Selecting the right PLC

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Automation projects, big or small, start with a specification. Here are five factors to consider when choosing a PLC vendor.

Broad range of devices

The selected brand must have a complete product range to meet the requirements of customers. PLCs must be available with sufficient memory to support I/O, and log and manipulate historical data in addition to executing the control program. Where execution speed is critical, the CPU processing speed must be considered as well. Some additional questions to ask are: What are your sector's standards? Do applications need to comply with hazardous environment standards, CFR-21.11, or the spray-and-wipe standards of the food and beverage sector?

Influenced by the mobile industry, customers expect HMI colour touch-panels to provide the communication window between operator and system. In cases where space is at a premium, PLC + HMI all-in-one controllers have distinct advantages. Some PLC manufacturers even provide PLC + HMI controllers with on-board I/O modules, which in addition to saving space, also reduce wiring requirements.

Data communication

Flexibility is key. The selected brand of PLC should support multiple protocols to ensure interoperability with existing and future applications, as well as third-party devices. Important industrial protocols include Modbus, CANopen and EthernetIP. Some brands also support protocols, such as SNMP and FTP. Check to see if your PLC manufacturer provides software utilities that enable you to implement proprietary third-party protocols, whether serial RS-232/485 or TCP/IP.

Users can also benefit through increased visibility of operating data and diagnostic information. The ability to access a PLC via Web browser and VNC support are excellent methods of remotely accessing a PLC, while SMS messaging and email are handy for notification via mobile devices.

Intelligent software

Saving time is the primary benefit of intelligently-designed software. There are two particularly important factors to consider.

Ease of use: ergonomic design eliminates the need to search for elements while programming. In addition, logical, consistent construction saves time, since the programmer intuitively knows what to do even when programming a particular task for the first time.

Re-usability: whether programming in ladder or C functions, designing HMI screens and Web pages, or creating custom control, the ability to reuse work across projects saves time.

Service and support

Look for PLC manufacturers that offer a high level of customer care. Make certain that support, whether technical or sales, is easily available and prompt. Personal support – meaning from people not automated systems, which is available 24/7 is extremely valuable.

This is what can make a difference when meeting tight project deadlines. Support documents, specifications and guides, should be readily available. Select a company that provides support and documentation at no additional charge.

Total cost of ownership

Development and future maintenance costs can affect profit margins. Therefore, when purchasing a PLC, select a company committed to supporting it over the long term. This can have a major impact on the success of an industrial automation project.

Credit(s)

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