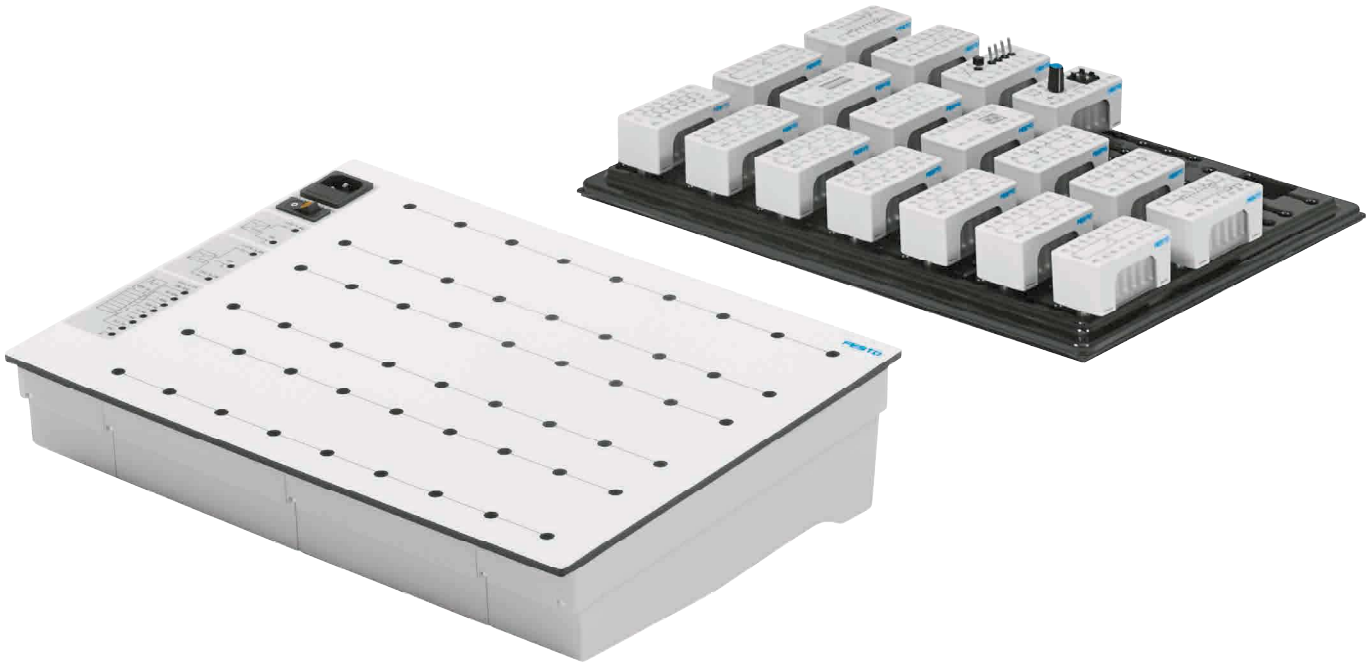
Basic Principles of Digital Technology

TP 1012



The perfect introduction to digital technology

The training package Basic Principles of Digital Technology provides the optimum introduction to the world of digital signal processing. Those who learn and understand digital technology can easily and quickly learn any automation programming language.

The basic principles of digital technology include logical operations, signal flow and data formats. The curriculum also includes structured procedures for problem solving.

Special characteristics
- The components of the training package are constructed with real logic gates. They permit realistic examinations of their behavior.
- The ICs contained in the components are socketed and can be exchanged in only a few steps.
- All parts of the equipment set are completely equipped with safety plug connections.
- The Combiboard Digital and Control Technology EduTrainer included with this training package provides the required supply voltages for all tests and also contains a square-wave generator with 7 different output frequencies.
- This Combiboard EduTrainer can also be used as a patch panel for the Basic Principles of Control Technology components set.

Components included
- 1 inverter
- 2 AND
- 2 OR
- 1 NAND
- 1 NOR
- 1 XOR
- 1 hex switch and analog source 0 – 5 V
- 1 LED bar graph
- 1 counter
- 1 7-segment display
- 1 RS flip-flop
- 2 JK flip-flops
- 2 shift registers
- 1 full adder
- 1 signal input

Training content
- Elementary logic modules
- Important symbols
- Designing and optimizing logical circuits
- Logic algebra
- Conjunctive and disjunctive standard format
- Switching matrix diagrams
- Schmitt trigger
- Hysteresis
- Types of trigger circuits
- Using flip-flops
- Counting circuits
- Converting and transferring data
- Shift register
- Data conversion
- Arithmetic circuits

Complete equipment set TP 1012	**8023961**

The most important components at a glance:

1	1x Combiboard Digital and control technology EduTrainer	8023962
2	1x Set of components for digital technology	574193

Necessary accessories, also order:

IEC power cable (→ page 28)	
2 mm Safety laboratory cables (→ page 91)	

Possibilities of expansion:

Set of components for control technology (→ page 21)	8023963
I/O level converter 5 V ⟷ 24 V	576622
I/O level converter 5 V ⟷ 24 V with Sub-D HD15	8042619
IC zero insertion force socket	576623

1

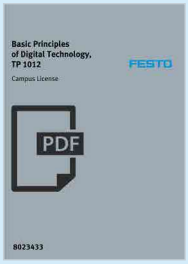


2



Recommended Learning Material

Workbooks (→ page 162)



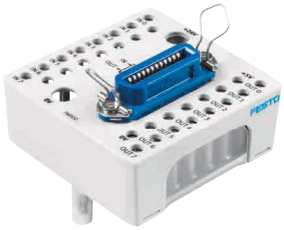
Campus license:

de	8023432
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es	8023434
fr	8023435

Note: The campus license includes the PDF version of sample solutions, educational instructions, and worksheets for learners.

Course on Festo LX

→ Basic Principles of Digital Technology



I/O Level Converter 5 V ⟷ 24 V with SysLink Socket

Description on → page 32

Order no.	576622



I/O Level Converter 5 V ⟷ 24 V with SysLink Socket

Description on → page 32

Order no.	8042619



IC Zero Insertion Force Socket

Description on → page 32

Order no.	576623