KUKA.PLC mxA.

One interface for all.
Native programming interfaces for KUKA robots

INTEGRATION OF KUKA ROBOTS IN YOUR MACHINE ENVIRONMENT. The mxAutomation function package, KUKA.PLC mxA, makes it possible for external controllers with an embedded PLC to command KUKA robots on the basis of elementary motion instructions. This provides an easy route to implementing a central operator control concept for robot-automated production machines that is highly convenient for end customers. The outstanding kinematic and safety-relevant functions of the KUKA KR C4 controller remain fully available since the mxAutomation command interpreter of the KR C4 communicates the PLC commands to the path planning module, which sets the robot in motion with the accustomed precision and reliability.

Besides the internal Soft PLC (KUKA.PLC ProConOS), KUKA.PLC mxA supports the external control systems SIMATIC S7® via PROFINET and Rockwell Logix Controller® via EtherNet/IP and is thus prepared for use in Europe, Asia and America. Applications on CODESYS platforms will be possible in the near future.

Examples of current mxA functions

- KRC_MoveLinear
- KRC_MoveDirect
- KRC_MoveCirc

Approximate positioning by means of parameterization
Triggers – switching points on trajectories
Declaration and activation of interrupts
Modification of base and tool coordinate systems
Reading and writing of digital or analog robot I/Os
System and robot diagnosis and monitoring
Jogging blocks (e.g. for manual operator control)

SIMPLE PROGRAMMING. With KUKA.PLC mxA, the user requires no knowledge of robot programming. The mxAutomation function blocks allow the KUKA robot to be commanded within the familiar PLC programming environment.

HIGH FLEXIBILITY. If the requirements in production are changed, the appropriate modifications or expansions can be implemented at any time with mxA-based operator control. The flexibility made possible by using robots with regard to processing new series of parts or performing additional tasks is thus also supported by operator control functions.

SINGLE POINT OF OPERATION. Thanks to the combination of robot and machine control, KUKA robots can be effortlessly integrated into existing operator control concepts. The robot can therefore also be controlled via the customary human-machine interface. Teach pendants of the machine can be used for teaching the robot as well, provided appropriate safety precautions are implemented. A good integration example in this context is the incorporation of KUKA robots in the SINUMERIK world on the basis of mxAutomation for S7, as offered by Siemens®.