

## Training SPECHT® - 600 (SIEMENS 840D sl)

### Electrical Maintenance – E1

**Target group:** The training is provided for electricians of SPECHT machine centers.

**Number of Participants:** Maximum 5 participants.

**Training Period:** The nominal training period of course E1 is 2 days (each 7 hours).  
Deviations require prior consultation.

**Prerequisites:**

- Completed vocational training as an industrial electrician or
- Additional training as a technician/ engineer
- Knowledges in control and power electronics
- programming skills STEP7
- Experience in the detection of electrical disturbances
- Electrical recommissioning

**Training Target:**

- Safety regulations for maintenance personnel
- Listing of spare and wear parts
- Catalog of auxiliary tools for maintenance and repair
- Setup after component replacement

**Introduction into the following topics:**

- Safety instructions for maintenance personnel
- Shut-off points for electrical, hydraulic and pneumatic systems
- Overview of electrical modules
- Hardware diagrams, assignment of electrical components
- Diagnosis options:
  - Alarms, messages, alarm protocol,
  - extended diagnosis in operating range HMI
  - 840D: In-case-support,
  - Online diagnosis PLC
  - Trace
  - Frequence-Analysis with MONTRONIX or IFM
- control structure
  - Hardware
  - Software
- Data backup and restore:
  - NC, PLC, drives,

- NCU, PCU,
- Structure „Safety Integrated“
- Safety-Data adjustments for replacement of modules
- Replacement of electrical assemblies
- Important MD of axis and drives
- Axis couplings
- Teach-in routines
  - e.g. line identification
  - Commutation angle offset
    - with parallel motors
    - Pole identification single drive
  - Teaching EUCHNER-safety switches
  - Setup-Softwaretool: BK9 micro (TBC)
  - Setup-Softwaretool MONTRONIX, IFM
- Machine configurator „*PARAMETER.spf*“
- Setup program: „*POS\_PREP.spf*“
- Causes for an electrical recommissioning