

PAC versus PLC

With control projects becoming more demanding and PLC's offering limited functionality without expensive and proprietary expansion modules, the need for flexible and reliable alternatives has never been greater.

To meet these ever expanding needs, Amplicon offer the ADAM 5550KW Programmable Automation Controller (PAC) from Advantech.

Programmable Automation Controllers have been designed to integrate all the requirements for modern control projects and are the natural evolution of the PLC, distributed I/O networks, and embedded computing.

By providing all of these features in one platform, the PAC is suitable for the multi domain environment of modern industry and where PLC's are being stretched beyond their capabilities. This evolution maintains the familiarity of existing technologies thus reducing the costs normally associated with implementing new hardware platforms.

The PAC takes the functionality of an embedded computer with its fan less processor, compact flash memory, and Microsoft's Windows CE operating system for a reliable system. Control is provided by MultiProg, the SoftLogic programming tool.

The wide variety of signal types available include the usual mix of analogue and digital I/O. The PAC solution also allows the use of high speed analogue inputs of up to 200 kHz and motion controllers.

Connectivity to devices is very easy, with the extensive Modbus support, operating as a Modbus/TCP Server and Client as well as a Modbus/RTU Master. This means you are no longer tied to the potentially expensive and proprietary technology of one provider and you can choose the hardware that best meets your requirements.

The Windows platform provides a graphical interface on a VGA port and USB ports that allow touch screen connectivity. Dual Ethernet ports give network redundancy and these are built upon with



technologies such as OPC, XML, FTP, email, and a SQL server for database connectivity.

Although Windows CE gives all these rich features, real time control over the data acquisition hardware is provided by ProConOS. This is an operating system extension that provides a stable and independent platform which works in tandem with Windows. This separation of functionality allows the ADAM 5550KW to continue operating independently of Windows.



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MultiProg complies with IEC 61131 3, the international standard for PLC programming languages. This is presented as a Windows development environment which anyone who has seen Visual Studio will recognise. MultiProg gives you the tools to create control programs, access the functionality of the hardware with ease, and supports all five PLC languages in one project:

- Ladder Diagram
- Function Block Diagram
- Sequence Function Chart
- Instruction List
- Structured Text.

This means company standards, personal preference, or even the most appropriate language for the task can be used, all in the same SoftLogic program. For added simplicity, pre written routines for PID control loops, exception handling, email, and database connectivity are provided. When routines don't exist, custom functions can be written and compiled to libraries for reuse.

MultiProg in conjunction with ProConOS and Windows CE running on an embedded platform which is the ADAM 5550KW gives the user a dedicated yet open architecture for measurement, control, and HMI projects.

This all adds up to make the ADAM-5550KW PAC from Amplicon the ideal solution for your next distributed control project.