1. Introduction

For decades now, customary building installations have simply been oriented around the distribution and switching of electrical energy. This technique is long outdated.
The demands on modern building installations have changed and increased with regard to

- Comfort
- Possibilities of flexible room usage
- Centralised and decentralised controls
- Security
- Intelligent linking of the building disciplines
- Communication possibilities
- Environmental considerations
- Energy and operating cost reductions

At the same time however, electrical installations have become more complex and the systems more extensive.

The consequences:
Tangled wires, a vast number of devices and components that cannot communicate with one another, immense planning needs and costly installation.
With customary electrical installations it is impossible to deal with the minimised planning and installation costs that are required today.
The solution to these problems is the *EIB* Installation Bus System with the EIB® registered trademark of EIBA scrl Brussels (**E**uropean **I**nstallation **B**us **A**ssociation). For the sake of simplicity, and because this technology is already well established among the experts we will only refer to "*EIB*" in subsequent chapters.
Within the scope of EIBA, leading European companies have come together in order to implement a common in-

European Installation Bus Association

dustrial standard for *EIB* on the market and to incorporate this into the corresponding European and national standardisation processes.

Twisted pair

Chapter 2 of this manual discusses the familiar technology of transmission using a twisted pair. This technology should be implemented for new installations and renovations. It offers a high degree of functional security as the data is transmitted via a separate control line network (bus).

Powerline

Chapter 3 is concerned with the system description for data transmissions using an available 230/400 V supply (power line). Power line technology is most suitable for updating in functional and residential buildings.

Radio transmission

We also briefly cover *EIB* conformant data transmission using radio (see chapter 4).

The planning involved in a building installation that uses *EIB* is no different, in principle, from the planning of a conventional electrical installation project. The only added necessity is the use of software tools, which are needed to program the *EIB* devices and thereby implement new functionalities.

EIB TOOL SOFTWARE

For planners and installers of electrical systems the ETS software (***EIB*** TOOL SOFTWARE), which has been designed for the specific requirements of building systems engineering, represents an effective design, commissioning and diagnostic tool for *EIB*. Chapter 6 describes the layout, function and application of ETS 2.

The decision to use *EIB* is a decision for the future. The flexibility that is won is advantageous in functional buildings when usage requirements change and in the private sector because it offers step-by-step extension of the overall system. The competence that is incorporated into EIBA guarantees that both devices and software will be available well into the future allowing installations realised with *EIB* to be extended and modified. *EIB* satisfies the requirements of the DIN EN 50090 and DIN V VDE 0829 standards.

The recommendations outlined in this book correspond to the current technology and the relevant experiences of

manufacturers of bus-compatible devices and systems at the time of printing.

This manual is aimed at technically qualified persons, who we assume know and observe the necessary laws, rules, regulations and standards of this technology both mentioned and understood.

Comments: