# Serial Communication Trainer

14025010



**Achievement** 



### **THEPRA**

Thepra's hands-on automotive Bus Systems Basic trainer and Electude's state-of-the art e-learning combine to create a complete learning environment. Electude's e-learning takes students from the basics to an advanced level understanding of networked systems in modern vehicles, parallel communications, CAN bus systems, serial communications, transmission lines, network configuration and testing and measuring using oscilloscopes. Electude's e-learning combines photo-realistic 3-d graphics with brief overview text and assessment questions that engage the student in learning by doing and discovering.

Using Thepra's trainer, students experience hands-on how networked systems work. This includes controlling multiple vehicle lights by sending messages to receivers using a single cable and using the oscilloscope to identify, record and interpret messages on the bus line. The trainer comes in a console housing for use on a table-top or in a supporting frame, and has a 3X switch for sending, 8 x data switches, 16 x address switches, a 1 x transmitter unit with a transparent window, a 1 x receiver with 8 LED's, 8 x outputs suitable for 12 v and 12 x LED's in an imprinted vehicle which ay also be used to demonstrate vehicle lamps.

The following items are included with the Trainer:

- Power supply unit TS10
- Set of 4mm test leads





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## SERIAL COMMUNICATION TRAINER 14025010

Through the preliminary theory and practical assignments the student learns:

- To explain the concepts sender, recipient, data, address and protocol.
- To understand the information in the communication protocol.
- To send simple messages.
- To explain the operation of Serial communication.
- To connect the oscilloscope.
- To analyse the oscilloscope images.
- To extract information from the message.

#### ELECTUDE'S E-LEARNING COURSE OVERVIEW

#### Preliminary theory with Serial communication Trainer (basic) \*

- Serial communication
- Controller Area Network (CAN) bus: protocol introduction

#### Practical assignments with Serial communication Trainer (basic)

- Serialcommunicatie Trainer: Introduction
- Serialcommunicatie Trainer: Practice

#### Preliminary theory with Serial communication Trainer (advanced) \*

- CAN bus: transmission lines
- Network configuration
- Oscillograph
- Oscilloscope: introduction
- Oscilloscope: guided tour
- Oscilloscope: exercises

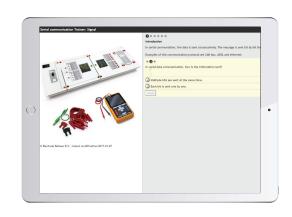
#### Practical assignments with Serial communication Trainer (advanced)

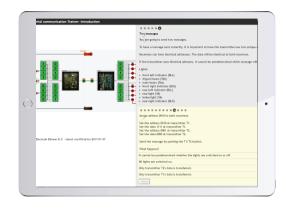
- Serial communication Trainer: Signal
- Serial communication Trainer: Instructor's manual

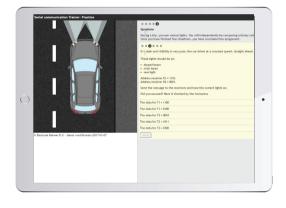
#### Duration

- Preliminary theory with Serial communication Trainer (basic) 49 mins
- Practical assignments with Serial communication Trainer (basic) 187 mins
- Preliminary theory with Serial communication Trainer (advanced) 170 mins
- Practical assignments with Serial communication Trainer (advanced) 94 mins











All product specifications are subject to change without prior notice.



<sup>\*</sup> Separate license may apply for the Preliminary theory.