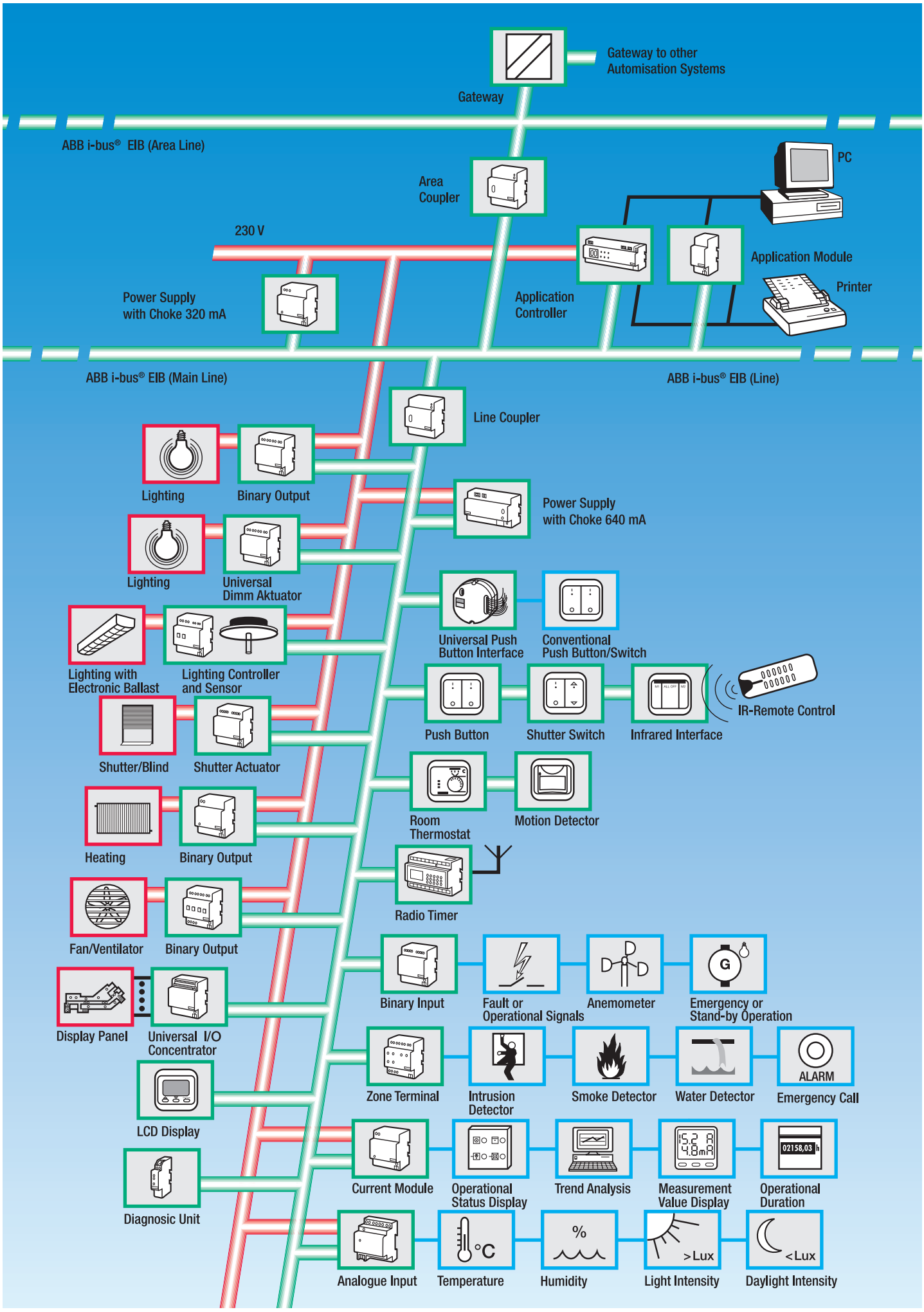
Diagram 2: Electrical installation with ABB i-bus® EIB

- Electrical loads can be switched independantly of the electrical circuit (e.g. the light in the hallway can be operated from the lounge or from elsewhere in the house).
- Electrical loads can be switched by several sensors without complicated two-way circuits or remote-control switches.
- Functional associations between actuators and sensors can be modified at any time and adapted to individual requirements.
- All the functions can be programmed so that they run automatically. Logic operations can also be created (e.g. if the brightness level drops below a specific value after 18:00, all the shutters are lowered and the light in the hallway is switched on).
- The switching states of electrical loads can be displayed.

Sensors and actuators

Sensors are, e.g.
push buttons and switches
room thermostats
movement sensors
time switches
binary inputs
zone terminals
current modules
analogue inputs
(see Diagram 3).

Actuators are, e.g.
binary outputs
dimmers
light controllers
shutter actuators
universal concentrators
display units
(see Diagram 3)


Gateway to other Automisation Systems
Gateway
ABB i-bus® EIB (Area Line)
Area Coupler
PC
230 V
Application Module
Printer
Power Supply with Choke 320 mA
Application Controller
ABB i-bus® EIB (Main Line)
ABB i-bus® EIB (Line)
Line Coupler
Lighting
Binary Output
Power Supply with Choke 640 mA
Lighting
Universal Dimm Aktuator
Universal Push Button Interface
Conventional Push Button/Switch
Lighting with Electronic Ballast
Lighting Controller and Sensor
Push Button
Shutter Switch
Infrared Interface
IR-Remote Control
Shutter/Blind
Shutter Actuator
Room Thermostat
Motion Detector
Heating
Binary Output
Radio Timer
Fan/Ventilator
Binary Output
Binary Input
Fault or Operational Signals
Anemometer
Emergency or Stand-by Operation
Display Panel
Universal I/O Concentrator
Zone Terminal
Intrusion Detector
Smoke Detector
Water Detector
ALARM
Emergency Call
LCD Display
Current Module
Operational Status Display
Trend Analysis
Measurement Value Display
Operational Duration
Diagnosic Unit
Analogue Input
Temperature
Humidity
Light Intensity
Daylight Intensity

Which functions can ABB i-bus® EIB be used for?

Constant lighting control is particularly suitable for office workstations where the brightness level at the workplace must be kept at a previously specified value, regardless of whether the sun is shining or the sky clouds over.

In functional buildings, several users can make very different demands on the lighting system: the employees require a pleasant lighting level for working; the lighting is alternately dimmed up and down during meetings and presentations; the cleaners might need all the rooms to be lit up at the same time and the owner requires any unnecessary lights to be switched off or dimmed down in order to save energy costs. ABB i-bus® EIB gives you the flexibility to do this.

Lighting

The lighting can be manually switched or dimmed. A switch sensor can operate any lamp in the house or external lighting.

All the lamps can be switched off centrally (before going to bed or when leaving the house) or switched on (e.g. to warn away intruders).

Lightscenes that are used frequently (e.g. for reading, watching TV or at mealtimes) can be stored by pressing a button and recalled again as often as necessary with a single push button action.

Infrared remote control enables the operation of selected functions, without you having to leave your seat.

All the lighting functions can be automatically run using time programs or triggered via a motion sensor which detects the presence of people in the building.

Shading

Shutters and roller blinds can be individually raised and lowered: either fully, step-by-step or moved to a specific position.

All the shutters and roller blinds can also be moved simultaneously – all rooms can thus be made darker or lighter at the touch of a button.

Manual shutter control functions can also be carried out via infrared remote control.

The shutter control functions can be carried out fully automatically using a control system with time programs, light sensors or wind sensors. All the roller blinds, for example, can be closed if the brightness level drops below a specific value after 18:00 or they can be closed during the day for protection against intense sunlight.

If there is a strong wind, the shutters can also be automatically raised to prevent being damaged.

Heating

ABB i-bus® EIB can also be implemented for individual room temperature regulation. The temperature is constantly measured and adjusted to the required level via the radiator valves controlled over EIB. Such valves can also be closed automatically when windows in the room are opened (via window contacts) to avoid wasting energy.

A pleasant temperature is thus achieved in each room (individual room control). The required temperature can be set using the rotary thermostat control or by pressing a push button.

The temperature variation over the course of the day can be automatically programmed dependent on the room usage. During the night, the temperatures in selected rooms can be lowered to save resources and thus help to preserve our environment.

Security

With ABB i-bus® EIB, important security functions can be integrated into the electrical installation.

Presence simulation: During your absence, the roller blinds open and close at the usual time, the lights are switched on and off and the radio plays music every now and again. It therefore does not occur to anyone that you are not at home.

Lock monitoring: Contacts check whether all the doors and windows are closed. A warning signal can therefore be sounded, for example, before you leave the house if any doors or windows are open. Skylights and garage doors can also be monitored in this way.

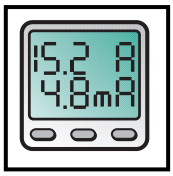
Intruder: Alarm signals are triggered if doors and windows are forcibly opened or broken. The presence of unauthorised people inside the house can be recorded with motion detectors. If you are in the house and feel threatened, you can trigger an alarm via an emergency call button.

Alarm signals: In the case of an alarm, a local alarm can be sounded via sirens and strobe lights or a silent alarm can be triggered and a telephone dialling device activated. The silent alarm can notify you either directly via the telephone, inform a neighbour or an emergency service centre.

Fire: Smoke detectors can also be integrated into the electrical installation. All the occupants of the house are thus reliably warned about the possible danger. Additionally a security company can be alerted in good time, before the house is engulfed by flames.

Technical alarms: ABB i-bus® EIB also manages technical signals. You can therefore protect the property against serious damage if water seeps in or there are technical faults in the electrical installation.

All alarm reports can be shown on a display or panel unit. In this way, you can easily find out which alarm has been triggered and in which part of the building.



Display and operate

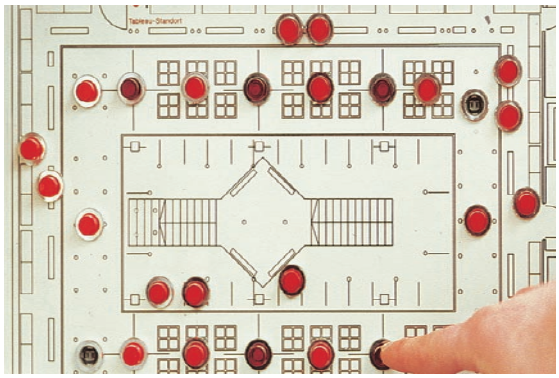
ABB i-bus® EIB offers a variety of display and operating possibilities whether you are a home owner, office worker or just a user of such an installation. The clear depiction of information and ease of operation simplify the control of processes in buildings.

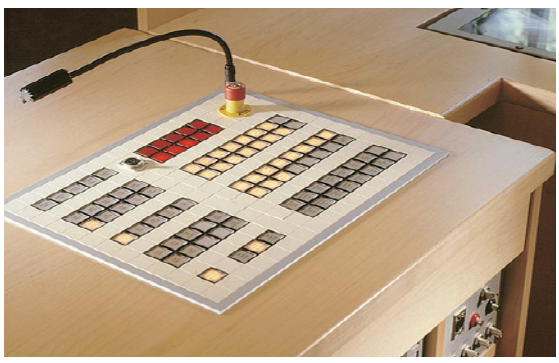
Switching states, fault signals and measured values as well as alarm signals can be displayed at various locations inside the building and also externally via the Internet or telephone.

You can switch loads manually via the push buttons on the display unit and carry out your own settings.

LCD displays are particularly suitable for an individual and flexible layout. Text and switch functions can be freely programmed on the PC and loaded into the LCD display via an interface.

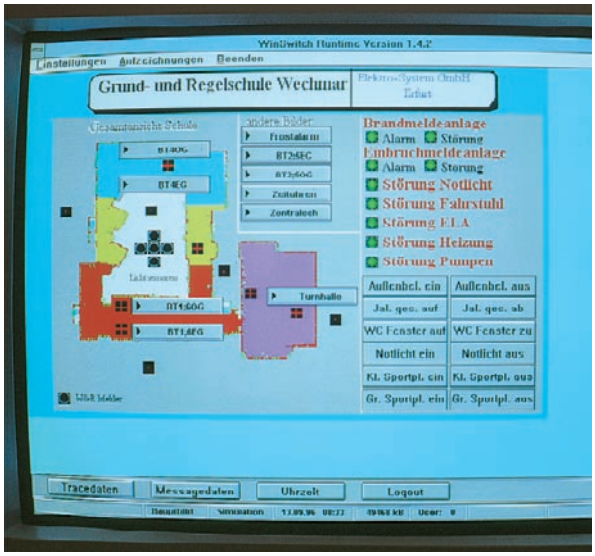
Switching states or fault signals can also be displayed via LEDs. Panel units with plan drawings and LEDs, or panels with touch control and LEDs are used most frequently.





PC visualisation is particularly recommended for more sophisticated requirements. The PC is directly connected to the electrical installation.

The PC visualisation enables a very clear representation with numerous individual setting options.



Ventilation

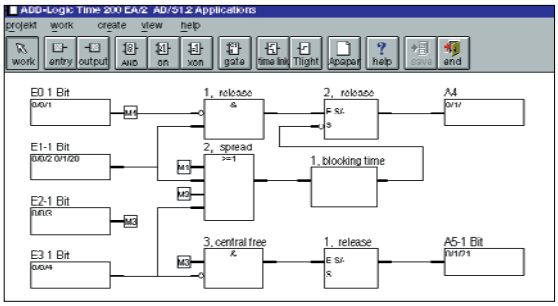
Ventilation makes a significant contribution to achieving a pleasant atmosphere in rooms. You can open and close skylights or glass façades using ABB i-bus® EIB.

A weather station ensures that the onset of rain is detected and the windows are automatically closed to prevent any water from getting in.

Control and logging

Control: Additional functions are made possible in an electrical installation by higher-order control procedures. The effort involved is reduced and the economic efficiency of the installation is increased.

Complex logic operations, gates, timing elements and staircase lighting functions can also be easily programmed and integrated into the ABB i-bus® EIB systems.



Logging: The logging of important switching commands and fault signals increases the transparency of an installation. The availability is thereby improved, the checking process is simplified and the functional reliability as a whole is increased. ABB i-bus® EIB can print out the log of selected events with any required textual information on one or several logging printers.

Experience with ABB i-bus® EIB for your success





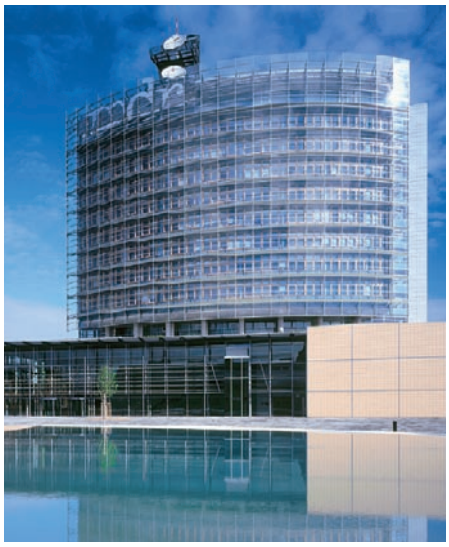



ABB can look back on many years of experience in the development, marketing and distribution of programmable installation systems in bus technology. As a founder member of EIBA (European Installation Bus Association), ABB played a decisive part in the standardisation of EIB.

Today, with experience in installing bus systems in a wide variety of building types, a comprehensive range of hardware components with various application software is available.

The experience and success of the ABB i bus® EIB from ABB is reflected in the positive assessment of planners, installers, specialist electrical wholesalers and users alike. Practical experience has been gained by working closely with them, considerably influencing the continual process of further development and optimisation of our products and service.

ABB i-bus® EIB is distributed by qualified specialist electrical wholesalers and electrical installers who have been trained by attending certified courses.

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