

6 EIB Tool Software (ETS)

6.1 The basics of ETS 2

Software tool

For planners and electricians the ETS 2 represents a powerful software tool which, by virtue of a clear structure, is easy to use.

The ETS 2 is based on the ETE (*EIB Tool Environment*), which contains all basic functions and interfaces to other software systems. The ETE is an extensive software library, which enables access to the project and product data of the ETS database and which contains *EIB* network functions.

The new ETE and the ETS also offer manufacturers entirely new possibilities of product design and presentation.

The ETE provides the basis for the development of ETS 2 add-on modules, interfaces to other software systems and product-specific ETS 2 supplements and extensions.

Context-sensitive on-line help

The ETS 2 is user friendly. It provides extensive on-line help, which in turn supplies concise, context-sensitive information. There is also an assistant function, which makes targeted suggestions for proceeding, thereby supporting the user. The ETS 2 represents a modern and powerful software tool used to fully exploit the extensive range of *EIB* technology.

6.2 Content of the ETS 2

ETE

The ETS 2 is an open system. It consists of a basic development environment, termed ETE (*EIB Tool Environment*), with the following functions (see Fig. 6.2-1):

- User guidance
- Printer control
- Language management
- Database access
- Access to *EIB* installations via RS 232

- Import/export of products and projects
- Interface for add-on modules and data exchange with other software.

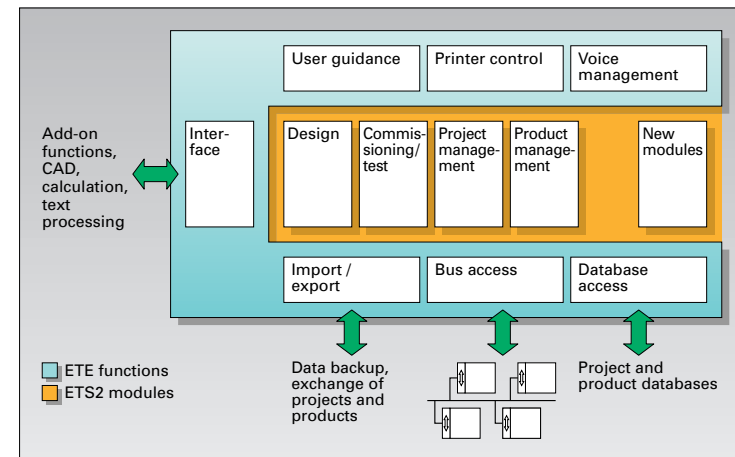


Fig. 6.2-1 System architecture and interfaces of the ETS 2 and ETE

These functions can be used by all software modules, including those added at a later date.

The ETS 2 currently contains the following modules, which can be used for the various tasks necessary for the design and commissioning of *EIB* installations:

- Settings
- Project design
- Commissioning / testing
- Project management
- Product management
- Conversions.

By virtue of the ETE functions it is possible to integrate other, specialised software modules into the ETS 2 such as drawing, calculation and simulation programs.

Drawing, simulation and calculation programs

The ETS 2 software offers the following important advantages when compared with ETS 1.x:

*Database system
Drag and drop*

- Common user interface and operational philosophy
- New and more powerful database system
- Consistent “drag & drop” functionality
- Flexible structuring of projects
- Assistant functions for supporting the project design and commissioning stages
- Shortening of the design times by the use of ready-made solutions

Team-oriented project design

- Supports team-oriented project design
- Extensive functions for troubleshooting in installed *EIB* systems
- Supports *EIB powerline* and *EIB radio*
- Supports various languages.

6.4 ETS 2 modules

The ETS 2 consists of the following modules, which can be used for the various tasks during the project design and commissioning stages:

Settings

This module offers functions to define general ETS 2 settings, e.g. printer, passwords, address formats and languages.

Project design

With this central module it is possible to define the structure of the *EIB* project, the necessary *EIB* devices can be added and connected to implement the desired functions. Powerful functions are provided for fast and simple project design. Documentation is largely automated.

Commissioning / testing

This module is used for commissioning and then testing *EIB* systems.

Project management

This module supports the management of projects. Special functions are provided for the management of the product database, such as for example, the import and export of projects.

Product management

This module provides functions for the management of product data, such as for example, the import of new, manufacturer-specific product data on disk.

Conversions

This module allows the user to maintain and edit projects that have been created with ETS 1.x. Product and project data can be converted for use with ETS 2.

6.5 Project-specific keys

A significant and in its function very important extension of the ETS 2 is the possibility of additionally defining “keys” in the various detail dialogues. These keys are project-specific codes, names or keywords for buildings, building areas, rooms, building disciplines, group addresses, areas, lines, devices and communication objects. They are used for communication with other software programs, e.g. visualisations and the HomeAssistant and for these are a basic requirement when designing the project.

6.6 System requirements

The following system configuration is recommended for the use of ETS 2:

- Pentium PC
- 16 MB RAM
- DOS version 5.0 or higher
- Microsoft WINDOWS, version 3.1/3.11, WINDOWS 95
- Microsoft WINDOWS compatible mouse
- VGA or other graphics card, which supports Microsoft WINDOWS with a monitor resolution of 1024x768 or 800x600 pixels and can represent at least 16 colours or shades of grey
- Monitor compatible with the installed graphics card.

6.7 Loading the physical address

Physical address

The physical address (see chapter 2.1.5) allows individual devices to be contacted directly. The programming of the physical address is a prerequisite enabling the relevant application program and assigned group addresses to be loaded into the devices. The physical address is also required for reprogramming, diagnosis and troubleshooting functions. The physical address therefore must be loaded into every device, at the very latest during commissioning. It is loaded via the *EIB* data interface connected to the bus. All devices connected to the bus can be programmed via this interface. At the PC, the desired physical address is first selected and then the programming button on the device is pressed. After this button is pressed the red LED on the device lights up and is extinguished again once programming is completed successfully. If several physical addresses have been selected at the PC, the next is now sent and the programming button must be pressed on the corresponding device.

Programming buttons for various bus coupling units shall not be pressed at the same time, as this would lead to undefined physical addresses.

The physical address can be overwritten as often as desired. If it proves impossible to load the physical address, reasons include:

- The device is not properly connected to the bus line
- Power supply is not switched on
- The reset switch on the choke or *EIB* power supply is set to reset
- Short circuit on the bus line
- PC not correctly connected to the *EIB* data interface (RS 232)
- PC configured incorrectly
- Line or area coupler programmed wrongly or not at all
- Wrong or defective PC/*EIB* data interface connection line
- Bus device is defective.

With *EIB powerline*, additional causes include:

- Bus device is not connected to the network.
- Bus device is connected to a different active conductor. Use repeater/phase coupler.
- No possibility of communication due to network conditions (interference, impedances, see chapter 3.1).

6.8 Loading the application programs with group addresses and parameters

A bus device consists of the hardware (bus coupling unit and application module) and the application program, which determines the functionality of the device. Before the device can function, the application program must be loaded into its memory. The application programs can be obtained from the device manufacturers as product databases on diskette. There may be more than one application program for a particular device, containing/offering different functions. To guarantee the proper functioning of a device, only the application programs designed particularly for that device should be loaded into it.

Bus coupling unit, application module and application program must originate from the same manufacturer and must never be mixed.

Application program

Group address The application program can be loaded into the device at any time after the physical address has been assigned. The devices that work together are determined by the group addresses. These are specified during the project design stage (see chapter 3.5.1). In accordance with the physical address, the application program with group addresses and parameters is loaded into the desired device with the ETS commissioning program and can be changed as often as is necessary thereafter.

The functionality of the device is determined by the application program, which can be obtained from the manufacturer on disk. The application program together with the group addresses and parameters is then loaded into the *EIB* device after the physical address has been established (see chapter 5.2.6). Application program, group addresses and parameters can be changed as often as desired. This means that partial commissioning is also possible.

6.9 Loading the filter tables

Line coupler
Area coupler Line and area couplers can be used to pass on telegrams to specific lines or areas only. If this function is activated, the corresponding settings must be made in the project design or commissioning stage.

The telegrams to be passed on or blocked are recognised by the group address. For this purpose, the commissioning program of the ETS creates a table for every coupler called filter table, in which the group addresses to be passed on are noted.

Filter table The filter table should be loaded into the coupler after the physical address and application program. If new group addresses are specified for specific lines or areas or the existing ones are changed after commissioning, the relevant couplers must be loaded with the updated filter tables.

6.10 Programming the line and area couplers

When programming the planned data into the bus devices, the first step is to program any line or area couplers with the physical address, the application program and where applicable the filter table. To achieve this the line or area couplers must be supplied with power from both the superordinate and subordinate lines. The line or area couplers via which the telegrams are to be transmitted must first be programmed.

After this and within a suitable area, e.g. one room, all other bus devices are selected in turn in the ETS commissioning program and loaded with the corresponding physical address and application program.

After the bus device has been programmed the physical address should be indicated somewhere on the device.

The following example illustrates the programming of an *EIB* installation:

The *EIB* data interface is arranged in the first line of the first area.

We recommend the following procedure:

The first step is to individually load line coupler 1.1.0, then line couplers 1.2.0 to 1.15.0 and finally area coupler 1.0.0 with the appropriate physical address, application program and if applicable, filter table. The next step is to load area couplers 2.0.0 and 3.0.0. After this it is possible to program the line couplers in the second and third areas. The last step is to program the remaining bus devices in the lines with physical address and application program, in any sequence.

6.11 Advice on the procedure

The project design phase must be complete before loading the physical address, application program and if applicable the filter tables. This loading process can be carried out either before or after the devices are installed.

The sequence of events depends on various criteria, such as for example, the number of trained employees available to carry out the work, the number of PCs in operation, and the duration of installation and commissioning or the storage area at the site.

In practice, it has proved most effective to program devices that are difficult to access before they are installed and those with easy access after they are installed.

The programming of devices before installation can either be carried out on site or in the workshop. In order to be able to program the devices, they must be connected on the bus side to an *EIB* power supply with choke and to an *EIB* data interface. One serial interface of the PC must be connected to the *EIB* data interface via a V24/RS 232 line (1:1 connection line, the so-called "nine-pin monitor extension lead").