

Looking Forward - The Benefits of Networking your Wire Processing Equipment

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Having been in the wire processing business for 30 years, I have seen a lot of changes and improvements made possible, primarily by advances in electronics and software. Looking ahead, I see continued improvements in efficiency through networking technology.

Most of the wire processing equipment on the market today is fully programmable and features quick-change tooling which allows for quick changeovers between jobs. These cutting and stripping machines (CS) or cut, strip and terminate machines (CST) are typically standalone units with their own user interfaces.

In a typical small to medium size wiring harness shop, operators receive work orders on paper and program the wire processing machine for that job or call up that job from machine memory if it was run in the past. Determining what jobs to run, in what sequence, is usually left up to the operator who tries to minimize changeovers in order to maximize efficiency. In this scenario, it is difficult for anyone else in the company to monitor the status of a given order as it flows through the shop.

By networking all of your wire processing equipment with a central server and dedicated software, a whole host of new possibilities and benefits can be achieved. Some examples include:

- Interface directly to your existing ERP system
- Eliminate operator keystrokes (and possible errors) since jobs are automatically programmed when the work order is scanned
- Know exactly when each job is started and completed (using barcode scanners) and average production rate
- Optimize work orders automatically in the best sequence, taking changeover times, due dates, available machines and personnel into consideration
- Maintain a central database for all crimping specs, material specs, pull force data, engineering change notices, etc.
- Have operator scan the material barcodes (optional) to ensure that the proper wire, terminals, etc. are being used
- Keep track of how many cycles each machine, applicator or tool has produced and when maintenance should be scheduled

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- Integrate mandatory Quality Assurance tests (crimp height, pull test, micrograph, etc.) into the process
- Traceability - know what machine, tool or operator produced which circuit and when
- Reduce lead times and Work-In-Process (WIP)
- Calculate Overall Equipment Effectiveness (OEE)

Once your wire processing equipment is networked with a central server and specialized software, the possibilities and benefits become almost limitless. This type of centralized control is already common in the machine tool industry and in large wiring harness operations. As networking technology matures, it is certain that it will also be adopted and cherished by small to medium size wiring harness operations.

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