Discover IEC 61499

Developed by the International Electrotechnical Commission (IEC), IEC 61499 presents guidelines for the use of function blocks in distributed industrial process, measurement and control systems. This emerging standard provides a number of remarkable benefits including: the regulation of the flow of control decisions for an interacting distributed control system; providing for the consistency of data; providing a means to ensure synchronous operation between devices; eliminating the need to have separate synchronization schemes; and easing considerably the development and maintenance of robust control systems.

IEC 61499 also has the ability to encapsulate automation functionality such that machine builders can create IEC 61499 function blocks for different components of the machine and only need to assemble them to achieve the desired operation. It provides the benefits of object oriented programming in an environment accessible to automation engineers.

Implementing an IEC 61499 Application

In creating an automation system, one would traditionally start by looking at individual control applications and then determine how these interact with one another. Under ISaGRAF, although the same methodology may be used in defining the local behavior of the control devices, one would define global diagrams using the IEC 61499 environment and would drop in function blocks to regulate the behavior of the cooperating devices.

In fact, in using the IEC 61499 standard, one can design an application distributed over multiple resources and spread over multiple devices (known as Configurations under IEC 61131).

These applications are regulated through IEC 61499 function block diagrams and their collaboration is then clearly and rigorously defined and the interactions between devices are automatically regulated and synchronized by the IEC 61499 function block diagrams rather than through the use of manually implemented algorithms. The devices could be PLCs, micro-controllers or intelligent field instrumentation such as flow meters or valves.
**Functionality - Software Views**

These screenshots illustrate the way in which ISaGRAF represents IEC 61499 applications.

**IEC 61499 HARDWARE VIEW**

**IEC 61499 FUNCTION BLOCK DIAGRAM**

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**The Foundation of Modern Automation**

ISaGRAF is the world’s first automation software to be compliant with both IEC 61131 and IEC 61499 industrial standards.

This leading-edge software is comprised of a powerful set of new features that promise to change the way you build your control systems.

ISaGRAF addresses the requirements of a wide variety of applications and specific market needs while at same time providing for flexible licensing, the ability to brand-label and the integration and encryption of your core competency to protect your intellectual property.

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