

PLC Versus DCS

DOES A DISTINCTION REALLY EXIST ANYMORE?

BY JOHN LONG & JOHN FORLINI

In past years, there was a clear definition of PLC and DCS, and a clear distinction. The general rule of thumb was: if it is discrete, use PLC; if it is analog, use DCS or combine DCS with PLCs.

Today, the traditional PLC companies are handling analogs and utilize function blocks just like the traditional DCS. DCS companies are providing discrete logic with ladder rungs.

The real trend is for true open communications, whether it is tag-based or object-based such that communication of objects or tags can be obtained by any user properly password protected. The ideal is for these communications to be made over protocols that are "standard" and open to users. Both traditional PLC and DCS companies have moved close together in their attempt to meet this objective.

Traditional DCS and PLC vendors have their own HMI, but can use HMI provided by third-party companies that utilize all the latest standards.

Today's companies that were traditional PLC providers, such as Rockwell (Allen-Bradley), Siemens, Modicon as well as traditional DCS vendors Honeywell, Emerson, ABB, Yokogawa, and Foxboro (Invensys), no longer refer to their systems as PLC or DCS. Instead they are "Integrated Control Systems", "Multiple Discipline Control", etc.

Following are some features you should look for when considering a vendor for a process control system:

- Scalability - large or small configurations, cost effective for each;
- Multiple Programming Languages - Ladder Diagram (LD), Function Block Diagram (FBD), Sequential Function Chart (SFC) and Structured Text (ST). All within the same control;
- Wide range of I/O types - chassis type, block type, point type, intrinsically safe, etc.;
- Communication - open network, multiple protocols;
- Proprietary vs. "Off the Shelf" - does the system supplier utilize standard, "off the shelf" materials and protocols, or are you tied to the vendor for the life of the system?;
- Cost - initial cost, installed cost, maintenance cost (parts and programming); and
- Availability - system integrators, manufacturers (many choices).

So what do you do now? For any given project, it depends on existing process equipment, desired end result, cost, continuing maintenance, training issues, stability of vendor, etc. The only real change is that now you can look at the traditional PLC companies as well as the traditional DCS companies for any project in your facility and you can look at their HMI or third party HMI to obtain the most cost-effective approach for the present and the future. ♦

JOHN LONG is Senior Control Engineer at Revere Control Systems. **JOHN FORLINI** is Business Development Manager at Revere Control Systems, and Marketing Chairman for The Automation Alliance Group.