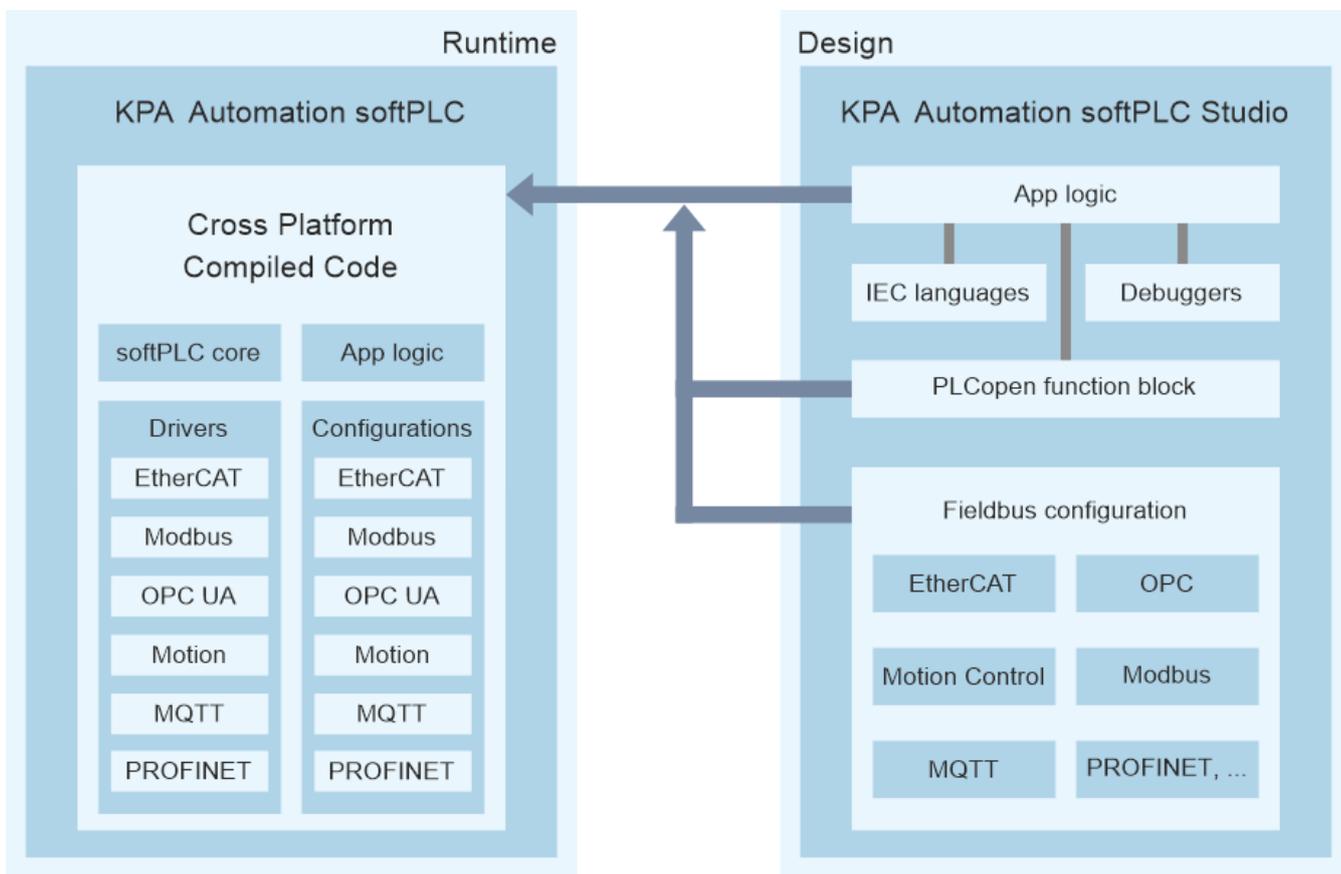


# KPA Automation softPLC

KPA Automation softPLC is a programming environment for developing PLC for real-time operation systems such as Linux, Xenomai, INtime or Windows.



- **Simplify the configuration**

KPA Automation softPLC Integrated Development Environment (IDE) includes a hardware device and fieldbus configuration tool for various kinds of networked I/Os or protocols, and enables to describe networks as configuration trees and to wire variables to the I/O channels of hardware devices.

- **Secure applications - Redundant System**

All key application information is stored in one unique block of memory and all the redundancy mechanisms are available to make a hot restart of the application. A standard redundant implementation through Ethernet is delivered with PLC engine of KPA Automation softPLC, using a proprietary protocol over the link that needs no specific programming or configuration.

- **Reduce engineering time**

KPA Automation softPLC project automation tool allows you to automate the import/export of information from your databases or other tools directly into the application (variable definitions and I/O configurations but also application programs generated automatically or copied from existing templates).

- **IEC 61131-3 standard programming**

KPA Automation softPLC development environment is a set of powerful text and graphic editors for IEC 61131-3 languages: Sequential Function Chart (SFC), Function Block Diagram (FBD), Ladder

Diagram (LD), Structured Text (ST) and Instruction List (IL). These editors provide advanced graphical features such as drag and drop for quick and easy element placement, syntax coloring and active tooltips for efficient input, keyboard shortcuts, object resizing, and other essential tools for building robust applications.

KPA Automation softPLC offers a program conversion option allowing an application to be translated into the chosen programming language in a few clicks.

- **Commissioning - Debugging**

KPA Automation softPLC provides built-in simulation within the development environment in various modes of operation such as cycle by cycle, step by step, breakpoint and console mode.

- **Softscope**

An integrated scope using a real-time high-speed protocol can be configured to monitor key variables within the application to provide detailed debug information with high precision.

- **Distributed Application**

PLC engine of KPA Automation softPLC permits real-time exchanging of data among different runtime systems through Ethernet. The event based protocol technology is used and it ensures high performance and very low network traffic at runtime.

- **Communication**

KPA Automation softPLC supports a wide range of industry standard protocols for various sectors and application areas including automotive, building automation and energy:

- **OPC UA**

KPA Automation softPLC enables the creation and configuration of an OPC UA Server. It provides secure communication using digital certificates and data encryption.

KPA Automation softPLC includes OPC UA Client, an OPC UA standard driver that allows to retrieve real-time values from OPC UA Servers to SCADA systems. OPC UA Client supports login and password authentication and monitors real-time data and events.

Moreover, KPA Automation softPLC supports the OPC Alarms and Events specification for the transmission of alarms and events. When variables are declared in KPA Automation softPLC, it is possible to create conditions at which a user will receive notifications about changes in the state of variables.

- **Modbus**

KPA Automation softPLC includes fully integrated Modbus master (a client) and slave (a server) functions used to enable Modbus communication via a serial link or Ethernet.

- **MQTT**

KPA Automation softPLC provides support of MQTT, a lightweight publish/subscribe messaging protocol designed for M2M (machine to machine) telemetry in low bandwidth environments. It allows to send and receive data from the cloud. MQTT works on top of the TCP/IP protocol.

At the core of MQTT are the MQTT broker and the MQTT client. The MQTT broker is a central server or middle ware that acts as an interface between publisher (a device that sends data to the broker) and subscriber (a device that receives data from the broker) and serves to collect the data from the publisher's device and send it to the subscriber's device.

KPA Automation softPLC is used as the MQTT client that both publishes and subscribes messages.

- **Shared Memory**

KPA Automation softPLC includes a fully integrated configurator for virtual I/Os stored in a named memory space.

- **PROFINET**

KPA Automation softPLC supports PROFINET RT (Real Time) which provides deterministic performance for automation applications in the 1-10 ms range. This software-based solution is ideal for typical I/O purposes related to motion control and high requirements.

- **Integration with EtherCAT and Motion control**

- KPA EtherCAT Master to control EtherCAT network
- KPA EtherCAT Studio configuration and diagnostic tool
- KPA Motion Control to control single axis for point to point (P2P) according to PLCopen part 1, including gearing and camming options and 2D/3D coordinated motion according to PLCopen part 4
- Motion Configuration Utility to generate configuration files

- **Solutions**

Focused on IEC 61131-3, KPA Automation softPLC technology is designed for all automation solutions, from machinery, controllers and drives manufacturers, to system integrators and machine builders. KPA Automation softPLC technology is based on straton® PLC core, and you can find some use cases [here](#).

- **Custom development**

koenig-pa GmbH offers specific software development for customers who require additional support for integrating our products into their applications or solutions.

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