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TEHALIT

ELABO TrainingsSysteme
Aus- und Weiterbildung GmbH

Home and Building Control
KNX / EIB

www.elabo-ts.com

Design and commissioning of KNX/EIB systems

www.elabo-ts.com

ELABO TrainingsSysteme

Hardware

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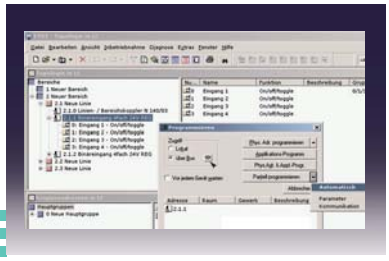

Software

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Projects

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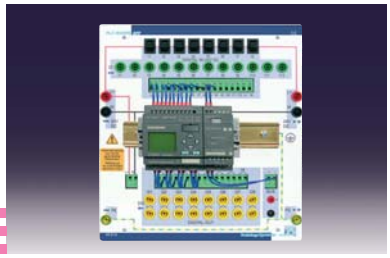

LOGO!

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Courseware

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Information / Enquiry

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Hardware

KNX/EIB Professional Programming Board

41 200 KNX/EIB Professional Programming Board

Learning Objectives:

- ✓ Design of KNX/EIB systems
- ✓ Commissioning and error detection
- ✓ Documentation and maintenance

41 200 KNX/EIB Professional Programming Board

KNX/EIB Board in DIN-A4 size with the following components:

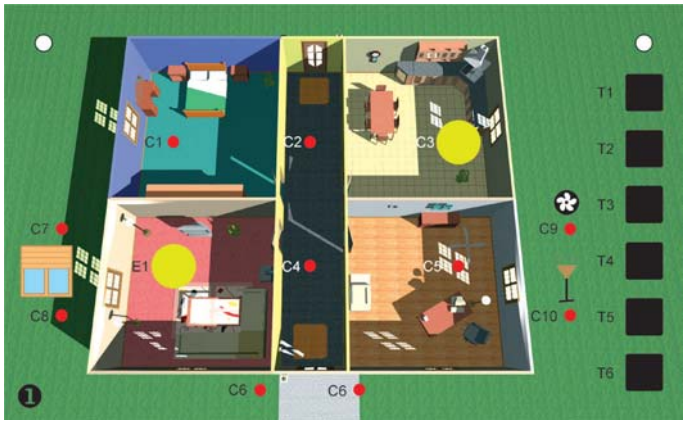
1 KNX/EIB power supply
1 USB programming interface
1 binary input, 6-way, with 6 hand/automatic simulation switches
1 10-way binary output with optional hand/automatic blind function
1 1-way hand/automatic dimming actuator
1 4-way KNX/EIB multifunctional pushbutton sensor
1 2-way KNX/EIB pushbutton sensor
1 2-way pushbutton with 2-way KNX/EIB pushbutton interface
11 signal lamps
- Sockets for connection with other systems
- Industrial blind socket

Applications:

- Switching: logical, preference, time, staircase, status, blind
- Binary input: switching, edge, cyclical, dimming, blind
- Pushbutton sensor: dimming, switching, edge, blind
- Multifunction: lighting scene, dimming, switching, blind

KNX/EIB Applications

Residential building

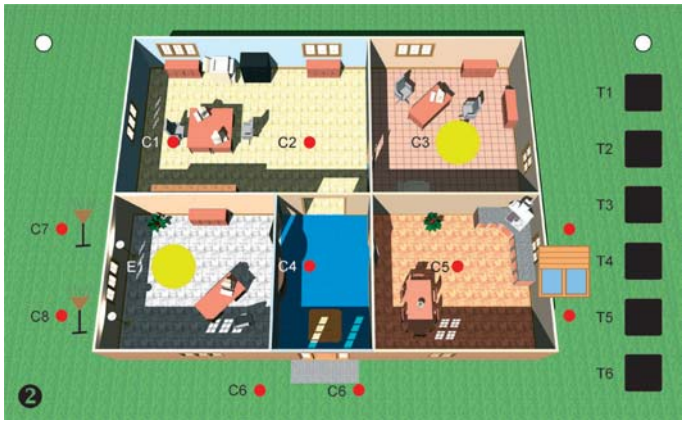


41 211

consisting of:

- approach area
- living room
- sleeping room
- kitchen / dining room
- office
- hallway

Administrative building

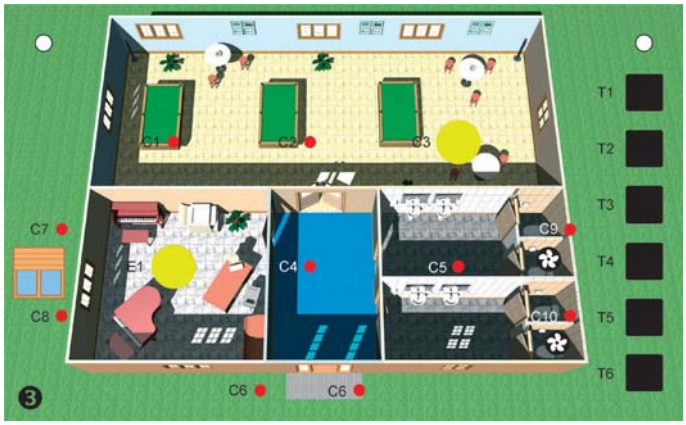


41 212

consisting of:

- outdoor area
- approach area
- reception
- 2 offices
- common rooms

Recreation centre

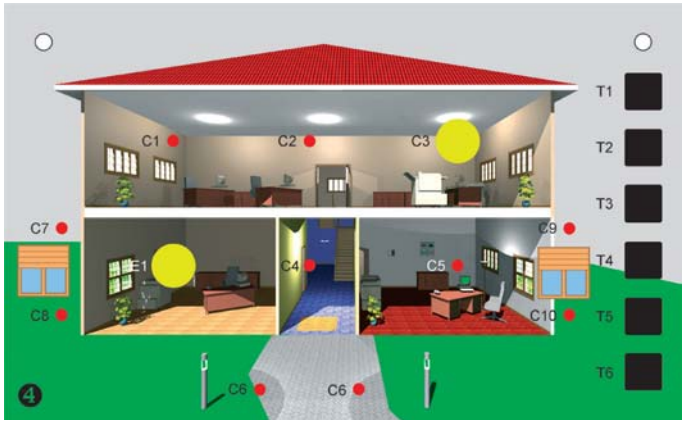


41 213

consisting of:

- approach area
- toilet facilities
- service centre
- billard room

Office building with outdoor area

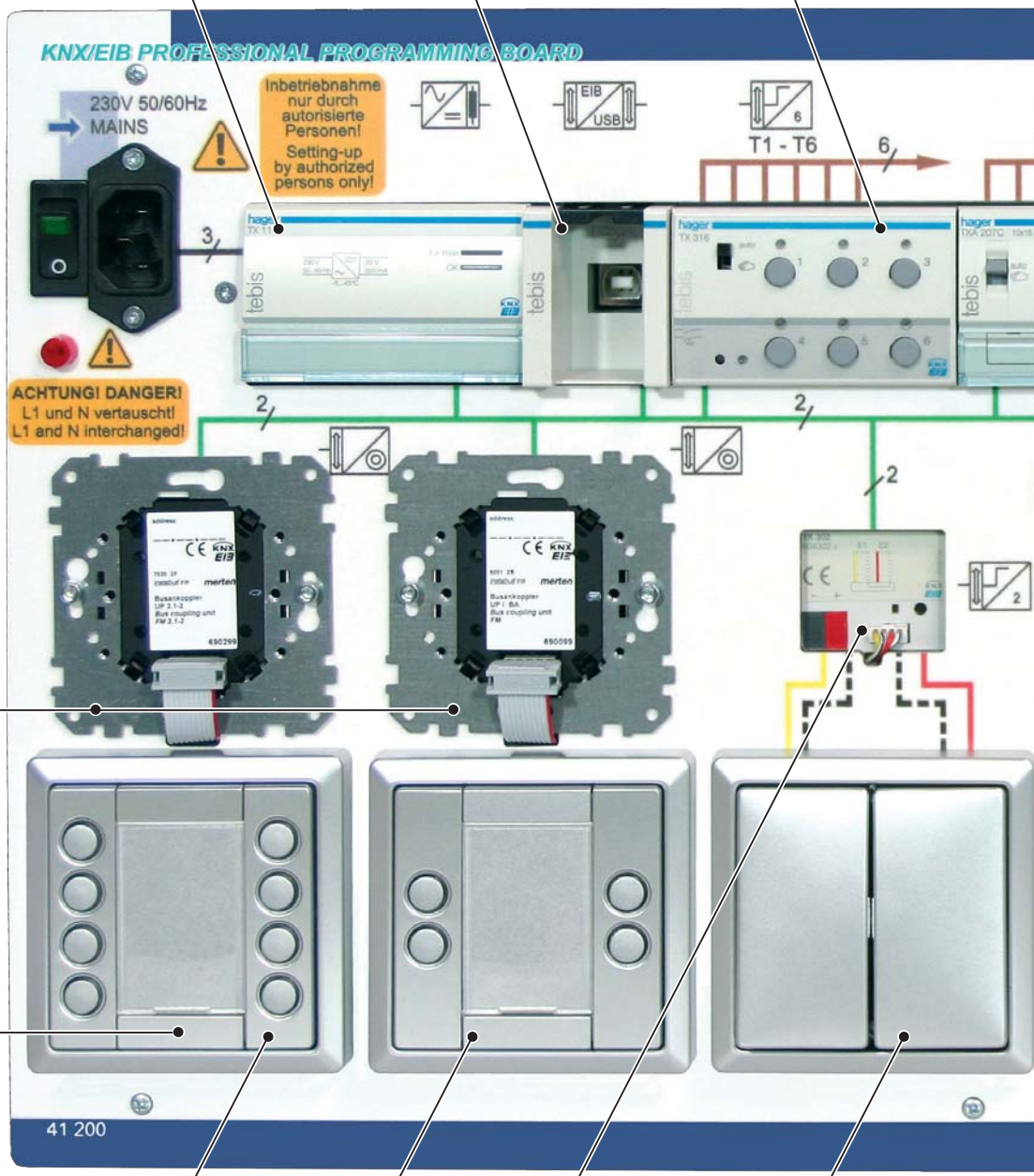


41 214

consisting of:

- outdoor lighting
- staircase
- 1 open-plan office
- 2 single offices with blind

Hardware



power supply with choke 230 V / 30 V, 320 mA

USB interface

6-way binary input, multifunction, for hand/automatic operation

bus coupler with free access to programming key and LED

additional operating panel (e. g. central OFF)

4-way pushbutton sensor

2-way pushbutton sensor

flush-mounted pushbutton interface

standard 2-way pushbutton

10-way binary output, multi-function, for hand/automatic operation, with blind function

1-way dimmer output, multifunction, for hand/automatic operation

industrial blind socket, 230 V

industrial KNX/EIB interface, 3-way

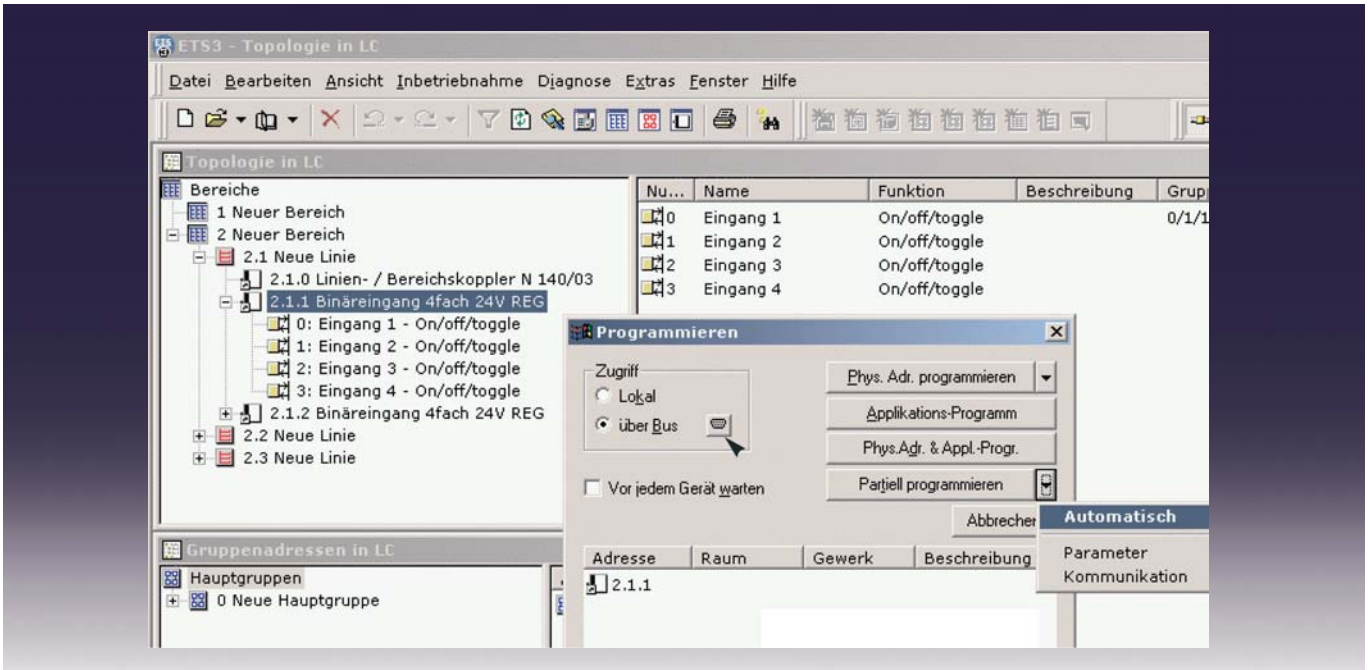
2mm safety sockets for connecting external systems

6 simulation pushbuttons for binary outputs

LEDs and bulbs for simulating the outputs

Software

KNX/EIB programming environment



90 151 KNX/EIB programming environment ETS Trainee
90 149 KNX/EIB programming environment ETS Professional

Learning Objectives:

- ✓ Design and configuration of installations (off-line)
- ✓ Programming and comissioning of installation devices (on-line)
- ✓ Documenting of projects
- ✓ Getting acquainted with diagnosis and solution of problems

KNX/EIB programming environment

The KNX/EIB software offers the following features:

- Projecting and commissioning of intelligent building automation solutions for homes and other building objects
- Undo and reset functions
- Full drag-and-drop functionality
- Direct editing in open window
- Clear presentation of parameters
- Connection to the bus via USB, LAN or internet
- Reports for project documentation
- Administration of different project databases

System requirements

- IBM-compatible PC with Windows 2000 or Windows XP
- min. 1.0 GHz and 256 MB RAM
- 3 GB hard disk (without projects)
- USB-, RS232 or IP interface, depending on hardware

ETS Trainee and ETS Professional

The KNX/EIB programming environment is the tool to design and configure intelligent KNX/EIB home and building control installations. It supports the following phases and tasks in the realization of home and building automation projects:

1. Design
2. Commissioning
3. Project documentation
4. Diagnostics and troubleshooting

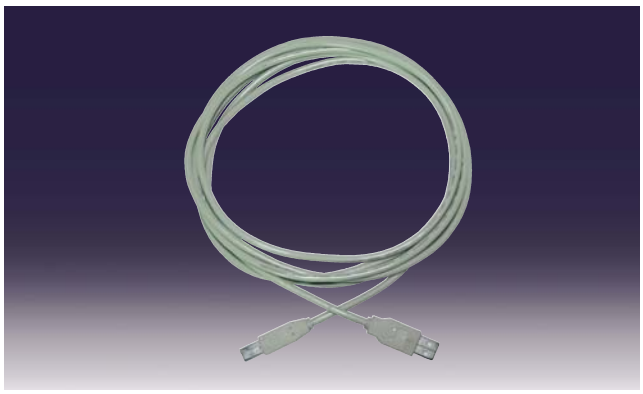
CD-ROM KNX/EIB programming environment

90 151 KNX/EIB programming environment ETS Trainee

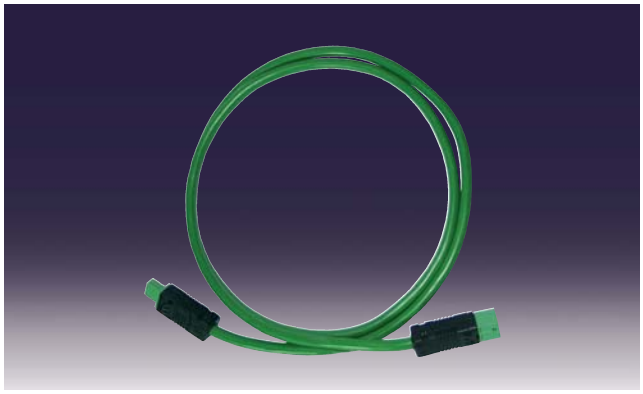
Allows execution of individual projects up to max. 20 products with bus access without time limit (no export function). Requires one licence per PC!

90 149 KNX/EIB programming environment ETS Professional

Requires one licence per PC!



80 544 USB Programming Connection Line



41 002 KNX/EIB Professional Connection Line

Technomodel Blind

Tabletop model of a blind in transportable frame. It is connected to a standard blind or shutter actuator. The technomodel Blind provides the following functions:

- Blind up and down movement
- Change of flat inclination
- Positioning
- Safety functions

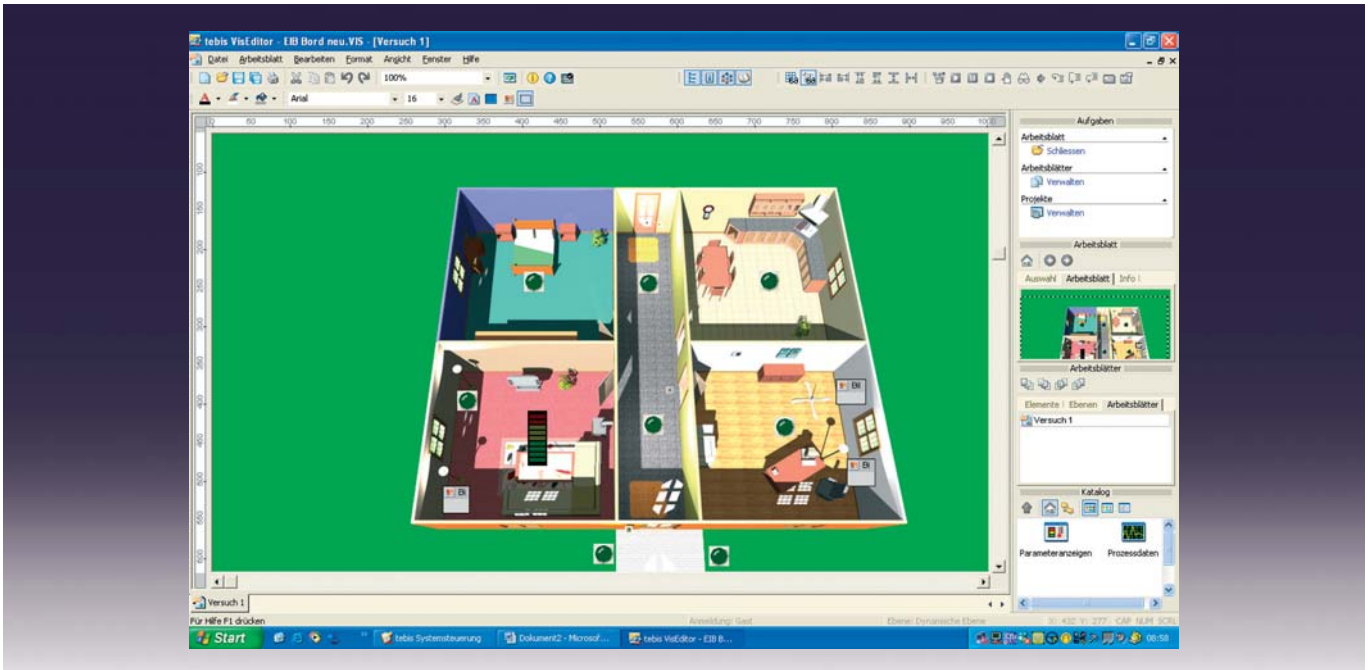
Technical data

- Operating voltage: 230 V AC
- Connection to blind socket STAKEI3N
- Connecting cable approx. 1m
- Dimensions: 800 x 640 x 120 mm (w x h x d)

41 115 Technomodel Blind

Software

KNX/EIB Visualization Software



E90 152 KNX/EIB Visualization Software

Learning Objectives:

- ✓ How to clearly present the operational conditions of the consumers of a building on a Windows PC
- ✓ Central monitoring and controlling of components
- ✓ Design of work sheets
- ✓ Getting acquainted with the appearance of the displays and operating elements

E90 152 KNX/EIB Visualization Software

The Visualization Software offers the following features:

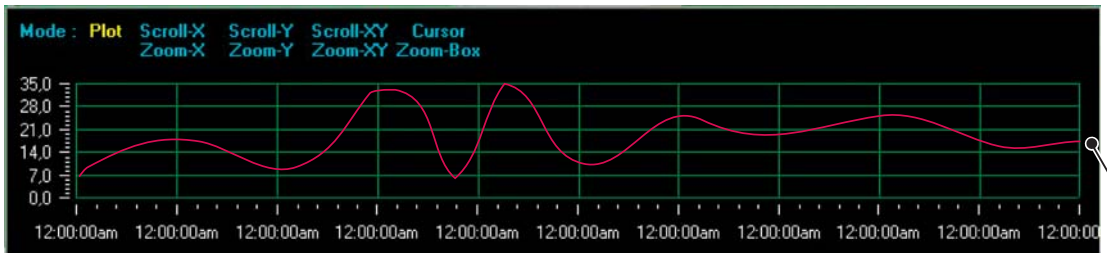
- Alarm handling
- E-mail notification
- Surveillance (e. g. by webcam)
- Logical, time, counting, mathematical and scene functions
- Watchdog
- Data export to Ecxel possible
- Data archives
- Calendar programs
- Use of animated images
- Full touch-screen utilization
- 4 ready-to-use applications

E90 152 KNX/EIB Visualization Software

System requirements

- IBM-compatible PC with Windows 98SE, ME, XP or Windows 2000
- min. 1.2 GHz and 256 MB RAM
- free serial RS232 or USB interface

Visualization



Plot Control with time axis (x) and value axis (y)

Visualization of the ready-to-use applications on PC

Projects

Project 1: Line/Area Coupling

41 013 Project Line/Area Coupling KNX/EIB

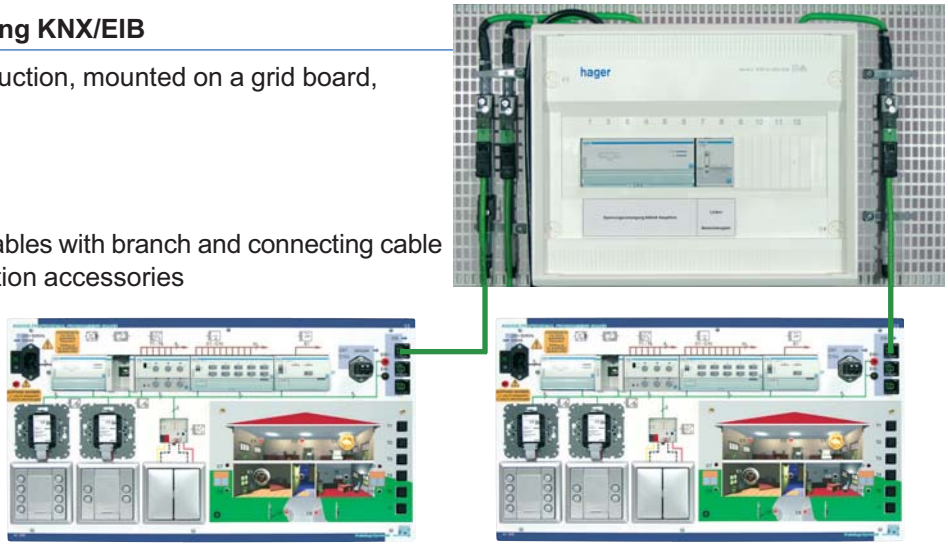
Learning Objectives:

- ✓ Application of a line/area coupler
- ✓ Parameterizing of line/area couplers
- ✓ Use of filter tables
- ✓ Evaluation of routing counter output
- ✓ Commissioning and trouble shooting

41 013 Project Line/Area Coupling KNX/EIB

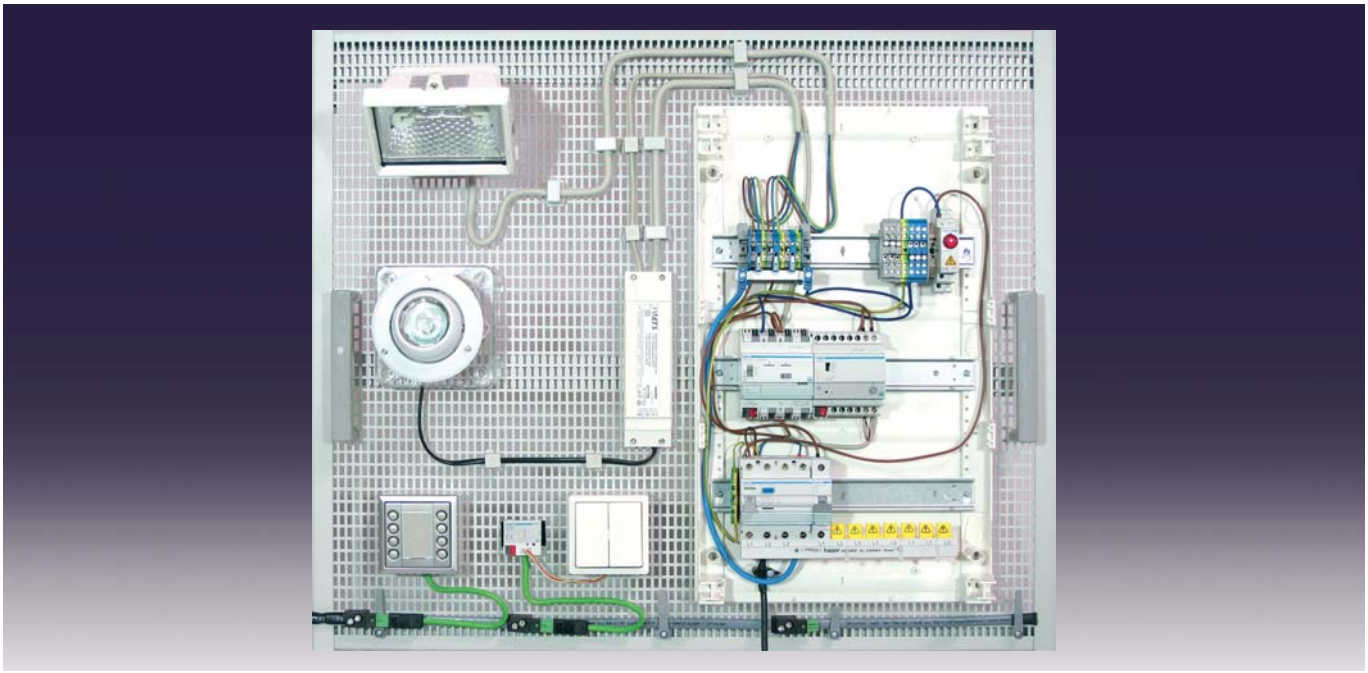
Set of components for circuit construction, mounted on a grid board, consisting of:

- Subdistributor
- Power supply 640 mA
- Line/area coupler
- Set of KNX/EIB system cables with branch and connecting cable
- Set of wiring and distribution accessories



Experiment setup: Coupling of two lines

Project 2: Dimming



41 012 Project Dimming KNX/EIB

Learning Objectives:

- ✓ Switching ON/OFF
- ✓ Dimming (relative and absolute) of 0 - 100% of the adjustable dimming range
- ✓ Gradual/direct setting of the dim value
- ✓ Integration into a scene control
- ✓ Check-back of the initial state and value by the bus in case of modifications
- ✓ Commissioning and trouble shooting

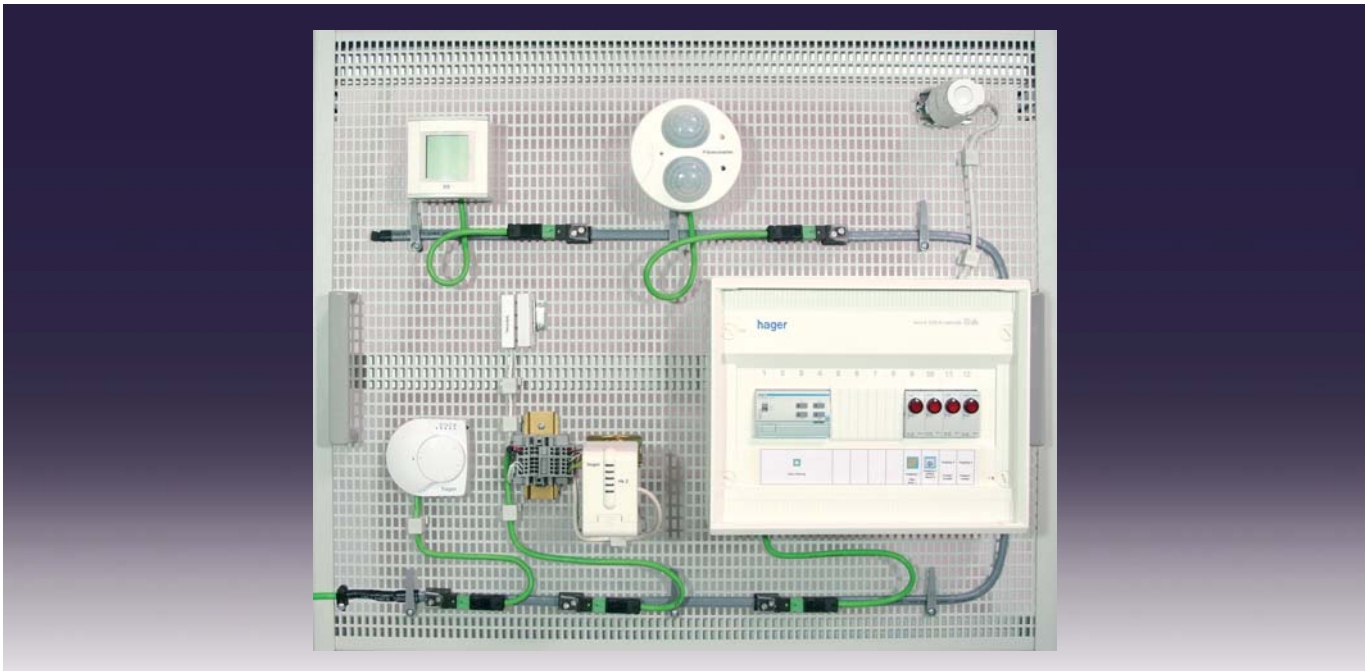
41 012 Project Dimming KNX/EIB

Set of components for circuit construction, mounted on a grid board, consisting of:

- Subdistributor
- RCD switch 40/0.03 A, 4-pole
- Circuit breaker type B, 10 A, 1-pole
- Universal dimmer 300 W
- Switchable dimmer 0-10 V
- 4-way pushbutton sensor with bus coupler and mounting box
- Halogen lamp 100 W, incl. illuminant
- Electronic ballast for halogen lamps with 0-10 V interface and housed lamp 50 W
- Set of KNX/EIB system cables with branch and connecting cable
- Set of wiring and distribution accessories

Projects

Project 3: Heating Control



41 011 Project Heating Control KNX/EIB

Learning Objectives:

- ✓ Moving to controller output value, position and forced position and finding out the maximum position
- ✓ Testing of the heating and cooling function as well as of the two-step heating with basic and additional phase
- ✓ Use of comfort and night reduction mode
- ✓ Testing frost and heat protection as well as stand-by mode
- ✓ Commissioning and trouble shooting

41 011 Project Heating Control KNX/EIB

Set of components for circuit construction, mounted on a grid board, consisting of:

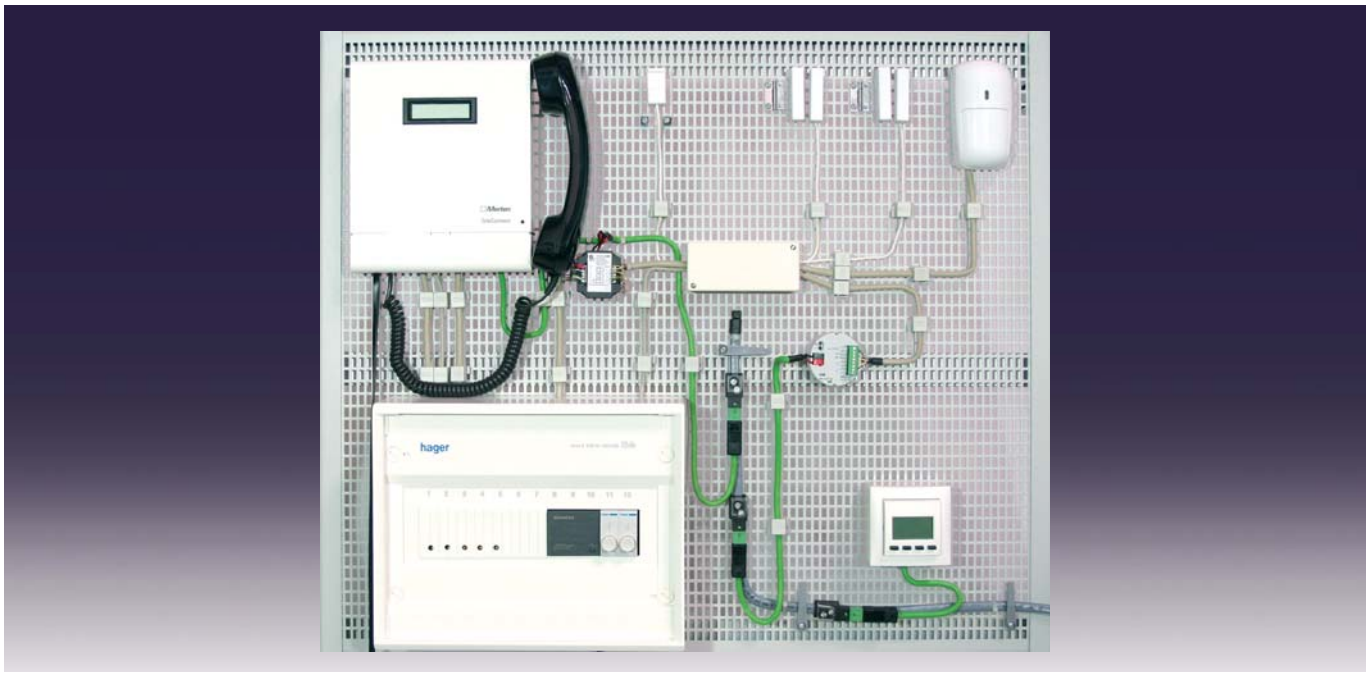
- Electromotoric actuator with 2 binary inputs and 5 LEDs for position indication, mounted on heating valve
- Electrothermal actuator for 2-point or PWM control
- Window contact for connection to a heating actuator
- Presence detector, 2-channel KNX/EIB with mounting box
- Room temperature controller with bus coupler
- Room temperature controller with 4-way pushbutton sensor, LCD, bus coupler and mounting box
- 4-way switching actuator with lighting and heating application
- Set of KNX/EIB system cables with branch and connecting cable
- Set of wiring accessories

TRAINING PACKAGE TP 22.23

PROJECT HEATING CONTROL

ELABO*TrainingsSysteme*

Project 4: Alarm Function



41 014 Project Alarm Function KNX/EIB

Learning Objectives:

- ✓ Design of KNX/EIB alarm devices
- ✓ Integrating the sensors of alarm technology
- ✓ Commissioning of the telephone gateway
- ✓ Evaluating and supervising of alarm signals
- ✓ Parameterizing of an LCD
- ✓ Commissioning and trouble shooting

41 014 Project Alarm Funktion KNX/EIB

Set of components for circuit construction, mounted on a grid board, consisting of:

Distribution section:
- Subdistributor
- 2 control pushbuttons
- 8-way binary input
- 5 control relays 12 V DC
- Control transformer 12 V DC

Alarms and transmitters:
- Reed contacts for door and window monitoring
- Infrared motion detector
- Telephone gateway (analogue) with
  - 2 bus inputs
  - 6 bus outputs
  - 4 relay outputs
- Glass breakage alarm
- Alarm distributor with sabotage control
- Alarm group terminal KNX/EIB 12 V DC with 2 alarm group inputs for several passive alarms
- KNX/EIB LCD for display of alarm states and value parameterization
- Set of KNX/EIB system cables with branch and connecting cable
- Set of wiring accessories

TRAINING PACKAGE TP 22.24

PROJECT ALARM FUNCTION

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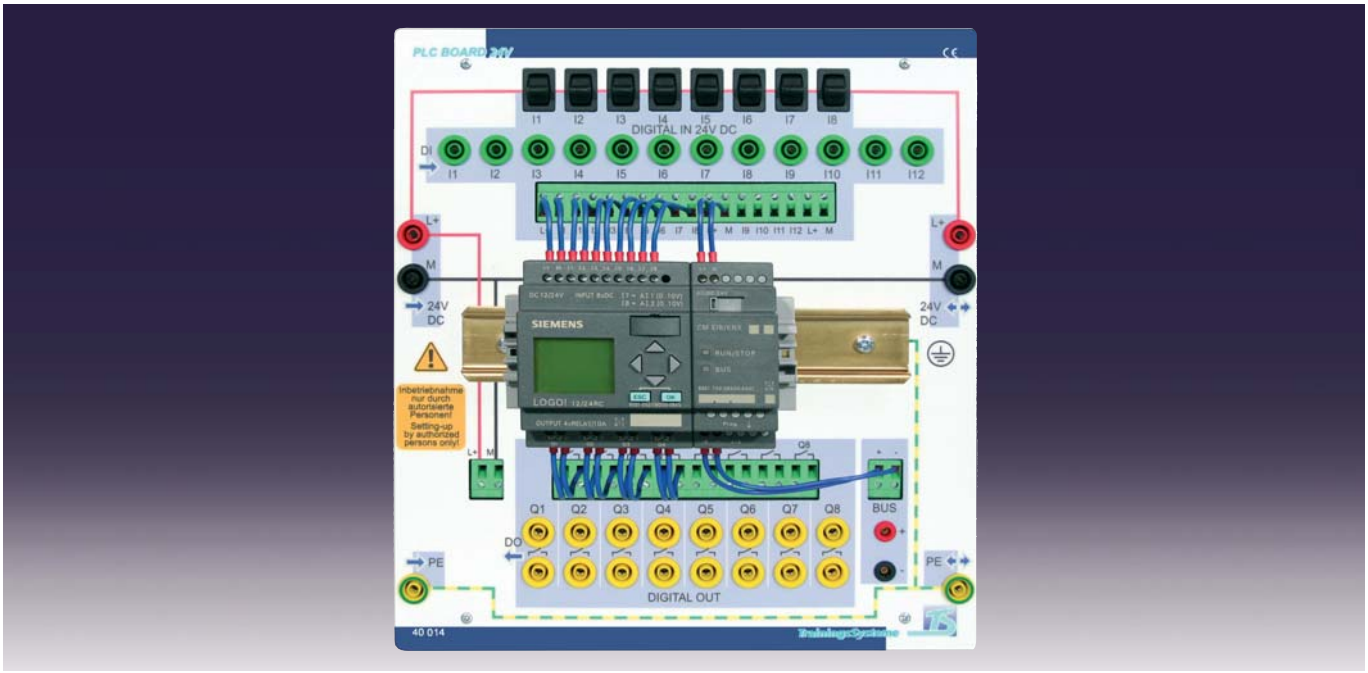
PLC Board with LOGO! and KNX/EIB



40 016 PLC Board 24V with KNX/EIB Expansion Module (40 026)

Learning Objectives:

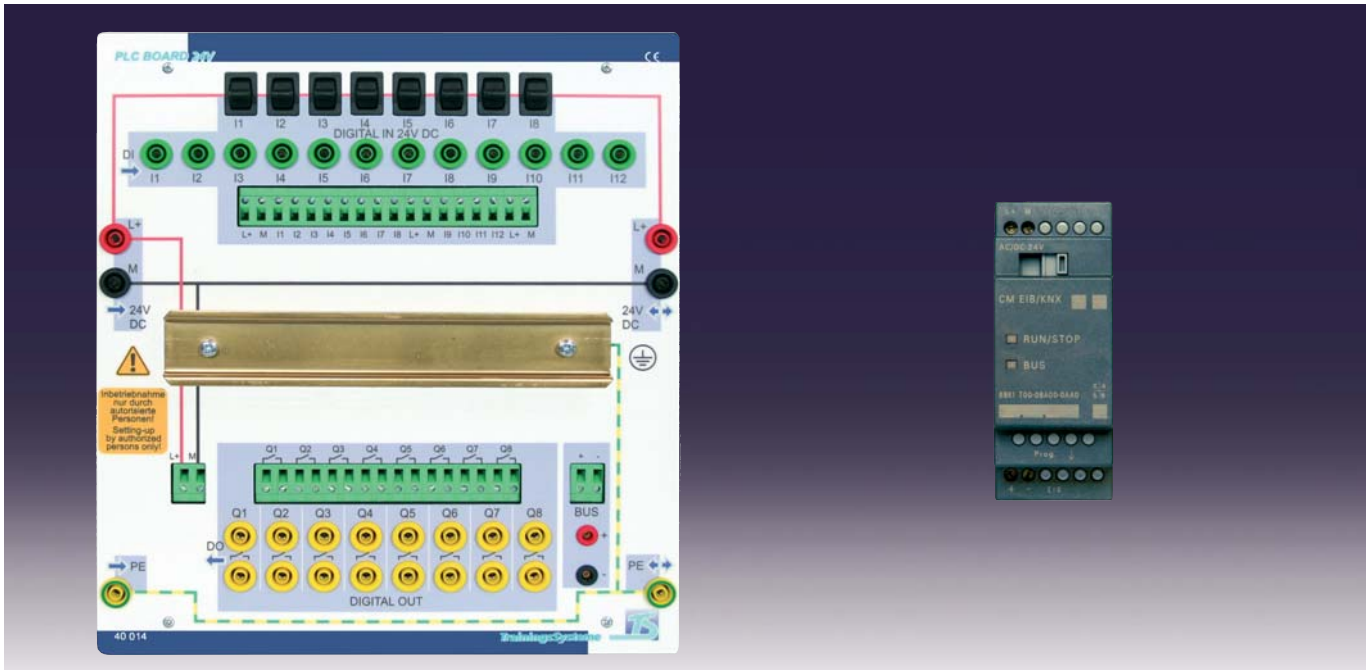
- ✓ Parameterization of logic modules
- ✓ Getting acquainted with the fundamentals of digital technology
- ✓ Programming with the operating elements
- ✓ Programming with the PC

40 016 PLC Board 24V

LOGO! 24RC:

- Integrated backlit display field and operator control panel
- Integrated EEPROM memory for control program and setpoint values
- 8 inputs (2 of which apt for analogue use): 0 ... 10 V
- 4 relay outputs 10 A max.
  - 10 A with resistive load
  - 3 A with inductive load
- Short circuit protection by external fusing
- 8 integrated time switches with automatic summer/winter time adjustment
- Power reserve approx. 80 hs
- Expandable by further modules
- Mounted on PLC Board 40 014

For further information please see Trainer Package TP 40.8 LOGO! in our catalogue „Control Technology“

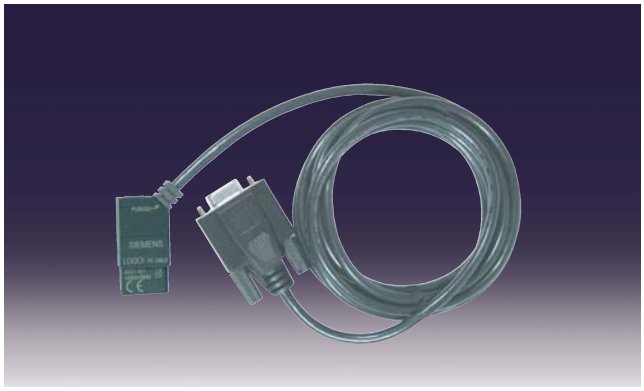


40 014 PLC Board 24V

40 026 KNX/EIB Expansion Module

63 524 24VDC Power Supply Board 2.5 A

E40 804 Industrial user manual LOGO!



40 806 LOGO! interface cable

40 808 Software LOGO!Soft Comfort
Training and programming software
School licence

Courseware

Project-oriented training

On paper and on CD!

Trainer Section

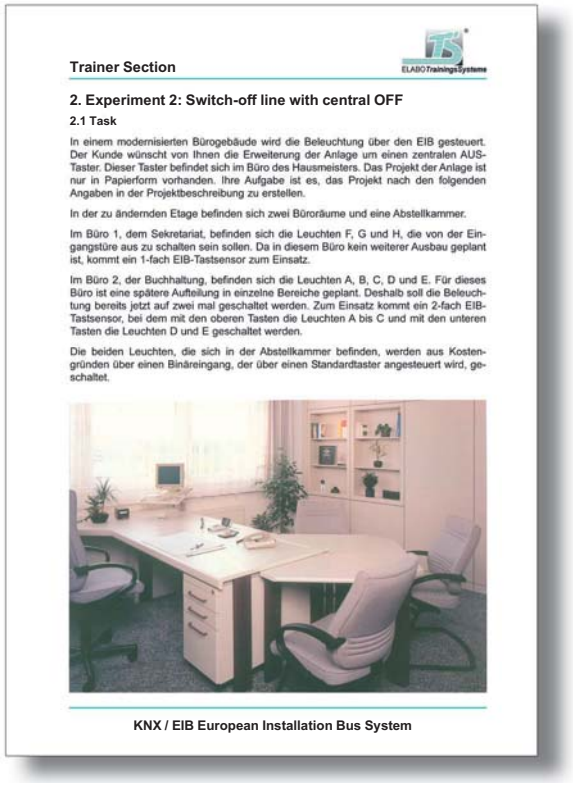
Contents of manual:

Introduction

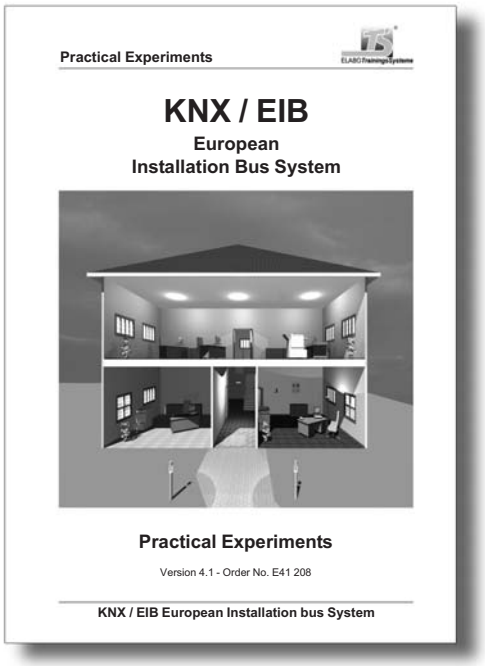
- Fundamentals
- KNX/EIB tool software ETS

Experiments

- Experiment 1: Switch-off line
- Experiment 2: Switch-off line with central OFF
- Experiment 3: Switch-off line and staircase light control
- Experiment 4: Switch-off line and staircase light control, expanded by an authorization for central OFF
- Experiment 5: Pushbutton switch line with logical function
- Experiment 6: Time function
- Experiment 7: Dimming
- Experiment 8: Lighting scene



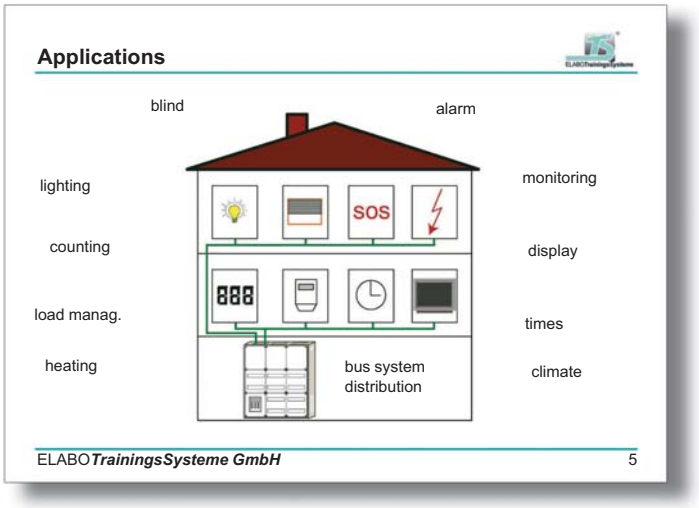
E41 207CD Manual Trainer Section KNX/EIB



E41 208CD Manual Practical Experiments KNX/EIB

Practical Experiments

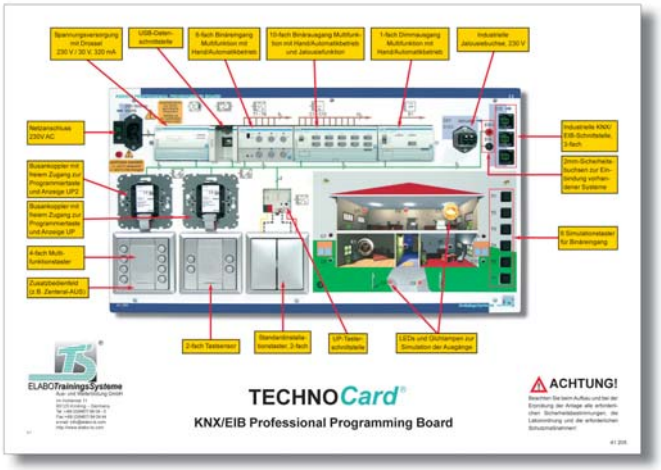
The Practical Experiments contents are identical to those in the trainer`s manual, however without solutions. Photocopy rights for personal use only.



E41 209CD Transparencies KNX/EIB

Transparencies

- Fundamentals
- Applications
- KNX/EIB tool software
- Solution examples
- Components



E41 205 TechnoCard
KNX/EIB Professional Programming Board

E41 210 KNX/ EIB Database Collection on CD

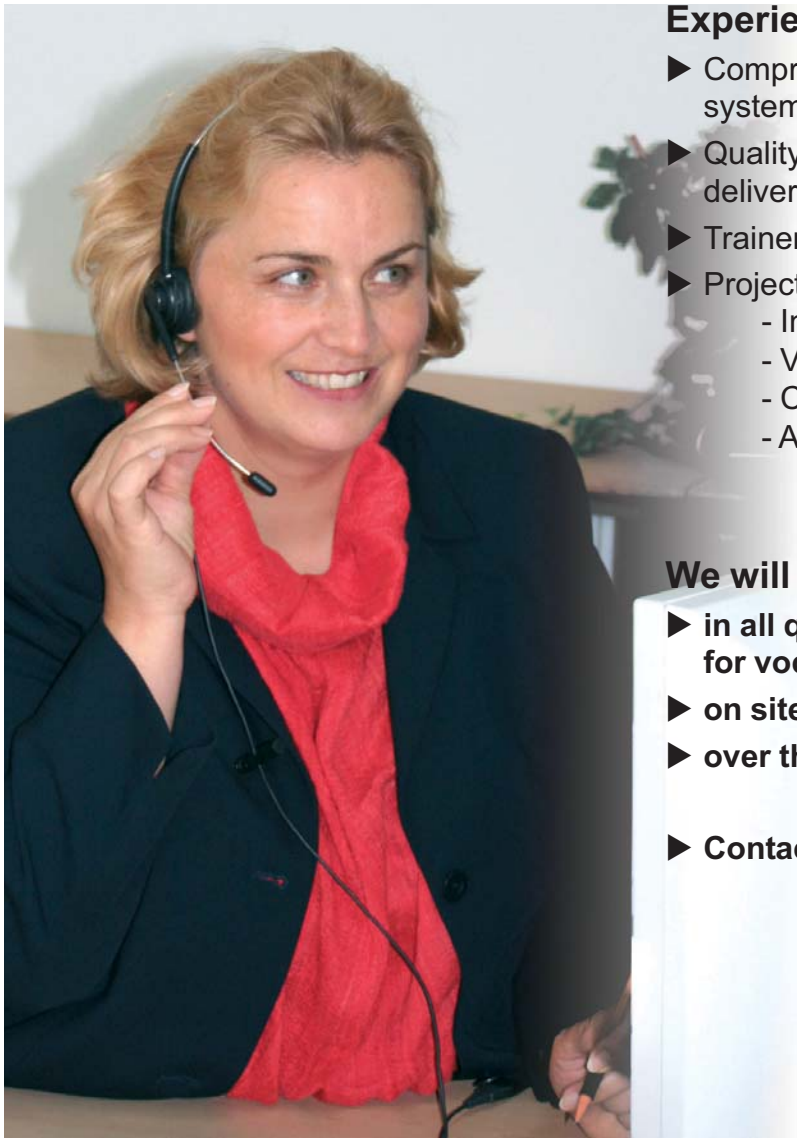
E90 150 CD-ROM KNX/EIB Learning Program

Information and Consultation

Consultation

- Selection of products complying with syllabuses
- Comprehensive system determination
- Service-Center – we will call you back and support you in planning and project development
- Classroom layout concepts
- Ergonomic workplace design
- Joint compilation of offers
- Information about our products / manuals
- Planning of seminars

Where this catalogue ends, we start consulting...



Experience

- Comprehensive range of innovative products, systems and solutions
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- Trainer-seminar / Inhouse-trainings
- Projects and references:
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  - Vocational schools / technical colleges
  - Chambers of commerce
  - Academies / universities

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- **in all questions concerning the equipment for vocational technical education**
- **on site**
- **over the telephone**

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Company / institution / authority

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Post code, town/city, country

Telephone, telefax

E-mail

We require:

❑ Contact by telephone

❑ Contact by mail

❑ Consultation on site ❑ yes ❑ no

Please send us an offer for

Part No.	Quantity	Designation / Title
❑ 41 200		KNX/EIB Professional Programming Board (page 2)
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❑ 41 212		Application: Administrative building (page 3)
❑ 41 213		Application: Recreation centre (page 3)
❑ 41 214		Application: Office building with outdoor area (page 3)
❑ 90 151		KNX/EIB programming environment ETS Trainee (page 6)
❑ 90 149		KNX/EIB programming environment ETS Professional (page 6)
❑ 80 544		USB Programming Connection Line (page 7)
❑ 41 002		KNX/EIB Professional Programming Connection Line (page 7)
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❑ 41 013		Project 1: Line/Area Coupling (TP 20.21, page 10)
❑ 41 012		Project 2: Dimming (TP 20.22, page 11)
❑ 41 011		Project 3: Heating Control (TP 20.23, page 12)
❑ 41 014		Project 4: Alarm Function (TP 20.24, page 14)
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❑ 40 026		KNX/EIB Expansion Module (page 17)
❑ 63 524		24VDC Power Supply Board (page 17)
❑ E40 804		Industrial user manual LOGO! (page 17)
❑ 40 806		LOGO! interface cable (page 17)
❑ 40 808		Training and programming software LOGO!Soft Comfort (page 17)
❑ E41 205		TechnoCard KNX/EIB Professional Programming Board (page 19)
❑ E41 207CD		Manual Trainer Section KNX/EIB (page 18)
❑ E41 208CD		Manual Practical Experiments KNX/EIB (page 19)
❑ E41 209CD		Transparencies KNX/EIB (page 19)
❑ E41 210		KNX/EIB database collection on CD (page 19)
❑ E90 150		CD-ROM KNX/EIB Learning Program (page 19)

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