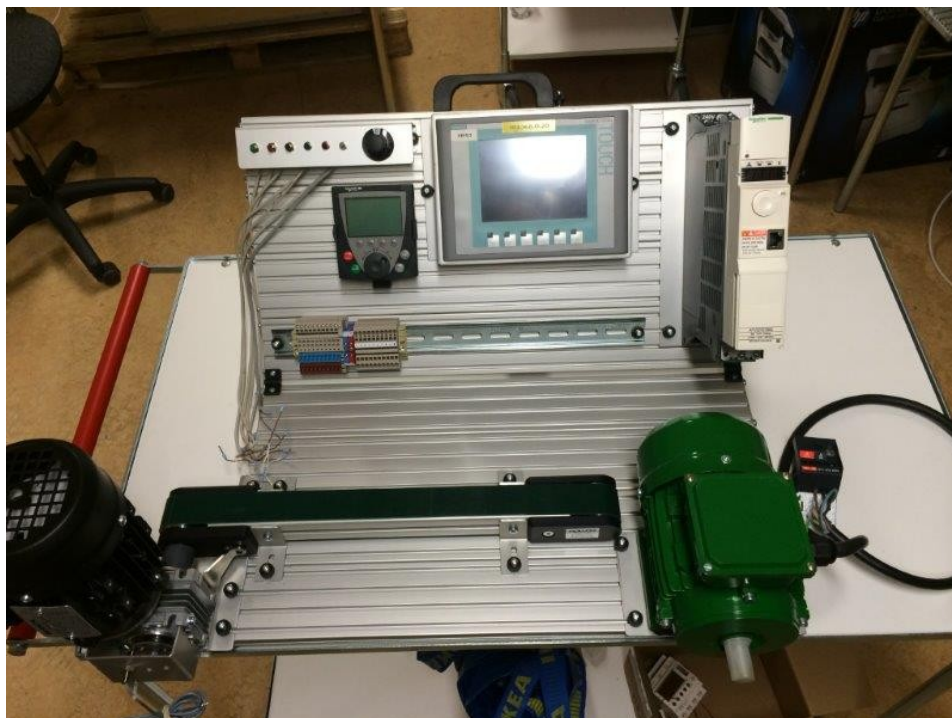**Trainingkit — modular concept tp build machines**

TrainingKit Motorcontrols— modular concept within motorcontrols

SUM teknik AB

SUM teknik AB offers plenty of concepts for training in automation technologies. **Trainingkit Motorcontrols** is used to learn how to control motors**.** In the basic package there is a standalone aynchronous motor and in the additional packages there are motors that is driving a belt conveyor (asynchronous motor with frequency inversion) and a linear unit (servomotor with servocontrol). The kit can be combined with our other TrainingKits. A mikro-PLC or a Siemens PLC etcetera can also be included. In the trainingmaterials there are explained how to configure the motors, how to run them by PLC:s and how to configure HMI for them.

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TrainingKit Motorcontrol is a modular kit for training in motorcontrols.

In the **basic package** (frequency inversion of asynchronous motors) the folowing are included:

- Courseware in digital format including how to build, how to program etc. Also programexamples that can be loaded into the PLC:s are included.
- Standalone asynchronous motor (threephasemotor conected to a onephase Schneider motorcontrol with pedagogical graphical terminal and configuration software)
- Double baseplate
- 3 pushbuttons (green=start, red=stop, black=change direction) and 3 lights (indication of direction, stop and more)
- Potentiometer for speed control
- Connectors
- I **version A:** Micro-plc-system Schneider Zelio (8Din, 4 relay Dout) with usb-cable and software with simulation
- I **version B:** Siemens s7-1214 PLC (14Din, 10 Dout, 2Ain, 1 Aout) with profinetport and ethernetscable, one TIA-portal-basic license, simulation switches (8 bistable switches)
- I **version C:** Mitsubishi FX3GE (14Din, 10 Dout, 2Ain, 1 Aout) with GX Works 2 with USB and ethernet

Additional package 1 includes a touchpanel (diferent for different versions) and a beltconveyor with an asynchronous motor and an encoder. The connection to the motorcontrol is made by a standardised touchsafe connector to avoid problems by mistakes from the student.

Additional package 2 includes a servo and a servocontrol of a linear unit.

Both additional packages can be combined with the other TrainingKits. They can be used instead of the conveyors and linear units or as extra units in TrainingKit Mechatronics, ControllTechnology and Lite.