COMMUNICATE IMPLEMENT DIAGNOSE MODERNIZE ACQUIRE MOVE CONTROL PROGRAM CONNECT

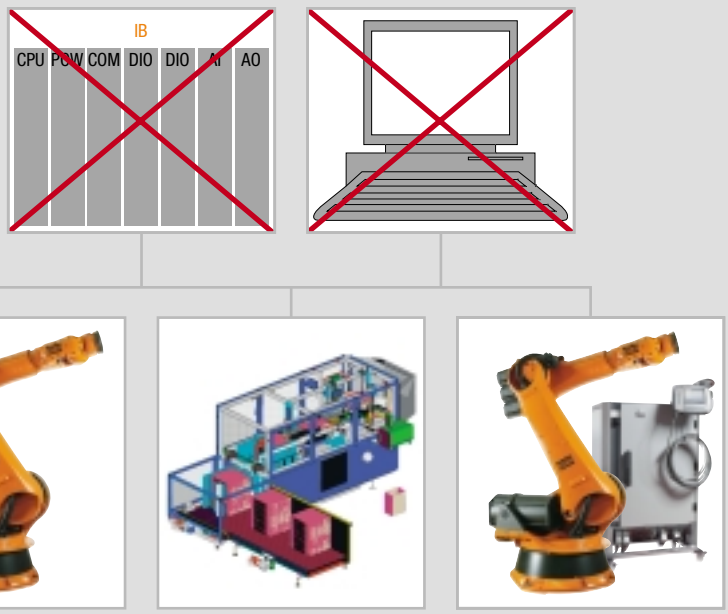
KUKA.PLC

WORKING IDEAS

KUKA

Within the KUKA.PLC product family, the programmable logic controller (PLC) is integrated into the robot controller purely as a software solution. The PLC runs as an additional program parallel to the motion controller of the robot on the real-time side of the control PC. This integration has been made possible by the enormous growth in PC computing power in the last few years; KUKA has been employing PCs in kinematic controllers with great success since as far back as 1996. Programming is generally carried out using a programming PC connected via Ethernet. The Soft PLC communicates with the robot controller by means of software libraries, with the visualization system via OPC, and with the I/Os via all common field bus protocols.

The PLC and visualization are integrated into the robot controller. This results in a control concept whose structure is flat, decentralized, and thus also flexible. The KUKA Control Panel (KCP) performs the HMI function for operator control and observation.



The advantages of a PLC which is a part of the robot controller software are, first of all, the fact that expensive external hardware components are no longer required for the visualization and the PLC. Secondly, communication between the PLC and the local robot is significantly closer, since reciprocal access to data takes place via function libraries, without any need for extensive configuration work.

Features of KUKA.PLC MULTIPROG

- Soft PLC integrated into the KUKA robot controller
- Compiled PLC logic results in high-speed PLC cycles
- MULTIPROG Windows-based development environment can also optionally run on the control PC
- All IEC 61131 languages are available
- Optimized function blocks for closed-loop control, motion, file handling, robot interaction, etc.

The robot-integrated Soft PLC family: KUKA has succeeded in integrating the PLC (programmable logic controller) into the robot controller. You can choose between these two products.

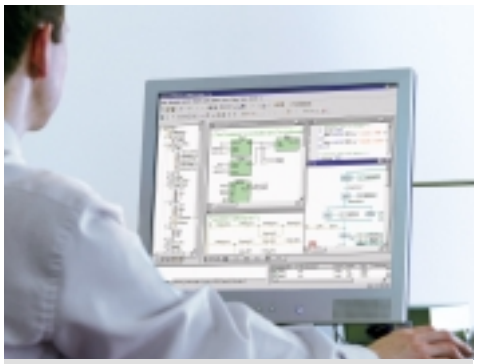
Features of KUKA.PLC WinAC

- Soft PLC integrated into the KUKA robot controller
- When it comes to programming, WinAC is “just another S7 controller”
- Use of existing development and diagnostic tools
- Employees trained in STEP-7 can use it right away

Simple commissioning

Diagnosis and servicing with excellent debugging and analytic tools

- Online status for programs and I/Os
- Online programming
- Oscilloscope for axis drives
- Teleservice (remote diagnosis and control)

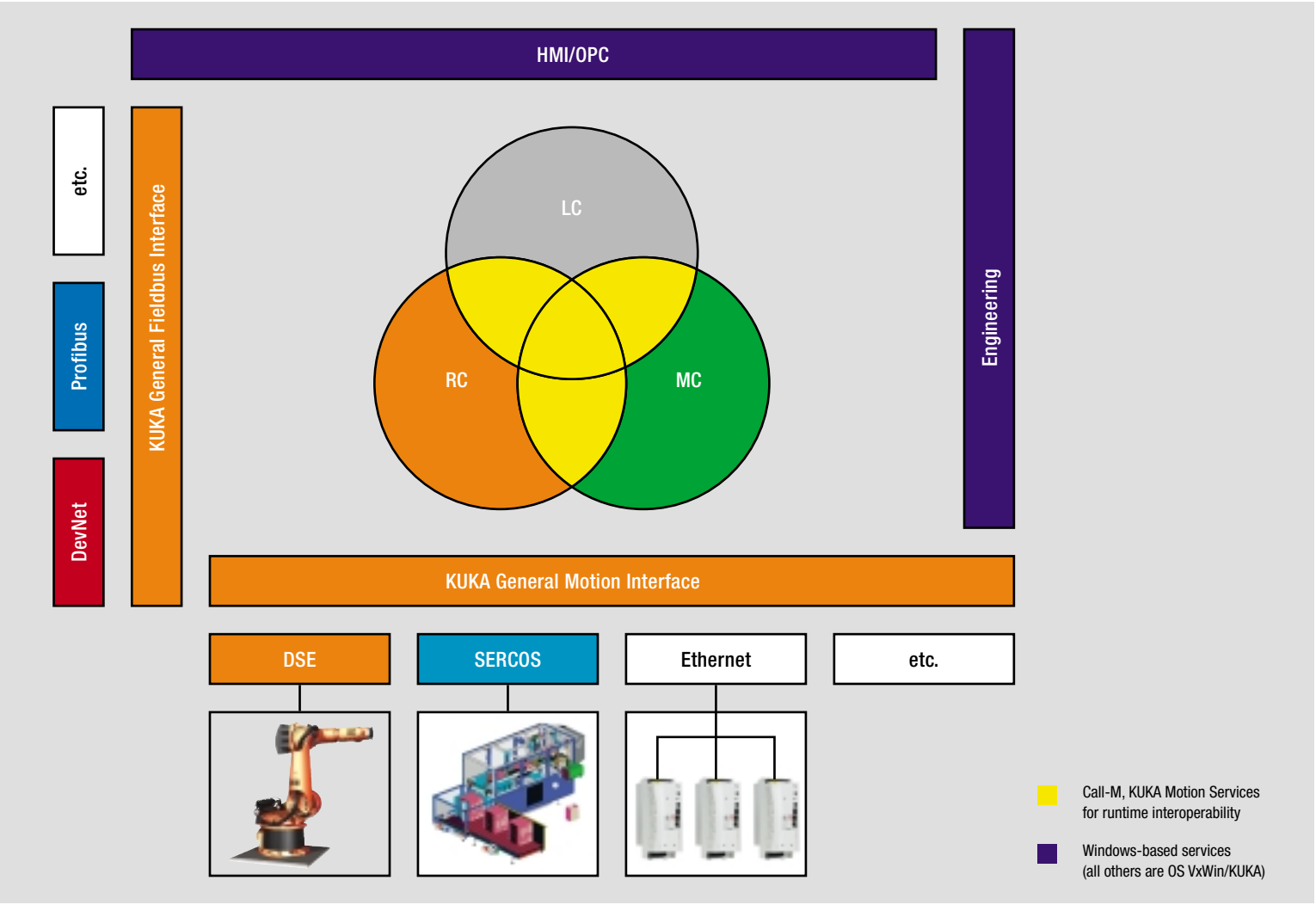


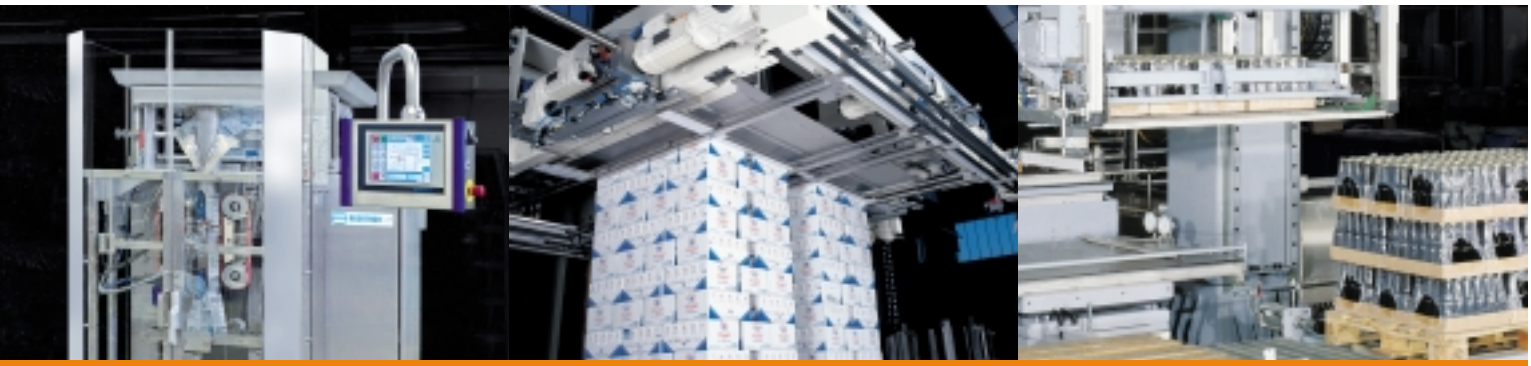
IEC 61131-3 standard languages

Instruction list (IL), ladder diagram (LD), function block diagram (FBD), structured text (ST), sequential function chart (SFC); for WinAC, all of the STEP 7 standard languages are available.

Microsoft Windows

- "Look & feel": facilitates operation and reduces the learning curve, thereby cutting configuration costs
- As a platform: protects your investment though simplified integration of advanced tools (e.g. cam disc editors, documentation tools, analyzers)





Within the KUKA controller, the KUKA tasks RC (robot control), PLC (logic control) and MC (motion/CNC control) work together to accomplish the automation task. The optimized library functions of the Call-M interface (marked in yellow in the diagram) enable, for example, smooth synchronization of robot motion for adhesive bonding with the associated dispensing of the adhesive, as well as control of asynchronous external axes directly from the robot. In the form of the PLCopen MCFBs, Call-M can also support, for example, the control of a cartoning machine after filling by a KUKA robot; only a single KMC is required here. The KUKA abstraction interfaces in the direction of process I/Os and drive technology guarantee the future of your investment with regard to introduction of new technologies, such as Ethernet servo buses. When the HMI interface is utilized, you can implement operator control and observation either directly using the products provided by our partner, ICONICS, which have been validated by KUKA, or else you can couple an operator station of your choice externally via OPC. In short: the KUKA controller automates your production or packaging cell in a compact, user-friendly manner.

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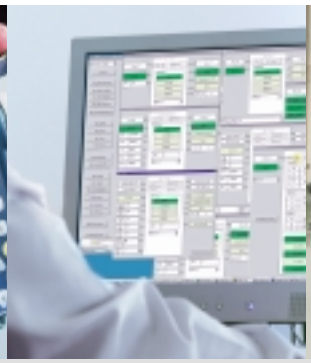
CONTACT INFO ADDRESSES

KUKA supplies you with all the elements for optimal system integration, and the complete, pre-configured control system KMC, all from a single source.

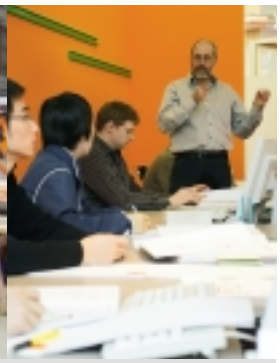
KMC
KUKA Motion Control

HMI
Human-Machine Interface



MCFBs
Motion Control
Function Blocks

Robots
KUKA standard-series robots



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