

Japanese manufacturer reduces

- Panel size by 30% • Wiring time by 50%
- Manufacturing costs by 30%

ULVAC, Inc. in Japan is a specialist manufacturer of thin film deposition systems. The company provides a wide variety of equipment including sputtering systems, CVD (Chemical Vapour Deposition) systems, vacuum evaporation systems, and etching systems.

Recently, ULVAC innovated its control panels in an attempt to reduce manufacturing costs. Their conventional products required two control panels, which involved complex wiring and labour-intensive installation and maintenance.

Mr. Masanori Sugimoto from the Control Designing Department, FPD-PV Division of ULVAC, says that reducing wiring work was an obvious strategy to shorten the assembly time. In addition, if they could reduce the size of the panels at the same time, this would also speed up assembly as well as save valuable space at their customers' factories.

“Value Design for Panel”

After testing several manufacturer's panel component offers, ULVAC chose our “Value Design for Panel” components. Mr. Sugimoto says that these were superior in product availability and support, especially for when production and maintenance takes place abroad. In addition, our Value Design for Panel components also offer high maintainability.

ULVAC was particularly impressed with Omron's unified design platform, which ensures a standard miniaturised height and thickness for all components. This reduces dead space and helps reduce the overall size of the control panel. In addition to the unified slim design, the Value Design for Panel concept features terminals with Push-In Plus technology, not conventional screw terminals. These Push-In Plus terminals can be wired without tools in less than half the time it takes with conventional terminals. It is as easy as inserting an earphone jack. And, even though only a slight force is needed to insert the wire, it is held as firmly in place as that of a screw terminal. An additional advantage is that no retightening is required during maintenance.





30% fewer manufacturing costs

ULVAC reduced the control panel size by 30% and the wiring lead time by half, when they adopted our Value Design for Panel components. Mr. Sugimoto says that because all the terminal holes were positioned on the front, they not only reduce wiring time, but also eliminated the need for work space at the rear of the components, thus downsizing the control panels further. All these time and materials savings resulted in an overall 30% reduction in manufacturing costs.

Two in one

The miniaturized components saved so much space that they could fit in just one panel, instead of the previously needed two. Mr. Sugimoto says that customers are also highly satisfied: wiring changes and maintenance are now much faster and the downsized panel greatly enhances space efficiency inside the factory.

Ease of use terminals with Push-In Plus

Terminals with Push-In Plus technology are easy to use regardless of worker's skill level. Mr. Sugimoto says that many of their customer's factories are in China, so the wiring is done there. But due to the big difference in workers' skill levels, it used to take a lot of time to check. However, Push-In Plus terminals can be used by workers regardless of the skill level. Mr. Yoichi Kamimura, Senior Manager, Control Designing Department, FPD-PV Division of ULVAC who used to work in China, adds that Omron's global service was excellent and they could even get the same service as in Japan.

Gearing up to IoT

About 80% of components inside ULVAC's signal system control panel in CVD systems have Push-In Plus terminals, and the company is currently looking into ways to use them for the remaining 20%. They have also decided to use our Safety Relays with Push-In Plus technology.

Mr. Kamimura says that they are working towards the Internet of Things (IoT), and can already acquire data from equipment. It is now a question about when they will connect data to communications. The company is happy that they have simplified their panel designs, since IoT may require additional components.

For production equipment, control panels themselves don't make products competitive and are often a secondary consideration. But control panels are important in creating new potential for production equipment. All our panel components are built on a common, so called Value Design, platform which delivers the evolution of control equipment, so adopting these now can lead to competitive products and added value in the very near future.

About ULVAC Inc

ULVAC, Inc. manufactures vacuum devices for industries such as semiconductor, electronics, chemical, pharmaceutical and food. The Company's products include pumps, valves, gas analyzers, leak detectors, and surface profile measurement.