End Position & Speed Control

End positions are extreme positions that a moving workpiece can take up in a machine (electric window lifter, travelling cranes of building cranes, tool machines, etc.). In order to prevent hazards to people and machines, end positions and rotation speeds must be monitored. If the allowable limit values are exceeded, the processes are stopped by an end position switch or directly by the frequency converter.

**Educational objectives**

- Operating the SPC
- Connection of frequency converter to an SPC and optimisation of the program on the real system.
- Function review
- Creation of programs for machine controllers with frequency converters.
- Startup, rotation direction modification, ramp function, optimisation of SPC and frequency converter.
- Testing the programs on the hardware

**Topics**

- Program startup processes
- Automatic rotation direction change with frequency converters.
- Counting of revolutions during machine processes.
- etc.

Experiments require the Siemens software TIA Portal to create programs.

The equipment can require additional software modules.