Robot programming 1

Software version: KSS V8.x (KR C4)

Target group:

Programmer, service technician

Seminar goal:

Goal of the seminar is to get all basic acquirements necessary for the programming of the KUKA robot system.

Requirements:

- None

Seminar content:

- Safety when working with KUKA robots
  - Recognizing and avoiding hazards when operating KUKA robots
  - Overview of safety facilities when operating KUKA robots
- Advanced knowledge of the structure of a robot system
- Executing robot programs manually, in automatic mode and via an external controller
  - Selecting and setting the correct operating mode
  - Performing an initialization run
  - Selecting, starting and executing robot programs
  - Executing a program start via a PLC
- Human-machine communication
  - Displaying and configuring the logbook
  - Displaying robot states (signals, timers, cyclical flags, counters)
  - Reading and interpreting robot controller messages
  - Displaying the current robot position
- Using technology packages (KUKA.GripperTech)
  - Gripper operation and programming gripper commands with KUKA inline forms
  - Configuration for simple programming of gripper commands
- Working with program files
  - Creating user-defined program modules
  - Integrating newly created programs into the (configured) PLC interface on the robot side
  - Creating, deleting, renaming, duplicating robot programs and files of various types
  - Archiving and restoring robot programs
- Displaying and adapting saved values (variables)
- Successful programming with KRL (KUKA Robot Language)
  - Reading structured programs and program charts and creating simple program flowcharts
  - Structuring and streamlining robot programs by implementing global subprograms
  - Linking robot programs
- Modifying existing or creating new programmed motions with KUKA macros
  - Moving the robot manually
  - Creating and modifying programmed motions with the aid of KUKA inline forms
- Programming and applying logical functions in motion programs
  - Programming wait functions with the aid of KUKA inline forms
  - Programming simple switching functions with the aid of KUKA inline forms
  - Programming path-related switching functions with the aid of KUKA inline forms

- Performing commissioning tasks on the robot
  - Mastering the robot
  - Setting up a tool: measuring the geometry and assigning the load data
  - Entering supplementary load data for the robot
  - Setting up, calibrating and offsetting a workpiece base
  - Calibrating a fixed tool / robot-guided workpiece

End of seminar:

- The course ends with an achievement test.
- A certificate is issued on successful completion of the course.

Seminar duration:

4 days